# **TRANSIT WARM STORAGE BUILDING REPLACEMENT OVERHEAD DOOR**

## 3555 DR. MARTIN LUTHER KING JR. AVE. **ANCHORAGE, ALASKA MUNICIPALITY OF ANCHORAGE - ANCHORAGE ALASKA**







	PROJECT EXTERIOR VIEW	STANDARD ABBREVIATIONS		
Anchorage Public (III)   Dr. Martin Luther King Jr. AV8   Dr. Martin Luther King Jr. AV8   N   NONE / NOT APPLICABLE   NONE / NOT APPLICABLE   NONE / NOT APPLICABLE   NONE / NOT IN CONTRACT   NONE / NONE / NOT IN CONTRACT   NONE /	<section-header></section-header>			



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### **INDEX OF DRAWINGS**

#### GENERAL

G101 COVER SHEET & INDEX OF DRAWINGS

#### ARCHITECTURAL

**EXISTING PHOTOS** A101 REPLACEMENT DOOR PLAN A201 A301 DOOR DETAILS

#### RECORD DRAWINGS

**RECORD - PLANS** EX100 **RECORD - PLANS** EX101

#### STRUCTURAL

S001 NOTES, PARTIAL DOOR PLAN, AND DETAILS S101 NOTES, DOOR HEAD, AND JAMB DETAILS

#### ELECTRICAL

ELECTRICAL PLAN, PHOTOS, AND NOTES E001 E101 ELECTRICAL SPECIFICATIONS

# **GENERAL DESCRIPTION**

- REMOVE EXISTING OVERHEAD METAL DOOR ASSEMBLY #3
- REPLACE DOOR #3 WITH NEW OVERHEAD VERTICAL LIFT FABRIC DOOR

# CODE INFORMATION

OCCUPANCY; IBC S-2 PARKING GARAGE (311.3)

CONSTRUCTION; IBC TYPE II-A (602)















REMOVE EXISTING METAL DOOR

REMOVE EXISTING METAL DOOR JAMB



![](_page_1_Picture_11.jpeg)

![](_page_2_Figure_0.jpeg)

![](_page_2_Figure_1.jpeg)

- 2
- REPLACEMENT DOOR SHALL MAINTAIN EXISTING OPENING HEIGHT & WIDTH. EXISTING OPENING IS APROXIMATLEY 14' - 8" HIGH X 29' - 11" WIDE - FIELD 3 VERIFY.
- EXISTING STEEL BOLLARDS AT OUTSIDE OF DOOR JAMB TO REMAIN. 4
- RESTORE FINISHES DAMAGED & NEW METAL DOOR FOR 5 REPLACEMENT: CLEAN, WIRE BRUSH, & 1 COAT SHERWIN WILLIAMS ACRYLIC "DTM B66" OR EQUAL ENAMEL PAINT

  - (1)NIC
  - (E)

![](_page_2_Picture_10.jpeg)

16'

#### SHEET NOTES

- 1 REMOVE EXISTING METAL DOOR ASSEMBLY AT DOOR WAY #3
  - REPLACE WITH NEW DOOR ASSEMBLY, REFER ALSO TO SPEC 08 34 18 OVERHEAD VERTICAL LIFT FABRIC DOORS.

#### LEGEND

SHEET NOTE NOT IN CONTRACT EXISTING

![](_page_2_Figure_16.jpeg)

![](_page_3_Figure_0.jpeg)

![](_page_3_Picture_1.jpeg)

![](_page_3_Figure_2.jpeg)

DOOR TRACK AND ATTACHMENT PER DOOR MANUFACTURER

- DOOR JAMB, REF. TO STRUCTURAL

- REMOVE EXISTING METAL DOOR ASSEMBLY

EXISTING BUILDING COLUMN WITH
FIRE SPRAY - REPLACE ANY FIRE
SPRAY DISPLACED BY DOOR INSTALL
WITH SAME THICKNESS FIRESPRAY

![](_page_3_Picture_7.jpeg)

- EXISTING EXTERIOR METAL WALL PANELS - TO REMAIN

EXISTING STEEL PIPE BOLLARDS
ON EXTERIOR TO REMAIN

![](_page_3_Picture_11.jpeg)

![](_page_4_Figure_0.jpeg)

RECORD - PLANS - NORTH

EX100 1" = 250'-0"

![](_page_4_Figure_3.jpeg)

![](_page_5_Figure_0.jpeg)

1" = 250'-0" EX101

![](_page_5_Figure_4.jpeg)

![](_page_6_Figure_0.jpeg)

#### **GENERAL STRUCTURAL NOTES**

THE FOLLOWING NOTES APPLY UNLESS SHOWN OTHERWISE:

CODE & STANDARDS ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THESE DRAWINGS, INTERNATIONAL BUILDING CODE (IBC) 2018 EDITION, AS ADOPTED BY THE MUNICIPALITY OF ANCHORAGE, AND ASCE 7-16, "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES".

LOADING CONDITIONS THE FOLLOWING LOAD CONDITIONS, IN ACCORDANCE WITH ASCE 7-16, WERE USED:

RT 3 - 2"	1. BUILDING INFORMATION: RISK CATEGORY	II
	2. DEAD LOADS: EXISTING ROOF EXISTING EXTERIOR WALL OVERHEAD DOOR	30 PSF 15 PSF 12 PSF
	3. SNOW LOADS: GROUND SNOW LOAD, Pg IMPORTANCE FACTOR, Is THERMAL FACTOR, Ct EXPOSURE FACTOR, Ce ROOF SLOPE FACTOR, Cs ROOF SNOW LOAD, Ps SNOW DRIFT	50 PSF 1.00 1.00 1.00 1.00 40 PSF PER ASCE 7-16
RT 2 - 2"	4. WIND LOADS: BASIC WIND SPEED, V EXPOSURE CATEGORY DIRECTIONALITY FACTOR, Kd TOPOGRAPHIC FACOR, Kzt ENCLOSURE CLASS COMPONENTS & CLADDING DOOR DESIGN PRESSURE DOOR DESIGN PRESSURE	155 MPH C 0.85 1.00 ENCLOSED 73 PSF (LRFD) 44 PSF (ASD)
RT 1 - 2"	5. SEISMIC LOADS: IMPORTANCE FACTOR, le	1.00 1.50 g 0.68 g D 1.00 1.50 D 1.00 2.50 2.50 2.50 10 FT 30 FT 12 PSF 0.3 Wp = 4 PSF (LRFD) 0.2 Wp = 2.5 PSF (ASD)

CONTINUED ON SHEET S101.

<u>FLOOR</u> 0' - 0"

![](_page_6_Figure_10.jpeg)

![](_page_7_Figure_0.jpeg)

#### **GENERAL STRUCTURAL NOTES**

POST-INSTALLED CONCRETE ANCHORS SPECIAL INSPECTION REQUIRED, SEE BELOW. ALL POST-INSTALLED CONCRETE ANCHORS SHALL BE ICC APPROVED DRILLED-IN SCREW TYPE. ACCEPTABLE ANCHORS INCLUDE: "TITEN HD" BY SIMPSON STRONG-TIE "SCREW-BOLT+" BY DEWALT "HUS" BY HILTI USA CORPORATION

#### STRUCTURAL STEEL CONFORM TO AISC AND ASTM SPECIFICATIONS AS FOLLOWS:

WIDE FLANGES PLATES AND BARS CHANNELS HOLLOW STRUCTURAL STEEL (HSS) ... STEEL BOLTS NUTS . SURFACE PREPARATION PRIMER

FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL BEAMS SHALL BE ERECTED WITH THE NATURAL CAMBER UPWARDS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PRIOR TO FABRICATION. SHOP DRAWINGS SHALL INCLUDE PIECE MARKS, ERECTION PLANS, AND DETAILS WITH CORRESPONDING DESIGN DOCUMENT INDICATORS.

STEEL EXPOSED IN FINISHED WORK SHALL BE CLEAN AND HAVE A UNIFORM SURFACE. GOUGES SHALL BE FILLED AND GROUND SMOOTH. SCALE AND MILL MARKS SHALL BE REMOVED. BOLTS EXPOSED IN FINISH WORK SHALL BE INSTALLED WITH HEADS ON THE VISIBLE SIDE OF THE CONNECTION.

STRUCTURAL STEEL SHOP FINISHING ALL STRUCTURAL STEEL SHALL BE SURFACE PREPARED AND SHOP PAINTED, EXCEPT AS NOTED. SURFACE PREPARATION SHALL CONFORM TO SSPC SP-3 POWER TOOL CLEANING TO REMOVE ALL SCALE AND RUST. SHOP PRIMER SHALL BE APPLIED TO A MINIMUM DRY THICKNESS OF 2.0 MIL MINIMUM DRY THICKNESS NO PAINT ON SURFACES WITHIN 2" OF FIELD WELDING.

STRUCTURAL STEEL WELDING SPECIAL STRUCTURAL INSPECTION IS REQUIRED. SEE NOTES BELOW. ALL STRUCTURAL STEEL WELDS SHALL BE PRE-QUALIFIED AND CONFORM TO AISC AND AWS SPECIFICATIONS AS FOLLOWS:

WELDERS . ELECTRODES MINIMUM WELD

#### **DEFERRED SUBMITTALS** STRUCTURAL STEEL SHOP DRAWINGS POST-INSTALLED CONCRETE ANCHOR CATALOG CUTS & ICC REPORTS

SPECIAL INSPECTION THE OWNER SHALL PROVIDE SPECIAL INSPECTION, WHICH SHALL INCLUDE THE FOLLOWING:

POST INSTALLED ANCHORS . STRUCTURAL STEEL

SPECIAL INSPECTORS SHALL SUBMIT SIGNED REPORTS TO THE OWNER NOT LESS THAN WEEKLY DURING THEIR PORTION OF WORK. A FINAL INSPECTION SUMMARY REPORT SHALL BE SUBMITTED TO THE OWNER INDICATING THAT TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, THE INSPECTED PORTIONS OF CONSTRUCTION CONFORM TO THE APPROVED PLANS AND SPECIFICATIONS.

**GENERAL CONTRACTOR NOTES** THE GENERAL CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND STRUCTURES AFFECTING THE WORK. NOTIFY THE OWNER IN WRITING OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THAT SHOWN IN THE CONTRACT DOCUMENTS WHICH ADVERSELY AFFECTS THE WORK.

THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND SHORING REQUIRED FOR INSTALLATION OF ALL COMPONENTS OF THIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, AND SEQUENCES OF PROCEDURES REQUIRED TO PERFORM THE WORK. THE CONTRACTOR SHALL COORDINATE ALL TRADES AND VERIFY DIMENSIONS IN THE FIELD.

THESE DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO THE REVIEW AND APPROVAL OF THE STRUCTURAL ENGINEER.

END OF GENERAL NOTES.

CONTINUED FROM SHEET S001. THE FOLLOWING NOTES APPLY UNLESS SHOWN OTHERWISE:

SPECIAL STRUCTURAL INSPECTION IS REQUIRED. SEE NOTES BELOW. ALL STRUCTURAL STEEL SHALL

- ASTM A572, Fy = 50 KSI
- ASTM A36, Fy = 36 KSI
- ASTM A36, Fy = 36 KSI ASTM A500, GRADE B
- ASTM A307, GRADE A
- ASTM A563
- SSPC SP6 "COMMERCIAL BLAST CLEANING" SSPC PAINT 25, ALKYD PRIMER, GREY COLOR

CERTIFIED FOR ROD AND POSITION E70XX; HEAVY COATED, LOW HYDROGEN CONTINUOUS FILLET PER AISC TABLE J2.4.

THE FOLLOWING SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION:

ANCHOR INSTALLATION - CONTINUOUS. FIELD WELDING - PERIODIC VISUAL 100% ALL WELDS.

![](_page_7_Figure_33.jpeg)

![](_page_8_Figure_0.jpeg)

![](_page_8_Picture_1.jpeg)

![](_page_8_Picture_2.jpeg)

![](_page_8_Picture_3.jpeg)

![](_page_8_Picture_4.jpeg)

### **STATEMENT OF WORK:**

THIS PROJECT INCLUDES THE REMOVAL AND REPLACEMENT OF AN EXISTING OVERHEAD DOOR IN THE SOUTHWEST CORNER OF THE MOA TRANSIT WARM STORAGE BUILDING.

THE ELECTRICAL SCOPE OF WORK INCLUDES:

- SYSTEM.

### LOAD STATEMENT:

THIS PROJECT INVOLVES THE DIRECT REPLACEMENT OF AN OVERHEAD DOOR OPERATOR AND CONTROL SYSTEM. THE EXISTING 480V, 30 20A BRANCH CIRCUIT SERVING THE LOAD WILL BE REUSED. NO ADDITIONAL LOAD HAS BEEN ADDED TO EXISTING PANEL PP1 AND THE EXISTING PANEL FEEDER AND FACILITY ELECTRICAL SERVICE REMAINS ACCURATE.

#### **GENERAL NOTES:**

- REQUIREMENTS WITH SELECTED DOOR MANUFACTURER PRIOR TO WORK.
- THE SELECTED DOOR MANUFACTURER.
- 4. LINE-VOLTAGE AND LOW-VOLTAGE WIRING SHALL BE INSTALLED IN SEPARATE RACEWAYS.
- THE OVERHEAD DOORS.

### **SHEET NOTES:**

- REQUIRED.

- 4> PROVIDE AND INSTALL MAIN VEHICLE SENSOR AND CONNECT TO NEW CONTROL PANEL
- 5 DEMOLISH (E) OUTDOOR KEYED 3-POSITION SWITCH SYSTEM. REFINISH AND PAINT PENETRATION TO MATCH FINISH.
- PANEL.

#### LEGEND

- J JUNCTION BOX
- \$K KEYED SWITCH
- MOTOR CONNECTION
- 🔶 PANEL
- SHEET NOTE, SPECIFIC TO LOCATION INDICATED.
- T TRANSFORMER

• DEMOLITION OF NEW DOOR OPERATOR, CONTROLS, SAFETY DEVICES, AND ASSOCIATED CONDUIT AND WIRING. INSTALLATION OF NEW DOOR OPERATOR, CONTROL PANEL, ANNUNCIATION DEVICES, SENSORS, AND SAFETY DEVICES WIRED IN ACCORDANCE WITH MANUFACTURER INSTALLATION INSTRUCTIONS FOR A COMPLETE OPERABLE

• WORK PLAN COORDINATION WITH STRUCTURAL AND ARCHITECTURAL DISCIPLINES TO FACILITATE INSTALLATION.

1. THE BASIS OF DESIGN FOR THE OVERHEAD DOOR SYSTEM IS MEGADOOR SYSTEM 1000 WITH 1500 HEAD BOX FOR A SINGLE 4HP, 480V, 3PH MOTOR. CONTRACTOR SHALL COORDINATE ACTUAL INSTALLATION AND INTERCONNECTION

2. CONTRACTOR SHALL DEMOLISH ALL EXISTING RACEWAYS AND CONTROL WIRING TO THE EXISTING INPUT AND OUTPUT DEVICES (I.E. SENSORS AND INDICATING LIGHTS), AND PROVIDE ALL NEW RACEWAY AND WIRING AS REQUIRED TO CONNECT THE NEW RED/GREEN INDICATOR LIGHTS, OBSTRUCTION SAFETY SENSORS, AND MAIN VEHICLE SENSOR TO THE NEW CONTROL PANEL PER MANUFACTURER'S REQUIREMENTS. INTERCONNECTION BETWEEN THE OVERHEAD DOOR CONTROL PANEL, AND THE INPUT AND OUTPUT DEVICES SHALL BE DESIGNED BY

3. PORTIONS OF THE EXISTING FEEDER CABLE AND CONDUIT FROM PANEL 'PP1' MAY BE REUSED AND EXTENDED TO NEW DOOR CONTROL PANEL IF EXISTING SECTIONS MEET PROJECT AND CODE REQUIREMENTS.

5. THIS FACILITY HAS AN EXISTING STANDBY GENERATOR THAT PROVIDES POWER TO THE ENTIRE FACILITY INCLUDING

1> REMOVE POWER DISCONNECT AND PROVIDE AND INSTALL OVERHEAD DOOR CONTROL PANEL AND RECONNECT 480V POWER FROM PP1: 23, 25, 27. EXTEND WIRING AS REQUIRED PROVIDE UNISTRUT SUPPORT FROM COLUMN AS

REMOVE EXISTING OVERHEAD DOOR MOTOR AND ASSOCIATED WIRING TO CONTROL DEVICES. PROVIDE NEW 3/4" C, 3#12, 1#12 GND TO NEW OVERHEAD DOOR CONTROL PANEL.

3 PROVIDE AND INSTALL RED/GREEN DOOR STATUS LIGHT AND CONNECT TO NEW CONTROL PANEL TO MATCH EXISTING STATUS LIGHTS AT OTHER DOOR LOCATIONS.

6> (E) OBSTRUCTION SAFETY SENSORS SHALL BE DEMOLISHED, REPLACED AND CONNECTED TO NEW CONTROL

### **ABBREVIATIONS**

AUTOMATIC TRANSFER SWITCH ATS (E), E EXISTING GENERATOR GEN KILOWATT KW NOT TO SCALE NTS STBY STANDBY WP WEATHERPROOF XFMR TRANSFORMER

![](_page_8_Figure_49.jpeg)

#### PART 1 GENERAL

- 1.1 SUMMARY
  - A. THIS SECTION INCLUDES GENERAL REQUIREMENTS FOR ELECTRICAL INSTALLATION.
- 1.2 SCOPE OF WORK
  - A. PROVIDE ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES REQUIRED FOR A COMPLETE INSTALLATION, TESTING, AND STARTUP OF ALL SYSTEMS DENOTED ON THE PLANS AND SPECIFICATIONS.
  - B. VERIFY EXISTING AND LOCAL CONDITIONS AFFECTING THE ELECTRICAL WORK PRIOR TO COMMENCEMENT OF PROJECT.
- 1.3 ELECTRICAL DRAWINGS AND SYMBOLS
  - A. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW ALL FEATURES OF WORK. THE CONTRACTOR SHALL PROVIDE ALL LABOR AND COMPONENTS NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS LISTED UNDER PART 1.6.
  - B. INSTALL UN-DIMENSIONED ELECTRICAL ITEMS IN A MANNER TO PROVIDE SYMMETRICAL APPEARANCE. DO NOT SCALE DRAWINGS FOR EQUIPMENT LOCATION. REVIEW ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOCATIONS. ADJUST WORK TO CONFORM TO ACTUAL CONDITIONS SHOWN.
  - C. DRAWING SYMBOLS USED FOR BASIC MATERIALS, EQUIPMENT, ETC., ARE DENOTED BY INDUSTRY STANDARD SYMBOLS. SPECIAL ITEMS ARE DENOTED BY SYMBOL LEGEND OR CALLED OUT ON THE DRAWINGS OR SPECIFICATION.
- 1.4 COORDINATION
  - A. EXPOSED RACEWAYS AND CABLES WHERE SPECIFICALLY ALLOWED SHALL BE ROUTED IN SUCH A MANNER AGREEABLE TO THE OWNER. COORDINATE ALL SUCH WORK PRIOR TO INSTALLATION.
  - B. OBTAIN WRITTEN PERMISSION FROM ENGINEER OR OWNER'S REPRESENTATIVE PRIOR TO CUTTING, DRILLING OR WEAKENING STRUCTURAL COMPONENTS.
  - C. COORDINATE WITH OWNER'S REPRESENTATIVE TO FORM A WORK PLAN AND SCHEDULE. SOME AREAS OF THE BUILDING MAY BE OFF LIMITS TO THE CONTRACTOR DURING SPECIFIC HOURS.
  - D. COORDINATE WITH DOOR MANUFACTURER PRIOR TO COMMENCEMENT OF DEMOLITION AND NEW ELECTRICAL WORK TO COORDINATE EXACT CONTROL PANEL LOCATION AND INTERCONNECTIONS BETWEEN DOOR CONTROL PANEL AND ANCILLARY SENSORS/DEVICES.
  - E. THE CONTRACTOR SHALL MONITOR THE WORK OF ALL TRADES TO ASSURE THAT THE SPACE AND CLEARANCE REQUIREMENTS OF THE CODE ARE MET.
  - F. THE HORSEPOWER AND WATTAGE OF EQUIPMENT DENOTED ON THE DRAWINGS ARE ESTIMATED REQUIREMENTS OF EQUIPMENT FURNISHED UNDER OTHER DIVISIONS OF THE CONTRACT.
  - G. MOA WILL APPLY FOR ELECTRICAL PERMIT AND PAY FOR PERMIT FEES.
  - H. CERTIFICATE OF INSPECTION: OBTAIN A CERTIFICATE OF ELECTRICAL INSPECTION FROM THE LOCAL INSPECTING AUTHORITY INDICATING FINAL ACCEPTANCE. SUBMIT TO THE OWNER UPON COMPLETION OF THE PROJECT AS PART OF PROJECT CLOSEOUT.
  - SAFETY MEASURES TO BE TAKEN: THE ENGINEER HAS NOT BEEN RETAINED OR COMPENSATED TO PROVIDE DESIGN AND CONSTRUCTION REVIEW SERVICES RELATING TO THE CONTRACTOR'S SAFETY PRECAUTIONS OR TO MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES REQUIRED FOR THE CONTRACTOR TO PERFORM HIS WORK. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF HIS WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER TO CONDUCT CONSTRUCTION OBSERVATIONS OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES. IN, ON OR NEAR THE CONSTRUCTION SITE.
- 1.5 PAINTING AND REPAIR
  - A. ALL BUILDINGS MATERIALS AND EQUIPMENT DAMAGED DURING THE INSTALLATION OF THE WORK MUST BE REPAIRED OR REPLACED WITH MATERIALS IN LIKE KIND AND QUALITY OF THE ORIGINAL BY SKILLED LABOR EXPERIENCED IN THAT PARTICULAR BUILDING TRADE.
  - B. ITEMS SCRATCHED OR MARRED IN SHIPMENT OR INSTALLATION SHALL BE REFINISHED WITH TOUCHUP PAINT SELECTED TO MATCH INSTALLED EQUIPMENT FINISH.
- 1.6 CODES AND STANDARDS
  - A. CODES: PERFORM ALL WORK IN ACCORDANCE WITH ALL LATEST LEGALLY ENACTED EDITIONS OF NATIONAL, STATE AND LOCAL CODES INCLUDING: NFPA 70 – NATIONAL ELECTRICAL CODE (NEC)
    - NFPA 72 AND 101 NATIONAL FIRE ALARM CODE AND LIFE SAFETY CODE.
    - ANSI/IEEE C2 NATIONAL ELECTRICAL SAFETY CODE (NESC)
    - INTERNATIONAL BUILDING CODE (IBC)
    - INTERNATIONAL FIRE CODE (IFC)
    - STATE OF ALASKA AMENDMENTS TO NEC, IBC, AND IFC
    - ALASKA ADMINISTRATIVE CODE 8.70 ELECTRICAL SAFETY CODE.
    - STATE OF ALASKA AND MUNICIPALITY OF ANCHORAGE AMENDMENTS OF NEC, IBC, AND IFC.

- STANDARDS: PROVIDE ALL EQUIPMENT, MATERIALS AND INSTALLATION IN CONFORMANCE WITH THE FOLLOWING LATEST CURRENT PUBLICATIONS AND STANDARDS AS APPLICABLE.
- UNDERWRITER'S LABORATORY (UL)
- AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM) INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION (NECA) NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION (NEMA) INTERNATIONAL ELECTRICAL TESTING ASSOCIATION (NETA)

- NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
- NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)
- 1.7 SUBMITTALS
  - A. CONTRACTOR SHALL SUBSTANTIATE CONFORMANCE TO THIS SPECIFICATION BY SUPPLYING THE NECESSARY DOCUMENTS, PERFORMANCE DATA AND WIRING DIAGRAMS. ANY DEVIATIONS TO THIS SPECIFICATION MUST BE CLEARLY STATED BY LETTER AND SUBMITTED.
  - PROVIDE STANDARD CATALOG LITERATURE FOR ALL NEW ELECTRICAL EQUIPMENT AND DEVICES.
  - C. CATALOG SHEETS MUST CLEARLY STATE COMPLETE PART NUMBERS.
  - D. PROVIDE SHOP DRAWINGS FOR ALL NEW ELECTRICAL EQUIPMENT. CONTROL PANEL

    - INTERIOR PANEL LAYOUT WIRING DIAGRAM SHOWING INCOMING POWER CONNECTIONS TO CONTROL PANEL, POWER CONNECTION TO OVERHEAD DOOR MOTOR, AND INTERCONNECTION OF CONTROL WIRING TO EXISTING AND NEW SENSORS AND DEVICES FOR OPERATING THE DOOR.
    - 2. OVERHEAD DOOR MOTOR
    - EXTERIOR DIAGRAM INCLUDING DIMENSIONS TOTAL ELECTRICAL LOAD INCLUDING VOLTAGE, PHASE, AND CURRENT b.
- 1.8 WARRANTY
  - A. WARRANTY: THE CONTRACTOR SHALL GUARANTEE ALL WORK INSTALLED UNDER THIS SPECIFICATION AND MAKE GOOD, REPAIR OR REPLACE AT HIS OWN EXPENSE ANY DEFECTIVE WORK, MATERIALS OR PARTS WITHIN ONE YEAR AFTER FINAL ACCEPTANCE.
- 1.9 QUALITY ASSURANCE
  - WORKMANSHIP IS CONSIDERED IMPORTANT AND IS SUBJECT TO APPROVAL. EMPLOY WORKMEN SKILLED IN THE TRADE AND FAMILIAR WITH PARTICULAR TECHNIQUES APPLICABLE TO VARIOUS SECTIONS OF WORK.
  - PROVIDE ALL MATERIALS TO CONFORM WITH APPLICABLE INDUSTRY STANDARDS AND UNDERWRITERS LABORATORIES STANDARDS. WHENEVER POSSIBLE, SIMILAR ITEMS SHALL BE SUPPLIED BY THE SAME MANUFACTURER THROUGHOUT THE PROJECT.
- 1.10 EQUIPMENT SCHEDULES
- A. FIXTURE AND EQUIPMENT SCHEDULES ON THE DRAWINGS DENOTING CAPABILITIES, RATINGS, SIZES, ETC., SHOWN ARE THE MINIMUM ACCEPTABLE AND MAY NOT NECESSARILY CORRESPOND WITH CATALOG RATINGS OR EQUIPMENT SPECIFIED.
- PART 2 PRODUCTS
- 2.1 GENERAL
  - A. MATERIALS AND EQUIPMENT SHALL BE ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION AS SUITABLE FOR THE USE INTENDED. ALL ELECTRICAL EQUIPMENT SHALL BEAR THE SEAL OF A NATIONALLY RECOGNIZED TESTING LABORATORY FOR THE PURPOSE FOR WHICH IT IS INSTALLED.
- 2.2 LABELING AND IDENTIFICATION
  - A. PROVIDE CIRCUIT LABELS AT ALL JUNCTION BOX AND OUTLET LOCATIONS.
  - B. INSTALL ENGRAVED PLASTIC NAMEPLATES FOR OVERHEAD DOOR CONTROL PANEL (BLACK LABEL WITH WHITE TEXT).
  - C. PROVIDE TYPED CIRCUIT DIRECTORY FOR EACH EXISTING BRANCH CIRCUIT PANEL BOARD THAT IS UTILIZED ON THIS PROJECT. REVISE DIRECTORY TO REFLECT CIRCUITING CHANGES TO MATCH AS-BUILT CONDITIONS.
  - D. KEYED DOOR OVERRIDE SWITCHES SHALL BE PROVIDED WITH AN ENGRAVED PHENOLIC LABEL THAT READS: "OVERHEAD DOOR OVERRIDE SWITCH".
- 2.3 WIRING
  - A. WIRING SHALL BE IN CONDUIT, WITH THE FOLLOWING EXCEPTIONS: 1. TRANSITIONS TO MOTORS MAY BE LFMC.
  - B. PROVIDE COPPER CONDUCTORS SIZED PER NEC REQUIREMENTS INCLUDING ADJUSTMENT FACTORS FOR AMBIENT TEMPERATURE AND MORE THAN THREE CURRENT CARRYING CONDUCTORS PER RACEWAY.

a. EXTERIOR DIAGRAMS INCLUDING DIMENSIONS AND WEIGHT

- C. PROVIDE ALL BRANCH CIRCUITS SIZED TO PROVIDE LESS THAN 3% VOLTAGE DROP FROM THE PANEL BOARD TO THE LAST DEVICE ON THE CIRCUIT.
- D. PERFORM WIRING CONNECTIONS AND SPLICES ONLY IN ACCESSIBLE OUTLET OR JUNCTION BOXES.
- E. CLEAN CONDUCTOR SURFACES BEFORE INSTALLING LUGS AND CONNECTORS.
- F. STRIP CONDUCTOR INSULATION TO THE EXPOSED LENGTH AS RECOMMENDED BY THE MANUFACTURER FOR THE CONNECTOR USED.
- G. TAPE UNINSULATED CONDUCTORS AND CONNECTORS WITH ELECTRICAL TAPE TO 150 PERCENT OF INSULATION RATING OF CONDUCTOR.
- H. ALL DRY, INTERIOR LOCATIONS SHALL BE PROVIDED WITH THWN/THHN INSULATED CONDUCTORS. ALL DAMP, WET, AND EXTERIOR LOCATIONS SHALL BE PROVIDED WITH XHHW/XHHW-2 INSULATED CONDUCTORS.
- INSTALL INSULATED SPRING WIRE CONNECTORS WITH PLASTIC CAPS OR COMPRESSION WHEN NOT AVAILABLE FOR COPPER CONDUCTOR SPLICES AND TAPS, 8 AWG AND SMALLER.
- WHERE STRANDED CONDUCTORS ARE TERMINATED ON SCREW TYPE TERMINALS INSTALL CRIMP ON FORK TERMINALS. DO NOT PLACE BARE STRANDED CONDUCTORS DIRECTLY UNDER SCREWS.
- 2.4 DEVICES GENERAL
- 3.5 FINAL ACCEPTANCE A. INSTALL DEVICES PLUMB AND LEVEL. B. INSTALL GALVANIZED STEEL PLATES ON OUTLET BOXES AND JUNCTION BOXES IN UNFINISHED AREAS, ABOVE ACCESSIBLE CEILINGS, AND ON SURFACE MOUNTED OUTLETS. C. ALL EXTERIOR DEVICES AND EQUIPMENT SHALL BE WEATHERPROOF AND INSTALLED IN NEMA 3R ENCLOSURES. 2.5 GROUNDING A. EQUIPMENT GROUNDING CONDUCTOR: INSTALL SEPARATE, GREEN INSULATED CONDUCTOR WITHIN EACH BRANCH CIRCUIT RACEWAY. TERMINATE EACH END ON SUITABLE LUG, BUS, OR BUSHING. PROVIDE BOND TO EVERY ELECTRICAL
  - PERMANENTLY BOND ELECTRICAL POWER SYSTEM IN ACCORDANCE WITH NEC, INCLUDING MOTOR FRAMES, GROUNDING TYPE RECEPTACLES, CONTROL PANEL ENCLOSURES, AND OTHER EXPOSED NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT.
- 2.6 SPARE MATERIALS

BOX AND ENCLOSURE.

- A. PROVIDE TWO (2) KEYS FOR EACH KEYED SWITCH
- PART 3 EXECUTION
- 3.1 GENERAL INSTALLATION
  - A. ALL MATERIALS SHALL BE NEW, FREE FROM DEFECTS AND ARRIVE AT THE JOB SITE IN THEIR ORIGINAL UNOPENED CONTAINER.
  - B. INSTALL ALL ELECTRICAL EQUIPMENT USING MANUFACTURERS RECOMMENDED METHODS, UNLESS SPECIFICALLY APPROVED BY THE OWNER'S REPRESENTATIVE.
  - C. SENSORS AND DEVICES THAT PROVIDE THE INPUT AND OUTPUT SIGNALS TO THE OVERHEAD DOOR CONTROL SYSTEM SHALL BE PROVIDED, AND CONNECTED TO THE NEW OVERHEAD DOOR CONTROL SYSTEM TO MEET **REQUIREMENTS OF UL325.** 
    - THESE DEVICES INCLUDE. BUT ARE NOT LIMITED TO:
    - 1. RED/GREEN TRAFFIC LIGHT, WHICH SIGNIFY WHETHER OR NOT THE VEHICLE SHOULD PROCEED THROUGH THE DOOR.
    - 2. FLASHING RED LIGHT, WHICH SIGNIFY THAT THE OVERHEAD DOOR IS
    - OPENING OR CLOSING. WALL-MOUNTED "REQUEST-TO-EXIT" RADAR SENSOR AT DOOR ENTRANCE. WHICH DETECTS THE PRESENCE OF A VEHICLE.
- 3.2 EXISTING CONDITIONS
  - GENERAL: SPECIFIC SCOPE OF DEMOLITION WORK AND OPERATING CONDITIONS TO Α. BE ENCOUNTERED SHALL BE VERIFIED ON-SITE PRIOR TO SUBMITTING BID. DEMOLITION WORK IN GENERAL IS NOTED OR SHOWN ON THE DOCUMENTS BASED UPON AVAILABLE "DRAWINGS OF RECORD" AND LIMITED FIELD INVESTIGATION, AND MAY NOT SHOW THE ACTUAL CONDITIONS AS THEY PRESENTLY EXIST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING EQUIPMENT AND WIRING TO BE RETAINED AND/OR REINSTALLED, AND SHALL REPLACE ANY EQUIPMENT DAMAGED DURING THE PROCESS OF REMOVAL AND REINSTALLATION
  - OWNER RETAINED EQUIPMENT: THE OWNER MAY WISH TO RETAIN CERTAIN SPECIFIC B. ITEMS SCHEDULED FOR DEMOLITION. THE CONTRACTOR SHALL CAREFULLY REMOVE THESE ITEMS, PROVIDE PROTECTION AND PACKAGING AS MAY BE REQUIRED TO PROTECT THE EQUIPMENT AND TURN OVER SAID EQUIPMENT TO THE OWNER AT A PLACE DESIGNATED ON THE JOBSITE. ANY EQUIPMENT THAT THE OWNER DOES NOT DESIRE TO RETAIN SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE REMOVED FROM THE SITE.
  - C. DEMOLISH AND REPLACE (E) OBSTRUCTION SAFETY SENSORS. CONNECT TO NEW OVERHEAD DOOR CONTROL SYSTEM.

3.3 FIRESTOPPING

APPLY FIRESTOPPING TO PENETRATIONS OF FIRE-RATED CEILING AND WALL ASSEMBLIES FOR ELECTRICAL INSTALLATIONS TO RESTORE ORIGINAL FIRE-RESISTANCE RATING OF ASSEMBLY.

3.4 DISPOSAL

Α.

CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ALL MATERIAL REMOVED FROM THIS PROJECT. ALL NON-HAZARDOUS/SANITARY WASTE SHALL BE DISPOSED OF BY A SOLID WASTE SERVICE.

THE ELECTRICAL CONTRACTOR SHALL SUBMIT TO THE OWNER A PROJECT CLOSEOUT FORM PROPERLY FILLED OUT PRIOR TO THE TIME FINAL ACCEPTANCE OF THE ELECTRICAL WORK IS REQUESTED. AT THE TIME ALSO SUBMIT COPIES OF THE FINAL INSPECTION CERTIFICATES (IF REQUIRED) AND RECEIPTS FOR LOOSE MATERIALS (SPARE WIRING DEVICES, FUSES, ETC.) TURNED OVER TO THE OWNER.

CONTRACTOR SHALL TEST ALL WIRING AND ELECTRICAL EQUIPMENT TO VERIFY ABSENCE OF GROUNDS AND SHORT CIRCUITS. CONTRACTOR SHALL DEMONSTRATE OPERATION OF DOOR CONTROLS.

RECORD DRAWING MARKUPS

D. CONTROL SYSTEM OPERATION AND MAINTENANCE MANUALS INCLUDING WIRING DIAGRAMS AND PLC CONFIGUARATION.

![](_page_9_Figure_103.jpeg)