

REFRIGERATION SPECIFICATIONS

1. SCOPE

1.1. HEREAFTER IN THIS SPECIFICATION, THE WORD "MECHANICAL CONTRACTOR" SHALL REFER TO THE INSTALLING MECHANICAL OR REFRIGERATION CONTRACTOR AND "OWNER" SHALL REFER TO 7-ELEVEN, OWNER SHALL PURCHASE THE EQUIPMENT AND ARRANGE TO HAVE THAT EQUIPMENT DELIVERED TO THE STORE SITE...

2. CODE REQUIREMENTS

2.1 ALL PROPOSALS SHALL INCLUDE, AND WORK PERFORMED SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES, WHICH SHALL BE DELINEATED, AND ALL MODIFICATIONS REQUIRED BY THE INSPECTING AUTHORITY SHALL BE MADE BY THE MECHANICAL CONTRACTOR WITHOUT ADDITIONAL COST TO THE OWNER...

3. GUARANTEE

3.1 MECHANICAL CONTRACTOR SHALL GUARANTEE ALL WORK AND THE COMPLETE SYSTEM OPERATION WILL BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIAL THAT THE MECHANICAL CONTRACTOR PROVIDED FOR INSTALLATION, FOR A PERIOD OF 90 DAYS AFTER ACCEPTANCE BY THE OWNER...

3.2 MECHANICAL CONTRACTOR SHALL GUARANTEE THAT THE UNIT HAS BEEN INSTALLED PROPERLY. 3.3 MECHANICAL CONTRACTOR SHALL PROVIDE THE FOLLOWING INFORMATION TO THE EQUIPMENT MANUFACTURER'S DISTRIBUTOR, AND TO THE OWNER IF DEFECTS ARE ENCOUNTERED WITH THE EQUIPMENT.

- 3.3.1 MODEL NUMBER OF THE UNIT.
3.3.2 SERIAL NUMBER OF THE UNIT.
3.3.3 DATE OF INSTALLATION
3.3.4 DETAILED ACCOUNT OF THE PROBLEM, DIAGNOSIS, AND REPAIR WORK REQUIRED.
3.3.5 PARTS REQUIRING REPLACEMENT.
3.3.6 STORE NUMBER AND ADDRESS.

3.4 MECHANICAL CONTRACTOR SHALL FURNISH TO THE OWNER'S REPRESENTATIVE ALL CERTIFICATES OF FINAL INSPECTION AND APPROVAL FROM INSPECTION AUTHORITIES HAVING JURISDICTION.

WALK IN COOLER REFRIGERATION SYSTEM INSTALLATION

SPECIFICATION INTRODUCTION:

THE CONTRACTING FOR INSTALLATIONS OF WALK-IN REFRIGERATION EQUIPMENT WILL BE ACCOMPLISHED IN THE FIELD AT THE DIVISION LEVEL. THESE SPECIFICATIONS ARE TO AID IN PREPARATION OF NATIONAL STANDARD CONTRACT DOCUMENTS.

1. SCOPE

1.1 HEREAFTER IN THIS SPECIFICATION, THE WORD "MECHANICAL CONTRACTOR" SHALL REFER TO THE INSTALLING MECHANICAL OR REFRIGERATION CONTRACTOR AND "OWNER" SHALL REFER TO 7-ELEVEN, OWNER SHALL PROVIDE THE WALK-IN COOLER AND FREEZER REFRIGERATION SYSTEMS TO THE MECHANICAL CONTRACTOR AT HIS SHOP OR DESIGNATED STORAGE FACILITY...

2. CODE REQUIREMENTS AND PERMITS

2.1 ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ALL APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES, AND ALL MODIFICATIONS REQUIRED BY THE INSPECTION AUTHORITY SHALL BE MADE BY THE MECHANICAL CONTRACTOR WITHOUT ADDITIONAL COST TO THE OWNER.

2.2 OBTAIN, PAY FOR AND FURNISH ALL REFRIGERATION PERMITS REQUIRED BY LOCAL OR STATE ORDINANCES OR CODES.

2.3 NO EXTRAS SHALL BE ALLOWED DUE TO CONDITIONS WITH WHICH THE MECHANICAL CONTRACTOR SHOULD HAVE BEEN FAMILIAR.

3. GUARANTEE

3.1 MECHANICAL CONTRACTOR SHALL GUARANTEE ALL WORK AND THE COMPLETE SYSTEM OPERATION WILL BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIAL THAT THE MECHANICAL CONTRACTOR PROVIDED FOR INSTALLATION, FOR A PERIOD OF 90 DAYS AFTER ACCEPTANCE BY THE OWNER...

3.2 MECHANICAL CONTRACTOR SHALL FURNISH TO THE OWNER REPRESENTATIVE ALL CERTIFICATES OF FINAL INSPECTION AND APPROVAL FROM INSPECTION AUTHORITIES HAVING JURISDICTION.

4. MECHANICAL CONTRACTOR INSPECTION RESPONSIBILITIES

4.1 CHECK EACH PIECE OF REFRIGERATION EQUIPMENT FOR DAMAGES AND SHORTAGES. IF SUCH CONDITIONS EXIST, THE MECHANICAL CONTRACTOR SHALL:

4.1.1 OBTAIN INSPECTION REPORT IN DUPLICATE FROM THE COMMON CARRIER AND NOTIFY OWNER OFFICE AND REFRIGERATION EQUIPMENT SUPPLIER IMMEDIATELY.

4.1.2 MAKE REPAIRS WHEN AUTHORIZED TO DO SO BY MANUFACTURER'S REPRESENTATIVE, REPLACING ANY MALFUNCTIONING PART(S) ON THE EQUIPMENT WITHOUT CHARGE TO THE OWNER.

5. EQUIPMENT

5.1 EVAPORATOR FAN COILS THE MECHANICAL CONTRACTOR SHALL HANG THE EVAPORATOR COILS IN ACCORDANCE WITH THE MECHANICAL PLAN. ALL MOUNTING HARDWARE, TO INCLUDE A BEARING SURFACE FOR THE HANGER RODS, SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR...

5.2 APPROVED COOLER (VAULT) REFRIGERATION EQUIPMENT MANUFACTURERS AND MODEL NUMBERS (R404a MEDIUM TEMP / 404a LOW TEMP)

5.2.1 HEATCRAFT/BOHN FLEXPACK UNIT CONTAINING (1) MEDIUM TEMP COMPRESSOR FOR VAULT COOLER, (1) LOW TEMP COMPRESSOR FOR VAULT ICE STORAGE, AND (1) LOW TEMP COMPRESSOR FOR VAULT FREEZER STORAGE.

6. INSTALLATION REQUIREMENTS

6.1 REFRIGERANT PIPING

6.1.1 ALL SUCTION LINE PIPING SHALL BE SEALED REFRIGERANT GRADE, TYPE L, HARD DRAWN. THE LIQUID LINE PIPING SHALL BE SEALED REFRIGERANT GRADE, TYPE C, HARD DRAWN ON ALL MANIFOLDS. THE SHORT SECTION OF TUBING BETWEEN THE MAIN LIQUID LINE AND EXPANSION VALVE SHALL BE DRAWN REFRIGERANT TUBING.

6.1.2 ALL HORIZONTAL TUBING RUNS SHALL BE SLOPED TOWARD THE COMPRESSOR AND/OR "P" TRAP 1 INCH PER 20 FEET. ALL VERTICALLY RUN SUCTION LINE SHALL BE SLOPED TOWARD COMPRESSOR, AND SHALL BE P-TRAPPED FOR EACH 20 FEET SECTION OF RISER.

6.1.3 ONLY SILVER BASE SOLDER (15% SILVER) SHALL BE USED FOR ALL INSTALLATIONS.

6.1.4 REFRIGERANT PIPING IN THE WALK-IN SHALL BE STRAPPED TO ASSURE PIPING SUPPORT. THIS STRAPPING SHALL BE COPPER. IF NON-COPPER STRAPPING IS USED, IT SHALL BE LINED WITH AN INSULATING MATERIAL TO PREVENT BRINE-MEDIC ELECTROLYSIS. REFER TO MANUFACTURER'S INSTALLATION MANUAL FOR RECOMMENDED SUPPORT SPACING.

6.2 REFRIGERANT LEAK TESTING

6.2.1 AFTER ALL REFRIGERANT TUBING IS CONNECTED, THE ENTIRE SYSTEM, INCLUDING THE CONDENSING UNIT, SHALL BE PRESSURIZED TO 200 PSIG WITH A MIXTURE OF APPROPRIATE REFRIGERANT AND DRY NITROGEN. ALL CONNECTIONS, BOTH SWEATED AND SOLDERED, SHALL BE THOROUGHLY CHECKED WITH AN ELECTRONIC OR HALIDE LEAK DETECTOR. ALL LEAKING SOLDER CONNECTIONS SHALL BE DISASSEMBLED, CLEANED AND RE-SOLDERED.

6.3 EVACUATION

6.3.1 THE COMPLETE SYSTEM SHALL BE EVACUATED WITH A VACUUM PUMP. THE REFRIGERATION COMPRESSOR SHALL NOT BE USED TO EVACUATE THE SYSTEM.

6.3.2 THE COMPLETE SYSTEM, TO INCLUDE THE CONDENSING UNIT, SHALL BE EVACUATED A MINIMUM OF THREE TIMES. THE VACUUM SHALL BE BROKEN THE FIRST AND SECOND TIME AT 500 MICRONS USING APPROPRIATE REFRIGERANT. THE THIRD VACUUM SHALL BE BROKEN BY THE CHARGING REFRIGERANT.

6.4 SUCTION LINE INSULATION

6.4.1 THE MAIN SUCTION LINE INSIDE THE COOLER (VAULT) TO INCLUDE THE "P" TRAP, THE VERTICAL SUCTION RISER, ALL ABOVE ROOF SUCTION PIPING SHALL BE INSULATED WITH 1/2" WALL ARMAFLEX OR ITS EQUIVALENT. ALL JOINTS SHALL BE PROPERLY SEALED WITH APPROVAL BY INSULATION MANUFACTURER'S ADHESIVE OR SEALANT.

6.5 CONDENSATE DRAIN LINES

6.5.1 CONDENSATE DRAIN LINE MATERIAL SHALL BE 1" O.D. HARD DRAWN COPPER TUBING. MECHANICAL CONTRACTOR SHALL INSTALL HEAT TRACE IN LOW TEMP SECTION OF VAULT. REF ELECTRICAL SPECIFICATIONS SECTION 3.5.12 FOR HEAT TRACE REQUIREMENTS.

6.5.2 THE LINES SHALL BE CAPABLE OF BEING OPENED AS CLOSE TO THE EVAPORATOR DRAIN AS POSSIBLE TO ALLOW EFFECTIVE CLEANING.

6.5.3 THE DRAIN LINE SHALL BE TRAPPED ON A VERTICAL SLOPE PRIOR TO REACHING THE RECEIVING FLOOR DRAIN OR FIT (WHICHEVER IS ALLOWABLE UNDER LOCAL CODES).

6.5.4 THE DRAIN LINE SHALL HAVE A DEFINITE SLOPE AWAY FROM THE EVAPORATOR OR DRAIN PIT (WHICHEVER IS ALLOWABLE UNDER LOCAL CODES). THE DRAINS FROM THE EVAPORATORS SHALL BE JOINED TO MAIN DRAIN LINE WHICH SHALL RUN TO A DRAIN LOCATION SHOWN ON THE MECHANICAL PLAN AND SHALL BE FIRMLY SUPPORTED WITH STRAPS AT LEAST EVERY SIX FEET ALONG THE DRAIN RUN.

6.6 SYSTEM SET-UP

6.6.1 THE OIL LEVEL IN THE COMPRESSOR SIGHT GLASS SHALL BE BETWEEN 1/3 AND 1/2 FULL AT ALL TIMES (FOR SEMI-HERMETIC COMPRESSORS ONLY. HERMETIC COMPRESSORS DO NOT HAVE OIL SIGHT GLASS).

6.6.2 THE PROPER AMOUNT OF REFRIGERANT SHALL BE CHARGED INTO THE SYSTEM WITH THE COMPRESSOR OPERATING AT THE PROPER HEAD PRESSURE (SEE MANUFACTURER'S SPECIFICATIONS).

6.6.3 ONLY SUNISO-365 OIL SHALL BE USED FOR THE MEDIUM TEMP SYSTEMS AND MOBIL EAL ARCTIC 22 CC OIL SHALL BE USED IN THE LOW TEMP SYSTEMS.

6.6.4 THE THERMOSTATIC EXPANSION VALVE SUPERHEAT IS CONTROLLED BY THE BEACON MICRO-PROCESSOR BOARD AND IS FACTORY SET AT 8 DEG. THE MECHANICAL CONTRACTOR SHALL CHECK THE SUPERHEAT AT THE COMPRESSOR TO ENSURE THE COMPRESSOR SUPERHEAT MEETS THE COMPRESSOR MANUFACTURER'S GUIDELINES. THE MECHANICAL CONTRACTOR MAY HAVE TO ADJUST SUPERHEAT AT

BEACON BOARD TO CORRECT INCORRECT SUPERHEAT READINGS AT THE COMPRESSOR.

6.6.4.1 THE WALK-IN COOLER AND FREEZER THERMOSTATS ARE A PART OF THE BEACON MICRO-PROCESSOR SYSTEM AND ARE FACTORY MOUNTED. THE MECHANICAL CONTRACTOR SHALL PROGRAM THE BEACON # BOARDS AS FOLLOWS:

VAULT COOLER TEMPERATURE SETPOINTS:

VAULT COOLER: +38° F
VAULT ICE: +20° F
VAULT FREEZER: -10° F

OTHER REFRIGERATION EQUIPMENT TEMPERATURE SETPOINTS:

SANDWICH CASE: +32° F
CONDIMENT STATION: +38° F
ICE CREAM CASE: -10° F
ICED COFFEE/CREAM DISPENSER: +38° F
UNDER COUNTER REFRIGERATED STORAGE: +38° F
BACKROOM FREEZER: +10° F

6.7 PENETRATIONS

6.7.1 ALL OPENINGS THROUGH THE WALK-IN PANELS REQUIRED FOR HANGERS, CONDENSATE DRAIN LINES, STRAPPING AND REFRIGERANT PIPING SHALL BE SEALED EXTERIOR AND INTERIOR BY THE MECHANICAL CONTRACTOR TO PREVENT MOISTURE FROM ENTERING THE INSULATION, AND TO MAINTAIN THE WALK-IN VAPOR BARRIER.

6.7.2 THE MECHANICAL CONTRACTOR SHALL SEAL OFF ALL PASS-THROUGH OPENINGS REQUIRED FOR REFRIGERANT TUBING IN ACCORDANCE WITH REQUIREMENTS STATED ON MECHANICAL PLAN.

7. ELECTRICAL

7.1 ALL PROVISIONS FOR WRING (LINE VOLTAGE AND BEACON LOW VOLTAGE) SHALL BE BY THE ELECTRICAL CONTRACTOR. FINAL BEACON LOW VOLTAGE WIRING CONNECTIONS SHALL BE BY THE MECHANICAL CONTRACTOR.

8. MECHANICAL CONTRACTOR CLEAN-UP RESPONSIBILITIES

8.1 REMOVE ALL CRATING FROM PREMISES.

8.2 REMOVE ALL LABELS AND CLEAN CONDENSING SURFACES IF REQUIRED, AND STRAP CONDENSING COIL FINS IF REQUIRED.

8.3 TOUCH-UP AND REPAIR PAINT AS REQUIRED.

INSTALLATION SPECIFICATIONS MISCELLANEOUS REFRIGERATED EQUIPMENT

1. SCOPE

1.1 HEREAFTER IN THIS SPECIFICATION, THE WORD "MECHANICAL CONTRACTOR" SHALL REFER TO THE INSTALLING MECHANICAL OR REFRIGERATION CONTRACTOR AND "OWNER" SHALL REFER TO 7-ELEVEN, OWNER SHALL PURCHASE THE EQUIPMENT AND ARRANGE TO HAVE THAT EQUIPMENT DELIVERED TO THE STORE SITE...

2. CODE REQUIREMENTS

2.1 ALL PROPOSALS SHALL INCLUDE, AND WORK PERFORMED SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ALL APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES, WHICH SHALL BE DELINEATED, AND ALL MODIFICATIONS REQUIRED BY THE INSPECTING AUTHORITY SHALL BE MADE BY THE MECHANICAL CONTRACTOR WITHOUT ADDITIONAL COST TO THE OWNER...

3. GUARANTEE

3.1 MECHANICAL CONTRACTOR SHALL GUARANTEE THAT THE UNIT HAS BEEN INSTALLED PROPERLY.

3.2 MECHANICAL CONTRACTOR SHALL PROVIDE THE FOLLOWING INFORMATION TO THE EQUIPMENT MANUFACTURER'S DISTRIBUTOR, AND TO THE OWNER IF DEFECTS ARE ENCOUNTERED WITH THE EQUIPMENT.

- 3.2.1 MODEL NUMBER OF THE UNIT
3.2.2 SERIAL NUMBER OF THE UNIT
3.2.3 DATE OF INSTALLATION
3.2.4 DETAILED ACCOUNT OF THE PROBLEM, DIAGNOSIS, AND REPAIR WORK REQUIRED.
3.2.5 PARTS REQUIRING REPLACEMENT
3.2.6 STORE NUMBER AND ADDRESS.

3.3 MECHANICAL CONTRACTOR SHALL FURNISH TO THE OWNER'S REPRESENTATIVE ALL CERTIFICATES OF FINAL INSPECTION AND APPROVAL FROM INSPECTION AUTHORITIES HAVING JURISDICTION.

INSTALLATION REQUIREMENTS

4.1 GENERAL

4.1.1 THE EQUIPMENT FROM VARIOUS MANUFACTURERS IS CONFIGURED SIMILARLY WITH MINOR DIFFERENCES DUE TO INDIVIDUAL MANUFACTURER'S DESIGN. INSTALLATION INSTRUCTIONS ARE BASICALLY SIMILAR FOR EACH MANUFACTURER'S EQUIPMENT.

4.2 RETAIL REFRIGERATION EQUIPMENT

4.2.1 INSTALLATION INSTRUCTIONS

PARTS REQUIRED:

- 1. R404A REFRIGERANT: UP TO 15LBS 4 OZ PER CONDENSER.
2. WALL MOUNTED ELECTRICAL JUNCTION BOX WITH STRAIN RELIEF
3. 50 FEET (MAX) OF ELECTRICAL CONDUIT WITH MINIMUM AWG 22 STRAND 7X30 WIRE.
4. MOUNTING HARDWARE FOR JUNCTION BOX BRACKETS, CLAMPS AND REMOTE CONDENSER.

CONTENTS OF KIT:

- 1. REMOTE CONDENSER
2. FLEXIBLE LINE SET
3. QUICK DISCONNECT FITTINGS
4. 50 FEET OF 3/8" INSULATED LINE SET
5. 50 FEET OF 5/8" INSULATED LINE SET
6. COPPER ELBOW FITTINGS
7. MOUNTING STRUT AND CLAMPS
8. JUMPER FOR ELECTRICAL CONNECTION

INSTALLATION INSTRUCTIONS:

- 1. UNPACK CONDENSER
2. CONDENSER INSTALLATION
3. REFRIGERANT LINE INSTALLATION
4. ELECTRICAL CONNECTIONS
5. FBD UNIT INSTALLATION
6. REFRIGERANT CHARGING
7. UNIT START UP

INSTALLATION:

4.1 UNPACK CONDENSER. CAREFULLY UNPACK THE CONDENSING UNIT.
2. CONDENSER INSTALLATION: INSTALL THE REMOTE CONDENSER ACCORDING TO THE DOCUMENT "INSTALL AND MAINTENANCE DATA" PROVIDED WITH THE CONDENSER.

4.2.2 ICE MAKER (PIPED TO THE HEATCRAFT FLEXPACK UNIT. PRECHARGED REFRIGERANT LINE SET FURNISHED BY THE ICE MAKER MANUFACTURER.)

4.2.3 SANDWICH CASE (PIPED TO THE REMOTE CONDENSING UNIT. PRECHARGED REFRIGERANT LINE SET FURNISHED BY THE MECHANICAL CONTRACTOR.)

4.2.4 SLURPEE (PIPED TO THE HEATCRAFT FLEXPACK UNIT. PRECHARGED REFRIGERANT LINE SET FURNISHED BY THE SLURPEE MANUFACTURER.)

4.3 CONDENSATE DRAIN

4.3.1 NORMALLY, THE CONDENSATE DRAIN CONNECTION INCLUDED WITH THE UNIT, WILL BE STUBBED OUT AT THE BOTTOM OF THE CABINET, (IF REQUIRED). MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL A DRAIN LINE FROM THE CABINETS TO THE FLOOR DRAIN. IT SHALL BE PERMISSIBLE TO MANIFOLD THE DRAINS INTO A COMMON DRAIN LINE; THE MANIFOLD SHALL BE 1 INCH DIAMETER MINIMUM. COPPER WILL BE ACCEPTABLE. EACH DRAIN CONNECTION SHALL BE FULL SIZE OF THE EQUIPMENT DRAIN CONNECTION SERVED.

4.4 UNIT START UP AND CHECKOUT

4.4.1 MECHANICAL CONTRACTOR SHALL FOLLOW THE SPECIFIC UNIT INSTALLATION PROCEDURES WHICH ARE PACKAGED WITH EACH PIECE OF EQUIPMENT WHEN DELIVERED TO THE STORE.

5. MECHANICAL CONTRACTOR RESPONSIBILITIES

5.1 REMOVE ALL CRATING FROM PREMISES.

5.2 CHECK EACH PIECE OF REFRIGERATION EQUIPMENT FOR DAMAGES. NOTIFY THE OWNER'S DIVISION OFFICE IMMEDIATELY. MAKE REPAIRS ONLY WHEN AUTHORIZED TO DO SO.

5.3 OBTAIN, PAY FOR AND FURNISH ALL REFRIGERATION PERMITS REQUIRED BY LOCAL OR STATE ORDINANCES OR CODES.

5.4 COMPLY WITH ALL LOCAL AND STATE CODES; IN JURISDICTION WHENEVER THE SPECIFICATIONS DO NOT MEET CODES, THE CODES SHALL TAKE PRECEDENCE. NOTIFY OWNER'S DIVISION CONSTRUCTION OFFICE REGARDING REQUIRED MODIFICATIONS.

5.5 NO EXTRAS SHALL BE ALLOWED DUE TO CONDITIONS WITH WHICH THE MECHANICAL CONTRACTOR SHOULD HAVE BEEN FAMILIAR.

6. ELECTRICAL

6.1 ALL PROVISIONS FOR WIRING, EXCEPT LOW VOLTAGE CONNECTIONS, SHALL BE BY THE ELECTRICAL CONTRACTOR. FINAL CONNECTIONS SHALL BE BY THE MECHANICAL CONTRACTOR FOR LOW VOLTAGE.

6.2 ALL ELECTRICAL POWER SUPPLY WIRING SHALL BE BY ELECTRICAL CONTRACTOR.

6.3 ALL LINE VOLTAGE CONTROL WIRING FROM THE RETAIL REFRIGERATION EQUIPMENT TO THE CONDENSER UNIT(S) SHALL BE BY THE ELECTRICAL CONTRACTOR.

INTERPLAN

ARCHITECTURE
ENGINEERING
INTERIOR DESIGN
PROJECT MANAGEMENT
AA 003420
CA 8660
604 COURTLAND STREET
SUITE 100
ORLANDO, FLORIDA 32804
PH 407.645.5008
FX 407.629.9124

SEAL:

Order Plans@www.ldline.com

NO DATE REMARKS

REVISIONS



BID SET
JANUARY 8, 2018

7-ELEVEN
STORE #32810

5544 RONALD REAGAN PARKWAY
DAVENPORT, FL
33896

PROJECT NO: 2016.0305
DATE: MAY 31, 2017

M2.1
REFRIGERATION
SPECIFICATIONS

CHECKED: AS DRAWN: MM

INTERPLAN LLC RESERVE COPYRIGHT & OTHER RIGHTS RESTRICTING THESE DOCUMENTS TO THE ORIGINAL SITE OR PURPOSE FOR WHICH THEY WERE PREPARED. REPRODUCTIONS, CHANGES OR ASSIGNMENTS ARE PROHIBITED. COPYRIGHT © 2016