ADDENDUM #4

RFP Project 25 Phase 2 Trunked Radio System

Notice Date: July 21th, 2015 @ 4:00pm

City of Conway IT Department

A. Purpose

The purpose of this Addendum No. 4 is to correct and clarify Section 5.5 Communications Shelter

5.5 Communications Shelter:

5.5.1 Specifications

The following specifications shall be considered the minimum specifications required.

Vendor shall furnish and install item(s) described below.

1. A minimum of 12’W (OD) x 20’L (OD) x 9’H (ID) shelter (equivalent or better) See “Sample Shelter” attachment. Sample of Andrews’s shelter has been provided as an example only. It is not the intent of The City to limit different models or brands of communication buildings.

2. Shelter foundation(s) – The building shall be placed and anchored on an 8” thick Monolithic slab with light broom finish, #4 rebar each way with a 3’ apron at the front side of the building. Provide ¾ min chamfer at AU exposed edges. All grounding should be compliant with Motorola R56 Grounding Specifications

Note:

Interior and exterior grounding system, etc. to comply with Motorola R56 standard. Cable tray layout and electrical connections for equipment
3. Structural:
   - Slab Thickness – 2F 2” Thick
   - Design Live load – PSF200F 200 PSF Live Load
   - Roof – OH3R 3” overhang
   - Design Snow Load – PSF125F 60 PSF Snow Load
   - Walls – 4W 4” Thick

4. Interior Finish:
   - No Sub Floor
   - Floor Finish – FFTF Vinyl Composition Tile
   - Ceiling – FRP50C ½” FRP
   - Walls – FRP50C ½”FRP

5. Insulation
   - Floor – R13F Nominal R13 Floor
   - Roof – R13R Nominal R13 Roof
   - Walls – R13W Nominal R13 Walls

6. Panel Finish
   - Floor – Hard Trowel Finish
   - Roof – FBR Broom Finish
   - Walls – FAW Exposed Aggregate

7. locations and size of Coax Access Port, PVC Wall Conduit for Grounding and Telco, Generator Receptacle, Generator Wall Conduit, Electrical Service Entry and Door Entry and Lighting. TBD

8. Entry: 3670 Steel Door
   - Aluminum Threshold and Weather-stripping
   - Simplex Lock Set
   - Pick Guard
   - Hydraulic Closer with ‘hold’ feature
   - Door Hood
   - Door ‘hold open’ hook

9. Lighting: 4 each 4’ LED interior lights
   - LED Exterior light
   - Motion detector
   - Photocell
   - Interior light timer
   - Battery backup emergency light
10. Grounding: #2 stranded green halo
   - 2 each 4” x 24” x ¼” ground bar (one inside and one outside)
   - Ground cable ladder at walls

11. Coax Access Port, PVC Wall Conduit for Grounding and Telco, Generator Receptacle, Future Generator Wall Conduit, Electrical Service Entry and Door Entry and Lighting

12. Ice bridge

13. Program manage project, deliver and set shelter(s) onto foundation pad(s).

14. Ceiling and cable tray heights in the equipment rooms should be such as to accommodate 7- 1/2-foot equipment racks, bottom of cable tray shall be 8’ from finished floor elevation and the ceiling should be 9 feet.

15. Overhead Cable Ladder/Tray: 24” aluminum cable tray

16. 3 Phase Transfer switch to be located on the inside of the shelters.

17. Transfer switch to disconnect only after the meter.

18. 3 Phase uninterrupt power supply (UPS).

19. Service Configuration: 60 Hertz, 120/240 volt
   - 300Amp Electrical service

20. HVAC (Wall Mount Standard): Redundant
   - 2 each 4 ton

21. Distribution Equipment: Load Center with main breaker Automatic transfer switch with built in surge protective device.

5.5.2 Warranty:
1. Contractor to provide a minimum 1-year warranty on HVAC system; Contractor to provide 24-hour name and contact phone number;
2. Contractor to provide a building warranty; Contractor to provide 24-hour name and contact phone number.
3. Contractor to provide a structural warranty; Contractor to provide 24-hour name and contact phone number.

5.5.3 The City to provide
1. A cleared 100’x100’ area, included with end the 100’ area a 70’x70’ Tower/Shelter compound, to be provided by the vendor, and access roadway to the tower site. Any additional site improvements and/or modifications to the specified tower/shelter location site, as necessary to accommodate the contractor’s required material and work, shall be the responsibility of the contractor and must be factored into each Proposal’s cost estimate.
2. Power & High Speed Fiber to building(s) coordinated by The City;
3. Generator, fuel source, and foundation for generator
4. Site landscaping;
5. Site fencing by The City only after work is complete;
6. Security Cameras and Locks (Proxy cards & Key Pad)
5.5.4 Permits and Licensing:
1. Contractor is responsible for obtaining all permits and Licenses.

5.5.5 Delivery
1. The Communications Equipment Shelter shall be delivered to Clearwell Road RF site Conway Arkansas 72034

If you have any additional questions regarding this addendum, please contact Lloyd Hartzell, at Lloyd.Hartzell@cityofconway-ar.gov or 501.513.3521.
ANDREW CORPORATION
SHELTER MODEL RCS1020-355T1-95
SAMPLE DOCUMENT SHOWN AS EXAMPLE ONLY
REQUEST FOR QUOTE IS NOT BRAND NAME SPECIFIC

DESIGN OPTIONS
SPECIFIC PROJECT DRAWINGS SHALL SPECIFY WHICH OPTIONS APPLY TO A PARTICULAR SHELTER MODEL.
ALL UNITS OF A PARTICULAR MODEL NUMBER SHALL BE CONSTRUCTED WITH THE SAME DESIGN OPTIONS.

STRUCTURAL

SLAB THICKNESS
- 2F 3" THICK
- 3F 3" THICK

DESIGN LIVE LOAD
- PSF125 125 PSF LIVE LOAD
- PSF200 200 PSF LIVE LOAD

FLOOR FINISH
- SF Match FLOOR
- SF NOT MEET FLOOR
- SPF CEMENT BOARD

INTERIOR FINISHES

SUBFLOOR
- SF NO SUBFLOOR
- SFW PLANKED

INSULATION
- R11F Nominal R12 FLOOR
- FFF FLUTED FINISH

DESIGN CRITERIA

FLOOR LIVE LOAD, PSF 200
WIND LOAD, MPH (3 SECOND GUST) 100
URC, PSF 48.8 - 30.6 - 42.7
BOCA, PSF 60.2 - 42.0 - 54.1
SBCD, PSF 54.5 - 42.0 - 63.0
OSBC, PSF 60.2 - 42.0 - 54.1
ASSET 29.7 - 28.0 - 76.3

SEISMIC ZONE IV
- 2" - 4" - 0.40
URC, HORIZONTAL SEISMIC COEFFICIENT 0.37
BOCA, HORIZONTAL SEISMIC COEFFICIENT 0.22
SBCD, HORIZONTAL SEISMIC COEFFICIENT 0.22
OSBC, HORIZONTAL SEISMIC COEFFICIENT 0.22

SEISMIC MICRO ZONE

FIRE RATINGS OF WALLS
- 3' WALL (OPT 3'M) 1 HOUR
- 4' WALL (OPT 4'M) 2 HOURS
- DEPENDS ON DESIGN OPTION SELECTED.

MODEL NUMBER DESIGNATION
RCS 10 - 20 - 355T1 - 95
NOTES
1. CABLE LADDER TO CONFORM TO SWE-SEC DL 12 OF 18
2. CABLE LADDER TO BE PLACED 50" A.F.F.
3. NO EL TO BE USED AT ALL SPACES AND PEAK
PACK-UP MATERIALS
(IN ADDITION TO ITEMS FROM PACK-UP INSTRUCTIONS)

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>U/A</th>
<th>PART NO.</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td>EA 368024-11</td>
<td>CONCRETE TIE DOWN KIT (4 PLATES)</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td>EA 347976-78-1</td>
<td>BUSH, WOOD</td>
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<tr>
<td>3.</td>
<td></td>
<td></td>
<td>EA 397955-74-3</td>
<td>GALL, BOLDOE, HOUS</td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td>SF 379922-38</td>
<td>(SAME LOT # AS INSTALLED)</td>
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<tr>
<td>5.</td>
<td></td>
<td></td>
<td>EA</td>
<td>FOR USE TO BE PLACED IN CABINET HOUSING (24/36/2-27)</td>
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<tr>
<td>6.</td>
<td></td>
<td></td>
<td>EA</td>
<td>ALARM PANEL BLOCK COVER (248550-05-1)</td>
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<tr>
<td>7.</td>
<td></td>
<td></td>
<td>EA 368001-2</td>
<td>PACK-OUT BOX (20X0 FULL OVERLAY) (248548-047680)</td>
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<tr>
<td>8.</td>
<td></td>
<td></td>
<td>270 FT</td>
<td>56X-508 SUPER FLEX LOT 50 WIRE CABLE (SEE NOTE 3)</td>
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<tr>
<td>9.</td>
<td></td>
<td></td>
<td>14 FT</td>
<td>104-A PANEL 1/2&quot; MALE CONNECTOR</td>
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<tr>
<td>10.</td>
<td></td>
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<td>360 FT</td>
<td>50 D POWER CABLE (360730-0)</td>
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<tr>
<td>11.</td>
<td></td>
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<td>60 FT</td>
<td>50 D POWER CABLES (360730-0)</td>
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<tr>
<td>12.</td>
<td></td>
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<td>125 FT</td>
<td>EQUIPMENT GROUND (2 RIB U 88776-68)</td>
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<tr>
<td>13.</td>
<td></td>
<td></td>
<td>35 FT</td>
<td>NON RAIL GROUND (88776-119)</td>
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</tbody>
</table>

PACK-UP INSTRUCTIONS FOR PREF-INSTALLED ITEMS

1. ITEMS BELOW APPLY TO THIS SHIPMENT.
   a) PACK-UP ITEMS (CTY.) FLUORESCENT LIGHTS IN PLACE.
   b) REMOVE AND PACK THE FOLLOWING ITEMS WITH HARDWARE:
      - EXTERIOR LIGHT (LABEL MOUNT)
      - EXTERIOR GROUND RAMPS
      - DOOR CANOPY WITH GROUND STRAP ATTACHED
      - FIRE EXTINGUISHERS
   c) SECURE (CTY.) STEEL DOOR(S) WITH DEADBOLTS.
   d) INCLUDE EQUIPMENT WARRANTIES AND OTHER PORTEOUS INFORMATION IN LITERATURE HOUSING.
   e) INSTALL ACCESSORY DATA PLATE ON OUTSIDE OF DISTRIBUTION PANEL.
   f) INSTALL THIRD PARTY INSPECTION INSIGNIA ON FRONT OF DISTRIBUTION PANEL (IF APPLICABLE).
   g) INSTALL STATE INSIGNIA WHERE REQUIRED (IF APPLICABLE).

2. DRAWINGS IN DRAWING LIST MARKED WITH AN ASTERISK (*) ARE TO BE INCLUDED IN THE SHIPPER PACK-UP MATERIALS.
3. SEAL ALL PACK-UP MATERIALS PRIOR TO SHIPMENT.
4. PLACE ALL PACK-UP MATERIALS AS CLOSE TO DOOR AS POSSIBLE AND SECURE.

DRAWING LIST

<table>
<thead>
<tr>
<th>REVISIONS</th>
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<tbody>
<tr>
<td>SL 1: RELEASE FOR APPROVAL</td>
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<tr>
<td>SL 2: REVISED ITEM 1 ON PACK-OUT BOX</td>
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<td>SL 2: REVISED ITEM 17</td>
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FIELD SET-UP INSTRUCTIONS

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<th>RESPONSIBLE PARTY</th>
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<tr>
<td>ANCHOR CHARGE</td>
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<tr>
<td>CUSTOMER</td>
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<tr>
<td>ITEM</td>
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<tr>
<td>X</td>
</tr>
<tr>
<td>X</td>
</tr>
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SHIPPING SPECIFICATIONS

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<th>WEIGHT</th>
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<td>22' X 8' 2000 LBS</td>
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OFLADING REQUIREMENTS

- CABLE OFLOAD, REF: ENGL 1-001-2 FOR CRANE SUPPLIED CABLES, SHADIES & SPREADER BAR.
REINFORCED CONCRETE NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 318, ACI 329, ACI 333, ASTM A302, ASTM A41, AND THE DESIGN & CONSTRUCTION SPECIFICATIONS FOR CAST- IN-PLACE CONCRETE.

2. CAST CONCRETE FOR SLABS AND POST FOOTINGS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF (2000 PSI AT 28 DAYS). CONCRETE REINFORCING STEEL IS NOT REQUIRED FOR SLABS AND POST FOOTINGS UNLESS NOTED OTHERWISE OR REQUIRED BY THE ADMINISTRATION AUTHORITY.

SLUMP = 4" MIN & 6" MAX
AIR ENTRAPMENT = 5% TO 25% BY VOLUME

3. TYPES OF CONCRETE:

<table>
<thead>
<tr>
<th>CLASS</th>
<th>28 DAY STRENGTH (PSI)</th>
<th>WATER/CEMENT RATIO</th>
<th>PLACEMENT LOCATION</th>
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<tbody>
<tr>
<td>TYPE A</td>
<td>5000</td>
<td>0.45</td>
<td>HIGH EARLY STRENGTH</td>
</tr>
<tr>
<td>TYPE B</td>
<td>5000</td>
<td>0.45</td>
<td>NORMAL WEIGHT FOOTINGS</td>
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4. **EQUIPMENT SHELTER FOUNDATION DETAIL**

1. **MONOLITHIC SLAB DETAIL**

2. **MONOLITHIC SLAB SECTION**

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EQUIPMENT SHELTER FOUNDATION DETAIL
GROUNDING NOTES

1. All grounded electrode systems (including telecommunication, radio, lightning protection, and AC power systems) shall be bonded together at or below grade, by two or more copper bonding conductors in accordance with the NEC.

2. The Subcontractor shall perform AC fall-off potential resistance to earth testing (per IEEE 1100 and 81) for ground electrode systems. Testing shall be in accordance with specification 27422-004-4R-10200-0000. Use of other methods must be pre-approved by the Contractor in writing.

3. The Subcontractor shall finish and install supplemental ground electrodes as needed to achieve a test result of 5 ohms or less. When adding electrodes, the contractor shall maintain a minimum distance between the added electrode and any other existing electrode such that the buried length of the rod, cable, or pipe shall be equal to twice the buried length of the rod.

4. The Subcontractor is responsible for properly grounding grounding and underground conduct installation as to prevent any loss of continuity in the grounding system or damage to the conduct.

5. Metal conduit and tray shall be grounded and mate electrically with listed bonding fittings or by wiring through the discontinuity in Any copper wire and UL approved grounding type conductors per NEC and ANSI N49-06.

6. Metal raceway shall not be used as the NEC-required equipment grounding conductor. Stranded copper conductors with green insulation, used in accordance with the NEC, shall be furnished and installed with the power circuits to bits equipment.

7. Connections to the ground bus shall not be double up or stacked. Back-to-back connections on opposite sides of the ground bus are permitted.

8. Aluminum conductor on copper clad steel conductor shall not be used for grounding connections.

9. Use of oil bonds in the protection grounding conductors shall be avoided wherein 4" bonds can be adequately supported.

10. Each exterior bit cabinet frame/plant shall be directly connected to the master ground bar with 6/2 AWG stranded green insulated supplemental equipment grounding wires. Each outdoor cabinet frame/plant shall be directly connected to the buried ground ring with a 2 AMG 600m2-plated copper wire.

11. All exterior ground conductors between equipment/ground bars and the ground ring shall be 2 AWG solid 600m2-plated copper unless otherwise specified.

12. Extrinsic nets shall be used for all grounding connections below grade. Connections to above-grade exterior units shall be made with extrinsic nets where practical. For 6" 3-hole mechanical type braze connectors with stainless steel hardware, including 5' screws. High pressure gain connectors may only be used with written permission from National Industrial Market Representative.

13. Extrinsic nets shall be permitted on towers only with the express approval of the tower manufacturer or the contractors structural engineer.

14. All nine wire ground conductors to the interior ground ring shall be formed using high tensile clamps on split bolt connections where specified in the details.

15. On rooftop sites where extrinsic nets are a fire hazard copper compression or connections may be used for high wire connectors. 3-hole mechanical type braze connections with stainless steel hardware, including set screws, shall be formed for connections to all rooftop bit equipment and to structural steel.

16. For bridge wiring conductors shall be externally bonded or bolted to the bridge and the tower ground bar using two 6-hole mechanical type braze connectors and standard stainless steel hardware.

17. Approved interconnector clamps (i.e., conductive gel or paste) shall be used on all compressions and bolted ground connectors.

18. All exterior ground connections shall be coated with a corrosion resistant material.

19. Non-metallic electrical, and non-electrical metallic boxes, frames, and supports shall be bonded to the ground ring, in accordance with the NEC.

20. Bond all metallic objects within 6 ft of the buried ground ring with 2 AWG 600m2-plated copper ground conductor.

21. Grounding conductors used in the facility ground and lightning protection systems shall not be routed through metallic ducts that form a path around the conduit, such as metallic conduits that form a path around the conduit, such as metallic conduit, interior, and side walls. When it is required to be housed in conduit to meet code requirements or local conditions, non-metallic material, such as polyethylene conduit shall be used. Where use of metal conduit is unavoidable (i.e., non-metallic conduit prohibited by local code) the ground conductor shall be bonded to each end of the metal conduit with compression fittings.

22. Ground all RT equipment including but not limited to, coils, switches, surges, arrestors, TVA, antennas, and antennas per NEC.
GROUNDING DETAILS 1

GROUND RODe INSPECTION WELL
NOT TO SCALE

GROUND RODe DETAIL
NOT TO SCALE

FENCE GROUNDING
NOT TO SCALE

COAX CABLE GROUND KIT
NOT TO SCALE

DIRECTIONS:
1. MOUNT BONDING BUSHING CASING CONDUIT
2. TIGHTEN BONDING BUSHING SET SCREW
3. INSERT COPPER CONDUCTOR INTO LUG
4. TIGHTEN LUG CONDUCTOR SCREW
5. INSERT BONDED LUG SCREW

CONDUIT BOND/GROUND BUSHING
N15

MECHANICAL CONNECTION
#4 AND #6 STRANDED COPPER GROUND WIRE TO COAX BARE CONDUCTOR

INSTALLATION OF GROUND WIRE TO COAX CABLE GROUND BAR
N15

NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND.
2. ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
3. GROUNDING KIT & WEATHER PROOFING KIT SHALL BE TYPE & PART # AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
HEDLETU INSTRUMENT COMPANY, INC.
BURLINGTON, N.C.

**Table: Grounding Details 2**

<table>
<thead>
<tr>
<th>NO.</th>
<th>REG. PART NO.</th>
<th>DESCRIPTION</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>1 A 4.5x0.060</td>
<td>1/4&quot;x0.060 SOLID Cu BAR</td>
</tr>
<tr>
<td>2</td>
<td>2 A-4055</td>
<td>WALL MTL. BAND</td>
</tr>
<tr>
<td>3</td>
<td>2 3061-16</td>
<td>INSULATORS</td>
</tr>
<tr>
<td>4</td>
<td>4 3002-1</td>
<td>3/4&quot;-14&quot; H.H.C.S.</td>
</tr>
<tr>
<td>5</td>
<td>4 3653-8</td>
<td>1/4&quot; LOCKNUT</td>
</tr>
</tbody>
</table>

**Diagram: Interior Ground Ring**

Each ground conductor terminating on any ground bar shall have an identification tag attached at each end that will identify its origin and destination.

**Section "A" - Surge Arrestors**
- Cable entry points (speak plated) (4)
- Generator frame (not available) (4)
- Teleg ground bar (4)
- Commercial power common neut/ground bond (2)
- 24V power supply return bar (2)

**Section "B" - Surge Arresters**
- Interior ground ring (4)
- External earth ground field (buried ground ring) (4)
- Metallic cold water pipe (if available) (4)
- Building steel (if available) (4)

**Section "Y" - Isolated Ground Zone**
- All communications equipment frames
- Isolated ground bar - EIM (2)

**Detail Notes:**
1. Externally Welded 3/8 AGR SPARE TERT. SOLO COPPER CONDUCTOR TO GROUND BAR, ROUTE CONDUCTOR TO BURIED GROUND RING AND PROVIDE PARALLEL EXTERIOR WELD.
2. USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION AND LABEL EACH SECTION ("P", "A", "Y") WITH A "Y" HIGH LETTERED.

**Reference**

(ROG) Reference Ground Bar Detail

nts

**Halo Ground Ring Wall Support and C-Tap Detail**

nts
ICE BRIDGE AND GENERATOR FOUNDATION DETAIL

NOTE: PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL COORDINATE THE GENERATOR AND/OR LP TANK MODEL WITH THE FOUNDATION DETAILS SHOWN HEREBIN TO ENSURE COMPLIANCE WITH THE MANUFACTURER'S DETAILS AND SPECIFICATIONS. PAD SIZES MAY BE ADJUSTED AS NEEDED. WRF MAY BE USED IN LIEU OF REBAR WITH APPROVAL OF MOTOROLA CONSTRUCTION MANAGER OR OWNER'S REPRESENTATIVE. CONSULT THE ENGINEER WITH ANY ISSUES THAT CANNOT BE REASONABLY RESOLVED IN THE FIELD.

SCALE NOT TO SCALE