



Proposal

City of Manteca Fire Department

System Upgrade

October 25, 2024

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October 25, 2024

Chief David Marques
City of Manteca Fire Department
1154 S Union Rd., Manteca, CA 95337

Subject: System Upgrade

Dear Chief Marques,

Motorola Solutions, Inc. ("Motorola") is pleased to have the opportunity to provide City of Manteca Fire Department with quality communications equipment and services. The Motorola project team has taken great care to propose a solution that will meet your needs and provide unsurpassed value.

To best meet the functional and operational specifications of this solicitation, our solution includes a combination of hardware, software, and services. Specifically, this solution is to upgrade the City of Manteca FD conventional radio system to a digital three channel, three site voted system in the 7/800 band.

This Solution provides:

- New GTR Base radios, receivers, comparators and networking hardware
- The system will consist of two Transmit/Receive sites and one Receive only site
- Implementation of the solution

This proposal consists of this cover letter and the Communications System and Services Agreement and addendum ("CSSA"), together with its Exhibits. This proposal shall remain valid for a period of 30 days from the date of this cover letter. City of Manteca Fire Department may accept the proposal by delivering to Motorola the CSSA signed by Customer Contact Name. Alternatively, Motorola would be pleased to address any concerns Customer may have regarding the proposal. Any questions can be directed to your Motorola Account Executive, Mike Marraccini, Senior Account Manager, at 916-201-5670.

We thank you for the opportunity to furnish City of Manteca Fire Department with "best in class" solutions and we hope to strengthen our relationship by implementing this project. Our goal is to provide you with the best products and services available in the communications industry.

Sincerely,
Motorola Solutions, Inc.

A handwritten signature in black ink, appearing to read 'Michael De Benedetti'.

Michael De Benedetti
Territory Vice President

Cover Letter



Table of Contents

Section 1

System Description	1-4
1.1 Overview	1-4
1.2 Solution Components	1-4
1.3 System Operation	1-5
1.4 System Components	1-7
1.4.1 GTR 8000 Base Radio	1-7
1.4.2 GPW 8000 Receiver.....	1-7
1.4.3 GRV 8000 Comparator.....	1-7
1.4.4 SRX 345 Router	1-8
1.4.5 SRX 1500 Router	1-8
1.4.6 TRAK 9100 Unit.....	1-9
1.4.7 ACX 7024 MPLS Router	1-9
1.4.8 MCG 8000 CCGW	1-9
1.5 Backhaul Specifications	1-10
1.6 Power Draw and HVAC Requirements	1-11

Section 2

Coverage	2-1
2.1 Coverage Maps	2-1
2.2 Mobile Outbound Map	2-2
2.3 Mobile Inbound Map	2-3
2.4 Portable On Street Outbound	2-4
2.5 Portable On Street Inbound	2-5
2.6 Portable In Building with 8dB of Loss Outbound.....	2-6
2.7 Portable In Building with 8dB of Loss Inbound.....	2-7
2.8 Coverage Acceptance Test Plan.....	2-8
2.8.1 Overview.....	2-8
2.8.2 CATP Definitions	2-8
2.8.3 Defined Test Area	2-8
2.8.4 Channel Performance Criterion (CPC).....	2-9
2.8.5 Reliability	2-9
2.8.6 Direction(s) of Test	2-9
2.8.7 Equipment Configurations	2-10
2.8.8 In-Building Coverage.....	2-12
2.8.8.1 Outdoor Only Coverage.....	2-12
2.8.9 CPC Pass/Fail Criteria for a Test Tile	2-12
2.8.10 Required Number of Test Tiles in the Defined Test Area	2-12
2.8.11 Accessibility to Test Tiles	2-13
2.8.12 Random Selection of a Test Location in Each Tile	2-13
2.8.13 CPC Measurements in Each Tile	2-14

2.9	Responsibilities and Preparation	2-14
2.10	CATP Procedures	2-15
2.11	CATP Documentation and Coverage Acceptance.....	2-16
Section 3		
	Equipment List.....	3-1
Section 4		
	Implementation Statement of Work.....	4-1
4.1	Responsibility Matrix.....	4-1
4.2	Assumptions.....	4-11
Section 5		
	Project Schedule	5-1
Section 6		
	Acceptance Test Plan.....	6-1
6.1	Radio to Radio Features.....	6-2
6.1.1	Conventional Radio Resource Call - Clear Mode	6-2
6.1.2	Conventional Radio Resource Call - Coded Mode	6-3
6.1.3	Conventional Radio Scan.....	6-4
6.1.4	Conventional Radio Priority Scan.....	6-5
6.1.5	Multicast Scan	6-6
6.1.6	Conventional ASTRO Emergency.....	6-7
6.1.7	Conventional Radio Resource Via Comparator	6-8
6.2	Signoff Certificate.....	6-9
Section 7		
	Warranty and Service Plan Essential Plus Services	7-1
7.1	Overview	7-1
7.2	Essential Plus Element Descriptions	7-1
7.2.1	Remote Technical Support.....	7-1
7.2.2	Network Hardware Repair	7-1
7.2.3	Security Update Service.....	7-1
7.2.4	On-site Infrastructure Response	7-2
7.2.5	Annual Preventive Maintenance.....	7-2
7.3	Motorola Solutions Service Delivery Ecosystem	7-2
7.3.1	Centralized Managed Support Operations	7-2
7.3.2	Field Service.....	7-3
7.3.3	Repair Depot	7-3
7.3.4	Customer Support Manager	7-3
7.3.5	MyView Portal.....	7-3
7.4	System Upgrade Agreement II.....	7-4
Section 8		
	Pricing Summary	8-1
8.1	Equipment and Implementation Services	8-1
8.2	Optional Post-Warranty Maintenance & SUA II	8-1

8.3 Payment Terms..... 8-2

Section 9

Contractual Documentation..... 9-1

Section 1

System Description

1.1 Overview

Motorola Solutions is pleased to present the Manteca Fire Department (FD) with a proposal to upgrade their conventional radio system to a digital three channel, three site voted system in the 7/800 band. This proposal includes all new GTR Base radios, receivers, comparators and networking hardware to standup a new system while continuing to make use of existing sites, antenna mounting structures and shelters. The system will consist of two Transmit/Receive sites and one Receive only site and will provide coverage in the areas of concern as identified by Manteca FD. This conventional system will be tied back to the existing Stockton ASTRO 25 Core and allow continued dispatch operations from Stockton Dispatch. The connection back to the Core will be accomplished using Manteca FD provided backhaul.

Manteca FD will need to program their radios to operate on the new 800MHz conventional channels proposed. Once the system is up and running, all radios that are capable of using the 7/800 band will be able to use the new system. The existing VHF system will continue to be in place and operate until all the users successfully switch to the 7/800 band. These resources will continue to be accessible from dispatch through conventional channel gateways (CCGWs) and will show up as selectable resources on the console GUI.

1.2 Solution Components

Motorola proposes the use of three existing sites that Manteca FD has today to implement this new system. The sites and the equipment proposed are as follows:

- **Station 2: Transmit and Receive site**
 - Three (3) GTR 8000 Base transceiver radios for transmit (Tx) and receive (Rx) operation
 - One (1) SRX 345 Site router/switch
 - One (1) 7/800 band 3 port combiner
 - One (1) 7/800 8 port multicoupler (150kHz minimum frequency separation)
 - One (1) Tx antenna and line
 - One (1) Rx antenna and line
 - One (1) 1.8kW softwired UPS for backup power with additional battery module
 - 175 min runtime at 415 W
 - 4 RUs space required
 - One (1) 7.5ft rack to install equipment
 - One (1) TRAK 8835 timing reference device with GPS antennas
- **Austin Road: Rx only site**
 - Three (3) GPW 8000 receiver radios for Rx operation
 - One (1) Site router/switch

- One (1) 7/800 8 port multicoupler
- One (1) Rx antenna and line
- One (1) 1.8kW softwired UPS for backup power with additional battery module
 - 175 min runtime at 415 W
 - 4 RUs space required
- One (1) 7.5ft rack to install equipment
- **Station 4: Tx and Rx site and Hub site**
 - Three (3) GTR 8000 Base transceiver radios for transmit (Tx) and receive (Rx) operation
 - One (1) SRX 1500 Hub Site router
 - One (1) EX 4100 Hub Site switch
 - One (1) EX 4100 Backhaul switch
 - One (1) ACX 7024 redundant MPLS router
 - One (1) 7/800 band 3 port combiner (150kHz minimum frequency separation)
 - One (1) 7/800 8 port multicoupler
 - One (1) Tx antenna and line
 - One (1) Rx antenna and line
 - One (1) 1.8kW softwired UPS for backup power with additional battery module
 - 175 min runtime at 415 W
 - 4 RUs space required
 - One (1) 7.5ft rack to install equipment
 - Three (3) GRV 8000 digital conventional comparators
 - Two (2) MCG 8000 conventional channel gateways
 - One (1) TRAK 9100 timing reference device with GPS antennas

1.3 System Operation

For Manteca FD's 800MHz conventional simulcast system, the Station 2 and Station 4 locations are the transmitting sites. The Austin Rd location is a receive-only site (voter). The voting comparators for the three (3) channels; SCD-N, TAC13, TAC14 are collocated at the Station 4 location. IP network connections provided by Manteca FD will bring the audio back from the other two locations to the Station 4 location. Station 4 will connect back to the existing Stockton Astro Core. Dispatching for Manteca FD is performed by Stockton FD.

Motorola will provide frequency licensing services for the three (3) new 800MHz channels. Final antenna selection and ERPs will be determined during the licensing process. Tower loading analysis for the new antennas and coax will be performed by Manteca FD. Manteca FD will provide space, power, and any site upgrades required for the new equipment. The existing Manteca FD VHF voting system will remain in place. MCG8000 gateways have been included for Stockton Dispatch connectivity to the new 800MHz simulcast conventional system but will also allow for the existing VHF comparator to backhaul via IP as well.

Motorola has included an automated Coverage Acceptance Test for Inbound and Outbound BER testing. Further details on the testing procedure is provided in a subsequent Coverage Acceptance Test plan section.

Manteca FD's subscriber fleet are multiband radios (V/U/800). Motorola has not included any new subscribers in this offer. Manteca FD will need to program their radios to operate on the new 800MHz conventional channels. Motorola is aware that other agencies in the Manteca coverage area use the existing VHF system for interoperability with Manteca FD. In these instances the dispatchers at Stockton can patch the VHF and associated new 800MHz channel together. Motorola will consult with Manteca FD to provide a seamless transition of their fleet to the new 800MHz system.

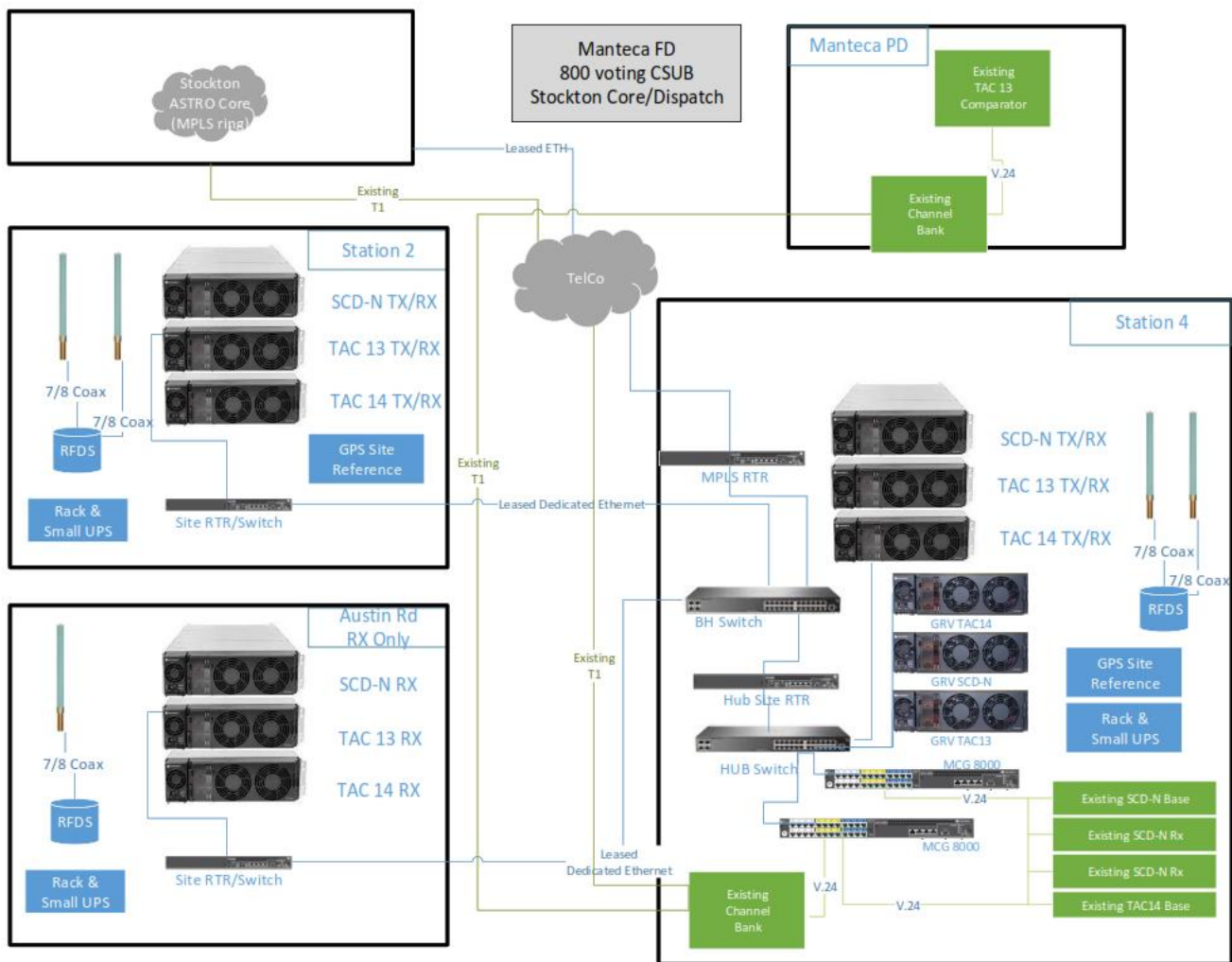


Figure 1-1: System Diagram

Table 1-1: Site Location and Antenna Specifications

Site Name	Latitude	Longitude	Tx Info			Rx info		
			Antenna Height (ft)	Antenna model	Antenna Gain (dBd)	Antenna Height (ft)	Antenna model	Antenna Gain (dBd)
Austin Rd	37°47'28.4"N	121°10'50.4"W				74.981	CC807-03	3
Station 2	37°47'9.52"N	121°13'59.6"W	74.981	CC807-06	6	99.974	CC807-03	3
Station 4	37°49'36.6"N	121°14'26.2"W	74.981	CC807-06	6	99.974	CC807-03	3

1.4 System Components

1.4.1 GTR 8000 Base Radio

The conventional GTR 8000 Base Radio supports digital IP, digital V.24, analog 4–wire, and mixed mode 4–wire/V.24 hybrid circuit wireline link interfaces. The conventional GTR 8000 Base Radio supports 16 sets of programmable channel configurations. Each channel configuration can be configured for base station, repeater, simplex, or receive only operation. The GTR 8000 Base Radio is being provided in a standalone base radio configuration.



Figure 1-2: GTR 8000 Transceiver

1.4.2 GPW 8000 Receiver

The conventional GPW 8000 Receiver operates in a voting environment with connection to a conventional comparator providing additional receive–only stations in areas where it would otherwise be difficult to receive a signal from low–power subscriber units. The receiver also operates as a monitor receiver in a non–voting environment with a connection to a console. Uses a similar chassis as the GTR shown above.

1.4.3 GRV 8000 Comparator

The GRV 8000 Comparator ensures the broadcast of the best possible voice signal by combining the best parts of a single signal that has been received by multiple sites in a Multi–Site (simulcast) system. The comparator features a digital voting methodology: Frame Diversity Reception.

The comparator selects the data frame or signals with the lowest Bit Error Rate (BER) and forwards it. By using the best pieces of each input signal, the result is the best possible composite signal. Uses a similar chassis as the GTR shown above.

1.4.4 SRX 345 Router

The SRX345 Service Gateway combines scalable connectivity and security to ASTRO® 25 systems, ensuring that communications remains stable and secure between organizations. The SRX345 is used for routing, switching, and WAN connectivity at various network locations and supports high availability configuration, threat mitigation, and firewall features such as VPN. To secure traffic between hosts, stateful firewall protection is enabled by default and performs network inspections by amassing data and analyzing it in relation to the overall flow of communication. Depending on the deployment within the system, SRX345 routers can be used in various network locations with these functions:

- **Site Router** - Links connectivity between remote sites and the Zone Core through site switches.
- **Hub Site Router** - Interfaces between the K Core and equipment at the Conventional Hub Site and can be used as the Hub Router in K core systems with a single hub.
- **Control Room Firewall** - Secures communications with outside networks.



Figure 1-3: SRX 345 Router

1.4.5 SRX 1500 Router

The SRX1500 Service Gateway combines scalable connectivity and security to ASTRO® 25 systems, ensuring that communications remain stable and secure between organizations. The SRX1500 is a high-functioning router with advanced security capabilities. Cloud-based security solutions such as VPN, threat mitigation services, and intelligence applications protect mission-critical communications across organizations and networks. To secure traffic between hosts, stateful firewall protection is enabled by default and performs network inspections by amassing data and analyzing it in relation to the overall flow of communication.

Depending on its deployment within the system, SRX1500 routers can be used in various network locations with these functions:

- **Edge Router** - Transmits traffic from Zone-to-Site and Zone-to-Zone. Manages traffic between subnets in the Zone Core.
- **Hub Router** - Provides interface between the K Core and equipment at the Hub Site. Found in systems with multiple hub site configurations.
- **Site Router** - Connects remote sites and the Zone Core.
- **Prime-Access Router** - Connects the Prime Site and Zone Core, or Prime Site and Subsites in Trunking/IP Simulcast subsystems.



Figure 1-4: SRX 1500 Router

1.4.6 TRAK 9100 Unit

The TRAK 9100 Simulcast Site Reference (see the figure titled “TRAK 9100 Simulcast Site Reference”) is a GPS-based frequency and time reference. The TRAK frequency reference provides the simulcast system 1 Pulse per Second (PPS), 5 Millions of Pulses per Second (MPPS), and 1 PPS + 5 MPPS composite signals. These signals are used to synchronize the simulcast transmissions, improving overall performance and coverage. The TRAK 9100 provides a high-level of redundancy, including redundant GPS receivers, a backup rubidium standard, and redundant power supplies.



Figure 1-5: TRAK 9100

1.4.7 ACX 7024 MPLS Router

Environmentally rated, high-performance platform that deliver 360 Gbps throughput in a 1-U form factor. Provides Layer 3 MPLS routing between the Manteca FD and Stockton systems.



Figure 1-6: ACX 7204

1.4.8 MCG 8000 CCGW

The MCG 8000 provides the interface between the IP network and conventional sites in ASTRO25 system by translating the voice and data into the format needed for each individual site type. The MCG 8000 supports circuit based, serial and Ethernet based interfaces to conventional base stations. Each CCGW proposed can support 4 each v.24, analog 4-wire, digital IP and MDC1200 interfaces.

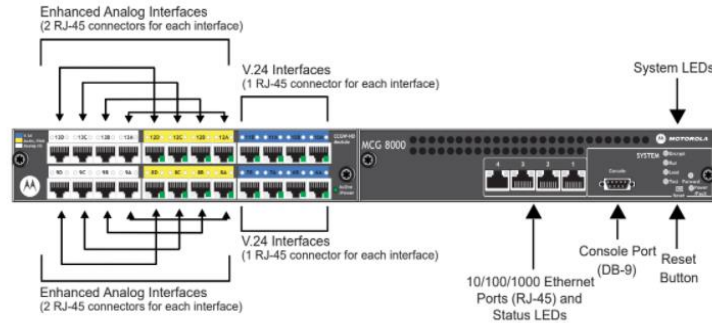


Figure 1-7: MCG8000 based CCGW

1.5 Backhaul Specifications

The following are the preliminary Ethernet requirements that must be met:

- 1 Mbps bandwidth required per link from the remote sites to Hub site
- 5 Mbps from Hub site to Core site
- 10ms or less network throughput delay
- 10ms or less jitter
- %1 or less packet loss
- All backhaul ports need to support 802.1Q tagging and 802.1p TOS bits.
- Layer 3 Ethernet backhaul preferred

Motorola's demark for the backhaul will be the MPLS router at the Hub site and the site router at the remote sites. It will be Manteca FD's responsibility to provide any additional hardware required to make the backhaul links that they will be providing and configuring work. Motorola has accounted for a one time link test to make sure the proposed backhaul meets the above mentioned specifications. If a failure occurs, Manteca FD will need to address the issues and additional link tests will be performed through the change order process.

1.6 Power Draw and HVAC Requirements

Austin Rd										
Component	Qty.	AC/DC	Max Power (W)	Current (Amps)	BTU	# Ckts	Total Max Power (W)	Total Amps	Total BTU	Rack Units
Router/Switch SRX 345	1	AC	122	1.02	416	1	122	1.02	416.02	1
GPW 8000	3	AC	65	0.54	222	3	195	1.63	664.95	9
Total			187	1.56	637.67	4.00	317.00	2.64	1080.97	10.00

Station 2										
Component	Qty.	AC/DC	Max Power (W)	Current (Amps)	BTU	# Ckts	Total Max Power (W)	Total Amps	Total BTU	Rack Units
Router/Switch SRX 345	1	AC	122	1.02	416	1	122	1.02	416.02	1
GTR 8000	3	AC	410	3.42	1398	3	1230	10.25	4194.3	9
TRAK 8835	1	AC	23	0.19	78	1	23	0.19	78.43	3
Total			555	4.63	1892.55	5.00	1375.00	11.46	4688.75	13.00

Station 4										
Component	Qty.	AC/DC	Max Power (W)	Current (Amps)	BTU	# Ckts	Total Max Power (W)	Total Amps	Total BTU	Rack Units
Hub Site Router SRX 1500	1	AC	154	1.28	525	1	154	1.28	525.14	1
Hub Site Switch EX4100	1	AC	150	1.25	512	1	150	1.25	511.5	1
Backhaul Switch	1	AC	150	1.25	512	1	150	1.25	511.5	1
GTR 8000	3	AC	410	3.42	1398	1	410	10.25	4194.3	9
GRV 8000	3	AC	80	0.67	273	1	80	2.00	818.4	9
SAR A Bundle	1	AC	100	0.83	341	1	100	0.83	341	2
TRAK 9100	1	AC	120	1.00	409	1	120	1.00	409.2	3
CCGW	2	AC	48	0.40	164	1	48	0.80	327.36	2
Total			1212	10.10	4132.92	8.00	1212.00	18.67	7638.40	28.00

Section 2

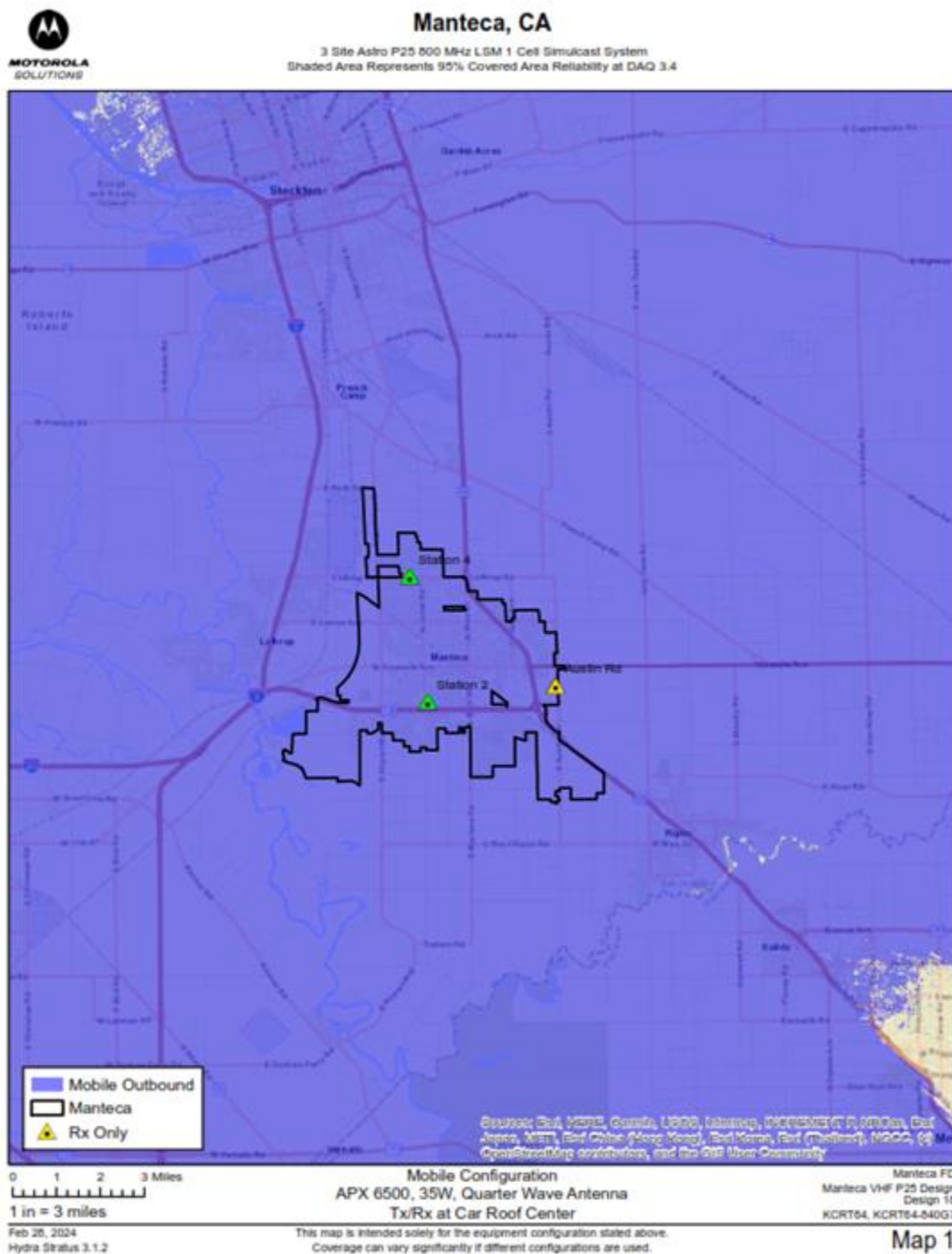
Coverage

2.1 Coverage Maps

Please see below the maps showing coverage for the upgraded system. The system was designed with Manteca FD's requirement to provide City wide coverage and provide coverage towards the south east area leading to Ripon. Portable in-building coverage with an additional 8dB of loss is also shown for your information as requested. The sites have been configured as below:

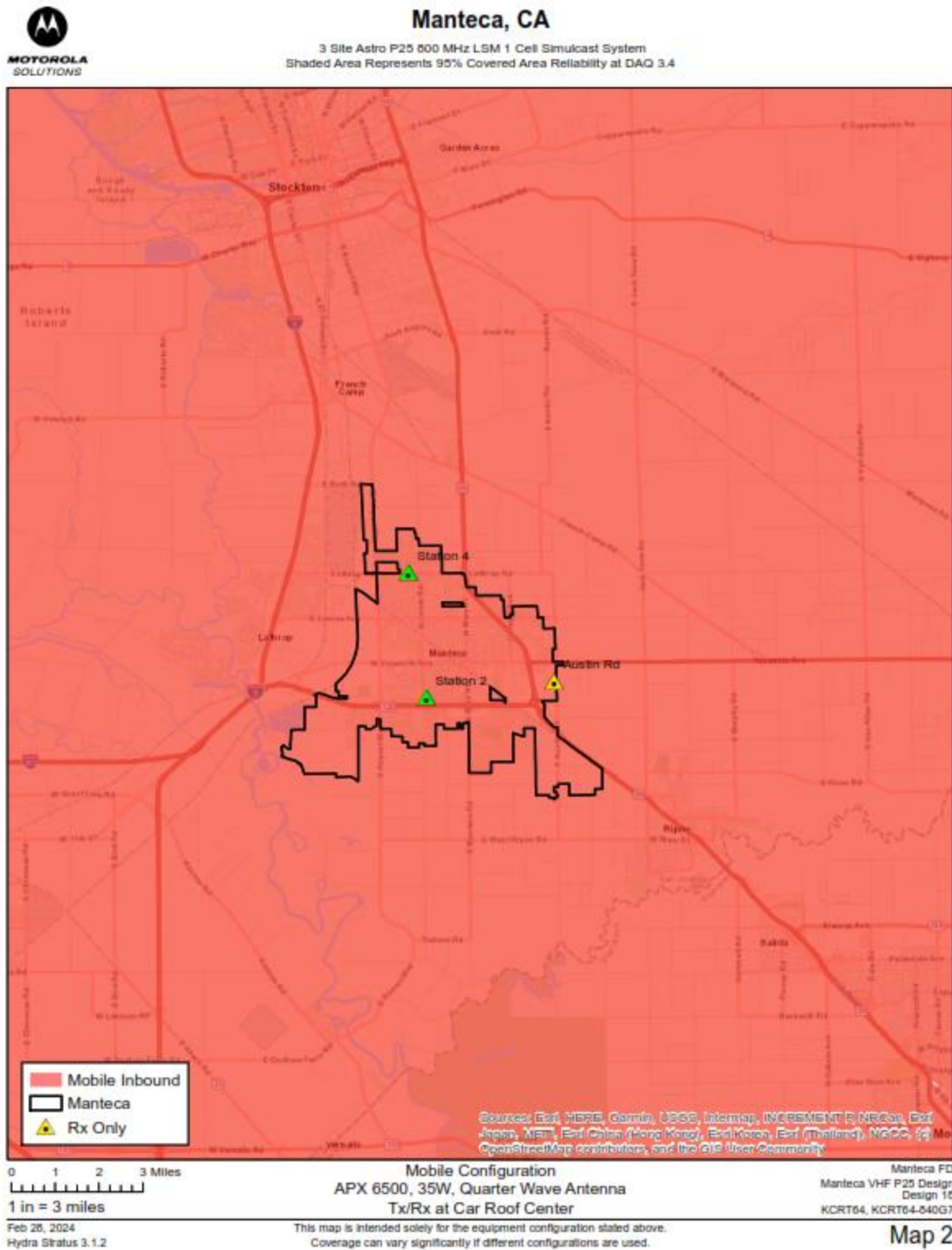
- Station 2 – Transmit and Receive site
- Station 4 – Transmit and Receive site
- Austin Rd – Receive only site

2.2 Mobile Outbound Map



Coverage

2.3 Mobile Inbound Map

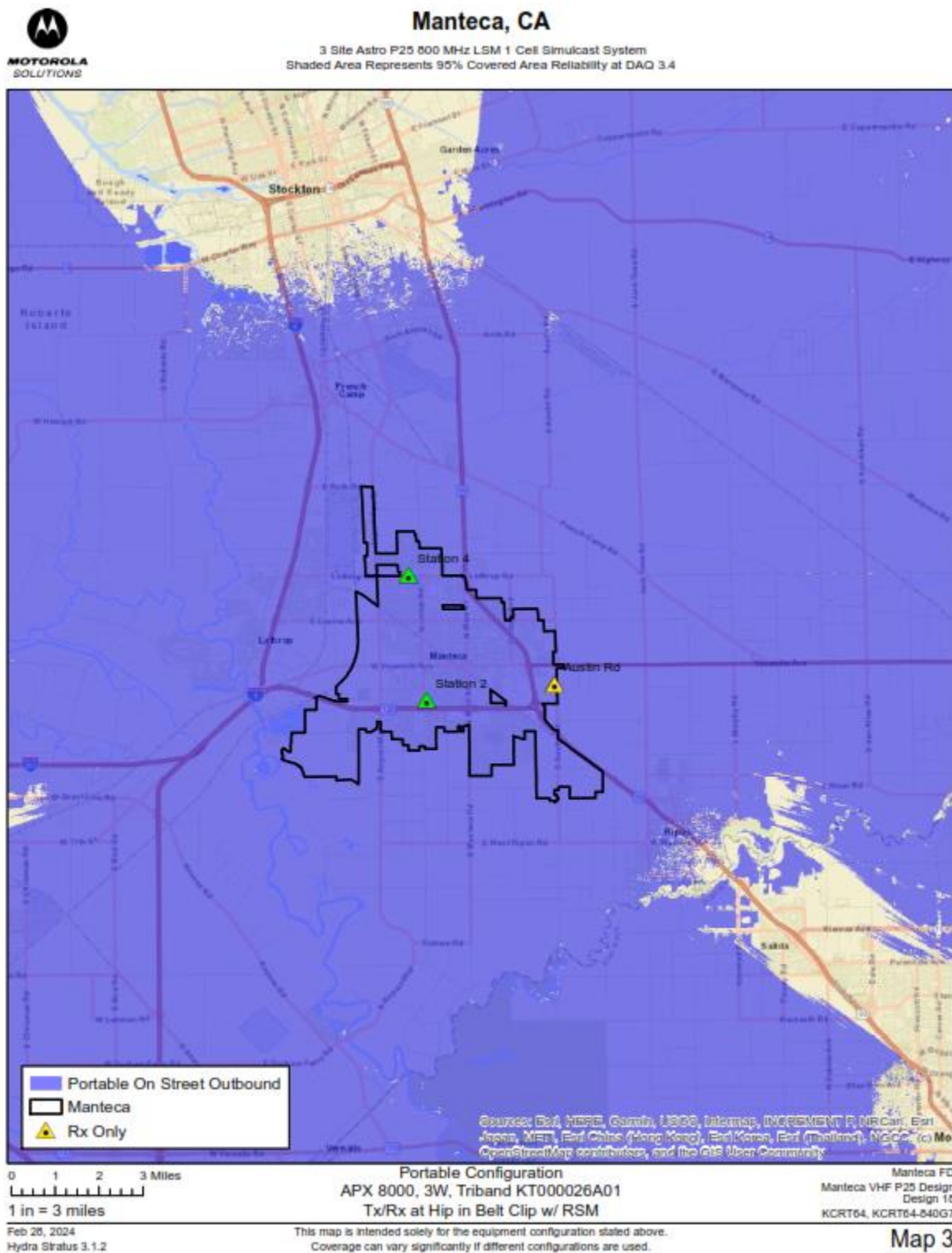


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2.4 Portable On Street Outbound

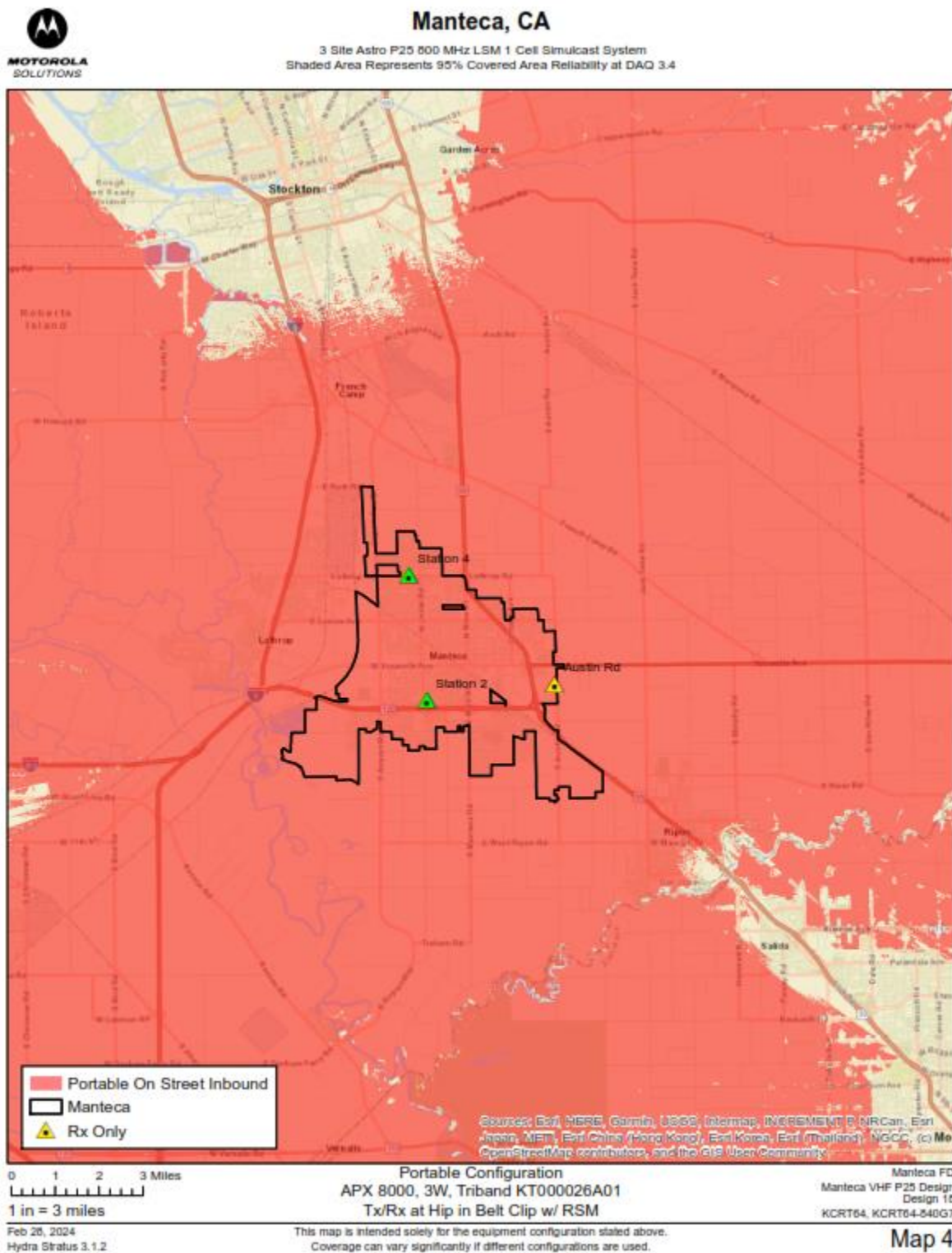


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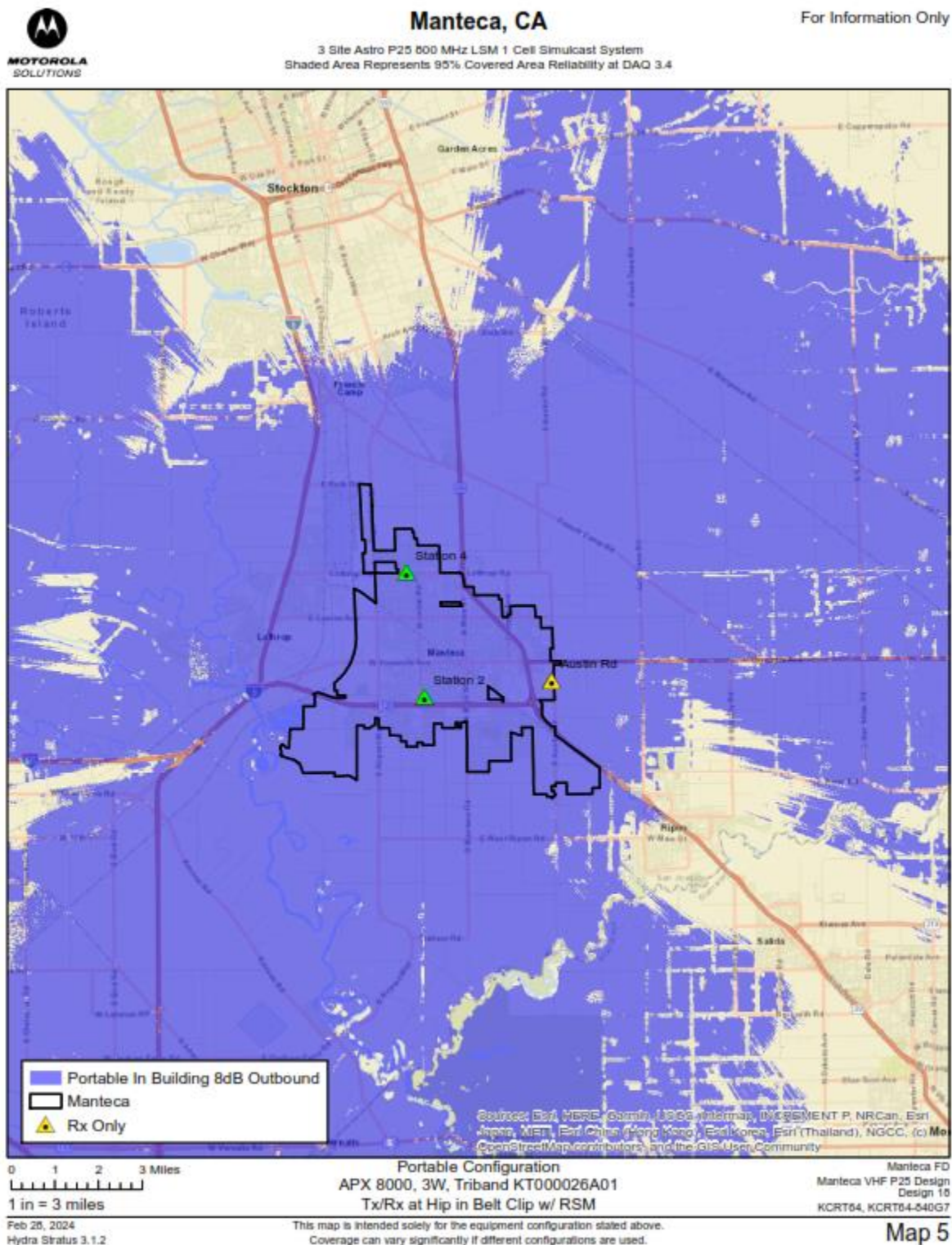
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2.5 Portable On Street Inbound



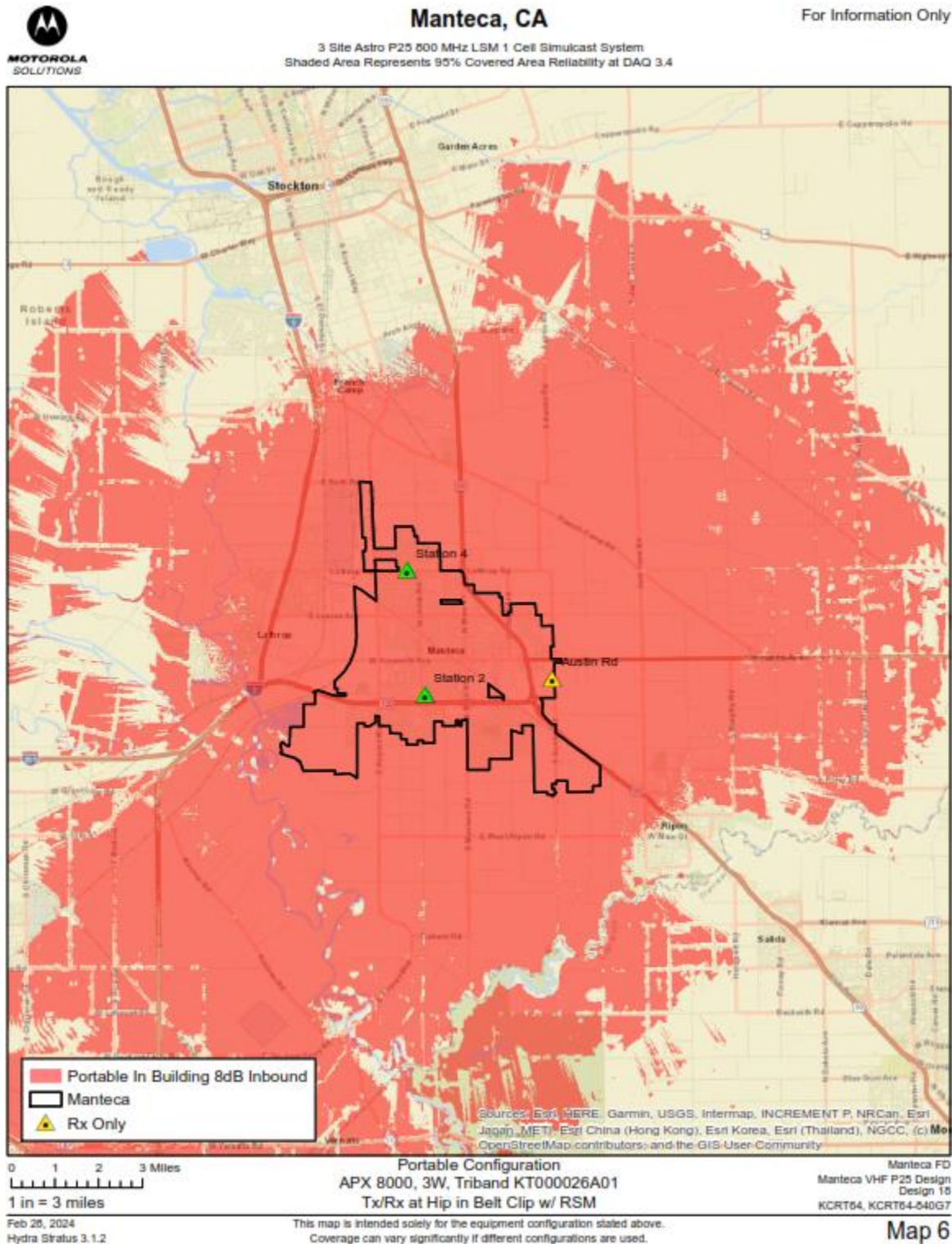
Coverage

2.6 Portable In Building with 8dB of Loss Outbound



Coverage

2.7 Portable In Building with 8dB of Loss Inbound



Coverage



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2.8 Coverage Acceptance Test Plan

2.8.1 Overview

This Coverage Acceptance Test Plan (CATP) is designed to verify that the voice radio system implemented by Motorola Solutions for Manteca FD meets or exceeds the required reliability as shown on Motorola Solutions' maps. The CATP defines the coverage testing method and procedure, the coverage acceptance criterion, the test documentation, and the responsibilities of both Motorola Solutions and Manteca FD.

Coverage Acceptance Testing is based upon a coverage prediction that accurately represents the implemented infrastructure and parameters that are consistent with the contract agreements. To characterize system performance accurately, the actual user equipment radio series deployed for Manteca FD will be used to conduct the coverage test.

Subsequent sections define the coverage acceptance test configuration(s) and test criteria.

2.8.2 CATP Definitions

Several definitions are needed to accurately describe the coverage acceptance test method and criteria. Where cited, these terms or methods are defined in TIA TSB-88.1-F¹ or TSB-88.3-F².

2.8.3 Defined Test Area

The defined test area is the geographical area in which communications will be provided that meet or exceed the specified Channel Performance Criterion (CPC) at the specified reliability for the specified equipment configuration(s). The defined test area(s) are listed in Coverage Acceptance Test Summary, along with names of the corresponding Motorola Solutions map(s) which show the defined test areas. Please see [Section 2.1] for the map(s).

For coverage testing, each defined test area will be divided into a grid pattern by Motorola Solutions to produce at least the number of uniformly sized test locations (or tiles) required by the Estimate of Proportions formula. [TSB-88.3-F, §5.2.1, equation 2] The minimum number of test tiles required varies, from a hundred to many thousands, depending on the size of the defined test area, desired confidence in results, type of coverage test, and the predicted versus required reliability.

¹ *Wireless Communications Systems --- Performance in Noise- and Interference-Limited Situations --- Part 1: Recommended Methods for Technology-Independent Narrowband Performance Modeling*, Technical Service Bulletin TSB-88.1-F, Telecommunications Industry Association (TIA), Arlington VA, April 2022.

² *Wireless Communications Systems --- Performance in Noise- and Interference-Limited Situations --- Part 3: Recommended Methods for Technology-Independent Narrowband Performance Verification*, Technical Service Bulletin TSB-88.3-F, Telecommunications Industry Association (TIA), Arlington VA, March 2022.

2.8.4 Channel Performance Criterion (CPC)

The CPC is the specified minimum design performance level in a faded channel. [TSB-88.1-F, §5.2] For this system, the CPC is the Delivered Audio Quality (DAQ) as stated in Coverage Acceptance Test Summary. The DAQ definitions are provided in. [TSB-88.1-F, §5.4.2, Table 3].

Table 2-1: DAQ Definitions

DAQ	Subjective Performance Description
1	Unusable, speech present but unreadable.
2	Understandable with considerable effort. Frequent repetition due to noise/distortion.
3	Speech understandable with slight effort. Occasional repetition required due to noise/distortion.
3.4	Speech understandable with repetition only rarely required. Some noise/distortion.
4	Speech easily understood. Occasional noise/distortion.
4.5	Speech easily understood. Infrequent noise/distortion.
5	Speech easily understood.

The CPC pass/fail criterion is the faded performance threshold, plus any adjustments for antenna performance, external noise, and in-building or in-vehicle losses. [TSB-88.1-F, §5.4.2, Figure 6] The faded performance threshold for the specified CPC is determined using the receiver's static reference sensitivity adjusted by the projected CPC parameters for the applicable Modulation Type and DAQ as listed in the current version of TSB-88.1, Annex A, Table A-1. For coverage testing of digital voice radio systems, the faded performance threshold is the applicable Bit Error Rate (BER) from the projected CPC parameters.

2.8.5 Reliability

The Covered Area reliability is the percentage of locations within the defined test area that are predicted to meet or exceed the specified CPC. The Motorola Solutions map(s) indicate the Covered Area(s) within which this system is predicted to provide at least the reliability of meeting or exceeding the CPC as stated in Coverage Acceptance Test Summary.

For the defined test area(s) guaranteed for Covered Area reliability, only the painted covered area on Motorola Solutions' maps will be tested for coverage acceptance. No acceptance testing will be performed in locations predicted on Motorola Solutions' maps to be below the required Covered Area reliability.

After all accessible tiles in the defined test area have been tested, the Covered Area reliability will be determined by dividing the number of tiles tested that meet or exceed the CPC pass/fail criterion by the total number of tiles tested. [TSB-88.3-F, §5.1, equation 1]

2.8.6 Direction(s) of Test

The direction(s) of test in Coverage Acceptance Test Summary defines the direction(s) which will be tested for coverage acceptance. Outbound (also called forward link, downlink, or talk-out) is the path from the fixed equipment outward to the mobile or portable radios.] [Inbound (also called reverse link, uplink, or talk-in) is the path from the mobile or portable radios inward to the fixed equipment.

2.8.7 Equipment Configurations

This section defines the equipment configurations and infrastructure design parameters upon which the coverage guarantee and the coverage acceptance test are based. The equipment configurations are defined in Table 2-2: Manteca FD Coverage Acceptance Test Summary and include user equipment, outdoor/in-building definition, defined test area, number of test tiles, reliability, CPC, CPC pass/fail, and direction(s) of test. The infrastructure design parameters are defined in Table 2-3: Manteca FD Infrastructure Design Parameters, and include site names, site locations, and antenna system parameters. If the implemented system equipment configuration and/or infrastructure design parameters vary from these configurations and/or parameters, a revised coverage map will be used to define the test configuration and potential areas from which test tiles will be included in the revised coverage acceptance test.

Coverage testing will be conducted with equipment installed per the configurations in Table 2-2: Manteca FD Coverage Acceptance Test Summary.

Table 2-2: Manteca FD Coverage Acceptance Test Summary

User Equipment	Outdoor / In-Building	Defined Test Area & Map Name	Number of Test Tiles	Reliability	CPC	CPC Pass/Fail	Direction(s) of Test
APX Portable with tri-band in belt clip with remote speaker microphone for transmit and in belt clip with remote speaker microphone for receive	Outdoor	[Covered Area Map AA]	1991 (0.2498 mile tiles)	95%	DA Q-3.4	2.0% BER Inbound	Inbound Only
APX Portable with tri-band in belt clip with remote speaker microphone for transmit and in belt clip with remote speaker microphone for receive	Outdoor	[Covered Area Map AA]	2009 (0.2498 mile tiles)	95%	DA Q-3.4	2.0% BER Outbound	Outbound Only

Table 2-3: Manteca FD Infrastructure Design Parameters

Site Name	Latitude	Longitude	Transmit Antenna System				Receive Antenna System				
			Height	Azimuth	Antenna Model	ERP (watts)	Height	Azimuth	Antenna Model	External Noise assumed (relative to KToB)	EFS (dBm)
Trunking Simulcast Subsystem											
Austin Rd	37° 47' 28.4" N	121° 10' 50.4" W	N/A	N/A°	N/A	N/A	75 ft	0°	[RF Industries Pty LtdCC807-03 @808 V1.0_CCDT]	N/A	-115.45 dBm
Station 2	37° 47' 9.52" N	121° 13' 59.6" W	75 ft	0°	[RF Industries Pty LtdCC807-06 @806 V1.0_CCDT]	79.4 watts	100 ft	0°	[RF Industries Pty LtdCC807-03 @808 V1.0_CCDT]	N/A	-115.45 dBm
Station 4	37° 49' 36.6" N	121° 14' 26.2" W	75 ft	0°	[RF Industries Pty LtdCC807-06 @806 V1.0_CCDT]	39.7 watts	100 ft	0°	[RF Industries Pty LtdCC807-03 @808 V1.0_CCDT]	N/A	-115.45 dBm

Coverage

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2.8.8 In-Building Coverage

In-building coverage maps have been shown in Section 2.1 for informational purposes only. No testing will be performed.

2.8.8.1 Outdoor Only Coverage

Motorola Solutions' portable coverage prediction is for outdoor locations only. Portable coverage inside buildings and vehicles is not a design requirement of this system and is, therefore, not guaranteed

2.8.9 CPC Pass/Fail Criteria for a Test Tile

For each equipment configuration, the CPC pass/fail criteria for a test tile is stated in Table 1-2 Coverage Acceptance Test Summary each equipment configurations[s] will have only one CPC pass or fail criterion for a test tile.

To measure BER, the coverage test will be performed with the appropriate attenuator value installed in the test radio antenna line, to establish an equivalent signal level performance for each equipment configuration.

Coverage for the portable outdoor equipment configurations will be verified for acceptance by attenuation of the test radio for BER and DAQ tests. The attenuation will be the difference between the test radio's antenna system and the additional loss used in Motorola Solutions' coverage prediction to account for portable antenna performance. The attenuator values are provided in Table 2-4: Attenuator Values to Evaluate Each Equipment Configuration.

This provides a method of verifying that the radio system provides the required BER or DAQ for the specified CPC for each of the defined equipment configurations.

Below are the attenuator values required to evaluate each equipment configuration. The methodology to determine the attenuator value is demonstrated in TSB-88.1-F §5.4.2, Figure 6. The attenuator value includes the proper values for the equipment configuration requirement plus adjustments for the test equipment setup. Should the test equipment setup losses (e.g. cable length) vary, an adjustment to the attenuator value may be required to represent the required equipment configuration accurately.

Table 2-4: Attenuator Values to Evaluate Each Equipment Configuration

User Equipment	Outdoor / In-Building	Attenuator Value (dB)
Mobile		[0 dB]
Portable Outdoors		[portable antenna loss]
Portable [In Z dB Building][In Z dB Vehicle]		[portable antenna loss] + [building/vehicle penetration loss]

2.8.10 Required Number of Test Tiles in the Defined Test Area

The method used to test coverage is a statistical sampling of the defined test area to verify that the CPC is met or exceeded at the required reliability for each of the defined equipment configurations. It

is impossible to verify every point within a defined test area, because there are infinite points; therefore, coverage reliability will be verified by sampling a statistically significant number of randomly selected locations, quasi-uniformly distributed throughout the defined test area. There is one test sample per test tile, where a sample consists of multiple sub-samples.

Coverage acceptance testing will be performed in the defined test area as indicated on Motorola Solutions-provided maps. To verify that the reliability requirement is met, the defined test area indicated on Motorola Solutions' maps will be divided into uniformly sized test tiles, with at least the number of test tiles indicated in Coverage Acceptance Test Summary. The number of test tiles indicated in is at least the minimum required by the Estimate of Proportions formula as stated in section 1.2.1 (Defined Test Area) of this document.

Per TSB-88.3-F, the stated minimum outdoor test tile size is 100 by 100 wavelengths; however, the *practical* minimum size of test tiles is typically about 400 by 400 meters (about 0.25 by 0.25 miles). The minimum practical tile size for any system is determined by the distance traveled at the speed of the test vehicle while sampling, GPS error margin, and availability of road access within very small test tiles. A related consideration is the time, resources, and cost involved in testing very large numbers of very small tiles. For a given defined test area, all test tiles must be of equal size. The maximum test tile size is 2 by 2 km (1.24 by 1.24 miles) [TSB-88.3-F, §5.5.1]. In some wide-area systems, this constraint on maximum tile size may dictate a greater number of test tiles than the minimum number required by the Estimate of Proportions formula.

No acceptance testing will be performed in locations outside the defined test area as indicated on the Motorola Solutions-provided maps. Motorola Solutions and Manteca FD may agree to perform "information only" tests in locations outside the defined test area; however, these "information only" test results will not be used for coverage acceptance. Any "information only" test locations must be defined before starting the test. If the added locations require significant additional time and resources to test, a change order will be required and Motorola Solutions may charge Manteca FD on a time-and-materials basis.

2.8.11 Accessibility to Test Tiles

Prior to testing, Motorola Solutions and Manteca FD will plan the route for the test vehicle(s) through the defined test area, to ensure that at least the minimum required number of tiles is tested. While planning the route (if possible) or during the test, Motorola Solutions and Manteca FD will identify any test tiles that are inaccessible for the coverage test (due to lack of roads, restricted land, etc.). Inaccessible tiles will be eliminated from the acceptance test calculation. [TSB-88.3-F, §5.5.4]

If elimination of inaccessible test tiles results in less than a statistically significant number of test tiles or substantially alters the defined test area, Motorola Solutions reserves the right to adjust the committed reliability based on the reduced number of accessible test tiles within the altered test area and the Estimate of Proportions formula. [TSB-88.3-F, §5.2.1, equation 2]

2.8.12 Random Selection of a Test Location in Each Tile

This CATP provides an objective method of randomly selecting and tracking test locations using Motorola Solutions' VoyagerSM coverage testing tool. The method follows TIA TSB-88.3-F §5.0, "Performance Confirmation", and has direct correlation with Motorola Solutions' coverage prediction methodology.

Using Voyager, the actual test location within each test tile will be randomly selected by the test vehicle crossing into the tile at an arbitrary point, with an arbitrary speed and direction. If the selected test location is in a shielded area such as a tunnel or underground parking garage, the data from that test location must be eliminated and a replacement test location must be used.

2.8.13 CPC Measurements in Each Tile

For Outbound BER in each test tile, a series of sequential subsample measurements will be made while the test vehicle is moving at a typical speed for the surrounding environment. This test tile measurement, containing a number of subsamples, constitutes the test sample for this location. The test sample will establish the mean BER within the test tile. The BER subsamples will typically be measured for at least 1 second. A mean of multiple BER subsamples is used rather than a single measurement to ensure that the measurement is not biased by taking a single sample that might be at a peak or null point on the radio wave.

For Inbound BER testing, complementary timing profiles will be used by Voyager and the Voyager Fixed Network application, VFNE-2, to interleave the inbound and outbound testing. VFNE-2 will be used to gather inbound test statistics. The mobile application, Voyager, will gather outbound test statistics and will send an inbound test pattern to VFNE-2.

2.9 Responsibilities and Preparation

This section identifies the responsibilities of Manteca FD and Motorola Solutions regarding requirements for equipment, personnel, and time during the coverage test.

Manteca FD will provide the following for the duration of the coverage test:

- At least two test vehicle(s) that is representative of the vehicles to be installed with radios.
- Exclusive use of the test channels required by Motorola Solutions during the test.

Motorola Solutions will provide the following for the duration of the coverage test:

- At least one Motorola Solutions Voyager coverage testing tool.
- One or more computers equipped with Motorola Solutions VFNE-2 software, and connected to the radio network for collecting inbound signal statistics.
- A timing profile to allow the test radio to transmit and receive at regular intervals will be established to facilitate automatic inbound and outbound BER statistics gathering.
- Provide 2 user radios for the test.

As required, Motorola Solutions will provide a receiver signal strength calibration file for the test radio(s) used with the Voyager coverage testing tool.

Before starting the test, Manteca FD and Motorola Solutions will agree upon the time frame for Motorola Solutions' submission of a report containing the coverage test results.

2.10 CATP Procedures

A coverage acceptance test will be performed using Motorola Solutions' Voyager tool to randomly select test locations, and to manage BER data collection.

Voyager consists of the following:

- A voice test radio connected to an antenna installed in the appropriate location on the test vehicle. The test radio will monitor transmissions from the fixed network radio site(s).
- A Global Positioning System (GPS) receiver, which will provide the computer with the location and speed of the test vehicle.
- A laptop computer with Voyager software and a mapping database, which includes highways and local streets, political boundaries, rivers, and railroads.
- A computer with the Voyager Fixed Network (VFNE-2) application, connected to the system network to retrieve inbound BER statistics and to initiate the outbound test pattern.

The procedure for the objective BER coverage test will be as follows:

- The Voyager tool will be installed in a test vehicle, which will be driven over a route planned to cover the accessible tiles within the defined test area.
- During the coverage test, the laptop computer screen will display the vehicle's location on a map of the defined test area overlaid with the grid of test tiles. Voyager will automatically initiate outbound measurements and inbound transmissions based on the defined timing profile. The computer will provide a visual indication that a measurement has been completed. Voyager will manage the coverage test data collection, and will store the outbound measurements for each tested tile for later analysis. Voyager will use the information collected by the VFNE-2 fixed end application for the inbound tests. Voyager will use its merge and export feature to match the inbound measurements to a test tile and display the BER statistics.
- For FDMA Simulcast System Inbound/Outbound BER/SSI Coverage Testing, two channels are required. The outbound test will use an O.153 (formerly V.52) test pattern initiated on one test channel at the channel comparator. The inbound test will use a 1011 Hz test pattern on another channel, separate from the outbound test channel. Separate channels are required for outbound and inbound to accommodate the FDMA hardware configuration. For FDMA outbound simulcast, the base stations must be in normal mode to allow use of proper launch delays. The FDMA base stations must be put into test mode to gather inbound signal strength and BER information. Thus the requirement for separate FDMA test channels, one in normal mode (outbound) and one in test mode (inbound). The Voyager Fixed Network (VFNE-2) application will connect to the system test port to establish an IP session to each base station to gather inbound signal statistics. The outbound O.153 test pattern, once initiated, will send a continuous test pattern over the air to allow the radio in the Voyager test vehicle to gather signal statistics whenever a test is initiated.
- Any tile that fails the objective BER test described above will be re-tested using a subjective DAQ test. Any tile that fails the objective BER test, but passes the subjective DAQ re-test will be declared passed.

The procedure for the subjective DAQ re-test of failed BER tiles (if needed) will be as follows:

- A subjective listening re-test will be performed on tiles that fail the objective BER test, to verify undefined DAQ performance of those tiles.

- Talk-out and talk-in will be evaluated independently
- To perform a statistically valid subjective DAQ test, a large group of people is required to ensure high confidence in the results. However, obtaining a large group of people for a subjective listening test is usually impractical; therefore, several (three to seven) people in a car or van must be used for the test. Since a group this small cannot provide statistically significant results, it is very important that the personnel participating in the subjective test be familiar with the sound of radio conversations. Before subjectively testing, all personnel who will evaluate audio quality must be “calibrated” by listening to examples of audio that pass and fail the subjective DAQ test.
- A fixed dispatch location will be established. Prior to testing, Manteca FD and Motorola Solutions will agree upon a procedure to allow each audio transmission to be evaluated for approximately five seconds.
- The test participants will be divided into teams, each consisting of personnel from both Manteca FD and Motorola Solutions. Each team will have members that operate a portable radio in the field, and members that are stationed at the fixed dispatch location.
- As the field test team(s) drive through the coverage area, test locations within each re-test tile will be selected randomly by Voyager’s GPS location indication. Voyager will be used to log the talk-in and talk-out pass/fail result as well as any pertinent notes for the location.
- At each re-test tile location, each field test team member will listen to a talk-out audio transmission, and will record his or her subjective pass/fail evaluation of the DAQ for the tile. Team members stationed at the dispatch location will evaluate talk-in audio quality of transmissions from the test radio(s) in that tile. Each team member will maintain a test log to record date, time, and subjective pass/fail evaluation for each re-test tile location. Subjective pass/fail evaluation will be based on the DAQ descriptions in Table 2-1: DAQ Definitions. The determination of whether each re-test tile passes or fails the required DAQ value will be the majority vote of all team members’ pass/fail subjective evaluations for that tile. An odd number of team members are required to avoid ties for the pass/fail majority vote.

2.11 CATP Documentation and Coverage Acceptance

During the coverage acceptance test, the Voyager computer(s) generate comma separated value (.CSV) files that include the coverage test data. A copy of the .CSV files will be provided to Manteca FD at the conclusion of the coverage test. Motorola Solutions will process this data to produce a map detailing the coverage test results, and to determine whether the coverage test was passed for each user equipment configuration.

The coverage acceptance criterion for a user equipment configuration will be that the voice radio system implemented by Motorola Solutions for Manteca FD meets or exceeds the reliability stated in Coverage Acceptance Test Summary for that user equipment configuration. The system coverage acceptance criterion will be the successful passing of each of the user equipment configurations defined in Coverage Acceptance Test Summary.

Motorola Solutions reserves the right to review any test tiles that fail. Any tile that fails the objective SSI test may be re-tested using a subjective DAQ test. Any tile that fails the objective SSI test, but passes a subjective DAQ re-test will be declared passed. If a coverage test, or a portion thereof, is suspected by Motorola Solutions to have failed due to external interference, those tiles suspected of being affected by an interferer may be re-tested. If the test tiles re-tested are confirmed to have failed due to interference or external noise, those test tiles will be excluded from all acceptance calculations

and Motorola Solutions will work with Manteca FD to identify potential solutions to the interference issues.

Motorola Solutions will conduct this Coverage Acceptance Test only once. If any portion of the test is determined to be affected by proven equipment malfunctions or failures, Motorola Solutions will repeat the portion of the test affected by the equipment malfunction or failure. Manteca FD will have the option to accept the coverage at any time prior to completion of the coverage test or documentation process.

Motorola Solutions will submit to Manteca FD a report detailing the coverage test results. This report will include a document, which is to be signed by both Manteca FD and Motorola Solutions, indicating the test was performed in accordance with this CATP and the results of the test indicate the acceptance or non-acceptance of the coverage portion of the system.

Section 3

Equipment List

BLOCK	QTY	NOMENCLATURE	DESCRIPTION
Switch	1	CLN9066A	SWITCH, SWITCH, EX4100 24-PORT SWITCH NON TAA
Router	1	T8493A	EDGE & HUB ROUTER & FIREWALL - AC
Router	1	CA03445AA	ADD: MISSION CRITICAL HARDENING
Router	1	CA03448AA	ADD: STATEFUL FIREWALL
GRV 8000 Comparator	1	T8341A	GRV 8000 COMPARATOR
GRV 8000 Comparator	1	CA03863AA	ADD: ASTRO SYSTEM RELEASE 2022.1
GRV 8000 Comparator	1	CA01953AB	ADD: POWER EFFICIENCY PACKAGE
GRV 8000 Comparator	1	CA03084AA	ADD: COMPARATOR
GRV 8000 Comparator	1	X153AW	ADD: RACK MOUNT HARDWARE
GRV 8000 Comparator	1	CA03316AA	ADD: DIGITAL CONV VOTING SOFTWARE
GRV 8000 Comparator	1	CA03320AA	ADD: ASTRO 25 CONVENTIONAL SOFTWARE
GRV 8000 Comparator	1	T8341A	GRV 8000 COMPARATOR
GRV 8000 Comparator	1	CA03863AA	ADD: ASTRO SYSTEM RELEASE 2022.1
GRV 8000 Comparator	1	CA01953AB	ADD: POWER EFFICIENCY PACKAGE
GRV 8000 Comparator	1	CA03084AA	ADD: COMPARATOR
GRV 8000 Comparator	1	X153AW	ADD: RACK MOUNT HARDWARE
GRV 8000 Comparator	1	CA03316AA	ADD: DIGITAL CONV VOTING SOFTWARE
GRV 8000 Comparator	1	CA03320AA	ADD: ASTRO 25 CONVENTIONAL SOFTWARE
GRV 8000 Comparator	1	T8341A	GRV 8000 COMPARATOR
GRV 8000 Comparator	1	CA03863AA	ADD: ASTRO SYSTEM RELEASE 2022.1
GRV 8000 Comparator	1	CA01953AB	ADD: POWER EFFICIENCY PACKAGE
GRV 8000 Comparator	1	CA03084AA	ADD: COMPARATOR

BLOCK	QTY	NOMENCLATURE	DESCRIPTION
GRV 8000 Comparator	1	X153AW	ADD: RACK MOUNT HARDWARE
GRV 8000 Comparator	1	CA03316AA	ADD: DIGITAL CONV VOTING SOFTWARE
GRV 8000 Comparator	1	CA03320AA	ADD: ASTRO 25 CONVENTIONAL SOFTWARE
GRV 8000 Comparator	1	T8343A	GSERIES SOFTWARE LICENSING
GRV 8000 Comparator	3	UA00414AA	ADD: GSERIES CM-P25 DIG CONV IP
CSC	1	T8810A	STANDALONE DSC 8000 CONTROLLER
CSC	1	UA00787AA	ADD: DSC 8000 CONVENTIONAL SITE CONTROLLER SW
CSC	1	CA03830AA	ADD: DISTRIBUTED CONVENTIONAL SITE
CSC	1	CA03863AA	ADD: ASTRO SYSTEM RELEASE 2022.1
CSC	1	CA03801AA	ADD: DSC 8000 CONVENTIONAL SITE CONTROLLER
CSC	1	T8811A	DSC AC POWER SUPPLY CHASSIS
CSC	1	CA03800AA	ADD: SINGLE POWER SUPPLY FOR DSC
CSC	1	CA03533AA	ADD: DSC AC POWER CABLE - US, 12 FT
CCGW	1	SQM01SUM0333A	MCG 8000 CONVENTIONAL GATEWAY
CCGW	4	CA03718AA	ADD: ANALOG 4WIRE INTERFACE
CCGW	4	CA03719AA	ADD: DIGITAL IP INTERFACE
CCGW	1	CA03714AA	ADD: AC POWER
CCGW	4	CA03748AA	ADD: MDC1200 OVER IP INTERFACE
CCGW	4	CA03716AA	ADD: V.24 INTERFACE
CCGW	1	SQM01SUM0333A	MCG 8000 CONVENTIONAL GATEWAY
CCGW	4	CA03718AA	ADD: ANALOG 4WIRE INTERFACE
CCGW	4	CA03719AA	ADD: DIGITAL IP INTERFACE
CCGW	1	CA03714AA	ADD: AC POWER
CCGW	4	CA03748AA	ADD: MDC1200 OVER IP INTERFACE

BLOCK	QTY	NOMENCLATURE	DESCRIPTION
CCGW	4	CA03716AA	ADD: V.24 INTERFACE
Rack	1	TRN7343A	RACK 7.5'
TRAK	1	DSTRAK91202	AC INPUT POWER SUPPLY MODULE
TRAK	1	DSTRAK91008E	PRIME--MASTER SITE REDUNDANT MODULAR FREQUENCY TIMING SYSTEM AC
MPLS	2	DSIGACX7024DC2PSU	ACX7024 DC REDUNDANT PSU CPNT
MPLS	2	DSIGSEACX100GA5	SW EACX 100G A W/SVC CS 5YR LICS
MPLS	2	DSIGSVCCPACX70242P	CP SUP ACX7024-DC-2PSU SVCS
MPLS	1	DSIGJNP100GDAC1M	QSFP28 TO QSFP28 ETHERNET CABL DIRECT ATTACH COPPER TWINAX CU
MPLS	1	DSIGSFP1GET	SMALL FORM FACTOR PLUGGABLE CPNT 1000BT GBIT ENET OPTIC (CTO)
MPLS	2	DSIGSFP1GESX	SMALL FORM FACTOR PLUGGABLE CPNT 1000BSX GBIT ENET OPTIC
Spares	1	DLN6895A	FRU: PA 7/800 MHZ
Spares	1	DLN6883A	FRU: XCVR 7/800 MHZ V2 W/OPT CARD
Spares	1	DLN6634A	FRU: 700/800 MHZ SITE LNA
Spares	1	DLN1306A	FRU: 700/800 MHZ CABINET LNA
Spares	1	DLN6805A	FRU: ENERGY EFFICIENT POWER SUPPLY
Spares	1	DLN6898A	FRU: FAN MODULE
Antenna system	1	DQ-TEMP-RF-ANTENNA	TEMPORARY PLACEHOLDER FOR SITE STRUCTURE: RF SYSTEM: RF ANTENNA
Antenna system	15	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET
Antenna system	2	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50
Antenna system	2	DSWKU	WK-U, UNIVERSAL WEATHERPROOFING KIT
Antenna system	200	DSEC550A	COAXIAL CABLE, "A" SERIES 7/8 IN 50 OHM CORRUGATED COPPER W/ BLACK PE

BLOCK	QTY	NOMENCLATURE	DESCRIPTION
Antenna system	2	DS4310F50V78N1	CONNECTOR, 4.3-10 FEMALE INTERFACE FOR EC5-50-A
Antenna system	5	DSGKC78	CLIP ON GROUND KIT FOR 7/8" CABLES, 5' LEAD W/ UNATTACHED 3/8" TWO HOL
Antenna system	7	DSBH78	BH-78 BUTTERFLY HANGER FOR 7/8 AIRCELL COAX,PKG OF 10
Antenna system	1	DSTSX4310FMP	4.3-10 M/F BULKHEAD COAX RF SURGE PROTECTOR, 698MHZ - 2.7GHZ PIM
Antenna system	15	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET
Antenna system	2	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50
Antenna system	1	DQ-TEMP-RF-ANTENNA	TEMPORARY PLACEHOLDER FOR SITE STRUCTURE: RF SYSTEM: RF ANTENNA
Antenna system	15	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET
Antenna system	2	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50
Antenna system	5	DSWKU	WK-U, UNIVERSAL WEATHERPROOFING KIT
Antenna system	15	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET
Antenna system	2	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50
Antenna system	200	DSEC550A	COAXIAL CABLE, "A" SERIES 7/8 IN 50 OHM CORRUGATED COPPER W/ BLACK PE
Antenna system	2	DS4310F50V78N1	CONNECTOR, 4.3-10 FEMALE INTERFACE FOR EC5-50-A
Antenna system	5	DSGKC78	CLIP ON GROUND KIT FOR 7/8" CABLES, 5' LEAD W/ UNATTACHED 3/8" TWO HOL
Antenna system	200	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET
Antenna system	1	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50
Antenna system	1	DS4310F50V12N1	CONNECTOR, 4.3-10 FEMALE INTERFACE FOR EC4-50

BLOCK	QTY	NOMENCLATURE	DESCRIPTION
Antenna system	5	DSGKS12	STANDARD GROUND KIT FOR 1/2" CABLES, 5' LEAD W/ UNATTACHED 3/8" TWO HO
Antenna system	7	DSBH12	BH-12 BUTTERFLY HANGER FOR 1/2 AIRCELL COAX,PKG OF 10
Antenna system	7	DSBH78	BH-78 BUTTERFLY HANGER FOR 7/8 AIRCELL COAX,PKG OF 10
Antenna system	2	DSTSXDC4310FM	DC PASS, BIDIRECTIONAL FEMALE/MALE 698MHZ - 2.7GHZ, PIM RATED
Antenna system	15	DSEC450HF	COAXIAL CABLE, 1/2" HIFLEX, 50 OHM WITH BLACK PE JACKET
Antenna system	2	DS4310M50B12X	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50-HF
Antenna system	15	DSEC450HF	COAXIAL CABLE, 1/2" HIFLEX, 50 OHM WITH BLACK PE JACKET
Antenna system	2	DS4310M50B12X	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50-HF
Switch	1	CLN9066A	SWITCH,SWITCH,EX4100 24-PORT SWITCH NON TAA
Router	1	T8492A	SITE ROUTER & FIREWALL- AC
Router	1	CA03445AA	ADD: MISSION CRITICAL HARDENING
Router	1	CA03446AA	ADD: ENCRYPTION
Router	1	CA03448AA	ADD: STATEFUL FIREWALL
GTR 8000	3	T7039A	GTR 8000 BASE RADIO
GTR 8000	3	CA03863AA	ADD: ASTRO SYSTEM RELEASE 2022.1
GTR 8000	3	CA01953AA	ADD: POWER EFFICIENCY PACKAGE
GTR 8000	3	CA01503AA	ADD: FALL BACK IN MULTISITE CABINET REPEAT
GTR 8000	3	CA01948AA	ADD: DIGITAL CONVENTIONAL SOFTWARE
GTR 8000	3	CA01502AA	ADD: ASTRO 25 CONV SIMULCAST SW
GTR 8000	3	CA03074AA	ADD: LOW POWER PA
GTR 8000	3	CA00855AA	ADD:700--800 MHZ

BLOCK	QTY	NOMENCLATURE	DESCRIPTION
GTR 8000	1	T8343A	GSERIES SOFTWARE LICENSING
GTR 8000	3	UA00412AA	ADD: GSERIES BR-P25 DIG CONV
TRAK	1	DSTRAK88353M	GPS CLOCK, 10MHZ, RUBIDIUM, 48V INCL ANT AND 50' COAX W--DONGLE ADAPTER
TRAK	1	DSTRAKP001134	AC POWER SUPPLY FOR 8835 GPS CLOCK
RACK	2	DQ10562001	EARTHQUAKE BRACE
RACK	1	DSBBA800	ISOLATED GROUND BUS BAR ASSEMBLY , 800A
RACK	1	DSCPX1101985	SPD, RJ-45 CONNECTED (16) LINE GIGE ETHERNET, 11VPL ON ALL PINS
RACK	1	DSTSJADP	RACK MOUNT GROUND BAR, 19 IN FOR TSJ AND WPH SERIES DATA SPDS
PDU	1	DSACPDU6N120SN2TT	AC PDU, RACKMOUNT, 6 OUTLETS, SASD PROTECTED, UL1449/R56, 12FT CORD
RMC	1	DSDSRMC0608CA	RMC06, 8 CH HIGH GAIN AMP UNIVRMC SYSTEM, AC POWER, 700-902MHZ
Antenna	1	DSDSCC8503D	DSCC85-03D, 3 CH CERAMIC COMBINER 7/16 DIN CONN 851-869MHZ, 150KHZ SEP
UPS	1	DS9PXXR18001030S	EATON 9PX 2000VA, INPUT: 120V WITH 5-20P, OUTPUT: 120V WITH (6) 5-20R AND (1) L5-20R, 2KVA / 1.8KW, ONE ADDITIONAL BATTERY MODULE PROVIDING 175 MINUTES AT 415W, INCLUDES 4-POST AND 2-POST RACK KIT, TOTAL RACK SPACE IS 4U
TRAK	50	DSACC014J50	1/4" ULTRA FLEXIBLE, 50 OHM, CORRUGATED, COPPER OUTER CONDUCTOR, LOW SMOKE NON-HALOGENATED, FIRE RETARDANT, UV STABALIZED, BLACK POLYETHYLENE JACKET
TRAK	4	DSNMA01450	N MALE, PLENUM & ULTRA FLEXIBLE FOR 1/4" CABLE (USE WITH PST014 TOOL)
Antenna	2	DSCC80706P	OMNI, CORPORATE COLLINEAR, 6DBD, 746-870MHZ, PIM & 25KW PIP RATED
TTA	1	DS440030221	TTA 440, MOTOROLA TOWER TOP UNIT, 794-824 MHZ, 4.3-10 CONNS, AUTOQUAD

BLOCK	QTY	NOMENCLATURE	DESCRIPTION
TTA	1	DS440030677	TTA 440, MOTOROLA C&DU (SA), 794-824 MHZ, 32 PORT, BYPASS, TEST PORT,
Antenna system	1	DQ-TEMP-RF-ANTENNA	TEMPORARY PLACEHOLDER FOR SITE STRUCTURE: RF SYSTEM: RF ANTENNA
Antenna system	15	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET
Antenna system	2	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50
Antenna system	2	DSWKU	WK-U, UNIVERSAL WEATHERPROOFING KIT
Antenna system	200	DSEC550A	COAXIAL CABLE, "A" SERIES 7/8 IN 50 OHM CORRUGATED COPPER W/ BLACK PE
Antenna system	2	DS4310F50V78N1	CONNECTOR, 4.3-10 FEMALE INTERFACE FOR EC5-50-A
Antenna system	5	DSGKC78	CLIP ON GROUND KIT FOR 7/8" CABLES, 5' LEAD W/ UNATTACHED 3/8" TWO HOL
Antenna system	7	DSBH78	BH-78 BUTTERFLY HANGER FOR 7/8 AIRCELL COAX,PKG OF 10
Antenna system	1	DSTSX4310FMP	4.3-10 M/F BULKHEAD COAX RF SURGE PROTECTOR, 698MHZ - 2.7GHZ PIM
Antenna system	15	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET
Antenna system	2	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50
Antenna system	1	DQ-TEMP-RF-ANTENNA	TEMPORARY PLACEHOLDER FOR SITE STRUCTURE: RF SYSTEM: RF ANTENNA
Antenna system	15	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET
Antenna system	2	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50
Antenna system	5	DSWKU	WK-U, UNIVERSAL WEATHERPROOFING KIT
Antenna system	15	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET
Antenna system	2	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50

BLOCK	QTY	NOMENCLATURE	DESCRIPTION
Antenna system	200	DSEC550A	COAXIAL CABLE, "A" SERIES 7/8 IN 50 OHM CORRUGATED COPPER W/ BLACK PE
Antenna system	2	DS4310F50V78N1	CONNECTOR, 4.3-10 FEMALE INTERFACE FOR EC5-50-A
Antenna system	5	DSGKC78	CLIP ON GROUND KIT FOR 7/8" CABLES, 5' LEAD W/ UNATTACHED 3/8" TWO HOL
Antenna system	200	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET
Antenna system	1	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50
Antenna system	1	DS4310F50V12N1	CONNECTOR, 4.3-10 FEMALE INTERFACE FOR EC4-50
Antenna system	5	DSGKS12	STANDARD GROUND KIT FOR 1/2" CABLES, 5' LEAD W/ UNATTACHED 3/8" TWO HO
Antenna system	7	DSBH12	BH-12 BUTTERFLY HANGER FOR 1/2 AIRCELL COAX,PKG OF 10
Antenna system	7	DSBH78	BH-78 BUTTERFLY HANGER FOR 7/8 AIRCELL COAX,PKG OF 10
Antenna system	2	DSTSXDC4310FM	DC PASS, BIDIRECTIONAL FEMALE/MALE 698MHZ - 2.7GHZ, PIM RATED
Antenna system	15	DSEC450HF	COAXIAL CABLE, 1/2" HIFLEX, 50 OHM WITH BLACK PE JACKET
Antenna system	2	DS4310M50B12X	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50-HF
Antenna system	15	DSEC450HF	COAXIAL CABLE, 1/2" HIFLEX, 50 OHM WITH BLACK PE JACKET
Antenna system	2	DS4310M50B12X	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50-HF
Switch	1	CLN9066A	SWITCH,SWITCH,EX4100 24-PORT SWITCH NON TAA
Router	1	T8492A	SITE ROUTER & FIREWALL- AC
Router	1	CA03445AA	ADD: MISSION CRITICAL HARDENING
Router	1	CA03446AA	ADD: ENCRYPTION
Router	1	CA03448AA	ADD: STATEFUL FIREWALL
GTR 8000	3	T7039A	GTR 8000 BASE RADIO

BLOCK	QTY	NOMENCLATURE	DESCRIPTION
GTR 8000	3	CA03863AA	ADD: ASTRO SYSTEM RELEASE 2022.1
GTR 8000	3	CA01953AA	ADD: POWER EFFICIENCY PACKAGE
GTR 8000	3	CA01503AA	ADD: FALL BACK IN MULTISITE CABINET REPEAT
GTR 8000	3	CA01948AA	ADD: DIGITAL CONVENTIONAL SOFTWARE
GTR 8000	3	CA01502AA	ADD: ASTRO 25 CONV SIMULCAST SW
GTR 8000	3	CA03074AA	ADD: LOW POWER PA
GTR 8000	3	CA00855AA	ADD:700--800 MHZ
GTR 8000	1	T8343A	GSERIES SOFTWARE LICENSING
GTR 8000	3	UA00412AA	ADD: GSERIES BR-P25 DIG CONV
TRAK	1	DSTRAK88353M	GPS CLOCK, 10MHZ, RUBIDIUM, 48V INCL ANT AND 50' COAX W--DONGLE ADAPTER
TRAK	1	DSTRAKP001134	AC POWER SUPPLY FOR 8835 GPS CLOCK
RACK	2	DQ10562001	EARTHQUAKE BRACE
RACK	1	DSBBA800	ISOLATED GROUND BUS BAR ASSEMBLY, 800A
RACK	1	DSCPX1101985	SPD, RJ-45 CONNECTED (16) LINE GIGE ETHERNET, 11VPL ON ALL PINS
RACK	1	DSTSJADP	RACK MOUNT GROUND BAR, 19 IN FOR TSJ AND WPH SERIES DATA SPDS
PDU	1	DSACPDU6N120SN2TT	AC PDU, RACKMOUNT, 6 OUTLETS, SASD PROTECTED, UL1449/R56, 12FT CORD
RMC	1	DSDSRMC0608CA	RMC06, 8 CH HIGH GAIN AMP UNIVRMC SYSTEM, AC POWER, 700-902MHZ
Antenna	1	DSDSCC8503D	DSCC85-03D, 3 CH CERAMIC COMBINER 7/16 DIN CONN 851-869MHZ, 150KHZ SEP
UPS	1	DS9PXXR18001030S	EATON 9PX 2000VA, INPUT: 120V WITH 5-20P, OUTPUT: 120V WITH (6) 5-20R AND (1) L5-20R, 2KVA / 1.8KW, ONE ADDITIONAL BATTERY MODULE PROVIDING 175 MINUTES AT 415W, INCLUDES 4-POST AND 2-POST RACK KIT, TOTAL RACK SPACE IS 4U

BLOCK	QTY	NOMENCLATURE	DESCRIPTION
TRAK	50	DSACC014J50	1/4" ULTRA FLEXIBLE, 50 OHM, CORRUGATED, COPPER OUTER CONDUCTOR, LOW SMOKE NON-HALOGENATED, FIRE RETARDANT, UV STABILIZED, BLACK POLYETHYLENE JACKET
TRAK	4	DSNMA01450	N MALE, PLENUM & ULTRA FLEXIBLE FOR 1/4" CABLE (USE WITH PST014 TOOL)
Antenna	2	DSCC80706P	OMNI, CORPORATE COLLINEAR, 6DBD, 746-870MHZ, PIM & 25KW PIP RATED
TTA	1	DS440030221	TTA 440, MOTOROLA TOWER TOP UNIT, 794-824 MHZ, 4.3-10 CONNS, AUTOQUAD
TTA	1	DS440030677	TTA 440, MOTOROLA C&DU (SA), 794-824 MHZ, 32 PORT, BYPASS, TEST PORT,
Antenna system	1	DQ-TEMP-RF-ANTENNA	TEMPORARY PLACEHOLDER FOR SITE STRUCTURE: RF SYSTEM: RF ANTENNA
Antenna system	15	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET
Antenna system	2	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50
Antenna system	5	DSWKU	WK-U, UNIVERSAL WEATHERPROOFING KIT
Antenna system	15	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET
Antenna system	2	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50
Antenna system	200	DSEC550A	COAXIAL CABLE, "A" SERIES 7/8 IN 50 OHM CORRUGATED COPPER W/ BLACK PE
Antenna system	2	DS4310F50V78N1	CONNECTOR, 4.3-10 FEMALE INTERFACE FOR EC5-50-A
Antenna system	5	DSGKC78	CLIP ON GROUND KIT FOR 7/8" CABLES, 5' LEAD W/ UNATTACHED 3/8" TWO HOL
Antenna system	200	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET
Antenna system	1	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50
Antenna system	1	DS4310F50V12N1	CONNECTOR, 4.3-10 FEMALE INTERFACE FOR EC4-50

BLOCK	QTY	NOMENCLATURE	DESCRIPTION
Antenna system	5	DSGKS12	STANDARD GROUND KIT FOR 1/2" CABLES, 5' LEAD W/ UNATTACHED 3/8" TWO HO
Antenna system	7	DSBH12	BH-12 BUTTERFLY HANGER FOR 1/2 AIRCELL COAX,PKG OF 10
Antenna system	7	DSBH78	BH-78 BUTTERFLY HANGER FOR 7/8 AIRCELL COAX,PKG OF 10
Antenna system	2	DSTSXDC4310FM	DC PASS, BIDIRECTIONAL FEMALE/MALE 698MHZ - 2.7GHZ, PIM RATED
Antenna system	15	DSEC450HF	COAXIAL CABLE, 1/2" HIFLEX, 50 OHM WITH BLACK PE JACKET
Antenna system	2	DS4310M50B12X	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50-HF
Antenna system	15	DSEC450HF	COAXIAL CABLE, 1/2" HIFLEX, 50 OHM WITH BLACK PE JACKET
Antenna system	2	DS4310M50B12X	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50-HF
Switch	1	CLN9066A	SWITCH,SWITCH,EX4100 24-PORT SWITCH NON TAA
Router	1	T8492A	SITE ROUTER & FIREWALL- AC
Router	1	CA03445AA	ADD: MISSION CRITICAL HARDENING
Router	1	CA03446AA	ADD: ENCRYPTION
Router	1	CA03448AA	ADD: STATEFUL FIREWALL
License	1	T8343A	GSERIES SOFTWARE LICENSING
License	3	UA00412AA	ADD: GSERIES BR-P25 DIG CONV
GPW 8000	3	T7540A	GPW 8000 RECEIVER
GPW 8000	3	X301AR	ADD: QTY 1 GPW 8000 RECEIVER
GPW 8000	3	CA03863AA	ADD: ASTRO SYSTEM RELEASE 2022.1
GPW 8000	3	CA01953AB	ADD: POWER EFFICIENCY PACKAGE
GPW 8000	3	CA01948AB	ADD: CONVENTIONAL SOFTWARE R--X ONLY
GPW 8000	3	CA00855AB	ADD: 700--800 MHZ
GPW 8000	3	X153AW	ADD: RACK MOUNT HARDWARE

BLOCK	QTY	NOMENCLATURE	DESCRIPTION
RACK	2	DQ10562001	EARTHQUAKE BRACE
RACK	1	DSBBA800	ISOLATED GROUND BUS BAR ASSEMBLY, 800A
RACK	1	DSCPX1101985	SPD, RJ-45 CONNECTED (16) LINE GIGE ETHERNET, 11VPL ON ALL PINS
RACK	1	DSTSJADP	RACK MOUNT GROUND BAR, 19 IN FOR TSJ AND WPH SERIES DATA SPDS
RACK	1	DSACPDU6N120SN2TT	AC PDU, RACKMOUNT, 6 OUTLETS, SASD PROTECTED, UL1449/R56, 12FT CORD
RFDS	1	DSDSRMC0608CA	RMC06, 8 CH HIGH GAIN AMP UNIVRMC SYSTEM, AC POWER, 700-902MHZ
RFDS	1	DSDSCC8503D	DSCC85-03D, 3 CH CERAMIC COMBINER 7/16 DIN CONN 851-869MHZ, 150KHZ SEP
UPS	1	DS9PXXR18001030S	EATON 9PX 2000VA, INPUT: 120V WITH 5-20P, OUTPUT: 120V WITH (6) 5-20R AND (1) L5-20R, 2KVA / 1.8KW, ONE ADDITIONAL BATTERY MODULE PROVIDING 175 MINUTES AT 415W, INCLUDES 4-POST AND 2-POST RACK KIT, TOTAL RACK SPACE IS 4U
TRAK	50	DSACC014J50	1/4" ULTRA FLEXIBLE, 50 OHM, CORRUGATED, COPPER OUTER CONDUCTOR, LOW SMOKE NON-HALOGENATED, FIRE RETARDANT, UV STABALIZED, BLACK POLYETHYLENE JACKET
TRAK	4	DSNMA01450	N MALE, PLENUM & ULTRA FLEXIBLE FOR 1/4" CABLE (USE WITH PST014 TOOL)
Antennas	1	DSCC80703P	OMNI, CORPORATE COLLINEAR, 3DBD, 746-870MHZ, PIM & 25KW PIP RATED
TTA	1	DS440030221	TTA 440, MOTOROLA TOWER TOP UNIT, 794-824 MHZ, 4.3-10 CONNS, AUTOQUAD
TTA	1	DS440030677	TTA 440, MOTOROLA C&DU (SA), 794-824 MHZ, 32 PORT, BYPASS, TEST PORT,

Section 4

Implementation Statement of Work

4.1 Responsibility Matrix

Motorola Solutions will install and configure the proposed equipment. The following table describes the tasks involved with installation and configuration at the following sites:

- Station 2
- Station 4
- Austin Road

Tasks	Motorola Solutions	Customer
PROJECT INITIATION		
Contract Finalization and Team Creation		
Execute contract and distribute contract documents.	X	X
Assign a Project Manager as a single point of contact.	X	X
Assign resources.	X	X
Schedule project kickoff meeting.	X	X
Deliverable: Signed contract, defined project team, and scheduled project kickoff meeting.		
Project Administration		
Ensure that project team members attend all meetings relevant to their role on the project.	X	X
Set up the project in the Motorola Solutions information system.	X	
Record and distribute project status meeting minutes.	X	
Maintain responsibility for third-party services contracted by Motorola Solutions.	X	
Complete assigned project tasks according to the project schedule.	X	X
Submit project milestone completion documents.	X	
Upon completion of tasks, approve project milestone completion documents.		X

Tasks	Motorola Solutions	Customer
Conduct all project work Monday thru Friday, 8 a.m. to 5:00 p.m. local time with the exception of Motorola Solutions' and the Customer's holidays.	X	
Deliverable: Completed and approved project milestones throughout the project.		
Project Kickoff		
Introduce team, review roles, and decision authority.	X	X
Present project scope and objectives.	X	
Review SOW responsibilities and project schedule.	X	X
Schedule Design Review.	X	X
Schedule Site Walks	X	X
Deliverable: Completed project kickoff and scheduled Design Review.		
Design Review		
Review the Customer's operational requirements.	X	X
Present the system design and operational requirements for the solution.	X	
Present installation plan.	X	
Present preliminary transition plan and methods to document final transition process.	X	
Present configuration and details of sites required by system design.	X	
Validate that Customer sites can accommodate proposed equipment.		X
Provide approvals required to add equipment to proposed existing sites.		X
Review safety, security, and site access procedures.	X	
Present site acquisition and development plan.		X
Present equipment layout plans and system design drawings.	X	
Provide backhaul performance specifications and demarcation points.	X	
Provide heat load and power requirements for new equipment.	X	
Provide information on existing system interfaces.		X
Provide frequency and radio information for each site.		X
Assume liability and responsibility for providing all information necessary for complete installation.		X
Assume responsibility for issues outside of Motorola Solutions' control.		X

Tasks	Motorola Solutions	Customer
Complete the required forms required for frequency coordination and licensing.	X	
Ensure that frequency availability and licensing meet project requirements, and pay licensing and frequency coordination fees.		X
Review and update design documents, including System Description, Statement of Work, Project Schedule, and Acceptance Test Plan, based on Design Review agreements.	X	
Provide minimum acceptable performance specifications for customer provided hardware, software, LAN, WAN and internet connectivity.	X	
Execute Change Order in accordance with all material changes to the Contract resulting from the Design Review.	X	
Deliverable: Finalized design documentation based upon “frozen” design, along with any relevant Change Order documentation.		
SITE PREPARATION AND DEVELOPMENT		
Site Access		
Provide site owners/managers with written notice to provide entry to sites identified in the project design documentation.		X
Maintain access roads in order to provide clear and stable entry to sites for heavy-duty construction vehicles, cement trucks and cranes. Ensure that sufficient space is available at the site for these vehicles to maneuver under their own power, without assistance from other equipment.		X
Obtain site licensing and permitting, including site lease/ownership, zoning, permits, regulatory approvals, easements, power, and telco connections.		X
Deliverable: Access, permitting, and licensing necessary to install system equipment at each site.		
Site Planning		
Provide necessary buildings, equipment shelters, and towers for installation of system equipment.		X
Ensure that required rack space is available for installation of the new equipment.		X
Ensure that required space is available on the tower or antenna mounting structure.		X
Provide the R56 requirements for space, power, grounding, HVAC, and connectivity requirements at each site.	X	
Provide adequate electrical power in proper phase and voltage at sites.		X
Provide backup power, as required.		X
Confirm that there is adequate utility service to support the new equipment and ancillary equipment.		X
Provide electrician services to install power cabling to proposed equipment racks.		X

Tasks	Motorola Solutions	Customer
Provide power to the top of each proposed rack.		X
Provide appropriately sized breakers in the AC panel at sites to support the needs of the proposed system.		X
Provide as-built structural and foundation drawings of the structures and site locations, along with geotechnical reports, in order to facilitate a structural analysis.		X
Perform structural analysis of towers, rooftops, or other structures to confirm that they are capable of supporting proposed and future antenna loads.		X
Modify towers or other structures, or relocate sites in the system, to ensure that they are capable of supporting proposed and future antenna loads.		X
Conduct site walks to collect pertinent information (e.g. location of telco, power, structures, etc.)	X	
Ensure that each site meets the R56 standards for space, grounding, power, HVAC, and connectivity requirements.		X
Obtain the permits needed to complete site development, including electrical, building, and construction permits.		X
Pay for application fees, taxes, and recurring payments for lease/ownership of property.		X
Deliverable: Information and permitting requirements completed at each site.		
General Facility Improvements		
Provide adequate HVAC, grounding, lighting, cable routing, and surge protection based upon Motorola Solutions' Standards and Guidelines for Communication Sites (R56)		X
Ensure the resolution of environmental and hazardous material issues at each site including, but not limited to, asbestos, structural integrity (tower, rooftop, water tank, etc.), and other building risks.		X
Ensure that electrical service will accommodate installation of system equipment, including isolation transformers, circuit breakers, surge protectors, and cabling.		X
Provide obstruction-free area for the cable run between the demarcation point and system equipment.		X
Provide structure penetrations (wall or roof) for transmission equipment (e.g. antennas, microwave radios, etc.).		X
Supply interior building cable trays, raceways, conduits, and wire supports.		X
Pay for usage costs of power and generator fueling, both during the construction and installation effort, and on an ongoing basis.		X
Correct any R56 deficiencies.		X
Transport removed site equipment to a location designated by Customer and within Customer's jurisdiction.		X

Tasks	Motorola Solutions	Customer
Deliverable: Sites meet physical requirements for equipment installation.		
SYSTEM INSTALLATION		
Equipment Order and Manufacturing		
Create equipment order and reconcile to contract.	X	
Manufacture Motorola Solutions-provided equipment necessary for the system based on equipment order.	X	
Procure non-Motorola Solutions equipment necessary for the system.	X	
Deliverable: Equipment procured and ready for shipment.		
System Staging (NOT customer witnessed)		
Ship all equipment needed for staging to Motorola Solutions' factory for staging.	X	
Provide information on existing system interfaces, room layouts, or other information necessary for the assembly to meet field conditions.		X
Set up and rack the solution equipment on a site-by-site basis, as it will be configured in the field at each of the sites.	X	
Cut and label the cables with to/from information to specify interconnection for field installation and future servicing needs.	X	
Complete the cabling/connecting of the subsystems to each other ("connectorization" of the subsystems).	X	
Assemble required subsystems to assure system functionality.	X	
Power up, load application parameters, program, and test all staged equipment.	X	
Confirm system configuration and software compatibility with the existing system.	X	
Inventory the equipment with serial numbers and installation references.	X	
Perform functional tests of system features, as applicable.	X	
Conduct site and system level testing, as applicable.	X	
Pack and ship the racked equipment to the field to finalize staging of equipment.	X	
Deliverable: System staged and ready for shipment.		
Equipment Shipment and Storage		
Provide a secure location for solution equipment.		X
Pack and ship solution equipment to the identified, or site locations.	X	
Receive solution equipment.		X

Tasks	Motorola Solutions	Customer
Inventory solution equipment.	X	
Deliverable: Solution equipment received and ready for installation		
General Installation at three (03) project sites: Station 2, Station 4, and Austin Road.		
Deliver solution equipment to installation locations	X	
Coordinate receipt of and inventory solution equipment with designated contact.	X	
Install all proposed fixed equipment as outlined in the System Description based upon the agreed-upon floor plans, connecting audio, control, and radio transmission cables to connect equipment to the power panels or receptacles, and audio/control line connection points. Installation performed in accordance with R56 standards and state/local codes.	X	
Provide system interconnections that are not specifically outlined in the system design, including dedicated phone circuits, microwave links, or other types of connectivity.		X
Install and terminate all network cables between site routers and network demarcation points, including microwave, leased lines, and Ethernet. Unless noted otherwise in the proposal, network cable lengths are assumed to be 25 feet or less, and to be run within the same equipment room. Also, up to 2 network cables are assumed per site.	X	
Ensure that Type 1 and Type 2 AC suppression is installed to protect installed equipment.		X
Connect installed equipment to the provided ground system within 15 feet.	X	
Label Motorola-supplied equipment, racks, and cables.	X	
Perform preliminary audit of installed equipment to ensure compliance with requirements and R56 standards.	X	
Note any required changes to the installation for inclusion in the "as-built" system documentation.	X	
Remove, transport, and dispose of old equipment, as applicable.		X
Deliverable: Equipment installed.		
Site Link Assessment at three (03) project sites: Station 2, Station 4, and Austin Road.		
Verify site link performance, prior to the interconnection of the solution equipment to the link equipment. Site links will be tested once. If the links do not pass the audit, a change order will be processed to perform link audits a second time after the customer resolves the link issues and prior to transition.	X	
Motorola Solutions will not perform any work on non-Motorola Solutions owned equipment.		X

Tasks	Motorola Solutions	Customer
Provide information on customer public Internet connection for evaluation purposes.		X
Evaluate customer's network from an IT perspective.	X	
Deliverable: Site Link Assessment completed and findings are presented to the Customer.		
Antenna and Transmission Line Installation at three (03) project sites: Station 2, Station 4, and Austin Road.		
Install antennas, including supplying and installing new side arm mounts. Unless otherwise notes, standard antenna mounts are included.	X	
Install tower top amplifiers.	X	
Install transmission lines required for the system.	X	
Provide structure penetrations for transmission equipment (e.g. antennas & microwave line.).		X
Perform sweep tests on transmission lines.	X	
Provide and install attachment hardware for supporting transmission lines on antenna support structure.	X	
Supply and install ground buss bar at the bottom of each antenna support structure.		X
Deliverable: Antenna and Transmission Line installed.		
ASTRO 25 Core and Remote Site Installation and Configuration at three (03) project sites: Station 2, Station 4, and Austin Road.		
Install fixed equipment contained in the equipment list and system description.	X	
Provide backhaul connectivity and associated equipment for all sites to meet latency, jitter and capacity requirements.		X
Configure ASTRO 25 system to support the new RF sites.	X	
Integrate the RF sites into the system to ensure proper operation.	X	
Deliverable: ASTRO 25 core and remote site equipment installation completed.		
Radio Programming		
Verify that all the applicable radios are capable of P25 conventional operation.		X
Update existing radio templates and codeplugs, as necessary.		X
Program all Manteca FD Radios with the new 7/800 frequencies.		X
Calibrate and tune existing mobile and portable radios to ensure good working order.		X
Deliverable: All Radios programmed to new frequencies.		

Tasks	Motorola Solutions	Customer
SYSTEM OPTIMIZATION AND TESTING		
R56 Site Audit at three (03) project sites: Station 2, Station 4, and Austin Road.		
Perform R56 site-installation quality-audits, verifying proper physical installation and operational configurations.	X	
Create site evaluation report to verify site meets or exceeds requirements, as defined in Motorola Solutions' R56 Standards and Guidelines for Communication Sites.	X	
Deliverable: R56 Standards and Guidelines for Communication Sites audits completed successfully.		
Solution Optimization		
Verify that all equipment is operating properly and that all electrical and signal levels are set accurately.	X	
Verify that all audio and data levels are at factory settings.	X	
Verify communication interfaces between devices for proper operation.	X	
Ensure that functionality meets manufacturers' specifications and complies with the final configuration established during design review or system staging.	X	
Reconfigure and reoptimize 3rd party equipment that is not part of the Motorola Solutions scope of work.		X
Deliverable: Completion of System Optimization.		
Functional Acceptance Testing		
Verify the operational functionality and features of the solution supplied by Motorola Solutions, as contracted.	X	
Witness the functional testing.		X
Document all issues that arise during the acceptance tests.	X	
If any major task for the system as contractually described fails during the Customer acceptance testing or beneficial use, repeat that particular task after Motorola Solutions determines that corrective action has been taken.	X	
Resolve any minor task failures before Final System Acceptance.	X	
Document the results of the acceptance tests and present for review.	X	
Review and approve final acceptance test results.		X
If any major task as contractually described fails, repeat that particular task after Motorola Solutions determines that corrective action has been taken.	X	
Document all issues that arise during the acceptance tests.	X	

Tasks	Motorola Solutions	Customer
Document the results of the acceptance tests and present to the Customer for review.	X	
Resolve any minor task failures before Final System Acceptance.	X	
Deliverable: Completion of functional testing and approval by Customer.		
Coverage Acceptance Testing		
Determine the required number of test vehicles for simultaneous testing of multiple service areas.	X	X
Perform coverage testing according to the Coverage Acceptance Test Plan (CATP), Submit test reports within the agreed period.	X	
For any area that fails, take corrective action.	X	
Retest any areas for which corrective action has been taken.	X	
Document all issues that arise during the coverage testing.	X	
Submit final test reports, according to the agreed period.	X	
Provide the required number of test vehicles, drivers, and resources to perform (and witness) the coverage testing.		X
Review and approve test results.		X
Deliverable: Completion of coverage testing and approval by Customer.		
System Acceptance and Transition		
Finalize System Readiness and Transition Plan.	X	X
Calibrate and tune existing mobile and portable radios to ensure good working order.		X
Provide programming of user radios and related services (i.e. template building, re-tuning, testing and installations), as needed, during transition period.		X
Conduct a system readiness and transition meeting with relevant personnel to address both how to mitigate technical and communication problem impacts to the users during transition and during the general operation of the system.	X	
Notify the personnel affected by the transition of the date and time planned for the transition.		X
Provide ongoing communication to the main Project Manager regarding transition planning and associated activities.	X	
Provide ongoing communication with users regarding the project and schedule.		X
Transition users and ensure that user radios are operating on the system.		X
Resolve punch list items, documented during the Acceptance Testing phase, in order to meet all the criteria for final system acceptance.	X	

Tasks	Motorola Solutions	Customer
Assist Motorola Solutions with resolution of identified punch list items by providing support, such as access to the sites, equipment and system, and approval of the resolved punch list items.		X
Deliverable: Transition to new system completed, and punch list items resolved.		
Transition to Warranty		
Review the items necessary for transitioning the project to warranty support and service.	X	
Motorola Solutions to provide services during year 1 warranty which align with the proposed services.	X	
Provide a Customer Support Plan detailing the warranty support associated with the contract equipment.	X	
Participate in the Transition Service/Project Transition Certificate (PTC) process.		X
Deliverable: Service information delivered and approved by Customer		
Finalize Documentation and System Acceptance		
Provide manufacturer's installation material, part list and other related material to Customer upon project completion.	X	
Provide an electronic as-built system manual on CD or other Customer preferred electronic media. The documentation will include the following: <ul style="list-style-type: none"> ▪ System Block Diagram. ▪ Site Equipment Rack Configurations. ▪ Antenna Network Drawings for RF Sites (where applicable). ▪ ATP Test Checklists. ▪ Functional Acceptance Test Plan Test Sheets and Results. ▪ Equipment Inventory List. ▪ Maintenance Manuals (where applicable). ▪ Technical Service Manuals (where applicable). ▪ Drawings will be delivered in Adobe PDF format. 	X	
Receive and approve documentation.		X
Execute Final Project Acceptance.	X	X
Deliverable: All required documents are provided and approved. Final Project Acceptance.		

4.2 Assumptions

Motorola has made several assumptions in preparing this proposal, which are noted below. In order to provide a firm quote, Motorola will need to verify all assumptions or seek alternate solutions in the case of invalid assumptions.

- All existing sites or equipment locations will have sufficient space available for the system described as required/specified by R56.
- Manteca FD is responsible for making the sites ready for Motorola equipment, especially the space identified for the Station 2 site shelter which is currently being used as a storage shed, will need work to be done to meet HVAC and R56 requirements.
- All existing sites or equipment locations will have adequate electrical power in the proper phase and voltage, and site grounding to support the requirements of the system described.
 - Electrician services are not included.
- All existing towers will have adequate space and size to support the antenna network requirements of the system described.
 - Manteca FD is performing structural analysis of existing towers as required to confirm that the structure is capable of supporting proposed antenna loads. It is assumed that all sites will pass Structural Analysis with the new equipment load that will be added to these site towers.
 - Any tower remediation/upgrade requirements are the responsibility of the Manteca FD.
- Any site/location upgrades or modifications are the responsibility of Manteca FD.
- Motorola has included services to help with frequency coordination to find three new pairs of 7/800 frequencies. Approved FCC licensing is to be provided by Manteca FD.
- Backhaul connectivity between the sites themselves and between the hub site and Stockton Core is to be provided by Manteca FD. These links will need to meet the Motorola provided backhaul specifications. Motorola has accounted for one link test to test backhaul links. If any of the links fail testing, additional tests will accrue further charges by means of change orders.
- Approved local, State, or Federal permits as may be required for the installation and operation of the proposed equipment are the responsibility of Manteca FD.
- Motorola project implementation costs are based on power, tower, shelter, and backhaul connectivity availability being made available by Manteca FD per Tentative Project Schedule projected dates in Section 4 of this document. Any schedule delays from Manteca FD would be covered via a change order.
- Any required system interconnections not specifically outlined here will be provided by Manteca FD. These may include dedicated phone circuits, microwave links, or other types of connectivity.
- Motorola is not responsible for interference caused or received by the Motorola-provided equipment except for interference that is directly caused by the Motorola-provided transmitter(s) to the Motorola-provided receiver(s). Should the Manteca FD's system experience interference, Motorola can be contracted to investigate the source and recommend solutions to mitigate the issue.
- No new logging recorder or recorder upgrades have been proposed. It will be Manteca FD's responsibility to continue to use existing logger to record audio from this new system via existing consoles.

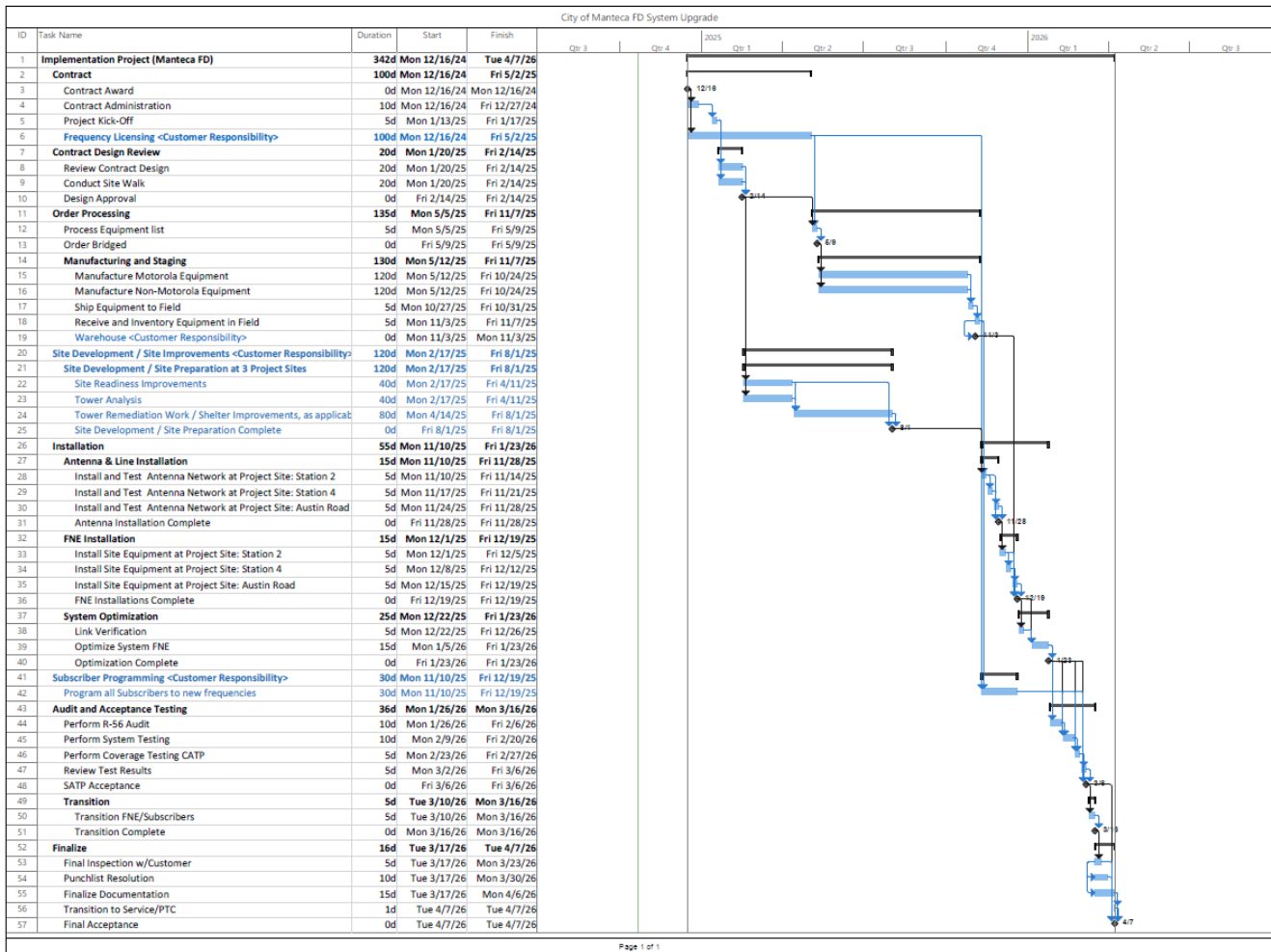
- Manteca FD will provide storage for the system equipment for the City of Manteca FD installation.
- Perform any electrical permitting and cover associated costs and labor.
- All Communication Sites can be accessed with a 4 wheel drive vehicle. Anything beyond the use of a 4 wheel drive vehicle will require a change order to capture the additional cost.
- Special equipment for transport and installation is not included.
- Interfacing to 3rd party equipment or applications is not a part of this proposal.
- Approved FCC licensing is responsibility of Manteca FD.
- Any required system interconnections not specifically outlined here will be provided by the Customer. This may include dedicated phone circuits, microwave links, or other types of connectivity.
- Portable used for coverage testing will be provided by Customer.
- Training is not included in this proposal.
- Motorola Solutions is not responsible for interference caused or received by the Motorola Solutions-provided equipment except for interference that is directly caused by the Motorola Solutions-provided transmitter(s) to the Motorola Solutions-provided receiver(s). Should the Customer's system experience interference, Motorola Solutions can be contracted to investigate the source and recommend solutions to mitigate the issue.
- Any equipment moves or consolidation required to make room for the proposed system is Manteca FD's responsibility.
- Decommissioning and dismantling of the old equipment will be performed by Manteca FD
- Uninstall and removal of existing system antennas, cables, and equipment, as required will be performed by Manteca FD in accordance with the agreed-upon implementation and cutover plans. Uninstalled equipment will be removed by Manteca FD for disposal.
- A Performance Bond is not required.
- Union Labor is not required.
- Prevailing Wages are not required.

Section 5

Project Schedule

Tentative project schedule is shown below. We are currently estimating the project implementation to take approximately 16 months. The dates for the implementation are highly dependent on the contract award date, equipment shipment lead times, resource availability and site readiness. Final project schedule will be developed based upon mutual agreement between Motorola Solutions and the Manteca FD at the Contract Design Review.

Tentative Project Schedule is included on the page that follows.



Section 6

Acceptance Test Plan

The Acceptance Test Plan is included on the pages that follow.

6.1 Radio to Radio Features

6.1.1 Conventional Radio Resource Call - Clear Mode

1. DESCRIPTION

Subscribers can communicate to each other through a repeater that is selected via the channel selector on the individual radio.

The signals that are received from the subscriber radio are repeated so that other radios on that channel will be able to hear and participate in the conversation.

SETUP

RADIO-1 - CONVENTIONAL CHANNEL 1
RADIO-1 - CONVSITE 1
RADIO-2 - CONVENTIONAL CHANNEL 1
RADIO-2 - CONVSITE 1

VERSION #1.050

2. TEST

- Step 1. Initiate a CONVENTIONAL CHANNEL 1 call on RADIO-1.
- Step 2. Verify RADIO-2 can monitor and respond to the call on CONVENTIONAL CHANNEL 1.
- Step 3. Initiate a CONVENTIONAL CHANNEL 1 call on RADIO-2.
- Step 4. Verify RADIO-1 can monitor and respond to the call on CONVENTIONAL CHANNEL 1.
- Step 5. Repeat above tests for each repeater channel.

Pass____ Fail____

Radio to Radio Features

6.1.2 Conventional Radio Resource Call - Coded Mode

1. DESCRIPTION

Subscribers can communicate to each other through a repeater that is selected via the channel selector on the individual radio in a coded/secure call.

The signals that are received by the subscriber radio are repeated so that only other radios on that channel that have secure capability with the correct encryption key will be able to participate in the conversation.

SETUP

RADIO-1 - CONVENTIONAL CHANNEL 1
(SECURE)
RADIO-1 - CONVSITE 1
RADIO-2 - CONVENTIONAL CHANNEL 1
(SECURE)
RADIO-2 - CONVSITE 1
RADIO-3 - CONVENTIONAL CHANNEL 1 (Not
secure or no/incorrect encryption key)
RADIO-3 - CONVSITE 1

VERSION #1.060

2. TEST

- Step 1. Initiate a call on RADIO-1 in the coded mode.
- Step 2. Verify RADIO-2 can monitor and respond to the CONVENTIONAL CHANNEL 1 call (coded).
- Step 3. Verify that RADIO-3 does not hear the conversation even though it is on the same channel as RADIO-1 and RADIO-2.
- Step 4. Initiate a call on RADIO-1 in the clear mode.
- Step 5. Verify communications on RADIO-2 and RADIO-3.
- Step 6. Repeat Steps 1 through 5 for each repeater channel.

Pass_____ Fail_____

Radio to Radio Features

6.1.3 Conventional Radio Scan

1. DESCRIPTION

A subscriber can be programmed to scan through a list of conventional frequencies and lock on to one that has activity. This allows a user to monitor multiple frequencies at one time.

This scan will cycle through its list and if activity is detected, will change to that personality for the duration of the transmission. After the transmission ends and after a preset hang time, the subscriber reverts to its home channel.

SETUP

RADIO-1 - SITE 1 (SCANNING)

RADIO-2 - SITE 2

RADIO-1 must have SITE 1 and SITE 2 in its active scan list.

VERSION #1.070

2. TEST

- Step 1. Verify that on RADIO-1 scan is enabled.
- Step 2. From RADIO-2, transmit on SITE 2, which is a channel programmed in the active scan list.
- Step 3. Verify that RADIO-1 changes to SITE 2.
- Step 4. Verify communications between RADIO-1 and RADIO-2.
- Step 5. Verify that RADIO-1 will return to its home channel of SITE 1.
- Step 6. Repeat steps 2-5 for all channels in the active scan list.

Pass____ Fail____

Radio to Radio Features

6.1.4 Conventional Radio Priority Scan

1. DESCRIPTION

With Priority Scan, a radio user can scan pre-programmed channels in the scan list. Activity on the channels are monitored on a first-come first-served basis. A conversation in process will only be interrupted by activity on channels marked as Priority in the scan list.

SETUP

RADIO-1 - SITE 1 (SCANNING)

RADIO-2 - SITE 2

RADIO-3 - SITE 1

RADIO-1 must have SITE 1 and SITE 2 in its active scan list and SITE 1 set as priority Monitor.

VERSION #1.090

2. TEST

- Step 1. Verify that on RADIO-1 scan is enabled.
- Step 2. From RADIO-2, transmit on SITE 2, which is a channel programmed in the active scan list.
- Step 3. Verify that RADIO-1 changes to SITE 2.
- Step 4. While continuing to transmit on RADIO-2, Key RADIO-3 on SITE 1.
- Step 5. Verify that RADIO-1 will return to its home channel of SITE 1 and hears RADIO-3.

Pass____ Fail____

Radio to Radio Features

6.1.5 Multicast Scan

1. DESCRIPTION

Multicast scan is used in systems to give the subscriber the ability to roam from site to site even though their transmit frequencies may differ.

NOTE : Exact steps and functionality of the multicast scan are not yet available.

SETUP

RADIO-1 - SITE 1
RADIO-2 - SITE 2

Verify that SITE 1 and SITE 2 are in the multicast scan list of RADIO-1 and RADIO-2.

VERSION #1.020

2. TEST

- Step 1. Disable all but SITE 1 on the comparator.
- Step 2. Verify communications between RADIO-1 and RADIO-2 on the enabled site.
- Step 3. Disable SITE 1 and enable the next site on the comparator.
- Step 4. Verify that RADIO-1 and RADIO-2 will automatically switch to the enabled site.
- Step 5. Verify communications between RADIO-1 and RADIO-2 on the enabled site.
- Step 6. Repeat steps 3-5 for the remaining sites in the multicast scan list.

Pass____ Fail____

Radio to Radio Features

6.1.6 Conventional ASTRO Emergency

1. DESCRIPTION

Users in life threatening situations can use the Emergency button on the radio to notify the dispatch and other radio users on the channel of an Emergency.

SETUP

RADIO-1 - SITE 1
RADIO-2 - SITE 1

VERSION #1.070

2. TEST

- Step 1. Using RADIO-1, initiate an Emergency Alarm by depressing the emergency button.
- Step 2. If a dispatch console is attached, observe that the console shows the alarm. The console will also acknowledge the alarm and cause RADIO-1 to sound an Emergency Alarm acknowledgment.
- Step 3. If no dispatch console is attached, or if the radio is out of range, observe that RADIO-1 will continue to transmit the emergency. RADIO-1 will stop transmitting the Emergency once the emergency has been acknowledged or the retry limit has been reached.
- Step 4. Using RADIO-1, initiate an Emergency Call by depressing the PTT button.
- Step 5. Observe that RADIO-2 displays "EMERGENCY CALL" along with "RADIO-1".
- Step 6. Using RADIO1, clear the emergency by depressing the emergency button for 2 seconds.

Pass____ Fail____

Radio to Radio Features

6.1.7 Conventional Radio Resource Via Comparator

1. DESCRIPTION

A comparator will vote all receive capable sites and transmit on specified transmit capable sites. Because a comparator will construct a signal from multiple sites, it is necessary to test each site individually.

SETUP

RADIO-1 - SITE 1
RADIO-2 - SITE 1

VERSION #1.040

2. TEST

- Step 1. Disable all sites on the comparator except SITE 1.
- Step 2. Verify communications between RADIO-1 and RADIO-2.
- Step 3. Disable SITE 1 and enable the next site. Change the channel on the subscriber if necessary.
- Step 4. Verify communications between RADIO-1 and RADIO-2.
- Step 5. Repeat steps 3 & 4 until all sites on the comparator have been individually tested.
- Step 6. Enable all sites on the comparator.
- Step 7. Verify communications between RADIO-1 and RADIO-2 with all sites enabled.

Pass____ Fail____

6.2 Signoff Certificate

By their signatures below, the following witnesses certify they have observed the system Acceptance Test Procedures.

Signatures

WITNESS:

_____Date: _____

Please Print Name: _____

Please Print Title: _____ Initials:

WITNESS:

_____Date: _____

Please Print Name: _____

Please Print Title: _____ Initials:

WITNESS:

_____Date: _____

Please Print Name: _____

Please Print Title: _____ Initials:

Section 7

Warranty and Service Plan Essential Plus Services

7.1 Overview

Motorola Solutions is proposing our Essential Plus Services for ASTRO® 25 infrastructure to provide City of Manteca FD with the support needed to detect and resolve unforeseen issues. Essential Plus Services consists of the following elements:

- Remote Technical Support.
- Network Hardware Repair.
- Security Update Service (SUS).
- On-site Infrastructure Response.
- Annual Preventive Maintenance.

Together, these elements will help to avoid operational disruptions and maintain the value of Manteca FD's communications investment.

7.2 Essential Plus Element Descriptions

The following sections describe the elements proposed for Manteca FD ASTRO 25 infrastructure.

7.2.1 Remote Technical Support

Motorola Solutions' Centralized Managed Support Operations (CMSO) will provide Remote Technical Support for infrastructure issues that require specific technical expertise. Experienced technical support specialists will be available to consult with Manteca FD to help diagnose, troubleshoot, and resolve infrastructure issues. Service Desk maintenance procedures and incident resolution techniques are based on ISO 9001 and TL 9000 standards.

7.2.2 Network Hardware Repair

To restore Manteca FD ASTRO 25 network components if they malfunction, Motorola Solutions will repair Motorola Solutions-provided infrastructure equipment. This includes select third-party infrastructure equipment supplied by Motorola Solutions. Motorola Solutions will ship and return repaired equipment, and will coordinate the repair of third-party solution components.

7.2.3 Security Update Service

Commercial security software updates are often designed without consideration for specialized systems like radio communications networks. Therefore, they may at sometimes inadvertently disrupt

ASTRO 25 networks such as the one proposed to Manteca FD. Motorola Solutions will test anti-virus, operating system, and other software patches to check their compatibility with ASTRO 25.

Once tested, Motorola Solutions will post the updates to a secured extranet website and send an email notification to Manteca FD. If there are any recommended configuration changes, warnings, or workarounds, Motorola Solutions will provide detailed documentation along with the updates on the website. When tested updates have been posted, Manteca FD will need to download and install them.

7.2.4 On-site Infrastructure Response

Motorola Solutions will provide repair service from trained and qualified technicians. Once dispatched, technicians will travel to Manteca FD ASTRO 25 network location to diagnose issues and restore functionality. These technicians will run diagnostics on hardware to identify defective components, and repair or replace them as appropriate. Infrastructure Response times are based on a given issue's impact on overall system function.

Travel times and service levels are governed by local geography. Motorola Solutions will provide additional information in the Statement of Work for ASTRO 25 Essential Plus Services and in the Customer Support Plan agreed between Manteca FD and Motorola Solutions.

7.2.5 Annual Preventive Maintenance

Motorola Solutions will annually test and service network components. Qualified field technicians will perform routine hands-on examination and diagnostics of network equipment to keep them operating according to original manufacturer specifications.

7.3 Motorola Solutions Service Delivery Ecosystem

Essential Plus Services are delivered through a tailored combination of field service personnel, centralized teams, product repair depots, and MyView Portal. These service resources will collaborate to swiftly analyze network issues, accurately diagnose root causes, and efficiently resolve issues to return the network to normal operation.

Motorola Solutions services will be delivered by staff experienced in servicing mission-critical networks. Motorola Solutions uses the Information Technology Infrastructure Library (ITIL) framework to define service tasks based on industry-recognized best practices. As staff perform tasks, service incident information will be available to Manteca FD administrators and personnel through MyView Portal.

Service activities and Motorola Solutions' service team are described in more detail below.

7.3.1 Centralized Managed Support Operations

The cornerstone of Motorola Solutions' support process is the Centralized Managed Support Operations (CMSO) organization. This TL 9000/ISO 9001-certified organization is staffed 24x7x365 by experienced service desk specialists, security analysts, and operations managers. The CMSO houses critical central functions, including the Service Desk.

The CMSO Service Desk will serve as a single point of contact for services. It processes service requests, service incidents, change requests, and dispatching. The Service Desk communicates

necessary information to stakeholders, bridging communications among Manteca FD, Motorola Solutions, and third-party subcontractors.

Service Desk teams record, track, and update incidents through the Motorola Solutions Customer Relationship Management (CRM) system. They document and respond to inquiries, requests, concerns, and service tickets. When an incident is initiated, the CMSO will engage with teams to resolve that incident. The CMSO will escalate to new teams when needed. Depending on the incident, the CMSO will coordinate incident resolution with local field service and authorized repair depots.

7.3.2 Field Service

Motorola Solutions authorized and qualified field service technicians will perform the On-site Infrastructure Response service, repair malfunctioning hardware in the field, and conduct preventive maintenance tasks. These technicians will coordinate with the Service Desk, technical support teams, and product engineering as needed to resolve incidents.

7.3.3 Repair Depot

The Motorola Solutions Repair Depot will provide Manteca FD with a central repair location. This will eliminate the need to send network equipment to multiple vendor locations for repair. Motorola Solutions tracks products sent to the Depot via a case management system throughout the repair process. This system will enable Manteca FD representatives to check repair status, from inbound shipment to return.

7.3.4 Customer Support Manager

A Motorola Solutions Customer Support Manager (CSM) will be Manteca FD key point of contact for the definition and administration of services. The CSM will work with Manteca FD to define service delivery details to address Manteca FD specific priorities.

7.3.5 MyView Portal

To provide Manteca FD with quick access to service details, Motorola Solutions will provide our MyView Portal online network information tool. MyView Portal provides our customers with real-time critical network and services information through an easy-to-use graphical interface.



Figure 7-1: MyView Portal offers real-time, role-based access to critical network and services information.

With MyView Portal, Manteca FD administrators will be able to monitor system health and maintenance updates. Capabilities include:

- Viewing network and support compliance.
- Viewing incident reports.
- Updating and creating incidents.
- Checking system update status.
- Receiving pro-active notifications regarding updates.

Available 24x7x365 from any web-enabled device, the information provided by MyView will be based on your needs and user access permissions, ensuring that the information displayed is secure and pertinent to your operations.

7.4 System Upgrade Agreement II

The System Upgrade Agreement II (SUA II) service provides public safety radio system release updates on a consistent, budgeted plan. These updates maintain reliable network operations and cybersecurity protection. In addition, SUA II keeps customer's ASTRO 25 network compatible with expansion elements, as well as new products or features. With SUA II, UC Manteca FD network will remain on a release that qualifies for support services.

Motorola Solutions will deliver SUA II in two-year periods, with up to one update in each period (2-year window). The SUA II service includes the following:

- **Software Release Updates** - Motorola Solutions-certified software that improves network functions over previous releases. This also includes commercial operating system and application software updates.

- **Hardware Update** – When needed to support a software release update, Motorola Solutions provides new hardware. New hardware will both support the new software update, as well as maintain existing functions and features.
- **Professional Implementation Services** – Motorola Solutions will plan and implement updates at Manteca FD site. This includes factory integration, testing, and supply chain management for new software and hardware.

With these services, Manteca FD will have access to the technology, support, and planning expertise needed for an effective upgrade

Section 8

Pricing Summary

Motorola is pleased to provide the following equipment and services to the City of Manteca FD.

8.1 Equipment and Implementation Services

Description	Price (\$)
Equipment Price	\$619,454.00
Project Implementation Services including Project Management, Engineering, Technician services, Installation, Configuration, Optimization, Functional Testing, and Coverage Testing	\$928,940.00
Total (Equipment + Implementation Services)	\$1,548,394.00
Tax on Equipment @ 8.25%, subject to change	\$51,104.96
Total System Price with Taxes	\$1,599,498.96

8.2 Optional Post-Warranty Maintenance & SUA II

Post Warranty Maintenance Services	Year 2	Year 3	Year 4	Year 5	Total
Essential Plus Services	\$90,880	\$95,423	\$100,196	\$105,205	\$391,704
SUA II	\$31,478	\$32,099	\$32,745	\$33,418	\$129,740
Total	\$122,358	\$127,522	\$132,941	\$138,623	\$521,444

8.3 Payment Terms

Contract Price. The Contract Price in U.S. dollars is \$1,599,498.96.

Customer will make payments to Motorola within thirty (30) days after the date of each invoice. Customer will make payments when due in the form of a wire transfer, check, or cashier's check from a U.S. financial institution. Motorola reserves the right to make partial shipments of equipment and invoice for partial shipment. Overdue invoices will bear simple interest at the maximum allowable rate.

Motorola Solutions will use the following major milestones for the System Purchase:

1. 25% of the Contract Price due upon Contract Execution (due upon effective date);
2. 60% of the Contract Price due upon shipment of equipment from Staging;
3. 10% of the Contract Price due upon installation of equipment; and
4. 5% of the Contract Price due upon Final Acceptance.

Motorola reserves the right to make partial shipments of equipment and to request payment upon shipment of such equipment. In addition, Motorola reserves the right to invoice for installations or civil work completed on a site-by-site basis, when applicable.

For Lifecycle Support Plan and Subscription Based Services: Motorola will invoice Customer annually in advance of each year of the plan.

Section 9

Contractual Documentation

Motorola Solutions' proposal is subject to the terms and conditions of the attached Communication System and Services Agreement together with its exhibits and addenda. The documents continue on the pages that follow.

Communications System and Services Agreement

Motorola Solutions, Inc. ("Motorola") and _____ ("Customer") enter into this "Agreement," pursuant to which Customer will purchase and Motorola will sell the System and Services, as described below. Motorola and Customer may be referred to individually as a "Party" and collectively as the "Parties." For good and valuable consideration, the Parties agree as follows:

Section 1 ATTACHMENTS

1.1. EXHIBITS. The Exhibits listed below are exhibits related to the System sale and implementation. These Exhibits are incorporated into and made a part of this Agreement.

Exhibit A "Motorola Software License Agreement"

Exhibit B "Payment"

Exhibit C Technical and Implementation Documents

C-1 "System Description" dated _____

C-2 "Pricing Summary & Equipment List" dated _____

C-3 "Implementation Statement of Work" dated _____

C-4 "Acceptance Test Plan" or "ATP" dated _____

C-5 "Performance Schedule" dated _____

Exhibit D "System Acceptance Certificate"

1.2. ADDENDUM (ADDENDA). Customer may elect to purchase professional or subscription services in addition to the System and related services. Any such services will be governed by the terms in the main body of the Agreement and an applicable Addendum containing terms specific to such service. Such Addenda will be labeled with the name of the service being purchased.

1.3 ORDER OF PRECEDENCE. In interpreting this Agreement and resolving any ambiguities: 1) the main body of this Agreement takes precedence over the exhibits (unless otherwise specified in an exhibit), and any inconsistency between Exhibits A through D will be resolved in their listed order, and 2) The applicable service Addendum will take precedence over the main body of the Agreement and the Exhibits.

Section 2 DEFINITIONS

Capitalized terms used in this Agreement have the following meanings:

"Acceptance Tests" means those tests described in the Acceptance Test Plan.

"Addendum (Addenda)" is the title of the document(s) containing a specific set of terms and conditions applicable to a particular service or other offering beyond the Communication System and System implementation services. The terms in the Addendum are applicable only to the specific service or offering described therein.

"Administrative User Credentials" means an account that has total access over the operating system, files, end user accounts and passwords at either the System level or box level. Customer's personnel with access to the Administrative User Credentials may be referred to as the Administrative User.

"Beneficial Use" means when Customer first uses the System or a Subsystem for operational purposes (excluding training or testing).

"Confidential Information" means all information consistent with the fulfillment of this Agreement that is (i) disclosed under this Agreement in oral, written, graphic, machine recognizable, and/or sample form, being clearly designated, labeled or marked as confidential or its equivalent or (ii) obtained by examination, testing or analysis of any hardware, software or any component part thereof provided by discloser to recipient. The nature and

existence of this Agreement are considered Confidential Information. Confidential Information that is disclosed orally must be identified as confidential at the time of disclosure and confirmed by the discloser by submitting a written document to the recipient within thirty (30) days after such disclosure. The written document must contain a summary of the Confidential Information disclosed with enough specificity for identification purpose and must be labeled or marked as confidential or its equivalent.

“Contract Price” means the price for the System and implementation Services, excluding applicable sales or similar taxes and freight charges. Further, unless otherwise stated in Exhibit B, “Payment” or the pricing pages of the proposal, recurring fees for maintenance, SUA, or subscription services are not included in the Contract Price.

“Deliverables” means all written information (such as reports, specifications, designs, plans, drawings, analytics, Solution Data, or other technical or business information) that Motorola prepares for Customer in the performance of the Services and is obligated to provide to Customer under this Agreement. The Deliverables, if any, are more fully described in the Statement of Work.

“Derivative Proprietary Materials” means derivatives of the Proprietary Materials that Motorola may from time to time, including during the course of providing the Services, develop and/or use and/or to which Motorola provides Customer access.

“Effective Date” means that date upon which the last Party executes this Agreement.

“Equipment” means the hardware components of the Solution that Customer purchases from Motorola under this Agreement. Equipment that is part of the System is described in the Equipment List.

“Feedback” means comments or information, in oral or written form, given to Motorola by Customer in connection with or relating to Equipment or Services, during the term of this Agreement.

“Force Majeure” means an event, circumstance, or act that is beyond a Party’s reasonable control, such as an act of God, an act of the public enemy, an act of a government entity, strikes, other labor disturbances, supplier performance, hurricanes, earthquakes, fires, floods, epidemics, embargoes, war, riots, or any other similar cause.

“Motorola Software” means software that Motorola or its affiliated companies owns.

“Non-Motorola Software” means software that a party other than Motorola or its affiliated companies owns.

“Open Source Software” (also called “freeware” or “shareware”) means software with either freely obtainable source code, license for modification, or permission for free distribution.

“Proprietary Materials” means certain software tools and/or other technical materials, including, but not limited to, data, modules, components, designs, utilities, subsets, objects, program listings, models, methodologies, programs, systems, analysis frameworks, leading practices and specifications which Motorola has developed prior to, or independently from, the provision of the Services and/or which Motorola licenses from third parties.

“Proprietary Rights” means the patents, patent applications, inventions, copyrights, trade secrets, trademarks, trade names, mask works, know-how, and other intellectual property rights in and to the Equipment and Software, including those created or produced by Motorola under this Agreement and any corrections, bug fixes, enhancements, updates or modifications to or derivative works from the Software whether made by Motorola or another party.

“Services” means system implementation, maintenance, support, subscription, or other professional services provided under this Agreement, which may be further described in the applicable Addendum and/or SOW.

“Software” (i) means proprietary software in object code format, and adaptations, translations, de-compilations, disassemblies, emulations, or derivative works of such software; (ii) means any modifications, enhancements, new

versions and new releases of the software provided by Motorola; and (iii) may contain one or more items of software owned by a third party supplier. The term "Software" does not include any third party software provided under separate license or third party software not licensable under the terms of this Agreement.

"Software License Agreement" means the Motorola Software License Agreement (Exhibit A).

"Software Support Policy" ("SwSP") means the policy set forth at https://www.motorolasolutions.com/content/dam/msi/secure/services/software_policy.pdf describing the specific technical support that will be provided to Customers under the Warranty Period and during any paid maintenance support period for Motorola Software. This policy may be modified from time to time at Motorola's discretion.

"Solution" means the combination of the System(s) and Services provided by Motorola under this Agreement.

"Solution Data" means Customer data that is transformed, altered, processed, aggregated, correlated or operated on by Motorola, its vendors or other data sources and data that has been manipulated or retrieved using Motorola know-how to produce value-added content to data consumers, including customers or citizens which is made available to Customer with the Solution and Services.

"Specifications" means the functionality and performance requirements that are described in the Technical and Implementation Documents.

"SUA" or "SUA II" means Motorola's Software Upgrade Agreement program.

"Subsystem" means a major part of the System that performs specific functions or operations. Subsystems are described in the Technical and Implementation Documents.

"System" means the Equipment, including incidental hardware and materials, Software, and design, installation and implementation services that are combined together into an integrated system; the System(s) is (are) described in the Technical and Implementation Documents.

"System Acceptance" means the Acceptance Tests have been successfully completed.

"System Data" means data created by, in connection with or in relation to Equipment or the performance of Services under this Agreement.

"Warranty Period" for System Hardware, Software, or services related to system implementation means one (1) year from the date of System Acceptance or Beneficial Use, whichever occurs first. Unless otherwise stated in the applicable Addendum, Warranty Period for other Services means ninety (90) days from performance of the Service.

Section 3 SCOPE OF AGREEMENT AND TERM

3.1. **SCOPE OF WORK.** Motorola will provide, install and test the System(s), and perform its other contractual responsibilities to provide the Solution, all in accordance with this Agreement. Customer will perform its contractual responsibilities in accordance with this Agreement.

3.2. **CHANGE ORDERS.** Either Party may request changes within the general scope of this Agreement. If a requested change causes an increase or decrease in the cost or time required to perform this Agreement, the Parties will agree to an equitable adjustment of the Contract Price or applicable subscription fees, Performance Schedule, or both, and will reflect the adjustment in a change order or Addendum. Neither Party is obligated to perform requested changes unless both Parties execute a written change order.

3.3. **TERM.** Unless terminated in accordance with other provisions of this Agreement or extended by mutual agreement of the Parties, the term of this Agreement begins on the Effective Date and continues until the date of

Final Project Acceptance or expiration of the Warranty Period, or completion of the Services, whichever occurs last. The term and the effective date of recurring Services will be set forth in the applicable Addendum.

3.4. **ADDITIONAL EQUIPMENT OR SOFTWARE.** For three (3) years after the expiration date of the Agreement, Customer may order additional Equipment or Software, if it is then available. Each purchase order must refer to this Agreement, the expiration date of the Agreement, and must specify the pricing and delivery terms. The Parties agree that, notwithstanding expiration of the Agreement, the applicable provisions of this Agreement (except for pricing, delivery, passage of title and risk of loss to Equipment, warranty commencement, and payment terms) will govern the purchase and sale of the additional Equipment or Software. Additional or contrary terms in the purchase order will be inapplicable, unless signed by both parties. Title and risk of loss to additional Equipment will pass at shipment, warranty will commence upon delivery, and payment is due within thirty (30) days after the invoice date. Motorola will send Customer an invoice as the additional Equipment is shipped or Software is licensed. Alternatively, Customer may register with and place orders through the Motorola Solutions Customer Portal eCommerce Shop, and this Agreement will be the "Underlying Agreement" for those eCommerce transactions rather than the eCommerce Shop Terms and Conditions of Sale. eCommerce Shop registration and other information may be found at https://www.motorolasolutions.com/en_us/registration and the shop support telephone number is (800) 814-0601.

3.5. **MOTOROLA SOFTWARE.** Any Motorola Software, including subsequent releases, is licensed to Customer solely in accordance with the Software License Agreement. Customer hereby accepts and agrees to abide by all of the terms and restrictions of the Software License Agreement.

3.6. **NON-MOTOROLA SOFTWARE.** Any Non-Motorola Software is licensed to Customer in accordance with the standard license, terms, and restrictions of the copyright owner on the Effective Date unless the copyright owner has granted to Motorola the right to sublicense the Non-Motorola Software pursuant to the Software License Agreement, in which case it applies and the copyright owner will have all of Licensor's rights and protections under the Software License Agreement. Motorola makes no representations or warranties of any kind regarding Non-Motorola Software. Non-Motorola Software may include Open Source Software.

3.7. **SUBSTITUTIONS.** At no additional cost to Customer, Motorola may substitute any Equipment, Software, or services to be provided by Motorola, if the substitute meets or exceeds the Specifications and is of equivalent or better quality to the Customer. Any substitution will be reflected in a change order.

3.8. **OPTIONAL EQUIPMENT OR SOFTWARE.** This paragraph applies only if a "Priced Options" exhibit is shown in Section 1, or if the parties amend this Agreement to add a Priced Options exhibit. During the term of the option as stated in the Priced Options exhibit (or if no term is stated, then for one (1) year after the Effective Date), Customer has the right and option to purchase the equipment, software, and related services that are described in the Priced Options exhibit. Customer may exercise this option by giving written notice to Seller which must designate what equipment, software, and related services Customer is selecting (including quantities, if applicable). To the extent they apply, the terms and conditions of this Agreement will govern the transaction; however, the parties acknowledge that certain provisions must be agreed upon, and they agree to negotiate those in good faith promptly after Customer delivers the option exercise notice. Examples of provisions that may need to be negotiated are: specific lists of deliverables, statements of work, acceptance test plans, delivery and implementation schedules, payment terms, maintenance and support provisions, additions to or modifications of the Software License Agreement, hosting terms, and modifications to the acceptance and warranty provisions.

Section 4 SERVICES

4.1. If Customer desires and Motorola agrees to continue Services beyond the Term, Customer's issuance and Motorola's acceptance of a purchase order for Services will serve as an automatic extension of the Agreement for purposes of the continuing Services. Only the terms and conditions applicable to the performance of Services will apply to the extended Agreement.

4.2. During the Warranty Period, in addition to warranty services, Motorola will provide maintenance Services

for the Equipment and support for the Motorola Software pursuant to the applicable maintenance and support Statements of Work. Support for the Motorola Software will be in accordance with Motorola's established Software Support Policy. Copies of the SwSP can be found at https://www.motorolasolutions.com/content/dam/msi/secure/services/software_policy.pdf and will be sent by mail, email or fax to Customer upon written request. Maintenance Services and support during the Warranty Period are included in the Contract Price. Unless already included in the Contract Price, if Customer wishes to purchase 1) additional maintenance or software support services during the Warranty Period; or 2) continue or expand maintenance, software support, installation, and/or SUA services after the Warranty Period, Motorola will provide the description of and pricing for such services in a separate proposal document. Unless otherwise agreed by the parties in writing, the terms and conditions in this Agreement applicable to maintenance, support, installation, and/or SUA Services, will be included in the Maintenance and Support Addendum, SUA Addendum, the applicable Statements of Work, and the proposal, (if applicable). These collective terms will govern the provision of such Services.

To obtain any such additional Services, Customer will issue a purchase order referring to this Agreement and the separate proposal document. Omission of reference to this Agreement in Customer's purchase order will not affect the applicability of this Agreement. Motorola's proposal may include a cover page entitled "Service Agreement" or "Installation Agreement", as applicable, and other attachments. These cover pages and other attachments are incorporated into this Agreement by this reference

4.3. **PROFESSIONAL AND SUBSCRIPTION SERVICES.** If Customer purchases professional or subscription Services as part of the Solution, additional or different terms specific to such Service will be included in the applicable Addendum and will apply to those Services. Customer may purchase additional professional or subscription services by issuing a purchase order referencing this Agreement and Motorola's proposal for such additional services.

4.4. Any information in the form of specifications, drawings, reprints, technical information or otherwise furnished to Customer in providing Services under this Agreement or Motorola data viewed, accessed, will remain Motorola's property, will be deemed proprietary, Confidential Information. This Confidential Information will be promptly returned at Motorola's request.

4.5. **TOOLS.** All tools, equipment, dies, gauges, models, drawings or other materials paid for or furnished by Motorola for the purpose of providing Services under this Agreement will be and remain the sole property of Motorola. Customer will safeguard all such property while it is in Customer's custody or control, be liable for any loss or damage to this property, and return it to Motorola upon request. This property will be held by Customer for Motorola's use without charge and may be removed from Customer's premises by Motorola at any time without restriction. Upon termination of the contract for any reason, Customer shall return to Motorola all equipment delivered to Customer.

4.6. **COVENANT NOT TO EMPLOY.** During the term of this Agreement and continuing for a period of two (2) years thereafter, Customer will not hire, engage on contract, solicit the employment of, or recommend employment to any third party of any employee of Motorola or its subcontractors without the prior written authorization of Motorola. This provision applies only to those employees of Motorola or its subcontractors who are responsible for rendering Services under this Agreement. If this provision is found to be overly broad under applicable law, it will be modified as necessary to conform to applicable law.

4.7. **CUSTOMER OBLIGATIONS.** If the applicable Statement of Work or Addendum contains assumptions that affect the Services or Deliverables, Customer will verify that they are accurate and complete. Any information that Customer provides to Motorola concerning the Services or Deliverables will be accurate and complete in all material respects. Customer will make timely decisions and obtain any required management approvals that are reasonably necessary for Motorola to perform the Services and its other duties under this Agreement. Unless the Statement of Work states the contrary, Motorola may rely upon and is not required to evaluate, confirm, reject, modify, or provide advice concerning any assumptions and Customer-provided information, decisions and approvals described in this paragraph.

4.8. **ASSUMPTIONS.** If any assumptions or conditions contained in this Agreement, applicable Addenda or Statements of Work prove to be incorrect or if Customer's obligations are not performed, Motorola's ability to perform under this Agreement may be impacted and changes to the Contract Price, subscription fees, project schedule, Deliverables, or other changes may be necessary.

4.9. **NON-PRECLUSION.** If, as a result of the Services performed under this Agreement, Motorola recommends that Customer purchase products or other services, nothing in this Agreement precludes Motorola from participating in a future competitive bidding process or otherwise offering or selling the recommended products or other services to Customer. Customer represents that this paragraph does not violate its procurement or other laws, regulations, or policies.

4.10. **PROPRIETARY MATERIALS.** Customer acknowledges that Motorola may use and/or provide Customer with access to Proprietary Materials and Derivative Proprietary Materials. The Proprietary Materials and the Derivative Proprietary Materials are the sole and exclusive property of Motorola and Motorola retains all right, title and interest in and to the Proprietary Materials and Derivative Proprietary Materials.

4.11. **ADDITIONAL SERVICES.** Any services performed by Motorola outside the scope of this Agreement at the direction of Customer will be considered to be additional Services which are subject to additional charges. Any agreement to perform additional Services will be reflected in a written and executed change order, Addendum or amendment to this Agreement.

Section 5 PERFORMANCE SCHEDULE

The Parties will perform their respective responsibilities in accordance with the Performance Schedule. By executing this Agreement, Customer authorizes Motorola to proceed with contract performance.

Section 6 CONTRACT PRICE, PAYMENT AND INVOICING

6.1. Customer affirms that a purchase order or notice to proceed is not required for contract performance or for subsequent years of service, if any, and that sufficient funds have been appropriated in accordance with applicable law. The Customer will pay all invoices as received from Motorola and any changes in scope will be subject to the change order process as described in this Agreement. At the time of execution of this Agreement, the Customer will provide all necessary reference information to include on invoices for payment in accordance with this Agreement.

6.2. **CONTRACT PRICE.** The Contract Price in U.S. dollars is \$1,599,498.96. If applicable, a pricing summary is included with the Payment schedule in Exhibit B. Motorola has priced the Services, Software, and Equipment as an integrated System. A change in Software or Equipment quantities, or Services, may affect the overall Contract Price, including discounts if applicable. Fees for professional, SUA, and/or subscription services which are not included in the Contract Price may be listed in Exhibit B, the pricing pages of the proposal, or the applicable Addendum.

6.3. **INVOICING AND PAYMENT.** Motorola will submit invoices to Customer according to the Payment schedule in Exhibit B. Invoices will be mailed or emailed to Customer pursuant to Section 6.5, Invoicing and Shipping Addresses. Except for a payment that is due on the Effective Date, Customer will make payments to Motorola within thirty (30) days after the date of each invoice. Customer will make payments when due in the form of a wire transfer, check, or cashier's check from a U.S. financial institution. Overdue invoices will bear simple interest at the maximum allowable rate. For reference, the Federal Tax Identification Number for Motorola is 36-1115800.

6.4. **FREIGHT, TITLE, AND RISK OF LOSS.** Motorola will pre-pay and add all freight charges to the invoices. Title and risk of loss to the Equipment will pass to Customer upon shipment. Title to Software will not pass to Customer at any time. Motorola will pack and ship all Equipment in accordance with good commercial practices.

6.5. MATERIALS AND LABOR PRICE INCREASE. In the event that there are significant increases in the prices that Motorola pays for materials and supplies for the work to be performed between the date the Agreement is signed and the date that materials are purchased for the work to be performed, Motorola shall be entitled to additional compensation from Customer as described herein. A significant increase in price is defined herein as an increase as to any specific items of materials of three percent (3%) or more from original proposal. In such a case, Customer shall pay to Motorola, on request, all sums by which the cost to Motorola for any such items of materials has increased beyond 3%. This would apply, but not be limited to price increases in any components included in the Bill of Materials or Scope of Work as well as manufactured products and equipment or third party manufactured products and equipment. Motorola shall not be responsible for increased prices of materials when caused by delays, shortages or unavailability of materials due to conditions not caused by Contractor. Any pricing change would be documented in a change order executed with the Customer.

6.6. INVOICING AND SHIPPING ADDRESSES. Invoices will be sent to the Customer at the following address:

Name: _____
Address: _____
Phone: _____

E-INVOICE. To receive invoices via email:

Customer Account Number: _____
Customer Accounts Payable Email: _____
Customer CC(optional) Email: _____

The address which is the ultimate destination where the Equipment will be delivered to Customer is:

Name: _____
Address: _____

The Equipment will be shipped to the Customer at the following address (insert if this information is known):

Name: _____
Address: _____
Phone: _____

Customer may change this information by giving written notice to Motorola.

Section 7 SITES AND SITE CONDITIONS

7.1. ACCESS TO SITES. In addition to its responsibilities described elsewhere in this Agreement, Customer will provide a designated project manager; all necessary construction and building permits, zoning variances, licenses, and any other approvals that are necessary to develop or use the sites and mounting locations; and access to the worksites or vehicles identified in the Technical and Implementation Documents as reasonably requested by Motorola so that it may perform its duties in accordance with the Performance Schedule and Statement of Work. If the Statement of Work so indicates, Motorola may assist Customer in the local building permit process.

7.2. SITE CONDITIONS. Customer will ensure that all work sites it provides will be safe, secure, and in compliance with all applicable industry and OSHA standards. To the extent applicable and unless the Statement of Work states to the contrary, Customer will ensure that these work sites have adequate: physical space; air conditioning and other environmental conditions; adequate and appropriate electrical power outlets, distribution, equipment and connections; and adequate telephone or other communication lines (including modem access and adequate interfacing networking capabilities), all for the installation, use and maintenance of the System. Before installing the Equipment or Software at a work site, Motorola may inspect the work site and advise Customer of any apparent deficiencies or non-conformities with the requirements of this Section. This Agreement is predicated upon normal soil conditions as defined by the version of E.I.A. standard RS-222 in effect on the Effective Date.

7.3. **SITE ISSUES.** If a Party determines that the sites identified in the Technical and Implementation Documents are no longer available or desired, or if subsurface, structural, adverse environmental or latent conditions at any site differ from those indicated in the Technical and Implementation Documents, the Parties will promptly investigate the conditions and will select replacement sites or adjust the installation plans and specifications as necessary. If change in sites or adjustment to the installation plans and specifications causes a change in the cost or time to perform, the Parties will equitably amend the Contract Price, Performance Schedule, or both, by a change order.

Section 8 TRAINING

Any training to be provided by Motorola to Customer will be described in the applicable Statement of Work. Customer will notify Motorola immediately if a date change for a scheduled training program is required. If Motorola incurs additional costs because Customer reschedules a training program less than thirty (30) days before its scheduled start date, Motorola may recover these additional costs.

Section 9 SYSTEM ACCEPTANCE

9.1. **COMMENCEMENT OF ACCEPTANCE TESTING.** Motorola will provide to Customer at least ten (10) days notice before the Acceptance Tests commence. System testing will occur only in accordance with the Acceptance Test Plan.

9.2. **SYSTEM ACCEPTANCE.** System Acceptance will occur upon successful completion of the Acceptance Tests. Upon System Acceptance, the Parties will memorialize this event by promptly executing a System Acceptance Certificate. If the Acceptance Test Plan includes separate tests for individual Subsystems or phases of the System, acceptance of the individual Subsystem or phase will occur upon the successful completion of the Acceptance Tests for the Subsystem or phase, and the Parties will promptly execute an acceptance certificate for the Subsystem or phase. If Customer believes the System has failed the completed Acceptance Tests, Customer will provide to Motorola a written notice that includes the specific details of the failure. If Customer does not provide to Motorola a failure notice within thirty (30) days after completion of the Acceptance Tests, System Acceptance will be deemed to have occurred as of the completion of the Acceptance Tests. Minor omissions or variances in the System that do not materially impair the operation of the System as a whole will not postpone System Acceptance or Subsystem acceptance, but will be corrected according to a mutually agreed schedule.

9.3. **BENEFICIAL USE.** Customer acknowledges that Motorola's ability to perform its implementation and testing responsibilities may be impeded if Customer begins using the System before System Acceptance. Therefore, Customer will not commence Beneficial Use before System Acceptance without Motorola's prior written authorization, which will not be unreasonably withheld. Motorola is not responsible for System performance deficiencies that occur during unauthorized Beneficial Use. Upon commencement of Beneficial Use, Customer assumes responsibility for the use and operation of the System.

9.4. **FINAL PROJECT ACCEPTANCE.** Final Project Acceptance will occur after System Acceptance when all deliverables and other work have been completed. When Final Project Acceptance occurs, the parties will promptly memorialize this final event by so indicating on the System Acceptance Certificate.

Section 10 REPRESENTATIONS AND WARRANTIES

10.1. **SYSTEM FUNCTIONALITY.** Motorola represents that the System will perform in accordance with the Specifications in all material respects. Upon System Acceptance or Beneficial Use, whichever occurs first, this System functionality representation is fulfilled. Motorola is not responsible for System performance deficiencies that are caused by ancillary equipment not furnished by Motorola which is attached to or used in connection with the System or for reasons or parties beyond Motorola's control, such as natural causes; the construction of a building that adversely affects the microwave path reliability or radio frequency (RF) coverage; the addition of frequencies at System sites that cause RF interference or intermodulation; or Customer changes to load usage or configuration outside the Specifications.

10.2. **EQUIPMENT WARRANTY.** During the Warranty Period, Motorola warrants that the Equipment under normal use and service will be free from material defects in materials and workmanship. If System Acceptance is delayed beyond six (6) months after shipment of the Equipment by events or causes beyond Motorola's control, this warranty expires eighteen (18) months after the shipment of the Equipment.

10.3. **SOFTWARE WARRANTY.** Except as described in the SwSP and unless otherwise stated in the Software License Agreement, during the Warranty Period, Motorola warrants the Software in accordance with the warranty terms set forth in the Software License Agreement and the provisions of this Section that are applicable to the Software. If System Acceptance is delayed beyond six (6) months after shipment of the Motorola Software by events or causes beyond Motorola's control, this warranty expires eighteen (18) months after the shipment of the Motorola Software. **Nothing in this Warranty provision is intended to conflict or modify the Software Support Policy. In the event of an ambiguity or conflict between the Software Warranty and Software Support Policy, the Software Support Policy governs.**

10.4. **EXCLUSIONS TO EQUIPMENT AND SOFTWARE WARRANTIES.** These warranties do not apply to: (i) defects or damage resulting from: use of the Equipment or Software in other than its normal, customary, and authorized manner; accident, liquids, neglect, or acts of God; testing, maintenance, disassembly, repair, installation, alteration, modification, or adjustment not provided or authorized in writing by Motorola; Customer's failure to comply with all applicable industry and OSHA standards; (ii) breakage of or damage to antennas unless caused directly by defects in material or workmanship; (iii) Equipment that has had the serial number removed or made illegible; (iv) batteries (because they carry their own separate limited warranty) or consumables; (v) freight costs to ship Equipment to the repair depot; (vi) scratches or other cosmetic damage to Equipment surfaces that does not affect the operation of the Equipment; and (vii) normal or customary wear and tear.

10.5. **SERVICE WARRANTY.** During the Warranty Period, Motorola warrants that the Services will be provided in a good and workmanlike manner and will conform in all material respects to the applicable Statement of Work. Services will be free of defects in materials and workmanship for a period of ninety (90) days from the date the performance of the Services are completed. Customer acknowledges that the Deliverables may contain recommendations, suggestions or advice from Motorola to Customer (collectively, "recommendations"). Motorola makes no warranties concerning those recommendations, and Customer alone accepts responsibility for choosing whether and how to implement the recommendations and the results to be realized from implementing them.

10.6. **WARRANTY CLAIMS.** To assert a warranty claim, Customer must notify Motorola in writing of the claim before the expiration of the Warranty Period. Upon receipt of this notice, Motorola will investigate the warranty claim. If this investigation confirms a valid Equipment or Software warranty claim, Motorola will (at its option and at no additional charge to Customer) repair the defective Equipment or Motorola Software, replace it with the same or equivalent product, or refund the price of the defective Equipment or Motorola Software. These actions will be the full extent of Motorola's liability for the warranty claim. In the event of a valid Services warranty claim, Customer's sole remedy is to require Motorola to re-perform the non-conforming Service or to refund, on a pro-rata basis, the fees paid for the non-conforming Service. If this investigation indicates the warranty claim is not valid, then Motorola may invoice Customer for responding to the claim on a time and materials basis using Motorola's then current labor rates. Repaired or replaced product is warranted for the balance of the original applicable warranty period. All replaced products or parts will become the property of Motorola.

10.7. **ORIGINAL END USER IS COVERED.** These express limited warranties are extended by Motorola to the original user purchasing the System or Services for commercial, industrial, or governmental use only, and are not assignable or transferable.

10.8. **DISCLAIMER OF OTHER WARRANTIES.** THESE WARRANTIES ARE THE COMPLETE WARRANTIES FOR THE EQUIPMENT AND MOTOROLA SOFTWARE PROVIDED UNDER THIS AGREEMENT AND ARE GIVEN IN LIEU OF ALL OTHER WARRANTIES. MOTOROLA DISCLAIMS ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, AND FITNESS FOR A PARTICULAR PURPOSE.

Section 11 DELAYS

11.1. **FORCE MAJEURE.** Neither Party will be liable for its non-performance or delayed performance if caused by a Force Majeure. A Party that becomes aware of a Force Majeure that will significantly delay performance will notify the other Party promptly (but in no event later than fifteen days) after it discovers the Force Majeure. If a Force Majeure occurs, the Parties will execute a change order to extend the Performance Schedule or applicable Addenda for a time period that is reasonable under the circumstances.

11.2. **PERFORMANCE SCHEDULE DELAYS CAUSED BY CUSTOMER.** If Customer (including its other contractors) delays the Performance Schedule, it will make the promised payments according to the Payment schedule as if no delay occurred; and the Parties will execute a change order to extend the Performance Schedule and, if requested, compensate Motorola for all reasonable charges incurred because of the delay. Delay charges may include costs incurred by Motorola or its subcontractors for additional freight, warehousing and handling of Equipment; extension of the warranties; travel; suspending and re-mobilizing the work; additional engineering, project management, and standby time calculated at then current rates; and preparing and implementing an alternative implementation plan.

Section 12 DISPUTES

The Parties will use the following procedure to address any dispute arising under this Agreement (a "Dispute").

12.1. **GOVERNING LAW.** This Agreement will be governed by and construed in accordance with the laws of the State in which the System is installed.

12.2. **NEGOTIATION.** Either Party may initiate the Dispute resolution procedures by sending a notice of Dispute ("Notice of Dispute"). The Parties will attempt to resolve the Dispute promptly through good faith negotiations including 1) timely escalation of the Dispute to executives who have authority to settle the Dispute and who are at a higher level of management than the persons with direct responsibility for the matter and 2) direct communication between the executives. If the Dispute has not been resolved within ten (10) days from the Notice of Dispute, the Parties will proceed to mediation.

12.3. **MEDIATION.** The Parties will choose an independent mediator within thirty (30) days of a notice to mediate from either Party ("Notice of Mediation"). Neither Party may unreasonably withhold consent to the selection of a mediator. If the Parties are unable to agree upon a mediator, either Party may request that American Arbitration Association nominate a mediator. Each Party will bear its own costs of mediation, but the Parties will share the cost of the mediator equally. Each Party will participate in the mediation in good faith and will be represented at the mediation by a business executive with authority to settle the Dispute.

12.4. **LITIGATION, VENUE and JURISDICTION.** If a Dispute remains unresolved for sixty (60) days after receipt of the Notice of Mediation, either Party may then submit the Dispute to a court of competent jurisdiction in the state in which the System is installed. Each Party irrevocably agrees to submit to the exclusive jurisdiction of the courts in such state over any claim or matter arising under or in connection with this Agreement.

12.5. **CONFIDENTIALITY.** All communications pursuant to subsections 12.2 and 12.3 will be treated as compromise and settlement negotiations for purposes of applicable rules of evidence and any additional confidentiality protections provided by applicable law. The use of these Dispute resolution procedures will not be construed under the doctrines of laches, waiver or estoppel to affect adversely the rights of either Party.

Section 13 DEFAULT AND TERMINATION

13.1. **DEFAULT BY A PARTY.** If either Party fails to perform a material obligation under this Agreement, the other Party may consider the non-performing Party to be in default (unless a Force Majeure causes the failure) and may assert a default claim by giving the non-performing Party a written and detailed notice of default. Except for a default by Customer for failing to pay any amount when due under this Agreement which must be cured

immediately, the defaulting Party will have thirty (30) days after receipt of the notice of default to either cure the default or, if the default is not curable within thirty (30) days, provide a written cure plan. The defaulting Party will begin implementing the cure plan immediately after receipt of notice by the other Party that it approves the plan. If Customer is the defaulting Party, Motorola may stop work on the project until it approves the Customer's cure plan.

13.2. FAILURE TO CURE. If a defaulting Party fails to cure the default as provided above in Section 13.1, unless otherwise agreed in writing, the non-defaulting Party may terminate any unfulfilled portion of this Agreement. In the event of termination for default, the defaulting Party will promptly return to the non-defaulting Party any of its Confidential Information. If Customer is the non-defaulting Party, terminates this Agreement as permitted by this Section, and completes the System through a third Party, Customer may as its exclusive remedy recover from Motorola reasonable costs incurred to complete the System to a capability not exceeding that specified in this Agreement less the unpaid portion of the Contract Price. Customer will mitigate damages and provide Motorola with detailed invoices substantiating the charges. In the event Customer elects to terminate this Agreement for any reason other than default, Customer shall pay Motorola for the conforming Equipment and/or Software delivered and all services performed.

Section 14 INDEMNIFICATION

14.1. GENERAL INDEMNITY BY Motorola. Motorola will indemnify and hold Customer harmless from any and all liability, expense, judgment, suit, or cause of action arising from any third party claim or demand for personal injury, death, or direct damage to tangible property which may accrue against Customer to the extent it is caused by the negligence of Motorola, its subcontractors, or their employees or agents, while performing their duties under this Agreement, if Customer gives Motorola prompt, written notice of any third-party claim or suit. Customer will cooperate with Motorola in its defense or settlement of such claim or suit. This Section sets forth the full extent of Motorola's general indemnification of Customer from liabilities that are in any way related to Motorola's performance under this Agreement.

14.2. GENERAL INDEMNITY BY CUSTOMER. Customer will indemnify and hold Motorola harmless from any and all liability, expense, judgment, suit, or cause of action arising from any third party claim or demand for personal injury, death, or direct damage to tangible property which may accrue against Motorola to the extent it is caused by the negligence of Customer, its other contractors, or their employees or agents, while performing their duties under this Agreement, if Motorola gives Customer prompt, written notice of any third-party claim or suit. Motorola will cooperate with Customer in its defense or settlement of such claim or suit. This Section sets forth the full extent of Customer's general indemnification of Motorola from liabilities that are in any way related to Customer's performance under this Agreement.

14.3. PATENT AND COPYRIGHT INFRINGEMENT.

14.3.1. Motorola will defend at its expense any suit brought against Customer to the extent it is based on a third-party claim alleging that the Equipment manufactured by Motorola or the Motorola Software ("Motorola Product") directly infringes a United States patent or copyright ("Infringement Claim"). Motorola's duties to defend and indemnify are conditioned upon: Customer promptly notifying Motorola in writing of the Infringement Claim; Motorola having sole control of the defense of the suit and all negotiations for its settlement or compromise; and Customer providing to Motorola cooperation and, if requested by Motorola, reasonable assistance in the defense of the Infringement Claim. In addition to Motorola's obligation to defend, and subject to the same conditions, Motorola will pay all damages finally awarded against Customer by a court of competent jurisdiction for an Infringement Claim or agreed to, in writing, by Motorola in settlement of an Infringement Claim.

14.3.2 If an Infringement Claim occurs, or in Motorola's opinion is likely to occur, Motorola may at its option and expense: (a) procure for Customer the right to continue using the Motorola Product; (b) replace or modify the Motorola Product so that it becomes non-infringing while providing functionally equivalent performance; or (c) accept the return of the Motorola Product and grant Customer a credit for the Motorola Product, less a reasonable charge for depreciation. The depreciation amount will be calculated based upon generally accepted accounting standards.

14.3.3 Motorola will have no duty to defend or indemnify for any Infringement Claim that is based upon: (a) the combination of the Motorola Product with any software, apparatus or device not furnished by Motorola; (b) the use of ancillary equipment or software not furnished by Motorola and that is attached to or used in connection with the Motorola Product; (c) Motorola Product designed or manufactured in accordance with Customer's designs, specifications, guidelines or instructions, if the alleged infringement would not have occurred without such designs, specifications, guidelines or instructions; (d) a modification of the Motorola Product by a party other than Motorola; (e) use of the Motorola Product in a manner for which the Motorola Product was not designed or that is inconsistent with the terms of this Agreement; or (f) the failure by Customer to install an enhancement release to the Motorola Software that is intended to correct the claimed infringement. In no event will Motorola's liability resulting from its indemnity obligation to Customer extend in any way to royalties payable on a per use basis or the Customer's revenues, or any royalty basis other than a reasonable royalty based upon revenue derived by Motorola from Customer from sales or license of the infringing Motorola Product.

14.3.4. This Section 14 provides Customer's sole and exclusive remedies and Motorola's entire liability in the event of an Infringement Claim. Customer has no right to recover and Motorola has no obligation to provide any other or further remedies, whether under another provision of this Agreement or any other legal theory or principle, in connection with an Infringement Claim. In addition, the rights and remedies provided in this Section 14 are subject to and limited by the restrictions set forth in Section 15.

Section 15 LIMITATION OF LIABILITY

Except for personal injury or death, Motorola's total liability, whether for breach of contract, warranty, negligence, strict liability in tort, indemnification, or otherwise, will be limited to the direct damages recoverable under law, but not to exceed the price of the Equipment, Software, or implementation and other one-time Services with respect to which losses or damages are claimed. With respect to all subscription or other ongoing Services and unless as otherwise provided under the applicable Addenda, Motorola's total liability will be limited to the direct damages recoverable under law, but not to exceed the price of twelve (12) months of Services preceding the incident giving rise to the claim. **ALTHOUGH THE PARTIES ACKNOWLEDGE THE POSSIBILITY OF SUCH LOSSES OR DAMAGES, THEY AGREE THAT MOTOROLA WILL NOT BE LIABLE FOR ANY COMMERCIAL LOSS, INCONVENIENCE, LOSS OF USE, LOSS TIME, DATA, GOODWILL, REVENUES, PROFITS OR SAVINGS; OR OTHER SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES IN ANY WAY RELATED TO OR ARISING FROM THIS AGREEMENT, THE SALE OR USE OF THE EQUIPMENT OR SOFTWARE, OR THE PERFORMANCE OF SERVICES BY MOTOROLA PURSUANT TO THIS AGREEMENT.** This limitation of liability provision survives the expiration or termination of the Agreement and applies notwithstanding any contrary provision. No action for contract breach or otherwise relating to the transactions contemplated by this Agreement may be brought more than one (1) year after the accrual of the cause of action, except for money due upon an open account.

Section 16 CONFIDENTIALITY AND PROPRIETARY RIGHTS

16.1. CONFIDENTIAL INFORMATION.

16.1.1. Each party is a disclosing party ("Discloser") and a receiving party ("Recipient") under this Agreement. All Deliverables will be deemed to be Motorola's Confidential Information. During the term of this Agreement and for a period of three (3) years from the expiration or termination of this Agreement, Recipient will (i) not disclose Confidential Information to any third party; (ii) restrict disclosure of Confidential Information to only those employees (including, but not limited to, employees of any wholly owned subsidiary, a parent company, any other wholly owned subsidiaries of the same parent company), agents or consultants who must be directly involved with the Confidential Information for the purpose and who are bound by confidentiality terms substantially similar to those in this Agreement; (iii) not copy, reproduce, reverse engineer, decompile, or disassemble any Confidential Information; (iv) use the same degree of care as for its own information of like importance, but at least use reasonable care, in safeguarding against disclosure of Confidential Information; (v) promptly notify Discloser upon discovery of any unauthorized use or disclosure of the Confidential Information and take reasonable steps to regain possession of the Confidential Information and prevent further unauthorized actions or other breach of this

Agreement; and (vi) only use the Confidential Information as needed to fulfill this Agreement.

16.1.2. Recipient is not obligated to maintain as confidential, Confidential Information that Recipient can demonstrate by documentation (i) is now available or becomes available to the public without breach of this agreement; (ii) is explicitly approved for release by written authorization of Discloser; (iii) is lawfully obtained from a third party or parties without a duty of confidentiality; (iv) is known to the Recipient prior to such disclosure; or (v) is independently developed by Recipient without the use of any of Discloser's Confidential Information or any breach of this Agreement.

16.1.3. All Confidential Information remains the property of the Discloser and will not be copied or reproduced without the express written permission of the Discloser, except for copies that are absolutely necessary in order to fulfill this Agreement. Within ten (10) days of receipt of Discloser's written request, Recipient will return all Confidential Information to Discloser along with all copies and portions thereof, or certify in writing that all such Confidential Information has been destroyed. However, Recipient may retain one (1) archival copy of the Confidential Information that it may use only in case of a dispute concerning this Agreement. No license, express or implied, in the Confidential Information is granted other than to use the Confidential Information in the manner and to the extent authorized by this Agreement. The Discloser warrants that it is authorized to disclose any Confidential Information it discloses pursuant to this Agreement.

16.2. **PRESERVATION OF MOTOROLA'S PROPRIETARY RIGHTS.** Motorola, the third party manufacturer of any Equipment, and the copyright owner of any Non-Motorola Software own and retain all of their respective Proprietary Rights in the Equipment and Software, and nothing in this Agreement is intended to restrict their Proprietary Rights. All intellectual property developed, originated, or prepared by Motorola in connection with providing to Customer the Equipment, Software, or related services remain vested exclusively in Motorola, and this Agreement does not grant to Customer any shared development rights of intellectual property. Except as explicitly provided in the Software License Agreement, Motorola does not grant to Customer, either directly or by implication, estoppel, or otherwise, any right, title or interest in Motorola's Proprietary Rights. Customer will not modify, disassemble, peel components, decompile, otherwise reverse engineer or attempt to reverse engineer, derive source code or create derivative works from, adapt, translate, merge with other software, reproduce, distribute, sublicense, sell or export the Software, or permit or encourage any third party to do so. The preceding sentence does not apply to Open Source Software which is governed by the standard license of the copyright owner.

16.3 **VOLUNTARY DISCLOSURE.** Except as required to fulfill its obligations under this Agreement, Motorola will have no obligation to provide Customer with access to its Confidential Information and/or proprietary information. Under no circumstances will Motorola be required to provide any data related to cost and pricing.

16.4 DATA AND FEEDBACK.

16.4.1 To the extent permitted by law, Customer owns all right, title and interest in System Data created solely by it or its agents (hereafter, "Customer Data"), and grants to Motorola the right to use, host, cache, store, reproduce, copy, modify, combine, analyze, create derivatives from, communicate, transmit, publish, display, and distribute such Customer Data.

16.4.2 Motorola owns all right, title and interest in data resulting from System Data that is or has been transformed, altered, processed, aggregated, correlated or operated on (hereafter, "Derivative Data").

16.4.3 Any Feedback given by Customer is and will be entirely voluntary and, even if designated as confidential, will not create any confidentiality obligation for Motorola. Motorola will be free to use, reproduce, license or otherwise distribute and exploit the Feedback without any obligation to Customer. Customer acknowledges that Motorola's receipt of the Feedback does not imply or create recognition by Motorola of either the novelty or originality of any idea. The parties further agree that all fixes, modifications and improvements made to Motorola products or services conceived of or made by Motorola that are based, either in whole or in part, on the Feedback are the exclusive property of Motorola and all right, title and interest in and to such fixes, modifications or

improvements to the Motorola product or service will vest solely in Motorola.

Section 17 GENERAL

17.1. **TAXES.** The Contract Price does not include any excise, sales, lease, use, property, or other taxes, assessments or duties, all of which will be paid by Customer except as exempt by law. If Motorola is required to pay any of these taxes, Motorola will send an invoice to Customer and Customer will pay to Motorola the amount of the taxes (including any interest and penalties) within thirty (30) days after the date of the invoice. Customer will be solely responsible for reporting the Equipment for personal property tax purposes, and Motorola will be solely responsible for reporting taxes on its income or net worth.

17.2. **ASSIGNABILITY AND SUBCONTRACTING.** Except as provided herein, neither Party may assign this Agreement or any of its rights or obligations hereunder without the prior written consent of the other Party, which consent will not be unreasonably withheld. Any attempted assignment, delegation, or transfer without the necessary consent will be void. Notwithstanding the foregoing, Motorola may assign this Agreement to any of its affiliates or its right to receive payment without the prior consent of Customer. In addition, in the event Motorola separates one or more of its businesses (each a "Separated Business"), whether by way of a sale, establishment of a joint venture, spin-off or otherwise (each a "Separation Event"), Motorola may, without the prior written consent of the other Party and at no additional cost to Motorola, assign this Agreement such that it will continue to benefit the Separated Business and its affiliates (and Motorola and its affiliates, to the extent applicable) following the Separation Event. Motorola may subcontract any of the work, but subcontracting will not relieve Motorola of its duties under this Agreement.

17.3. **WAIVER.** Failure or delay by either Party to exercise a right or power under this Agreement will not be a waiver of the right or power. For a waiver of a right or power to be effective, it must be in a writing signed by the waiving Party. An effective waiver of a right or power will not be construed as either a future or continuing waiver of that same right or power, or the waiver of any other right or power.

17.4. **SEVERABILITY.** If a court of competent jurisdiction renders any part of this Agreement invalid or unenforceable, that part will be severed and the remainder of this Agreement will continue in full force and effect.

17.5. **INDEPENDENT CONTRACTORS.** Each Party will perform its duties under this Agreement as an independent contractor. The Parties and their personnel will not be considered to be employees or agents of the other Party. Nothing in this Agreement will be interpreted as granting either Party the right or authority to make commitments of any kind for the other. This Agreement will not constitute, create, or be interpreted as a joint venture, partnership or formal business organization of any kind.

17.6. **HEADINGS AND SECTION REFERENCES.** The section headings in this Agreement are inserted only for convenience and are not to be construed as part of this Agreement or as a limitation of the scope of the particular section to which the heading refers. This Agreement will be fairly interpreted in accordance with its terms and conditions and not for or against either Party.

17.7. **NOTICES.** Notices required under this Agreement to be given by one Party to the other must be in writing and either personally delivered or sent to the address provided by the other Party by certified mail, return receipt requested and postage prepaid (or by a recognized courier service, such as Federal Express, UPS, or DHL), or by facsimile with correct answerback received, and will be effective upon receipt.

17.8. **COMPLIANCE WITH APPLICABLE LAWS.** Each Party will comply with all applicable federal, state, and

local laws, regulations and rules concerning the performance of this Agreement or use of the System. Customer will obtain and comply with all Federal Communications Commission ("FCC") licenses and authorizations required for the installation, operation and use of the System before the scheduled installation of the Equipment. Although Motorola might assist Customer in the preparation of its FCC license applications, neither Motorola nor any of its employees is an agent or representative of Customer in FCC or other matters.

17.9 FUTURE REGULATORY REQUIREMENTS. The Parties acknowledge and agree that this is an evolving technological area and therefore, laws and regulations regarding Services and use of Solution may change. Changes to existing Services or the Solution required to achieve regulatory compliance may be available for an additional fee. Any required changes may also impact the price for Services.

17.10. AUTHORITY TO EXECUTE AGREEMENT. Each Party represents that it has obtained all necessary approvals, consents and authorizations to enter into this Agreement and to perform its duties under this Agreement; the person executing this Agreement on its behalf has the authority to do so; upon execution and delivery of this Agreement by the Parties, it is a valid and binding contract, enforceable in accordance with its terms; and the execution, delivery, and performance of this Agreement does not violate any bylaw, charter, regulation, law or any other governing authority of the Party.

17.11. ADMINISTRATOR LEVEL ACCOUNT ACCESS. If applicable to the type of System purchased by Customer, Motorola will provide Customer with Administrative User Credentials. Customer agrees to only grant access to the Administrative User Credentials to those personnel with the training and experience to correctly use them. Customer is responsible for protecting Administrative User Credentials from disclosure and maintaining Credential validity by, among other things, updating passwords when required. Customer may be asked to provide valid Administrative User Credentials when in contact with Motorola System support personnel. Customer understands that changes made as the Administrative User can significantly impact the performance of the System. Customer agrees that it will be solely responsible for any negative impact on the System or its users by any such changes. System issues occurring as a result of changes made using the Administrative User Credentials may impact Motorola's ability to perform Services or other obligations under the Agreement. In such cases, a revision to the appropriate provisions of the Agreement, including the Statement of Work, may be necessary. To the extent Motorola provides assistance to correct any issues caused by or arising out of the use of or failure to maintain Administrative User Credentials, Motorola will be entitled to bill Customer and Customer will pay Motorola on a time and materials basis for resolving the issue.

17.12. SURVIVAL OF TERMS. The following provisions will survive the expiration or termination of this Agreement for any reason: Section 3.5 (Motorola Software); Section 3.6 (Non-Motorola Software); if any payment obligations exist, Sections 6.2 and 6.3 (Contract Price and Invoicing and Payment); Subsection 10.8 (Disclaimer of Implied Warranties); Section 12 (Disputes); Section 15 (Limitation of Liability); and Section 16 (Confidentiality and Proprietary Rights); and all of the General provisions in Section 17.

17.13. ENTIRE AGREEMENT. This Agreement, including all Exhibits, constitutes the entire agreement of the Parties regarding the subject matter of the Agreement and supersedes all previous agreements, proposals, and understandings, whether written or oral, relating to this subject matter. This Agreement may be executed in multiple counterparts, and shall have the same legal force and effect as if the Parties had executed it as a single document. The Parties may sign in writing, or by electronic signature, including by email. An electronic signature, or a facsimile copy or computer image, such as a PDF or tiff image, of a signature, shall be treated as and shall have the same effect as an original signature. In addition, an electronic signature, a true and correct facsimile copy or computer image of this Agreement shall be treated as and shall have the same effect as an original signed copy of this document. This Agreement may be amended or modified only by a written instrument signed by

authorized representatives of both Parties. The preprinted terms and conditions found on any Customer purchase or purchase order, acknowledgment or other form will not be considered an amendment or modification of this Agreement, even if a representative of each Party signs that document.

The Parties hereby enter into this Agreement as of the Effective Date.

Motorola Solutions, Inc.

Customer

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

Exhibit A

MOTOROLA SOFTWARE LICENSE AGREEMENT

This Exhibit A Motorola Software License Agreement ("Agreement") is between Motorola Solutions, Inc., ("Motorola"), and _____ ("Licensee").

For good and valuable consideration, the parties agree as follows:

Section 1 DEFINITIONS

1.1 "Designated Products" means products provided by Motorola to Licensee with which or for which the Software and Documentation is licensed for use.

1.2 "Documentation" means product and software documentation that specifies technical and performance features and capabilities, and the user, operation and training manuals for the Software (including all physical or electronic media upon which such information is provided).

1.3 "Open Source Software" means software with either freely obtainable source code, license for modification, or permission for free distribution.

1.4 "Open Source Software License" means the terms or conditions under which the Open Source Software is licensed.

1.5 "Primary Agreement" means the agreement to which this exhibit is attached.

1.6 "Security Vulnerability" means a flaw or weakness in system security procedures, design, implementation, or internal controls that could be exercised (accidentally triggered or intentionally exploited) and result in a security breach such that data is compromised, manipulated or stolen or the system damaged.

1.7 "Software" (i) means proprietary software in object code format, and adaptations, translations, de-compilations, disassemblies, emulations, or derivative works of such software; (ii) means any modifications, enhancements, new versions and new releases of the software provided by Motorola; and (iii) may contain one or more items of software owned by a third party supplier. The term "Software" does not include any third party software provided under separate license or third party software not licensable under the terms of this Agreement.

Section 2 SCOPE

Motorola and Licensee enter into this Agreement in connection with Motorola's delivery of certain proprietary software or products containing embedded or pre-loaded proprietary software, or both. This Agreement contains the terms and conditions of the license Motorola is providing to Licensee, and Licensee's use of the proprietary software and affiliated documentation.

Section 3 GRANT OF LICENSE

3.1. Subject to the provisions of this Agreement and the payment of applicable license fees, Motorola grants to Licensee a personal, limited, non-transferable (except as permitted in Section 7) and non-exclusive license under Motorola's copyrights and Confidential Information (as defined in the Primary Agreement) embodied in the Software to use the Software, in object code form, and the Documentation solely in connection with Licensee's use of the Designated Products. This Agreement does not grant any rights to source code.

3.2. If the Software licensed under this Agreement contains or is derived from Open Source Software, the terms and conditions governing the use of such Open Source Software are in the Open Source Software Licenses of the copyright owner and not this Agreement. If there is a conflict between the terms and conditions of this

Agreement and the terms and conditions of the Open Source Software Licenses governing Licensee's use of the Open Source Software, the terms and conditions of the license grant of the applicable Open Source Software Licenses will take precedence over the license grants in this Agreement. If requested by Licensee, Motorola will use commercially reasonable efforts to: (i) determine whether any Open Source Software is provided under this Agreement; and (ii) identify the Open Source Software (or specify where that license may be found).

3.3 TO THE EXTENT, IF ANY, THAT THERE IS A SEPARATE LICENSE AGREEMENT PACKAGED WITH, OR PROVIDED ELECTRONICALLY WITH, A PARTICULAR PRODUCT THAT BECOMES EFFECTIVE ON AN ACT OF ACCEPTANCE BY THE END USER, THEN THAT AGREEMENT SUPERSEDES THE SOFTWARE LICENSE AGREEMENT AS TO THE END USER OF EACH SUCH PRODUCT.

Section 4 LIMITATIONS ON USE

4.1. Licensee may use the Software only for Licensee's internal business purposes and only in accordance with the Documentation. Any other use of the Software is strictly prohibited. Without limiting the general nature of these restrictions, Licensee will not make the Software available for use by third parties on a "time sharing," "application service provider," or "service bureau" basis or for any other similar commercial rental or sharing arrangement.

4.2. Licensee will not, and will not allow or enable any third party to: (i) reverse engineer, disassemble, peel components, decompile, reprogram or otherwise reduce the Software or any portion to a human perceptible form or otherwise attempt to recreate the source code; (ii) modify, adapt, create derivative works of, or merge the Software; (iii) copy, reproduce, distribute, lend, or lease the Software or Documentation to any third party, grant any sublicense or other rights in the Software or Documentation to any third party, or take any action that would cause the Software or Documentation to be placed in the public domain; (iv) remove, or in any way alter or obscure, any copyright notice or other notice of Motorola's proprietary rights; (v) provide, copy, transmit, disclose, divulge or make the Software or Documentation available to, or permit the use of the Software by any third party or on any machine except as expressly authorized by this Agreement; or (vi) use, or permit the use of, the Software in a manner that would result in the production of a copy of the Software solely by activating a machine containing the Software. Licensee may make one copy of Software to be used solely for archival, back-up, or disaster recovery purposes; *provided* that Licensee may not operate that copy of the Software at the same time as the original Software is being operated. Licensee may make as many copies of the Documentation as it may reasonably require for the internal use of the Software.

4.3. Unless otherwise authorized by Motorola in writing, Licensee will not, and will not enable or allow any third party to: (i) install a licensed copy of the Software on more than one unit of a Designated Product; or (ii) copy onto or transfer Software installed in one unit of a Designated Product onto one other device. Licensee may temporarily transfer Software installed on a Designated Product to another device if the Designated Product is inoperable or malfunctioning, if Licensee provides written notice to Motorola of the temporary transfer and identifies the device on which the Software is transferred. Temporary transfer of the Software to another device must be discontinued when the original Designated Product is returned to operation and the Software must be removed from the other device. Licensee must provide prompt written notice to Motorola at the time temporary transfer is discontinued.

4.4 Licensee will maintain, during the term of this Agreement and for a period of two years thereafter, accurate records relating to this license grant to verify compliance with this Agreement. Motorola or an independent third party ("Auditor") may inspect Licensee's premises, books and records, upon reasonable prior notice to Licensee, during Licensee's normal business hours and subject to Licensee's facility and security regulations. Motorola is responsible for the payment of all expenses and costs of the Auditor. Any information obtained by Motorola and the Auditor will be kept in strict confidence by Motorola and the Auditor and used solely for the purpose of verifying Licensee's compliance with the terms of this Agreement.

Section 5 OWNERSHIP AND TITLE

Motorola, its licensors, and its suppliers retain all of their proprietary rights in any form in and to the Software and Documentation, including, but not limited to, all rights in patents, patent applications, inventions, copyrights,

trademarks, trade secrets, trade names, and other proprietary rights in or relating to the Software and Documentation (including any corrections, bug fixes, enhancements, updates, modifications, adaptations, translations, de-compilations, disassemblies, emulations to or derivative works from the Software or Documentation, whether made by Motorola or another party, or any improvements that result from Motorola's processes or, provision of information services). No rights are granted to Licensee under this Agreement by implication, estoppel or otherwise, except for those rights which are expressly granted to Licensee in this Agreement. All intellectual property developed, originated, or prepared by Motorola in connection with providing the Software, Designated Products, Documentation or related services, remains vested exclusively in Motorola, and Licensee will not have any shared development or other intellectual property rights.

Section 6 LIMITED WARRANTY; DISCLAIMER OF WARRANTY

6.1. Unless otherwise stated in the Primary Agreement, the commencement date and the term of the Software warranty will be a period of ninety (90) days from Motorola's shipment of the Software (the "Warranty Period"). If Licensee is not in breach of any of its obligations under this Agreement, Motorola warrants that the unmodified Software, when used properly and in accordance with the Documentation and this Agreement, will be free from a reproducible defect that eliminates the functionality or successful operation of a feature critical to the primary functionality or successful operation of the Software. Whether a defect occurs will be determined by Motorola solely with reference to the Documentation. Motorola does not warrant that Licensee's use of the Software or the Designated Products will be uninterrupted, error-free, completely free of Security Vulnerabilities, or that the Software or the Designated Products will meet Licensee's particular requirements. Motorola makes no representations or warranties with respect to any third party software included in the Software. Notwithstanding, any warranty provided by a copyright owner in its standard license terms will flow through to Licensee for third party software provided by Motorola.

6.2 Motorola's sole obligation to Licensee and Licensee's exclusive remedy under this warranty is to use reasonable efforts to remedy any material Software defect covered by this warranty. These efforts will involve either replacing the media or attempting to correct significant, demonstrable program or documentation errors or Security Vulnerabilities. If Motorola cannot correct the defect within a reasonable time, then at Motorola's option, Motorola will replace the defective Software with functionally-equivalent Software, license to Licensee substitute Software which will accomplish the same objective, or terminate the license and refund the Licensee's paid license fee.

6.3. Warranty claims are described in the Primary Agreement.

6.4. The express warranties set forth in this Section 6 are in lieu of, and Motorola disclaims, any and all other warranties (express or implied, oral or written) with respect to the Software or Documentation, including, without limitation, any and all implied warranties of condition, title, non-infringement, merchantability, or fitness for a particular purpose or use by Licensee (whether or not Motorola knows, has reason to know, has been advised, or is otherwise aware of any such purpose or use), whether arising by law, by reason of custom or usage of trade, or by course of dealing. In addition, Motorola disclaims any warranty to any person other than Licensee with respect to the Software or Documentation.

Section 7 TRANSFERS

Licensee will not transfer the Software or Documentation to any third party without Motorola's prior written consent. Motorola's consent may be withheld at its discretion and may be conditioned upon transferee paying all applicable license fees and agreeing to be bound by this Agreement. If the Designated Products are Motorola's radio products and Licensee transfers ownership of the Motorola radio products to a third party, Licensee may assign its right to use the Software (other than CPS and Motorola's FLASHport® software) which is embedded in or furnished for use with the radio products and the related Documentation; *provided* that Licensee transfers all copies of the Software and Documentation to the transferee, and Licensee and the transferee sign a transfer form to be provided by Motorola upon request, obligating the transferee to be bound by this Agreement.

Section 8 TERM AND TERMINATION

8.1 Licensee's right to use the Software and Documentation will begin when the Primary Agreement is signed by both parties and will continue for the life of the Designated Products with which or for which the Software and Documentation have been provided by Motorola, unless Licensee breaches this Agreement, in which case this Agreement and Licensee's right to use the Software and Documentation may be terminated immediately upon notice by Motorola.

8.2 Within thirty (30) days after termination of this Agreement, Licensee must certify in writing to Motorola that all copies of the Software have been removed or deleted from the Designated Products and that all copies of the Software and Documentation have been returned to Motorola or destroyed by Licensee and are no longer in use by Licensee.

8.3 Licensee acknowledges that Motorola made a considerable investment of resources in the development, marketing, and distribution of the Software and Documentation and that Licensee's breach of this Agreement will result in irreparable harm to Motorola for which monetary damages would be inadequate. If Licensee breaches this Agreement, Motorola may terminate this Agreement and be entitled to all available remedies at law or in equity (including immediate injunctive relief and repossession of all non-embedded Software and associated Documentation unless Licensee is a Federal agency of the United States Government).

Section 9 COMMERCIAL COMPUTER SOFTWARE

9.1 *This Section 9 only applies to U.S. Government end users.* The Software, Documentation and updates are commercial items as that term is defined at 48 C.F.R. Part 2.101, consisting of "commercial computer software" and "computer software documentation" as such terms are defined in 48 C.F.R. Part 252.227-7014(a)(1) and 48 C.F.R. Part 252.227-7014(a)(5), and used in 48 C.F.R. Part 12.212 and 48 C.F.R. Part 227.7202, as applicable. Consistent with 48 C.F.R. Part 12.212, 48 C.F.R. Part 252.227-7015, 48 C.F.R. Part 227.7202-1 through 227.7202-4, 48 C.F.R. Part 52.227-19, and other relevant sections of the Code of Federal Regulations, as applicable, the Software, Documentation and Updates are distributed and licensed to U.S. Government end users: (i) only as commercial items, and (ii) with only those rights as are granted to all other end users pursuant to the terms and conditions contained herein.

9.2 If Licensee is licensing Software for end use by the United States Government or a United States Government agency, Licensee may transfer such Software license, but only if: (i) Licensee transfers all copies of such Software and Documentation to such United States Government entity or interim transferee, and (ii) Licensee has first obtained from the transferee (if applicable) and ultimate end user an enforceable end user license agreement containing restrictions substantially identical to the ones contained in this Agreement. Except as stated in the foregoing, Licensee and any transferee(s) authorized by this subsection 9.2 may not otherwise use or transfer or make available any Motorola software to any third party nor permit any party to do so.

Section 10 CONFIDENTIALITY

Licensee acknowledges that the Software and Documentation contain Motorola's valuable proprietary and Confidential Information and are Motorola's trade secrets, and that the provisions in the Primary Agreement concerning Confidential Information apply.

Section 11 LIMITATION OF LIABILITY

The Limitation of Liability provision is described in the Primary Agreement.

Section 12 NOTICES

Notices are described in the Primary Agreement.

Section 13 GENERAL

13.1. **COPYRIGHT NOTICES.** The existence of a copyright notice on the Software will not be construed as an admission or presumption of publication of the Software or public disclosure of any trade secrets associated with the Software.

13.2. **COMPLIANCE WITH LAWS.** Licensee acknowledges that the Software is subject to the laws and regulations of the United States and Licensee will comply with all applicable laws and regulations, including export laws and regulations of the United States. Licensee will not, without the prior authorization of Motorola and the appropriate governmental authority of the United States, in any form export or re-export, sell or resell, ship or reship, or divert, through direct or indirect means, any item or technical data or direct or indirect products sold or otherwise furnished to any person within any territory for which the United States Government or any of its agencies at the time of the action, requires an export license or other governmental approval. Violation of this provision is a material breach of this Agreement.

13.3 **FUTURE REGULATORY REQUIREMENTS.** The Parties acknowledge and agree that this is an evolving technological area and therefore, laws and regulations regarding Services and use of Solution may change. Changes to existing Services or the Solution required to achieve regulatory compliance may be available for an additional fee. Any required changes may also impact the price for Services.

13.4. **ASSIGNMENTS AND SUBCONTRACTING.** Motorola may assign its rights or subcontract its obligations under this Agreement, or encumber or sell its rights in any Software, without prior notice to or consent of Licensee.

13.5. **GOVERNING LAW.** This Agreement is governed by the laws of the United States to the extent that they apply and otherwise by the internal substantive laws of the State to which the Software is shipped if Licensee is a sovereign government entity, or the internal substantive laws of the State of Illinois if Licensee is not a sovereign government entity. The terms of the U.N. Convention on Contracts for the International Sale of Goods do not apply. In the event that the Uniform Computer Information Transaction Act, any version of this Act, or a substantially similar law (collectively "UCITA") becomes applicable to a party's performance under this Agreement, UCITA does not govern any aspect of this Agreement or any license granted under this Agreement, or any of the parties' rights or obligations under this Agreement. The governing law will be that in effect prior to the applicability of UCITA.

13.6. **THIRD PARTY BENEFICIARIES.** This Agreement is entered into solely for the benefit of Motorola and Licensee. No third party has the right to make any claim or assert any right under this Agreement, and no third party is deemed a beneficiary of this Agreement. Notwithstanding the foregoing, any licensor or supplier of third party software included in the Software will be a direct and intended third party beneficiary of this Agreement.

13.7. **SURVIVAL.** Sections 4, 5, 6.4, 7, 8, 9, 10, 11 and 13 survive the termination of this Agreement.

13.8. **ORDER OF PRECEDENCE.** In the event of inconsistencies between this Exhibit and the Primary Agreement, the parties agree that this Exhibit prevails, only with respect to the specific subject matter of this Exhibit, and not the Primary Agreement or any other exhibit as it applies to any other subject matter.

13.9. **SECURITY.** Motorola uses reasonable means in the design and writing of its own Software and the acquisition of third party Software to limit Security Vulnerabilities. While no software can be guaranteed to be free from Security Vulnerabilities, if a Security Vulnerability is discovered, Motorola will take the steps set forth in Section 6 of this Agreement.

Exhibit B PAYMENT

Except for a payment that is due on the Effective Date, Customer will make payments to Motorola within thirty (30) days after the date of each invoice. Customer will make payments when due in the form of a check, cashier's check, or wire transfer drawn on a U.S. financial institution. If Customer has purchased additional Professional or Subscription services, payment will be in accordance with the applicable addenda. Payment for the System purchase will be in accordance with the following milestones.

System Purchase (excluding Subscribers, if applicable)

- 1. 25% of the Contract Price due upon contract execution (due upon effective date);**
- 2. 60% of the Contract Price due upon shipment of equipment from Staging;**
- 3. 10% of the Contract Price due upon installation of equipment; and**
- 4. 5% of the Contract Price due upon Final Acceptance.**

If Subscribers are purchased, 100% of the Subscriber Contract Price will be invoiced upon shipment (as shipped).

Motorola shall make partial shipments of equipment and will request payment upon shipment of such equipment. In addition, Motorola shall invoice for installations completed on a site-by-site basis or when professional services are completed, when applicable. The value of the equipment shipped/services performed will be determined by the value shipped/services performed as a percentage of the total milestone value. Unless otherwise specified, contract discounts are based upon all items proposed and overall system package. For invoicing purposes only, discounts will be applied proportionately to the FNE and Subscriber equipment values to total contract price. Overdue invoices will bear simple interest at the maximum allowable rate by state law.

For Lifecycle Support Plan and Subscription Based Services:

Motorola will invoice Customer annually in advance of each year of the plan.

The chart below outlines the hourly labor rates for Motorola System Integration resources to be used. The staffing requirements shall be multiplied by the appropriate rate per resource in the table below. The hourly labor rates are fully burdened. The hourly rates per resource type and level are listed in Table 1.

Levels	Resource Types			
	Project Management	System Engineering	System Technologist	Project Administration
4	\$ 290.00	\$ 300.00	\$ 280.00	\$ 200.00
3	\$ 240.00	\$ 250.00	\$ 240.00	\$ 180.00
2	\$ 220.00	\$ 220.00	\$ 220.00	\$ 170.00
1	\$ 190.00	\$ 210.00	\$ 210.00	\$ 160.00

Table 1 - Hourly Rates

These rates apply to ordinary days and times (Monday to Friday during the hours 8am to 5pm). Additional surcharges may apply to work done outside these timeframes. The minimum charge for any resource will be 4 hours. Travel expenses are not included in these rates and may be charged separately. The qualifications of each type and level of resource are defined in the tables found at <https://www.motorolasolutions.com/content/dam/msi/secure/services/labor-rates-exhibit-160408.pdf>. All Motorola System Integration personnel assigned to this project will be classified according these levels. Project Administrative roles are varied and their specific duties and qualifications will be determined by the complexity and requirements of each project.

EXHIBIT D
System Acceptance Certificate

Customer Name: _____

Project Name: _____

This System Acceptance Certificate memorializes the occurrence of System Acceptance. Motorola and Customer acknowledge that:

1. The Acceptance Tests set forth in the Acceptance Test Plan have been successfully completed.
2. The System is accepted.

Customer Representative:

Motorola Representative:

Signature: _____
Print Name: _____
Title: _____
Date: _____

Signature: _____
Print Name: _____
Title: _____
Date: _____

FINAL PROJECT ACCEPTANCE:

Motorola has provided and Customer has received all deliverables, and Motorola has performed all other work required for Final Project Acceptance.

Customer Representative:

Motorola Representative:

Signature: _____
Print Name: _____
Title: _____
Date: _____

Signature: _____
Print Name: _____
Title: _____
Date: _____

MAINTENANCE, SUPPORT AND LIFECYCLE MANAGEMENT ADDENDUM

This Addendum to the Communications System and Services Agreement or other previously executed Agreement currently in force, as applicable ("Primary Agreement") provides additional or different terms and conditions to govern the sale of Maintenance, Support and Lifecycle Management services. The terms in this Addendum are integral to and incorporated into the Primary Agreement signed by the Parties.

1. DEFINITIONS

All capitalized terms not otherwise defined herein shall have the same meaning as defined in the Primary Agreement.

"MUA" means Microwave Upgrade Agreement (MUA).

"NUA" means Network Upgrade Agreement (NUA).

"SUA" or "SUA II" means Motorola's Software Upgrade Agreement program for Motorola's P25 radio system.

2. SCOPE

Motorola will provide Maintenance and Support Services and/or Lifecycle Management as further described in the applicable Statement of Work, or attachment to Motorola's proposal for additional services.

3. TERMS AND CONDITIONS

The terms of the Primary Agreement combined with the terms of this Addendum will govern the products and services offered pursuant to this Addendum. To the extent there is a conflict between the terms and conditions of the Primary Agreement and the terms and conditions of this Addendum, this Addendum takes precedence.

3.1 MAINTENANCE AND SUPPORT SERVICES

3.1.1 **PURCHASE ORDER ACCEPTANCE.** Purchase orders for additional, continued, or expanded maintenance and software support, during the Warranty Period or after the Warranty Period, become binding only when accepted in writing by Motorola.

3.1.2 **START DATE.** The "Start Date" for Maintenance and Support Services will be indicated in the proposal or a cover page entitled "Service Agreement".

3.1.3 **AUTO RENEWAL.** Unless the cover page or SOW specifically states a termination date or one Party notifies the other in writing of its intention to discontinue the Services, this Agreement will renew for an additional one (1) year term on every anniversary of the Start Date. At the anniversary date, Motorola may adjust the price of the Services to reflect the renewal rate.

3.1.4 **TERMINATION.** Written notice of intent to terminate must be provided thirty (30) days or more prior to the anniversary date. If Motorola provides Services after the termination or expiration of this Addendum, the terms and conditions in effect at the time of termination or expiration will apply to those Services and Customer agrees to pay for those services on a time and materials basis at Motorola's then effective hourly rates.

3.1.5 **EQUIPMENT DEFINITION.** For maintenance and support services, Equipment will be defined to mean the hardware specified in the applicable SOW or attachments to the maintenance and support proposal.

3.1.6 ADDITIONAL HARDWARE. If Customer purchases additional hardware from Motorola that becomes part of the System, the additional hardware may be added to this Addendum and will be billed at the applicable rates after the warranty period for that additional equipment expires. Such hardware will be included in the definition of Equipment.

3.1.7 MAINTENANCE. Equipment will be maintained at levels set forth in the manufacturer's product manuals and routine procedures that are prescribed by Motorola will be followed. Motorola parts or parts of equal quality will be used for Equipment maintenance.

3.1.8 EQUIPMENT CONDITION. All Equipment must be in good working order on the Start Date or when additional equipment is added to the Addendum. Upon reasonable request by Motorola, Customer will provide a complete serial and model number list of the Equipment. Customer must promptly notify Motorola in writing when any Equipment is lost, damaged, stolen or taken out of service. Customer's obligation to pay maintenance and support fees for this Equipment will terminate at the end of the month in which Motorola receives the written notice. If Equipment cannot, in Motorola's reasonable opinion, be properly or economically maintained for any reason, Motorola may modify the scope of Services related to that Equipment; remove that Equipment from the Agreement; or increase the price to maintain that Equipment.

3.1.9 EQUIPMENT FAILURE. Customer must promptly notify Motorola of any Equipment failure. Motorola will respond to Customer's notification in a manner consistent with the level of Service purchased as indicated in this Addendum and applicable SOW.

3.1.10 INTRINSICALLY SAFE. Customer must specifically identify any Equipment that is labeled intrinsically safe for use in hazardous environments.

3.1.11 EXCLUDED SERVICES.

a) Service excludes the repair or replacement of Equipment that has become defective or damaged from use in other than the normal, customary, intended, and authorized manner; use not in compliance with applicable industry standards; excessive wear and tear; or accident, liquids, power surges, neglect, acts of God or other force majeure events.

b) Unless specifically included in this Addendum, Service excludes items that are consumed in the normal operation of the Equipment, such as batteries or magnetic tapes.; upgrading or reprogramming Equipment; accessories, belt clips, battery chargers, custom or special products, modified units, or software; and repair or maintenance of any transmission line, antenna, microwave equipment, tower or tower lighting, duplexer, combiner, or multicoupler. Motorola has no obligations for any transmission medium, such as telephone lines, computer networks, the internet or the worldwide web, or for Equipment malfunction caused by the transmission medium.

3.1.12 TIME AND PLACE. Service will be provided at the location specified in this Addendum and/or the SOW. When Motorola performs maintenance, support, or installation at Customer's location, Customer will provide Motorola, at no charge, a non-hazardous work environment with adequate shelter, heat, light, and power and with full and free access to the Equipment. Waivers of liability from Motorola or its subcontractors will not be imposed as a site access requirement. Customer will provide all information pertaining to the hardware and software elements of any system with which the Equipment is interfacing so that Motorola may perform its Services. Unless otherwise stated in this Addendum or applicable SOW, the hours of Service will be 8:30 a.m. to 4:30 p.m., local time, excluding weekends and holidays. Unless otherwise stated in this Addendum or applicable SOW, the price for the Services exclude any charges or expenses associated with helicopter or other unusual access requirements; if these charges or expenses are reasonably incurred by Motorola in rendering the Services, Customer agrees to reimburse Motorola for those charges and expenses.

3.1.13 CUSTOMER CONTACT. Customer will provide Motorola with designated points of contact (list of names and phone numbers) that will be available twenty-four (24) hours per day, seven (7) days per week, and an escalation procedure to enable Customer's personnel to maintain contact, as needed, with Motorola.

3.2 LIFECYCLE MANAGEMENT SERVICES

3.2.1 The Software License Agreement included as Exhibit A to the Primary Agreement applies to any Motorola Software provided as part of the Lifecycle Management transactions.

3.2.2 The term of this Addendum is 4 years, commencing on _____, 201_. The Lifecycle Management Price for the 4 years of services is \$521,444.00, excluding applicable sales or use taxes but including discounts as more fully set forth in the pricing pages. Because the Lifecycle Management is a subscription service as more fully described in the applicable Lifecycle Management Statement of Work, payment from Customer is due in advance and will not be in accordance with any Payment Milestone Schedule.

3.2.3 The System upgrade will be scheduled during the subscription period and will be performed when Motorola's system upgrade operation resources are available. Because there might be a significant time frame between when this Addendum is executed and when a System upgrade transaction is performed, Motorola may substitute any of the promised Equipment or Software so long as the substitute is equivalent or superior to the initially promised Equipment or Software.

3.2.4 Acceptance of a Lifecycle Management transaction occurs when the Equipment (if any) and Software are delivered and the Lifecycle Management services are fully performed; there is no Acceptance Testing with a Lifecycle Management transaction.

3.2.5 The Warranty Period for any Equipment or Motorola Software provided under a Lifecycle Management transaction will commence upon shipment and not on System Acceptance or Beneficial Use, and is for a period of ninety (90) days rather than one (1) year. The ninety (90) day warranty for Lifecycle Management services is set forth in the Lifecycle Management Statement of Work.

3.2.6 In addition to the description of the Lifecycle Management services and exclusions provided in the Lifecycle Management Statement of Work, the following apply:

- a) Upon reasonable request by Motorola, Customer will provide a complete serial and model number list of the Equipment.
- b) Lifecycle Management services exclude the repair or replacement of Equipment that has become defective or damaged from use in other than the normal, customary, intended, and authorized manner; use not in compliance with applicable industry standards; excessive wear and tear; or accident, liquids, power surges, neglect, acts of God or other force majeure events.
- c) Unless specifically included in this Addendum or the Lifecycle Management Statement of Work, Lifecycle Management services exclude items that are consumed in the normal operation of the Equipment; accessories; and repair or maintenance of any transmission line, antenna, microwave equipment, tower or tower lighting, duplexer, combiner, or multicoupler. Motorola has no obligations for any transmission medium, such as telephone lines, computer networks, the internet or the worldwide web, or for Equipment malfunction caused by the transmission medium.
- d) Customer will provide Motorola with designated points of contact (list of names and phone numbers) that will be available during the performance of the Lifecycle Management services.

3.2.7 The Lifecycle Management annualized price is based on the fulfillment of the two year cycle. If Customer terminates this service during a two year cycle, except for Motorola's default, then Customer will be required to pay for the balance of payments owed for the two year cycle if a major system release has been implemented before the point of termination.

3.2.8 If Customer terminates this service and contractual commitment before the end of the 4 year term, for any reason other than Motorola's default, then the Customer will pay to Motorola a termination fee equal to the discount applied to the last three years of service payments related to the 4 year commitment.

4. PAYMENT

4.1 Unless alternative payment terms are stated in this Agreement, Motorola will invoice Customer in advance for each payment period. All other charges will be billed monthly, and the Customer must pay each invoice in U.S. dollars within thirty (30) days of the invoice date. Customer will reimburse Motorola for all property taxes, sales and use taxes, excise taxes, and other taxes or assessments that are levied as a result of Services rendered under this Agreement (except income, profit, and franchise taxes of Motorola) by any governmental entity.

4.2 INFLATION ADJUSTMENT. For multi-year agreements, at the end of the first year of the Agreement and each year thereafter, a CPI percentage change calculation shall be performed using the U.S. Department of Labor, Consumer Price Index, all Items, Unadjusted Urban Areas (CPI-U). Should the annual inflation rate increase greater than 3% during the previous year, Motorola shall have the right to increase all future maintenance prices by the CPI increase amount exceeding 3%. All items, not seasonally adjusted shall be used as the measure of CPI for this price adjustment. Measurement will take place once the annual average for the new year has been posted by the Bureau of Labor Statistics. For purposes of illustration, if in year 5 the CPI reported an increase of 8%, Motorola may increase the Year 6 price by 5% (8%-3% base).

5. ENTIRE AGREEMENT

This Addendum, any related attachments, and the Primary Agreement, constitutes the entire agreement of the Parties regarding the subject matter of this Addendum and supersedes all previous agreements, proposals, and understandings, whether written or oral, relating to this subject matter. This Addendum may be amended or modified only by a written instrument signed by authorized representatives of both Parties. The preprinted terms and conditions found on any Customer purchase or purchase order, acknowledgment or other form will not be considered an amendment or modification of this Addendum, even if a representative of each Party signs that document.