



Complete Wireless Solutions

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Radio Communications Service, Inc.

December 7, 2017

Communications System Options for Metcom 911 Users

The following are options for Metcom 911 users to consider for a new county wide communications system that would meet the needs of all agencies.

Option #1

Build out a VHF Simulcast Only System with 8 Channels on 5 Sites

- 5 Sites for Transmit and Receive
 - Crosby Rd, Silverton WT, House Mtn., Halls Ridge and Whipper
- County Wide Coverage on all Channels
 - Eight Talk Channels with Eight Talk Groups Only
 - All Units in County Hear all Conversations
 - Less coverage in the Stayton area than they have now on Fire and Police
- Licensing Pros and Cons for this option
 - High sites and wider area of coverage causes interference issues
 - Proximity to Portland and Eugene make frequencies hard to find with location of and elevation of sites
 - Less frequencies needed than other options
 - Long lead time for licensing
- No Subscriber Fees vs 700/800 Systems Per Unit Per Month Subscriber Fees
- Higher Cost to Build Out vs Nexedge Trunking System
- Higher Maintenance Costs Due to Complexity of Timing and Equipment
- No Back Up to a Site if the Microwave Path is Lost
 - Site is off air without the microwave path
- Master Site is the Only Redundancy in System without a Microwave Path
 - If microwave path is lost between sites the main site continues to operate
 - Crosby Rd site would be the master site due to accessibility and location
- Less Efficient Use of Frequencies versus a Trunking System with Regional and Wide Area Talk Groups
- Preliminary Estimate for System is \$937,661.00
 - All new NXR-5700K Transmitters
 - Includes needed combining equipment
 - Includes microwave hop from Crosby to Silverton WT
 - Stayton area will not have the coverage it has today with this option
 - Approximate Cost to Add a Stayton Area Site \$201,000.00
 - Includes Simulcast Engineering Fees

Wireless, 2-Way, Sales, Service, Maintenance
KENWOOD – FIRECOM – BENDIX KING – GLOBALSTAR

Option #2

Build out a VHF 2 Channel 5 Site Simulcast System with Regional Repeater Channels

- 5 Sites for Transmit and Receive on Simulcast
 - Crosby Rd, Silverton WT, House Mtn., Halls Ridge and Whipper
- One Simulcast for Fire Tap Out and One Simulcast for County Wide Ops
 - Simplex on tap out to save resources for regional repeaters
 - Repeated Channel for County Wide Fire/Police Ops
- Regional Repeaters for Fire and Police Ops
 - Crosby Rd. - 2 Fire Repeaters, 2 Police Repeaters
 - Silverton WT – 1 Fire Repeater, 1 Police Repeater, 1 PD2
 - Mt. Angel Abby WT – 1 Fire Repeater
 - House Mtn. - 2 Fire Repeaters
 - Halls Ridge - 1 Fire Repeater
 - Pine St. WT - 1 Fire Repeater
 - Regis St. WT - 1 Police Repeater
 - Whipper – 1 Fire Repeater, 1 Police Repeater
 - Turner WT – Rx Only Site for PD
- No Subscriber Fees vs 700/800 Per Unit Per Month Subscriber Fees
- Redundancy with Regional Repeaters if Microwave Link is Lost
 - Site will continue to process calls as an individual stand-alone site
- Licensing Pros and Cons for this Option
 - More frequencies needed than Simulcast
 - Easier to find frequencies due to smaller area of coverage from sites
 - Long lead time for licensing
- Preliminary Estimate for System is \$473,274.00
 - New NXR-5700K Transmitters for Simulcast Channels
 - Includes needed combining equipment
 - Includes microwave hop from Crosby to Silverton WT
 - Includes Duplexer for Pine St. Fire Site to convert to repeater
 - Utilizing existing equipment for regional repeaters on existing sites
 - Stayton area will not have the coverage it has today on Simulcast with this option
 - Approximate Cost to Add a Stayton Area Simulcast Site \$87,200.00
 - Includes Simulcast Engineering Fees

Option #3

Build Out a 2 Channel VHF Simulcast System with Multi-Site Nexedge Trunking System for Talk Channels

- 5 Sites for Transmit and Receive on Simulcast
 - Crosby Rd., Silverton WT, House Mtn., Halls Ridge and Whipper
- One Simulcast for Fire Tap Out and One for County Wide Ops
 - Simplex on tap out to save resources for regional repeaters
 - Repeated Channel for County Wide Fire/Police
- Nexedge Sites for Regional Communications
 - Crosby Rd. – with 5 Channels
 - 1 Control Channel and 4 Voice channels - 2 Fire and 2 PD
 - Silverton WT – with 4 Channels
 - 1 Control Channel, 3 Voice channels – Fire, PD and PD2
 - Mt. Angel Abby WT – with 2 Channels
 - 1 Control Channel and 1 Voice - Fire
 - House Mtn. – with 3 Channels
 - 1 Control Channel and 2 Voice - Fire
 - Halls Ridge – with 2 Channels
 - 1 Control Channel and 1 Voice - Fire
 - Pine St. or Regis St. WT – with 3 Channels
 - 1 Control Channel and 2 Voice – PD and Fire
 - Whipper – with 3 Channels
 - 1 Control Channel and 2 Voice – PD and Fire
- Less Expensive to Build Out than Simulcast System
- Lower Maintenance Costs Due to No Timing Equipment Needed.
- Redundancy or Fail-Safe Mode if Microwave Link is Lost
 - Site will continue to process calls as an individual stand-alone site
- No Subscriber Fees vs 700/800 Per Unit Per Month Subscriber Fees
- Licensing Pros and Cons
 - Dependent on a large cache of frequencies to utilize the same sites as today
 - Easier to find frequencies possibly than Simulcast due to lower sites and less frequencies on high sites than Simulcast
 - Long lead time for licensing
- No Scanning of Analog Channels When Using Digital Trunking
 - Scanning of talk groups on system available but not between digital and analog channels
- Preliminary Estimate for System is \$636,169.90
 - New NXR-5700K Transmitters for Simulcast Channels
 - Utilizing 8 Existing NXR-700K's and 14 New Units
 - Includes needed combining equipment but no Antenna for Pine/Regis St.
 - Includes microwave hop from Crosby to Silverton WT
 - Requires high speed internet to Mt. Angel Abby and Pine or Regis St. Site
 - Requires purchasing Nexedge subscriber units for all users
 - Stayton area will not have the coverage it has today on Simulcast with this option
 - Approximate Cost to Add a Stayton Area Simulcast Site \$87,200.00
 - Includes Simulcast Engineering Fees

Option #4

Build Out a Multi-Site Nexedge Digital Trunking System on 7 Sites

- 7 Site Kenwood Nexedge Networked Digital Trunking System
 - Crosby Rd. Site with 5 Channels
 - 1 Control Channel and 4 Voice – 2 Fire and 2 PD
 - Silverton Water Tower Site with 4 Channels
 - 1 Control Channel and 3 Voice – Fire, PD and PD2
 - Mt. Angel Abby Water Tower Site with 2 Channels
 - 1 Control Channel and 1 Voice - Fire
 - House Mtn. Site with 3 Channels
 - 1 Control Channel and 2 Voice - Fire
 - Halls Ridge Site with 2 Channels
 - 1 Control Channel and 1 Voice - Fire
 - Pine St. or Regis St. WT Site with 3 Channels
 - 1 Control Channel and 2 Voice – Fire and PD
 - Whipper Site with 3 Channels
 - 1 Control Channel and 2 Voice – Fire and PD
- Less Expensive to Build Out than Simulcast System
- Lower Maintenance Costs Due to No Timing Equipment Needed
- Redundancy or Fail-Safe Mode if Microwave Link is Lost
 - Site will continue to process calls as an individual stand-alone site
- No Subscriber Fees vs 700/800 Per Unit Per Month Subscriber Fees
- Licensing Pros and Cons
 - Dependent on a large cache of frequencies to utilize the same sites that are being used today
 - Easier to find frequencies possibly than Simulcast due to lower sites and less frequencies on high sites than Simulcast
 - Long lead time for licensing
- No Scanning of Analog Channels When Using Digital Trunking
 - Scanning of talk groups on system available but not between digital and analog channels
- Preliminary Estimate for System is \$411,920.90
 - Utilizing 8 Existing NXR-700K's and 14 New Units
 - Includes needed combining equipment but no Antenna for Pine/Regis St.
 - Includes microwave hop from Crosby to Silverton WT
 - Requires high speed Internet or Microwave to Mt. Angel and Pine/Regis St. Site
 - Requires purchasing Nexedge subscriber units for all users

Additional Hardware Cost

- Networking Routers, Switches and Cabling Not Included
- Davicom Site Monitoring Equipment Not Included
- Nexedge Base Stations for Dispatch with Options 3 or 4.
 - Number of bases dependent on talkgroups established
 - Estimated cost without installation is \$1,505.00 each
- Antenna System for Pine/Regis St. WT Site is Unknown at This Time
- Nexedge Subscriber Units will run approximately \$988,700.00 to \$1,251,750.00 at the current NASPO pricing

These options are a preliminary cost estimate with the best information available at this time. The prices will change as other factors are clarified and at that time a better estimate can be made. The pricing is intended to be used to make decisions as to which system would best fit the Metcom user's as a whole.

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