

# Wireless Network Implementation

## City of Columbus

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Network Dynamics, Inc. - Confidential  
Contact: Louie Telegadas  
[ltelegadas@ndiwebsite.com](mailto:ltelegadas@ndiwebsite.com)  
248.417.0667  
Sales Quote No. - 1310-18-11881

Network Dynamics, Inc.  
Corporate Headquarters  
640 Brooker Creek Blvd  
Oldsmar, FL 34677



## OVERVIEW

City of Columbus is refreshing their current Wireless Network. This consists of a new Cisco Controllers, AP's, Voice Wireless Site Surveys. This Statement of Work is for the Wireless Network Implementation. This implementation is broken into the following activities.

1. Wireless Design
2. All necessary Hardware & Software
3. Wireless Site Surveys
4. Staging and Configuration
5. Site Implementation/ Deployment
6. Training
7. Cisco Learning Credits
8. Cutover Support

## INTRODUCTION

NDI Support Services are designed to provide value priced support, fill resource gaps on demand to meet specific, essential City of Columbus requirements. Support Services cover a wide range of City of Columbus needs for specific skills, for a defined duration on identified products or technologies.

City of Columbus has requested NDI provide a proposal to design, configure, stage, rack and stack and validate a Cisco Wireless Solution within the listed below locations and equipment for the City.

## WIRELESS DESIGN

NDI Engineering will use the process of discovery to understand the current network and requirement for the new Wireless network for City of Columbus. The discovery process begins with City of Columbus IT personnel completing discovery workshops with NDI. Additional conference calls and/or meeting to attain the appropriate information needed for the design will be scheduled. From this information, a high level design is created. The high level design will include the equipment BOM and a network design for the hospital. The low level design will be started and will continue to evolve based on the information gained from the Wireless Site Survey and the information gathering meetings. The low level design will include the following:

### Cisco Wireless Controller and Access Points

- Physical connection to the Wired network for Wireless LAN Controllers and Access Points
- Access Point Placement based on the Wireless Site Survey
- WLAN to VLAN mapping into the Wired network
- IP addressing for Wireless LAN Controllers and Access Points
- DHCP modifications to support Access Point Registration
- Security Mechanisms for WLAN clients per WLAN.
- Information to support network services such as:
  - SSH
  - Telnet
  - HTTPS
  - SNMP
  - NTP

- Radius or TACACS
- QoS

#### Cisco Prime Infrastructure Appliance for WCS upgrade configuration information

- Physical connection to the Wired network
- IP Addressing
- Information to support network services such as:
  - SSH
  - Telnet
  - HTTPS
  - SNMP
  - NTP
  - Radius or TACACS

#### Cisco Prime Infrastructure Appliance for LMS upgrade configuration information

- Physical connection to the Wired network
- IP Addressing
- Information to support network services such as:
  - SSH
  - Telnet
  - HTTPS
  - SNMP
  - NTP
  - Radius or TACACS

#### Cisco Prime Infrastructure Software for LMS upgrade

#### Cisco Prime Infrastructure Software for WCS upgrade

#### Cisco Mobility Services Engine Appliance and Software configuration information.

- Physical connection to the Wired network
- IP Addressing
- Information to support network services such as:
  - SSH
  - Telnet
  - HTTPS
  - SNMP
  - NTP
  - Radius or TACACS
  -

#### Cisco ISE Appliance configuration information.

- Physical connection to the Wired network
- IP Addressing

- Information to support network services such as:
  - SSH
  - Telnet
  - HTTPS
  - SNMP
  - NTP
  - Radius or TACACS

Cisco ISE Software configuration information.

Training & Cutover Support

**WIRELESS SITE SURVEY**

NDI will perform and on site wireless site surveys for this phase of the Project:

1800 East 17th Avenue	Construction Inspection	Construction Inspection 14,129 ft <sup>2</sup>
1820 East 17th Avenue	Traffic Maintenance Facility	Traffic Maintenance Facility Estimated 50,000 (mostly garage space)
1850 East 25th Avenue	Street Maintenance Facility	Street Maintenance Facility Estimated 50,000 (mostly garage space)
1881 East 25th Avenue	Engineering and Construction Facility	Engineering and Construction Facility – 60,120 ft <sup>2</sup>
1533 Alum Creek	R&P Whse	R&P Whse – Estimated 60,000 (mostly garage space)
3639 Parsons Ave	Fire Training Academy	Fire Training Academy (all 3 buildings) Fire Training Academy 114,696 ft <sup>2</sup> Fire Administration building 20,000 ft <sup>2</sup> Practical Skills Building 26,000 ft <sup>2</sup>

Through our communications with **CITY OF COLUMBUS** personnel and analysis of the wireless network requirements from the questionnaire, we have developed a project process, which will result in a well-designed and properly implemented WLAN infrastructure.

The Design Survey should be performed using the Air Magnet Surveyor Pro 8.X site survey tool.

**Pre-Survey Due Diligence**

- Evaluate the wireless specification in regards to coverage, power, density and overlap requirements for each respective facility.
- Understand application use of the wireless network to ensure adequate capacity.
- Understand the hardware components to be installed and survey with identical hardware.

- Design the physical characteristics of each installation to be architecturally compatible with each unique property. Where necessary or desired, use stealth installation techniques and materials to obscure equipment, antenna, cable, and power runs.
- Ensure facility has a lift (if needed) and required number of operators and escort during site survey or make appropriate arrangements otherwise. These resources must be dedicated and available throughout the survey.

### **Design Site Survey – On Site**

- Schedule survey activities during designated hours to minimize impact on use of the facilities.
- Deliver a completed, turn-key survey for all Access Points through the use of Network Dynamics site survey team.
- Provide Site Survey Report documentation in electronic format.

## Wireless Site Survey Requirements

Wireless site survey requirements will be agreed upon by **CITY OF COLUMBUS** and NDI.

**NDI will perform an on-site Active wireless site survey using Cisco Voice Grade Standards for All Floors. Cisco 2602i Access Points will be used in office areas and Cisco 2602E Access Points with external antennas will be used in all Garage Areas.**

- Survey should be done using Cisco **2602i and 2602e** series 802.11a/b/g/n Access Points.
- Survey should be done using Cisco **AIR-ANT2544V4M-R** Antennas
- Survey should be done according to **CITY OF COLUMBUS** Wireless Site Survey Specification

Minimum Cell Boundary (2.4 GHz / 5 GHz)	-65 dBm at 1 <sup>st</sup> AP
Minimum Data Rate	54 Mbps
Minimum SNR	25 dB
Cell Overlap (2.4 GHz / 5 GHz)	20% / 20%
Adjacent Channel Separation	-86 dBm
2.4 GHz Channels	1, 6, 11
5 GHz Channels	UNII-1 & UNII-3

- A spectrum analysis will be done and existing RF sources identified.
- Access Point mounted **On Ceiling Tile Grid in offices and Building Steel Trusses in Garages.**
- RF coverage beyond the building's physical boundaries will be kept to an absolute minimum, except where outside coverage is required.

## Project Process

1. Design Site Survey
2. Completion of Design Site Survey Report and appropriate Equipment Parts List

Project Phase	Resources
<b>1. Design Site Survey</b>	
<b><i>NDI to Perform</i></b>	
Initial walk-through of facility to gauge physical surroundings	NDI Survey Team
Design Channel Plan – Static or Controller based channel plan to be agreed upon by CITY OF COLUMBUS and NDI	NDI Survey Team
Set Power Levels and calibrations based on Clients	NDI Survey Team
<p>Set up of temporary access points in various test locations within the facility</p> <ul style="list-style-type: none"> <li>• NDI will use 802.11a/b/g/n access points with appropriate antennas as requested by CITY OF COLUMBUS as a standard</li> </ul> <p>If antenna does not function optimally per the design, NDI will test with alternative antenna(s) to obtain maximum coverage and performance</p>	NDI Survey Team
<p>Perform walk-through with test software (i.e. Air Magnet Surveyor Pro) and test one or both of the following:</p> <ul style="list-style-type: none"> <li>• Signal strength, signal quality and signal to noise ratio via the Passive Survey</li> <li>• Evaluate integrity of data transmission and measure dropped packets and packet retries via the Active Survey</li> </ul>	NDI Survey Team
Initiate spectrum analysis on the 2.4GHz and 5GHz spectrum and capture noise found in various test locations	NDI Survey Team
Capture areas where Access Points are to be installed by using pictures and descriptions of each location and installation information.	NDI Survey Team

Record data captured from Survey tool to be used in the Design Survey Report	NDI Survey Team
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Project Phase	Resources
<b>2. Design Site Survey Report &amp; Appropriate Equipment Parts List</b>	
<b><i>NDI to Perform</i></b>	
<p>Create Report to show the following results:</p> <ul style="list-style-type: none"> <li>• Provide one diagram showing overall site, AP locations, names of APs (i.e., AP1 – AP”n”) (note: if site size makes it too difficult to provide a single diagram more than one diagram will be acceptable but effort should be made to keep the number of diagrams to a minimum).</li> <li>• Provide the appropriate Heat maps that depict Signal Strength, SNR and Co-Channel Interference for both the 2.4GHz and 5.0Ghz spectrums.</li> <li>• Provide Spectrum Analysis Results</li> <li>• Provide a List of Rogue Access Points</li> <li>• Individual Access Point Location information on a single page per access point that includes: <ul style="list-style-type: none"> <li>○ Name - AP1</li> <li>○ Description of exact location, AP position and antenna location (column or grid coordinates)</li> <li>○ Height from floor</li> <li>○ Access Point Model</li> <li>○ Antenna Type</li> <li>○ Surveyed Power Level and Channel</li> <li>○ Picture of install location with arrow pointing to AP install point</li> <li>○ Direction facing when picture was taken</li> </ul> </li> <li>• Provide a Hardware Bill of Materials with Access Point Models, Antennas and any other miscellaneous hardware. ( Lightning Arrestors, cable extensions, specific mounting brackets or enclosures...etc)</li> </ul>	NDI Survey Team
Deliver Design Survey Report to CITY OF COLUMBUS in appropriate electronic format. Default is PDF.	NDI Survey Team



## STAGING, CONFIGURATION AND SHIPPING

NDI Engineering will prepare the testing and staging plans and environment and review with the City of Columbus project team technical lead prior to the commencement of the staging process. It is NDI's goal to ensure that all equipment is preconfigured and tested to ensure physical equipment operation of the hardware from port to port prior to deploying to site. NDI will create the configurations for all Wireless equipment as requested by City of Columbus.

Staging process will commence at least ten business days prior to the onsite implementation date with City of Columbus ensuring the equipment is delivered to the NDI Staging facility in Oldsmar, FL. Checklists will be maintained for all staging activities reviewed and released for shipment by the NDI project manager.

Equipment will be shipped to and received by the End-User designated site contact no less than three days prior to the NDI field technician scheduled site visit. The equipment will be stored in a secure location adjacent to MDF or IDF location where it will be installed.

The scope of the staging and shipping phase of the project includes and excludes the following items.

**In scope:**

- Staging of hardware for City Locations site at NDI's Oldsmar Staging Facility.
- Install and test configurations to ensure correct load and save was performed
- Label of units as required with hostname or IP information, apply asset tags if required
- Capture and report serial numbers by site
- Testing
- RMA process for test fallout

**Out of scope:**

- Complete network build
- Expedited build, test and ship

## SITE IMPLEMENTATION / DEPLOYMENT / CISCO Bill of Materials

NDI field technician will arrive on the scheduled date and time with standard tool kit, prepared to work with site contact to install new equipment . NDI field technician will power up equipment and test and assist in problem resolution.

NDI will install the following equipment:

# Wireless Controllers, Access Points and Prime 1.1 with Appliances

Line Number	Item Name	Description	Service Duration	Lead Time	Included Item	Quantity	ListPrice	Extended ListPrice	Discount %	Selling Price
<b>Products</b>										
1.0	AIR-CT5760-1K-K9	Cisco 5700 Series Wireless Controller for up to 1000 APs	N/A	14 days	No	1	200,000.00	200,000.00	50	100,000.00
1.1	SW5760K9-32SE	Cisco 5760 WIRELESS CONTROLLER SW Release3.2	N/A	14 days	No	1	0.00	0.00	50	0.00
1.2	PWR-C1-350WAC	350W AC Config 1 Power Supply	N/A	14 days	Yes	1	0.00	0.00	50	0.00
1.3	PWR-C1-350WAC/2	350W AC Config 1 Secondary Power Supply	N/A	14 days	No	1	500.00	500.00	50	250.00
1.4	CAB-TA-NA	North America AC Type A Power Cable	N/A	14 days	No	2	0.00	0.00	50	0.00
1.5	AIR-CT5760-RK-MNT	5760 Wireless Controller Rack Mount kit	N/A	14 days	Yes	1	0.00	0.00	50	0.00
1.6	AIR-CT5760-K9	Cisco 5700 Series Wireless Controller Base SKU	N/A	14 days	Yes	1	0.00	0.00	50	0.00
1.7	LIC-CT5760-1K	1000 AP Base license	N/A	14 days	Yes	1	0.00	0.00	50	0.00
1.8	LIC-CT5760-BASE	Cisco 5760 Controller AP Base license (OAP count)	N/A	14 days	Yes	1	0.00	0.00	50	0.00
2.0	AIR-CT5760-HA-K9	Cisco 5700 Series Wireless Controller for high availability	N/A	14 days	No	1	20,000.00	20,000.00	50	10,000.00
2.1	SW5760K9-32SE	Cisco 5760 WIRELESS CONTROLLER SW Release3.2	N/A	14 days	No	1	0.00	0.00	50	0.00
2.2	PWR-C1-350WAC	350W AC Config 1 Power Supply	N/A	14 days	Yes	1	0.00	0.00	50	0.00
2.3	PWR-C1-350WAC/2	350W AC Config 1 Secondary Power Supply	N/A	14 days	No	1	500.00	500.00	50	250.00
2.4	CAB-TA-NA	North America AC Type A Power Cable	N/A	14 days	No	2	0.00	0.00	50	0.00
2.5	AIR-CT5760-RK-MNT	5760 Wireless Controller Rack Mount kit	N/A	14 days	Yes	1	0.00	0.00	50	0.00
2.6	AIR-CT5760-K9	Cisco 5700 Series Wireless Controller Base SKU	N/A	14 days	Yes	1	0.00	0.00	50	0.00
2.7	LIC-CT5760-BASE	Cisco 5760 Controller AP Base license (OAP count)	N/A	14 days	Yes	1	0.00	0.00	50	0.00
3.0	R-WCS-P11-M-K9	WCS 7.0 to Cisco Prime Infrastructure 1.1 Migration	N/A	0 days	No	1	0.00	0.00	50	0.00
3.1	L-PLMS42-1K-M	Prime Infrastructure LMS 4.2 - 1K Device Upgrade Lic	N/A	0 days	Yes	1	0.00	0.00	50	0.00
3.2	L-PINCS11-1K-M	Prime Infrastructure NCS 1.1 - 1K Device Upgrade Lic	N/A	0 days	Yes	1	0.00	0.00	50	0.00
3.3	L-PINCS11-25-B	Prime Infrastructure NCS 1.1 - 25 Device Base Lic	N/A	0 days	Yes	1	0.00	0.00	50	0.00
3.4	L-PINCSW11-1K-M	Prime Infrastructure NCS WAN 1.1 - 1K Device Upgrade Lic	N/A	0 days	Yes	1	0.00	0.00	50	0.00
3.5	L-PINCSW11-25-B	Prime Infrastructure NCS WAN 1.1 - 25 Device Base Lic	N/A	0 days	Yes	1	0.00	0.00	50	0.00
3.6	R-W-P11-1K-M-K9	WCS to Prime Infrastructure 1.1 Migration 1K Device	N/A	0 days	No	1	17,200.00	17,200.00	50	8,600.00
4.0	R-PI-1.1-UP-K9	Cisco Prime Infrastructure 1.1 - Maj Upg from LMS 2.x/3.x	N/A	0 days	No	1	0.00	0.00	50	0.00
4.1	R-PI-1.1-5K-UP-K9	Prime Infrastructure 1.1 Software - 1.5K Dev Maj Upgr Lic	N/A	0 days	No	1	56,995.00	56,995.00	50	28,497.50
4.2	L-PLMS42-1.5K-U	Prime Infrastructure LMS 4.2 - 1.5K Device Maj Upg Lic	N/A	0 days	Yes	1	0.00	0.00	50	0.00
4.3	L-PINCS11-1.5K-U	Prime Infrastructure NCS 1.1 - 1.5K Device Maj Upg Lic	N/A	0 days	Yes	1	0.00	0.00	50	0.00
4.4	L-PINCSW11-1.5K-U	Prime Infrastructure NCS WAN 1.1 - 1.5K Device Maj Upg Lic	N/A	0 days	Yes	1	0.00	0.00	50	0.00
5.0	PRIME-NCS-APL-K9	Cisco Prime Network Control System Hardware Appliance	N/A	14 days	No	2	14,995.00	29,990.00	50	14,995.00
5.1	NCS-APL-IMAGE-1.1	NCS 1.1 Appliance software version selection only.	N/A	14 days	No	2	0.00	0.00	50	0.00
5.2	AIR-PWR-CORD-NA	AIR Line Cord North America	N/A	14 days	No	4	0.00	0.00	50	0.00
6.0	GLC-T=	1000BASE-T SFP	N/A	14 days	No	12	395.00	4,740.00	50	2,370.00
7.0	AIR-CAP2602E-A-K9	802.11n CAP w/CleanAir; 3x4:3SS; Mod; Ext Ant; A Reg Domain	N/A	14 days	No	15	1,195.00	17,925.00	50	8,962.50
7.1	AIR-AP-BRACKET-1	802.11n AP Low Profile Mounting Bracket (Default)	N/A	14 days	No	15	0.00	0.00	50	0.00
7.2	SWAP2600-RCOVR-Y-K9	Cisco 2600 Series IOS WIRELESS LAN RECOVERY	N/A	14 days	Yes	15	0.00	0.00	50	0.00
7.3	AIR-AP-T-RAIL-R	Ceiling Grid Clip for Aironet APs - Recessed Mount (Default)	N/A	14 days	No	15	0.00	0.00	50	0.00
8.0	AIR-CAP2602I-AK910	RegDomain	N/A	14 days	No	13	10,950.00	142,350.00	50	71,175.00
8.1	AIR-AP-BRACKET-1	802.11n AP Low Profile Mounting Bracket (Default)	N/A	14 days	Yes	130	0.00	0.00	50	0.00
8.2	SWAP2600-RCOVR-Y-K9	Cisco 2600 Series IOS WIRELESS LAN RECOVERY	N/A	14 days	Yes	13	0.00	0.00	50	0.00
8.3	AIR-AP-T-RAIL-R	Ceiling Grid Clip for Aironet APs - Recessed Mount (Default)	N/A	14 days	Yes	130	0.00	0.00	50	0.00
8.4	AIR-CAP2602I-ABULK	BOM Level AP2600i Bulk PID for A reg domain	N/A	14 days	Yes	130	0.00	0.00	50	0.00
9.0	AIR-CAP2602I-A-K9	802.11n CAP w/CleanAir; 3x4:3SS; Mod; Int Ant; A Reg Domain	N/A	14 days	No	5	1,095.00	5,475.00	50	2,737.50
9.1	AIR-AP-BRACKET-1	802.11n AP Low Profile Mounting Bracket (Default)	N/A	14 days	No	5	0.00	0.00	50	0.00
9.2	SWAP2600-RCOVR-Y-K9	Cisco 2600 Series IOS WIRELESS LAN RECOVERY	N/A	14 days	Yes	5	0.00	0.00	50	0.00
9.3	AIR-AP-T-RAIL-R	Ceiling Grid Clip for Aironet APs - Recessed Mount (Default)	N/A	14 days	No	5	0.00	0.00	50	0.00
10.0	AIR-ANT2544V4M-R=	2.4GHz 4dBi/5GHz 4dBi Multi Mount Omni Ant. 4-port RP-TNC	N/A	14 days	No	15	799.00	11,985.00	50	5,992.50
11.0	AIR-CAP3702I-A-K9	802.11n CAP w/CleanAir; 4x4:3SS; Mod; Int Ant; A Reg Domain	N/A	14 days	No	10	1,495.00	14,950.00	50	7,475.00
11.1	AIR-AP-BRACKET-1	802.11n AP Low Profile Mounting Bracket (Default)	N/A	14 days	No	10	0.00	0.00	50	0.00
11.2	AIR-AP-T-RAIL-R	Ceiling Grid Clip for Aironet APs - Recessed Mount (Default)	N/A	14 days	No	10	0.00	0.00	50	0.00
11.3	SWAP3600-RCOVR-Y-K9	Cisco 3600 Series IOS WIRELESS LAN RECOVERY	N/A	14 days	Yes	10	0.00	0.00	50	0.00
<b>Products SubTotal</b>										<b>261,305.00</b>
<b>Services</b>										
1.0.1	CON-SNT-CT57601K	SMARTNET 8X5XNBD Cisco 5700 Series Wi	12 month(s)	N/A	No	1	26,000.00	26,000.00	28	18,720.00
2.0.1	CON-SNT-CT5760HA	SMARTNET 8X5XNBD Cis 5700 Ser Wirels Controllr for high	12 month(s)	N/A	No	1	2,600.00	2,600.00	28	1,872.00
3.0.1	CON-SAU-PI11WCSM	SW APP SUPP + UPGR NULL SKU-No line item services included	12 month(s)	N/A	No	1	0.00	0.00	28	0.00
3.6.0.1	CON-SAU-PI111K	SW APP SUPP + UPGR PI 1.1 Software - 1K Device Base Lic	12 month(s)	N/A	No	1	13,800.00	13,800.00	28	9,936.00
4.0.1	CON-SAU-PI11LMSU	SW APP SUPP + UPGR NULL SKU-No line item services included	12 month(s)	N/A	No	1	0.00	0.00	28	0.00
4.1.0.1	CON-SAU-PI1115K	SW APP SUPP + UPGR LMS 4.x to PI 1.x Minor Upg 1.5K Device	12 month(s)	N/A	No	1	17,800.00	17,800.00	28	12,816.00
5.0.1	CON-SNT-NCSA PL9	SMARTNET 8X5XNBD Cisco Prime Network Control System HW	12 month(s)	N/A	No	2	1,200.00	2,400.00	28	1,728.00
<b>Services SubTotal</b>										<b>45,072.00</b>
<b>Configset Total</b>										<b>306,377.00</b>



## PROJECT TIMELINE

Estimated duration: TBD

## PROJECT LOCATIONS

Street Number	Street	Location	Department	Site Survey
2100	Alum Creek	Refuse	Public Service	
1800	East 17th Avenue	Construction Inspection	Public Service	Yes
1820	East 17th Avenue	Traffic Maintenance Facility	Public Service	Yes
1850	East 25th Avenue	Street Maintenance Facility	Public Service	Yes
1881	East 25th Avenue	Engineering and Construction Facility	Public Service	Yes
4260	Morse Rd	Morse Rd Transfer Station	Public Service	
1055	Mt Vernon Ave	JOBS	Multiple	
50	West Gay Street	Beacon Building (TBD due to pending move)	Multiple	Yes
77	N. Front St	Old Police HQ	Multiple	Yes
1111	E. Broad	Jerry Hammond Center	Technology	Yes
1601	Arlingate Lane	Information Services	Technology	Yes
750	Piedmont Ave	Carolyn/Piedmont	Develpment	Yes
1280	Brentnell Avenue	Brentnell Recreation Center	Rec Parks	
1533	Alum Creek	R&P Whse	Rec Parks	Yes
867	Mt Vernon Ave	King Arts Center	Rec Parks	
247	North Ohio Avenue	Beatty Recreation Center	Rec Parks	
3860	Trabue Ave	Raymond Golf	Rec Parks	
1900	Wilson Ave	Wilson Ave Golf	Rec Parks	
3639	Parsons Ave	Fire Training Academy	Public Saftety	Yes
1425	Indianola	Fire Station 7	Public Saftety	
1800	E Livingston	Fire Station 15	Public Saftety	
1096	West Broad Street	Fire Station 10	Public Saftety	
739	West Third Avenue	Fire Station 25	Public Saftety	
300	North Fourth Street	Fire Station 1&9	Public Saftety	
1240	East Long Street	Fire Station 8	Public Saftety	
2250	W Broad St	Fire Station 17	Public Saftety	

## CHANGE CONTROL

Upon request for or in event of circumstances requiring Out Of Scope (OOS) work NDI will provide City of Columbus with a Change Request Form.

NDI will respond to out of scope requests with a quotation and/ or a Change Request Form. This form will be used to administratively track changes to this Proposal and additional charges resulting from those changes. City of Columbus and NDI will both be required to sign/approve in writing the Change Request Form. If the Change Request results in a change in price City of Columbus agree to pay NDI any additional charges incurred as a result of changes to this Proposal.

## PRICING

City of Columbus - Wireless Network				
	10/25/2013			
	Pricing Totals	Hours	Engineer Type	Rate
Wireless Network Design	\$ 15,000.00	120	CCIE	125
Installation - Testing	\$ 20,000.00	160	CCIE	125
Training Support	\$ 5,750.00	46	CCIE	125
Staging	\$ 22,750.00	182	CCIE	125
Project Management - XX Hrs @85.00	\$ 15,000.00	176	PM	85
Design Survey with Report	\$ 30,000.00	316	CCNA	95
Equipment Hardware & Maintenance	\$ 306,377.00			
Cisco Training Credits	\$ 10,000.00	150 Cisco Training Credits		
<b>Total</b>	<b>\$ 424,877.00</b>			

### Payment Terms

Pricing for the above Support Services & Hardware-Maintenance are based **under** UTC FL005675 (Support Services) & UTC FL005447 (Hardware & Software).

1. NDI will invoice Customer at the completion of the project. Payment is expected within (30) days of receipt of invoice.

**Signature Acceptance Page**

This Statement of Work is subject to the Universal Term Contracts FL005675 & FL005447.

**NETWORK DYNAMICS, INC.**

**City of Columbus**

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