

Pima County Wireless Integrated Network

PCWIN Project Implementation Plan

September 25, 2008

A 2004 Pima County Bond Project

Pima County Wireless Integrated Network
C/o Pima County Sheriff's Department • 1750 E. Benson Hwy. • Tucson, AZ 85714





PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

Document Control

Document Information

	Information
Document Id	
Document Owner	<i>Captain Paul Wilson, Project Administrator</i>
Issue Date	<i>September 25, 2008</i>
Last Saved Date	<i>October 21, 2008</i>
File Name	<i>P:\Communications\PCWin\Project Files\PCWIN Project Mgmt Plan 102108.docx</i>

Document History

Version	Issue Date	Changes
<i>1.0</i>	<i>9/25/08</i>	<i>First Release</i>

Document Approvals

Role	Name	Signature	Date
PCWIN Project Manager	Tony Casella		
PCWIN Project Administrator	Paul Wilson		



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

Table of Contents

1	INTRODUCTION	1
1.1	Project Description and Objectives	1
1.2	PCWIN Mission, Values and Objectives:	1
1.2.1	Mission	1
1.2.2	Values.....	1
1.2.3	Objectives	2
1.3	PCWIN Project Reports	2
1.4	Dependencies and Constraints.....	3
2	GOVERNANCE.....	4
2.1	Pima County	4
2.2	Board of Supervisors.....	4
2.3	County Administrator	4
2.4	PCWIN Committees	4
2.4.1	Executive Management Committee	4
2.4.1.1	User Committee	5
2.4.1.2	Technical Committee.....	5
3	PROJECT MANAGEMENT OBJECTIVES.....	6
4	PROJECT MANAGEMENT SCOPE.....	7
4.1	Financial Tasks.....	7
4.2	Technical Tasks	8
4.3	Scheduling Tasks	9
5	PROJECT MANAGEMENT TEAM	11
5.1	PCWIN Project Administrator	11
5.2	PCWIN Project Manager	11
5.3	PCWIN Assistant Project Manager	12
5.4	Facilities Management Project Manager.....	12
5.5	Wireless Services Manager	14
5.6	Administrative Assistants	14



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

5.7	City of Tucson General Services Department	15
5.8	CTA Communications, Inc.....	15
5.9	ECC/EOC Stakeholder Workgroup(s)	16
5.10	PCWIN Voice & Data Radio Stakeholder Workgroup(s)	17
6	STAKEHOLDER GROUPS.....	18
6.1	Voice and Data Communications Network.....	18
6.2	Emergency Communications & Operations Center(s).....	18
7	STAKEHOLDER ROLES & RESPONSIBILITIES	20
7.1	Pima County	20
7.2	Board of Supervisors.....	20
7.3	County Administrator	20
7.4	PCWIN Governance Committees	20
7.4.1	PCWIN Executive Management Committee.....	20
7.4.2	User Committee	20
7.4.3	Technical Committee	20
7.5	Pima County Departments.....	20
7.5.1	Pima County Sheriff's Department.....	20
7.5.2	Pima County Office of Emergency Management & Homeland Security	21
7.5.3	Pima County Facilities Management Department	21
7.5.4	Pima County Information Technology Department.....	21
7.5.5	Pima County Procurement Department	21
7.5.6	Pima County Finance & Risk Management.....	21
7.5.7	Pima County Capital Improvement Project Office	21
7.5.8	Pima County Real Property.....	21
7.6	Voice & Data Radio Project Participants	22
7.6.1	City of Tucson	22
7.6.2	Town of Marana	22
7.6.3	Tohono O'odham Nation.....	22
7.7	Communications & Emergency Operations Center(s) Project Participants.....	23
7.7.1	Tucson Police Department Communications Section	23
7.7.2	Tucson General Services Department – 9-1-1 PSAP & Fire Dispatch.....	23
7.7.3	County Fire District Dispatch Organization	23
7.7.4	Pima County Sheriff's Department Communications Section.....	23
7.7.5	Pima County Office of Emergency Management & Homeland Security	23
8	MASTER PROJECT SCHEDULE.....	24
9	COMMUNICATION	25
9.1	Communication Stakeholder Requirements.....	25



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

9.2	Communication Plan.....	26
9.2.1	Communications Plan Schedule.....	27
9.2.2	Matrix.....	27
9.3	Communications (Document) Control.....	27
10	CHANGE REQUESTS/ORDERS.....	29
10.1	Construction Change Orders.....	29
10.2	Equipment and Professional Service Contracts.....	29
10.3	Requests for Change Orders	29
11	RISK PLAN.....	32
11.1	Risk Identification	32
11.2	Definition.....	32
11.3	Categories.....	32
11.4	Risks.....	33
11.5	Risk Analysis and Prioritization.....	34
11.5.1	Likelihood.....	34
11.5.2	Impact.....	34
11.5.3	Priority	34
11.6	Risk Process	35
11.6.1	Procedures	35
11.6.2	Raise Risk	35
11.6.3	Register Risk.....	35
11.6.4	Assign Risk Actions.....	36
11.6.5	Implement Risk Actions	36
11.7	Risk Form.....	38
11.8	Risk Register	39
12	FINANCIAL ACCOUNTING & REPORTING.....	40
12.1	Reports	40



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

1 Introduction

This Project Implementation Plan is intended to provide written guidance to all Project Stakeholders concerning implementation of the Pima County Wireless Integrated Network (PCWIN) project, its objectives, project management methodology, responsibilities and authority, and communication. By its very nature, this is intended to be a living document that will be revised as necessary to properly guide implementation of the PCWIN project.

Project implementation is separate and distinct from future operations and maintenance organization plans to be developed according to the principles detailed in the PCWIN Business Plan. Responsibilities for developing the future organization are assigned by this Implementation Plan to the PCWIN Administrator.

1.1 Project Description and Objectives

Pima County is acting on behalf of thirty-two public safety agencies to implement the PCWIN project which is authorized by Pima County Bond Implementation Plan – May 18, 2004 Special Election, Ordinance No. 2004-18. The PCWIN project is comprised of two related and interdependent sub-projects:

- Development of a countywide public safety voice and data communications network
- Design and construction of a dispatch and emergency operations center(s)

The technology systems and facilities implemented are expected to have a supported service life of at least 20 years and to be compatible to the maximum extent practical with evolving technological innovations that can be reasonably foreseen.

1.2 PCWIN Mission, Values and Objectives:

1.2.1 Mission

The mission of the Pima County Wireless Integrated Network is to design, procure, deploy and operate a regional public safety voice and data communications network, improve public safety radio interoperability; and, to design, construct and operate a regional communications center(s).

1.2.2 Values

In our effort to accomplish our mission, the Pima County Wireless Integrated Network participants will value:

- Our partner agencies;
- Cooperation, coordination and compromise required to make this project a success;
- The safety of Pima County residents;
- The safety of our public safety officials;
- Homeland security;
- Coordinated emergency response;
- Communications interoperability;



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT A 2004 Pima County Bond Project

- Standardized terminology, codes, plans, procedures and protocols that will improve delivery of emergency services;
- Exemplary stewardship of public funds; and
- Shared responsibility for maintaining and operating deployed systems.

1.2.3 Objectives

The PCWIN project consists of the following objectives:

- Deployment of “standards” based systems that will provide for compatibility with other standards based systems in the State.
- Voice Radio System - will be a digital, trunked, simulcast P25 compliant radio system using 700/800 MHz spectrum throughout Pima County
- Mobile Data System - will be a standalone high performance system utilizing 700 MHz spectrum to meet the needs of mission critical applications.
- Automatic Vehicle Location - will be provided by a GPS based solution operating on the mobile data system so that agencies can immediately identify, locate and manage vehicle and personnel resources.
- Subscriber Equipment – will consist of mobile and portable radios. The portable radios will be configured in four tiers depending on the agencies need and use.
- Connectivity – will be the backbone infrastructure for the entire PCWIN voice and data radio system. It will be a reliable network utilizing as many existing connectivity assets as reasonable to minimize costs and less environmental impact.
- Physical Facilities – are the locations that the connectivity equipment resides. These are considered to be remote tower sites or equipment rooms in agency owned facilities. Many of the facilities require a certain amount of work to be done in order to accommodate the new equipment for PCWIN.
- Dispatch Center(s) – will be designed and constructed to house the radio communications and telecommunications infrastructure, furnishings and other equipment necessary to relocate the County Emergency Operations Center, and 9-1-1 and dispatch operations for the City of Tucson, Pima County, and a newly formed organization for dispatching multiple fire districts.
- Project Management - to bridge the technology and construction projects for implementation. The technology projects will be dependent upon coordinated completion of the building renovation and construction projects.

1.3 PCWIN Project Reports

The PCWIN planning efforts have resulted in several document deliverables. Some are available on-line. Others contain sensitive information and are considered confidential. Requests for confidential information are considered on a case-by-case basis. When determined to be necessary to further the project confidential documents may be shared with entities executing a confidentiality agreement.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT A 2004 Pima County Bond Project

PCWIN User Needs Assessment Report - The report describes (1) desired voice radio and (2) mobile data radio system capabilities inclusive of an automatic vehicle locator (AVL) capability; (3) operational, functional, and technical facility, and systems requirements for a combined 9-1-1 PSAP, dispatch and emergency operations control center(s).

[PCWIN User Needs Assessment Report – Volume 1](#)

[PCWIN User Needs Assessment Report – Volume 2](#)

PCWIN Legacy Systems Characterization Report (Confidential) – This report documents the physical condition, functionality, and performance of the current voice and data radio systems, microwave, network systems and antenna site facility components in use by the partner agencies that are expected to be re-used in a new system.

PCWIN System Alternatives & Recommendations Report - The Systems Alternatives & Recommendations Report contains various technology alternatives, providing a comprehensive description of FCC regulatory issues and communications center E 9-1-1 PSAP considerations which may have an impact on the PCWIN project. CTA's recommendations provide the best solutions to meet the requirements of the PCWIN voice radio, mobile data, communications center(s), location systems and network systems components.

PCWIN Concept of Operations Report - The "Concept of Operations" document describes existing systems and facilities that are to be replaced, and the proposed system(s) and facilities; and, concepts for their use, management, maintenance, operation and sustainability.

PCWIN Business Plan - The "Business Plan" describes an overarching business strategy for the PCWIN project. Future policy development and operational planning will further the concepts contained within the PCWIN Business Plan.

PCWIN Conceptual Architecture Planning Document (Confidential) – This document contains a comprehensive set of functional requirements for the development of each PCWIN program segment.

1.4 Dependencies and Constraints

PCWIN consists of many phases and components that will require coordination not typically found in other projects. What makes this project unique is the complexity of a county wide voice and data radio system along with construction and renovation of two dispatch facilities. There will be dependencies overlapping one another in phases thus requiring tight coordination between internal and external resources which is critical.

Many projects of this size are underfunded and PCWIN is no exception. It is imperative that cost control measures are in place to manage the efficient use of taxpayer and bond dollars.

Certain grants have been awarded that must be expended in a short amount of time or they will be lost. The loss of these grants cannot occur since all grants in general are difficult to receive and have a long approval cycle.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

2 Governance

2.1 Pima County

Pima County is the jurisdiction having primary responsibility for the PCWIN project. Pima County general obligation bond dollars are funding the project. Assets purchased with bond funds will be assets of Pima County. The following Pima County policies and procedures apply.

[Pima County Board of Supervisors Policy](#)

[Pima County Administrative Procedures](#)

[Pima County Code](#)

[Pima County Procurement Code](#)

[Pima County Procurement Manual](#) (Requires access to Pima County intranet)

[Pima County Merit System Rules and Personnel Policy](#)

2.2 Board of Supervisors

The Pima County Board of Supervisors has final decision making authority over the PCWIN project. The Board is responsible for approving all contracts and intergovernmental agreements associated with the PCWIN project and may decide other matters at their discretion or upon recommendation of staff.

2.3 County Administrator

The County Administrator is responsible to the Board of Supervisors for overseeing management and implementation of County bond projects. The County Administrator shares responsibility for approving goals and objectives, strategy, financial expenditures and policy matters related to the project with the PCWIN Executive Management Committee.

2.4 PCWIN Committees

Bond and grant investments are managed by committees established by the Pima County Bond Implementation Plan composed of police and fire representatives to promote multi-jurisdictional, multi-discipline cooperation and participation. Three committees have been formed: the Executive Management Committee, the User Committee, and the Technical Committee.

The governance committees are policy making bodies and are expected to be engaged in various aspects of organizational development and project implementation. Individual committee members may be called upon to participate in various stages of project implementation as their individual knowledge, skills and representation are needed. Meetings of the full committees are subject to Arizona Open Meeting Laws.

2.4.1 Executive Management Committee

The Executive Management Committee has been charged by the Board of Supervisors with the responsibility for managing implementation of the PCWIN project. This management committee approves goals and objectives, strategy, technology, financial expenditures and policy matters related to the project. The Committee is responsible to the Board of Supervisors.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

2.4.1.1 User Committee

The User Committee is appointed as an advisory committee. Each participant agency is represented. The User Committee represents radio users in their respective agencies and advises the Executive Management Committee on operational and policy issues.

2.4.1.2 Technical Committee

The Technical Committee is appointed as an advisory committee. Members possess credentials in several technical disciplines. The Committee advises the Executive Management Committee on technical issues and matters of technical policy and system maintenance.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT A 2004 Pima County Bond Project

3 Project Management Objectives

The PCWIN project is highly complex project including technology and construction components. The large stakeholder community interjects additional political and communication concerns. Managing stakeholder expectations, participation and input will be extremely important to the overall success of the project. The major objectives of this Project Management Plan are to:

- Describe a comprehensive approach to project management for implementation of technical systems and construction
- Assign roles and responsibilities of project stakeholders
- Implement a team approach to project implementation
- Establish a communications plan for stakeholders at all levels
- Define a process for schedule management and maintenance
- Assign responsibility for fiscal accountability and financial reporting
- Provide information on policies and procedures for procurement, and change order and document tracking
- Define a risk management assessment and mitigation planning strategy
- Define a change request process



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT A 2004 Pima County Bond Project

4 Project Management Scope

The success or failure of any project relies on communication, coordination, and commitment.

As noted above in the dependencies and constraints section, coordination between internal and external resources is critical.

A Project Manager from the county's Facilities Management department will oversee the Architectural & Engineering services and the construction and renovation phase of the dispatch center(s). Project Managers from the Sheriff's department in conjunction with the Information Technology Department will oversee the voice and data radio phase. Various other County departments will contribute as their areas of responsibility and expertise are needed.

Coordination among external resources consists of various contractors from multiple disciplines in the construction and technology phases. Agency and Jurisdiction coordination will also play an important role since technology assets for PCWIN will be located at various agency/jurisdiction facilities and these entities will comprise the future end user community.

Contractors will assign their own Project Managers to meet their individual responsibilities, but the county is responsible for the overarching global project management responsibilities to ensure that implementation of each component proceeds on schedule.

A major project management responsibility is the scheduling of both the construction and technology phases of this project. This scheduling task will play a vital role in bridging the various phases of the project. All internal and external resources responsible for maintaining their own schedule will feed into a master schedule.

Financial management for the Technical phase of the project will have to be addressed. There will be a fair amount of work involved with contractor(s) relating to invoicing, change orders, and record keeping.

We anticipate that the Project Management Team will be responsible for multiple tasks that fall into three task categories to mitigate risk throughout the duration of the PCWIN project. While some of these tasks will be carried out by multiple departments working on their respective PCWIN phases, many of the tasks overlap.

4.1 Financial Tasks

The financial component of this project encompasses the tasks listed below. These tasks are crucial in maintaining fiscal responsibility and accountability for public funds.

- **Solicitation and Procurement of Contracts** - As this project moves into the implementation phase, there will be ad-hoc professional services necessary to complete certain milestones. These services may include short term work that is not part of a scope from a current Contractor(s). Commodity purchases will also need to be managed closely as to minimize the expenditure of potential contingency funds.
- **Master project budget** – This budget will be established by the County and maintained by the Project Management team. This team must monitor various costs



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT A 2004 Pima County Bond Project

to the project and revise such with estimated or real costs as well as providing budget reports such as cash flow forecasts, fiscal year budgeting and baseline tracking.

- **Contractor(s) payment support** – Contractor(s) are hired to perform a job and they expect to be paid timely. When Contractor(s) submit invoices for payment they must be approved by the County and then submitted for payment. Tracking of Contractor(s) submittals for milestone payments and change orders is a crucial process.
- **Change order management** – Change Orders are inevitable. They can be in the form of a “no cost” or “zero” cost change order or they can have dollars associated with them. These change orders must be submitted, tracked, reviewed, and approved on a timely basis so as to avoid potential slippage to the overall master project schedule.
- **Contract administration** – With large projects containing many dependencies, certain requirements contained in a contract may be overlooked. Thus it is important that clear oversight prevails in verifying Contractor(s) compliance with their contractual obligations.
- **Record keeping** – Projects will contain information in various formats. Hard copy and electronic are the most common and will require a great deal of organization. Transmittals from Contractor(s) will be unique and required for all items.
- **Project control system** - To alleviate potential issues with missing information as well as to facilitate an accurate tracking methodology for records as listed above, it will be necessary to establish an electronic system. This system will keep all transmittals containing correspondence, change order, RFI, submittal, issues, schedules, and meetings.

4.2 Technical Tasks

The largest component of the PCWIN project is implementation of the technology assets.

- **Radio System Detailed Design** – The Detailed Design Review (DDR) encompasses a detailed presentation of the system that the Contractor(s) has designed for the County. This includes the Scope or Statement of Work (SOW), proposed schedule, block diagrams, site designs, migration and cutover plans, and various technical calculations all of which are to meet the requirements of the contract.
- **Factory Staging** – This is where the Contractor(s) sets up much of the equipment at their location configured to customer specifications and ready to ship. The County must review and approve the factory staging test plans of the Contractor(s) and oversee testing prior to shipment of equipment to final destination.
- **Technical Correspondence** – There will be a considerable amount of technical communication between Contractor(s) and the County. This requires a certain level of technical expertise to clearly understand and interpret the language that is presented and a timely and accurate response that is needed.
- **Oversight of Tests** – The County will oversee acceptance tests. There will be various tests throughout the projects implementation among various vendors in accordance with the approved ATP. These tests must be witnessed by an authorized representative of the County.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT A 2004 Pima County Bond Project

- **Conflict Resolution** – Throughout the duration of the project there may be times where Contractor(s) have disagreements. These disagreements regardless of how minor or major they are perceived could impact the project schedule. One must identify and resolve the issues causing conflict early on as to mitigate the risk of slippage to the schedule.
- **Quality Control Plan** – The Contractor(s) is required to submit details about their quality control measures in a detailed plan. Each Contractor(s) in various phases throughout the project will have different Quality Control Measures. These measures will be reviewed and monitored by the County for compliance and adherence to the submitted plan.
- **Inspections** - Inspections of Contractor(s) work is a necessary component of this project prior to final system acceptance. A punch list will be developed after inspection of each module listed below.
 - **Physical Facilities** – The County will inspect the work performed by the Physical Facilities Contractor(s) prior to the installation of connectivity, radio system, and mobile data equipment. The facilities must meet the requirements as listed in the SOW.
 - **Radio System** – The County will conduct various radio system inspections to confirm installation is complete in accordance with the contractual requirements set forth in the RFP and ready for acceptance testing.
 - **Mobile Data/AVL** - The County will conduct various mobile data/AVL system inspection to confirm installation is complete in accordance with the contractual requirements set forth in the RFP and ready for acceptance testing.
- **Acceptance Test Plan** – The Acceptance Test Plan (ATP) is developed by the Contractor(s) and submitted to the County. This plan includes demonstrated operation of all system features, inspections, testing, documentation, and training as described in the RFP. It will be a comprehensive plan to validate the proper operation of the entire system and components that will lead to a complete coverage test. The County retains final approval of the Acceptance Test Plan (ATP).
- **System Cutover** – The goal of any system cutover is to minimize the disruption of systems currently in operation. The Contractor(s) will submit a schedule for the sequential cutover of agencies. This schedule must be reviewed to determine if the proposed sequence is logical and attainable.

4.3 Scheduling Tasks

Keeping a project on schedule is a very detailed and precise task. As the size of the project grows so does the complexity and risk, thus control of the schedule, tasks, predecessors and successors is important.

- **Master Schedule** – The master schedule is maintained and controlled by the County. This schedule will contain all Contractor(s) schedules and will be reviewed during team meetings.
- **Communication Plan** – Along with the master schedule is a communication plan. All Contractor(s) and team members must agree on the method of communication. Once a plan is agreed upon this will become the platform for which team members will be



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

informed of project details. This plan will allow the county to coordinate various activities.

- **Project Team Meetings** – These meetings consist of monthly in person and bi-weekly conference calls. The goals of both meetings are to review the master schedule, identify any problems, consensus on solutions, assign tasks, discuss action items, and record outcomes.
- **Progress Reports** – These reports will be developed and delivered on a monthly basis and contain activity from the prior month, any action items, red flag items with proposed solutions, and task assignments.
- **Risk Management Plan**- A main project objective is to mitigate risk. This risk must be addressed in a timely matter so it does not impact the master schedule. All risks or perceived risks need to be addressed by the project team and discuss the potential impact of the risk to the master schedule.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

5 Project Management Team

5.1 PCWIN Project Administrator

The Project Administrator is a Sheriff's Department senior management staff member responsible for the overall development and implementation of the project and supervision of staff. Because the PCWIN project is complex and requires the service of many individuals, the Project Administrator will retain direct responsibility for several activities and deliverables in addition to his/her overarching responsibility for delivery of a successful project.

The Project Administrator's responsibilities include:

- Monitor project expenditures to ensure project is within budgetary guidelines.
- Approve all change orders and milestone payments.
- Liaise with stakeholders that include public safety entities, jurisdictions, and committees.
- Contract administration including Master Agreements, IGA's, Leases, etc.
- Develop policies and procedures, and organizational structure to maintain PCWIN post implementation.
- Support of the PCWIN Governance Committees.
- Financial accounting and reporting.
- Grants management.

5.2 PCWIN Project Manager

The Project Manager is responsible for the technical, functional and operational implementation of the voice and data radio systems including radio equipment facilities, and other technology components; and, their integration with the new dispatch facilities. The Project Manager is empowered with the authority and responsibility for day-to-day decision making relative to the implementation process.

The Project Manager's responsibilities include:

- Oversee all PCWIN related implementation disciplines.
- Develop and maintain master project schedule to meet the goals of the project.
- Monitor Consultant's and Contractor's performance against individual contracts and the PCWIN Master Project Schedule.
- Identify required resources, assemble appropriate team members, and assign responsibility and deadlines to facilitate successful completion of project activities and deliverables per established schedule.
- Delegate tasks and responsibilities to appropriate personnel.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

- Coach, mentor, motivate and supervise project team members and contractors, and influence them to take positive action and accountability for their assigned work.
- Identify and resolve issues and conflicts among contractors.
- Escalate unresolved problems and issues, as necessary, to keep project on schedule and on budget.
- Mitigate risks as it relates to the potential impact to the master schedule.
- Identify and manage project dependencies and critical path.
- Chair project team meetings and communicate project status with the implementation team per the communications plan.
- Receive, review, and submit all change orders and milestone payments.
- Develop and maintain the action item/task list for all team members including contractors.
- Administer the document collaboration system.

5.3 PCWIN Assistant Project Manager

The Assistant Project Manager will assist the Project Manager in managing the day to day implementation of the PCWIN project.

The Assistant Project Manager's responsibilities include:

- Plan and schedule project timelines and milestones.
- Develop and deliver progress reports.
- Scheduling of consultants, subcontractors, vendors, suppliers, etc.
- Participate in weekly and monthly project team meetings.
- Participate in all testing, inspections, and cutovers of all phases of PCWIN project.
- Estimate the resources and participants needed to achieve project goals.
- Review, organize and consolidate all As-Built documentation, plans, manuals, etc.

5.4 Facilities Management Project Manager

The Facilities Management Project Manager is responsible for managing the renovation projects at the two dispatch facilities with specific emphasis on construction, furnishings, landscaping, building commissioning and cutover. The Facilities Management Project Manager is an Architect assigned by Pima County Facilities Management. She/he will coordinate integration of the radio components and other technology with the PCWIN Project Manager.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

The Facilities Management Project Manager responsibilities include:

- **Oversee Architectural/Engineering Professional Services Contract for PCWIN Building Construction projects.**
- **Obtain services for the following contractor/consultant services for the PCWIN Construction projects:**
 - Environmental remediation report and mitigation (asbestos)
 - Geotechnical reports if necessary
 - Special inspections and material testing
 - Furniture procurement
 - Third party commissioning agent
 - General Contractor for PCWIN Building Construction projects
 - Moving Companies
- **Monitor Consultants and Contractors to ensure that all contracted deliverables are received and performance standards are met including budget and project schedule.**
- **Serve as Pima County's point of Contact for A/E Consultant during design and bidding phase and for all A/E and General Contractor Contract related items.**
- **Receive invoices for the PCWIN Construction projects.**
- **Establish a baseline schedule and project cost model for PCWIN Building Renovation projects with input from the PCWIN Project Administrator and PCWIN Project Manager.**
- **Facilitate coordination of Design and Construction project schedules.**
- **Coordinate integration of technology and telecommunication with PCWIN Project Manager.**
- **Distribute and receive comments on Design Submittal Review Sets.**
- **Submit to Development Services (Tucson and Pima County) as necessary for Development Plan review, Native Plant Preservation Plan review, and Building Permit document review.**
- **Participate in project team meetings to review project status.**
- **Review of Pay Applications, Change Order Requests.**
- **Escalate unresolved problems and issues, as necessary, to keep project on schedule and budget.**



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

5.5 Wireless Services Manager

The Pima County Wireless Services Manager will be assigned to assist the PCWIN Project Manager with tasks specifically related to voice and data radio implementation. These tasks may include:

- Permitting for remote radio site construction with BLM, USFWS, NFS, Pima County, various municipalities, and other appropriate government agencies.
- Coordinating efforts between voice radio vendor, data radio vendor, connectivity vendor, and physical facility vendor.
- Participate in weekly and monthly project team meetings.
- Inspecting contractor's work.
- Maintaining punch lists for incomplete tasks.
- Supervising intermediate and final systems acceptance testing.
- Participating in factory acceptance testing.
- Supervising tasks assigned to Communications Technicians during system build-out, testing, alignment and acceptance.
- Assisting contractors in locating local resources for services and materials.

5.6 Administrative Assistants

Administrative Assistants provide paraprofessional level administrative support for the PCWIN Administrator and PCWIN Project Manager. An Administrative Assistant's responsibilities may include:

- Coordinating advisory committee meetings.
- Record keeping and establishment of appropriate filing systems.
- Maintaining specialized databases.
- Coordinating and monitoring Intergovernmental Agreements, contracts, and other obligatory agreements.
- Responding to public and staff inquiries, providing information, or referring questions to appropriate staff.
- Researching information and preparing routine correspondence, memoranda, policies and manuals.
- Processing accounting documentation such as requisitions, purchase orders, claims and fund transfers.
- Creating and distributing meeting agendas and minutes.
- Organizing, uploading, and maintaining files in the document collaboration system.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

5.7 City of Tucson General Services Department

Plans for the PCWIN project include renovation of portions of the City of Tucson Thomas Price Service Center. The City of Tucson General Services Department is expected to act as the owner representative to facilitate internal reviews with City support departments and provide general review for conformance to City design and construction standards. Pima County Facilities Management Department will manage the A/E Professional Services and General Contractor's construction contract to design and renovate the facility.

Tucson General Services Department (GSD) responsibilities include:

- Participation in pre-design programming meetings, review of programming documents, and submittal of comments to the Facilities Management Project Manager.
- Facilitating access for building conditions surveys and facility evaluations, and provide any available documentation of existing building conditions.
- Reviewing and commenting on existing conditions reports.
- Coordinating City review of pre-design and design document programming submittals. Formal document reviews will be conducted at the end of the Pre-Design Phase, Schematic Design, Design Development, 50% CD submittal, and a 90% CD submittal. City representatives will also attend workshops at the end of each design phase and additional meetings to review topics such as interior furniture, finishes, material selections, security, etc.
- Participating in any value engineering sessions.
- Attending weekly construction meetings to address issues of shutdowns, closures, access and items of a technical nature requiring user input during the construction phase.
- Receiving copies of RFIs, shop drawings, and test results and assisting the Facilities Management Project Manger with answering contractor questions.
- Conducting regular inspections of the Price Service Center Construction project.

5.8 CTA Communications, Inc.

CTA Communications has been retained by the County to provide radio consulting services. The scope of their contracted work includes:

- Review and recommend approval of radio systems detail system design package(s) for contractual compliance and for technical suitability.
- Review and recommend approval of Factory Acceptance Test Plans.
- Witness factory staging tests.
- Conduct facility inspections, record punch lists, and create Facility Inspection Reports.
- Review and recommend approval of contractor Acceptance Test Plans.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

- Review and recommend approval of contractor Cutover Plans.
- Review and recommend changes to System Maintenance Manuals before final acceptance of the documents.
- Monitoring User Evaluation Period and resulting documentation.
- Attend Project Team Meetings and Conference Calls.
- Establish and maintain a punch list for site inspections, staging tests, and site/system tests.
- Witness acceptance tests and review System Test and System Coverage Reports.
- Review interference performance test results.
- Review Repeater Station Tests.
- Review and recommend approval of Simulcast Alignment and Realignment Procedures.
- Review and recommend approval of Dispatch Center(s) Floor Plans.
- Review radio system alarm plans.
- Review and recommend approval of physical facilities as-built documentation.
- Review and recommend approval of grounding plans.
- Make final recommendations to the County on the acceptability of the system as implemented, in accordance with the requirements of the various contracts
- Assist with development and implementation of operations and maintenance standards, policies, procedures and management structure to sustain systems after final acceptance.
- Provide technical assistance during the programming and space planning phases for the communications and emergency operations center(s) to help define the required facility requirements to meet the needs of the new radio equipment and other technologies.
- Develop and maintain a Master Project Schedule incorporating installation and construction schedules for all components of the PCWIN project.

5.9 ECC/EOC Stakeholder Workgroup(s)

An ECC/EOC Stakeholder Workgroup(s) will be assembled from representatives of the specific dispatch and emergency management departments that will be future tenants in the communications and emergency operations facilities. The workgroups will be called upon to provide input and assistance by the PCWIN Project Manager and Facilities Management Project Manager as planning and implementation activities dictate a need. At a minimum, the workgroup(s) will be expected to:



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

- Participate in pre-design programming meetings, review the programming documents, and submit comments to the Facilities Management Project Manager
- Attend workshops at the end of each design phase and additional meetings to review topics such as interior furniture, finishes, material selections, security, etc.
- Participate in cutover planning sessions
- Coordinate installation of technical systems such as Computer Aided Dispatch to be brought to the project by the individual participant organizations

5.10 PCWIN Voice & Data Radio Stakeholder Workgroup(s)

A PCWIN Voice & Data Radio Stakeholder Workgroup(s) will be comprised of representatives possessing specific technical and/or operational knowledge and capable of representing the needs of the law enforcement, fire and emergency management disciplines to provide input and assistance to the PCWIN Project Manager as planning and implementation activities dictate a need. At a minimum, the workgroup(s) will be expected to:

- Collaborate on the Detailed Design Review of voice and data radio systems
- Participate in inspections of voice/data radio and physical facilities implementations
- Review as needed technical correspondence and documentation
- Play a key role in the inspections of all technical systems
- Participate in system acceptance testing
- Assist with development of user training
- Participate in cutover of all technical systems

See PCWIN Implementation Org Chart in Appendix A



6 Stakeholder Groups

6.1 Voice and Data Communications Network

The regional public safety voice and data communications network will initially serve twenty fire departments and districts, eleven police agencies, and the Pima County Office of Emergency Management and Homeland Security. Pima County Ordinance No. 2004-18 specifies the following participants:

Voice & Data Radio Systems Participants	
Fire Agencies	Police and Emergency Services Agencies
Ajo/Gibson Volunteer Fire Department	Marana Police Department
Arivaca Volunteer Fire Department	Oro Valley Police Department
Avra Valley Fire District	Pascua Yaqui Police Department
Corona de Tucson Fire District	Pima College Department of Public Safety
Drexel Heights Fire District	Pima County Sheriff's Department
Elephant Head Volunteer Fire Department	Sahuarita Police Department
Golder Ranch Fire District	South Tucson Police Department
Green Valley Fire District	Tohono O'odham Tribal Police
Helmet Peak Fire District	Tucson Airport Authority Police
Mt. Lemmon Fire District	Tucson Police Department
Northwest Fire District	University of Arizona Police
Pascua Pueblo Fire Department	Pima County OEM & Homeland Security
Picture Rocks Fire District	
Rincon Valley Fire District	
South Tucson Fire Department	
Three Points Fire District	
Tohono O'odham Fire Department	
Tucson Airport Authority Fire Department	
Tucson Fire Department	
Why Fire District	

6.2 Emergency Communications & Operations Center(s)

The Pima County Sheriff's Department, Tucson Police Department, Tucson General Services Department (Fire Department) and the Pima County Office of Emergency Management & Homeland Security are empowered by the bond ordinance to participate in the communications center(s) project. This partnership results in benefit to several other agencies.

The Pima County Sheriff's Department in addition to providing 9-1-1 and law enforcement dispatch services for unincorporated Pima County also provides similar contract services to the Sahuarita Police Department.

The City of Tucson General Services Department provides 9-1-1 and fire and medical dispatch services for the Tucson Fire Department. They additionally provide similar contract services for a consortium of agencies represented by the Northwest Fire District.

The PCWIN Executive Management Committee has authorized participation by the county fire districts via an effort championed by the Northwest and Drexel Heights Fire Districts to form a separate dispatch organization to serve the county fire districts needs and co-locate their operations with the City of Tucson Fire Department dispatch. The departments expected to participate include:



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT A 2004 Pima County Bond Project

Proposed County Fire Dispatch Consortium	
Northwest Fire District	Drexel Heights Fire District
Golder Ranch Fire District	Arivaca Volunteer Fire Department
Picture Rocks Fire District	Helmet Peak Fire District
Avra Valley Fire District	Mt. Lemmon Fire District
Three Points Fire District	Rincon Valley Fire District
	Green Valley Fire District

The PCWIN Executive Management Committee has determined that the separate dispatch agencies will co-locate in the new dispatch facilities while maintaining autonomy of their individual operations.

Facilities for the Pima County Office of Emergency Management & Homeland Security will include the Pima County Emergency Operations Center and administrative offices.



7 Stakeholder Roles & Responsibilities

7.1 Pima County

Pima County is the jurisdiction having ultimate responsibility for the PCWIN project. Project implementation and future operations will be the responsibility of Pima County with input of the various stakeholders.

7.2 Board of Supervisors

The Pima County Board of Supervisors has final decision making authority over the PCWIN project. The Board is responsible for approving all contracts and intergovernmental agreements associated with the PCWIN project and may decide other matters at their discretion or upon recommendation of staff.

7.3 County Administrator

The County Administrator is responsible to the Board of Supervisor for overseeing management and implementation of County bond projects. The County Administrator shares responsibility for approving goals and objectives, strategy, financial expenditures and policy matters related to the project with the PCWIN Executive Management Committee.

7.4 PCWIN Governance Committees

7.4.1 PCWIN Executive Management Committee

The Executive Management Committee has been charged by the Board of Supervisors with the responsibility for managing implementation of the PCWIN project. This management committee approves goals and objectives, strategy, technology, financial expenditures and policy matters related to the project. The Committee is responsible to the Board of Supervisors.

7.4.2 User Committee

The User Committee is appointed as an advisory committee. Each participant agency is represented. The User Committee represents radio users in their respective agencies and advises the Executive Management Committee on operational and policy issues.

7.4.3 Technical Committee

The Technical Committee is appointed as an advisory committee. Members possess credentials in several technical disciplines. The Committee advises the Executive Management Committee on technical issues and matters of technical policy and system maintenance.

7.5 Pima County Departments

7.5.1 Pima County Sheriff's Department

The Pima County Sheriff's Department is the County department designated with responsibility for implementing the PCWIN project. The Sheriff chairs the Executive Management Committee. Sheriff's staff has been appointed to manage the project. Day-to-day operations are managed by the Department within parameters approved by the Executive Management Committee and the County Administrator.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

7.5.2 Pima County Office of Emergency Management & Homeland Security

The Office of Emergency Management & Homeland Security is a project participant. The County Emergency Operations Center and support staff offices will be a tenant in the planned Pima County Regional Emergency Communications and Operations Center. OEM staff is expected to participate in planning and implementation of the communications and emergency operations center(s).

7.5.3 Pima County Facilities Management Department

Pima County Facilities Management Department will assign staff to manage the construction projects for the communications and emergency operations center(s). The construction projects will be coordinated with the technology projects through the PCWIN Project Manager. The Department is also responsible for negotiating tenant leases for County owned facilities and for future maintenance and building operations at those facilities.

7.5.4 Pima County Information Technology Department

The Wireless Services Shop is part of the Information Technology Department. Wireless Services will assist the PCWIN Project Manager with antenna site development and implementation of the radio systems. Wireless Services will also be heavily involved in activities to organize a maintenance organization that will provide systems maintenance and support post implementation.

The Network, Server and Help Desk divisions will contribute planning assistance and future support for the information technology and telecommunications requirements of County owned communications and emergency operations center facilities. Throughout the planning process they will contribute to the development of policies, procedures and process required to facilitate support of information technologies deployed as part of the project.

7.5.5 Pima County Procurement Department

Pima County will be responsible for procuring all services and equipment purchased with funds managed by the County. The Procurement Department will provide timely assistance with procurement activities and contract/IGA approval.

7.5.6 Pima County Finance & Risk Management

The Pima County Finance Department is responsible for financial accountability and risk management. The Department will work with the Sheriff's Department to ensure bond sales are conducted in a timely manner to support the financial needs of the project. The Risk Manager will work with the Sheriff's Department to review contracts and ensure that new assets and buildings are properly insured.

7.5.7 Pima County Capital Improvement Project Office

The Capital Improvement Project Office is responsible for reporting progress on each of the County capital improvement bond projects. The Office will report progress on the PCWIN project to the Citizen's Bond Advisory Committee, County Administrator and Board of Supervisors. Staff will maintain the CIPAce database on behalf of the Sheriff's Department.

7.5.8 Pima County Real Property

Pima County Real Property is responsible for acquiring any new property required by the project. The Office may also be involved in preparing and negotiating tenant leases as requested by the Sheriff's Department.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

7.6 Voice & Data Radio Project Participants

Multiple jurisdictions will benefit from the PCWIN project. The degree of participation expected during implementation is directly related to the degree of benefit, risk, contribution and stake that each jurisdiction has in the project. All jurisdictions will have an interest in planning future systems that will meet their end-user communications requirements and will therefore be expected to participate in User Committee activities. Some jurisdictions will have a more significant role; some will be direct participants in the communications facility aspects of the project and/or may provide other assets that contribute to the success of the projects. Each jurisdiction will have some degree of responsibility for assisting with planning, training, cutover activities, and intergovernmental agreements.

The following jurisdictions will have additional specific responsibilities:

7.6.1 City of Tucson

Pima County and the City of Tucson are the two largest jurisdictions participating in the project. City of Tucson communications assets and facilities figure prominently in the PCWIN Conceptual Architecture Plan. These assets are expected to be important to the project. The city is the largest single participant in the communications facility component of the project. As a result, the City of Tucson has a larger stake in the project and it is expected that their level of participation will be significant. The City will be responsible for approving agreements with the County to make use of the City assets, reviewing and approving design plans for City facilities, assisting with configuration of City communications assets to support PCWIN systems, assisting with organization of a radio maintenance shop, assisting with development and implementation of cut-over plans, and contribution of technical advice. The City will retain control and ownership of their facilities and will be responsible for maintaining and operating their facilities.

7.6.2 Town of Marana

The Town of Marana has deployed a Motorola Astro25 voice radio system. This system and its associated communications equipment assets also figure prominently in the PCWIN Conceptual Architecture Plan. The Town will be responsible for approving agreements with the County to make use of Town assets if proposed by the selected radio vendor, assisting with configuration of Town communications assets to support PCWIN systems, assisting with organization of a radio maintenance shop, and contribution of technical advice.

7.6.3 Tohono O'odham Nation

The Tohono O'odham Nation has jurisdiction over two communications sites required to provide countywide radio coverage that will primarily benefit the Nation's end-users. The Nation has also utilized grant funds to purchase microwave equipment and an equipment shelter that are intended to contribute to the PCWIN project. The Nation will be responsible for approving agreements with the County to permit use of the Nation's land, facilities and equipment to support the PCWIN systems.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

7.7 Communications & Emergency Operations Center(s) Project Participants

7.7.1 Tucson Police Department Communications Section

The Tucson Police Department Communications Section call-taker and dispatch operations will be located in the Pima County Regional Emergency Communications and Operations Center. TPD representatives will participate in the design planning effort and coordinate integration of agency specific technology into the new facility.

7.7.2 Tucson General Services Department – 9-1-1 PSAP & Fire Dispatch

The Tucson General Services Department - 9-1-1 PSAP & Fire Dispatch functions will be located in renovated facilities at the City of Tucson Thomas Price Service Center. Department representatives will participate in the design planning effort and coordinate integration of agency specific technology into the new facility.

7.7.3 County Fire District Dispatch Organization

The Northwest and Drexel Heights Fire Districts are leading an organizing effort to develop a dispatch organization that will provide services to the various County Fire Districts. The fire districts are responsible for their organizational development activities outside of the PCWIN project. Because the new organization will operate from facilities to be renovated by the PCWIN project, representatives of this organization will need to participate in the design planning effort for the dispatch facilities, and coordinate integration of agency specific technology into the new facilities.

7.7.4 Pima County Sheriff's Department Communications Section

The Pima County Sheriff's Department Communications Section will be located in the Pima County Regional Emergency Communications and Operations Center. PCSD representatives will participate in the design planning effort and coordinate integration of agency specific technology into the new facility.

7.7.5 Pima County Office of Emergency Management & Homeland Security

The County Emergency Operations Center and support staff offices will be a tenant in the planned Pima County Regional Emergency Communications and Operations Center. OEM staff is expected to participate in planning and implementation of the communications and emergency operations center(s).



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

8 Master Project Schedule

Implementation of the PCWIN project will involve multiple contractors with individual project schedules. Each contractor will be required to submit a baseline project schedule that will be incorporated into the PCWIN Master Project Schedule. The PCWIN Project Manager is responsible for directing the consolidation of the various contractor schedules into the PCWIN Master Project Schedule and for updating the master schedule as changes occur.

The PCWIN Master Project Schedule shall illustrate the project “critical path”, deadlines and resource assignments. Revisions to the master schedule will be distributed to the Project Team and involved contractors according to the communication plan outlined in section 9.3.

The PCWIN Master Project Schedule will be developed and maintained with Microsoft Project 2003 or later version.

See PCWIN Master Project Schedule in Appendix B



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT
A 2004 Pima County Bond Project

9 Communication

The Communications Plan outlines the information to be provided to all project stakeholders to keep them informed of the progress of the project. The Communication Plan contains a schedule of the communication events, and a matrix of the resource involved in each communication event

9.1 Communication Stakeholder Requirements

A ‘communications stakeholder’ is a person or entity within or outside the project requiring regular information about the project. The communications stakeholder information requirements are documented below.

Communications Stakeholder	Requirement
Participating Agencies	<ul style="list-style-type: none"> • Project status information (schedule, budget and scope) • Role and responsibilities • Policy and procedures • Operational impact
Governance Committees	<ul style="list-style-type: none"> • Project status information (schedule, budget and scope) • Risk and risk mitigation • Proposed scope changes (for approval) • Cost accounting • Policy and procedures (development and approval)
Board of Supervisors	<ul style="list-style-type: none"> • Project status information (schedule, budget and scope) • Risk and risk mitigation • Cost accounting • Any substantial modification to scope, cost or schedule
Bond Advisory Committee	<ul style="list-style-type: none"> • Project status information (schedule, budget and scope) • Risk and risk mitigation • Cost accounting • Any substantial modification to scope, cost or schedule
County Administrator	<ul style="list-style-type: none"> • Project status information (schedule, budget and scope) • Risk and risk mitigation • Cost accounting • Proposed scope changes (for approval)



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT
A 2004 Pima County Bond Project

Project Administrator	<ul style="list-style-type: none"> • Detailed project status information (schedule, budget and scope) • Detailed understanding of current project specifications and deliverables • Detailed knowledge of all risks, issues and change requests • Cost accounting
Project Manager	<ul style="list-style-type: none"> • Detailed project status information (schedule, budget and scope) • Detailed understanding of current project specifications and deliverables • Day-to-day knowledge of all risks, issues and change requests • Status of day-to-day project activities and task status information
Project Team	<ul style="list-style-type: none"> • Status of the activities and tasks assigned • Awareness of events which may affect their ability to undertake their role • Progress of each deliverable against quality standards and criteria set • Detailed understanding of all quality issues for resolution
CIP Office	<ul style="list-style-type: none"> • Project status information (schedule, budget and scope)
AZ PSCC	<ul style="list-style-type: none"> • Project status information • Interoperability capability

Table 1 - Communication Stakeholder Requirements

9.2 Communication Plan

As documented in the Voice/Data radio RFP and the A&E SFQ, the contractor(s) are responsible for adhering to specific communication requirements. While these requirements may be modified the methodology will remain.

The PCWIN Project Administrator and PCWIN Project Manager must monitor the reporting and communication schedule. At a minimum the following items will be implemented however, at any time throughout the project additional meetings, reports, risks, and action items will be addressed and resolved as needed which may occur outside the planned minimum requirements.

Communication Frequency

Monthly - These will be scheduled in advance. Attendees will include the Project Team and additional people attending as necessary. The agenda for these meetings will include at a minimum:

- Review of schedule
- Review of budget (as required)
- Identified problems
- Solutions to previously identified problems
- Establishment of action items
- Review of previously established action items
- Plans for the next period
- Date, time and place for next meeting



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT A 2004 Pima County Bond Project

Bi-weekly conference calls - These will be scheduled in advance. Attendees will include the Project Team and additional people attending as necessary. The agenda for these meetings will include at a minimum:

- Review of schedule
- Identified problems
- Solutions to previously identified problems
- Establishment of action items
- Review of previously established action items
- Plans for the next period
- Date and time for next teleconference.

Action Items

An action item checklist will be maintained electronically to track all action items agreed upon by the Project Team for which a particular team member will be responsible. All open items will be reviewed at each Project Review meeting, and at most telephone conference calls.

9.2.1 Communications Plan Schedule

Appendix C contains the PCWIN Communications Plan Schedule which outlines various scheduled communications events devised to keep the various stakeholder groups informed about the status of the project.

9.2.2 Matrix

The Communication Matrix (Appendix C) outlines the people participating in each communication event and their level of responsibility for the communication.

9.3 Communications (Document) Control

The PCWIN project consists of many stakeholders as mentioned earlier in this Project Implementation Plan, thus a communication and document control system is needed to collaborate on multiple aspects of this project.

Electronic document collaboration systems allow for more efficient and timely information to be distributed among all stakeholders via a web based application.

Microsoft SharePoint is an online web-enabled collaboration system that allows this communication and document control for all stakeholders in the PCWIN project. SharePoint allows team members from both inside and outside of an organization to access multiple items from a web browser to a portal. SharePoint contains the following capabilities that the PCWIN Project Team will utilize:

- **Shared Documents** - document management features support each stage of documents' life cycle, from template creation to document authoring, reviewing, sharing and auditing. Centralized storage for all documents in all formats available in this portal.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT A 2004 Pima County Bond Project

- **Tasks/Action Items** – action items can be assigned from inside SharePoint and automatically added to the task list and emailed to the team member. They can be viewed and tracked via a list or Gantt view.
- **Calendars** – keeping track of meetings is a simple process now that all team members have access to the same calendar via SharePoint which is application and version independent.
- **Lists** – email lists are useful to capture conversations in a central location for review by the project team.
- **Approval workflows** - workflows automate processes such as document review, approvals for change orders, and issue tracking.
- **Online Forms** – change request, transmittals, and risk forms will be utilized in this project and SharePoint allows these forms to be filled in and submitted electronically online with an automated approval process attached.
- **Security** – robust security down to the file level. User and group level security configuration for access to certain areas of SharePoint.
- **Schedule** – the master schedule will be developed and maintained in MS Project and available in SharePoint
- **Records management** – has the ability to collect, manage, archive and dispose of project records in a consistent and uniform manner based on a records retention policy.

The SharePoint document control and collaboration tool will not replace face to face meetings nor is it intended to be an integrated project management system. While SharePoint is a very powerful system and can be modified to interface with various applications and databases, it will act as a repository and collaboration resource for documents, reports, agendas, minutes, schedules, transmittals, action items, risks, etc. These items will be available to all team members including stakeholders, contractors, and various workgroup members.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT A 2004 Pima County Bond Project

10 Change Requests/Orders

Change requests are submitted to request any type of change to the project and to facilitate change order tracking. The most frequent types of requests for changes are expected to be related to scope, deliverables, schedule, or resources.

Change requests do not have to be associated with an increase to the cost of the project.

Subject to the limitations of individual contracts and delegation of authority, the Project Administrator may authorize changes provided they do not exceed the value of the contract or change the scope of services or equipment to be provided. All other change orders or contract amendments must be approved by the PCWIN Executive Management Committee.

The County approval process for change orders is summarized as follows.

10.1 Construction Change Orders

The Pima County Procurement Director may approve Change Orders up to \$100,000 or 25% of the contract value, whichever is less, up to \$250,000 per contract. Change orders exceeding these amounts must be approved by the Board of Supervisors prior to the commencement of work. Change Orders approved by the Procurement Director must be submitted to the Clerk of the Board within 30-days of approval for Board of Supervisors ratification.

Change Orders must be related to the scope of work. Changes that call for new work directly related to the project, changes in the scope of the project, and changes to address design errors or significant changes in quantities must be approved before work begins.

Any modification that changes the relationship or roles of the parties or changes the parameters of the scope of work must be processed as a Contract Amendment.

10.2 Equipment and Professional Service Contracts

If an approved change would cause expenditures to exceed the value of the contract, a request for contract extension or amendment is submitted to the Procurement Department. The request must identify the source of funding to support the amendment.

If an approved change would result in an expansion of the contracted scope of work, the Procurement Department will determine the most appropriate method for procuring the additional services. This may require additional competitive procurements.

10.3 Requests for Change Orders

The Project Manager shall advise the Project Administrator as soon as the need for a change order becomes apparent. Change Order approval may require approval of the PCWIN Executive Management Committee, Procurement Director or Board of Supervisors.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

Change Order requests approved by the Project Administrator and/or PCWIN Executive Management Committee shall be submitted to the Procurement Department when necessary. The Project Manager may consult or confer with the Procurement Department at any time regarding possible or pending change orders to identify potential issues or to resolve procedural questions.

The Change Request Form should be completed by the Change Requester and formally distributed to the Project Manager for review. The Project Manager will determine whether or not the form provides adequate information to submit to the Project Team for approval. The Project Manager may either request that more information be provided or initiate a feasibility study to further investigate the implications of the change proposed. Following the completion of either of these activities, the change documentation will be presented to the Project Team for consideration of approval or recommendation. The Project Manager will monitor the status of the Change Request and communicate the final decision to the Change Requester.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT
A 2004 Pima County Bond Project

Change Request Form

PROJECT DETAILS	
Project Name:	PCWIN
Project Manager:	Name of the project manager responsible for implementing the change
CHANGE DETAILS	
Change No:	Unique identifier for the change (as per Change Register)
Change Requester:	Name of person who is requesting the change
Change Request Date:	Date on which this form is completed
Change Urgency:	Urgency for undertaking the change
Change Description: <i>Brief description of the change requested</i>	Change Drivers: <i>List any drivers which necessitate this change</i>
Change Benefits: <i>Describe the benefits associated with the change</i>	Change Costs: <i>Describe the costs associated with the change</i>
IMPACT DETAILS	
Project Impact: <i>Describe the impact on the project if this change is / not implemented</i>	
APPROVAL DETAILS	
Supporting Documentation: <i>Reference any supporting documentation used to substantiate this change</i>	
Submitted by Name: Signature: Date:	Approved by Name: Signature: Date:
<i>Any documentation to support this change should be attached to this document</i>	
PLEASE FORWARD THIS FORM TO THE PROJECT MANAGER	

Figure 1 - Change Request Form



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT A 2004 Pima County Bond Project

11 Risk Plan

A Risk Plan outlines the foreseeable project risks and provides a set of actions to be taken to both prevent the risk from occurring and reduce the impact of the risk should it eventuate. More specifically, the plan includes:

- A full list of all the foreseeable risks during the project
- A rating of the likelihood of each risk's occurring
- A rating of the impact on the project should each risk actually occur
- A priority rating of the overall importance of each risk
- A set of preventative actions to reduce the likelihood of the risk's occurring
- A set of contingent actions to reduce the impact should the risk eventuate
- A process for managing risks through the project.

11.1 Risk Identification

The first step in creating a Risk Plan is to identify the likely risks which may affect the project. A series of risk categories is identified and for each category a suite of potential risks is listed. Each of the risks identified is described in detail and documented within the Risk Plan.

11.2 Definition

"A risk is defined as any event which is likely to adversely affect the ability of the project to achieve the defined objectives".

11.3 Categories

Each risk category is a particular aspect of the project which is likely to experience a risk during the lifecycle of the project.

1. Technical
2. Technology
3. Regulatory
4. Budget
5. Schedule
6. Procurement
7. Construction
8. Installation
9. Testing and Acceptance
10. Training
11. Scope
12. Acceptance
13. Communication
14. Resource



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT
A 2004 Pima County Bond Project

11.4 Risks

Category	Description	ID
Technical	<ul style="list-style-type: none"> Suitable transmitter sites not acquired Vendor detailed design inadequate Interconnected networks cause degraded service levels 	1.1
		1.2
		1.3
Technology	<ul style="list-style-type: none"> P25 compatible systems availability 	2.1
Regulatory	<ul style="list-style-type: none"> Frequency sharing agreement with Mexico not completed 700 MHz availability 800 MHz rebanding delays Insufficient land mobile radio frequencies available Insufficient microwave frequencies available Compliance with purchasing regulations 	3.1
		3.2
		3.3
		3.4
		3.5
		3.6
Budget	<ul style="list-style-type: none"> Cost containment Proposals exceed budget Inadequate funding Project staff not funded Participant unable to pay Cost overruns 	4.1
		4.2
		4.3
		4.4
		4.5
		4.6
Schedule	<ul style="list-style-type: none"> Vendors cannot meet bid deadlines Equipment availability for delivery on schedule Schedule slippage 	5.1
		5.2
		5.3
Procurement	<ul style="list-style-type: none"> Lack of response to RFP, particularly with small bidders, i.e. microwave, cable, etc. Separate scopes of work do not meet with proper interfaces, etc. Inadequate vendor response 	6.1
		6.2
		6.3
Construction	<ul style="list-style-type: none"> Compliance with Tohono O’odham requirements Compliance with codes and ordinances Compliance with EPA mandates Timely availability of required contractors Compliance with FAA rules and regulations Compliance with FCC rules and regulations Timely availability of required materials Inclement weather 	7.1
		7.2
		7.3
		7.4
		7.5
		7.6
		7.7
		7.8
Installation	<ul style="list-style-type: none"> Multiple vendor interface issues Multiple vendor interface omissions Timely availability of required contractors Timely availability of required project personnel 	8.1
		8.2
		8.3
		8.4
Testing & Acceptance	<ul style="list-style-type: none"> System fails to achieve intended result 	9.1
Training	<ul style="list-style-type: none"> Inadequate training for end users Inadequate training for system operators 	10.1
		10.2

Table 2 - PCWIN Project Risks



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

11.5 Risk Analysis and Prioritization

The likelihood of each risk's occurrence and its impact on the project and surrounding business shall be analyzed. Each risk is prioritized according to the likelihood and impact rating and the low, medium and high priority risks are clearly marked for attention.

11.5.1 Likelihood

Title	Score	Description
Low	1	Unlikely to occur, based on current information.
Medium	2	Likely to occur as it is clear that the risk will probably eventuate
High	3	Very likely to occur, based on the circumstances of the project
Very High	4	Highly likely to occur as the circumstances which will cause this risk to eventuate are also very likely to be created

Table 3 - Risk Likelihood Scale

11.5.2 Impact

Title	Score	Description
Low	1	Minor impact on the project
Medium	2	Measurable impact on the project
High	3	Significant impact on the project
Very High	4	Major impact on the project

Table 4 - Risk Impact Scale

11.5.3 Priority

By identifying the likelihood of the risk's occurrence and its impact on the project a priority for each risk may be established. Once the likelihood and impact scores have been allocated, the priority score should be calculated as follows:

- *Priority* equals *Likelihood* multiplied by the *Impact* score
- This is calculated as $Priority = (Likelihood \times Impact)$



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT
A 2004 Pima County Bond Project

ID	Likelihood	Impact	Priority Score	Rating
1.1	1.75	3.00	5.25	Medium
1.2	1.25	3.00	3.75	Low
3.1	3.00	3.00	9.00	High
				Very High

Table 5 - Risk Priority Illustration

The Rating is based on the calculated Priority score. Use the following system to determine the Rating:

<u>Priority Score</u>	<u>Priority Rating</u>
0 – 4	Low
4.1 – 8	Medium
8.1 – 12	High
12.1 – 16	Very High

The following system is used to color-code the risks identified:

<u>Priority Rating</u>	<u>Color</u>
Low	Green
Medium	Yellow
High	Orange
Very High	Red

11.6 Risk Process

11.6.1 Procedures

The Risk Process Diagram (Figure 2) illustrates an overview of the risk processes and procedures to be undertaken to effectively manage project-related risks.

11.6.2 Raise Risk

This process provides the ability for any member of the project team to raise a project-related risk. The following procedures are undertaken:

- Risk Originator identifies a risk applicable to a particular aspect of the project (e.g. scope, deliverables, schedule or resources)
- Risk Originator completes a Risk Form and distributes the form to the Project Manager.

11.6.3 Register Risk

The Project Manager reviews all risks raised and determines whether or not each risk identified is applicable to the project. If the risk is considered by the Project Manager to be 'related to the project', then a formal risk is raised in the Risk Register and a Risk ID assigned. The Project Manager will assign the level of 'impact' and 'likelihood' based upon the risk's severity.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

11.6.4 Assign Risk Actions

The Project Manager then completes a formal review of each risk listed in the Risk Register and decide (based upon the risk 'impact' and 'likelihood') whether or not to:

- Close the risk in the Risk Register if there are no outstanding risk actions and the risk is no longer likely to impact on the project
- Raise a change request if a change to the project is required to mitigate the risk
- Assign risk actions to mitigate the risk.

11.6.5 Implement Risk Actions

The risk mitigating actions assigned by the Project Team are then implemented. These may include:

- Scheduling each action for implementation
- Implementing each action scheduled
- Reviewing the success of each action implemented
- Communicating the success of each action implemented.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT

A 2004 Pima County Bond Project

Risk Management Process

Risk Management Role

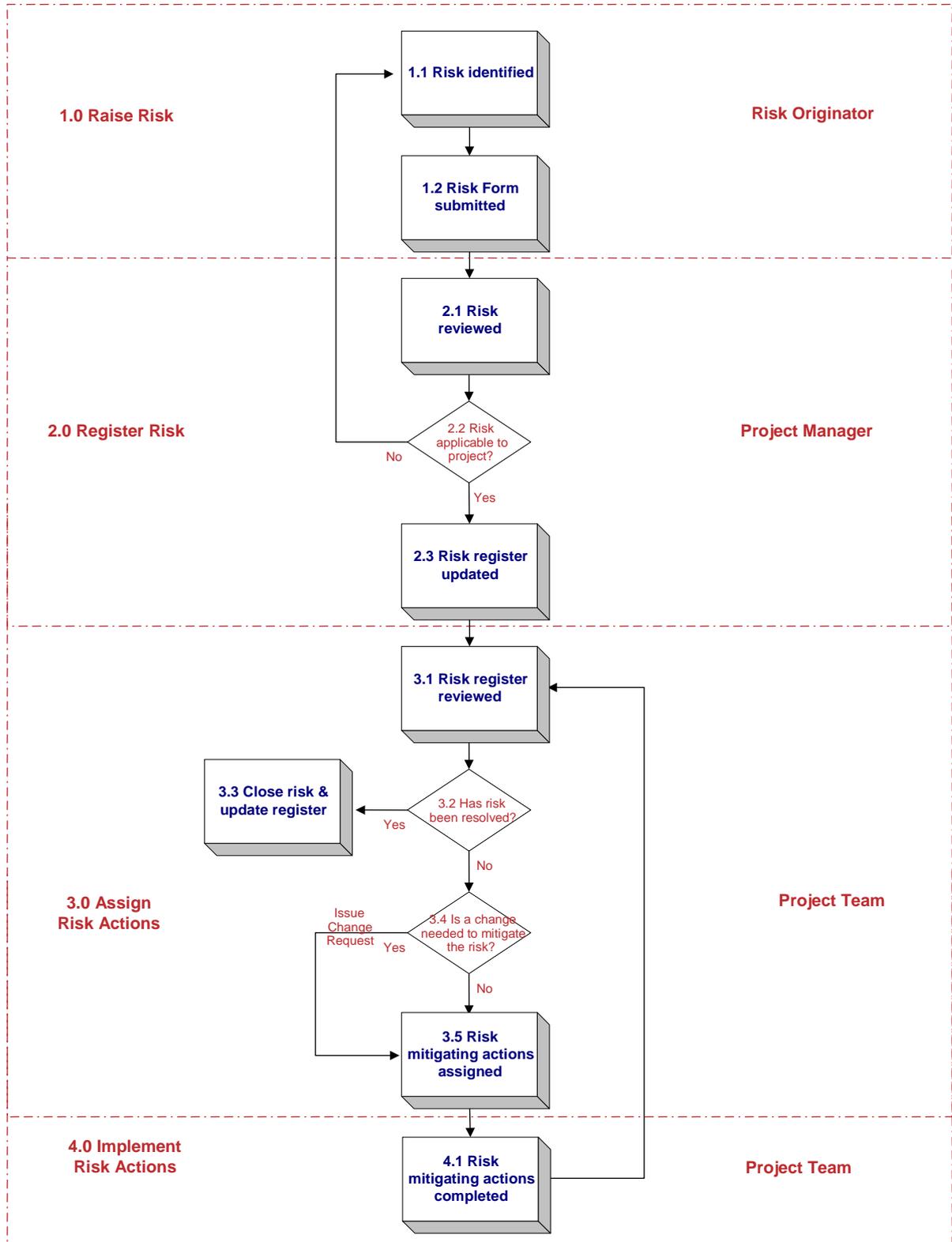


Figure 2 - Risk Process Diagram



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT
A 2004 Pima County Bond Project

11.7 Risk Form

The 'Risk Form' is used to identify and describe a risk to the project.

PROJECT DETAILS	
Project Name:	<i>PCWIN</i>
Project Manager:	<i>Name of the project manager responsible for mitigating the risk</i>
RISK DETAILS	
Risk ID:	<i>Unique identifier assigned to this risk</i>
Raised By:	<i>Name of person who is raising the risk</i>
Date Raised:	<i>Date on which this form is completed</i>
Risk Description: <i>Add a brief description of the risk identified and its likely impact on the project (e.g. scope, resources, deliverables, schedule and/or budgets)</i>	
Risk Likelihood: <i>Describe and rate the likelihood of the risk occurring (i.e. Low, Medium or High)</i>	Risk Impact: <i>Describe and rate the impact on the project if the risk eventuates (i.e. Low, Medium or High)</i>
RISK MITIGATION	
Recommended Preventative Actions: <i>Add a brief description of any actions that should be taken to prevent the risk from occurring</i>	
Recommended Contingent Actions: <i>Add a brief description of any actions that should be taken, in the event that the risk happens, to minimize its impact on the project</i>	
APPROVAL DETAILS	
Supporting Documentation: <i>Reference any supporting documentation used to substantiate this risk</i>	
Signature: _____	Date: _____
PLEASE FORWARD THIS FORM TO THE PROJECT MANAGER	

Figure 3 - Risk Form



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT A 2004 Pima County Bond Project

11.8 Risk Register

A Risk Register is created to describe each risk identified and in priority order, list:

- the *preventative* actions to be taken to reduce the likelihood of the risk's occurring
- the *contingent* actions to be taken to reduce the impact should the risk eventuate

For each risk action identified, a resource is assigned responsibility for undertaking the action and a date within which the action must be completed.

See PCWIN Risk Register in Appendix D



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT A 2004 Pima County Bond Project

12 Financial Accounting & Reporting

The PCWIN Administrator will be responsible for reporting on the costs and budget, and for applying accounting procedures compliant with Pima County's accounting rules.

Accounting information is available from several databases which exchange data with one another. In consultation with the Capital Improvement Project (CIP) Office, it is agreed that expenditure reports will be generated from Pima County's Synergen database for purposes of reporting consistency. Payment and cost adjustment details are posted once a month therefore current reporting at any moment in time may be as much as one month delayed.

The Capital Improvement Project Office maintains the CIPAce database to record and report high level status and budget information on each project. The PCWIN Administrator will provide updates about the project to the CIP Office monthly. The CIP Office will complete the database entry to keep information in the application current.

12.1 Reports

Summary expenditure reports will be provided to the Executive Management Committee on a monthly basis.

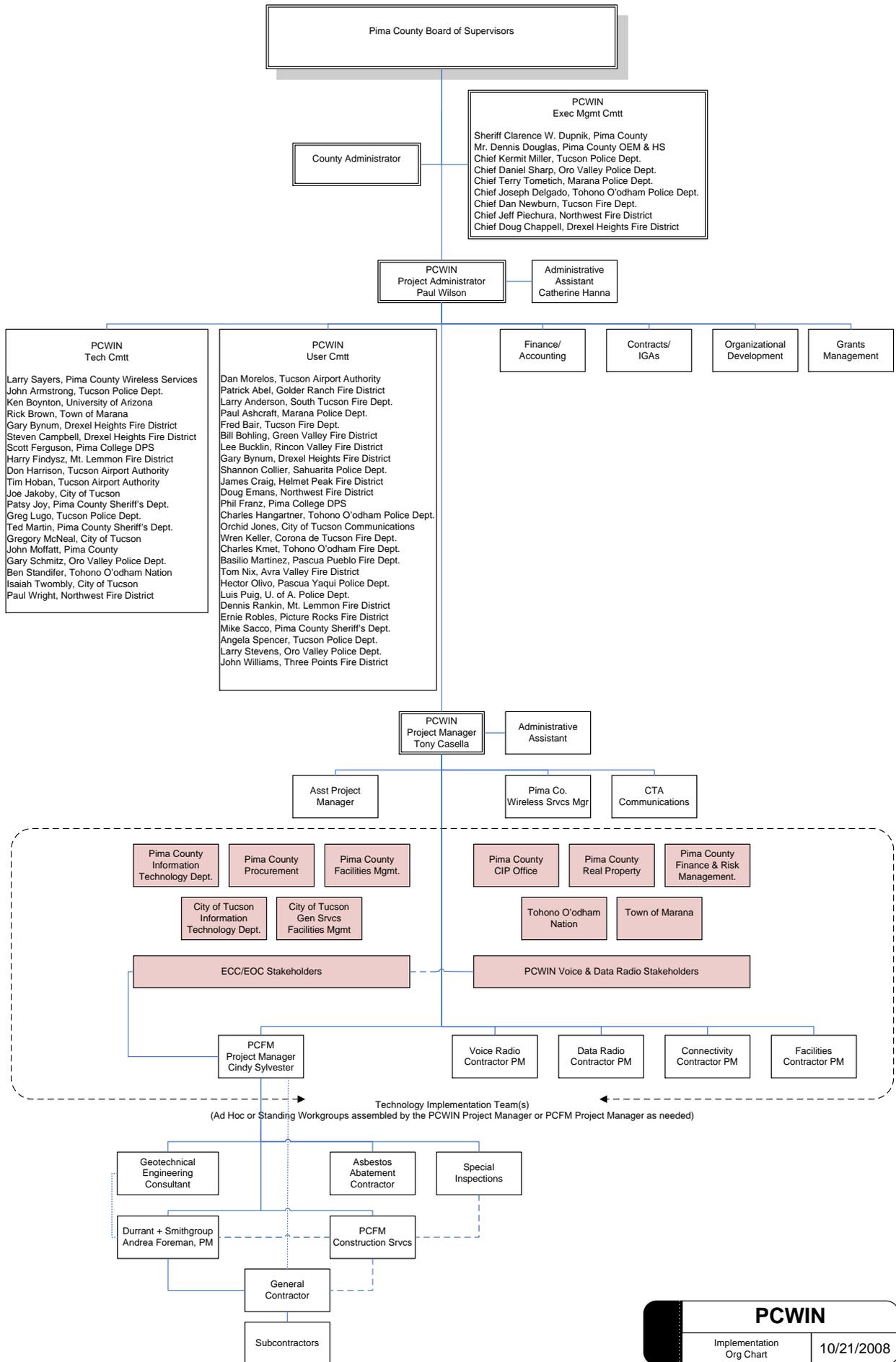
Budget projections and project status will be reviewed monthly and updated as needed. Budget projections will be updated biannually and reported to the Executive Management Committee and the County Administrator's Office via a Project Planning Report produced from the CIPAce application.

The PCWIN Administrator will assist with production of additional reports requested by the Executive Management Committee, County Administrator's Office, or the Board of Supervisors.



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT
A 2004 Pima County Bond Project

INSERT APPENDIX A
IMPLEMENTATION ORG CHART





PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT
A 2004 Pima County Bond Project

INSERT APPENDIX B
IMPLEMENTATION SCHEDULE



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT
A 2004 Pima County Bond Project

INSERT APPENDIX C

COMMUNICATIONS SCHEDULE
COMMUNICATIONS MATRIX

PCWIN COMMUNICATIONS PLAN SCHEDULE

ID	Event	Description.	Purpose	Method	Frequency	Date(s)
MEETINGS						
1.1	Project team meetings	Meeting involving all team members to minimally discuss work in progress, schedule, budget, problems, action items, and quality of project deliverables	To keep the team informed of the project status and ensure proper and efficient coordination between contractors and stakeholders	Verbal	Monthly	xx/yy/zz
1.2	Project team conference calls	Teleconference involving all team members to minimally discuss work in progress, schedule, budget, problems, action items, and quality of project deliverables	To keep the team informed of the project status and ensure proper and efficient coordination between contractors and stakeholders	Conference Call	Bi-weekly	xx/yy/zz
1.3	Construction meetings	Meeting involving architects, engineers and construction contractors to discuss progress on construction projects, schedule, problems and action items	To keep the team informed of the project status and ensure coordination between contractors	Verbal	Weekly	xx/yy/zz
1.4	Risk management meetings	Meeting involving key team members to identify and analyze project risks and to assign and implement risk actions	To identify project risks and assign risk actions to mitigate any negative impact to the project	Verbal	Quarterly	xx/yy/zz
1.5	Change approval group meeting	Formal meetings held regularly to review change requests	To provide a formal process for the approval of project changes	Verbal	At the call of the PCWIN Project Manager	xx/yy/zz
1.6	Governance Committee Meetings	Meetings of the appointed governance committees to provide information about project status, schedule, budget, risks, issues and changes	To keep the governance committees informed of the status of the project	Verbal	TBD	xx/yy/zz
WRITTEN COMMUNICATIONS						
2.1	Status reports	Frequent reports providing the status of the schedule, budget, risks, issues and changes	To keep all project stakeholders informed of the status of the project	Status Report	Weekly	xx/yy/zz

PCWIN COMMUNICATIONS PLAN SCHEDULE

ID	Event	Description.	Purpose	Method	Frequency	Date(s)
2.2	CIPAce Database	Contributions to the County project management database to inform various stakeholders about project status, schedule, and cost projections	To inform stakeholders about project status	Electronic database	Monthly	<i>NLT the 15th of ea.month</i>

PCWIN COMMUNICATIONS MATRIX

The Communications Matrix outlines the people participating in each communication event. The Unique Identifier (ID) correlates with the Communications Events ID in the Communications Plan Schedule.

Key:

A = Accountable for communication event: builds and distributes communication materials, facilitates meetings (as marked in yellow).

R = Receives communications materials provided, takes part in meetings (as marked in white).

M = Monitors communications process and provides feedback (as marked in orange).

ID	Event	Project Administrator	PCWIN Project Manager	Facilities Project Manager	A & E FIRM	Wireless Services Manager	Administrative Assistant	Tucson General Services Dept	CTA Communications	EOC Stakeholder Workgroups	Radio Stakeholder Workgroups	Governance Committees	Board of Supervisors	County Administrator	Bond Advisory Committee
1.1	Project team meetings	R	A	R	R	R		M	R	M	M				
1.2	Project team conference calls	R	A	R	R	R		M	R	M	M				
1.3	Construction meetings	M	M	R	A			R		R	M				
1.4	Risk management meetings	M	A	R		R		R	R	R	R				
1.5	Change approval group meeting	R	A	R	R	R		M	R	M	M	M		M	
1.6	Governance Committee Meetings	A	R						M	M	M	R		M	
2.1	Status reports	M	M	M		M	A	M	M	M	M	M		M	
2.2	CIPAce Updates	A										M	M	M	M



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT
A 2004 Pima County Bond Project

INSERT APPENDIX D

RISK REGISTER

PCWIN RISK REGISTER

ID	Category	Risk	Probability 1-4	Impact 1-4	Priority	Rating	Response	Preventative Actions	Action Resource	Action Date
1.1	Technical	Suitable Transmitter Sites Not Acquired	1.75	3.00	5.25	Medium	Mitigation	Secure needed facilities as early as possible. Identify and secure alternate locations as needed		
1.2	Technical	Vendor Detailed Design Inadequate	1.25	3.00	3.75	Low	Avoid Risk	Make certain that adequate review by PCWIN technical expert included		
1.3	Technical	Interconnected Networks Cause Degraded Service Levels	1.75	2.00	3.50	Low	Mitigation	Monitor system performance and adjust resources as required		
2.1	Technology	P25 Compatible Systems Availability	1.25	3.25	4.06	Medium	Avoid Risk	Ensure that specifications require available P25 compatible components be used		
3.1	Regulatory	Frequency Sharing Agreement with Mexico not Completed	3.00	3.00	9.00	High	Mitigation	File needed license paperwork as soon as possible		
3.2	Regulatory	700 MHz Availability	2.50	3.00	7.50	Medium	Mitigation	File needed license paperwork as soon as possible		
3.3	Regulatory	800 MHz Rebanding Delays	3.75	1.75	6.56	Medium	Accept the Risk			
3.4	Regulatory	Insufficient Land Mobile Radio Frequencies Available	1.50	3.75	5.63	Medium	Mitigation	Aggressively identify and license appropriate frequencies		
3.5	Regulatory	Insufficient Microwave Frequencies Available	1.25	3.50	4.38	Medium	Mitigation	Ensure that end user training is provided		
3.6	Regulatory	Compliance with Purchasing Regulations	1.75	1.50	2.63	Low	Avoid Risk	Involve appropriate purchasing officials early in process		
4.1	Budget	Cost Containment	2.50	2.75	6.88	Medium	Contingency Planning	Plan to acquire additional funding		
4.2	Budget	Proposals exceed budget	2.00	3.00	6.00	Medium	Contingency Planning	Plan to acquire additional funding - Consider phased approach as funding becomes available		
4.3	Budget	Inadequate Funding	1.75	3.00	5.25	Medium	Contingency Planning	Plan to acquire additional funding - Consider phased approach as funding becomes available		
4.4	Budget	Project Staff Not Funded	1.75	3.00	5.25	Medium	Avoid Risk	Assure that adequate funding for project staff provided		
4.5	Budget	Participant Unable to Pay	2.90	2.00	5.80	Medium	Contingency Planning	Maintain communications with all participants so that alternatives can be implemented if problem appears likely		
4.6	Budget	Cost Overruns	2.75	2.50	6.88	Medium	Mitigation	Cost overruns and unforeseen expenditures mitigated through project risk funds		
5.1	Schedule	Vendors Can Not Meet Bid Deadlines	2.50	1.25	3.13	Low	Mitigation	Closely monitor schedule adherence and make adjustments as required		
5.2	Schedule	Equipment Availability for Delivery on Schedule	1.25	1.75	2.19	Low	Mitigation	Closely monitor schedule adherence and make adjustments as required		
5.3	Schedule	Schedule Shippage	3.25	1.50	4.88	Medium	Mitigation	Closely monitor schedule adherence and make adjustments as required		
6.1	Procurement	Lack of response to RFP, particularly with small bidders, i.e. microwave, cable, etc.	2.50	2.50	6.25	Medium	Avoid Risk	Actively make sure vendors are aware of RFP		
6.2	Procurement	Separate scopes of work do not meet with proper interfaces, etc.	2.50	2.25	5.63	Medium	Mitigation	Actively work with selected vendors to assure that all requirements are met		
6.3	Procurement	Inadequate Vendor Response	1.50	3.25	4.88	Medium	Avoid Risk	Actively make sure vendors are aware of RFP		
7.1	Construction	Compliance with Tohono O'odham Requirements	2.75	3.25	8.94	High	Mitigation	Complete Intergovernmental Agreements ASAP		
7.2	Construction	Compliance with Codes and Ordinances	2.00	2.00	4.00	Low	Mitigation	Complete required submissions in an efficient and timely manner		
7.3	Construction	Compliance with EPA Mandates	1.50	2.50	3.75	Low	Mitigation	Complete required EPA submissions in an efficient and timely manner		

PCWIN RISK REGISTER

ID	Category	Risk	Probability 1-4	Impact 1-4	Priority	Rating	Response	Preventative Actions	Action Resource	Action Date
7.4	Construction	Timely Availability of Required Contractors	1.75	1.75	3.06	Low	Mitigation	Closely monitor schedule adherence and require adherence		
7.5	Construction	Compliance with FAA Rules and Regulations	1.00	2.50	2.50	Low	Mitigation	Complete required FAA submissions in an efficient and timely manner		
7.6	Construction	Compliance with FCC Rules & Regulations	1.00	2.25	2.25	Low	Mitigation	Complete required submissions in an efficient and timely manner		
7.7	Construction	Timely Availability of Required Materials	1.25	1.50	1.88	Low	Mitigation	Closely monitor schedule adherence and make adjustments as required		
7.8	Construction	Inclement Weather	1.00	1.50	1.50	Low	Contingency Planning	Design implementation schedule around possible inclement weather		
8.1	Installation	Multiple Vendor Interface Issues	2.00	2.75	5.50	Medium	Mitigation	Ensure vendor specifications and equipment selection provides for compatibility		
8.2	Installation	Multiple Vendor Interface Omissions	1.75	2.75	4.81	Medium	Mitigation	Actively work with selected vendors to assure that all components function as required		
8.3	Installation	Timely Availability of Required Contractors	1.50	2.00	3.00	Low	Mitigation	Closely monitor schedule adherence and make adjustments as required		
8.4	Installation	Timely Availability of Required Project Personnel	1.25	2.00	2.50	Low	Mitigation	Closely monitor schedule adherence and make adjustments as required		
9.1	Testing & Acceptance	System Fails to Achieve Intended Result	1.25	4.00	5.00	Medium	Mitigation	Use incremental testing to ensure overall successful operation prior to project completion		
10.1	Training	Inadequate Training for End Users	1.50	3.00	4.50	Medium	Mitigation	Ensure that adequate training for project staff provided		
10.2	Training	Inadequate Training for System Operators	1.25	2.75	3.44	Low	Avoid Risk	Ensure that adequate training for project staff provided		



PIMA COUNTY WIRELESS INTEGRATED NETWORK PROJECT
A 2004 Pima County Bond Project

INSERT APPENDIX E
CONTACT INFORMATION