

DEPARTMENT: Public Works

By: Marty Allan

Phone: 966-5356

RECOMMENDED ACTION AND JUSTIFICATION:

(Policy Item: Yes ___ No X)

Approve Budget Action Transferring
Resolution authorizing Public Works to transfer \$19,000 in salary savings, due to the departure of the Special Projects Coordinator, in the Public Works Administration budget to the Data Processing budget for upgrading the Public Works computer network. Data Processing has now taken over the responsibility of system administration of the Public Works computer network and is recommending a major upgrading based on Data Processing staffs' evaluation (see attached memo).

Data Processing needs \$19,000 from Public Works to correct the situation. Public Works and Data Processing are deeply concerned with the viability of the computer system and strongly urge the Board to approve the requested action.

Data Processing has advised staff that with the changes recommended, they will be able to manage the system without having to hire additional staff.

BACKGROUND AND HISTORY OF BOARD ACTIONS:

The Board has not taken previous action on the above request.

LIST ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

1. Do not approve transfer and risk the possibility of severe network problems at Public Works.
2. Do not approve and have Data Processing look at other ways of dealing with the potential problems.
3. Do not approve and hire additional staff to manage the network.

COSTS: () Not Applicable

A. Budgeted current FY> \$ 0

B. Total anticipated Costs> \$ 19,000

C. Required additional funding> \$ _____

D. Internal transfers> \$ 19,000

SOURCE: () 4/5th Vote Required

A. Unanticipated revenues> \$ _____

B. Reserve for contingencies> \$ _____

C. Source description: > _____

Balance in Reserve Contingencies, If Approved:
\$ _____

SPECIAL INSTRUCTIONS:
List the attachments and number the pages consecutively:

1. Memo from Dennis Patrick to Jim Petropulos

2. Budget Action Form

CLERK'S USE ONLY

Res. No.: 00 384 Ord. No.: _____

Vote - Ayes: 5 Noes: _____

Absent: _____ Abstained: _____

Approved Denied

Minute Order Attached No Action Necessary

The foregoing instrument is a correct copy of the original on file in this office

Date: _____

ATTEST: _____

MARGIE WILLIAMS, Clerk of the Board

By: _____

Deputy

ADMINISTRATIVE OFFICER'S RECOMMENDATION:

This item on agenda as:

Recommended

Not Recommended

For Policy Determination

Submitted with Comment

Returned for Further Action

Comment: _____

C.A.O. Initials: MAA

MARIPOSA COUNTY DATA PROCESSING

Dennis Patrick
Technical Services Director

Bob Grycel
Information Systems Specialist

Miguel Camacho
Network Administrator



4963 10th Street
PO Box 1156
Mariposa, CA 95338

Tel. (209) 742-6022
Fax. (209) 966-6029

MEMORANDUM

DATE: September 12, 2000
TO: Jeff Green
FROM: Dennis Patrick, Technical Services Director *DP*
RE: Public Works Network Project
CC: Margie Williams, Marty Allen

Marty Allen called me on Friday asking me to send you a memo regarding the \$4,237.40 difference in the bid from Sierratel Business Systems and the actual dollar amount of the transfer request from Public Works. That amount represents the fiber optic cabling, which I am paying for out of my cabling budget in Data Processing.

If you have any questions, please don't hesitate to call.

Thanks,

A handwritten signature in cursive script that reads "Dennis".

Dennis

MARIPOSA COUNTY DATA PROCESSING

Dennis Patrick
Technical Services Director

Bob Grycel
Information Systems Specialist

Miguel Camacho
Network Administrator



4963 10th Street
PO Box 1156
Mariposa, CA 95338

Tel. (209) 742-6022
Fax. (209) 966-6029

MEMORANDUM

DATE: September 12, 2000
TO: Jim Petropulos, Public Works Director
FROM: Dennis Patrick, Technical Services Director
RE: Public Works Network
CC:

This memo is for the purpose of informing you about our evaluation of your network, as well as making recommendations for bringing it up to basic minimum standards for function-ability, reliability, and performance.

We have finished inspecting and evaluating your Information Systems and have taken the following immediate actions:

1. We have changed the passwords of the System Administrator user profile and the former system administrator, Mr. Atkinson. We have also disabled his user profile.
2. We have changed all the telephone numbers that are used for modems. This is a common security step when a high-level system employee terminates employment.
3. We have reconfigured the Proxy Server so that it can not be dialed into.
4. We have turned off the ability of the former Administrator to dial into his old PC.
5. We have change the password for ftp (file transfer protocol) access to the Public Works web site on the Counties' domain. (By the way, the email addresses listed there were gone and an advertisement was there in its place).
6. As mentioned above, we have analyzed your system.

The following are problems we have found with your system:

1. The file servers are inadequate. Both file servers looked like they were constructed by Bruce. They are left with the sides off for frequent repair/tweaking, and perhaps to keep them cool. This is a bad practice, as it allows the systems to become very dirty in a short period of time, and dirt can

hurt electronic components in several ways. Also, the servers' hard disk capacity is too small, which has resulted in the PWD staff not saving data to the server, which is probably THE main reason to have a network. The server has no "fault tolerance" built in. This is, in my opinion, an absolute essential with governmental network servers. Fault tolerance is a hardware/software protection that allows the network to continue to function in the event of a hard disk failure.

2. The physical security of the server is non-existent. You can incorporate all the system security you want, but if the server is physically accessible to just about anyone, anytime, you do not have a secure system.
3. The backup procedures for the CAD system are completely inadequate. There is no tape backup, and no off site storage for current data. The backup was done on a hit and miss basis, using a disk to disk copy from the server to a local PC. Other data on the server appears to not get backed up at all.
4. Staff is poorly trained on the network, both as to functionality and advantages.
5. The cabling is a mess. Intra-building and Inter-building cabling is sloppy and deficient. Of particular concern is the cabling between the Admin building and the Engineering building which has no redundancy, and the cabling between Admin and Fleet Maintenance which is simply done wrong.
6. Organization of tools, supplies, parts, etc. are...well, not organized.

In short, I am very concerned about the reliability and longevity of the network in Public Works. The good news is that, if we address the problems correctly, we in Data Processing can support your network without adding additional staff, at this point.

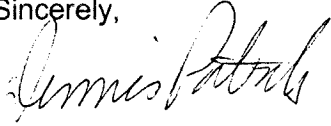
Here are my recommendations for archiving the network stability, reliability and performance that would enable us to support you:

1. Cable the Admin and Engineering Buildings correctly with CAT5 cable, terminated at the central hub location with a proper distribution panel, and done with an appropriate amount of redundancy.
2. Secure the computer room in Admin and the distribution room in Engineering, with lockable doors. We can discuss the details of this recommendation a little later.
3. Purchase a new (upgraded) server, with adequate storage, a back up tape device and fault tolerance.
4. Purchase new hubs and switches for the newly cabled system.
5. Re-cable from Admin to Fleet Maintenance with fiber optics, including a "patch through" in the Sign Building. This will eliminate two potentially major problems, another loss of equipment due to lightning, and ground differentials that can destroy electronic equipment in disparate buildings.
6. At the time of the cabling in #6 above, also pull a 25 pair telephone cable from Admin to Fleet. This is recommended, because the other conduit to Fleet was broken and repaired and can never have cable run through it again. Essentially this does not cost us any labor, since we are already making a pull of the fiber.
7. Install shielded, twisted pair (network) cables from Fleet Maintenance to Facilities Maintenance. This would require Facilities finishing the conduit that is already halfway between the buildings.
8. Reorganize (simplify) the network procedures for the staff.
9. Reconfigure (simplify) the server folder structure.
10. Establish backup and restore procedures.

11. Establish security procedures.
12. Clean up and organize parts, supplies, etc.

I have attached a cost analysis spreadsheet for the above-mentioned work, as well as bids received from Sierratel Business Systems for the cabling.

Sincerely,

A handwritten signature in cursive script that reads "Dennis Patrick".

Dennis Patrick
Technical Services Director

PUBLIC WORKS NETWORK UPGRADE COST ANALYSIS

ITEM	LABOR COST	MATERIAL COST	TAX	SUBTOTAL
* Cable Admin and Engineering (Tax Incl.)	\$5,060.00	\$2,301.79	\$0.00	\$7,361.79
Fiber Optic and 25 Pair Tel. Between Bldgs	\$1,650.00	\$3,298.70	\$0.00	\$4,948.70
Shielded Cable between bldgs	\$330.00	\$396.36	\$0.00	\$726.36
SUBTOTAL - CABLING				<u>\$13,036.85</u>
File Server	\$0.00	\$5,159.00	\$399.82	<u>\$5,558.82</u>
2 - 16 Port 1 GB TX SC Switches		\$2,719.98	\$210.80	\$2,930.78
1 - 6 Port 1 GB TX SC Switch		\$629.99	\$48.82	\$678.81
1 - 24 port 100 BaseT Switch		\$459.95	\$35.65	\$495.60
2 Wall Mount 12 Port TX Terminating Boxes		\$238.00	\$18.45	\$256.45
1 Rack Mount 12 Port TX " Box		259.95	\$20.15	\$280.10
SUBTOTAL - NETWORK EQUIPMENT				<u>\$4,641.73</u>
TOTAL COST				<u>\$23,237.40</u>

*All cabling prices include tax for materials.

With this work complete and this equipment installed, Data Processing would then be in a good position to support and manage your network for the foreseeable future. We still need to address internet issues, but those are a separate matter and should be considered along with the entire County.

OCT. 23, 2000

WORK TO BE PERFORMED

MAIN BUILDING

- REWIRE 15 LOCATIONS (30 RUNS OF CAT 5) WITH NEW JACKS AND COVER PLATES, PANDUIT AS NEEDED
- INSTALL (1) 48 PORT PATCH PANEL (COUNTY TO SUPPLY RACK)
- REMOVE OLD CABLE AS NEEDED

ENGINEERING DEPT. BUILDING

- REWIRE 20 LACATIONS (28 RUNS OF CAT 5) WITH NEW JACKS AND COVER PLATES, PANDUIT AS NEEDED
- INSTALL (1) 48 PORT PATCH PANEL (COUNTY TO SUPPLY RACK)
- REMOVE OLD CABLE AS NEEDED

ESTIMATE

MATERIALS FOR THE ABOVE WORK	\$2301.79
1. 3000' OF CAT 5 CABLE	
2. 100' OF PANDUIT	
3. 6 -PANDUIT BOX	
4. MISC. PANDUIT FITTINGS	
5. 60 CAT 5 JACKS	
6. 36 COVER PLATES	
7. 2- 48 PORT PATCH PANEL	
LABOR FOR THE ABOVE WORK 92 HR	\$5060.00

FIBER CABLE & 25 PAIR CABLE BETWEEN BUILDINGS

- LOCATE CONDUIT
- INSTALL (2) CHRISTY BOXES
- PULL IN 1000' OF 6 STRAND FIBER (COUNTY TO SUPPLY FIBER TERMINATION BOX)
- PULL IN 1000' OF 25 PAIR CABLE

ESTIMATE

MATERIALS FOR THE ABOVE WORK \$3298.70

1. 2- CHRISTY BOXES W/ LIDS AND EXTENSIONS
2. 10' OF 2" CONDUIT W/ FITTINGS
3. 1000' OF 6 STRAND FIBER CABLE (MULTI MODE)
4. 1000' OF 25 PAIR CABLE
5. 24 ST FIBER CONNECTORS

LABOR FOR THE ABOVE WORK 30 HR \$1650.00

SHIELDED CAT 5 BETWEEN SHOP AND MAINT. BUILD

- INSTALL 3 RUNS OF SHIELDED CAT FIVE (COUNTY TO SUPPLY AND INSTALL CONDUIT)
- INSTALL (2) 12 PORT PATCH PANEL (COUNTY TO SUPPLY RACK)

ESTIMATE

MATERIALS FOR THE ABOVE WORK \$396.36

1. 1000' OF SHEILDED CAT 5
2. 2 PATCH PANELS

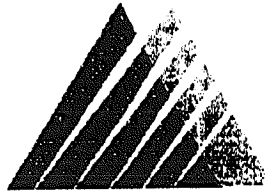
LABOR FOR THE ABOVE WORK 6HR \$330.00

TOTAL OF ALL WORK \$13036.85

ED MOORE

SIERRA TEL BUSINESS SYSTEMS

P. O. Box 160
Oakhurst, CA 93644
Phone: 559-683-7777
Toll Free 800-476-4440
Fax: 559-642-0356



SIERRATEL

BUSINESS SYSTEMS

Fax

To: DENNIS	From: ED MOORE
Company: DATA PROCESSING	Company: Sierra Tel Business Systems
Fax: 966-6029	Pages (Incl. Cover Page):
Phone: 742-6022	Date: 10-23-00
Re: PUBLIC WORKS RECABLE	

Facsimile Cover Sheet

● **Comments:**

WORK TO BE PERFORMED ON PUBLIC WORKS BUILDINGS

PUBLIC WORKS NETWORK UPGRADE COST ANALYSIS

ITEM	LABOR COST	MATERIAL COST	TAX	SUBTOTAL
* Cable Admin and Engineering (Tax Incl.)	\$5,060.00	\$2,301.79	\$0.00	\$7,361.79
Fiber Optic and 25 Pair Tel. Between Bld	\$1,650.00	\$3,298.70	\$0.00	\$4,948.70
Shielded Cable between bld	\$330.00	\$396.36	\$0.00	\$726.36
SUBTOTAL - CABLING				<u>\$13,036.85</u>
File Server	\$0.00	\$5,159.00	\$399.82	<u>\$5,558.82</u>
2 - 16 Port 1 GB TX SC Switches		\$2,719.98	\$210.80	\$2,930.78
1- 6 Port 1 GB TX SC Switch		\$629.99	\$48.82	\$678.81
1 - 24 port 100 BaseT Switch		\$459.95	\$35.65	\$495.60
2 Wall Mount 12 Port TX Terminating Boxes		\$238.00	\$18.45	\$256.45
1 Rack Mount 12 Port TX " Box		259.95	\$20.15	\$280.10
SUBTOTAL - NETWORK EQUIPMENT				<u>\$4,641.73</u>
TOTAL COST				<u><u>\$23,237.40</u></u>

* All cabling prices include tax for materials.

With this work complete and this equipment installed, Data Processing would then be in a good position to support and manage your network for the foreseeable future. We still need to address internet issues, but those are a separate matter and should be considered along with the entire County.

