



Budget Narrative

Applicant Name: Merit Network, Inc.

EasyGrants Number: 153

Organization Type (from Question 1D on BTOP application): Non-Profit Corporation

Proposed Period of Performance: 1/12/10 through 1/11/13

Total Project Costs: \$ 41,611,526

Total Federal Grant Request: \$33,289,221

Total Matching Funds (Cash): \$8,322,305

Total Matching Funds (In-Kind): \$

Total Matching Funds (Cash + In-Kind): \$8,322,305

Total Matching Funds (Cash + In-Kind) as Percentage of Total Project Costs: %20

1. Administrative and legal expenses

- **\$1,836,009**
- \$68,704, 16% of this category, includes pre-award expenses for a grant writer, writing assistant, accountants, research assistants, and travel expense to two of the Stimulus seminars. The regular staffing costs are taken directly from timesheets and travel expenses are from the airline and hotel invoices. The hourly rate and fringe benefit costs utilized are the same as their rounded, on-going rates, no adjustments were made for corporate overhead. Consultants (the grant writer and the writing assistant) submitted timesheets and were hired at a set hourly rate and FICA charges. All timesheets were reviewed and signed by managers for appropriateness.
- The following table lists all hours and rates for these expenses:



Pre Award Expense			
Staff	Hours	Rate*	Cost
Research	16	\$ 16	\$ 256
Research	126	\$ 22	\$ 2,753
Research	2	\$ 31	\$ 62
Research	5	\$ 31	\$ 155
Research	3	\$ 34	\$ 103
Research	17	\$ 41	\$ 692
Research	45	\$ 55	\$ 2,493
Research	26	\$ 65	\$ 1,697
Research	102	\$ 88	\$ 8,928
Admin	78	\$ 34	\$ 2,618
Admin	25	\$ 38	\$ 939
Admin	145	\$ 66	\$ 9,516
Admin	63	\$ 128	\$ 8,058
Consultant	116	\$ 16	\$ 1,873
Consultant	266	\$ 102	\$ 27,132
Travel 1	Minneapolis		\$ 523
Travel 2	Los Angeles		\$ 906
		Total	\$ 68,704
* Rounded to the nearest dollar, includes standard corporate fringe benefit rates.			

- \$353,325 in this category is for an administration grant specialist to be hired during the project period to handle mandated compliance requirements, project time keeping, invoicing, project related financials, and serve as an assistant to the project managers. The estimated salary for this position is \$44/hour and the fringe benefits are estimated at 28.5% (standard for this pay rate within the corporation). It is expected that this will be a 40 hour per week position and will be entitled to all standard benefits offered by the corporation. Merit Network, Inc. has utilized grant administrators over the course of its history and is very familiar with the going rates. This position will be limited to the duration of the project.
- \$1,390,480 includes five Merit staff positions: a project manager, statistical engineer, and three network engineers. These positions are not contractual. The staffing will be utilized for network and optical transport equipment configuration, installation, provisioning and testing of system. This also includes fiber testing using optical testing equipment by operations engineering staff and travel. Travel for the engineering team is estimated at \$34,525 over three years and is based upon current experience of traveling within the state, hotel rates, mileage reimbursement at 0.55/mile, average distance traveled per month for prior fiber builds.
- Rates are based upon similar or current salaried positions within the corporation and the standard fringe benefit package. Time and costs are based upon Merit’s experience in implementing an optical and IP network. These positions are fulltime and will continue after the project is completed (except for the consultant).
- The standard fringe benefit package includes Merit’s portion of FICA, health insurance and dental insurance, group insurance, retirement plan, long-term disability, and 1.9% for the University of Michigan’s



administration of the benefit programs. The average cost for this program is \$0.285 per dollar of salary. Once an hourly estimate for salary was established for each position the hourly salary was then increased by 28.5% to cover the fringe benefit package. The rate for each position includes salary and this fringe benefit amount only. No other costs were added to the rates. The 28.5% does not include any other indirect or direct costs, (i.e.) overhead, facilities, general or administrative costs, etc. nor were any of these costs added to the proposal.

- Below is a table listing the project engineering positions, rates, and hours:

Project Engineering Staff				
Staff	Hours/Yr	# of Yrs	Rate*	Total Cost
Project Manager	2080	3	\$45/hr	\$ 282,675
Statistical Engineer	2080	3	\$44/hr	\$ 274,560
Network Engineer	2080	3	\$43/hr	\$ 268,320
Network Engineer	2080	3	\$43/hr	\$ 268,320
Network Engineer	2080	3	\$42/hr	\$ 262,080
Travel				\$ 34,525
			Total	\$ 1,390,480
* Rounded to the nearest dollar, includes standard corporate fringe benefit rate.				

- Lawyer expense is estimated at \$23,000 for construction contract review and is based on the average legal cost per mile (\$24) Merit has experienced with fiber construction. It also includes \$500 for legal work during the pre-award stage.
- All expenses are to be 20% supported by cash matching funds.

2-9 Note

REACH-3MC will primarily use fiber contractors for the majority of the work defined in the ARRA broadband infrastructure proposal. Since the proposal will be leveraging contractors Merit consulted with them on the allocation of costs for Form 424C. The contractors recommend the following allocations for the fiber construction part of the project.

	Recommendation	Used
Land, structure, right of ways, appraisals, etc.	2%	2%
Architectural and engineering fees	10%-15%	13%
Project inspection fees	5%	5%
Site work	5%	5%
Construction	70%-75%	75%



Merit applied the percentages to the fiber construction costs recommended by the construction companies. Merit then added the remaining costs of the project that did not apply to the fiber contractors.

The following aggregated information pertains to budget categories 2 through 9:

OUTSIDE PLANT		Unit Cost	# Units	\$ 33,809,950
Cables	Fiber Build 72 Strands	\$34,500	706.3	\$24,367,350
	Fiber Build 36 Strands	\$32,800	173.9	\$5,703,920
	Fiber Build 12 Strands	\$28,750	74.9	\$2,153,375
Cables	Central Office Access	\$25,000	8	\$200,000
	Central Office Access	\$35,000	7	\$245,000
	Central Office Wiring Materials	\$95,105	1	\$95,105
	Anchor Tenant Access	\$30,000	25	\$750,000
Poles		\$1,550	144	\$223,200
Other	Hang Tags	\$3	28,800	\$72,000

Cables

- ✓ 72 strand fiber armored bundle to be installed on existing utility poles and underground conduit where required. Fiber specifications will require operation in the C-Band transmission window with non-zero chromatic dispersion to facilitate dense wave division multiplexing (DWDM) for high capacity systems. Consultation with two fiber vendors established that the cost of the fiber installation will average \$34,500 per mile with the total number of miles being 706.3. The route miles were determined using Merit’s route mapping tool.
- ✓ 36 strand fiber armored bundle to be installed on existing utility poles and underground conduit where required. Fiber specifications will require operation in the C-Band transmission window with non-zero chromatic dispersion to facilitate dense wave division multiplexing (DWDM) for high capacity systems. Consultation with two fiber vendors established that the cost of the fiber installation will average \$32,800 per mile with the total number of miles being 173.9. The route miles were determined using Merit’s route mapping tool.
- ✓ 12 strand fiber armored bundle to be installed on existing utility poles and underground conduit where required. Fiber specifications will require operation in the C-Band transmission window with non-zero chromatic dispersion to facilitate dense wave division multiplexing (DWDM) for high capacity systems. Consultation with two fiber vendors established that the cost of the fiber installation will average \$28,750 per mile with the total number of miles being 74.9. The route miles were determined using Merit’s route mapping tool.

Central Office Access

- ✓ Central office access to 8 of the more rural proposed central offices is estimated to cost \$25,000 per site based upon experience and estimates from the vendors. The access includes fiber and conduit entrance into the facility. Also included is site preparation and



collocation such as rack and power installation. Each central office will have diverse attachments to the outside plant infrastructure.

- ✓ Central office access to 7 of the more urban proposed central offices is estimated to cost 35,000 per site based upon experience and estimates from the vendors. The access includes fiber and conduit entrance into the facility. Also included is site preparation and collocation such as rack and power installation. Each central office will have diverse attachments to the outside plant infrastructure.
- ✓ Wiring materials to connect project central office equipment to the local ILEC and outside plant infrastructure. Includes low voltage copper, fiber, and power cabling. Cost from equipment vendor for the TDM central office equipment.
- ✓ General installation and wiring for central office equipment. This is from equipment quote from vendor which will be installing the TDM equipment at central offices.

Anchor Tenant Access

- ✓ Anchor tenant access includes conduit to the outside plant fiber, building penetration, inside conduit, equipment racks and power for each of the anchor tenants. Cost is estimated from consultation with outside plant fiber installation vendors, inside plant vendors and Merit's own experience installing fiber into anchor tenants.

Miscellaneous

- ✓ Engineering consultant used to certify proposal for submission to ARRA. The cost included time and materials to review hardware and fiber route installations and timelines and is based upon vendor quote.
- ✓ System lineup and testing for the TDM equipment to be located at the central offices. This includes onsite engineers provisioning and acceptance testing of all of the TDM and network equipment to interface with the local ILEC and other CLECs located at the central office based upon vendor quote.
- ✓ Deployment charge is the travel expenses for the vendor engineers to install and test the TDM equipment located in the central offices and is based upon vendor quote..
- ✓ General installation and system testing for optical, router and switch equipment to be deployed at anchor tenants and central offices. Includes installation, testing, and provisioning of the equipment. Cost includes staffing and travel and is based upon vendor estimate.

2. Land, structure, rights-of-way, appraisals, etc.

- **\$676,200**
- The cost will go to pole and conduit make-ready fees, construction permits, and right of way permits.
- This amount is an estimate from the fiber construction company which also aligns with Merit's construction experience.
- All expenses are to be 20% supported by cash matching funds.



3. Relocation expenses and payment

Not Applicable

4. Architectural and engineering fees

- **\$4,703,356**
- These budget costs are for fiber route surveying and engineering, documentation including as-built drawings, engineering/project management of fiber build projects. Also included in the cost are engineering and documentation for entrance into anchor tenants and central offices.
- This amount is an estimate from the fiber construction company and Merit's experience managing fiber construction projects. Merit's partner has also included a portion of an engineering position based upon current salaries within their corporation.
- Pre-award engineering costs are also included. \$3,500 was charged by the professional engineer to validate the engineering plans, Engineering Certification Q31, for the project and costs are from invoices.
- All expenses are to be 20% supported by cash matching funds.

5. Other architectural and engineering fees

- **\$33,823**
- The cost for the initial consultation with a design engineering firm is included at approximately \$150/hour (current rates) with an estimate of 225 hours in the first six months.
- All expenses are to be 20% supported by cash matching funds.

6. Project inspection fees

- **\$1,690,498**
- Fees are for pole and right of way owner inspection of proposed routes and verification of acceptance once work is completed.
- Expense estimates are from the fiber construction company and Merit's experience in fiber construction projects.
- All expenses are to be 20% supported by cash matching funds

7. Site work

- **\$1,696,898**
- This includes inside plant preparation work including conduit, fiber panel, and power installation for network and optical equipment. Also in this budget category are the added costs of working with local telecommunication companies to penetrate the identified central offices in the proposal. This category also includes costs for power improvement by the partner.
- The cost is based upon estimates from a fiber construction company and is aligned with Merit's experience in preparing a facility for network and optical equipment. Power improvement costs based upon vendor quote.
- All expenses are to be 20% supported by cash matching funds.



8. Demolition and removal

Not Applicable

9. Construction

- **\$25,357,463**
- This category includes installation of fiber on utility poles for approximately 80% of the 955 fiber miles, directional boring and conduit installation for underground fiber installation along approximately 20% of the project route. Construction materials, fiber, hang tags, messenger cable, poles, conduit, hand holes, and other materials related to fiber installation, and work crews to install the fiber are part of this category.
- These costs are from estimates from the fiber construction company and align with Merit’s experience with fiber installation on utility poles and underground work.
- All expenses are to be 20% supported by cash matching funds.

10. Equipment

- **\$5,485,955**
- Optical and network equipment to be installed for service delivery.
- The cost is from equipment quotes from optical transport, telecom and network equipment vendors.
- Below is a comprehensive listing of all of the equipment along with the quotes from the vendors:

Juniper 10Gbps Layer 3 Switches to Be Deployed At All DWDM OADM Sites*					
Site	Qty	Model	Description	Price	Extended
Muskegon	1	EX4200-24F	EX 4200, 24-port 1000BaseX SFP + 320W AC PS, Includes 50cm VC cable	8,800	8,800
	1	EX-PWR-320-AC	EX 4200 and EX 3200 320W AC Power Supply (power cord needs to be ordered separately)	275	275
	1	CBL-EX-PWR-C13-US	Power Cable, US	28	28
	1	EX-UM-2XFP	EX 4200 and EX 3200 2-Port 10G XFP Uplink Module	1,100	1,100
	1	EX-24-AFL	Advanced Feature License for EX 3200-24T/P and EX 4200-24T/P/F SKUs	1,600	1,600
	2	EX-SFP-1GE-LX40K	SFP 1000BASE-LX; LC connector; 1310nm; 40km reach on single-mode fiber	100	200
	2	XFP-10Gbsp	XFP 10GBASE-ZR; LC connector; 1550nm;	759	1,517
Traverse C	1	EX4200-24F	EX 4200, 24-port 1000BaseX SFP + 320W AC PS, Includes 50cm VC cable	8,800	8,800
	1	EX-PWR-320-AC	EX 4200 and EX 3200 320W AC Power Supply (power cord needs to be ordered separately)	275	275
	1	CBL-EX-PWR-C13-US	Power Cable, US	28	28
	1	EX-UM-2XFP	EX 4200 and EX 3200 2-Port 10G XFP Uplink Module	1,100	1,100
	1	EX-24-AFL	Advanced Feature License for EX 3200-24T/P and EX 4200-24T/P/F SKUs	1,600	1,600
	2	EX-SFP-1GE-LX40K	SFP 1000BASE-LX; LC connector; 1310nm; 40km reach on single-mode fiber	100	200
	2	XFP-10Gbsp	XFP 10GBASE-ZR; LC connector; 1550nm;	759	1,517
Mackinaw	1	EX4200-24F	EX 4200, 24-port 1000BaseX SFP + 320W AC PS, Includes 50cm VC cable	8,800	8,800
	1	EX-PWR-320-AC	EX 4200 and EX 3200 320W AC Power Supply (power cord needs to be ordered separately)	275	275
	1	CBL-EX-PWR-C13-US	Power Cable, US	28	28
	1	EX-UM-2XFP	EX 4200 and EX 3200 2-Port 10G XFP Uplink Module	1,100	1,100
	1	EX-24-AFL	Advanced Feature License for EX 3200-24T/P and EX 4200-24T/P/F SKUs	1,600	1,600
	2	EX-SFP-1GE-LX40K	SFP 1000BASE-LX; LC connector; 1310nm; 40km reach on single-mode fiber	100	200
	2	XFP-10Gbsp	XFP 10GBASE-ZR; LC connector; 1550nm;	759	1,517



BROADBAND TECHNOLOGY OPPORTUNITIES PROGRAM (BTOP)

Mt. Pleasant	1	EX4200-24F	EX 4200, 24-port 1000BaseX SFP + 320W AC PS, Includes 50cm VC cable	8,800	8,800
	1	EX-PWR-320-AC	EX 4200 and EX 3200 320W AC Power Supply (power cord needs to be ordered separately)	275	275
	1	CBL-EX-PWR-C13-US	Power Cable, US	28	28
	1	EX-UM-2XFP	EX 4200 and EX 3200 2-Port 10G XFP Uplink Module	1,100	1,100
	1	EX-24-AFL	Advanced Feature License for EX 3200-24T/P and EX 4200-24T/P/F SKUs	1,600	1,600
	2	EX-SFP-1GE-LX40K	SFP 1000BASE-LX; LC connector; 1310nm; 40km reach on single-mode fiber	100	200
	2	XFP-10Gbps	XFP 10GBASE-ZR; LC connector; 1550nm;	759	1,517
Hillman	1	EX4200-24F	EX 4200, 24-port 1000BaseX SFP + 320W AC PS, Includes 50cm VC cable	8,800	8,800
	1	EX-PWR-320-AC	EX 4200 and EX 3200 320W AC Power Supply (power cord needs to be ordered separately)	275	275
	1	CBL-EX-PWR-C13-US	Power Cable, US	28	28
	1	EX-UM-2XFP	EX 4200 and EX 3200 2-Port 10G XFP Uplink Module	1,100	1,100
	1	EX-24-AFL	Advanced Feature License for EX 3200-24T/P and EX 4200-24T/P/F SKUs	1,600	1,600
	2	EX-SFP-1GE-LX40K	SFP 1000BASE-LX; LC connector; 1310nm; 40km reach on single-mode fiber	100	200
	2	XFP-10Gbps	XFP 10GBASE-ZR; LC connector; 1550nm;	758	1,517
Midland	1	EX4200-24F	EX 4200, 24-port 1000BaseX SFP + 320W AC PS, Includes 50cm VC cable	8,800	8,800
	1	EX-PWR-320-AC	EX 4200 and EX 3200 320W AC Power Supply (power cord needs to be ordered separately)	275	275
	1	CBL-EX-PWR-C13-US	Power Cable, US	28	28
	1	EX-UM-2XFP	EX 4200 and EX 3200 2-Port 10G XFP Uplink Module	1,100	1,100
	1	EX-24-AFL	Advanced Feature License for EX 3200-24T/P and EX 4200-24T/P/F SKUs	1,600	1,600
	2	EX-SFP-1GE-LX40K	SFP 1000BASE-LX; LC connector; 1310nm; 40km reach on single-mode fiber	100	200
	2	XFP-10Gbps	XFP 10GBASE-ZR; LC connector; 1550nm;	758	1,517
Monroe	1	EX4200-24F	EX 4200, 24-port 1000BaseX SFP + 320W AC PS, Includes 50cm VC cable	8,800	8,800
	1	EX-PWR-320-AC	EX 4200 and EX 3200 320W AC Power Supply (power cord needs to be ordered separately)	275	275
	1	CBL-EX-PWR-C13-US	Power Cable, US	28	28
	1	EX-UM-2XFP	EX 4200 and EX 3200 2-Port 10G XFP Uplink Module	1,100	1,100
	1	EX-24-AFL	Advanced Feature License for EX 3200-24T/P and EX 4200-24T/P/F SKUs	1,600	1,600
	2	EX-SFP-1GE-LX40K	SFP 1000BASE-LX; LC connector; 1310nm; 40km reach on single-mode fiber	100	200
	2	XFP-10Gbps	XFP 10GBASE-ZR; LC connector; 1550nm;	758	1,517
Hillsdale	1	EX4200-24F	EX 4200, 24-port 1000BaseX SFP + 320W AC PS, Includes 50cm VC cable	8,800	8,800
	1	EX-PWR-320-AC	EX 4200 and EX 3200 320W AC Power Supply (power cord needs to be ordered separately)	275	275
	1	CBL-EX-PWR-C13-US	Power Cable, US	28	28
	1	EX-UM-2XFP	EX 4200 and EX 3200 2-Port 10G XFP Uplink Module	1,100	1,100
	1	EX-24-AFL	Advanced Feature License for EX 3200-24T/P and EX 4200-24T/P/F SKUs	1,600	1,600
	2	EX-SFP-1GE-LX40K	SFP 1000BASE-LX; LC connector; 1310nm; 40km reach on single-mode fiber	100	200
	2	XFP-10Gbps	XFP 10GBASE-ZR; LC connector; 1550nm;	758	1,517
Benton Harbor	1	EX4200-24F	EX 4200, 24-port 1000BaseX SFP + 320W AC PS, Includes 50cm VC cable	8,800	8,800
	1	EX-PWR-320-AC	EX 4200 and EX 3200 320W AC Power Supply (power cord needs to be ordered separately)	275	275
	1	CBL-EX-PWR-C13-US	Power Cable, US	28	28
	1	EX-UM-2XFP	EX 4200 and EX 3200 2-Port 10G XFP Uplink Module	1,100	1,100
	1	EX-24-AFL	Advanced Feature License for EX 3200-24T/P and EX 4200-24T/P/F SKUs	1,600	1,600
	2	EX-SFP-1GE-LX40K	SFP 1000BASE-LX; LC connector; 1310nm; 40km reach on single-mode fiber	100	200
	2	XFP-10Gbps	XFP 10GBASE-ZR; LC connector; 1550nm;	758	1,517
Spares	2	EX4200-24F	EX 4200, 24-port 1000BaseX SFP + 320W AC PS, Includes 50cm VC cable	8,800	17,600
	2	EX-PWR-320-AC	EX 4200 and EX 3200 320W AC Power Supply (power cord needs to be ordered separately)	275	550
	2	CBL-EX-PWR-C13-US	Power Cable, US	28	56
	2	EX-UM-2XFP	EX 4200 and EX 3200 2-Port 10G XFP Uplink Module	1,100	2,200
	2	EX-24-AFL	Advanced Feature License for EX 3200-24T/P and EX 4200-24T/P/F SKUs	1,600	3,200
	4	EX-SFP-1GE-LX40K	SFP 1000BASE-LX; LC connector; 1310nm; 40km reach on single-mode fiber	100	400
	4	XFP-10Gbps	XFP 10GBASE-ZR; LC connector; 1550nm;	758	3,032
24 Port 10/100/1000 10 Gbps Uplinks Total				148,718	



Juniper Metro 10Gbps Ethernet Router					
Site	Qty	Model	Description	Price	Extended
Mackinaw	1	MX480-PREMIUM-AC	Base system with redundant RE-2000,SCB,and power	107,000	107,000
	1	JUNOS-WW	JUNOS Worldwide Version	10,000	10,000
	4	CBL-M-PWR-RA-US	M 120/M 320/MX960 AC Power Cord,USA/Canada (N6/20),C19,20A/250V,2.5m,Right Angle	75	300
	1	JS-IPv6	IPv6 Support on JUNOS	10,000	10,000
	1	DPCE-R-4XGE-XFP	4x10GE Enhanced DPC for MX, requires optics sold separately	96,000	96,000
	3	XFP-10G-L-OC192-SR	Dual Rate 10G pluggable transceiver for 10GE and OC192, 13.10nm for 10Km transmission.	4,800	14,400
	1	SVC-ND-MX480	J-Care NextDay Support for MX480 Chassis (includes RE/SCB/PWR/JUNOS)	4,140	4,140
Mt. Pleasant	1	MX480-PREMIUM-AC	Base system with redundant RE-2000,SCB,and power	107,000	107,000
	1	JUNOS-WW	JUNOS Worldwide Version	10,000	10,000
	4	CBL-M-PWR-RA-US	M 120/M 320/MX960 AC Power Cord,USA/Canada (N6/20),C19,20A/250V,2.5m,Right Angle	75	300
	1	JS-IPv6	IPv6 Support on JUNOS	10,000	10,000
	1	DPCE-R-4XGE-XFP	4x10GE Enhanced DPC for MX, requires optics sold separately	96,000	96,000
	3	XFP-10G-L-OC192-SR	Dual Rate 10G pluggable transceiver for 10GE and OC192, 13.10nm for 10Km transmission.	4,800	14,400
	1	SVC-ND-MX480	J-Care NextDay Support for MX480 Chassis (includes RE/SCB/PWR/JUNOS)	4,140	4,140
Metro 10Gbps Ethernet Router Total					483,680
Core Router with OC3 Interfaces					
Site	Qty	Model	Description	Price	Extended
TBD	1	Cisco 7206	Cisco 7206 Router with OC3 Card G2	68,155	68,155
Core Router with OC3 Interfaces Total					68,155
Cisco 1Gbps Layer 3 Switches to Be Deployed At All DWDM ILA Sites					
Site	Qty	Model	Description	Price*	
Zeeland	1	WS-C3750G-12S-E	Cisco 3750 12 Port 10/100/1000 Switch	7,254	7,254
Manistee	1	WS-C3750G-12S-E	Cisco 3750 12 Port 10/100/1000 Switch	7,254	7,254
Petoskey	1	WS-C3750G-12S-E	Cisco 3750 12 Port 10/100/1000 Switch	7,254	7,254
Gaylord	1	WS-C3750G-12S-E	Cisco 3750 12 Port 10/100/1000 Switch	7,254	7,254
Grayling	1	WS-C3750G-12S-E	Cisco 3750 12 Port 10/100/1000 Switch	7,254	7,254
Gladwin	1	WS-C3750G-12S-E	Cisco 3750 12 Port 10/100/1000 Switch	7,254	7,254
Bay City	1	WS-C3750G-12S-E	Cisco 3750 12 Port 10/100/1000 Switch	7,254	7,254
Pinconning	1	WS-C3750G-12S-E	Cisco 3750 12 Port 10/100/1000 Switch	7,254	7,254
Oscoda	1	WS-C3750G-12S-E	Cisco 3750 12 Port 10/100/1000 Switch	7,254	7,254
Adrian	1	WS-C3750G-12S-E	Cisco 3750 12 Port 10/100/1000 Switch	7,254	7,254
Spare	2	WS-C3750G-12S-E	Cisco 3750 12 Port 10/100/1000 Switch	7,254	14,508
12 Port 10/100/1000 Switch Total					87,048
* Cost estimates are based on previous quotes received by Merit					
Western Corridor DWDM System					
Site	Qty	Model	Description	Price	Extended
FSP 3000R7 Commons and Shelves					
	11	78700001	7HU Shelf with Shelf Control Unit and redundant DC PSUs included	2,377	26,152
	11	0063708410	Network Element Control Unit (NCU2E), 2.5 HU high, 2 RJ45 Ethernet ports, additional RTU license required	650	7,153
	11	1063708463	Optical Supervisory Channel Module with 2 pluggable network ports	782	8,606
	21	0061705993	SFP client I/F for 1510nm, ultra long reach, 125Mbit/s only, for use with OSCM-PN and OSFM-# 1510	1,006	21,123
	21	1063708481	Optical Supervisory Channel Filter Module, 1510 nm	681	14,295
	90	0063709901	Dummy card 5HU	24	2,194
FSP 3000R7 Software and Licenses					
	11	0091700010	Right to use CWDM and DWDM using Access and Core cards	1,372	15,088
	11	1091700040	Right to use GMPLS Control plane functionality	2,530	27,828



FSP 3000R7 WDM Channel Modules - Core Type				
9	0063700200	10G Core XPDR with XFP client IF, LR OSNR optimized C-Band Tunable DWDM Network IF, WCC-PCTN-10G-LN# DC	10,150	91,349
FSP 3000R7 Pluggable Optics				
9	0061701811	11G XFP I/F for 1310nm, standard reach, 9.953 Gbit/s-11.400 Gbit/s	752	6,767
FSP 3000R7 Optical Filters				
1	1063708320	ROADM Module, 8-Degree, WSS-Based, 40 C-Band Wavelengths, 100 GHz, with WSS, 1x8 Power Splitter, and Integrated OPM, 8ROADM-C40/0/OPM	17,922	17,922
5	1063708310	ROADM Module, 2-Degree, WSS-Based, 80 C-Band Wavelengths, 50 GHz/100GHz, with WSS, 1x2 Power Splitter, and Integrated OPM, ROADM-C80/0/OPM	11,166	55,829
6	1063708440	Passive Shelf Control Unit	396	2,377
6	1036000570	PSCU Interface Cable (IEEE1394 type)	24	146
6	1078708790	40-Channel AWG Mux/Demux, 100 GHz, C-Band, Separate 2HU shelf	7,610	45,659
FSP 3000R7 Optical Amplifiers				
6	1063709050	Optical Amplifier for Booster application, Single Stage 20dBm maximum output power, gain controlled (C-Band) with Dual Monitoring Ports, EDFA-C-S20-GCB-DM	4,562	27,371
20	1063709051	Optical Amplifier, Double Stage 20 dBm maximum output power, variable gain, gain controlled (C-Band) with Dual Monitoring Ports, EDFA-C-D20-VGC-DM	6,594	131,877
FSP 3000R7 Dispersion Compensation				
14	0089000584	Unmanaged Dispersion Compensation for True Wave Reduced Slope Fiber, stand-alone 1HU shelf, 80km	7,158	100,208
FSP 3000R7 Electrical Cables				
22	1036700004	DC Power Cable length 300 cm, 3 Wires, High Power	25	559
Optical Attenuators & Adaptors				
22	0058300000	Optical Attenuator unspecified	46	1,006
Optical Cables				
##	0051000000	Jumper for internal cabling - connector, length and mode not specified	46	20,341
				623,849

Central Corridor DWDM System					
Site	Qty	Model	Description	Price	Extended
FSP 3000R7 Commons and Shelves					
	6	0078700001	7HU Shelf with Shelf Control Unit and redundant DC PSUs included	2,377	14,265
	6	0063708410	Network Element Control Unit (NCU2E), 2.5 HU high, 2 RJ45 Ethernet ports, additional RTU license required	650	3,901
	6	1063708463	Optical Supervisory Channel Module with 2 pluggable network ports	782	4,694
	10	0061705993	SFP client I/F for 1510nm, ultra long reach, 125M bit/s only, for use with OSCM-PN and OSFM-# 1510	1,006	10,058
	10	1063708481	Optical Supervisory Channel Filter Module, 1510 nm	681	6,807
	54	0063709901	Dummy card 5HU	24	1,317
FSP 3000R7 Software and Licenses					
	6	0091700010	Right to use CWDM and DWDM using Access and Core cards	1,372	8,230
	6	1091700040	Right to use GMPLS Control plane functionality	2,530	15,179
FSP 3000R7 WDM Channel Modules - Core Type					
	5	0063700200	10G Core XPDR with XFP client IF, LR OSNR optimized C-Band Tunable DWDM Network IF, WCC-PCTN-10G-LN# DC	10,150	50,749
FSP 3000R7 Pluggable Optics					
	5	0061701811	11G XFP I/F for 1310nm, standard reach, 9.953 Gbit/s-11.400 Gbit/s	752	3,759
FSP 3000R7 Optical Filters					
	1	1063708320	ROADM Module, 8-Degree, WSS-Based, 40 C-Band Wavelengths, 100 GHz, with WSS, 1x8 Power Splitter, and Integrated OPM, 8ROADM-C40/0/OPM	17,922	17,922
	1	1063708310	ROADM Module, 2-Degree, WSS-Based, 80 C-Band Wavelengths, 50 GHz/100GHz, with WSS, 1x2 Power Splitter, and Integrated OPM, ROADM-C80/0/OPM	11,166	11,166
	2	1063708440	Passive Shelf Control Unit	396	792
	2	1036000570	PSCU Interface Cable (IEEE1394 type)	24	49
	2	1078708790	40-Channel AWG Mux/Demux, 100 GHz, C-Band, Separate 2HU shelf	7,610	15,220
FSP 3000R7 Optical Amplifiers					
	2	1063709050	Optical Amplifier for Booster application, Single Stage 20dBm maximum output power, gain controlled (C-Band) with Dual Monitoring Ports, EDFA-C-S20-GCB-DM	4,562	9,124
	10	1063709051	Optical Amplifier, Double Stage 20 dBm maximum output power, variable gain, gain controlled (C-Band) with Dual Monitoring Ports, EDFA-C-D20-VGC-DM	6,594	65,938



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FSP 3000R7 Dispersion Compensation					
2	0089000584		Unmanaged Dispersion Compensation for True Wave Reduced Slope Fiber, stand-alone 1HU shelf, 80km	7,158	14,315
4	0089000585		Unmanaged Dispersion Compensation for True Wave Reduced Slope Fiber, stand-alone 1HU shelf, 100km	8,021	32,085
FSP 3000R7 Electrical Cables					
12	1036700004		DC Power Cable length 300 cm, 3 Wires, High Power	25	305
Optical Attenuators & Adaptors					
12	0058300000		Optical Attenuator unspecified	46	549
Optical Cables					
##	0051000000		Jumper for internal cabling - connector, length and mode not specified	46	11,095
					297,520
Southern Cooridor DWDM System					
Site	Qty	Model	Description	Price	Extended
FSP 3000R7 Commons and Shelves					
7	0078700001		7HU Shelf with Shelf Control Unit and redundant DC PSUs included	2,377	16,642
7	0063708410		Network Element Control Unit (NCU2E), 2.5 HU high, 2 RJ45 Ethernet ports, additional RTU license required	650	4,552
7	1063708463		Optical Supervisory Channel Module with 2 pluggable network ports	782	5,476
13	0061705993		SFP client I/F for 1510nm, ultra long reach, 125M bit/s only, for use with OSCM-PN and OSFM-# 1510	1,006	13,076
13	1063708481		Optical Supervisory Channel Filter Module, 1510 nm	681	8,849
57	0063709901		Dummy card 5HU	24	1,390
FSP 3000R7 Software and Licenses					
7	0091700010		Right to use CWDM and DWDM using Access and Core cards	1,372	9,601
7	1091700040		Right to use GMPLS Control plane functionality	2,530	17,709
FSP 3000R7 WDM Channel Modules - Core Type					
7	0063700200		10G Core XPDR with XFP client IF, LR OSNR optimized C-Band Tunable DWDM Network IF, WCC-PCTN-10G-LN# DC	10,150	71,049
FSP 3000R7 Pluggable Optics					
7	0061701811		11G XFP I/F for 1310nm, standard reach, 9.953 Gbit/s-11.400 Gbit/s	752	5,263
FSP 3000R7 Optical Filters					
4	1063708310		ROADM Module, 2-Degree, WSS-Based, 80 C-Band Wavelengths, 50 GHz/100GHz, with WSS, 1x2 Power Splitter, and Integrated OPM, ROADM-C80/0/OPM	11,166	44,663
4	1063708440		Passive Shelf Control Unit	396	1,585
4	1036000570		PSCU Interface Cable (IEEE1394 type)	24	98
4	1078708790		40-Channel AWG Mux/Demux, 100 GHz, C-Band, Separate 2HU shelf	7,610	30,439
FSP 3000R7 Optical Amplifiers					
4	1063709050		Optical Amplifier for Booster application, Single Stage 20dBm maximum output power, gain controlled (C-Band) with Dual Monitoring Ports, EDFA-C-S20-GCB-DM	4,562	18,247
12	1063709051		Optical Amplifier, Double Stage 20 dBm maximum output power, variable gain, gain controlled (C-Band) with Dual Monitoring Ports, EDFA-C-D20-VGC-DM	6,594	79,126
FSP 3000R7 Dispersion Compensation					
6	0089000584		Unmanaged Dispersion Compensation for True Wave Reduced Slope Fiber, stand-alone 1HU shelf, 80km	7,158	42,946
FSP 3000R7 Electrical Cables					
14	1036700004		DC Power Cable length 300 cm, 3 Wires, High Power	25	356
Optical Attenuators & Adaptors					
14	0058300000		Optical Attenuator unspecified	46	640
Optical Cables					
##	0051000000		Jumper for internal cabling - connector, length and mode not specified	46	12,944
					384,652
Eastern Cooridor DWDM System					
Site	Qty	Model	Description	Price	Extended
FSP 3000R7 Commons and Shelves					
6	0078700001		7HU Shelf with Shelf Control Unit and redundant DC PSUs included	2,377	14,265
6	0063708410		Network Element Control Unit (NCU2E), 2.5 HU high, 2 RJ45 Ethernet ports, additional RTU license required	650	3,901
6	1063708463		Optical Supervisory Channel Module with 2 pluggable network ports	782	4,694
10	0061705993		SFP client I/F for 1510nm, ultra long reach, 125M bit/s only, for use with OSCM-PN and OSFM-# 1510	1,006	10,058
10	1063708481		Optical Supervisory Channel Filter Module, 1510 nm	681	6,807
59	0063709901		Dummy card 5HU	24	1,438



FSP 3000R7 Software and Licenses				
6	0091700010	Right to use CWDM and DWDM using Access and Core cards	1,372	8,230
6	1091700040	Right to use GMPLS Control plane functionality	2,530	15,179
FSP 3000R7 WDM Channel Modules - Core Type				
3	0063700200	10G Core XPDR with XFP client IF, LR OSNR optimized C-Band Tunable DWDM Network IF, WCC-PCTN-10G-LN# DC	10,150	30,450
FSP 3000R7 Pluggable Optics				
3	0061701811	11G XFP I/F for 1310nm, standard reach, 9.953 Gbit/s-11,400 Gbit/s	752	2,256
FSP 3000R7 Optical Filters				
1	1063708320	ROADM Module, 8-Degree, WSS-Based, 40 C-Band Wavelengths, 100 GHz, with WSS, 1x8 Power Splitter, and Integrated OPM, 8ROADM-C40/0/OPM	17,922	17,922
1	1063708310	ROADM Module, 2-Degree, WSS-Based, 80 C-Band Wavelengths, 50 GHz/100GHz, with WSS, 1x2 Power Splitter, and Integrated OPM, ROADM-C80/0/OPM	11,166	11,166
2	1063708440	Passive Shelf Control Unit	396	792
2	1036000570	PSCU Interface Cable (IEEE1394 type)	24	49
2	1078708790	40-Channel AWG Mux/Demux, 100 GHz, C-Band, Separate 2HU shelf	7,610	15,220
FSP 3000R7 Optical Amplifiers				
2	1063709050	Optical Amplifier for Booster application, Single Stage 20dBm maximum output power, gain controlled (C-Band) with Dual Monitoring Ports, EDFA-C-S20-GCB-DM	4,562	9,124
10	1063709051	Optical Amplifier, Double Stage 20 dBm maximum output power, variable gain, gain controlled (C-Band) with Dual Monitoring Ports, EDFA-C-D20-VGC-DM	6,594	65,938
FSP 3000R7 Dispersion Compensation				
4	0089000586	Unmanaged Dispersion Compensation for True Wave Reduced Slope Fiber, stand-alone 1HU shelf, 120km	8,885	35,540
FSP 3000R7 Electrical Cables				
12	1036700004	DC Power Cable length 300 cm, 3 Wires, High Power	25	305
Optical Attenuators & Adaptors				
12	0058300000	Optical Attenuator unspecified	46	549
Optical Cables				
##	0051000000	Jumper for internal cabling - connector, length and mode not specified	46	11,095
				264,977

East AB Corridor DWDM System					
Site	Qty	Model	Description	Price	Extended
FSP 3000R7 Commons and Shelves					
	3	0078700001	7HU Shelf with Shelf Control Unit and redundant DC PSUs included	2,377	7,132
	3	0063708410	Network Element Control Unit (NCU2E), 2.5 HU high, 2 RJ45 Ethernet ports, additional RTU license required	650	1,951
	3	1063708463	Optical Supervisory Channel Module with 2 pluggable network ports	782	2,347
	4	0061705993	SFP client I/F for 1510nm, ultra long reach, 125M bit/s only, for use with OSCM-PN and OSFM-# 1510	1,006	4,023
	4	1063708481	Optical Supervisory Channel Filter Module, 1510 nm	681	2,723
	29	0063709901	Dummy card 5HU	24	707
FSP 3000R7 Software and Licenses					
	3	0091700010	Right to use CWDM and DWDM using Access and Core cards	1,372	4,115
	3	1091700040	Right to use GMPLS Control plane functionality	2,530	7,590
FSP 3000R7 Optical Filters					
	2	1063708320	ROADM Module, 8-Degree, WSS-Based, 40 C-Band Wavelengths, 100 GHz, with WSS, 1x8 Power Splitter, and Integrated OPM, 8ROADM-C40/0/OPM	17,922	35,844
	2	1063708440	Passive Shelf Control Unit	396	792
	2	1036000570	PSCU Interface Cable (IEEE1394 type)	24	49
	2	1078708790	40-Channel AWG Mux/Demux, 100 GHz, C-Band, Separate 2HU shelf	7,610	15,220
FSP 3000R7 Optical Amplifiers					
	2	1063709050	Optical Amplifier for Booster application, Single Stage 20dBm maximum output power, gain controlled (C-Band) with Dual Monitoring Ports, EDFA-C-S20-GCB-DM	4,562	9,124
	4	1063709051	Optical Amplifier, Double Stage 20 dBm maximum output power, variable gain, gain controlled (C-Band) with Dual Monitoring Ports, EDFA-C-D20-VGC-DM	6,594	26,375
FSP 3000R7 Dispersion Compensation					
	3	0089000584	Unmanaged Dispersion Compensation for True Wave Reduced Slope Fiber, stand-alone 1HU shelf, 80km	7,158	21,473
	1	0089000585	Unmanaged Dispersion Compensation for True Wave Reduced Slope Fiber, stand-alone 1HU shelf, 100km	8,021	8,021
FSP 3000R7 Electrical Cables					
	6	1036700004	DC Power Cable length 300 cm, 3 Wires, High Power	25	152



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Optical Attenuators & Adaptors					
6	0058300000		Optical Attenuator unspecified	46	274
Optical Cables					
##	0051000000		Jumper for internal cabling - connector, length and mode not specified	46	5,548
					153,461
Northern Corridor DWDM System					
Site	Qty	Model	Description	Price	Extended
FSP 3000R7 Commons and Shelves					
5	0078700001		7HU Shelf with Shelf Control Unit and redundant DC PSUs included	2,377	11,887
5	0063708410		Network Element Control Unit (NCU2E), 2.5 HU high, 2 RJ45 Ethernet ports, additional RTU license required	650	3,251
5	1063708463		Optical Supervisory Channel Module with 2 pluggable network ports	782	3,912
8	0061705993		SFP client I/F for 1510nm, ultra long reach, 125M bit/s only, for use with OSCM-PN and OSFM-# 1510	1,006	8,047
8	1063708481		Optical Supervisory Channel Filter Module, 1510 nm	681	5,446
48	0063709901		Dummy card 5HU	24	1,170
FSP 3000R7 Software and Licenses					
5	0091700010		Right to use CWDM and DWDM using Access and Core cards	1,372	6,858
5	1091700040		Right to use GMPLS Control plane functionality	2,530	12,649
FSP 3000R7 WDM Channel Modules - Core Type					
2	0063700200		10G Core XPDR with XFP client IF, LR OSNR optimized C-Band Tunable DWDM Network IF, WCC-PCTN-10G-LN# DC	10,150	20,300
FSP 3000R7 Pluggable Optics					
2	0061701811		11G XFP I/F for 1310nm, standard reach, 9.953 Gbit/s-11.400 Gbit/s	752	1,504
FSP 3000R7 Optical Filters					
1	1063708320		ROADM Module, 8-Degree, WSS-Based, 40 C-Band Wavelengths, 100 GHz, with WSS, 1x8 Power Splitter, and Integrated OPM, 8ROADM-C40/0/OPM	17,922	17,922
1	1063708310		ROADM Module, 2-Degree, WSS-Based, 80 C-Band Wavelengths, 50 GHz/100GHz, with WSS, 1x2 Power Splitter, and Integrated OPM, ROADM-C80/0/OPM	11,166	11,166
2	1063708440		Passive Shelf Control Unit	396	792
2	1036000570		PSCU Interface Cable (IEEE1394 type)	24	49
2	1078708790		40-Channel AWG Mux/Demux, 100 GHz, C-Band, Separate 2HU shelf	7,610	15,220
FSP 3000R7 Optical Amplifiers					
2	1063709050		Optical Amplifier for Booster application, Single Stage 20dBm maximum output power, gain controlled (C-Band) with Dual Monitoring Ports, EDFA-C-S20-GCB-DM	4,562	9,124
8	1063709051		Optical Amplifier, Double Stage 20 dBm maximum output power, variable gain, gain controlled (C-Band) with Dual Monitoring Ports, EDFA-C-D20-VGC-DM	6,594	52,751
FSP 3000R7 Dispersion Compensation					
6	0089000585		Unmanaged Dispersion Compensation for True Wave Reduced Slope Fiber, stand-alone 1HU shelf, 100km	8,021	48,128
FSP 3000R7 Electrical Cables					
10	1036700004		DC Power Cable length 300 cm, 3 Wires, High Power	25	254
Optical Attenuators & Adaptors					
10	0058300000		Optical Attenuator unspecified	46	457
Optical Cables					
##	0051000000		Jumper for internal cabling - connector, length and mode not specified	46	9,246
					240,132
DWDM System Spares					
Site	Qty	Model	Description	Price	Extended
FSP 3000R7 Commons and Shelves					
1	0078700001		7HU Shelf with Shelf Control Unit and redundant DC PSUs included	2,377	2,377
1	0063708410		Network Element Control Unit (NCU2E), 2.5 HU high, 2 RJ45 Ethernet ports, additional RTU license required	650	650
1	1063708463		Optical Supervisory Channel Module with 2 pluggable network ports	782	782
1	0061705993		SFP client I/F for 1510nm, ultra long reach, 125M bit/s only, for use with OSCM-PN and OSFM-# 1510	1,006	1,006
1	1063708481		Optical Supervisory Channel Filter Module, 1510 nm	681	681
FSP 3000R7 WDM Channel Modules - Core Type					
1	0063700200		10G Core XPDR with XFP client IF, LR OSNR optimized C-Band Tunable DWDM Network IF, WCC-PCTN-10G-LN# DC	10,150	10,150



FSP 3000R7 Pluggable Optics					
1	0061701811		11G XFP I/F for 1310nm, standard reach, 9.953 Gbit/s-11,400 Gbit/s	752	752
FSP 3000R7 Optical Filters					
1	1063708320		ROADM Module, 8-Degree, WSS-Based, 40 C-Band Wavelengths, 100 GHz, with WSS, 1x8 Power Splitter, and Integrated OPM, 8ROADM-C40/0/OPM	17,922	17,922
1	1063708310		ROADM Module, 2-Degree, WSS-Based, 80 C-Band Wavelengths, 50 GHz/100GHz, with WSS, 1x2 Power Splitter, and Integrated OPM, ROADM-C80/0/OPM	11,166	11,166
1	1063708440		Passive Shelf Control Unit	396	396
1	1036000570		PSCU Interface Cable (IEEE1394 type)	24	24
1	1078708790		40-Channel AWG Mux/Demux, 100 GHz, C-Band, Separate 2HU shelf	7,610	7,610
FSP 3000R7 Optical Amplifiers					
1	1063709050		Optical Amplifier for Booster application, Single Stage 20dBm maximum output power, gain controlled (C-Band) with Dual Monitoring Ports, EDFA-C-S20-GCB-DM	4,562	4,562
1	1063709051		Optical Amplifier, Double Stage 20 dBm maximum output power, variable gain, gain controlled (C-Band) with Dual Monitoring Ports, EDFA-C-D20-VGC-DM	6,594	6,595
					64,674
DWDM Software Operating System					
Site	Qty	Model	Description	Price	Extended
FSP Network Manager					
		0091001200	FSP Network Manager Server License (Solaris 9/10)	2,540	2,540
		1091002010	FSP Network Manager Connection Licenses for 5 shelves of type FSP 3000R7	7,620	60,960
		1091002510	FSP Service Manager Connection Licenses for 5 shelves of type FSP 3000R7	7,620	60,960
					124,460
DWDM System Maintenance					
Site	Qty	Model	Description	Price	Extended
	1	Bronz	Annual Maintenance	129,223	129,223
40 Wave DWDM Optical Network Total					2,282,947
10	Traverse 2000		Transport Equipment - Configuration for lower density Interconnect CO's	110,759	1,107,592
			Force10 Network Traverse 2000 Multiprotocol Optical/Switching System		
			OC-192 Optical Network Transport system with Add/Drop Multiplexing & DCS		
			Accommodates 112 DS1's, 2 -GE Interfaces, 16 10/100 Interfaces, 1OC-48 Port, 12 DS3 Interfaces		
5	Traverse 2000		Transport Equipment - Configuration for higher density Interconnect CO's	236,687	1,183,434
			Force10 Network Traverse 2000 Multiprotocol Optical/Switching System		
			OC-192 Optical Network Transport system with Add/Drop Multiplexing & DCS		
			Accommodates 112 DS1's, 12 -GE Interfaces, 16 10/100 Interfaces, 1OC-48 Port, 48 DS3 Interfaces, 4 OC-12 & 8 OC3 Interfaces		
1			Transport Equipment Maintenance Spares - common spares for all sites	124,381	124,381
Multiprotocol Optical/Switching System Total					2,415,407
System Total					5,485,955

- All expenses are to be 20% supported by cash matching funds.



11. Miscellaneous

- **\$131,324**
- This category includes computers for the three new engineers and the grant administrator that will be working directly and exclusively on the project. It also includes cell phones for the engineers.
- The computers are estimated at \$2,100 each. The cell phones are estimated at \$80/month including the initial startup charges based upon current corporate usage and have an estimated total of \$8,640.
- \$40,784 is estimated for fiber splicing, OTDR, and optical installation and management training for Merit and partner engineering staff. These expenses are based upon known costs for the training classes and the number of engineers that will be participating.
- \$50,000 for the OTDR and OSA testing equipment. Optical Time-Domain Reflectometer, an optoelectronic instrument used to characterize an optical fiber, is used for estimating a fiber's length and overall attenuation, including splice and mated-connector losses. It may also be used to locate faults, such as breaks, and to measure optical return loss and to evaluate the quality of a connection during installation, maintenance and repair. Optical Spectrum Analyzer, a device used to examine the spectral composition of an optical signal, displays a power measure of each frequency component over a given frequency range, changing the display as the properties of the signal change. Used to evaluate the quality of a communications channel signal during installation and repair. Vendor will be performing this service and cost is based upon the vendor estimates.
- There is also \$7,500 of cost for network management of the optical transport equipment. The \$7500 is the cost for the Network Management appliance and software for the optical transport system LYNX will be operating. This is the one time cost to purchase the software and hardware to run the software to operate the management system. This cost comes from a vendor quote.
- Merit hired a consultant during the award preparation to review unserved and underserved locations. The cost, \$16,000, is taken directly from the invoice.
- All expenses are to be 20% supported by cash matching funds.

Addendum

Except for fringe benefits no other indirect costs are included in the budget.

Merit's fringe benefit package is controlled by the University of Michigan since all Merit employees are contracted to Merit from the university per a five year hosting agreement. No Merit employee has access to special packages or rates. The package includes the employer's portion of FICA, pro rata health insurance subsidy, and dental insurance, group insurance, retirement plan, long-term disability, and 1.9% for university administration of the programs. The university rates currently average 28.5% per dollar of salary. This is the rate that was used to estimate total salary and fringe benefits for new positions. For current staffing their known rate was applied.

The fringe benefit costs included in the salary rates refers only to this package. It does not include any other indirect costs, (i.e.) overhead, facilities, general or administrative, etc.