



Budget Narrative

Applicant Name: Public Utility District No. 1 of Pend Oreille County, WA

EasyGrants Number: 1854

Organization Type (from Question 1D on BTOP application): Political subdivision of a State, including Local or County Government

Proposed Period of Performance: 2010 - 2012

Total Project Costs: \$34,072,297

Total Federal Grant Request: \$27,257,838

Total Matching Funds (Cash): \$3,917,193

Total Matching Funds (In-Kind): \$2,897,266

Total Matching Funds (Cash + In-Kind): \$6,814,459

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

1. Administrative and legal expenses

Positions	Cost Detail Location	Time Commitment	Explanation
Sr Project Manager	File: Infrastructure Budget Package Submittal	\$35,700 100% Dedicated Outsourced	Act as primary management for the project deployment, guide and oversee the project manager and project engineers.
Project Manager	Tab: Detail of Project Costs Section: Professional Services	\$208,000 100% Dedicated Outsourced	Act as project manager and oversee all production, contract development, coordinate the schedule, track the project budget and timeline, produce weekly/monthly reporting
Adminstrative Support	Element: Project Management Line: Program / Project Mgmt	\$14,400 100% Dedicated	Will act as the depository of all deployment documents, manage reports, schedule and document all meetings and support all deployment staff.

Total Calculation - Administrative and legal expenses





Total Calculation	\$258,100
Total Matching Funds Cash	\$51,620
Federal Funding Request	\$206,480

The total cash matching funds for this task is based on 20% of the total cost.

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

Items	Cost Detail Location	Outlined Costs	Proposed Activities
Pre-fab Communications Huts	Buildings Pre-fab Huts - Aggregation Hut Budget + \$15k per site (Facility Installation)	\$180,000	Placement of 12' x 15' Pre-Fabricated Hut with environmentally controlled heating and cooling. The hut will require AC power feeder, excavation for the foundation, grounding and a perimeter fencing. Three locations: Bare Mountain Substation, Cusick and Box Caynon.
Serving Area Communications Cabinets	Buildings Pre-fab Huts - Serving Area Cabinet + \$2,786 per site 23 total (Facility Installation)	\$373,506	Placement of 3' x 5' Communications Cabinet with environmentally controlled heading and cooling. The cabinets will be the distribution for the fiber to the premise, will require an AC power feeder, grounding and will be placed within public rights-of-way.
Serving Area Rights-of-way Property Acquisition	Buildings Other - Cabinet Site Acquisition	\$210,000	Acquiring the rights to place and the associated fees to permit and install the serving area cabinets.
Microwave Tower	Outside Plant Towers - Microwave Equipment	\$100,000	Placement of a 120' lattice tower at the Bare Mountain Substation Communications Hut. The tower will require electrical power service, grounding, foundation installation and conduit placement routing to the Hut.
Microwave Tower Property Use Acquisition Fees	Buildings Other - Tower Site Acquisition	\$25,000	Acquiring the rights to place and the associated fees for permitting the Microwave Tower at the Bare Mountain Substation. .
In-Kind – Comm - Building	Buildings Others -In-Kind –Comm - Building	\$185,294	Existing deployed network supporting proposed PFSA Network

Total Calculation - Land, structure, rights-of-way, appraisals, etc.

Total Calculation	\$1,073,800
Total Matching Funds Cash	\$29,466





Total In-Kind Match	\$185,294
Federal Funding Request	\$859,040

The total cash and In-Kind matching funds for this task is based on 20% of the total cost.

3. Relocation expenses and payment

The application does not include or require any relocation expense and payment.

4. Architectural and engineering fees

Engineering Tasks	Cost Detail Location	Fees	Explanation
Communications Hut Site Design & Conditioning	Buildings Improvements & Renovation - Site Design & Conditioning (\$29.3k from the \$154,883 line)	\$29,331	Prepare site survey, layout, and construction placement drawings for final permitting. Emphasis on drainage, structure grounding, foundation design, foundation location, perimeter fencing and conduit placement for communications and AC power feeder cables.
Microwave Tower Layout Design & Coordination	Buildings Improvements & Renovation - Site Design & Conditioning (\$30k from the \$154,883 line)	\$30,000	Planning and tower selection. Prepare site survey, FAA tower permitting, site construction placement drawings for final permitting, Emphasis on drainage, tower grounding, foundation design, perimeter fencing, tower beacon (if reqd.) and conduit placement.
Serving Area Communication Cabinets Design & Layout	Buildings Improvements & Renovation - Site Design & Conditioning (\$95.5k from the \$154,883 line)	\$95,550	Prepare site placement details for each serving area communications cabinet, service feeders, fiber conduit, and site access. Total of 21 cabinet throughout the County, each will act a interconnect for service providers.
OSP Field Engineering	Professional Services Engineering Design - Field Design, Final Design	\$2,373,941	Field design, develop final permit applications, splicing diagrams, unit rack-off calculation and material procurement requirements. Produce record drawings from field constructed red-lines and input into ESRI mapping system.
Network Engineering, Network Installation & Transport Ring System Provisioning	Professional Services Engineering Design - Network Design Network Install	\$464,416	The system will require racking, power connections and full installation, configuration and provisioning of the redundant transport 10G network, transport Gigabit network to each serving area cabinet and coordination with the





	- NOC Implementaion		service providers on the network configuration and provisioning of services to the end user.
Internal Staff Project Manager	Professional Services Other -Internal Staff Project Manager	\$455,135 In-Kind	Internal Project Manager. Refer to file: CNS In Kind Allocation v8 03-19-10 JBO

Total Calculation – Architectural and engineering fees

Total Calculation	\$3,448,373
Total Matching Funds Cash	\$234,540
Total In-Kind Match	\$455,135
Federal Funding Request	\$2,758,698

The total cash matching funds for this task is based on 20% of the total cost.

5. Other architectural and engineering fees

Other Engineering Tasks	Cost Detail Location	Fees	Explanation
Prepare, submit and track construction permitting and applications	Professional Services Consulting - Permit Preparation & Filing	\$262,304	While the project resides mostly on aerial power poles owned by the utility, the build-out must submit the correct application, loading calculations and attachment details. Permits will be required for the underground sections of the build, County, Cities and Canal/waterways.
Business and Operation Integration	Professional Services Consulting - Business Plan Preparation - Operations Implmentation	\$374,700	Prepare the final business operational plan, service offering for LAN extensions, FTTx services, over the top services and launch the operational team for activation of wholesale services with the retail providers.
Service Provider Provisioning Setup Procedures and Web interface Development	Professional Services Consulting - System Provisioning	\$29,807	Coordination of service provisioning procedures between the Utility and the retail provider. Final development of a web interface for active customer information and trouble ticket support.

Total Calculation – Other architectural and engineering fees

Total Calculation	\$666,811
Total Matching Funds Cash	\$133,362





Federal Funding Request	\$533,449
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The total cash matching funds for this task is based on 20% of the total cost.

6. Project inspection fees

Project inspection fees are included in Section 9 "Construction".

7. Site work

All site work is contained in section 2 of the "Land, structure, rights-of-way, appraisals, etc.".

8. Demolition and removal

The application does not include or require any demolition and removal.

9. Construction

Construction Items	Cost Detail Location	Estimated Fees	Performed by	Proposed Services
Cable	Outside Plant Cables - Fiber Material - Fiber Install - Warning Tape - Locate Wire	\$7,592,871	Construction Contract #1	Installation of all fiber optic Cable both Aerial and Underground. Placement of locate Wire and locate tape.
Conduits	Outside Plant Conduits - 1.25 Inch (1,2 & upto 4) - Bore & Trench - Glue - Couplers - Restoration	\$8,856,159	Construction Contract #1	Installation of required conduits, couplers and sweeps ~ Trenching, Boring or pushing.
Ducts / Vaults	Outside Plant Ducts - Handholes (Sm & Lg) - Handhole Sealer - Handhole Restoration	\$1,209,178	Construction Contract #1	Installation of various sized handholes and access points throughout the build.
Poles	Outside Plant Poles	\$2,130,402	Cosntruction Contract #1	Installation of new poles or replacement of





	- New Poles & Replacements - Aerial Hardware - Aerial Strand Install Material - Make Ready			existing poles based on the engineering and make ready. Lateral aerial hardware attachment, risers and endend hardware.
River Crossings	Outside Plant Other - River Crossings	\$49,400	Construction Contract #1	Installation of hi-tension, long span aerial hardware and fiber cable at four existing river crossings, below the power distribution lines.
Fiber Cases, Fiber Splicing, Fiber testing and Tagging	Outside Plant Other - Splicing - Testing - Trays & Casings - Fiber Tags	\$3,480,642	Construction Contract #2	Fiber Optic splice case placement, prep and cable entry. Fiber Optic Termination Splicing, OTDR Testing and Cable color coding and Fiber Count Tagging.
Mircrowave Equipment Installation	Outside Plant Towers - Microwave Install	\$10,000	Construction Contract #3	Placement, alignment, testing and provisioning of the microwave equipment.
In-Kind – Comm - General	Outside Plant Other -In-Kind – Comm – General	\$29,470 (In-Kind)	POPUD	In-Kind Contribuion: Refer to file: CNS In Kind Allocation v8 03-19-10 JBO
In-Kind – Comm – Fiber Optic	Outside Plant Other -In-Kind – Comm – Fiber Optic	\$1,618,441 (In-Kind)	POPUD	In-Kind Contribuion: Refer to file: CNS In Kind Allocation v8 03-19-10 JBO
In-Kind – Comm. Fleet	Oustide Plant Other -In-Kind Comm - Fleet	\$99,628 (In-Kind)	POPUD	In-Kind Contribuion: Refer to file: CNS In Kind Allocation v8 03-19-10 JBO
Internal Staff – Technician 1	Outside Plant Other -Internal Staff Technician 1	\$429,749 (In-Kind)	POPUD	Full time OSP employee. In-Kind Contribuion: Refer to file: CNS In Kind Allocation v8 03-19-10 JBO

Total Calculation – Construction1

Total Calculation	\$25,505,940
Total Matching Funds Cash	\$3,260,980
Total In-Kind Match	\$2,177,288
Federal Funding Request	\$20,404,752

The total cash and In-Kind matching funds for this task is based on 20% of the total cost.





The Utility will be contracting the construction work based on key areas of expertise or experience, managing the following agreements to complete the build-out:

- Construction Contract #1 – Outside Plant Construction both aerial and underground
- Construction Contract #2 – Fiber Optic Termination, Splicing, Cable Tagging, Testing and final Documentation.
- Construction Contract #3 – Placement of the redundant Microwave equipment at the Bare Mountain Substation Tower Location.

10. Equipment

Inspection Tasks	Cost Detail Location	Unit Cost	# Units	Total Cost	Purchase / Leased
Switch Equipment Cisco 3750G-12	Network & Access Equipment Switching - Cisco 3750 12G Switch	\$15,000	21	\$315,000	Purchased
Access Distribution Switch	Network & Access Equipment Switching - Access Distribution Switch	\$6,000	21	\$126,000	Purchase
VPN Equipment	Network & Access Equipment Routing - VPN Cards	\$7,000	1	\$7,000	Purchase
POP & VPOP 10G Transport Equipment Cisco 6509	Network & Access Equipment Transport - Cisco 6509	\$75,000	2	\$150,000	Purchase
POP & VPOP 10G Transport Cards Cisco 6509	Network & Access Equipment Transport - Cisco 6509 Cards	\$25,000	2	\$50,000	Purchase
Microwave Equipment Dragonwave 100 Mbps Point to Point Circuit	Network & Access Equipment Transport - Microwave Equipment	\$65,000	1	\$65,000	Purchase
Equipment Fiber Pigtails (5) Site Locations Transport	Network & Access Equipment Other - Contact (Pigtails)	\$200	5	\$1,000	Purchase
Equipment fiber Pigtails (3) Fiber to the Premise Areas	Network & Access Equipment Other - Contact (Pigtails)	\$1,536	3	\$4,608	Purchase





DRG Customer Equipment Switch/Router	Customer Premise Equipment Modems - CPE/Switch / Router	\$250	938	\$234,500	Purchase
Universal Power Supply (UPS)	Customer Premise Equipment Other - Universal Power Supply	\$40	938	\$37,520	Purchase
External Premise Enclosure	Customer Premise Equipment Other - External Enclosure	\$30	938	\$28,140	Purchase
Field Alarm Equipment Huts and Serving Area Cabinets	Billing Support and Operations Support Systems Other Support - Field Hut Alarm System	\$2000	21	\$42,000	Purchase
Video / IP POP Facility Equipment	Testing Network Elements - Video / IP Equipment	\$35,000	1	\$35,000	Purchase
Management Equipment Servers	Testing Servers / Computers - Management System (Optical)	\$4,000	2	\$8,000	Purchase
In-Kind Equipment	Network & Access Equipment - In-Kind – Comm - Electronics	\$79,549	1	\$79,549	In-Kind

Purpose:

- Cisco 3750G-12 will be placed at each serving area cabinet to provide the connectivity/transport to the either the POP or VPOP (Virtual Point of Presents). This will be required at all cabinet locations, will be both a Layer 1, 2 & 3 redundant circuit for the services offered to the Fiber to the premise network.
- Access Distribution Switch will be placed at each serving area cabinet which will provided connectivity to the customer premise edge equipment through the fiber, course wave single fiber solution.
- VPN equipment provided a secure outside connetion to the network for network management, Network Operations Center Support (NOC) and emergency support services.
- Cisco 6509 Equipment and Cards will be placed at the POP and VPOP to create a 10G ring network.
- Microwave Equipment will be used to create a redundant 24 mile licensed DragonWave 11GHz 100 Mbps circuit routing traffic out of the County to the NoaNet Hut located at Bell Substation.
- Fiber Pigtail will be required to interconnect equipment at various locations, the Huts (POP's and VPOP's) and at the serving area equipment cabinets.
- DRG Customer Equipment, UPS and Enclosure will be used to provide services across the fiber to the premise network, act as the gateway to the customer for the service provider. The





application listed 906 or 15% of the units for take rate. The remaining cost to connect additional customer beyond th 906 or 15% will be capitlized through revenues.

- **Field Alarm Equipment** will be placed at the POP's, VPOP's and serving area cabinets for contacts as alarms from various pieces of equipment, identifying alarms and issue back to the NOC.
- **Video/IP Facility Equipment** will be housed at the POP, analyzing the traffic across the network, providing valuable data for continued monitoring, adjustments and help provision the network.
- **Management Equipment Servers** will act as the management warehouse for the provisioning software, web interface to the service provider, GIS Mapping database and trouble ticket management software.

Total Calculation – Equipment

Total Calculation	\$1,183,317
Total Matching Funds Cash	\$157,114
Total Matching In-Kind Funds	\$79,549
Federal Funding Request	\$946,654

The total cash and In-Kind matching funds for this task is based on 20% of the total cost.

11. Miscellaneous

Misc Item	Fees	Explanation
Construction Labor & Material Sales Tax	\$1,935,956	Total procurement taxes are based on the cost of materials and labor purchased and installed in Pend Oreille County, WA at 7.60% rate. District requires sales tax for both labor and materials be shown separately on contract documents as a separate line item on invoice(s) per Washington State Department of Revenue requirements.

Total Calculation – Miscellaneous

Total Calculation	\$1,935,956
Total Matching Funds Cash	\$387,190
Federal Funding Request	\$1,548,766

The total cash matching funds for this task is based on 20% of the total cost.

Addendum

Although the Utility has not included specific allocations for indirect costs and is not seeking funding of those costs through the BTOP grant, the extent of the Applicant's contributions on both indirect costs and in-kind contributions are noteworthy with respect to the Utility's existing operational strength and its commitment to the sustainability of the project. The following are some of the significant "assets" that the Utility brings to the project:





- Existing Fiber Network from Spokane to the Canadian Border through Pend Oreille County
- Use of existing fibers to transport serving area cabinet switch traffic to the POP & VPOP
- Use of the existing fiber to create a redundant self healing fiber ring through the County, known as the “East Ring Section”
- Use of the existing equipment to establish the “East Ring Section” of a 10G ring through the County
- Use of existing operations staff to continue supporting the communications, service providers and critical communications for the utility
- Use of existing construction staff for new services activation, emergency outage response and continued maintenance of the system
- Existing “Open Access” service providers on-net, with established relations, billing and coordination as a wholesale entity.

