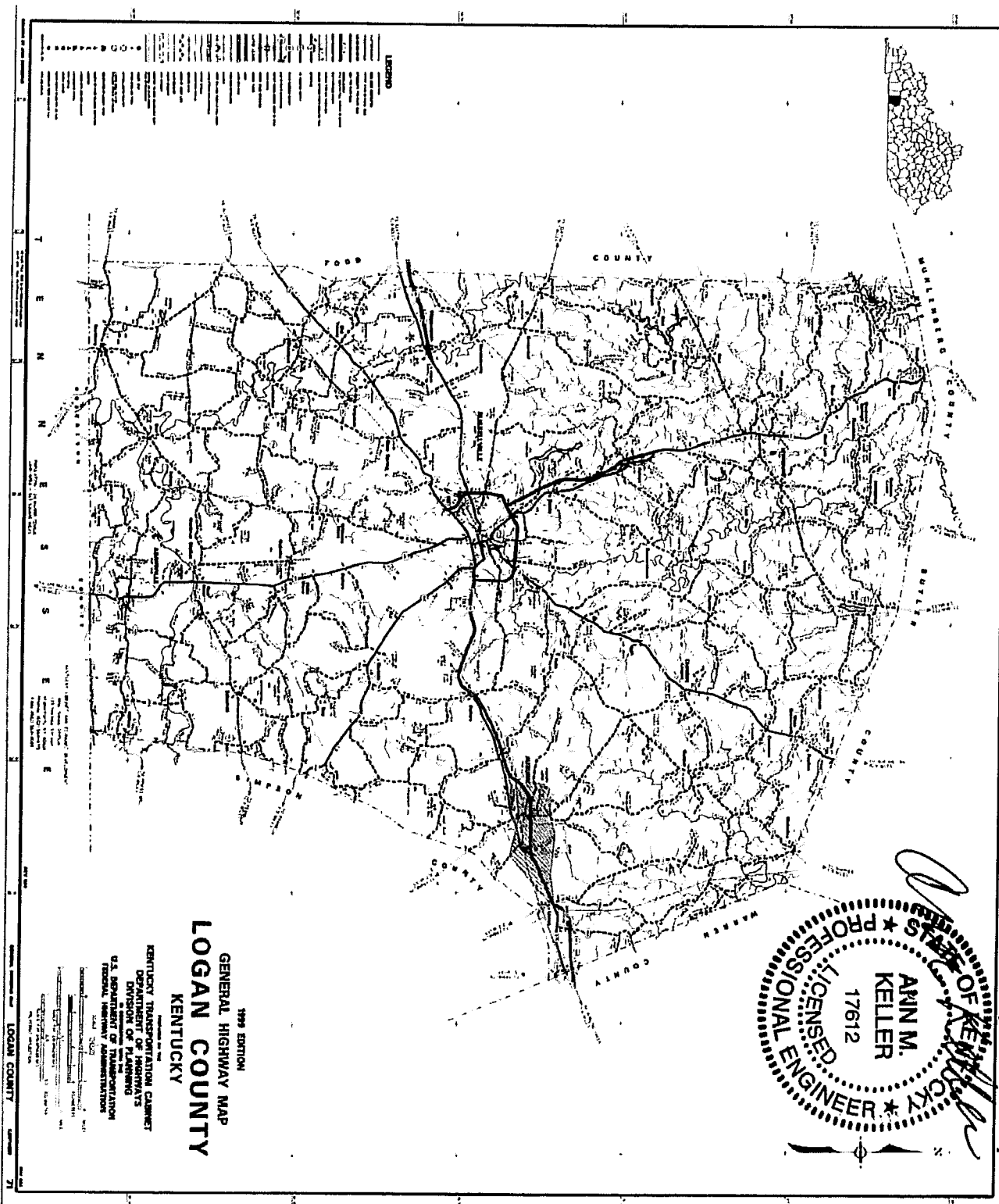


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**PUBLIC SERVICE  
COMMISSION**

**MAPS, PLANS, SPECS and COST ESTIMATES  
LOGAN TELEPHONE COOPERATIVE, INC.  
CPCN Application  
February 19, 2014**



1989 EDITION  
**GENERAL HIGHWAY MAP**  
**LOGAN COUNTY**  
**KENTUCKY**

KENTUCKY TRANSPORTATION COUNCIL  
 DEPARTMENT OF HIGHWAYS  
 DIVISION OF PLANNING  
 U.S. DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION  
 1989 EDITION

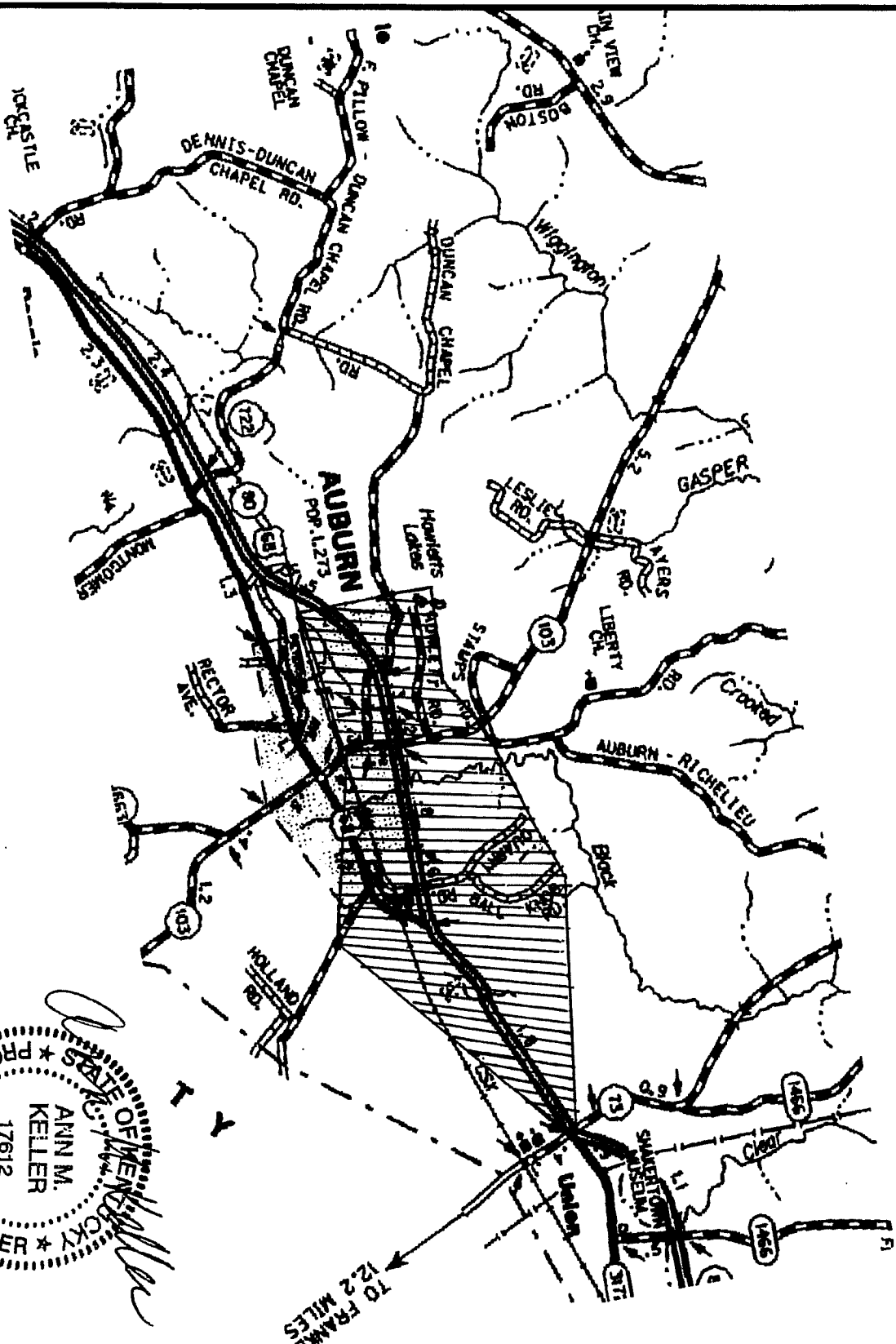
*[Handwritten Signature]*  
 ANN M. KELLER  
 17612  
 LICENSED PROFESSIONAL ENGINEER  
 STATE OF KENTUCKY

SHEET  
 1 OF 1

10LT-14004

**GPCN APPLICATION**  
**LOGAN COUNTY OVERVIEW**



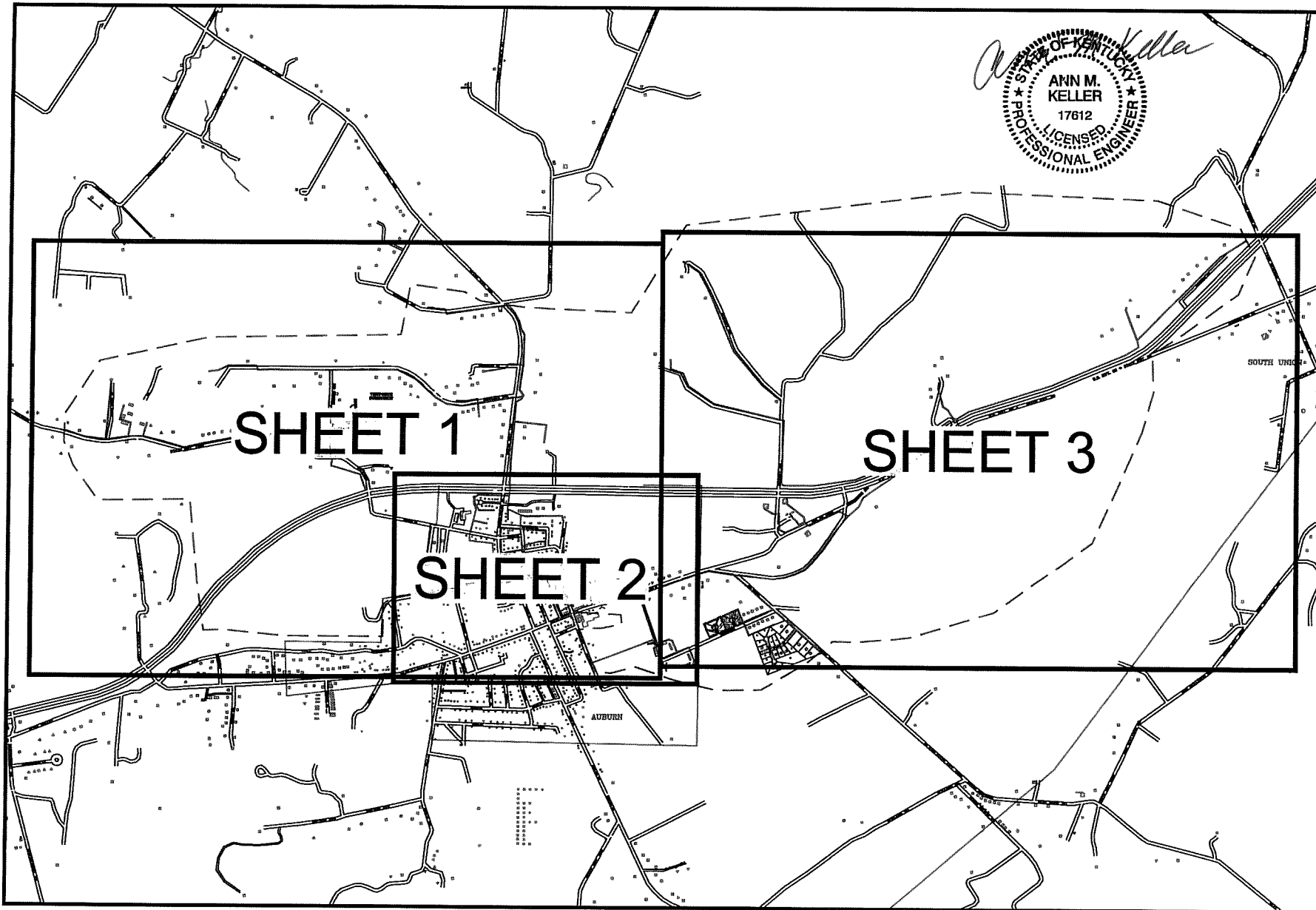


STATE OF MASSACHUSETTS  
 DEPARTMENT OF TRANSPORTATION  
 ANN M. KELLER  
 LICENSED PROFESSIONAL ENGINEER  
 17612

**CPCN APPLICATION**  
**AUBURN OVERVIEW**



10LT-14004  
 SHEET  
 1 OF 1



*Ann M. Keller*  
ANN M. KELLER  
17612  
LICENSED PROFESSIONAL ENGINEER  
STATE OF KENTUCKY

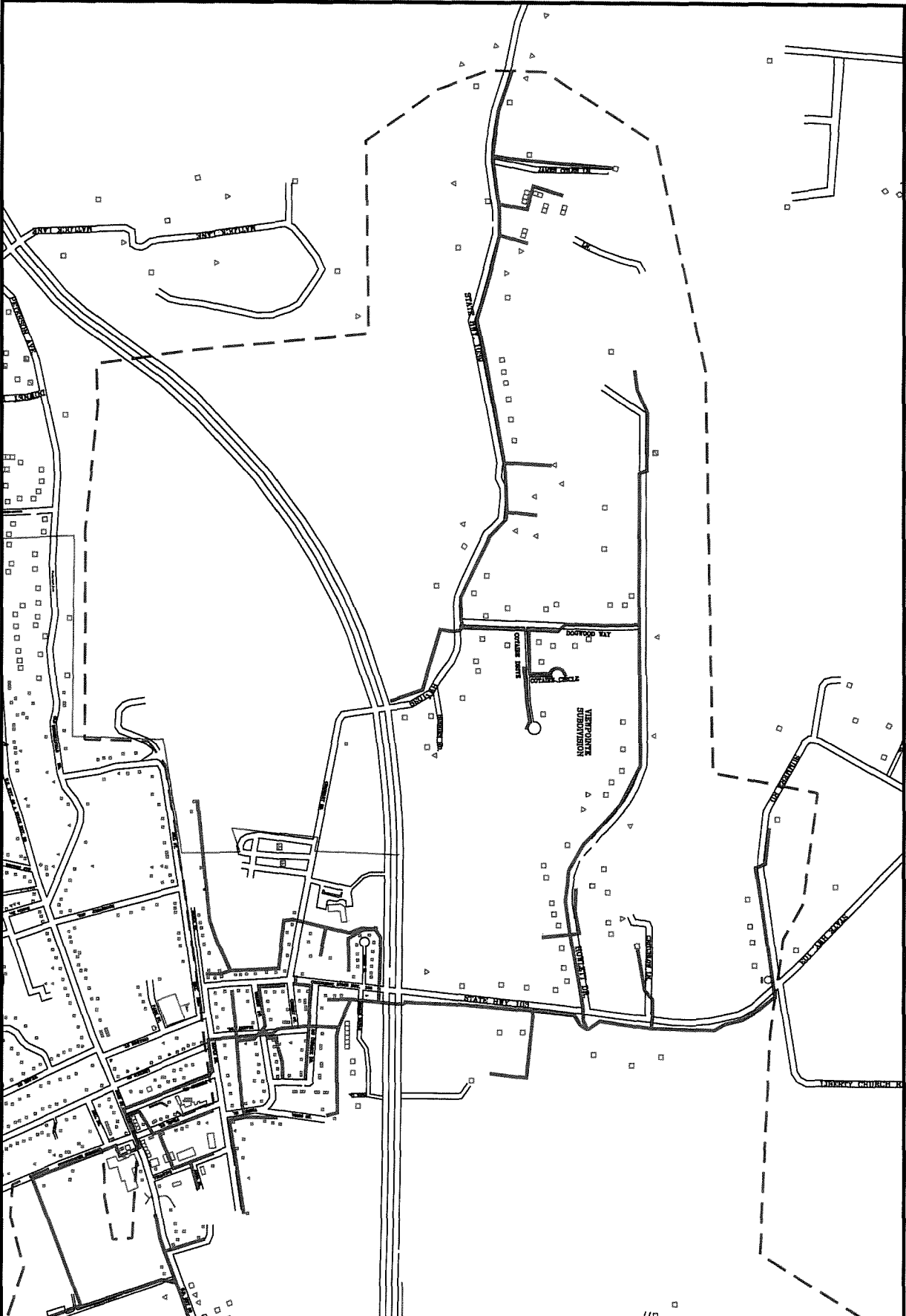
**LOGAN**  
TELEPHONE COOPERATIVE

**FINLEY**  
ENGINEERS & ARCHITECTS  
1000 EAST MAIN STREET  
AUBURN, KY 40301  
PHONE: 502-233-1111  
FAX: 502-233-1112

OPCN APPLICATION  
AUBURN ROUTE MAP

10LT-14004

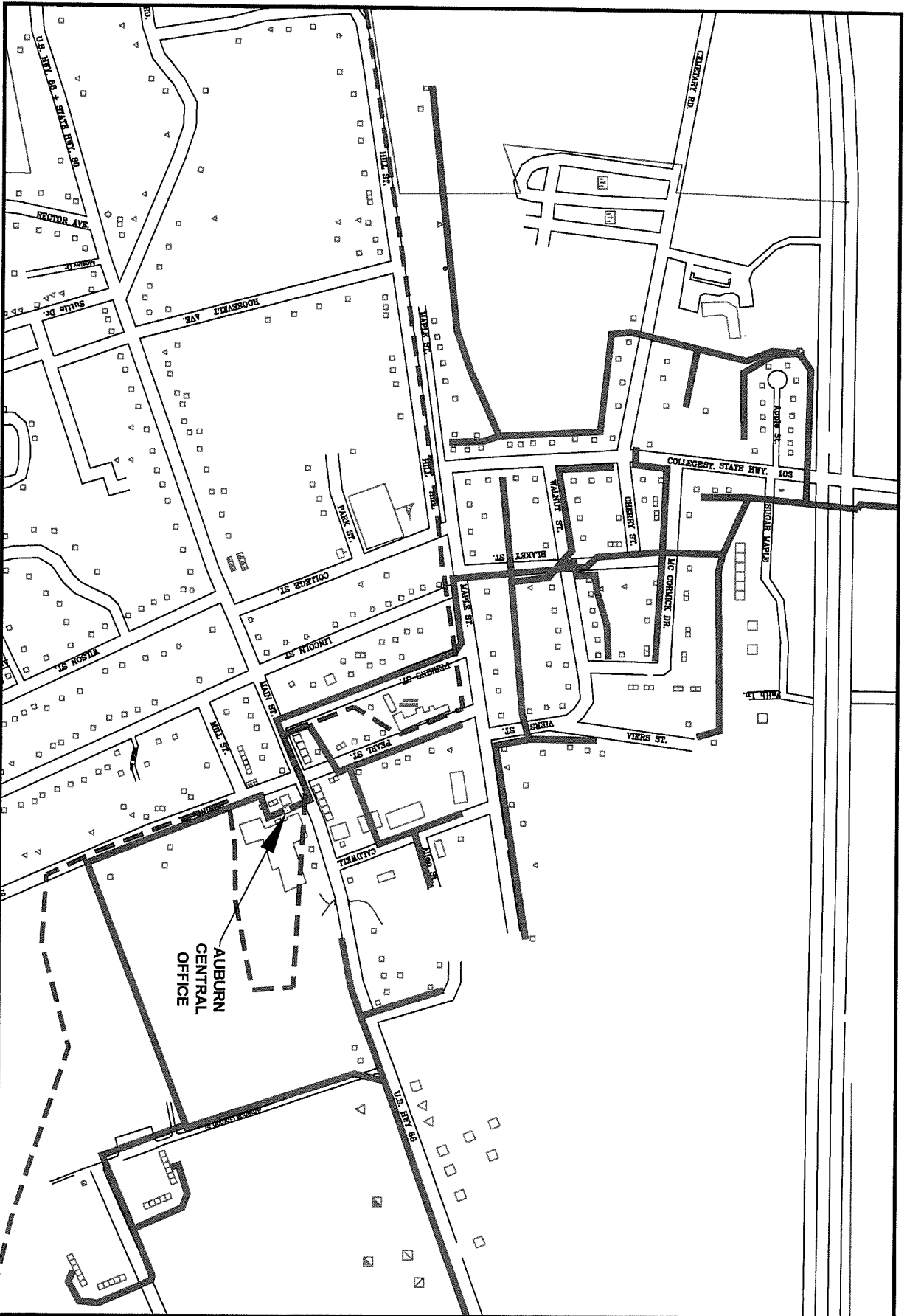
SHEET  
KEYMAP



101-T-14004  
 PROPOSED FIBER ROUTE  
 SHEET 1 OF 3

CPCN APPLICATION  
 AUBURN ROUTE MAP





101-T-14004  
 SHEET  
 2 OF 3

PROPOSED  
 FIBER  
 ROUTE

CPGN APPLICATION  
 AUBURN ROUTE MAP





TOLL-1-4004  
 PROPOSED FIBER ROUTE  
 SHEET 3 OF 3

CPGN APPLICATION  
 AUBURN ROUTE MAP



Logan Telephone Cooperative Corporation  
Auburn CO Phase 2 FTTP  
Outside Plant Cost Estimate

10-LT-13035

Unit	Quantity	Labor	Extended Labor	Material	Extended Material	Unit Cost	Total Cost
BM60(2x1.50)	1,578	\$9.13	\$14,407.14	\$1.11	\$1,751.58	\$10.24	\$16,158.72
BM60(2x1.50)R	556	\$28.12	\$15,634.72	\$1.11	\$617.16	\$29.23	\$16,251.88
BM60(2x1.50)RR	132	\$71.62	\$9,453.84	\$1.11	\$146.52	\$72.73	\$9,600.36
BM61(1)	190	\$8.90	\$1,691.00	\$0.00	\$0.00	\$8.90	\$1,691.00
BM71	2,495	\$11.14	\$27,794.30	\$0.00	\$0.00	\$11.14	\$27,794.30
BM71E(12)	2,400	\$11.47	\$27,528.00	\$0.00	\$0.00	\$11.47	\$27,528.00
BM71E(18)	2,400	\$11.76	\$28,224.00	\$0.00	\$0.00	\$11.76	\$28,224.00
BM71E(24)	2,400	\$16.10	\$38,640.00	\$0.00	\$0.00	\$16.10	\$38,640.00
BM71CF	25	\$57.26	\$1,431.50	\$0.00	\$0.00	\$57.26	\$1,431.50
BM72	10	\$62.28	\$622.80	\$9.48	\$94.80	\$71.76	\$717.60
BM73	164	\$45.86	\$7,521.04	\$13.26	\$2,174.64	\$59.12	\$9,695.68
BM83	363	\$23.34	\$8,472.42	\$4.37	\$1,586.31	\$27.71	\$10,058.73
<b>SUBTOTAL SECTION BM</b>			<b>\$309,456.29</b>		<b>\$20,497.96</b>		<b>\$329,954.25</b>
HBFO(288)G	2	\$209.37	\$418.74	\$606.76	\$1,213.52	\$816.13	\$1,632.26
HBFO(864)G	2	\$318.22	\$636.44	\$606.76	\$1,213.52	\$924.98	\$1,849.96
HBFOXL	3	\$279.24	\$837.72	\$841.95	\$2,525.85	\$1,121.19	\$3,363.57
HBFOL	14	\$263.38	\$3,687.32	\$606.76	\$8,494.64	\$870.14	\$12,181.96
HBFOM	46	\$206.05	\$9,478.30	\$448.17	\$20,615.82	\$654.22	\$30,094.12
HBFOS	103	\$206.09	\$21,227.27	\$385.65	\$39,721.95	\$591.74	\$60,949.22
<b>SUBTOTAL SECTION HBF</b>			<b>\$36,285.79</b>		<b>\$73,785.30</b>		<b>\$110,071.09</b>
HO1	1,947	\$28.71	\$55,898.37	\$0.51	\$992.97	\$29.22	\$56,891.34
HO1R	3,024	\$22.30	\$67,435.20	\$1.06	\$3,205.44	\$23.36	\$70,640.64
<b>SUBTOTAL SECTION HO</b>			<b>\$123,333.57</b>		<b>\$4,198.41</b>		<b>\$127,531.98</b>
NIDO	337	\$102.05	\$34,390.85	\$52.71	\$17,763.27	\$154.76	\$52,154.12
NIDO9	16	\$149.28	\$2,388.48	\$95.19	\$1,523.04	\$244.47	\$3,911.52
MDU12	10	\$177.36	\$1,773.60	\$37.18	\$371.80	\$214.54	\$2,145.40
<b>SUBTOTAL SECTION NID</b>			<b>\$38,552.93</b>		<b>\$19,658.11</b>		<b>\$58,211.04</b>
SEBO2	71,485	\$2.51	\$179,427.35	\$0.22	\$15,726.70	\$2.73	\$195,154.05
SEBO2E(24)	1,250	\$4.03	\$5,037.50	\$0.22	\$275.00	\$4.25	\$5,312.50
SEBO2I	2,442	\$0.97	\$2,368.74	\$0.45	\$1,098.90	\$1.42	\$3,467.64
SEBO6	3,730	\$3.21	\$11,973.30	\$0.24	\$895.20	\$3.45	\$12,868.50
<b>SUBTOTAL SECTION SE</b>			<b>\$198,806.89</b>		<b>\$17,995.80</b>		<b>\$216,802.69</b>
UD(4-3x2)	6,179	\$1.72	\$10,627.88	\$6.13	\$37,877.27	\$7.85	\$48,505.15
<b>SUBTOTAL SECTION UD</b>			<b>\$10,627.88</b>		<b>\$37,877.27</b>		<b>\$48,505.15</b>
UO96	1,052	\$1.46	\$1,535.92	\$0.91	\$957.32	\$2.37	\$2,493.24
UO288R	5,210	\$1.45	\$7,554.50	\$2.47	\$12,868.70	\$3.92	\$20,423.20
UO864R	5,326	\$1.45	\$7,722.70	\$8.85	\$47,135.10	\$10.30	\$54,857.80
<b>SUBTOTAL SECTION UO</b>			<b>\$16,813.12</b>		<b>\$60,961.12</b>		<b>\$77,774.24</b>
WBHF	1	\$550.00	\$550.00	\$22.50	\$22.50	\$572.50	\$572.50
WHBFO	1	\$310.75	\$310.75	\$27.95	\$27.95	\$338.70	\$338.70
WHO1	24	\$72.75	\$1,746.00	\$1.40	\$33.60	\$74.15	\$1,779.60
<b>SUBTOTAL SECTION WW</b>			<b>\$2,606.75</b>		<b>\$84.05</b>		<b>\$2,690.80</b>
XXBHF	1	\$144.62	\$144.62	\$0.00	\$0.00	\$144.62	\$144.62
XXHBFO	1	\$50.00	\$50.00	\$0.00	\$0.00	\$50.00	\$50.00
<b>SUBTOTAL SECTION XX</b>			<b>\$194.62</b>		<b>\$0.00</b>		<b>\$194.62</b>
<b>GRAND TOTAL</b>			<b>\$1,362,604.11</b>		<b>\$520,732.88</b>		<b>\$1,883,336.99</b>



**Logan Telephone Cooperative Corporation**  
**Auburn CO Phase 2 FTTP**  
**Outside Plant Cost Estimate**

10-LT-13035

Unit	Quantity	Labor	Extended Labor	Material	Extended Material	Unit Cost	Total Cost
BDO5	35	\$214.69	\$7,514.15	\$337.17	\$11,800.95	\$551.86	\$19,315.10
<b>SUBTOTAL SECTION BDO</b>			<b>\$7,514.15</b>		<b>\$11,800.95</b>		<b>\$19,315.10</b>
BFO12W	26,550	\$2.34	\$62,127.00	\$0.57	\$15,133.50	\$2.91	\$77,260.50
BFO12I	5,838	\$0.69	\$4,028.22	\$0.33	\$1,926.54	\$1.02	\$5,954.76
BFO24W	5,295	\$2.84	\$15,037.80	\$0.63	\$3,335.85	\$3.47	\$18,373.65
BFO24I	5,564	\$0.69	\$3,839.16	\$0.40	\$2,225.60	\$1.09	\$6,064.76
BFO48W	5,068	\$2.84	\$14,393.12	\$0.77	\$3,902.36	\$3.61	\$18,295.48
BFO48I	3,682	\$0.69	\$2,540.58	\$0.53	\$1,951.46	\$1.22	\$4,492.04
BFO72W	1,154	\$2.41	\$2,781.14	\$0.97	\$1,119.38	\$3.38	\$3,900.52
BFO72I	2,616	\$0.69	\$1,805.04	\$0.73	\$1,909.68	\$1.42	\$3,714.72
BFO96W	1,024	\$2.41	\$2,467.84	\$1.15	\$1,177.60	\$3.56	\$3,645.44
BFO96I	2,600	\$0.69	\$1,794.00	\$0.91	\$2,366.00	\$1.60	\$4,160.00
BFO288R	7,010	\$3.84	\$26,918.40	\$2.70	\$18,927.00	\$6.54	\$45,845.40
BFO288RI	3,830	\$1.05	\$4,021.50	\$2.47	\$9,460.10	\$3.52	\$13,481.60
BFO864RI	3,396	\$1.05	\$3,565.80	\$8.85	\$30,054.60	\$9.90	\$33,620.40
1) BFO48	694	\$2.64	\$1,832.16	\$0.77	\$534.38	\$3.41	\$2,366.54
1A) & BFO24)D	694	\$0.77	\$534.38	\$0.63	\$437.22	\$1.40	\$971.60
2) BFO72	2,042	\$2.64	\$5,390.88	\$0.97	\$1,980.74	\$3.61	\$7,371.62
2A) & BFO288R)D	1,568	\$0.77	\$1,207.36	\$2.70	\$4,233.60	\$3.47	\$5,440.96
3) BFO144	6,214	\$2.64	\$16,404.96	\$1.54	\$9,569.56	\$4.18	\$25,974.52
3A) & BFO288R)D	5,270	\$0.77	\$4,057.90	\$2.70	\$14,229.00	\$3.47	\$18,286.90
4) BFO144	2,442	\$2.64	\$6,446.88	\$1.54	\$3,760.68	\$4.18	\$10,207.56
4A) & BFO864R)D	2,012	\$1.20	\$2,414.40	\$8.85	\$17,806.20	\$10.05	\$20,220.60
5) BFO144	10,910	\$2.64	\$28,802.40	\$1.54	\$16,801.40	\$4.18	\$45,603.80
5A) & BFOV(1X1.50)D	9,394	\$0.77	\$7,233.38	\$0.56	\$5,260.64	\$1.33	\$12,494.02
6) BFO288R	2,672	\$2.84	\$7,588.48	\$2.70	\$7,214.40	\$5.54	\$14,802.88
6A) & BFO864RD	2,132	\$1.20	\$2,558.40	\$8.85	\$18,868.20	\$10.05	\$21,426.60
7) BFO288R	6,468	\$2.84	\$18,369.12	\$2.70	\$17,463.60	\$5.54	\$35,832.72
7A) & BFOV(1X1.50)D	5,378	\$0.77	\$4,141.06	\$0.56	\$3,011.68	\$1.33	\$7,152.74
BFOV(1x1.25)H	11,387	\$8.83	\$100,547.21	\$0.40	\$4,554.80	\$9.23	\$105,102.01
BFOV(1x1.25)HR	64	\$27.97	\$1,790.08	\$0.40	\$25.60	\$28.37	\$1,815.68
BFOV(1x1.25)T	355	\$30.00	\$10,650.00	\$0.40	\$142.00	\$30.40	\$10,792.00
BFOV(1x1.50)HRR	1,146	\$71.67	\$82,133.82	\$0.55	\$630.30	\$72.22	\$82,764.12
BFOV(2x1.25)H	2,785	\$9.08	\$25,287.80	\$0.82	\$2,283.70	\$9.90	\$27,571.50
BFOV(2x1.25)HR	204	\$28.03	\$5,718.12	\$0.82	\$167.28	\$28.85	\$5,885.40
BFOV(2X1.50)H	968	\$9.08	\$8,789.44	\$1.09	\$1,055.12	\$10.17	\$9,844.56
BFOV(2X1.50)HR	700	\$28.12	\$19,684.00	\$1.09	\$763.00	\$29.21	\$20,447.00
BFOV(2X1.50)HRR	880	\$71.62	\$63,025.60	\$1.10	\$968.00	\$72.72	\$63,993.60
<b>SUBTOTAL SECTION BFO</b>			<b>\$569,927.43</b>		<b>\$225,250.77</b>		<b>\$795,178.20</b>
BHF(12x12x12)	6	\$106.87	\$641.22	\$87.82	\$526.92	\$194.69	\$1,168.14
BHF(22X42X30)TIER 15	148	\$303.46	\$44,912.08	\$296.44	\$43,873.12	\$599.90	\$88,785.20
BHF(30x48x30)TIER 15	7	\$418.77	\$2,931.39	\$603.30	\$4,223.10	\$1,022.07	\$7,154.49
<b>SUBTOTAL SECTION BH</b>			<b>\$48,484.69</b>		<b>\$48,623.14</b>		<b>\$97,107.83</b>
BM2	124	\$30.87	\$3,827.88	\$22.16	\$2,747.84	\$53.03	\$6,575.72
BM2A	64	\$20.76	\$1,328.64	\$8.24	\$527.36	\$29.00	\$1,856.00
BM53	52	\$29.43	\$1,530.36	\$16.45	\$855.40	\$45.88	\$2,385.76
BM53L	160	\$39.09	\$6,254.40	\$35.58	\$5,692.80	\$74.67	\$11,947.20
BM60(1X1.25)	6,042	\$8.83	\$53,350.86	\$0.41	\$2,477.22	\$9.24	\$55,828.08
BM60(1X1.25)R	418	\$28.59	\$11,950.62	\$0.41	\$171.38	\$29.00	\$12,122.00
BM60(1X1.25)RR	240	\$71.67	\$17,200.80	\$0.41	\$98.40	\$72.08	\$17,299.20
BM60(1x1.50)	1,839	\$8.83	\$16,238.37	\$0.55	\$1,011.45	\$9.38	\$17,249.82
BM60(1x1.50)R	100	\$28.59	\$2,859.00	\$0.55	\$55.00	\$29.14	\$2,914.00
BM60(1x1.50)RR	90	\$71.67	\$6,450.30	\$0.55	\$49.50	\$72.22	\$6,499.80
BM60(1x2)	60	\$12.00	\$720.00	\$0.82	\$49.20	\$12.82	\$769.20
BM60(1x3)	76	\$15.00	\$1,140.00	\$0.90	\$68.40	\$15.90	\$1,208.40
BM60(2x1.25)	290	\$9.15	\$2,653.50	\$0.85	\$246.50	\$10.00	\$2,900.00
BM60(2x1.25)R	90	\$28.12	\$2,530.80	\$0.85	\$76.50	\$28.97	\$2,607.30

**LOGAN TELEPHONE COOPERATIVE  
AUBURN PHASE 2  
ELECTRONICS ESTIMATES**

Part Number	Model	Description	Unit Cost	Quantity	Total Cost
100-03158	836GE RSG-00	836GE Residential Service Gateway	\$ 232.50	410	\$ 95,325.00
100-02092	E7-20 SCP-10GE	E7-20 Switch Control Processor	\$ 4,196.50	2	\$ 8,393.00
100-02093	E7-20 GE-24X	E7-20 GE-24X Card	\$ 2,796.50	18	\$ 50,337.00
100-01661	SFP 100M RJ45 I 1000BASE-T	1GE SFP UTP Copper RJ45 100m ltemp	\$ 140.00	4	\$ 560.00
100-01792	CSFP 20KM 1490nm	2X 1GE BIDI CSFP Dual BIDI 20KM 1490nm	\$ 168.75	216	\$ 36,450.00
000-00529	E7 System Package	E&-20 Shelf Fan Installation KIT	\$ 2,089.50	1	\$ 2,089.50
100-01790	E7 Blank	E7 Line Card Blank single slot	\$ 20.00	2	\$ 40.00
100-03448	ONTCMN-INDOOR	ONT fiber Mgmt Assembly Qty 20	\$ 180.00	21	\$ 3,780.00
100-00135	Warrenty Ext	Warranty Ext 4 Years	\$ 5.00	1640	\$ 8,200.00
100-02062	ONTCMN Indoor	Indoor UPS 12V 7.2AH 7 Pin	\$ 46.00	410	\$ 18,860.00
100-02063	ONTCMN PWR Cord	Indoor UPS Power Cord	\$ 5.00	410	\$ 2,050.00
100-01551	766 GX ONT	766 GX ONT 8 Pots 4GE 8DS1	\$ 1,629.00	1	\$ 1,629.00
100-0338	744GE ont	744GE ONT 2 POTS 2GE 2T1	\$ 810.00	5	\$ 4,050.00
100-03395	ONTCMN-SFU	SBU Enclosure	\$ 95.00	5	\$ 475.00
100-00695	ONTCMN-SFU UPS	UPS Indoor 12v 7.2AH 24W	\$ 46.00	5	\$ 230.00
100-01299	ONTCMN-760	760 ONT Enclosure	\$ 152.00	1	\$ 152.00
100-00978	ONTCMN-SFU	UPS SFU Indoor 12V 20AH 30W	\$ 97.00	1	\$ 97.00
	CO fiber panels	fiber panels, etc.	\$ 10,000.00	1	\$ 10,000.00
	<b>Electronics Total</b>				<b>\$242,717.50</b>
	<b>Sales Tax</b>				<b>\$ 14,563.05</b>
	<b>Freight</b>				<b>\$3,900</b>
	<b>Grand Total</b>				<b>\$261,180.55</b>

**LOGAN TELEPHONE COOPERATIVE  
AUBURN PHASE 2  
TOTAL CONSTRUCTION ESTIMATE**

<b>Drops</b>	<b>363</b>
<b>Route Miles</b>	<b>20.5</b>
<b>Drop Miles</b>	<b>15.02</b>
<b>Total Miles</b>	<b>35.52</b>
<b>Potential Customers</b>	<b>410</b>

<b>OSP Estimate</b>	<b>\$1,883,337</b>
<b>Electronics Estimate</b>	<b>\$261,181</b>
<b>Engineering Estimate</b>	<b>\$339,000</b>
<b>Total Estimate</b>	<b><u>\$2,483,518</u></b>