

PROPOSED PROJECT

*A Comprehensive Telecommunications Project
to Further the Development of Electronic
Communications for Deaf Persons in the
Five-County Philadelphia Area*

SUMMARY

Exact nature of the project	1
How it will operate	1
Who will manage the program	1
How it will relate to community need	1
How it will relate to the agency's present program	2
When it will begin; how long it will continue	2
Amount of money requested	3

PROJECT PARTS

A. Purchase and distribution of telephonic equipment to households of deaf persons	3
B. Distribution of telephonic equipment to key educational and service institutions.	6
C. Orientation, outreach, evaluation, and instruction in TTY use	7
D. Establishment and maintenance of an equipment service center	9
E. Establishment and maintenance of a communications center	9
F. Administration of the project	12
EXHIBITS	16

Submitted to: THE G. W. NEVIL FOUNDATION

by: THE PENNSYLVANIA SOCIETY FOR THE ADVANCEMENT
OF THE DEAF

PROPOSAL

A COMPREHENSIVE TELECOMMUNICATIONS PROJECT TO FURTHER THE DEVELOPMENT OF ELECTRONIC COMMUNICATIONS FOR DEAF PERSONS IN THE FIVE COUNTY PHILADELPHIA AREA FOR THE ESTABLISHMENT OF THE GEORGE W. NEVIL COMMUNICATIONS CENTER.

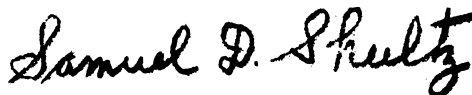
Submitted to: THE GEORGE W. NEVIL FOUNDATION

by: THE PENNSYLVANIA SOCIETY FOR THE ADVANCEMENT OF THE DEAF

A. DONALD ROPPELT
President



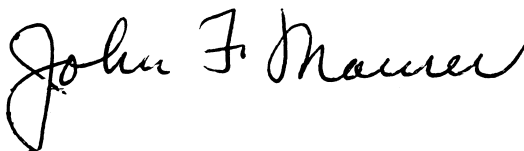
SAMUEL SHULTZ
1st Vice President



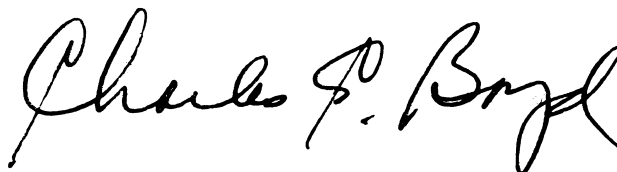
FRANK NEMSHICK
Secretary



JOHN MAURER
Treasurer



CHARLES E. BOYD
Project Chairman



PROPOSED PROJECT

A Comprehensive Telecommunications Project
to further the Development of Electronic
Communications for Deaf Persons in the
Five-County Philadelphia Area

SUMMARY

EXACT NATURE OF THE PROJECT

This project is a comprehensive effort to:

- (1) purchase and distribute special telephonic equipment (teletypes, acoustic couplers, etc.) to about 500 households of deaf persons and some special institutions serving the deaf in the five-county Philadelphia area, at no or greatly reduced cost to them (Parts A & B);
- (2) publicize and teach effective use of such equipment to deaf persons (Parts B & C);
- (3) establish and maintain a service center for such equipment (Part D);
- (4) establish and maintain a comprehensive communications center from where deaf persons and institutions may receive timely printed announcements and messages over telephones and special radio receivers coupled to teleprinters and similar devices (Part E); and
- (5) establish and maintain an administrative structure for carrying out the above goals of the project (Part F).

HOW IT WILL OPERATE

Because of its relative complexity, this project is presented in six parts (A to F) as summarized above and presented in detail elsewhere in this proposal. Basically, the project will operate with a paid staff hired by PSAD and assisted by volunteers, in headquarters located at the Pennsylvania School for the Deaf. This location will also serve as a point for acquisition, storage, and distribution of equipment. The proposed equipment service center, most evaluations and instructions, and the news service center will also be housed there, except for radio transmission facilities to be at Temple University. Some field visits will be made to homes, schools, clubs, etc. as part of the outreach, orientations, evaluations, installations, and instructions.

Equipment to be paid for entirely or in part by grant funds in Project Parts A and B will be on permanent loan from PSAD to the recipient individuals and institutions, nontransferable outside the five-county area. Equipment purchased through Project Parts C to F, except the radio equipment to be

donated to Temple University, will remain the property of the PSAD during and after the project period. PSAD may, after the project period, retain or transfer ownership and responsibility for any or all of the equipment to one or more suitable groups or institutions in the five-county area for perpetuation of the programs to be established by this project.

As part of this project, a special fund will be accumulated during the project through \$50 fees to be charged to deaf persons (except retired, long-term unemployed, students, and other hardship cases) who receive special telephonic equipment under this project, and through a planned \$10 to \$15 annual rental fee for special radio receivers. This fund will help to perpetuate the purchase, distribution and servicing of equipment, and the teletype newscasting services, beyond the project period.

WHO WILL MANAGE THE PROGRAM

The Board of Managers of the Pennsylvania Society for the Advancement of the Deaf, the grantee, will retain ultimate responsibility and authority for the over-all project but will delegate details of management to a Council of not less than five nor more than nine persons appointed by the PSAD. The Council shall consist of two representatives of PSAD, one representative of the Public Service Office of Gallaudet College, and from two to six representatives-at-large from the deaf community in the five-county Philadelphia area. The Council will, in turn, appoint a Project Director (subject to PSAD's approval) who will report to the Council. The Project Director will appoint and supervise other staff to consist of an Assistant/Secretary, part-time clerical workers, technicians, instructors, and volunteers. (See Part F, Administration).

HOW IT WILL RELATE TO COMMUNITY NEED

A recent study, "A Survey of Needs of Deaf Persons in the Five-County Philadelphia Area as They Relate to Telecommunications,"¹ indicated that:

¹ by Aram L. Terzian, Community College of Philadelphia, and Ralph Harwood, the Pennsylvania Society for the Advancement of the Deaf, 1974.

- (1) only a small minority of deaf persons in the area have and use special telephonic equipment that in recent years has proved practical and very useful for deaf persons;
- (2) about 80 percent of those without telecommunications equipment either want it or would like more information before deciding;
- (3) most present nonowners are able and willing to pay little or nothing for such equipment;
- (4) most present nonowners fear they either could not communicate by typing (as required by the devices) or feel uncertain of such ability;
- (5) present sources and means of receiving timely and practical news and information, in language they can readily understand, are very inadequate for deaf persons in the area; and
- (6) a special teletype news service for the deaf, such as now operating in the Washington, D.C. area at Gallaudet College and, on lesser scales, in a few other cities of the United States, would greatly help to overcome this inadequacy in the Philadelphia area.

This proposal is a direct result of the above mentioned study. The project incorporates the best features of both a telephone-teletype communications network and a special radio-teletype news system for the deaf.

Abilities of deaf persons to communicate between distances directly among themselves, and with police, doctors, schools, employers, agencies, and others (either directly or through a third party), as well as to receive timely and useful information, will be greatly enhanced through equipment, facilities, training, and other services to be provided by the project.

HOW IT WILL RELATE TO THE AGENCY'S PRESENT PROGRAM

The Pennsylvania Society for the Advancement of the Deaf is a statewide organization of deaf persons and their associates aimed at improving the education and welfare of all deaf persons. As such, the Society has not only involved itself in statewide efforts such as in building public awareness and understanding of the deaf and in serving as an advocate for the deaf in state government legislation and programs, but also has cooperated with both national and local organizations and institutions, such as the National Association of the Deaf and Gallaudet College at Washington, D.C. and Elwyn Institute and the Community College of Philadelphia locally. The Society recognizes that facilities and programs for bettering the lives of deaf persons, to be practical and effective, often must be community-based and community-operated.

The proposal, if approved, will enable the PSAD to enlist and coordinate the efforts of several organiza-

tions and institutions in a comprehensive telecommunications project in the five-county Philadelphia area. Among them are:

- (1) the PSAD;
- (2) the Pennsylvania School for the Deaf, which offers office, studio, shop, and storage space, as well as students and staff for involvement in the project;
- (3) Gallaudet College of Washington, D.C., which has wide interest and experience in the latest communication systems and public service programs for deaf persons (e.g., closed-circuit captioned television, teletype news, etc.) and has, as part of this project, pledged \$3,000 funds toward radio equipment at Temple University;
- (4) the Community College of Philadelphia, which has a special college program for deaf persons and, in cooperation with Gallaudet College, programs in continuing education and community services for deaf persons;
- (5) Temple University, whose College of Communications offers use of a subcarrier channel to broadcast radio teletype signals for the deaf;
- (6) two local groups who recondition and service old teletypes, the Delaware Valley Telecommunications for the Deaf and the United Pennsylvania Telecommunications for the Deaf;
- (7) other local schools, clubs and organizations serving deaf persons.

WHEN IT WILL BEGIN; HOW LONG IT WILL CONTINUE

This project is proposed to start around March 1, 1975 or as soon as the grant is approved, and to continue for a period of five years. Beyond that time, all aspects of the program are expected to continue basically as during the five-year period, except that the purchase and distribution, and outreach, orientation, evaluation, and instruction phases will continue on reduced scales.

The purchase and installation of equipment for schools and institutions and for the news service center and the equipment service center are expected to be concentrated within the first year or two of the project. Purchase and distribution of equipment to households of deaf persons, and the related outreach, orientation, evaluations and instructions, will probably be largely within the first three years, and taper off in the fourth and fifth years as most immediate needs gradually become met. The project is proposed to be spread over five years to allow sufficient time for publicizing and teaching use of the equipment, as well as to assure a reasonable flow of equipment from suppliers to households of deaf persons, and time for development

of funding that will allow perpetuation of the programs of this project.

AMOUNT OF MONEY REQUESTED

To carry out the project, a grant totaling \$495,000 is requested. The grant funds are planned to be used for the project parts according to the following time schedule:

<i>Project Part</i>	<i>1st Year</i>	<i>2nd Year</i>	<i>3rd Year</i>	<i>4th Year</i>	<i>5th Year</i>	<i>TOTAL 5 YEARS</i>
A. Purchase & distribution of equipment to households of deaf persons	\$27,000	27,000	27,000	27,000	27,000	\$135,000
B. Purchase & distribution of equipment to schools and institutions	20,000					20,000
C. Orientation, outreach, evaluation, instruction	13,384	4,654	4,654	4,654	4,654	32,000
D. Establish and maintain equipment service center	3,000					3,000
E. Establish and maintain a news service center	40,636	13,591	13,591	13,591	13,591	95,000
F. Administration	44,882	41,159	41,218	41,340	41,401	210,000
Total, All Parts	\$148,902	86,404	86,463	86,585	86,646	\$495,000

Further budget details are shown in each of the project parts presented in this proposal.

PART A. Purchase and Distribution of Telephonic Equipment to Households of Deaf Persons

Exact nature of Project Part A

The goals of Part A will be to add, within a five-year period, about 500 households in the five-county area to the present 250 who are using special telephonic equipment for the deaf, and to establish a continuing system for further spread in the use of such equipment beyond the five-year grant period. Project Part A is intended to help ease the obstacle of initial cost of the potential users.

It is estimated (see page 8, Relation to community need, for basis of estimates) that about 300 deaf persons in the five-county area want such equipment but can pay little or nothing for it, and that about 200 others are willing and able to pay in varying degrees.

To accomplish its goals, Part A is designed to:

- (1) purchase and distribute, over a five-year period, about 300 sets of special telephonic equipment, including reconditioned Model 15 or comparable

teletypes and new couplers, at little or no cost to deaf individuals in the five-county Philadelphia area (Plan 1);

- (2) assist, over a five-year period, an estimated 200 deaf individuals in the five-county area to purchase new (or relatively new used) teletypes and couplers, or portable telephonic devices (e.g., MCM, Magsat) (Plan 2);

- (3) develop a special fund and procedures for perpetuation, on a lesser scale, purchase and distribution of telephonic equipment at reduced or no cost to deaf individuals in the five-county area after the five-year grant period expires.

In Plan 1 described above, a single set will include a reconditioned teletype (Model 15 or comparable) estimated to cost \$50 each on a quantity basis, and an acoustic modem or coupler (Essco or Apcom), estimated to cost an average of \$180 each. The \$230 total cost per set, or \$69,000 for 300 sets, is to be paid out of grant funds. Deaf individuals receiving such equipment, *except those who are retired, long-term unemployed, or school students, or otherwise show exceptional hardship*, will be required to pay \$50 (beyond the \$230 basic cost paid by the grant). This \$50 payment, which may be in installments spread over one or two years, will be deposited into a special fund, mentioned in item (3) above.

Reconditioned teletypes will be purchased from the United Pennsylvania Telecommunications for the

Deaf, the Delaware Valley Telecommunications for the Deaf, other reliable sources as available.

In Plan 2, it is anticipated that, during the five-year period, several deaf persons—an estimated 200—including some present owners of old teletypes but mostly non-owners—will prefer to buy a newer model teletype (e.g., new or used Model 32) or a portable device such as MCM or Magsat, rather than an old Model 15. For such persons, a subsidy of grant funds of up to \$300 per household is proposed. The deaf person will be required to pay the difference above this grant, plus a minimum fee of \$50 to go to the special fund. Priority will be given to nonowners of TTY equipment. The cost to deaf persons will vary from about \$200 to \$500, as the following examples show:

	<i>Example 1</i> <i>MCM</i>	<i>Example 2</i> <i>Magsat</i>	<i>Example 3</i> <i>Used 32</i>	<i>Example 4</i> <i>New 32</i>
Telephonic device	\$695	\$495	\$300	\$600
Modem (average cost)	*	*	180	180
Signaler	35	35	#	#
Total basic cost	<u>730</u>	<u>530</u>	<u>480</u>	<u>780</u>
Grant subsidy	<u>-300</u>	<u>-300</u>	<u>-300</u>	<u>-300</u>
Net basic cost	430	230	180	480
Fee to Special Fund	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>
Bal. deaf persons pays	\$480	\$280	\$230	\$530

* *Modem included inside telephonic device.*

Signaler included in modem.

For persons who trade in their old equipment, trade-in allowances will further reduce their balances, such as \$50 for a traded-in Model 15 in good working condition, about \$100 for a used working modem. Useable trade-ins will be redistributed under Plans 1 and 2 of Project Part A.

Arrangements will be made with area banks to help obtain loans for persons who will need assistance in purchasing equipment under Plan 2.

The 300 and 200 figures for Plans 1 and 2, respectively, are estimates based on results of the recent study. The numbers of deaf individuals who prefer Plan 1 and the number who prefer Plan 2 may be revised upon actual experience as the project goes on. The overall five-year goal will still be 500 households.

Ownership of equipment. All telephonic equipment paid for entirely or in part by grant funds will remain on a permanent loan basis from PSAD to the deaf persons. Under this policy, he may not give or sell

the equipment to anyone in the five-county area except by agreement and arrangement with PSAD, nor have the equipment transferred outside the five-county area by gift, sale, moving, or otherwise. He may be released from these conditions and become sole owner of the equipment (with all rights implied) only by paying to the Special Fund the basic costs which were paid out of grant funds. Or, he may return the equipment to the PSAD for a refund of the basic cost he paid, less depreciation. In any case, the \$50 original fee to the Special Fund will not be refunded.

Relation to community need

As part of the telecommunications project, the purchase and distribution of telephonic devices at re-

duced or no cost to deaf persons will greatly expand their ability to use the telephone for such reasons as emergencies, to call friends and relatives, to contact employers, organizations and agencies, make appointments, and receive special news and information. Over the last nine years, the deaf have demonstrated their desire to make use of the teletypewriter. More and more persons are seeing the advantages of a teletypewriter.

Results of the recent study, "A Survey of Needs of Deaf Persons in the Five-County Philadelphia Area as They Relate to Telecommunications,"¹ and related additional study from the same project indicated that, of 580 respondents who did not have a TTY, 470 said they were either interested in getting one or wanted

¹ by Aram L. Terzian, Community College of Philadelphia, and Ralph Harwood, the Pennsylvania Society for the Advancement of the Deaf, 1974.

more information first.² This same study showed that 268 persons were willing to pay at least \$5 a month for 36 months (or \$180), including 175 willing to pay at least twice that amount (\$360), toward such equipment, but that 283 others were not willing to pay anything.³ Only 222 persons, however, indicated they would be willing to pay \$20 a month for a telephone and repairs if given a free TTY.⁴

This study and experience in the Philadelphia area have indicated that reconditioned teletypes, used in conjunction with a regular telephone and a special coupler, are reliable means of communication with little need for servicing.⁵ There are still hundreds of used teletypes available free from Western Union that need only reconditioning, such as cleaning, re-wiring, adjusting to tolerances, replacement of defective parts, lubrication, etc. The initial cost of a new or reconditioned teletype and a new modem, and the potential phone charges have been main deterrents to the wider use of such equipment by deaf persons. Plans 1 and 2 of Project Part A are intended to help ease at least the obstacle of initial cost.

² Op. cit., p. 40.

³ Ibid., p. 16.

⁴ Ibid., p. 18.

⁵ Ibid., pp. 35-37.

Other obstacles have been: deaf persons' lack of information about TTY's and telephone services, and inability of many deaf persons, or uncertainty of ability, to communicate by teletypewriter. Parts B and C of this project are designed to help overcome these other obstacles.

When it will begin and how long it will continue

Part A of the project will begin immediately upon approval of the project and receipt of the initial grant. Part A is proposed to be spread over a five-year period to provide sufficient time to publicize and explain the advantages of the telecommunications equipment for the deaf, to smoothly schedule purchases and installations, and to teach deaf persons to effectively use such equipment (see Parts B and C).

The 500 installations over five years would average about 8 or 9 per month, or about 2 per week. The actual rate of installations may vary over the five years. There will probably be a slow start in the first few months because of the need to set up and publicize the new program and to take and place orders, followed by a spurt in activity thereafter into the second and third years as the program becomes familiar to the community, and finally a tapering off into the fourth and/or fifth years as most immediate needs have been filled.

Budget (Project Part A)

	<i>Average for 1 Year</i>			<i>TOTAL FOR 5 YEARS</i>		
	<i>Units</i>	<i>Cost each</i>	<i>Total cost</i>	<i>Units</i>	<i>Cost each</i>	<i>Total cost</i>
Reconditioned teletypes (Model 15 or comparable)	60*	\$ 50	\$3,000*	300*	\$50	\$15,000*
Modems (Essco or Apcom)	60*	\$180	10,800*	300*	\$180	54,000*
Grants for other equipment (other new or used de- vices, incl. modems and signalers as needed for operation)	40*	\$300	12,000*	200*	\$300	60,000*
Misc.: Legal, printing, trans- portation, TTY paper rolls, etc.			1,200			6,000
Administration			(Included in Project Part F.)			
Total			\$27,000			\$135,000*
			(Average per year)			(Total, 5 years)

* Estimates, subject to revision upon actual demand for types of equipment.

PART B. Distribution of Telephonic Equipment to Key Educational and Service Institutions in the Greater Philadelphia Area

Exact nature of Project Part B

This part of the project will be to purchase and distribute telephonic equipment to (1) five schools (the Pennsylvania School for the Deaf, Willis and Elizabeth Martin, Archbishop Ryan, the Community College of Philadelphia, and Elwyn Institute) in the Philadelphia area for training students in communication by teletype, as well as for actual use by students and staff in intramural and outside communications; (2) the three area offices of the Pennsylvania Bureau of Vocational Rehabilitation serving the five-county Philadelphia region, to increase communication capabilities between these offices and the deaf community; and (3) the PSAD for loan to deaf patients at area hospitals. All equipment given to institutions through Project Part B will be on a permanent loan basis with conditions similar to those explained in Part A of this project.

Relation to community need

Part of the problem with special telephonic equipment for deaf persons has been their reluctance to use it because of their language difficulties and their unfamiliarity with teletypes. By placing such equipment in the schools for the deaf, the students would have opportunities to gain skills in both language and equipment operation, through practice and actual use of the equipment. Students would also have the opportunity to use the latest portable electronic equipment and become accustomed to conversing through a flashing word panel.

The State Bureau of Vocational Rehabilitation has long been a key agency in providing services to the deaf. However, a barrier to communicating directly with this agency has always existed because the offices do not have special telephonic devices. Indirect telephone communication through a third party, such as a hearing person in a household or neighborhood relaying voice telephone messages to or from deaf persons have severely limited and sometimes even distorted communications between counselors and deaf clients. Introduction of this equipment specifically for use of rehabilitation counselors serving the deaf, in conjunction with other aspects of the over-all project aimed at wider distribution and use of such equipment by the deaf, will greatly improve communications and, ultimately, rehabilitation services.

The advantages of portable TTY's for use by deaf hospital patients are readily apparent. The patient would always be able to contact his family and friends (assuming they also have a TTY at home, as many probably would) at times he or she is in need and when he or she is best disposed. At present, very few deaf persons or institutions own portable TTY's, mainly

because of the cost of such equipment. An additional advantage would be that the patient would be able to receive RTTY (radio teletype) and PTTY (telephone teletype) news when these systems begin operation, and thus avoid being mesmerized into lethargy by unintelligible programs and crass commercials blaring from the hospital room TV screen.

When it will begin and how long it will continue

This equipment will be purchased and made available to the institutions mentioned above as soon as possible after the project begins.

The equipment will be used by them throughout the five-year project period and continue indefinitely thereafter.

Budget (Project Part B)

	<i>1st Year</i>	<i>Total, 5 Years</i>
<i>For the Penna. School for the Deaf</i>		
(3) Model 32 ASR at \$722	\$2,166	\$2,166
(1) Model 15 (recond.)	50	50
(4) Modems (Essco)	680	680
(1) MCM	700	700
(1) Magsat	495	495
(1) Loop system	150	150
SUBTOTAL	4,241	4,241
<i>For W. & E. Martin School for the Deaf</i>		
(1) Model 32 ASR	722	722
(1) Model 15	50	50
(2) Modems (Essco)	340	340
(1) MCM	700	700
(1) Magsat	495	495
(1) Loop system	150	150
SUBTOTAL	2,457	2,457
<i>For Archb. Ryan Mem. School for the Deaf</i>		
(2) Model 32 ASR at \$722	1,444	1,444
(1) Model 15	50	50
(3) Modems (Essco)	510	510
(1) MCM	700	700
(1) Magsat	495	495
(1) Loop system	150	150
SUBTOTAL	3,349	3,349
<i>For Community College of Philadelphia</i>		
(1) Model 32 ASR	722	722
(1) Model 15	50	50
(2) Modems (Essco)	340	340
(1) MCM	700	700
(1) Magsat	495	495
(1) Loop system	150	150
SUBTOTAL	2,457	2,457

<i>For Elwyn Institute</i>		
(1) Model 32 ASR	722	722
(1) Model 15	50	50
(2) Modems (Essco)	340	340
(1) MCM	700	700
(1) Magsat	495	495
(1) Loop system	150	150
SUBTOTAL	<u>2,457</u>	<u>2,457</u>
<i>For Penna. Bureau of Vocational Rehab.</i>		
(3) Magsats (SUBTOTAL)	<u>1,485</u>	<u>1,485</u>
<i>For PSAD for loan to deaf hospital patients</i>		
(3) MCM at \$700	2,100	2,100
(3) Magsats at \$495	1,485	1,485
SUBTOTAL	<u>3,585</u>	<u>3,585</u>
Total	\$20,031	\$20,031

PART C. Orientation, Outreach, Evaluation and Instruction in Use of Teletypes and Related Equipment

Exact nature of Project Part C

This part of the project is intended to help overcome two other obstacles, to wider ownership and use of telephonic equipment by deaf persons, besides the financial hindrance dealt with in Part A. These obstacles are (1) inadequate information of deaf persons about telephonic devices, procedures, and uses, and (2) inability or uncertainty of ability of many deaf persons to communicate by teletypewriter.

Orientation and outreach will be in the forms of specially printed circulars mailed and given out, and visits to homes, clubs, and other places where deaf persons congregate, as well as to schools, hospitals, and other community agencies to publicize telephonic equipment and procedures used by deaf persons, and equipment and services offered by the telecommunications project. Specially developed slides will be shown and some equipment demonstrated as the occasions warrant. Deaf persons and others may also visit the project headquarters at the Pennsylvania School for the Deaf for such information.

Prior to participation in the telecommunications project, each interested individual will be offered an *evaluation of skills* related to use of a teletypewriter. This will include an evaluation of typing, the ability to use a teletypewriter with paper copy, the ability to use a telephonic device without any recording of the communication, and evaluation of verbal skills related to telecommunications.

The *instruction program* will teach basic typing skills and effective use of telecommunications devices—Model 15 and 32 teletypes, MCM's and Magsats—to deaf persons who request and are capable of such

instruction. It is estimated that about 300 persons will request typing instruction and at least 250 will want special training in use of equipment during the five-year period. Classes can be scheduled for convenient locations such as the Pennsylvania School for the Deaf, the Community College of Philadelphia, deaf clubs, etc. Most or at least some instructions will probably be by persons skilled in total communication techniques (voice and sign language); as a contingency, the budget provides funds for skilled interpreters in case available instructors are not themselves sufficiently capable of communicating directly with deaf persons.

Each typing course will be for fourteen weeks, with two or three hours of instruction per week. Courses to familiarize use of special telephonic devices will last an average of four hours each.

In some instances, evaluations and instructions in the use of TTY equipment may best be performed in homes of deaf persons, to assure that at least one person in the household is capable of using the equipment and that all members of the household are given opportunities to observe and practice correct usage.

The orientation, outreach, evaluation, and instruction programs will also help nonowners of equipment to decide which devices they prefer to receive under Part A of this project, as well as help present owners to decide if other or additional equipment would serve them better.

Equipment purchased in Part C of the project will remain the property of the PSAD. After the project period, PSAD may retain or transfer ownership of any or all of the equipment for perpetuation of the services established by the project.

Relation to community need

An orientation and outreach program is an essential part of the telecommunications project as the need for clear and accurate communications with the deaf community has been demonstrated on many occasions. It is anticipated that misconceptions will develop because of misinformation, rumors, etc. The best way to avoid such problems is to develop a comprehensive program for orientation and outreach.

A diagnosis of the individual skills as they relate to telephonic devices will insure that each person is properly prepared or capable of learning to use the equipment he is interested in obtaining. This is crucial to the over-all success of the comprehensive telecommunications project. Without such evaluations, the possibility exists that deaf persons will obtain equipment they are unable to use.

The typing instructions will help many deaf persons overcome the anxiety of using a keyboard, and to develop enough skills so that the individual will be able to make a telephone call within a reasonable length of time. The feasibility study indicated about

two-thirds of the non-TTY owners are either unable to type or can only hunt and peck with one or two fingers.

Other instructions besides typing will be needed by many deaf persons to learn and practice correct and effective usage of the various kinds of telephonic devices.

When it will begin and how long it will continue

Orientation and outreach will begin immediately upon approval of the over-all project, with special emphasis during the first two years and then continuing on lesser scales in the third through fifth years and beyond as details of the telecommunications project become familiar to the deaf community.

Development of procedures, materials, and time schedules for evaluations and instructions will begin immediately upon approval of the project.

Most of the projected five-year need for evaluations and instructions will probably be concentrated within the first two or three years, paralleling the possible trend, mentioned in Part A (Purchase and distribution of equipment to households), of initial publicity, then demand building up to a peak and later tapering off as most immediate needs are met. Evaluations and instructions, however, are expected to continue for the duration of the project's five years and beyond, because of the need for time-consuming individualized attention and because of additions to the known deaf population as time progresses.

Budget (Project Part C)

	<i>1st Year</i>	<i>2nd thru 5th years AVG. per yr.</i>	<i>TOTAL 5 YEARS</i>
<i>Orientation and outreach</i>			
Travel	\$700	\$200	\$1,500
Printing	600	100	1,000
Postage	600	100	1,000
Layout for printed material and audio-visuals	200	25	300
Portable slide projector with portable viewer	350		350
Films, materials, and other supplies	400	25	500
SUBTOTAL	2,850	450	4,650
<i>Evaluation and instruction</i>			
(2) Model 32 KSR-TBK at \$607	1,214		1,214
(2) Model 15 teletype (recon)	100		100
(4) Acoustic couplers at \$170	680		680
Equipment set-up:			
Loop system	150		150
Electrical	200		200
(2) MCM machines at \$700	1,400		1,400
(2) Magsat Machines at \$495	990		990
Instruction:			
Typing—300 students x \$40	2,400	2,400	12,000
TTY skills—250 stu. x \$10	500	500	2,500
Interpreting:			
667 man/hrs. x \$7.50/hr.	1,000	1,000	5,000
Travel	200	200	1,000
Test and curriculum development	500		500
Printing and supplies	1,200	104	1,616
SUBTOTAL	10,534	4,204	27,350
Total	\$13,384	\$4,654	\$32,000
	(Total, 1st year)	(Avg. per yr., next 4 yrs.)	(Total, 5 years)

D. Establishment and Maintenance of an Equipment Service Center

Exact nature of Project Part D

This part of the project will be to purchase and set up equipment and operate a service for reconditioning and servicing old teletypes and other devices used in telephonic communications by deaf persons. Tools, testing devices, and related equipment and supplies will be located in a room to be provided rent-free at the Pennsylvania School for the Deaf. It will be staffed by volunteers and part-time technicians who will receive no or only token fees. Funds for needed replacements parts, typewriter ribbons, etc. are provided for in Project Part A, as part of the cost of reconditioned TTY's.

Equipment purchase as Part C of the project will remain the property of the PSAD. After the project period, PSAD may retain or transfer ownership of any or all of the equipment for perpetuation of the services established by the project.

Relation to community need

Existing reconditioning and servicing agencies, similar to that proposed, are not expected to be able to handle all of the large volume of reconditioning and servicing of TTY's and related equipment anticipated during the project period and beyond. This part of the project will supplement these agencies' efforts. The proposed location will also provide training opportunities for deaf students for repair and maintenance of TTY and related electronic and electromechanical equipment.

When it will begin and how long it will continue

Purchase and set up of equipment for the service center will start immediately upon receipt of the grant, and operation will begin as soon as possible thereafter. The center will help assure a flow of reconditioned teletypes required in Part A of the project, and help to maintain them in good working condition, over the project's five years and beyond as demand warrants. The training aspects will also continue indefinitely.

Budget (Project Part D)

	<i>1st Year</i>	<i>TOTAL 5 YEARS</i>
<i>Equipment and supplies</i>		
Tools—2 sets	\$300	\$300
Distortion tester	1,708	1,708
Oscilloscope	250	250
Electrical wiring, plugs, etc.	200	200
Loop terminals, 5 at \$40 each	200	200
Shelves, 6-shelf section, 18" deep		
4 sets at \$29 each	116	116
Heavy gauge steel legs, 2 sets at \$36	72	72
Fire extinguisher	50	50
Manuals and misc. supplies	104	104
TOTAL	\$3,000	\$3,000

Administration and technical staff (See Part F, Administration)

PART E. Establishment and Maintenance of a Communication Center

Exact nature of Project Part E

This part of the project will consist of purchasing, installing, and operating special communications equipment for preparing, sending, and receiving teletype signals over the air (RTTY) and over telephone lines (PTTY). The signals are intended to be received as printed news and announcements on teletypes and similar devices (see Parts A and B of this project) in homes, schools, and other locations where deaf persons reside or frequent.

Efforts will be directed toward news and information that best meet the needs and interests of deaf persons. All schools, organizations, and agencies associated with the deaf will be asked to report such items and, where possible, assist with the programming. Also, a UPI newswire will be leased. All broadcasts will be written in language that deaf persons will have little difficulty understanding.

The George W. Nevil Communications Center—the proposed name of the center—where the broadcasts will be prepared and announced for both RTTY and PTTY, will be located rent-free in part of an existing building on the campus of the Pennsylvania School for the Deaf. Radio transmission facilities, to be donated to Temple University as part of this project, will be located at and operated by personnel of Temple University. In exchange for this donation, Temple will provide use of their radio station, WRTI-FM, and a radio tower in Roxborough, at no or minimal cost. Special radio receivers will be purchased with grant funds and leased, at a small (about \$10) annual fee, to home and other locations having special telephonic equipment (modems and teletypes or comparable devices)—including both equipment distributed as Parts A and B of this project and preexisting installations.

To help expedite a constant flow of timely information and announcements for the news service, special teletype equipment (Model 32 ASR) and couplers will be provided through Project Part E for the homes of at least two persons who will be involved in the compiling and wording of news and announcements.

Equipment purchased in Part E of the project, except radio equipment to be donated to Temple University, will remain the property of the PSAD. After the project period, PSAD may retain or transfer ownership of any or all of the equipment for perpetuation of the programs established by the project.

The RTTY news will contain news, information and announcements of general interest to deaf persons, without any limitation on the number of simultaneous receivers in the broadcast area. This is expected to include the area within a 25-mile radius of the Roxborough tower, which encompasses all of the City of Philadelphia and most of the suburbs in the five

counties, as well as Camden and surrounding areas of New Jersey. (A map of the proposed RTTY broadcast area is shown on page 16). A further advantage of RTTY is that home telephones will not be needed to receive RTTY news, and thus a telephone may be omitted if the household does not want or cannot afford a telephone.

The telephone news service (PTTY) will contain news, information and announcements of more special interest, including possibly brief summaries of items appearing in the RTTY broadcasts. Up to 10 calls will be handled automatically at one time, with the news tape playing for about 10 to 20 minutes for each issue. Any toll charges involved will be borne by the callers as part of their regular billings by the phone company. Most calls to the PTTY news, however, will probably be local calls without any special charges.

Besides operating the news service, the Communications Center will attempt to develop volunteer message relay services *at no cost*. This will permit messages to and from persons with only regular telephones, such as doctors, hospitals, hearing friends and relatives, and employers, to be sent and received by deaf persons over their teletype or similar telephonic device, through a third party. This volunteer service is already being performed on a limited scale through private arrangements, such as having a hearing son or daughter of deaf parents who have a TTY make a doctor's appointment for deaf friends who have a TTY but no hearing children. The main function of the Communication Center in these relay services will be to enlist and publicize an up-to-date directory of "third party" volunteers. This could possibly include central police stations and CONTACT agencies for emergency calls. The directory could either be simply announced over RTTY and/or PTTY, or printed and distributed by mail (in which case printing and mailing costs must be considered) to assure that all TTY owners receive the directory.

Relation to community need

Presently, news sources of deaf persons in the five counties are limited to: (1) occasional newsletters and announcements of a limited circulation mailed by organizations connected with the deaf; (2) regular television, newsmagazines, and newspapers; and, in much of the five-county area, (3) the Captioned ABC Evening News (which began in some parts of the area in late 1973, and others in 1974).

In the feasibility study, over 50 percent of the deaf persons surveyed indicated they had some difficulty reading the newspapers and over 80 percent indicated they had some difficulty understanding news on TV.

The Captioned ABC Evening News—all 11 PM re-broadcast of the regular 6 PM Monday to Friday ABC

Evening News, with captions added by WGBH-TV of Boston and aired over participating local public TV stations—affords good opportunities for many deaf persons to receive news summaries, analyses, and opinions of general national and international interest, as well as some announcements from WGBH of special interest to deaf persons. The feasibility study did not specifically evaluate this captioned TV news program. It is apparent, however, that the program fills only a small part of the local need, for several reasons.

Among them are:

- (1) the late hour of the broadcast, usually 11 PM to 11:30 PM Monday to Fridays;
- (2) the flashing of captions on the TV screen at paces and in language above the capacity of many deaf persons to follow, and without "hard copy"; and
- (3) news and information of immediate and practical concern to the local deaf community, such as activities and services of local schools, agencies, and organizations for the deaf, special job opportunities, etc., are seldom carried on the Captioned ABC Evening News; the limited time spots available for the entire northeastern United States area would, in any case, make it impossible for this program to carry all the desired items of special interest to deaf persons in the five counties.

The TTY news service proposed herein will go a long way in overcoming the lack of information and communications among deaf persons in the area.

Results of the feasibility study indicated that most deaf persons are willing to pay a small fee for such a service. Such fees can be initiated during and maintained after the project period. Additional funding, such as federal and state government and contributions from organizations and individuals, will be explored, to assure continuation of the news service beyond the project period.

When it will begin and how long it will continue

For the first few months as the over-all project begins, Part E will concentrate on the purchase and installation of RTTY and PTTY broadcasting equipment and RTTY receivers mentioned above.

As soon as installations at the Communications Center are completed, a news and information service will commence operations and continue for the duration of the project's five years. By the end of that time, it is anticipated that procedures, including programming, staffing, and funding, will have been sufficiently established to perpetuate this service beyond the five-year period.

Budget (Project Part E)

	<i>1st Year</i>	<i>2nd thru 5th years AVG. per Year</i>	<i>TOTAL, 5 YEARS</i>
Radio Station equipment <i>(WRTI-FM, Temple University)</i>			
Sub-carrier generator	\$695		\$695
FM deviation monitor	1,403		1,403
Digital regenerator	3,127		3,127
Audio level patch panel	138		138
Model 32 ASR teleprinter	722		722
Acoustic telephone coupler	170		170
SUBTOTAL	<u>6,255</u>		<u>6,255</u>
Line costs			
(For RTTY and PTTY use) UPI News	1,976	1,976	9,880
(For RTTY use) 2 leased telephone lines	1,080	1,080	5,400
SUBTOTAL	<u>3,056</u>	<u>3,056</u>	<u>15,280</u>
Studio (at Pa. School for Deaf) <i>(RTTY) Control panel</i>			
<i>(RTTY and PTTY use):</i>	250		250
Model 28 ASR teleprinter	3,262		3,262
Model 32 ASR teleprinter	722		722
(2) Acoustic telephone couplers	340		340
Misc. supplies and equipment <i>(PTTY use):</i>	390	385	1,930
Loop terminals (5 at \$40 each)	200		200
Phone signaler	35		35
Tape recorder for incoming calls (150 phone 500 or equivalent)	250		250
Cusino endless tape recorder/player modified for use with phone circuit (2)	320		320
Endless tapes—10 minutes (10)	50		50
" " — 8 minutes (10)	45		45
" " —70 second (5)	15		15
Demagnetizer for tapes	20		20
Ten-line announcers with all cables and accessories	370		370
Microphone for recorders or adapter cable to wire TTY signalers into Cusino recorder	22		22
(1) Bell System recorder coupler KS-19522.11 (Western Elec.), incl. installation & set-up	2,100		2,100
Phone	150	150	750
SUBTOTAL	<u>8,541</u>	<u>535</u>	<u>10,681</u>
Home equipment (for news staff)			
Model 32 ASR, 2 at \$722	1,444		1,444
Acoustic couplers (2)	340		340
SUBTOTAL	<u>1,784</u>		<u>1,784</u>
RTTY receivers			
(10) prototypes @ \$100	1,000		1,000
Production models (600 at \$100)	20,000(200)	10,000(100)	60,000
SUBTOTAL	<u>21,000</u>	<u>10,000</u>	<u>61,000</u>
Administration (Included in Project Part F)			
TOTAL	\$40,636	\$13,591	\$95,000
	First year)	(AVG. per yr., 2nd to 5th years)	(Total, 5 years)

PART F. Administration of the Project

Exact nature of Project Part F

This part of the project will be to develop and operate an administrative structure to carry out, supervise, and monitor all the activities of the project. The PSAD Board will retain ultimate responsibility for the project but will appoint a Council, to be known as the Council of the George W. Nevil Communications Center, to oversee the project and to consider and resolve any questions that may occur, subject to approval of the PSAD. The Council will not be compensated except for token fees to cover expenses of attending council meetings and for mailing and report expenses. Actual operations of the project will be carried out by a Project Director, an Assistant/Secretary, and some part-time clerical workers and technicians who will be paid.

The Council shall consist of not less than five nor more than nine persons, including a Chairman, Secretary, and Treasurer, appointed annually by the PSAD Board. There shall be two representatives from the PSAD, one from the Public Service Office of Gallaudet College, and from two to six others persons who are associated with and broadly representative of deaf persons in the five-county area. For the most part, the six will be persons active with local organizations or agencies serving the deaf; but, because the large number of such groups makes it impractical to have a delegate from each local group, the six council members will be appointed by the PSAD and serve on an individual "at-large" basis and not as official delegates of any groups. Council members, however, will still be permitted and encouraged to serve as liaisons between the Council and the organizations or agencies with which they may be affiliated, as part of their general constituency. The Council shall meet at least six times a year.

The Council shall be responsible for:

- (1) selecting subject to approval of the PSAD, a Project Director;
- (2) selecting, subject to approval of the PSAD, technical and professional consultants and advisers;
- (3) approving, through a voucher system, all project expenses incurred during the project period, to be paid out of grant funds by the PSAD Administrator;
- (4) compiling, with the assistance of the Project Director and other staff, detailed reports on all receipts and disbursements of the project, and on the status of the project, and submitting such reports, together with any comments or recommendations, at least quarterly to the PSAD;
- (5) reviewing and submitting recommendations to the PSAD for any major changes in project plans

which either the Council or the Project Director feels may be warranted by circumstances that develop at any time during the project.

The *Chairman* of the Council of the Nevil Communication Center (the proposed name of the Council)—will preside at all meetings of the Council and consult in advance with the Project Director and council members for preparation of agendas. He will be responsible for appointing any special or ad hoc committees of the council and their chairmen as the Council may see fit to aid in carrying out the functions of the Council. He will confer regularly with the Project Director and committee chairmen and co-sign, with the Council Treasurer, all vouchers for disbursement of grant funds.

The *Secretary* of the Council will keep correct minutes of all meetings of the Council. He will conduct correspondence of the council, including notices of meetings to council members. He shall be responsible for preparing, certifying, and submitting to the PSAD Secretary at least quarterly reports on the project, including financial summaries and other statistics as appropriate.

The *Treasurer* of the Council shall keep a detailed record and prepare at least quarterly reports of all receipts and disbursements in connection with the project. He shall co-sign, with the Chairman of the Council, all vouchers for disbursement of grant funds and submit such vouchers to the PSAD Administrator for payment. He shall transfer all funds received in connection with the project to the PSAD Administrator for deposit in accounts to be maintained by the PSAD. (PSAD will retain responsibility for custody of grant funds and related receipts, issuance of checks for expenses vouched for by the Council, and for the related bookkeeping.)

The *Project Director* will be responsible for the over-all operation of the project. He will appoint and supervise other staff members subject to approval of the PSAD. He will report to and maintain a close working relationship with the Council. In the beginning, the Project Director's main duties will be (1) enlisting and orienting the Assistant/Secretary, part-time clerks, technicians, and volunteers, (2) establishing procedures and guidelines for, and initiating, the purchase and installation of all equipment as proposed in this project, (3) conferring and collaborating with staff of cooperating institutions and organizations, particularly Temple University and the Pennsylvania School for the Deaf, for the installation of proposed equipment and scheduling of operations, (4) developing procedures and materials for publicizing the equipment and services offered by the project, and for evaluations and instructions: (5) enlisting news and information sources, and developing guidelines for format, schedules, and policies of the TTY news. As

the various programs of the project become operational, the Project Director's responsibility will be mainly to co-ordinate and over-see the activities and to apply such feedbacks as will enhance the overall success of the project. He will also be responsible for developing procedures and funding for perpetuation of the services of the project beyond its five-year period.

The *Assistant/Secretary* will be responsible for various secretarial tasks and assist in other duties as delegated by the Director, such as evaluations, demonstrations, news summaries, reports, requests for and delivery of equipment, etc.

The *part-time clerks* will help prepare RTTY and PTTY newstapes and operate TTY newscasting equipment, and perform other duties in the project as requested by the Director or the Assistant.

The *part-time technicians* will share responsibility for supervising and instructing other persons in the set-up, operation, and service of equipment at the equipment service center (see Project Part D) and at the news center (Part E).

Adequate office space will be provided rent-free, with only minimal costs for renovations, rewiring, and furnishing, in an existing building on the campus of the Pennsylvania School for the Deaf (except radio transmission facilities to be located at Temple University). Some orientations, evaluations, and instructions, however, may be given elsewhere besides PSD (see Part C).

All furniture and equipment purchased in Part F of this project will remain the property of the PSAD. After the project period, PSAD may retain or transfer ownership of any or all of the furniture and equipment for use in perpetuating the programs of this project.

While the Pennsylvania School for the Deaf offers and welcomes a long-term commitment to this project

as beneficial to the students and to the community, PSD recognizes that implementation of this proposal will not prevent the PSAD from locating any or all parts of the project to more suitable places outside PSD if such should develop at any time during the project's five years or beyond.

Because of the complexity of the over-all project, some funds are requested for special bookkeeping and financial reporting to be handled by the PSAD, as part of the Administration cost.

Relation to community need

The proposed project will involve a concerted effort over a five-year period to (1) educate the deaf community with the possibilities and advantages of communicating by teletypes or similar devices over telephone and radio; (2) distribute and teach operation of such equipment; and (3) develop effective and efficient teletype news and message services for deaf persons in the five counties. These processes will best be performed by qualified persons who will devote most or a substantial part of their working time to the project. The salaries and fees will be offered as inducements in recruitment and retainment of such personnel.

When it will begin and how long it will continue

The Council, the Project Director, and other staff will start functioning as soon as the proposed over-all project is approved. They will manage the details of the project during its five years.

At the end of the project's five years, by which time the communications network, newscasting, equipment distribution and maintenance, and orientation, evaluation and instruction systems are expected to be well-established, the Council will continue indefinitely and the staff will either be full-time or part-time, paid or volunteer, depending upon needs and funding possibilities that may develop.

Budget (Project Part F)

	<i>1st Year</i>	<i>2nd Year</i>	<i>3rd Year</i>	<i>4th Year</i>	<i>5th Year</i>	<i>TOTAL 5 YEARS</i>
SALARIES AND FEES						
<i>Salaries</i>						
Project Director	\$18,500	\$18,500	\$18,500	\$18,500	\$18,500	
Assistant/Secretary	10,000	10,000	10,000	10,000	10,000	
Part-time clerical	<u>5,000</u>	<u>5,000</u>	<u>5,000</u>	<u>5,000</u>	<u>5,000</u>	
Total salaries	33,500	33,500	33,500	33,500	33,500	\$167,500
S.S. Tax (Employer's)						
Rate	.0585	.0585	.0585	.0605	.0605	
Amount ¹	1,702	1,755	1,814	1,936	1,997	9,204
Est. U.C. Tax	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>1,500</u>
Total Salaries and Employer taxes	<u>35,502</u>	<u>35,555</u>	<u>35,614</u>	<u>35,736</u>	<u>35,797</u>	<u>178,204</u>
 <i>Fees</i>						
Part-time technicians	2,500	2,500	2,500	2,500	2,500	12,500
Bookkeeping & auditing	1,000	1,000	1,000	1,000	1,000	5,000
Technical consultation	<u>600</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>1,000</u>
Total Fees	<u>4,100</u>	<u>3,600</u>	<u>3,600</u>	<u>3,600</u>	<u>3,600</u>	<u>18,500</u>
SUBTOTAL	<u>39,602</u>	<u>39,155</u>	<u>39,214</u>	<u>39,336</u>	<u>39,397</u>	<u>196,704</u>
 COUNCIL EXPENSES						
(Est. \$150 per mtg., 6 times per year, + \$100/yr. misc.)	<u>1,000</u>	<u>1,000</u>	<u>1,000</u>	<u>1,000</u>	<u>1,000</u>	<u>5,000</u>
 OFFICE EXPENSES						
Furniture, equipment and supplies (see rider)	2,775					2,775
Renovation & wiring	500					500
Telephone	500	500	500	500	500	2,500
Travel	200	200	200	200	200	1,000
Postage	100	100	100	100	100	500
Misc. (copies, etc.)	<u>205</u>	<u>204</u>	<u>204</u>	<u>204</u>	<u>204</u>	<u>1,021</u>
SUBTOTAL	<u>4,280</u>	<u>1,004</u>	<u>1,004</u>	<u>1,004</u>	<u>1,004</u>	<u>8,296</u>
Total, Administration	\$44,882	\$41,159	\$41,218	\$41,340	\$41,401	\$210,000

¹ Based on estimated S.S. maximum taxes bases of \$14,100 in 1975, \$15,000 in 1976, \$16,000 in 1977, \$17,000 in 1978, and \$18,000 in 1979.

RIDER (Budget—Part F, Administration)

Furniture, equipment and supplies \$2,775

Detail:

Desk, executive, 30×60×29, with 4 box drawers, file drawer, locking center drawer	\$238
Desk, work station, 60×30 with return station 40×18-1/2 at left, securely fastened to left side of pedestal desk	229
Desk, Space Saver, 45×24	91
Chair, executive, swivel	141
" , secretarial, posture-back	90
" , secretarial	70
Desk tray, steel, letter size—10-3/8×12-3/8×2-1/2—3 each	12
File cabinet, 4-drawer, letter size, 14-7/8" wide, steel, 28-1/2" deep, 52" high—2 each	128
Cardmaster file, double drawer unit for 3×5 index cards, 16" deep—2 each	20
Desk lamps, fluorescent—3 each	75
Typewriter, electric, 12-inch, power-return, standard pica type, 110-120V, 60 cycle AC	260
Bookcase, 4 shelves, 18" deep, 60" high	92
Conference table, plastic-laminate top, folding pedestal leg, 96×30×29—2 each	117
Steel folding chairs, 16×16, 18" seat height—10 each	71
Storage cabinet, 36×18×72, steel, with four adjustable shelves	70
Extra shelves for above—2 each	12
Wall-desk pencil sharpener	4
Pencils, black lead, No. 2, erase tips, box of 144	4
Desk stapler, standard staples—2 each	12
Staples, standard, box of 5000—10 boxes	6
Cellophane tape, 1/2"×1000, roll dispenser—16 each	4
Calendar, double page, Ever-ready or equal, complete unit—6 each	24

RIDER (Continued)

Paper punch, two hole, heavy duty	7
Paper clips, carton/1000, size 1—2 each	4
Paper clamps, size 0.0615, carton/1000	12
Wastebasket, steel, round, 14-1/2" high—3 each	9
Floor mats, 48×53, clear, 27# size, no lip—3 each	111
Office valet, complete w/12 hangers, umbrella rack, floor glides, 76" high, 18-1/2" deep, enamel finish	70
Stand, smoking, reception hall	16
Clock, electric, 12" dial	18
Envelopes, 4-1/8×9-1/2, box of 500—2 each	22
Typing paper, 8-1/2×11, white bond, 500 sheets—20 each	82
Onionskin paper, 9 lb. 500 sheets to box—20 each	35
Black carbon paper—6 packages	20
Labels, gummed, 1-1/3"×3-1/2"—3 each	2
File folders, letter size—9-1/2×11-3/4—100 each	24
Index cards, heavy grade, ruled, 3×5, white box of 1000—3 each	8
Teletype paper rolls, 16 lb., buff, 8-1/2" wide, 4-1/2" diameter, 200 ft. each—case 20	240
Teletype perforator paper, buff, 8" 00, oiled, 11/16" wide, package of 10—case 20	240
Teletype ribbons, nylon, black	42
Pad, paper, glued at top, ruled, 8-1/2×11, white—dozen—4	15
Blank card guides, plain tab, buff, 3×5 per 100	3
A-Z card guides, 3×5, buff, plain tab,—5 sets	3
Books, appointment, leather flexible, 6-7/8×4-1/2	14
Dictionary, Websters New World	8

EXHIBIT—Proposed RTTY Broadcast Area
(25-mile radius of Roxborough tower)

