

SPECIFICATIONS

FOR THE

ALTERATIONS TO THE TOWN HALL
Building
STERLING, MASSACHUSETTS

DONALD R. BOYCE, INC.
ARCHITECTS
1072 Main Street
Holden, Massachusetts

April 5, 1978

SPECIFICATION INDEX

SECTION	PAGE NUMBERS	
1A.....	Notice to Contractors	GB1 thru GB3
1B.....	Form for General Bid	SB1 thru SB2
	Form for Sub Bid	
1C.....	Information for Bidders	
	General Conditions and	
	Supplementary General Conditions . .	1C-1 thru 1C-8
1D.....	Alternates	1D-1
2	Demolition, Shoring, Excavation	
	and Sitework	2-1 thru 2-2
3	Concrete	3-1
4	Masonry Work	4-1
5A.....	Structural Metals	5A-1
5B.....	Miscellaneous & Ornamental Metals . .	5B-1 thru 5B-3
6A.....	Rough Carpentry	6A-1
6B.....	Finish Carpentry	6B-1 thru 6B-2
7A.....	Demproofing & Caulking.	7A-1
8A.....	Hollow Metal Work.	8A-1
8B.....	Finish Hardware.	8B-1
9A.....	Gypsum Drywall	9A-1
9B.....	Acoustical Tile	9B-1
9C.....	Resilient Floors	9C-1
9D.....	Ceramic Tile	9D-1
9E.....	Painting	9E-1 thru 9E-3
10.....	Specialties.	10-1
11.....	Equipment.	Not Applicable
12.....	Furnishing	Not Applicable
13.....	Special Construction	Not Applicable
14.....	Conveying System	Not Applicable
15A.....	Plumbing	15A-1 thru 15A-6
15B.....	Heating & Ventilating.	15B-1 thru 15B-6
16.....	Electrical Work	16-1 thru 16-6

Section 1B- Bid Forms

Forms for GENERAL BID

A. The undersigned proposes to furnish all labor and materials required for the construction of the ALTERATIONS TO THE TOWN HALL in Sterling, Massachusetts, in accordance with the accompanying plans and specifications prepared by DONALD R. BOYCE, INC. Architects, 1072 Main Street, Holden, Mass., for the contract price specified below, subject to additions and deductions according to the terms of the specifications.

B. This bid included addenda numbered _____

C. The proposed contract price is _____ Dollars (\$ _____)

For Alternate No. 1	ADD \$ _____	Deduct \$ _____	No Change _____
For Alternate No. 2	ADD \$ _____	Deduct \$ _____	No Change _____
For Alternate No. 3	ADD \$ _____	Deduct \$ _____	No Change _____
For Alternate No. 4	ADD \$ _____	Deduct \$ _____	No Change _____

D. The subdivision of the proposed contract price is as follows:

ITEM # 1: The work of the General Contractor, being all work other than that covered by Item # 2: \$ _____

ITEM # 2: Sub-bids as follows:

Sub-Trade	Name of Sub-Bidder	Amount	Bonds Required "yes" or "no"
Miscellaneous & Ornamental Iron	_____	\$ _____	
Acoustical Tile	_____	\$ _____	
Resilient Floors	_____	\$ _____	
Ceramic Tile	_____	\$ _____	
Painting	_____	\$ _____	
Plumbing	_____	\$ _____	
Heating, Ventilating	_____	\$ _____	
Electrical Work	_____	\$ _____	
TOTAL OF ITEM # 2	_____	\$ _____	

- E. 1. The undersigned agrees that each of the above-named sub-bidders will be paid for the work indicated at the amounts stated, unless a substitution is made. The undersigned further agrees to pay the premiums for the performance and payment bonds furnished by sub-bidders as requested herein and that all of the cost of all such premiums is included in the amount set forth in Item #1 of this bid.
2. The undersigned agrees that if he is selected as General Contractor, he will promptly confer with the Awarding Authority on the question of sub-bidders; and that the Awarding Authority may substitute for any sub-bid listed above a sub-bid duly filed with the Awarding Authority by another sub-bidder for the sub-trade against whose standing and ability the undersigned makes no objection; and that the undersigned will use the finally selected sub-bidders at the amounts named in their respective sub-bids and be in every way as responsible for them and their work as if they had been originally named in this general bid, the total contract price being adjusted to conform thereto.
- F. The undersigned agrees that should extra work be authorized, he will be entitled to a margin of 15% over cost for overhead and profit in connection with authorized Change Orders adding to the contract price.
- G. The undersigned anticipates that it will require _____ consecutive calendar days to complete the work of this contract from date of signing of the contract.
- H. The undersigned agrees that, if he is selected as General Contractor, he will within five (5) days, Saturdays, Sundays and Legal Holidays excluded, after presentation thereof by the Awarding Authority, execute a contract in accordance with terms of this general bid and furnish a performance bond and also a labor and materials or payment bond, each of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority and each in the sum of one hundred per cent of the contract price, the premiums for which are to be paid by the General Contractor and are included in the contract price.

I. The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work.

Date: _____

(Name of General Bidder)

By _____
(Title)

(Business Address)

(City and State)

SECTION 1 - BID Forms

Form of SUB-BID

To all General Bidders except those hereinafter expressly excluded:

A. The undersigned proposes to furnish all labor and materials required for the completing, in accordance with the herein-after described plans, specifications and addenda, all the work specified in Section No. _____ of the Specifications and in any plans specified in such Section for the

_____ (class of work)

prepared by DONALD R. BOYCE, IN 1072 Main Street, Holden, Massachusetts, for the Alterations to the Town Hall Building, Sterling, Massachusetts

for the contract sum of _____

Dollars (\$ _____)

For Alternate No. 1 ADD \$-----Deduct \$----- No. Change-----

For Alternate No. 2 ADD \$----- Deduct \$----- No Change -----

For Alternate No. 3 ADD \$----- Deduct \$----- No Change -----

For Alternate No. 4 ADD \$----- Deduct \$----- No Change -----

B. This sub-bid includes addenda numbered _____

C. This sub-bid may be used by any general bidder, except:

_____ this sub-bid may be used only by the following general bidders:

D. The undersigned agrees that, if he is selected as a sub-bidder, he will, within five days, Saturdays, Sundays and legal holidays excluded, after presentation of a subcontract by the general bidder selected as the General Contractor, execute with such general bidder a subcontract in accordance with the terms of this sub-bid, and contingent upon the execution of the general contract, and, if required so to do in the general bid by such a general bidder, who shall pay the premiums therefor, furnish a performance and payments

D. (seal) bond of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority, in the full amount of the subcontract price.

E. The undersigned further agrees to be bound to the General Contractor by the terms of the heretofore described plans, specifications (including all General and Supplemental General Conditions, Information for Bidders, Alternates and Allowances stated therein) and affidavits, and to assume toward his all the obligations and responsibilities that he, by these documents, assumes toward the Owner.

F. The undersigned offers the following information as evidence of his qualifications to perform the work as bid upon, according to all requirements of the plans and specifications:

1. Have been in business under present business name _____ years.

2. Ever failed to complete any work awarded? _____

3. List one or more recent buildings with names of General Contractor and Architect on which you served as subcontractor for work of similar character as required for the above-named building.

BUILDING	ARCHITECT	GENERAL CONTRACTOR	AMOUNT OF CONTRACT
a. _____	_____	_____	_____
b. _____	_____	_____	_____
c. _____	_____	_____	_____

4. Bank Reference: _____

G. The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work.

Date: _____

(Name of Sub-Bidder)

By _____
(Title)

(Business Address)

(City and State)

SECTION 10 - INFORMATION FOR BIDDERS,
GENERAL CONDITIONS AND SUPPLEMENTARY
GENERAL CONDITIONS

1. General

- A. Any mention herein or any indication on the drawings or anything reasonably inferable therefrom as being necessary to produce the intended results of all articles, materials, operations or methods requires that the Contractor and all subcontractors provide each item mentioned or indicated or inferred of quality, or subject to any qualification noted; perform, according to conditions stated and/or inferred, each operation prescribed and provide therefore all necessary labor, equipment and incidentals.
- B. The terms and conditions contained in the Advertisement for Bids, Information for Bidders, the General Conditions, the Supplementary General Conditions and any or all allowances, alternates and addenda shall by this reference, apply to all branches of the work in the Contract with equal force and are not necessarily to be repeated in various sections of the specifications.

2. Form of Contract

- A. The standard A.I.A. "Short Form of Contract", Form A-107, will be used and is hereby made a part of these specifications. In the event of conflict between the Supplementary General Conditions outlined hereon and General Conditions of the Contract, the Supplementary General Conditions shall govern.

3. Furnishing of all Labor, Materials and Equipment

- A. The Contractor is to furnish all labor, materials and equipment necessary in connection with the work included in this contract. All work shall be guaranteed for a period of one year from the date of Substantial Completion.

4. Examination of Site

- A. Bidders are required to visit the site in Sterling and inform themselves of all conditions, including other work, if any, being performed. Failure to visit will in no way relieve the successful bidder from the necessity of furnishing any materials or performing any work that may be required to complete the work in accordance with drawings and specifications. Any such furnishing of

- A. Cont'd - materials and performing of work made necessary due to failure to visit shall be done by the Contractor without additional cost to the Owner. Premises will be open Mondays through Fridays, between the hours of 8:00 A.M. and 4:00 P.M. for Contractors' examination of building.

5. Permits and Regulations

- A. The Contractor will give all notices and comply with all laws, codes, ordinances, rules and regulations which in any way apply to the construction in the Town of Sterling, Mass., and he must hold the Owner and his agents harmless from any and all claims or damages on account of non-fulfillment of these provisions. All work done in violation of the aforesaid laws, etc., shall be corrected at the Contractor's expense.
- B. The Contractor shall obtain and pay for all necessary permits, fees, inspections, licences, etc.

6. Architect

- A. In performance of the work, the Owner will be represented by DONALD R. ROYCE, INC., 1078 Main Street, Holden, Mass., as directed by the Owner.

7. Temporary Utilities

- A. The Contractor shall make arrangements for and furnish at his own expense all water, electricity, lighting and other utilities necessary for construction purposes. Use of existing sources of supply is permitted if adequate and properly utilized.

8. Protection

- A. The Contractor is to provide and maintain until completion all necessary and proper protection required for the building; to the public; to the Owner's personnel; and to the adjacent properties. Included shall be all necessary barriers, temporary partitions, canvas covers, guard rails, lights, signs, etc.
- B. During the period of construction the Owner will secure temporary quarters elsewhere. The Contractor shall, however expedite all work so as to bring the work to satisfactory completion as soon as is reasonably possible. Any items of equipment not removed to temporary quarters by the Owner, shall be adequately protected by the Contractor. The Contractor shall maintain all building services including heat as may be required for construction purposes and/or to maintain the building.

9. Interpretations

- A. No oral interpretations will be made to any bidder as to the meaning of the drawings and specifications. Every request for such interpretation shall be made in writing by a bidder and addressed and forwarded to DONALD B. BOWEN, INC., Architects, 1078 Main Street, Halden, Massachusetts.
- B. Every interpretation made to a bidder will be in the form of an Addenda to the Specifications and will be sent as promptly as is practicable to all persons to whom the drawings and specifications have been issued. All such addenda shall become a part of the contract documents.
- C. The responsibility of ascertaining and inclusion in bid forms of all issued addenda shall rest solely with the Contractors.

10. Insurance

- A. Insurance shall be carried as set forth in the General Conditions. Certificates of all Contractor Insurance required shall be deposited with the Architect. Liability Insurance shall also cover damages to property and contractual liability. Workmen's Compensation shall be as required by law.
- B. Insurance shall not be less than the following minimum amounts:
- (1) Liability for bodily injury, including accidental death, \$250,000.00 for any one person and subject to the same limit for each person, \$500,000.00 on account of one accident.
 - (2) Liability for property damage, \$100,000.00 on account of any one accident and \$300,000.00 on account of all accidents.
 - (3) Minimum automobile and truck insurance shall be in an amount of not less than \$250,000.00 to \$500,000.00 limits. Property damage insurance in an amount of not less than \$100,000.00.
 - (4) Special hazards, if any, shall be covered by riders to public liability or property damage insurance policies, or both, or by separate policies as required.
 - (5) Fire Insurance is to be carried by Owner (Art. 20, General Conditions).
- C. No insurance shall be cancelled by either the insured or the insurer unless written notice is given to the Owner at least fifteen (15) days prior to the intended effective date of such cancellation.

11. Payments to Contractor

A. The Owner shall make payments as provided in the Contract as provided therein, as follows:

- (1) On or about the fifteenth (15th) day of each month 95 percent of the value, based on the Contract prices of labor and materials incorporated in the work and of materials suitably stored at the site thereof up to the first day of that month, as estimated by the Architect and/or Owner, increased by the final 5 per cent due to be paid to those subcontractors who have fully completed their portion of the work in accordance with the plans and specifications, and are entitled to the entire balance due under said subcontract as hereinafter provided, less the aggregate of previous payments; and upon Substantial Completion of the entire work, a sum sufficient to increase the total payments to 99 per cent of the Contract price.
- (2) Payments to subcontractors shall be in accordance with Section 39F of Chapter 30 of the General Laws, as amended.
- (3) Final payment shall be due 65 days after Substantial Completion of the work provided the work be then fully completed, the Contract fully performed and the building accepted by the Awarding Authority.

12. Filing of Proposals

A. All proposals shall be submitted on the bid forms attached hereto and at the time and place indicated in the Advertisement. Bid forms other than those provided by the Awarding Authority will be rejected.

13. Progress and Completion

A. Work shall commence upon signing of the contract and the Owner's "Notice to Proceed" and shall progress continuously with all reasonable and proper activity bringing the work to full completion in every way satisfactory and acceptable to the Owner and Architect.

14. Cutting and Patching

A. All subcontractors will pay the Contractor to do all cutting required for the installation of their work unless they shall have given the Contractor definite instructions for slots, holes, openings, chases and like items and providing that all said subcontractors have properly furnished and correctly set all anchors, bolts, hangers, boxes, sleeves and like items where same are necessary for their work before the affected portions are done.

- B. The Contractor shall patch up and finish around all openings unless such openings are cut after finished work is done and if by failure of subcontractors to install work correctly or at proper time, in which case the latter are to pay the contractor to do the patching.
- C. No cutting or patching shall be done which in the opinion of the Architect will endanger or impair the existing and/or new construction and/or finish and/or structural system.

15. Enumeration of Drawings

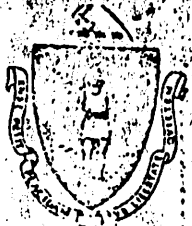
DWG.	TITLE	DATE
1.	Existing Basement & First Floor Plans	4-5-78
2.	Plans of Basement, First Floor and First Floor Framing	4-5-78
3.	Sections and Part Elevation	4-5-78
4.	Sections, Elevations & Door Sched.	4-5-78
HV-1	Basement & First Floor Heating Plans	4-5-78
E-1	Existing Floor Plans	4-5-78
E-2	Floor Plans-Lighting	4-5-78
E-3	Floor Plans-Power	4-5-78

16. Employment of Labor
Minimum Wage Rates

- A. Minimum Wage Rates and Health and Welfare and Pension Fund Contributions, as determined by the Commissioner of Labor and Industries under the provisions of the Massachusetts General Laws, Chapter 149, Sections 26 to 27D inclusive, as amended, shall be in accordance with the schedule attached hereto. Said schedule is hereby made a part of the Contract and shall continue to be the minimum rate or rates of wages for said employment during the life of the Contract.

17. Toilet Facilities

- A. Toilet facilities within the existing building can be used for all workmen if properly utilized. However, if at any time the Owner objects due to improper usage, the Contractor shall provide, place, and keep in an inoffensive condition, suitable temporary water closet accommodations for the convenience of all employed upon the work, whether in the employ of this contractor or others. These facilities shall be in every manner and at all times satisfactory to the Owner, Architect, and Authorities of the local Board of Health.
- B. The temporary toilet together with its accumulation shall be removed from the premises at the completion of the contract or before as directed.



Commonwealth of Massachusetts
 DEPARTMENT OF LABOR AND INDUSTRIES
 DIVISION OF INDUSTRIAL SAFETY

9/23/77

STERLING

MINIMUM WAGE RATES.
 as determined by the Commissioner under the provisions of the
 Mass. General Laws, Chapter 149, Sections 26 to 27D

ALTERATIONS TO THE TOWN HALL

PROJECT Local #		TOWN. Sterling				
AWARDING AUTHORITY. Board of Selectmen		LOCATION. TOWN HALL				
Classification	Date	Total Rate	Date	Total Rate	Date	Total Rate
Master Mechanic	3-1-77	14.15	7-1-77	14.20	3-1-78	14.63
Maintenance Mechanic	3-1-77	12.98	7-1-77	13.03	3-1-78	13.43
Hoisting Engineer	3-1-77	13.10	7-1-77	13.15	3-1-78	13.55
Crane Operator	3-1-77	13.10	7-1-77	13.15	3-1-78	13.55
Power Shovel Oper.	3-1-77	13.10	7-1-77	13.15	3-1-78	13.55
Grader Operator	3-1-77	12.98	7-1-77	13.03	3-1-78	13.43
Bulldozer Operator	3-1-77	12.98	7-1-77	13.03	3-1-78	13.43
Roller Operator	3-1-77	12.98	7-1-77	13.03	3-1-78	13.43
Other Power Dr. Equip.	3-1-77	12.98	7-1-77	13.03	3-1-78	13.43
Compressor Oper.	3-1-77	11.26	7-1-77	11.31	3-1-78	11.65
Pumpman	3-1-77	11.26	7-1-77	11.31	3-1-78	11.65
Asst. Engineers	3-1-77					
- Steam - Fireman	3-1-77	12.11	7-1-77	12.16	3-1-78	12.53
- Truck Crane - Gradall	3-1-77	10.69	7-1-77	10.74	3-1-78	11.65
- Other Equip.	3-1-77	10.19	7-1-77	10.24	3-1-78	10.55
Lather	6-1-75	9.15				
Roofer - Comp.	6-1-75	9.00				
Roofer - Slate	6-1-75	9.00				
Damproofer	6-1-75	9.00				
Elevator Constructor	4-14-75	10.225				
Elevator Const. Helper	4-14-75	7.375				
Glazier	10-4-75	10.91	10-4-76	11.61	10-4-77	11.21
Sprinkler Fitter	4-1-76	12.88				
Asbestos Worker	1-1-74	11.79				
Sheet Metal Worker	2-1-76	11.80				
Marble Setter	2-1-77	11.75	2-1-78	11.95	8-1-78	12.25
Terrazzo Worker	2-1-77	11.75	2-1-78	11.95	8-1-78	12.25
Tile Setter	2-1-77	11.75	2-1-78	11.95	8-1-78	12.25
Marble Setter-Helper	2-1-74	8.59	7-1-76	9.81		
Terrazzo Worker-Helper	2-1-74	8.59	7-1-76	9.81		
Tile Setter-Helper	2-1-74	8.59	7-1-76	9.81		
Iron Worker	1-1-76	12.19	7-1-76	12.69		
Bricklayer	5-1-76	11.85	5-1-77	12.05	11-1-77	12.35
Cement Finisher	5-1-76	11.85	5-1-77	12.05	11-1-77	12.35
Waterproofer	5-1-76	11.85	5-1-77	12.05	11-1-77	12.35
Plasterer	5-1-76	11.85	5-1-77	12.05	11-1-77	12.35
Carpenter	6-16-76	11.60	12-16-76	11.80	6-16-77	12.00
Electrician	6-1-76	11.53				
Painter	7-1-75	11.03				
Plumber	1-1-76	11.93				
Pipefitter	1-1-76	11.93				

9/23/77

Commonwealth of Massachusetts
DEPARTMENT OF LABOR AND INDUSTRIES
DIVISION OF INDUSTRIAL SAFETY

MINIMUM WAGE RATES

as determined by the Commissioner under the provisions of the Mass. General Laws, Chapter 149, Sections 26 to 27F.

ALTERATIONS TO THE TOWN HALL

PROJECT. <i>Local</i>		#		TOWN. <i>Steering</i>			
AWARDING AUTHORITY. <i>Board of Selectmen</i>		LOCATION. TOWN HALL					
Classification	Date	Total Rate	#	Date	Total Rate	Date	Total Rate
COMMON LABORER	6-1-77	9.05		12-1-77	9.35		
MASON TENDER	6-1-77	9.30		12-1-77	9.55		
CAISSON TENDER	6-1-77	9.05		12-1-77	9.35		
PLASTER'S TENDER	6-1-77	9.30		12-1-77	9.55		
JACK HAMMER OPER.	6-1-77	9.30		12-1-77	9.55		
STONE SPREADER	6-1-77	9.30		12-1-77	9.55		
BLASTER	6-1-77	9.80		12-1-77	10.05		
ASPHALT RAKER	6-1-77	9.30		12-1-77	9.55		
CURB SETTER	6-1-77	9.55		12-1-77	9.80		
PIPE LAYER	6-1-77	9.30		12-1-77	9.55		
AIR TRACK DRILLER OPER.	6-1-77	9.55		12-1-77	9.80		
FENCE ERECTOR	6-1-77	9.30		12-1-77	9.55		
MINER	6-1-77	9.60		12-1-77	9.85		
DRILLER	6-1-77	9.92		12-1-77	10.07		
DRILLER'S HELPER	6-1-77	9.17		12-1-77	9.42		
TRUCK DRIVER	5-1-77	9.51		11-1-77	9.56	5-1-78	9.91
OPER. 3 AXLE EQUIP.	5-1-77	9.56		11-1-77	9.61	5-1-78	9.96
OPER. 4&5 AXLE EQUIP.	5-1-77	9.66		11-1-77	9.71	5-1-78	10.06
EUCLID OPERATOR	5-1-77	9.76		11-1-77	9.81	5-1-78	10.16
SIGN ERECTOR	6-1-77	9.42					
SIGN ERECTOR'S HELPER	6-1-77	8.30					
ASPH. DRIVER (1 MAN	5-1-77	9.97					
ASPH. DR. (2 MAN UNIT)	5-1-77	8.88					
ASPH. HELPER (2 MAN)	5-1-77	8.67					
DIVER	6-1-77	16.45		12-16-77	16.75		
DIVER'S HELPER	6-16-77	12.05		12-16-77	12.35		
PILE DRIVER	6-16-77	12.05		12-16-77	12.35		
BOILER MAKER	10-1-76	12.36					
MILLWRIGHT	6-16-77	12.05		12-16-77	12.35		



DEPARTMENT OF LABOR AND INDUSTRIES
DIVISION OF INDUSTRIAL SAFETY

Minimum Wage Rates for Apprentices employed on Public Works. Determined as a Percentage of the Predetermined Hourly Wage Rate established by the COMMISSIONER under the provisions of the Massachusetts General Laws, Chapter 149, Sections 26 thru 27D inclusive, as amended.

All apprentices shall be registered with the Division of Apprentice Training in accordance with Mass. G. L., Chapter 23, Section 11-II.

CLASSIFICATIONS	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6	STEP 7	STEP 8	STEP 9	STEP 10
Asbestos Worker	50	50	60	60	70	70	80	80		
Boilermaker	70	72.5	75	77.5	80	85	90	95		
Bricklayer/Plasterer	40/50	60	70	80	90	95				
Carpenter	50	55	60	65	70	75	80	85		
Electrician	35	43	47	51	58	65	70	75		
Glazier	40	45	50	55	60	70	80	90		
Iron Worker	60	70	75	80	85	90				
Painters	50	55	60	70	80	90				
Plumber/Pipefitter	40	40	50	50	60	60	70	70	85	85
Sprinkler Fitter	40	45	50	55	60	65	70	75	80	85
Sheet Metal Worker	45	50	55	65	75	80	90	95		
Roofer	50*	55*	60*	65*	70*	70*	75*	80*	85*	90*
Lineman	60	65	70	75	80	85	90			

Steps equivalent to 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 hours or 12 months

*\$6.00 step

Section 1D - Alternates

Alternate No. 1

- A. State the added cost for totally repointing the existing exterior basement brick wall. Said repointing shall include the cutting out of existing mortar joints and repointing same, removal and replacement of any broken and/or cracked brick, caulking surround of all openings and the providing of a caulked control joint at the juncture where an addition had been added to the original building some time back. Upon completion paint the brick wall with two (2) coats of Dehydratine 22, or equal, silicone water repellent installed as per manufacturers specifications.

Alternate No. 2

- A. State the added cost of furnishing and installing new window blinds for all existing windows. Blinds shall be made of black structured polymer or equal in sizes required including colonial hardware consisting of holdbacks with non-rattling spring and lag screws, hinges and locking hardware.

Alternate No. 3

- A. State the added cost to re-glaze all existing window sash as required including the repair of sash balance chords, and replacing of all window hardware. Painting of the sash is included under the basic contract.

Alternate No. 4

- A. State the cost to furnish and install one (1) floor supported folding partition as shown in the Selectmen's room. Partition shall be equal to Modernfold Acousti-Seal, Model 909. Panel finish shall be equal to Modernfold's Standard Vinyl Fabric in color as selected by Architect. Provide and install the floor and ceiling track as required.

Part II: OUTLINE SPECIFICATIONS

- A. In general, satisfactory completion of all the work shown and/or inferred on the drawings. Materials throughout shall be new be new and in type noted on the drawings and/or specified herein with all workmanship done in a first class manner.

SECTION 2- Demolition, Shoring, Excavation and Sitework

1. General

- A. Removal of any existing items such as furniture, and similar movable items standing within the area of new construction shall be done by the Owner.
- B. Removal of all existing items standing in the way of the new construction, such as, but not limited hereto partitions, stairs, doors, and similar items shall be by the General Contractor. Removal of existing toilet fixtures, piping, etc shall be by Plumber; Heating and Ventilating items by the HV. subcontractor; and Electrical items by the Electrical subcontractor.

2. Demolition

- A. The Contractor shall perform all items of work in a workmanlike manner and at such time so as to meet the orderly scheduling and progress of the new construction. Work shall be done so as to maintain all safety requirements, egresses, protection, etc.
- B. All items of existing materials removed by the Contractor in order to facilitate the new construction shall, at the Awarding Authority's discretion, remain the property of the Owner.

Removal work shall be done by generally accepted standards for same, affording caution not to damage any items which are salvageable and/or to be re-used. The Contractor will be informed of all items that the Owner wants to retain ownership of; whereupon the Contractor shall store same on the site as directed. Any unsuitable materials or items not elected to be retained by the Owner shall become the property of the Contractor and shall be removed from the site.

- C. Any and all demolition work and/or cutting shall be done so as not to impair any portion of the existing structural system which is to remain.

3. Shoring

- A. Prior to the removal and/or alteration of any item which is a part of the existing structural system, extreme caution shall be exercised by the Contractor so as to provide proper and adequate shoring so as to safely accomplish the removal and/or alterations.
- B. See also Article 8 " Protection" in Section 1C
- C. In instances where existing structural members indicate settlement, shoring shall be such so as to reasonably correct same. This shall include the existing floor framing correction of any settlement shall be only to the degree which does not cause wall damage and/or excessive interior plaster wall cracking on the second floor.

Shoring shall not be removed until the new permanent supporting members are fully installed.

4. Excavation

- A. Included shall be all required excavation to facilitate the new construction. If unsuitable soil bearing should be encountered, notify the Architect before proceeding.
- B. To be included shall be the removal and disposal of, off site, all surplus and/or unsuitable excavated material.

5. Sitework

- A. Salvage any existing loam found for re-use in the area of the new ramp. Spread and prepare loam to a depth to match existing so as to properly grade affected areas and seed so as to provide an acceptable grass cover.
- B. Gravel shall be as shown on drawings.
- C. Provide all bituminous concrete required to patch out the pavement in the area of new stair hall doorway.

Section 3 -Concrete

- A. Foundation walls, footings and all interior and unexposed concrete shall be as shown noted on drawings with a minimum and maximum slump of 2 to 4 inches.
- B. Reinforcing bars to conform to A.S.T.M. # A-305 and welded wire to conform to A.S.T.M. # A-185.
- C. Expansion Joint Fillers to be full depth of concrete and in a $1/2$ " thickness of pre-moulded non-extruding fire-board equal to A.S.T.M. # D-1751-60T.
- D. All concrete to be formed including installation of all sleeves, anchors, bolts, etc. All exposed surfaces are to be rubbed. External corners shall be chamfered. Interior basement floor to be steel trowelled. Exterior platforms and slabs basement floor patches to be steel trowelled. Exterior platforms and slabs to have a wood float finish.
- E. Cure all concrete with ~~Hornsure~~ 30D (exterior) and Horn Clear Seal (interior) or the equal thereof.
- F. Concrete deposited in cold weather shall be deposited in conformance with procedures outlined in ACI 604-56; in warmer weather it shall be deposited in conformance with procedures outlined in ACI 605-59 and, in general, the recommended practice for measuring, mixing and placing concrete (ACI 614-56) of the American Concrete Institute shall be used as a guide.
- G. Form deck for platforms shall be galvanized self-sustaining permanent form for spans and loads imposed.
- H. Provide and install the copper flashing as shown where the ramp abutts the existing building.

B11

SECTION 4 - MASONRY WORK

- A. Brick: Any brick required for filling and patching out new and/or existing openings, etc., shall generally be cement or hard burnt merchantable common sand struck brick. Re-use of any existing removed brick is permissible if salvageable.
- (1) Masonry Block: shall be sand and gravel (concrete) conforming to A.S.T.M. # C-90 Latest Revision, Grade A for hollow load bearing concrete masonry units.
 - (2) Wall Reinforcement: shall be "DUR-O-Wal" or equal truss design, installed in every second block course as per manufacturer's instructions.
 - (3) Mortar: shall be 1:1:6 in proportion to lime and cement mortar by volume with admixture of A.C. Horn Co.'s "Hydratite Plus" or equal. Prepared mortars (1-3 parts) also acceptable.
 - (4) All brick and block work to be installed in a running bond, coursed at 8- inches, laid level and true to line. Install all necessary fire stopping.
 - (5) Shore existing floor prior to any masonry work and mortar in the voids caused by said shoring so as to make tight and bearing.
 - (6) Provide and install the thimble as required for the new boiler.
 - (7) The masonry block surrounding the basement stairs shall be insulated with "KORFIL" or equal.
 - (8) Set all wall bearing and column setting plates.
 - (9) Stone old masonry block walls of the stair hall where same are to be left exposed.
 - (10) Extreme caution shall be exercised in placing of new beams on existing brick piers so as not to disturb the support of the first floor columns.

SECTION 5A - Structural Metals

- A. All materials shall conform to the Specifications for Structural Steel for Bridges and Buildings, A.S.T.M. Designation A36.
- B. Concrete filled columns shall be of size and shapes indicated and shall be genuine Dean Columns or equal, constructed of new mill-tested steel pipe, A.S.T.M. A-53, Grade B or equal. Columns shall be filled with machine-mixed 4000-lb, concrete and mechanically agitated before initial set.
- C. Bolts and Rivets:
- (1) Machine bolts and anchor bolts shall conform to A.S.T.M. Designation A307-61F
 - (2) Rivet steel, to A.S.T.M. A141-58.
 - (3) High strength bolts, to A.S.T.M. A325-61F.
- D. Shop-paint all steel one coat of Themas 99-G green metal primer or equally approved.
- E. New opening lintels shall be 12-inches longer than masonry openings.
- F. Column setting plates shall be provided for the mason to set. Bearing plates and anchors are to be provided for beams bearing on masonry walls.
- G. Fabricate all steel in accordance with the A.I.S.C. "Specifications for the Design, Fabrication and Erection of Structural Steel for Building."
- H. Erection shall be done in a workmanlike manner in accordance with accepted engineering practice. All dimensions and conditions to be field verified. Caution shall be exercised to ascertain complete installation prior to removal of any shoring. Plumb and level all steel.
- (1) All welding shall be in conformance with the recommendations of the A.W.S. Standard Code for Arc Welding in Building Construction and in compliance with Certification requirements of any Building Ordinance.
 - (2) The use of gas cutting torch in the field for correcting fabrication errors will not be permitted.
- I. Submit complete and detailed shop drawings.

SECTION 5B- Miscellaneous and Ornamental Metals1.1 General Requirements

- A. Attention is called to the terms and conditions contained in the Advertisement for Bids, Information for Bidders, the A.I.A. General Conditions, the Supplementary General Conditions and any or all Allowances, Alternates and Addenda which shall apply to all work and sections of this Specification.
- B. Sub-bids for work covered by this Section of the Specifications shall be filed with the Board of Selectmen, Mr. Ronald Kidd, Chairman, Town Hall, Sterling, Massachusetts not later than Wednesday April 12, 1978
- C. Plans indicating the extent of the work under this Section are as follows:

DWG.	Title	No.	Date
1.	Architectural drawings include	1 thru 4	4-5-78
D.	For Alternates see Section 1D		

1.2 Scope of Work

- A. The work contained in this Section shall include the furnishing, fabrication and delivery of all materials (including field erection wherever so specified) to be erected by this subcontractor, and the performing of all other work necessary for the complete execution of all Miscellaneous and Ornamental Metal Work as shown on the drawings and/or specified herein and/or as is reasonably inferable there from as being necessary to produce the intended results and, without restricting the generality of the foregoing, shall include the following:
- (1) All necessary accessories, clips, brackets, anchors, bolts, hangers, sleeves, ties, etc. as customarily used in the work shall be furnished and installed by this subcontractor or given to the General Contractor with instructions for proper setting, with locations given for building into walls, slabs and masonry. All fastenings, etc. shall be concealed wherever possible.
 - (2) New stair hall exit areaway railings.
 - (3) Ramp Handrails
- B. Work by Others
- (1) Metal door thresholds are included under the hardware allowance
 - (2) Platforms, hanging rods, struts or cradles, and any other miscellaneous iron work supporting Heating and Ventilating equipment shall be provided and installed by the subcontractor for same
 - (3) Masonry wall opening head lintels
 - (4) Metal louvers and duct work

1.3 Qualifications

- A. All shop and field work shall be done by skilled mechanics in a first class workmanlike manner in accordance with the best practice of the trade.

1.4 Submittals

- A. The subcontractor for this work shall submit complete shop drawings for all the various items contained herein. Drawings shall accurately and clearly show in detail the construction, support, sizes, dimensions and all other pertinent data and information. No work shall be fabricated except from approved shop drawings.

1.5 Painting

- A. All ferrous fabrications to be shop painted with Themec 77 Chem-Prime rust-inhibitive primer before delivery. All purchased items shall be treated by the manufacturer according to standard practice. Metals subject to deterioration due to dissimilarity of adjacent materials shall be protected as per the established standards.

Part 2: Products

2.1 Materials

- A. All material shall be new, of domestic origin, shall be of quality customarily used in the Trade for the various metal items for first class work and shall be rolled, formed, cast, drawn or otherwise manufactured and fabricated for each purpose as specified herein.

Part 3: Execution

3.1 Preparation

- A. The General Contractor shall cooperate with the subcontractor in obtaining exact field grades and measurements.

A. Ramp Handrails

- (1) Furnish and install the ramp handrails as shown. Handrails shall be fabricated of 1-1/4" I.D. galvanized steel pipe Schedule .40 or equal, and shall include welded connectors for all elbows and splices. Handrails shall be welded throughout and ground smooth. Provide all accessories such as rail end wall flanges, concrete sleeves, etc. Concrete sleeves to be of length so as to be placed in concrete foundation wall below in areas where ramp slab is placed directly on sub-base gravel so as to allow frost action of slab without causing handrail movement. Secure all posts in sleeves (foundation-Portion) with POR-Rok or equal cement. Caulk surround of post at slab level with Tremco's traffic type caulking.
- (2) Erection shall be by this subcontractor.

B. New Stair Hall exit areaway railings

- (1) Furnish and install malleable iron railing as shown on the drawings including all fittings, wall flanges, sleeves accessories etc. so as to make complete. Railings shall be equal to J.Blum # 4429 w/1 1/2 in. channel, 1/2 in. solid square spindles, 1 in. corner posts, Type L corner piece, type S lamb tongue etc. Railings to be welded and ground throughout.

SECTION 6A- Rough Carpentry

- A. In general, the work shall include: the furnishing and installing of all temporary opening closures, doors, barricades, shorings and bracing; protection and covering of any finished work necessary as the job progresses; general wood framing shown and/or as may be required throughout the work; all wood furring, grounds, blocking nailers on steel and rough bucks of all descriptions; framing, blocking and furring for finished carpentry work etc., and any scaffolding and staging as required and insulation.
- (1) For shorings and bracing, see also Section 2.
- B. All necessary rough hardware of all descriptions required throughout the work. All such rough hardware used in exterior work and basement shall be galvanized.
- C. Cutting of holes through walls for new heating and plumbing pipes shall be by heating and plumbing subcontractors, excepting foundation walls which shall be by the General Contractor.
- D. Structural framing lumber shall be Construction Grade W.C. Hemlock (dried), 1200 psi fiber stress minimum.
- (1) Non-structural framing shall be Standard Grade W.C. Hemlock (dried), 1000 psi fiber stress.
- E. Underlayment shall be 1/2-inch "Versabord" particle board as made by Weyerhaeuser or equal.
- (1) Plywood sub-floor C-C Ext. APA (4), 5/8-in. thick.
- F. Blanket insulation shall be equal to U.S.G. Thermafiber Sound Attenuation spun mineral fiber blankets in 2-inch thicknesses ($\frac{1}{2}$ PCF), and 16- inches wide. Use in all interior walls.
- (1) Insulation for exterior walls, attic, and basement ceiling shall be mineral wool and in such thickness as to satisfy the Mass. Energy Code namely having "U₀" values as follows: Walls .25; attic .05; and floors .08 or as shown on details. Insulation in walls and attic shall be "blown-in" type and shall be thoroughly done.
- (2) Repair and/or replace any clapboards, trim etc as may required due to installation of the blown-in process.

SECTION 6B- Finish Carpentry

- A. Work contained in this Section shall include the furnishing and installing of all mill finish items of every description.
- (1) Shop drawings shall be required to be submitted as directed.
- B. New wood doors shall be as follows:
- (1) Wood Flush Doors shall be equal to Weyerhaeuser "Roddis" doors, Type DPC-1 solid wood flake core of sizes and thicknesses shown, conforming to NWMA I.S. 1-69, including all amendments, with rotary cut, natural birch face veneers matched for color and grain. Cores to have birch hardwood edge strips to match face veneers.
 - (2) When installing hardware use through bolts for all surface mounted closers and similar hardware.
 - (3) For Door type "D" (dutch door) provide a 10 inch wide shelf with necessary moldings. This has not been shown on door schedule.
 - (4) Provide all cutouts for doors shown and provide birch retaining mouldings to match raised dado mouldings.
 - (5) Glass and Glazing shall be included herewith using an elastic glazing compound for wood meeting Fed.Spec. TT-781a
 - (6) Factory-seal doors to exclude moisture but yet be capable of obtaining proper job staining and finishing.
 - (7) Exterior doors shall be of solid stile and rail construction in thicknesses noted on the drawings and be of clear Northern white pine with laminated raised panels and raised retaining molds. Retaining molds shall generally match those now existing at the rear entrance door and be custom made. All exterior doors shall be weatherstripped using a bronze interlocking type furnished under the hardware allowance. Side lights and transoms shall be of similar construction and glazed as shown.
 - (8) All interior doors shall have a stained and varnished finish.
- C. Trim shall be custom made and shall generally match the moulded trim now in the existing building. All trim shall be of clear Northern white pine to be painted with the exception of the flush doors and their surface applied mouldings. Door casings will be painted. Any useable window trim and chair rail may be re-used if not damaged during removal.
- (1) Included shall be all molded top base dado panel molds, chair rail, door and window casings, door mouldings, exterior door casings, stair skirt boards, stair dado caps, window stools, window sills, window fillers

and window stool extensions due to added thickness of wall, door frame extensions, and similar items.

Treads and Risers for the new stairs shown shall consist of 1-1/8-inch thick clear hard pine treads and 3/4 inch thick clear pine risers all of which shall be covered as specified under Resilient Flooring.

Stair railings shall be similar to Morgan's M 720 in natural birch with all required end returns etc.

- D. Provide the double rabbeted wood door frames where shown of clear Northern white pine in sizes as shown.
- E. All mill work other than that to be stained and varnished shall be shop primed one (1) coat of paint.
- F. Provide two (2) mirrors for the toilet rooms same to be Ketcham or equal 16" x 20" model # 1620 S.S. with theft-proof mountings.
- G. Receive and install all finish hardware included under the hardware allowance.

SECTION 7- Dampproofing and Caulking

- A. Included shall be all items to be dampproofed and/or caulked as shown or where required for water-tightness and/or expansion means.
- B. Primer for caulking shall be equal to Hornflex Primer as manufactured by the A.C. Horn Products, or equal approved.
- (1) Caulking (non-traffic) shall be equal to Hornflex LP-32 as manufactured by A.C. Horn Products, or approved equal. Colors shall be such so as to match any adjacent surfaces on location where installed.
 - (2) Caulking (traffic) to be Hornflex Pourable or approved equal, color to be neutral grey.
 - (3) Joint fillers, where depth of joint so requires, shall be packed with non-asphaltic standard expansion joint fillers such as pre-moulded urethane or neoprene filler strips, untreated jute, vinyl tubing or sponge rubber.
- C. Dampproof the masonry shown for blocked-up basement window as shown under the ramp. Dampproofing material shall be a trowelled on thick coat of fibrous asphalt.

SECTION 8A- Hollow Metal Work

- A. Hollow metal door frames shall be of type to suit wall conditions, be of 16-gauge steel in sizes and design shown, be shop assembled with all joints welded, be shop primed, be of stock design where possible, shall include adjustable anchors and be prepared for receiving all hardware. U.L. labelled frames shall be provided for all openings having labelled doors.
- B. Door shall be of flush design Fenestra or equal Presidential "W" series and in size shown, and shall be of 16-gauge steel of stock design, fully reinforced and sound desdened with mineral insulation, be prepared for receiving of hardware, and shop primed. Provide the label door as shown.

SECTION 8E- Finish Hardware

- A. Included in work shall be the installation of all finish hardware required. Installation shall be complete so as to be in good working order.
- B. The Contractor shall include in his contract price an allowance in the amount of \$ 2,000.00 for the purchase of the hardware. Type of hardware shall be as selected by the Architect.

SECTION 9A- Gypsum Drywall

- A. Gypsum drywall shall occur as shown on the Room Finish Schedule and room elevations and shall include all required fire stopping. Systems generally shall be qualified as minimum 3/4-hour construction.
- B. Wallboard shall comply with requirements of ASTM C 36 and all wallboard and accessories shall be as manufactured by U.S. Gypsum Co. or equal. Installation shall be in accordance with the approved manufacturer's recommendations and shall be acceptable in all respects for decorating finishes.
- C. Materials generally shall include:
- 1) Wallboard throughout except basement ceiling shall be 5/8-inch thick fire rated in 4'-0" wide Imperial Gypsum base sheets. In Toilet Rooms, Janitor's Room and water cooler recess where ceramic tile occurs. Basement ceiling wallboard shall be 5/8 inch thick fire-rated gypsum board.
 - 2) Gypsum wallboard ceilings and/or enclosures where shown to be suspended shall be hung by using DWK metal channels on 1-1/2 inch cold rolled channels.
 - 3) Wallboard shall be screwed in place.
 - 4) Metal accessories (Basement ceiling) shall be #103 "Dur-A-Bead (1-1/4" x 1-1/4") for all external corners and 400 Series wherever wallboard butts against masonry walls and similar conditions. Where Imperial Gyp base occurs provide all accessories such as reinforcing tapes, corner beads, control joints, casing etc as required.
 - 5) Joint reinforcing tape shall be "Perf-A-Tape" or equal (Basement ceiling only)
 - 6) Joint compound to be "Perf-A-Tape" All Purpose Ready Mixed. (Basement ceiling only)
 - 7) Where Imperial plaster system is used use Duraband Joint Compound.
- D. Finish shall be equal to the Imperial Plaster Systems consisting of a thin veneer in a single coat system applied so as to have a straight and smooth surface.
- 1) Basement ceiling shall receive no finish.

SECTION 9B-Acoustical Tile

- A. Acoustical tile ceilings shall be suspended one (1) hour fire rated assemblies throughout and shall occur as shown on the Room Finish Schedule and Room Elevations. Included shall be all required accessories to make a complete installation, as well as any access tiles required.
- B. Suspension system shall be equal to Master Lock Grid System MLR-6000 Series as manufactured by National Rolling Mills with component members designed so as not to exceed a deflection of 1/360 of its span; all of which shall be in white finish.
- (1) Hangers shall be wire, not less than #12 gauge galvanized or of larger gauge to properly sustain loads, and spaced not to exceed 4'-0" C.C. Attach hangers to structural members of floor system above.
- C. Tile shall be Armstrong (or equal) No. 895. 24" x 48" x 5/8" lay-in Fire Guard panels in a Fissured design.
- D. This subcontractor shall cooperate with Electrical subcontractor and others having ceiling outlets of various types in locating all fixtures and like items so as to properly align same into ceiling. Tile shall be installed in a straight pattern, laid symmetrically about the center lines of the areas involved, including symmetry with light fixtures, grilles, registers and any like items. All tile joints shall be straight in alignment and the exposed surfaces shall be flush and level. Tile bordering walls shall not be less than one-half the width of full tile.
- (1) Support wire tying of light fixtures to the building's structural system shall be done by the Electrical Subcontractor.
- E. Upon completion, clean and/or replace all soiled and discolored tile, replace all damaged tile, remove all debris and leave free of any imperfections whatsoever. This subcontractor to provide Owner with twelve(12) additional tiles of each type for any future replacements.
- F. Submit samples of all tiles and the suspension system.

SECTION 9C- Resilient Floors

- A. Included shall be the furnishing and installing of all vinyl asbestos tile, vinyl wall base, stair treads and stair risers as shown on the Room Finish Schedule and Room Elevations. Accessories shall include adhesives, edging and dividing stripes, sub-floor crack fillers and any flash patching necessary.
- (1) Installation shall be in accordance with the approved manufacturer's recommendations.
- B. Material shall be equal to:
- (1) Tile- Armstrong Imperial Excelon Tile in a 12"x 12"x 1/8" size, color as selected by the Architect.
- (2) Vinyl wall base 4" in height (cove and straight) Kentile's "Kencove" in a Russet KC-2 color.
- (3) Stair covering for the stairs shall be Johnsonite or equal as follows:
- a) Treads shall be heavy duty square nose rubber in color to be selected. Top tread shall be fitted to suit conditions.
- b) Riser material shall be coved base in contrasting color with treads.
- C. Furnish to the Owner twelve (12) additional floor tile for the purpose of any future replacement.

SECTION 9D- Ceramic Tile

1.1 Requirements

- A. Attention is called to the terms and conditions contained in the Advertisement for Bids, Information for Bidders, The A.I.A. General Conditions, the Supplementary General Conditions and any or all "ALLOWANCE, Alternates, and Addenda which shall apply to all work and sections of this Specification.
- B. Sub-bidders work covered by this Section of the Specifications shall be filed with Board of Selectmen, Mr. Ronald Kidd, Chairman, Town Hall Building, Sterling, Mass., not later than Wednesday April 12, 1978.
- C. Plans indicating the extent of the work under this Section are as follows:
- (1) Drawings Numbered 1 through 4 inclusive.
- D. For Alternates see Section 1D.

1.2 Scope of Work

- A. Work under this Section shall consist of the following:
- 1) Floors base, and dados of toilet rooms and Janitor's closet.
 - 2) Base and dado of water cooler recess in Passage.

1.3 Materials & Installation

- A. Floor tile shall be American-Olean or equal unglazed dust pressed textured natural clay and/or unglazed dust pressed porcelain with cushion edges. Tile shall be in a stock ceramic mosaic pattern to be selected by the Architect using 1" x 1", 1" x 2" and 2" x 2" tiles all 1/4 inch thickness.
- B. Ceramic tile coved base shall be in a 6 inch height in a matte glazed finish, color as selected by the Architect.
- C. Wall tile shall be matte glazed, 4-1/4 inch by 4-1/4 inch in size and shall include all trim such as bullnose, beads, runners, in-corners, out-corners etc. in colors as selected by the Architect.
- D. Provide marble thresholds as required at doors where floor material changes.
- E. Installation of all tile and thresholds shall be in accordance with the Tile Council of America Inc. specifications using a dry-set mortar for wood studs and a Water Resistant gypsum board backing. Grout all tile with a magnetic grout similar to "Acri-Fil" or equal.

Section 9E-Painting

1.1 Requirements

- A. Attention is called to the terms and conditions contained in the Advertisement for Bids, the Information for Bidders, the A.I.A. General Conditions, the Supplementary General Conditions and any or all Allowances, Alternates and Addenda which shall apply to all work and sections of this specification.

Sub-bids for work covered by this Section of the Specifications shall be filed with Mr. Ronald Kido, Chairman, Board of Selectmen, Town Hall Building, Sterling, Mass. not later than 3:00 P.M. E.S.T. Wednesday April 12, 1978

Plans indicating the extent of the work under this Section are as follows:

- 1) Drawings numbered 1 through 4 inclusive.
- 2) All mechanical drawings

For Alternations see Section 1D

1.2 Scope of Work
Materials, & Installation

- A. Work contained herein shall consist of all painting and finishing work and related items necessary to satisfactorily complete the work indicated on the drawings and/or specified. In all instances, material for all the various items to receive finishes and/or paint shall comply with the flame-spread ratings required by law.
- 1) Exterior painting shall include the total exterior of the building including all miscellaneous items. The brick basement wall is not to be painted.
 - 2) Interior painting shall include all areas and surfaces shown on the Room Finish Schedule including all miscellaneous items contained within such areas.
- B. The Painting Subcontractor shall supply all labor, materials, tools, ladders, scaffolding and all other equipment and items necessary for the completion of the work.
- C. The Painting Subcontractor shall examine the specifications for the various other trades and shall thoroughly familiarize himself with all their provisions regarding their painting. All surfaces that are left unfinished by the requirements of other specifications shall be painted or finished as a part of this Painting Subcontract.
- D. The Painting Subcontractor shall be responsible for inspecting the work of others prior to the application of any paint or finishing material. If any surface to be finished cannot be put in proper condition for finishing by customary cleaning, sanding and puttying operations, the Painting Subcontractor shall immediately notify the General Contractor or Architect in writing or assume responsibility for and rectify any unsatisfactory

1.2 Unpainted Items

- A. Copper, bronze, chromium plate, nickel, stainless steel, aluminum and Monel metal shall not be painted or finished except as otherwise specified.
- B. All prefinished items are not to be included under this Painting Section, such as new acoustical tile ceilings and any other like item.

1.3 Colors and Samples

- A. All colors and/or color schemes shall be selected by the Architect.

1.4 Storage

- A. All materials used on the project shall be stored and/or mixed in a single place designated by the General Contractor and approved by the Architect. Such storage place shall be kept neat and clean and all damage thereto or its surroundings shall be made good by the Painting Subcontractor. All soiled or used rags, waste and trash shall be kept in covered metal receptacles and disposed of at the termination of each day's work with every precaution taken to avoid the danger of fire.

1.5 Materials & Execution

- A. Generally, but not exclusively for the purpose of this specification, Pratt & Lambert names and numbers have been used as a guide, whereby wherever the abbreviation "P & L" appears, it shall mean Pratt and Lambert general specification.
 - B. All material shall be used and applied only as specified by the manufacturer's direction label on the container.
Workmanship shall be as per Pratt and Lambert general specification.
 - C. All painting materials, such as linseed oil, shellac and turpentine, shall be pure and of highest quality and approved by the Architect. They shall bear identifying labels on the containers.
 - D. Paints and Finishes for all Exterior items contained in this specification shall be as follows:
 - * 1) Wood: new mill finish items (Shop prime coat furnished by fabricator) Two coats P & L House and Trim Finish- Permalize
 - 2) Ferrous Metals of all descriptions and all items:
 - One primer coat of 77 Chem-Prime Themes. (Touch-up coat one coat Themes Enduratone C/5 (semi-gloss))
 - a. Wood-new clapboards etc
 - One coat P & L Permalize Exterior Primer Two coats P & L House and Trim Finish Permalize
 - b. Wood-existing
 - Touch-up coat as required P & L Permalize Exterior Primer one coat P & L Permalize House and Trim Finish
- * Painting Sub-contractor to verify in field type paint now existing for compatibility of paint specified.

E. Paints and Finishes for all Interior items contained in specification shall be as follows:

(1) Wood:

a) Wood painted:(Shop prime coat furnished by fabricator except existing wood to be reused.)
One coat P&L Vitralite Enamel Undercoating.
One coat P&L Vitralite Enamel Eggshell.

b) Wood-stained and varnished:(Interior wood flush doors and hand rails.

One coat P&L Tonetic wood stain
Two coats P&L "38" Pale Trim Varnish Gloss
One coat P&L "38" Pale Trim Varnish Satin

(2) Ferrous Metals (Exposed) of all descriptions and all items.
Two coats Tnemec Enduratone C5 (semi-gloss)

a. Primer Coat, where required for non-primed items shall be Tnemec C/1-1009 Gray Metal Primer.

b. Galvanized Metals of all descriptions and all items: Two coats Tnemec Metal Structure Coatings C/16 (semi-gloss).

(3) Pipe Covering wherever exposed throughout the first floor shall be painted:

One coat P&L Vapex Wall Primer
Two coats equal to that specified for adjacent surfaces.

(4) Masonry Block and existing field stone foundation walls and brick occurring in stair hall - Masonry paints shall be a washable and scrubbable latex-base material.

One coat P&L Primafil.
One coat P&L Vapex Flat Wall Finish

(5) Dry wall construction (Imperial Gypsum plaster)

a. Walls:
One coat P&L Vapex Wall Primer
Two coats P&L Celu-tone Satin

b. Ceilings:
One coat P&L Vapex Wall Primer
One coat P&L Lyt-all Double Duty Primer
One coat P&L Lyt-all Flowing Flat

NOTE:1.Taping of drywall in basement ceiling included under Section 9 Drywall. No painters' finish required.
2.New treads and risers included under Section 9B

SECTION 10 - Specialties

- A. Work under this Section consists of the furnishing and installing complete the following:
- (1) Toilet Room grab bars - Provide in each toilet room two (2) grab bars 3'-6" long, 1-1/4" O.D. diameter with 1-1/2" wall clearance, end returns to wall and mounted at ends and at center, all of which shall be in conformance with the Architectural Barrier Board. Bars shall be 18 ga. stainless steel mounted to back plate assemblies which are to be installed in the metal stud walls. Bars shall be as manufactured by Hall Mack or equal.
 - (2) Fire Extinguisher Cabinet (F.X. on drawings) - Extinguishers by Owner. Cabinet shall be Larsen's or equal, type No. 2712B V-Duo style steel door with clear wire glass. Tub to be baked white finish with exposed face of door to be primed only for field painting.
 - (3) Toilet Accessories - Furnish and install in each toilet room one (1) No. 668S.M. surface mounted dual paper roll dispenser (toilet tissue), one (1) No. T1300Y surface mounted paper towel dispenser and one (1) No. 70SS powered soap dispenser as made by Charles Parker or equal. Provide all required blocking for securing to metal stud wall construction. Location of dispensers shall be field determined and set at a height to conform with the Architectural Barrier Board.

SECTION 11- Equipment

Not applicable to these Specifications

SECTION 12- Furnishings

Not applicable to these Specifications

SECTION 13-Special Construction

Not applicable to these Specifications

SECTION 14-Conveying Systems

Not applicable to these Specifications.

SECTION 15A - Plumbing1.1 General Requirements

- A. Attention is called to the terms and Conditions contained in the Advertisement for Bids, Information for Bidders, the A.I.A. General Conditions, the Supplementary General Conditions and any or all Allowances, Alternates and Addenda which shall apply to all work and sections of this Specification.
- B. Sub-bids for work covered by this Section of the Specifications shall be filed with Mr. Ronald Kidd, Chairman Board of Selectmen, Town Hall Building, Sterling, Massachusetts, not later than (See form of Advertisement.)
- C. Plans indicating the extent of the work under this Section are as follows:

<u>DWG.</u>	<u>TITLE</u>	<u>DATE</u>
1.	Existing Basement and First Floor Plans	4-5-78
2.	Plans of Basement, First Floor and First Floor Framing	4-5-78
3.	Sections and Part Elevations	4-5-78
4.	Sections, Elevations and Door Schedule	4-5-78

1.2 Scope of Work

- A. The work contained in this Section shall be to provide all the materials and equipment and perform all the work as shown on the drawings and/or specified herein and/or as is reasonably inferable therefrom as being necessary to produce the intended results and, without restricting the generality of the foregoing, shall include the following:
- (1) A new and complete system of soil, waste and vent piping as required for the new Fixtures.
 - (2) A new and complete system of cold water piping as required for the new Fixtures including connection to existing source of supply.
 - (3) A new system of hot water piping as required for the new Fixtures including connection to existing water heater. Heater not in contract.

- (4) Covering and insulation for all piping.
- (5) Furnishing and installing of the plumbing fixtures.

1.3 Work Not Included

A. Work Not Included:

- (1) Excavation, trenching, backfilling, and sewage disposal system.
- (2) Cutting and patching (See Art. 14 Supple. Gen. Cond.)
- (3) Electric wiring of motors and controls.
- (4) Toilet Room accessories such as toilet paper holders, towel dispensers, mirrors, etc.
- (5) Painting except as may be specified.
- (6) Fire extinguishers.

1.4 Regulations & Permits

- A. Work to be done shall be in compliance with all applicable laws, plumbing codes and regulations. Plumber to procure all necessary permits and licenses and pay all fees for same as required.
- B. The plumber shall visit the premises prior to submitting his bid so as to familiarize himself of all conditions.

1.5 Workmanship & Guarantee

- A. Workmanship to be in accordance with generally accepted standards for first class work, left clean and in good working order and guaranteed in writing for a period of one (1) year from date of acceptance.

1.6 Drawings

- A. The plumbing drawings are diagrammatical only and are not intended to show exact locations and conditions. Reference shall be made to the architectural, structural, and heating and ventilating drawings as well as field measurements so as to have the plumbing work coordinated with the work of others. Any interferences with other trades shall be brought to the attention of the General Contractor and Architect.

1.7 Record Plans

- A. The Plumbing subcontractor shall record all changes, etc., as the project progresses, on a set of drawings used for this purpose and upon completion of all work, said drawings shall be delivered to the Architect for the Owner's files.

1.8 Shop Drawings

- A. Shop drawings (5 copies each) shall be submitted on all fixtures, fittings, fixture carriers, and floor and roof drains

1.9 Protection

- A. This subcontractor shall afford all necessary protection to properly protect his work from damage of whatsoever nature. Any damage caused by improper protection or negligence shall be made good to the satisfaction of the Owner.

1.10 Materials

- A. Pipe and fittings generally shall be:

- (1) Cold & Hot Water - Type L hard drawn Streamline or or equal copper tubing with Streamline or equal cast bronze or wrought copper solder fittings using minimum of #50 Solder and Flux.
- (2) Soil & Waste including vent lines larger than 2 inches. Extra heavy cast iron coated with asphaltum. Fittings to be cast iron, hub and spigot type, coated. Pipe above floor can be hubless type if wall supported and anchored.
- (3) Vent Piping - Screw type galvanized steel pipe for above ground vents in 2-inch size or smaller.
- (4) Valves generally shall be Scott, Jenkins, Lunkenheimer or equal using one manufacturer throughout.
- (5) Unions shall be 150-lb. malleable iron, brass ground joint unions in steel or wrought iron piping to 3-inch size. For hard-drawn copper piping, use Chase No. C402, or equal, ground joint unions.
- (6) Above unions and valves shall be used adjacent to all equipment as applicable to facilitate repairs. Valves shall be installed at all necessary locations including branches to group of fixtures and for each riser.

B. Cleanouts shall generally be:

- (1) Cleanouts for cast iron hub-and-spigot pipe shall be Boston Pattern with cast iron ferrules. Plugs for screwed fitting cleanout openings shall be screwed brass plugs. Cleanouts shall be full line size up through 4-inch pipe.
- (2) Cleanouts and covers in floors shall be Zurn #1326 round cover and frame, adjustable floor level, with exposed parts nickel bronze. Top shall finish flush with finished floor.
- (3) Cleanouts and covers in walls shall be Zurn "SUPREMO" 2-1305-1, or equal, with round polished nickel bronze cover.
- (4) Cleanouts shall be installed as required by Code.

C. Sleeves and Plates shall generally be:

- (1) Where new piping passes through walls provide Schedule 40 steel pipe sleeves in ample size to allow for pipe movement and continuation of insulation.
- (2) Provide chrome plated steel plates with concealed hinges equal to Ritter Pattern and Casting Co. where exposed piping passes through walls, floors or ceilings.
- (3) Piping generally shall be run concealed except where no ceilings occur.

D. Insulate all new Hot and Cold Water piping and horizontal roof drain piping with 1" thick anti-sweat fibrous glass insulation with jacket.

E. Hangers and supports (adjustable) shall be provided for all piping for proper support as required by code.

F. Provide all required approved backflow preventers for boiler supply, mop receptor, service-sink, etc.

G. Provide capped air chambers and/or shock absorbers in size required at all fixtures and equipment with water connection so as to eliminate water hammer. Said chambers to be 18 inches or more in length. Where long runs of piping may occur, provide expansion loops, guides, and anchors as necessary.

H. All items of raw metal such as pipe hangers, supports, brackets, pipe standards, metal bases, etc. shall have a shop coat of paint equal to Chisman and Elliott #255 before being set.

1:11 Fixtures

A. Fixtures listed in this schedule are American Standard Models and numbers unless otherwise noted, and they are shown to establish type and quality to be installed. Equal fixtures and equipment is acceptable subject to prior approval by the Architect.

- (1) Water Closets (2) - #2502.011 Glenco, siphon jet action, elongated bowl, wall mounted, 1-1/2" top spud, vitreous china, Sloan Royal #110FIV flush valve with vacuum breaker, 1" screw driver angle stop. #5326.114 Church seat, open front, no cover, with 3140 stainless steel hinge with check (white), Zurn or equal carrier and drainage fittings as required for the location.
- (2) Lavatory (2) - #0361.055 "Scotian" 20" x 18" for concealed arms with faucet holes on 4 inch centers; #2103.208 "Heritage" faucet, combination with grid drain, 1-1/2" x 1-1/4" C.P. cast brass "P" trap and C. P. flanged cover tube, to wall; 3/8" I.P.S. supply fittings with loose key stops - C.P. brass; and Zurn concealed chair carrier.
- (3) Service Sink - Powers Flat, Model MSR-2424 Molded Stone, floor-mounted mop service basin, 24" x 24" x 10", Color #219 white with black accents. #830-AA, C.P. service faucet with vacuum breaker, integral stops, adjustable wall brace, pail hook and 3/4" hose thread on spout.
 #874, C.P. Brass, 3" drain with #302 16-ga. stainless steel strainer and lint basket.
 #832AA rubber hose, 5/8" with stainless steel hose hanger
 #889CC mop hanger
- (4) Drinking Fountain - The plumbing subcontractor to furnish all roughing and capped water supplies. The drinking fountain is not included in contract.

- B. Protect all plumbing fixtures and trim against damage. Fixtures shall be covered by packing crates set over same and all chrome plated surfaces shall be given a heavy coating of vaseline. Damaged fixtures or trim by any cause shall be replaced at no extra cost to the Owner.

1.12 Installation

- A. Installation of all items shall be done in a workmanlike manner and in the best practice of the trade. All water piping shall be run with proper grade to provide for easy draining and in group runs where applicable and in a neat and orderly manner to the satisfaction of the Architect. Water piping shall have ample provision for expansion and contraction.
- (1) Waste and vent piping shall be properly pitched $1/4$ inch to the foot where possible but no less than $1/8$ inch unless indicated otherwise. Jointing of all piping and fitting shall be properly filled with pitched oakum and molten lead.
 - (2) All piping shall be hydrostatically tested in accordance with code requirements.
 - (3) Upon completion of the building all fixtures, trim, etc., shall be cleaned and in good working order acceptable to the Architect and Owner.

SECTION 15B - HEATING, VENTILATING, AIR CONDITIONING

1:1 Requirements

- A. Attention is called to the terms and conditions contained in the Advertisement for Bids, Information for Bidders, the A.I.A. General Conditions, the Supplementary General Conditions and any or all Allowances, Alternates and Addenda which shall apply to all work and sections of this Specification.
- B. Sub-bids for work covered by this Section of the Specifications shall be filed with the Board of Selectmen, Mr. Ronald Kidd, Chairman, Town Hall Building, Sterling, Massachusetts not later than 3:00 P.M., E.S.T. on Wednesday, April 11, 1978.
- C. Plans indicating the extent of the work under this Section are as follows:
- HV-1 - Heating and Ventilating.
- D. For Alternates see Section ID.

1:2 Scope of Work

- A. Work under this Section shall consist of the following:
1. Hot water cast iron boiler oil fired.
 2. Hydronic specialties, pumps, compression tank, pipe, fittings, valves, hangers.
 3. Hot water finned tube radiation with covers, hangers, guides, and dampers.
 4. Hydronic cabinet heaters.
 5. Exhaust fans.
 6. Sheet metal ductwork and grille.
 7. Control system.
 9. The scope of work under this section shall include all equipment, materials, and labor to install a complete heating and ventilating system. The system shall be tested and balanced to air and water flow as indicated on accompanying drawings. Above major items shall be furnished and installed, as well as all necessary incidental items for a complete working system.

B. The work to be done under this section is shown on plan HV-1.

1:3 Permits

A. The HV Contractor shall make application and pay for all permits, fees, etc. required for the work.

1:4 Mechanical Reference Symbols

A. The term, "or equal", shall be referred to as follows: All equipment names shall be provided as required in the specifications unless written approval is obtained seven (7) days prior to final acceptance of bid.

B. The term "Contractor" shall be referred to as the HV Contractor in Division 15 - Heating and Ventilating.

C. "Furnish" or "provide" means to supply, erect, install and connect up complete in readiness, for regular operation, particular work referred to, unless otherwise specified.

D. "Piping" includes in addition to pipe, all fittings, valves, hangers and other accessories relating to such piping.

E. "Concealed" means hidden from sight in trenches, chases, furred spaces, shafts, hung ceilings, embedded in construction, in crawl spaces or hidden by other trades.

F. Ductwork includes all hangers, turning devices, canvas connections, dampers, and all other accessories relating to ductwork, as per standards in 1977 SMACNA design book.

G. Meet requirements and recommendations of applicable portions of Standards listed and requirements specifically stipulated herein.

1. American Society of Heating, Refrigerating, Ventilating and Air Conditioning Engineers. ASHRAE
2. American Society of Mechanical Engineers. ASME
3. American Society for Testing and Materials. ASTM
4. Commercial Standards. CS
5. Federal Specifications. FS
6. National Electrical Code. NEC
7. Underwriters Laboratories. UL
8. Air-Conditioning and Refrigeration Institute. ARI
9. National Fire Protection Association. NFPA
10. SMACNA Duct System Design.

1:5 Materials

All materials shall be first quality, new, and of a grade and manufacture acceptable to the Engineer and Architect.

1:6 Guarantee

- A. All parts of the apparatus are to be guaranteed by the HV Sub-contractor to be free from defects of manufacture and installation for a period of one (1) year from the date of written acceptance of the entire building by the Owner. The HV Subcontractor shall replace without charge to the Owner any part or parts of the apparatus and all labor and materials required, which fail due to such cause or causes, during the guarantee period.

1:7 Piping

- A. All piping shall be copper tubing type M with sweat solder fittings using 50/50. All joints shall be cleaned and soldered as per good piping practice. Schedule 40 steel pipe with cast iron fittings shall also be approved.
- B. Pipe workmanship - The piping shown on the drawings shall be installed complete and shall be of the size shown on the drawings. When a size is not indicated, the Subcontractor shall request the pipe size from the Architect thru the General Contractor. All piping shall be installed parallel or perpendicular to the building construction. All piping shall be installed so as to allow for expansion and quiet operation.
- C. Piping Supports - All pipe shall be supported from the building structure in a neat and workmanlike manner and wherever possible, parallel to the building. Vertical risers shall be supported at each floor line with steel pipe clamps. The use of wire or perforated metal to support pipes will not be permitted. Spacing of pipe hangers shall be as per plan schedule.
- D. Provide manual key air vents at all high points of system and where necessary to eliminate air from preventing water flow through radiation.

1:8 Boiler

- A. General
Furnish and install where indicated on the plan one (1) oil-fired hot water boiler.
- B. Product
Weil McLain cast iron oil-fired hot water boiler, as per plan, with following items:
1. Insulated flush jacket.
 2. Flame retention oil burner 1725 RPM with single stage pump.
 3. 1-1/4" Taco circulator and piping.
 4. Altitude temperature and pressure gauge.
 5. ASME safety relief valve.
 6. Draft regulator.
 7. Boiler drain cock.
- C. Execution
Install as per manufacturer's instructions and good pipe fitting practice.

1:9 Finned Tube Radiation

- A. *General*
Furnish where indicated on plan finned tube radiation.
- B. *Product*
LB-2 finned tube radiation by Sterling Radiator Co. Inc. , or approved equal.
1. Enclosure - slope lowered, .18 gauge.
 2. Back plate - full off wall type.
 3. Element - Copper tube aluminum fins.
 4. Hangers - rod type.
 5. Dampers with knob control.
 6. End caps and access panels for air vents.
- C. *Execution*
Install as per manufacturer's instructions and good piping practice.
Install manual air vents as necessary.

1:10 Hydronic Cabinet Heaters

- A. *General*
Furnish and install where indicated on plans hydronic heaters.
- B. *Product*
Cabinet hydronic heaters as manufactured by Sterling Radiator Co. Unit is completely self-contained heating package, including cabinet, blower, heating coil, auto air vent, and built-in thermostatic control. Both units shall be recessed into wall.
- C. *Execution*
Install as per manu-facturer's instructions and good piping practice.

1:11 Hydronic Specialties

- A. *General*
Furnish all necessary hydronic specialties as indicated on plan.
- B. *Product*
1. Taco #111 circulator.
 2. Amitrol Estrol #3000/purger, vent and tank.
 3. Taco #330 pressure reducing valve.
 4. Taco 340 back flow preventer.
 5. McDonnell #63 low water cutoff.
- C. *Execution*
Install where indicated on plan as per manufacturer's instructions and good piping practice.

1:12 Exhaust Fans

- A. *General*
 Provide the ceiling exhaust fans for Janitor's closet and ^{TOILETS WITH} ducts above ceiling to exterior wall, WITH BACKDRAFT DAMPER & EXTERIOR WALL CAP.
- B. *Product*
 #8812 direct drive centrifugal exhaust fans as per plan schedule, Nutone or approved equal.
 Polystyrene grille.
 5 year warranty motor 115V.
 Rated at 100 cfm air flow 4.0 sones.

1:13 Ductwork

- A. *General*
 1. Provide sheet metal ductwork for exhaust fan.
- B. *Product*
 1. Ductwork shall be U.S. galvanized sheet metal minimum 26 gauge.
- C. *Execution*
 Install ductwork and exhaust fan as per plan and secure adequately.

1:14 Controls

- A. *General*
 1. The intent of this subsection is to provide an automatic electric control system, complete in all respects, and to provide maximum fuel economy as well as maximum comfort conditions, within the limits of the building construction.
 2. The Contractor shall furnish, install and wire the controls using Honeywell control devices unless otherwise specified.
 3. The Contractor, before beginning any work on the controls, shall submit to the Architect a complete wiring diagram, showing all control devices, and all electrical wiring connections. This diagram shall become part of the job documents.
- B. *Control Sequence*
 1. Radiation Temperature Control (Typical for 4 Zones)
 A Honeywell T872F 2 stage 24 volt thermostat together with a Q672D subbase shall be located where shown on plan.
 2. On a drop in space temperature, the first stage of the thermostat shall energize a Taco zone valve serving this zone. An end switch in the Taco valve (Terminals 2 and 3) shall, through a low voltage circulator relay, start the system circulating pump.

1:14 Controls
(Continued)

B. Control Sequence (continued)

3. On a slight further drop in space temperature, the second stage of the thermostat shall, through a low voltage isolation relay, cycle the oil burner, under the supervision of the oil burner primary control, a high limit aquastat, and a low water cutoff.
4. Oil Burner Control: The oil burner, in addition to the controls mentioned above, shall be equipped with all electrical and other control and safety features as required by State Codes, and the Local Fire Chief. These shall include, but not be limited to: An emergency manual cutoff switch located outside the Boiler Room, a manual service switch located near the burner, and a fireomatic switch located over the burner.
5. Cabinet Heater Control (Typical for 2 zones): A Sterling cabinet heater, located where shown on plan, shall be equipped by the manufacturer of the unit with the following electrical controls, built into the unit.
 - a. A concealed remote bulb type temperature controller (manually adjustable).
 - b. A surface type water temperature controller.

The cabinet heater blower shall be cycled by the above controls so that on a drop in space temperature the blower shall start. The surface aquastat shall be set at 100°F and shall prevent blower operation until system water temperature has increased to the set point.

C. Future

It is the intent of the Engineers that, at some time in the future, and additional boiler will be installed when the second floor is re-modeled. This boiler will be piped in parallel to the above boiler, and will be controlled in unison with the above unit, with the provision that a temperature controller, with its bulb located in the outdoor air, will prevent operation of the second boiler until full load capacity of the first stage boiler is no longer capable of heating the entire building.

- D. Ceiling exhaust fan in Janitor's closet shall be energized by the room lighting switch. This work shall be installed by the Electrical Contractor.

SECTION 16- Electrical Work1.1 Requirements

- A. Attention is called to the terms and conditions contained in the Advertisement for Bids, Information for Bidders, the A.I.A. General Conditions, the Supplementary General Conditions and any or all Allowances, Alternates and Addenda which shall apply to all work and sections of this Specification.
- B. Sub-bids for work covered by this Section of the Specifications shall be filed with the Board of Selectmen, Mr. Ronald Kidd, Chairman, Town Hall Building, Sterling, Massachusetts, not later than 3:00 P.M. E.S.T., on Wednesday April 12, 1978.
- C. Plans indicating the extent of the work under this Section are as follows:

Dwg.	Title	Date
E-1 thru E-3	Electrical Drawings	4-5-78

- D. For Alternates see Section 1D.

1.2 Scope of Work

- A. The work contained in this Section shall be to provide all the materials and equipment and perform all the work necessary for the complete execution of all Electrical Work as shown on the drawings and/or specified herein and/or as is reasonably inferable therefrom as being necessary to produce the intended results and without restricting the generality of the foregoing, shall include the following;

- (1) Temporary Light and Power
- (2) Lighting System
- (3) Power System
- (4) Wiring Devices
- (5) Emergency System
- (6) Any other System hereinafter called for or shown on the Drawings.

1.3 Examination of Site

- A. Before submitting his bid, each bidder is expected to inspect the site and satisfy himself as to the character and amount of work to be done.

1.4 Guarantees

- A. All materials and labor incorporated in the work to be guaranteed against defects for a period of one year from date of acceptance to extent of correcting such defects to satisfaction of Engineer without cost to Owner, natural wear and unnecessary damages or abuse excepted.

1.5 Certificates of Insurance

- A. Electrical Subcontractor shall furnish the General Contractor with certificates of insurance, in amounts as listed in the General Specifications, covering the following:

- (1) Workman's Compensation
- (2) Public Liability
- (3) Property Damage
- (4) Special Hazards
- (5) Automobile and Truck

1.6 Rules and Permits

- A. The Electrical Subcontractor shall comply with all local building ordinances, State or other laws and hold the Owner harmless from all penalties, damages or expenses due to violation or non-observance of same.
- B. The Electrical Subcontractor shall obtain all necessary permits and pay all charges and fees for same.
- C. The Electrical Subcontractor shall be liable for all damages to life and property that may occur due to his negligence or that of his employees, during continuance of work under this contract, or all extra work covered by this contract. The Electrical Subcontractor shall provide all facilities and adequate supervision.
- D. All work shall be in strict accordance with the rules and requirements (latest revision) of the National Board of Fire Underwriters, State and local authorities.

1.7 Instructions to Bidders

- A. The proposal for this work must cover all contingencies, including all labor and materials, scaffolding, tools, transportation necessary for the complete installation of everything described, shown or reasonably implied herein; and provide for a complete system ready for the Owner's use.

1.8 Tests

- A. After wires are pulled in and fixtures installed, the Electrical Subcontractor shall make tests for grounds, insulation, and shall immediately remedy defects. Equipment for tests shall be provided by Electrical Subcontractor.

1.9 Materials and Workmanship

- A. All materials shall be new and shall conform with the standards of Underwriters Laboratories, Inc., in every case where a standard has been established for the particular type of material in question. All work shall be executed in a workmanlike manner and shall present a neat and mechanical appearance when completed.

1.10 Temporary Light and Power

- A. All temporary work shall be furnished and installed in conformity with the National Electrical Code, Massachusetts Electric Code, and in accordance with local ordinances and requirements of the utility company.

1.11 Cutting and Patching

- A. The Electrical Subcontractor, as part of his work, and without extra charge, shall do all fitting and minor cutting required for the complete installation of electrical work. Any major cutting, due to Electrical Subcontractor's failure to advise the General Contractor of size and locations of openings required, will be done by the General Contractor at the expense of the Electrical Subcontractor. See also Article 14, Supplementary General Conditions.

1.12 Shop Drawings

- A. Shop drawings (5 copies each) shall be submitted on all lighting fixtures, wiring devices, emergency system, panels, equipment, etc.

1.13 Grounding

- A. Furnish and install a complete grounding system in conformance with the National Electrical Code and any special rules which may govern such installation.

1.14 System of Light & Power

- A. Secondary distribution shall be 120/240 volts, 1 phase, 3 wire, 60 cycle, A.C.
- B. Lighting shall feed from 1 phase and neutral of the 3 wire systems. A solid neutral system shall be used, panels shall be built accordingly and a White braid used on the neutral wire.
- C. Power supply to motor 1/2 H.P. and larger shall be 240 volts, 1 phase; under 1/2 H.P. to be 120 volts single phase, except as designated otherwise.

1.15 Service and Distribution

- A. Install complete new secondary building distribution systems all as indicated and detailed on the Drawings, specified or reasonably implied herein. Consult other trades before installing feeder conduits; coordinate installation with their work, to eliminate any confliction.

1.16 Interruption of existing Electrical Services

- A. Interruptions to the existing electrical service for splicing connections, renovation of the existing distribution equipment feeders and branch circuits wiring shall be as short as possible and at the convenience of the Owner.

1.17 Wiring System

- A. Furnish and install complete for all systems wiring, empty conduits, etc., as designated on drawings, detailed, mentioned or reasonably implied herein.
- B. All wiring in general shall be installed in thin wall conduit concealed in the construction where possible. No conduit shall be exposed in finished areas, and Electrical Subcontractor shall consult with Architect before installing any exposed conduit. All conduits shall be run in a neat workmanlike manner parallel to building walls. Romex may be used if same complies with local code.

1.18 Wire

- A. All conductors shall be made of copper of not less than 98 percent conductivity, Mathieson's Standard and properly tinned. All wires #8 B&S gauge and larger shall be stranded.
- B. Unless otherwise specified or designated, all conductors shall be covered with 75°C heat resisting, moisture resisting compound conforming to National Electrical Code requirements and N.E.M.A. specifications for "TRW" wire, latest revision.
- C. No wire smaller than #12 gauge shall be used for light and power branch circuit wiring. Color coded wire shall be used for all systems with same code being carried throughout the building.
- D. The following color scheme shall in general be used for light and power wiring:

PHASE A.....	BLACK
PHASE B.....	RED
PHASE C.....	BLUE
NEUTRAL.....	WHITE
EQUIPMENT GROUND.....	GREEN

- E. On feeders where colored wire is not available, identify phases and neutral with metallic cable marked tags in junction boxes at each termination panel or switchboard.
- F. All wire shall be Triangle, Anaconda, Collyer or equal.

1.19 Outlet Boxes

- A. Boxes in hung ceiling areas shall be "Knight" hung ceiling type, 3-1/2 inches deep, complete with supporting bars - length as required.

1.20 Schedule Material

- A. Light switches in general shall be #1281, #1282, #1283, #1284 series Hubbell, Arrow H&H, Bryant or equal.
 - (1) Key type to be 9609-61
- B. Switch and pilot units shall be #1297-I with engraving on plate for designation.
- C. Receptacles in general shall be #5362S - tamperproof.
- D. All plates in general shall be .04 stainless steel.

1.21 Emergency Lighting Systems

- A. Furnish and install and connect at locations indicated on the drawings a complete 12-volt D.C. emergency lighting system. The emergency lighting equipment shall be "ELS" as manufactured by Emergency Lighting Systems, Inc., or approved equal; size as indicated on the drawings, complete with shelves.

1.22 Power

- A. All motors will be supplied and installed by others, wired and connected by the Electrical Subcontractor, unless otherwise mentioned herein.
- B. Motor starters, contactors, safety disconnects, thermal switches, relays, remote and local control switches shall be furnished and installed by the Electrical Subcontractor.
- C. The Electrical subcontractor shall do all wiring and the installation of equipment in connection with the Temperature Control System only to the extent as shown on the electrical drawings.

1.23 Lighting Fixtures

- A. Furnish all labor, materials and equipment required for a complete installation of lighting equipment specified on the fixture schedule.

- B. The Electrical Subcontractor shall assume all responsibility for the safe handling of all lighting fixtures, accessories and lamps until the final inspection has been made by the Architect.
- C. Special fittings and materials that may be required to support fixtures shall be supplied as well as supports or grounds required to secure surface or pendant mounted fixtures on suspended ceilings. Fixtures shall be supported from the structural floor or roof independent of furred on suspended ceilings unless otherwise noted.
- D. Fluorescent fixtures shall be completely wired with high power factor C.B.N., E.T.L., and U.L., Class "P", approved ballasts, sound rated "a", rapid start type, General Electric, "Bonus Line" or equivalent, equal of Jefferson, Advance. Ballast shall be of one manufacture and shall be submitted with fixtures for approval.
- E. Furnish and install a complete set of new lamps for all fixtures. Submit to the Owner a complete list of fixtures, their locations and type of lamps required (color, wattage, etc.) at the conclusion of the work. Lamps used during the construction period shall be removed and replaced with new lamps. Lamps shall be General Electric, Westinghouse or Sylvania.
- F. Fixtures, part or parts thereof (including lamps) determined to be defective upon completion of the electrical installation must be replaced by the Electrical Subcontractor free of charge.
- G. Consult with the General Contractor regarding the arrangement of framing members to permit the centering of recessed fixtures.
- H. Consult with the Ceiling Subcontractor and coordinate fixture locations and supports with the suspended ceiling system.

1.24 Photo Electric Control

- A. The Electrical Sub-Contractor shall furnish and install TORK #2100 photo electric controller.