

S P E C I F I C A T I O N S

For

ALTERATIONS AND ADDITION

To

THOMAS D. CLAYTON SCHOOL
SMYRNA SPECIAL SCHOOL DISTRICT
SMYRNA, DELAWARE

GENERAL CONSTRUCTION

PLUMBING

HEATING

VENTILATING

ELECTRICAL

G. MORRIS WHITESIDE, 2nd
Registered Architect
909 Tatnall Street
Wilmington, Delaware.

LOUIS H. DOANE
Structural Engineer
Pennsylvania Building
Wilmington, Delaware

ROBERT P. SCHOENIJAHN
Mechanical Engineer
Industrial Trust Bldg.
Wilmington, Delaware

COMMISSION NO. 864

December 10, 1952

PROPOSAL FORM

Note: Bidders shall copy form given below on their letter-heads and use same in submitting their estimates in Triplicate.

To: Dr. C. J. Prickett,
Chairman of the School Building Commission,
Smyrna Special School District,
Smyrna, Delaware.

Gentlemen:

Having carefully examined the General Instructions to Bidders, General Conditions, and Specifications entitled: "Alterations and Addition to Thomas D. Clayton School," for the Board of Education, Smyrna Special School District, Smyrna, Delaware, and drawings similarly entitled and as enumerated in the specifications, as well as the premises and conditions affecting the work, the undersigned proposes to furnish all materials and labor called for by them for General Construction, Heating, Ventilating, Plumbing, and Electrical Work, in accordance with the said documents for the sum of _____
(\$ _____ .)

UNIT PRICES:

1. Watchman per hour _____

ALTERNATE ESTIMATE:

Add

Deduct

Alternate No. 1-- New Floor in
Dining Room #2. _____

This Proposal is based on the work being performed by the sub-contractors which are to be listed herein as required by H. E. 367, 1951 General Assembly, 3647, Section 57.

In submitting this bid it is understood that the right is reserved by the Building Commission of the Smyrna Special School District to reject any and all bids and it is agreed that this bid may not be withdrawn for a period of thirty days from the opening thereof.

FIRM NAME _____

OFFICIAL ADDRESS:

Address _____

By _____

Title _____

GENERAL INSTRUCTIONS TO BIDDERS

These drawings and specifications have been expressly prepared for the Building Commission of SMYRNA SPECIAL SCHOOL DISTRICT, and under its direction and supervision.

Proposals:

This contractor shall follow the form of proposal attached to these specifications. Only such proposals will be considered as are submitted by persons, firms, or corporations as are actually engaged and unqualifiedly experienced in the execution and installation of the class and quality of work required under these specifications.

Bid Guarantee:

The bid shall be accompanied by a bid guarantee of not less than 10 per cent of the amount of the Base Bid, which may be a bid bond or certified check made payable to the SCHOOL BUILDING COMMISSION FOR SMYRNA SPECIAL SCHOOL DISTRICT. Bid bonds are to be issued by an authorized Bonding Company, licensed to do business in the State of Delaware. Such bid bond or check shall be submitted with the understanding that it shall guarantee that the bidder will not withdraw his bid for a period of 30 days after the scheduled closing time for the receipt of bids; that if his bid is accepted, he will enter into a formal contract with the Owner, and that the required completion bond will be given; and that in the event of the withdrawal of said bid within said period, or the failure to enter into said contract and give said completion bond within the time specified, the bidder shall be liable to the Owner for the full amount of the bid guarantee as representing the damage to the Owner on account of the default of the bidder in any particular hereof. The bid bond and checks of unsuccessful bidders will be returned within three days after opening the bids, except that the Owner reserves the right to withhold the checks of bid bonds of the three (3) lowest bidders for a period of ten (10) days; that of the successful bidder will be returned when formal contract and bond are approved.

Completion Bond:

Within five days after date of notice of award of contract, the bidder to whom the award is made shall furnish a bond equal to the full amount of the contract price to guarantee the faithful performance of all terms, covenants and conditions of the same. The bond is to be issued by an authorized Bonding Company, licensed to do business in the State of Delaware. The bond shall be maintained in full force for a period of 12 months after the date of the certificate for final payment; to guarantee that the contractor will make good any faults or defects in his work which may develop during the period of said guarantee as a result of improper or defective workmanship, material or apparatus, whether furnished by himself or his sub-contractors. Bond will be paid for by this contractor.

Awards:

The Owner reserves the right to reject any or all bids presented.

Sub-Contractors:

The General Contractor must accompany his bid with a complete list of sub-contractors for the approval of the Architect and Owner.

Plans and Specifications:

Plans and specifications may be obtained on application to the Architect, G. Morris Whiteside 2nd, 909 Tatnall Street, Wilmington, Delaware.

Upon the signing of the contract, the Architect shall provide six (6) sets of blueprints, six (6) sets of specifications and three (3) sets of each of all subsequent drawings and details.

Time of Completion:

The work shall be commenced at the time stated in the notice to the Contractor to proceed, and shall be completed in 90 consecutive calendar days after the date stated in said notice.

Visit to Site:

BIDDERS shall, before submitting proposal, fully inform themselves of the nature of the work by personal examination of the site of the work, the drawings and specifications and by such other means as they may prefer or consider necessary, as to matters, conditions, and considerations bearing on or in any way affecting the preparation of their proposal and the contract. They shall not at any time after submission of the proposal dispute or complain of such drawings or the specification, the general conditions, the form of contract or the form of bond, nor assert that there is any misunderstanding in regard to the location, extent or nature of the work to be performed.

Scope:

The work under the General Contract includes all the work shown on the drawings and described in the specifications for the construction of an Addition and Alterations to Thomas D. Clayton School, Smyrna Special School District, Smyrna, Delaware.

Omitted from the General Contract are:

Roads and Walks
Finished Grading and Seeding
Window Shades and Equipment.

GENERAL CONDITIONS

A. I. A. General Conditions:

General conditions of the Contract, Standard Form A2, current edition, of the American Institute of Architects accompany these specifications and are hereby made a part of the Contract. The General Conditions, including modifications and special conditions hereby shall become a part of the Contract and apply to all contractors and sub-contractors. The following paragraphs are in addition to, or in modification of the above and shall take precedence in case of any conflict therewith.

Definition of Terms: (Supersedes A. I. A. General Conditions Article 1):

OWNER: Board of Education, School Building Commission
Smyrna Special School, District,
Smyrna, Delaware.

ARCHITECT: G. Morris Whiteside 2nd, Registered Architect
909 Tatnall Street, Wilmington, Delaware.

MECH. ENGINEER: Robert P. Schoenijahn, Industrial Trust Bldg.,
Wilmington, Delaware.

CONTRACTOR: Any Contractor engaged to perform the work
of construction of any branch or sub-division
of this building.

DRAWINGS:

Drawings referred to in these specifications consist of the following:

<u>Sheet No.</u>	<u>Title</u>	<u>Scale</u>
1	Plans, Sections, Elevations and Details	As noted

See Mechanical Specifications for list of Mechanical Drawings.

Execution, Correlation, & Intent of Documents: (Amends A. I. A. General Conditions, Article 2):

Contract Documents are to be signed in Quadruplicate.

Detail Drawings and Instructions: (Amends A. I. A. General Conditions, Article 3):

These drawings may be supplemented by detail drawings to be furnished as the work progresses. All of these drawings are intended to cooperate with and form part of the specifications and contract. The General Contractor is to be responsible for all measurements, is to check all drawings, report any discrepancies to the Architect, and he is to give correct measurements to all trades, whether or not directly under him, also lines and figures needed in the performance of any work.

Where figures are given, they are to be followed in preference to measurements by scale. The drawings will be held in precedence in the following order: Contract Drawings, 3/4" and F.S. Details, but the Contractor must check all drawings and verify all figures.

Anything which is not shown on the drawings, but is mentioned in the specifications and vice versa or anything not expressly set forth in either, but which is reasonably implied and which forms the customary building practice in first-class construction shall be furnished and performed the same as though especially mentioned and shown in both.

Should anything be omitted from the drawings or specifications which is necessary to a clear understanding of the work, or should any error appear either in the various instruments furnished or in the work done by other contractors affecting the work included in these specifications, it shall be the duty of the General Contractor to notify the Architect and obtain the necessary information, and he shall see that the work is carried out in accordance with the same, and any damage to or defect in the work caused thereby is made good.

The drawings and specifications furnished for this work are to be considered as instruments of service, are to be used for this work only, are the property of the Architect, and must be returned to him immediately upon completion of the work.

Specifications:

The specification contained in this volume consists of Instructions to Bidders, General Conditions, General Description, General Construction, Plumbing, Heating and Ventilating and Electrical Work.

Surveys, Permits, Regulations: (Amends A. I. A. General Conditions, Article 11):

Contractor shall obtain and pay for all permits, licenses, certificates, inspections, or other legal fees required, both permanent and temporary.

Contractor:

The Contractor shall furnish all materials, labor, transportation, scaffolding, tools, utensils, etc., of every description for the full performance of the work herein specified except as otherwise specified particularly.

The Contractor shall lay out his work and be responsible for its accuracy; shall keep a capable foreman on the ground from the beginning of the work until its completion, and shall obtain the necessary permits to carry out his work properly, paying the lawful fees therefor, shall give the proper authorities all requisite notices relating to the work in his charge, shall afford the Architect every facility for inspection, shall be responsible for all violations of law or damage to property or persons caused by him or his employees; and shall protect his work and the existing buildings during the progress of the work.

Work and Materials:

All materials are to be the best of their respective kinds and quality as hereinafter specified; all labor to be performed in the best manner by skilled workmen; and both are to be subject to the approval of the Architect.

All material delivered on the work or erected not in accordance with the drawings and specifications must be removed at the Contractor's expense and replaced with other materials or work satisfactory and in accordance with the drawings and the specifications, and to the approval of the Architect.

At any time during the progress of the work, or in case the nature of the defects shall be such that it is not expedient to have them corrected, the Owner shall have the right to deduct such sums of money as he considers a proper equivalent from that specified, or for the damage to the building, from the amount due the contractor in the final settlement of the account.

As a minimum requirement, all work and materials must conform to rules and regulations of the locality in which the building is situated, anything specified to the contrary notwithstanding.

Supervision: (Amends A. I. A. General Conditions, Article 14):

The construction of the building will be under the general supervision of the Architect. The Owner will employ a "Clerk-of-the work" who will at all times represent it and the Architect. Any matter involving the interpretation of the drawings and specifications shall first be brought to the attention of the "Clerk-of-the-Work", who will consult with the Architect and convey to the Contractor the decision arrived at. The "Clerk-of-the-Work" shall have power to reject any material, form of workmanship, or method which is not in accordance with the drawings and specifications.

Delay: (Amends A. I. A. General Conditions, Article 18):

Should the Contractor at any time during the progress of the work refuse or neglect or be unable from any cause to supply a sufficiency of suitable materials or workmen at market rates, after three (3) days' notice in writing being given to the Contractor to finish such work, then the Architect and/or Owner shall be at liberty to employ such labor and purchase material as they deem necessary and the cost of the same shall be deducted from the money due or thereafter becoming due the Contractor.

Partial Occupancy and Extension of Time:

Any extension of time beyond the date fixed for completion or the doing and acceptance of any part of the work called for by the Contract, or the occupancy of the building in whole or in part previous to completion shall not be deemed a waiver by the Owner of his right to annul or terminate the Contract for abandonment or delay in the manner provided for, nor relieve the Contractor from full responsibility.

Liquidated Damages:

As actual damages for delay in completion are impossible of determination, the Contractor and his sureties shall be liable for and shall pay to the Owner the sum of \$10.00 as fixed, agreed and liquidated damages for each calendar day of delay until the work is completed or accepted.

Payments, When and How Made: (Amends A. I. A. General Conditions, Article 24):

Monthly payments on account will be made upon certificates from the Architect, representing ninety percent of the Contract value of the material and workmanship satisfactorily incorporated into the building at the time of calculating payments, thus accumulating ten percent reserve which will be paid within thirty days after acceptance of the work by the Owner, and the furnishing of a Release of Liens by the Contractor.

A date will be fixed for the taking of monthly account of work done and upon receipt of Contractor's itemized application for payment, it will be audited, modified if found necessary, and certificate issued for amount approved by the Architect.

Insurance:

The General Contractor will carry indemnity and workmen's compensation insurance to protect the Owner and the Architect from all lawsuits and actions for injury to any person or persons connected with the work or using or passing the area and building covered by this Contract.

The General Contractor shall carry all other insurances required by law such as unemployment insurance, etc.

The General Contractor shall carry fire and comprehensive insurance on the new building and construction appurtenances.

Social Security Liability:

With respect to all persons at any time employed by or on the payroll of the Contractor or performing any work for or on his behalf or in connection with or arising out of his business, the Contractor shall accept full and exclusive liability for the payment of any and all contributions on taxes for unemployment insurance or old age retirement benefits, pensions, or annuities now or hereafter imposed by the government of the United States and the State, or political sub-division thereof, whether the same be measured by the wages, salaries, or other remuneration paid to such persons, or the number of such persons or otherwise.

Contractor shall furnish Owner such information on payrolls or employment records as may be necessary to enable it to fully comply with the Law imposing the aforesaid contribution of taxes, and further, if Owner is required by law to furnish the aforesaid information, the Contractor shall forthwith reimburse the Owner for the entire amount so paid by the Owner.

If the Owner is required by Law to and does pay any or all of the aforesaid contributions or taxes, the Contractor shall forthwith reimburse the Owner for the entire amount so paid by the Owner.

Release of Liens:

Along with his application for final payment, the Contractor shall submit a satisfactory release of all liens against the premises on the part of all persons who have delivered materials for use in or done work in the performance of this contract.

Stored Materials: (Amends A.I.A. General Conditions, Article 42)

The Contractor will be furnished suitable storage facilities at the site for the proper protection and safe storage of his materials. Consult the Architect before storing any materials.

All materials delivered on the premises which are to form a part of the work, are to be considered the property of the Owner and must not be removed without the Owner's consent, but the Contractor shall remove all surplus material upon completion.

When basement or other rooms are used as shops, store rooms, etc., by the various contractors during the construction of the building, the contractor making use of these apartments will be held responsible for any repairs, patching or cleaning arising from such use.

Cutting and Patching: (Amends A. I. A. General Conditions, Article 43):

The General Contractor shall be responsible for all cutting and patching in the new building. He shall co-ordinate the work of the various trades involved. Note that Mechanical and Electrical Drawings and Specifications indicate cutting necessitated by Mechanical and Electrical Trades.

Cleaning: (Amends A. I. A. General Conditions, Article 44):

On completion of work, and before being reported for acceptance, the building, including all glass throughout shall be thoroughly cleaned and floors scrubbed to approval, and building left ready for immediate occupancy and use. He shall also leave all adjoining properties and premises in as clean a condition as originally found.

Removal of Rubbish, Etc.:

The General Contractor shall keep the building and premises clean and free from waste material and all rubbish at all times. He shall not allow any soil resulting from the work of excavation, waste material, or other rubbish caused by his work and mechanics, by his own sub-contractors or that which is caused by the Plumbing, Heating and Electrical Contractors or any sub-contractors employed upon the work, to accumulate in any part of the building or premises, but all such rubbish and waste materials shall be removed promptly by him at his expense.

Should the General Contractor neglect or refuse to promptly remove rubbish, the Owner shall have the right to cause same to be removed and deduct the cost therefor from the contract price.

Guarantee:

The Contractor shall guarantee all materials and workmanship, against original defects, or against injury from proper and usual wear when used for the purpose intended for one (1) year after final payment, and shall maintain all items in perfect condition during the period of guarantee.

Defects appearing during the period of guarantee shall be made good by the Contractor at his expense upon demand of the Owner, it being required that all work shall be in perfect condition when the period of guarantee shall have elapsed.

In addition to the General Building Guarantee there are other guarantees required for certain items for different periods of time than one year as above, and are particularly so stated in that part of the specifications referring to same. The said guarantees shall commence and take effect one year after completion at the time the general guarantee expires. All guarantees must be submitted in duplicate.

Lines and Levels:

The General Contractor shall obtain, at his own expense from the proper authorities, all lines, levels, and grades; all lines and levels necessary for the commencement of the work and for all departments of the work are to be furnished by the General Contractor to the various sub-contractors, whether or not their work is directly included under this contract.

Location:

The General Contractor shall lay out his work from the drawings and under the supervision of the Architect. He shall be responsible for any damage that may arise to the Owner or to adjacent Owners or to other sub-contractors from incorrectly laying out his work.

Care of Grounds and Structures:

The Contractor will be required to protect all trees, shrubs, and other planting within the area of operations from any injury which might be caused through the execution of this contract. Proper protection shall be built around all trees, shrubs, fences, etc., as directed by the Architect.

The Contractor will further be required to furnish protection to all adjoining buildings as necessary and will be responsible for making repairs to any such buildings damaged through the execution of this Contract.

Channels and Chases:

All sub-contractors must inform the General Contractor of all chases, openings, arches, etc., to be left in the masonry wall and must furnish the mason contractor, through the General Contractor, with accurate locations and sizes for all such chases, etc. Any cutting and repairing necessary in the wall on account of lack of information given the General Contractor must be paid for by the sub-contractor necessitating such work.

Roads and Drives:

The grounds, roadways, walks and drives are to be kept clean, and unobstructed during the progress of the work. The General Contractor is to have the use of roads leading to the building which have been approved for his use by the Board of Representatives and the Architect and will have to make good any undue wear and tear caused by his work in connection with the grounds, roadways, walks and drives.

Care of Building:

The General Contractor is to have full charge of the building until completion, and this contractor must keep a reliable watchman on guard at night, and any other time a foreman is not on the

job, in order to protect the Owner's interests or the interest of the sub-contractors having materials on the operation. Unit price for watchman shall be listed in the proposal and decision as to whether watchman is required or not, shall rest with the Owner.

Laws, Rules and Regulations:

The Contractor shall comply with all laws, rules, and regulations of the State of Delaware affecting the work under this Contract, especially the following:

"RECENT LEGISLATION RELATING TO BUILDING IN THE STATE OF DELAWARE"

1. An Act requiring contractors on all public building projects to name their sub-contractors.
2. An Act requiring minimum rate of wages in public building specifications and contracts.

These minimum wages are as follows:

<u>Classification</u>	<u>Rate Per Hour</u>
Asbestos Workers	\$ 2.75
<u>Boilermakers</u>	
Boilermakers	2.61
Boilermakers helpers	2.36
Lead Mechanics	3.11
Lead Mechanics (Assistant)	2.86
Bricklayers	3.00
<u>Laborers</u>	
Common Labor	1.42 $\frac{1}{2}$
Hod Carriers	1.67 $\frac{1}{2}$
Plaster Tenders	1.67 $\frac{1}{2}$
Scaffold Builders	1.67 $\frac{1}{2}$
Brick Tenders	1.67 $\frac{1}{2}$
Stone Mason Tenders	1.67 $\frac{1}{2}$
Mortar Mixers	1.67 $\frac{1}{2}$
Reinforced Steel	1.67 $\frac{1}{2}$
Phneumatic Tools	1.67 $\frac{1}{2}$
Carpenters	2.50
Wharf Builders and Pildrivers	2.65
Cement Finishers	2.50
Electrical Workers	2.87 $\frac{1}{2}$
<u>Engineers</u>	
Steel and Stone Erection	3.27 $\frac{1}{2}$
Engineers working with dock builders and piledrivers	3.15
Back Hoes	3.15

ClassificationRate Per Hour

Draglines	\$ 3.15
Keystones	3.15
Shovels	3.15
Trench Shovels	3.15
Trench Machines	3.15
Cranes, Pavers 21 E and over	3.15
Derricks	3.15
Cableways	3.15
Building Hoists (Single & double drum)	2.90
Scrapers	2.77 $\frac{1}{2}$
Tournapulls	2.77 $\frac{1}{2}$
Caterpillar type tractors w/front and overhead loaders	2.75
Bulldozer & Tractors, including rubber tire type w/front and overhead loaders	2.75
Tugger Machines	2.75
Conveyors	2.75
Concrete Breaking Machines	2.75
Spreaders	2.75
High or Low Pressure Boilers	2.75
All other equipment not mentioned	2.75
Concrete Pumps	2.75
Fireman	2.17 $\frac{1}{2}$
Welding Machines	2.55
Well Point Pumps	2.42 $\frac{1}{2}$
Compressors	2.42 $\frac{1}{2}$
Pumps	2.42 $\frac{1}{2}$
Maintenance Engineers	2.42 $\frac{1}{2}$
Oilers and Apprentice Engineers	1.75
Glaziers	2.37 $\frac{1}{2}$
Glaziers (Foreman)	2.62 $\frac{1}{2}$
Iron Workers-Structural & Ornamental	3.05
Iron Workers-Asst. Foreman	3.40
Iron Workers-Rodman	2.64
Iron Workers-Asst. Foreman	3.00
Machinery Movers and Riggers	2.64
Riggers-Asst. Foreman	3.00
Lathers-Wood	2.75
Lathers-Metal	2.75
Mosaic & Terrazzo Workers	2.50
Marble Setters	2.50
Painters (Brush)	2.25
Painters (Structural steel)	2.42 $\frac{1}{2}$
Plasterers	3.00
Plumbers	2.40
Roofers-Composition	2.50
Roofers-Slate & Tile	2.97
Sheet Metal Workers	2.75
Steamfitters	2.40
Stone Masons	2.75
Tile Setters	2.50
Teamsters	1.60

GENERAL DESCRIPTION

The work contemplated within the scope of this project which consists of an addition of one room masonry construction, approximately 14' x 20' to be used as a Kitchen, attached to an existing Shop Area to be used as a Cafeteria.

The Kitchen area is to be one story high with exterior wall of concrete block and with concrete floor on grade.

Wood frame roof covered with composition roofing.

Windows are to be of steel and of stock manufacture.

Floor of existing Shop area is of concrete and is lower than other portions of the building. New concrete floor is to be poured on gravel fill at a level to bring floor of Dining Room #1 in line with other portions of the building.

The work of demolition shall be confined to such items of cutting as will be required to join old and new work.

Existing drive-in door in the present Shop is to be taken down, including all items of track, hardware, etc., and to be turned over to the Owner, complete.

All finishes, floors, walls and ceilings shall be as called for on Drawings and as hereafter amplified.

All cutting and patching for all trades including the mechanical shall be done by the General Contractor.

Upon completion of contract the building will be left broom-clean, windows, washed inside and out and all completely ready for the installation of furniture and equipment.

Special Note:

The "General Conditions" apply to each and every contract or contractor or other person or persons supplying any material or labor entering into this building directly or indirectly.

Scope:

Mention herein or indication on the drawings of articles, materials, operations or methods requires that the contractor provide each item mentioned or indicated, of quality, or subject to qualifications, noted; perform according to conditions stated, each operation prescribed; and provide therefor all necessary labor, equipment and incidentals.

ITEMS OF TEMPORARY UTILITY

Permits:

This Contractor shall obtain all necessary permits, paying the lawful fees therefor.

Temporary Toilet Accommodations:

Contractor shall provide and maintain ample sanitary facilities for the workmen. Toilets shall be placed at the time work starts, located as directed by the Owner and maintained as required by local health ordinances. All necessary temporary enclosures shall be provided. Workmen shall not use existing building accommodations under any conditions.

Temporary Water:

Water for all construction purposes will be provided by the General Contractor from the nearest available source. He shall determine location of such source; make all necessary arrangements to use such water, pay all charges for same and run all necessary piping and connections to the site of the work.

Temporary Power and Light:

Temporary power and light for use for all construction purposes shall be provided by the General Contractor. He shall make all necessary arrangements with the Power & Light Company and provide for all required poles, wiring, meters, etc.,

Temporary Heating:

Contractor shall make provision for temporary heating as required for the protection of his own work and that of other contractors. See Mechanical specifications for references to Temporary Heating.

Office:

Contractor shall build and maintain a temporary water-proof office structure, located, constructed and equipped as directed by the Architect.

A complete and up-to-date copy of all drawings shall be kept on file in this office accessible to the Architect and his representatives and to all contractors or persons doing work in the building.

Telephone:

The contractor shall provide and maintain in the office from the beginning to completion of the work a long-distance telephone equipped with a suitable gong or bell.

Scaffolding, Guards, Etc.:

The contractor shall be responsible for the safe construction and the maintainance of all scaffolding, ladders, etc., and he shall see that his sub-contractors provide all guards and enclosures as required by laws and ordinances.

Protection:

Contractor will be required to protect all trees, shrubs, and other planting within the area of operations from any injury which might be caused through the execution of this contract. Proper protection shall be built around all trees, shrubs, etc., as required by the Architect.

EXCAVATION:

All excavations shall be made to the sizes and elevations established by the drawings. Note that the approximate grades are illustrated on the drawings.

The contractor shall remove the top soil from the entire area covered by this addition. This top soil shall be removed and stacked on the site where directed for future use.

The trenches for footings, foundations, and otherwise below the general level of the ground floor shall not be excavated below such level until required for laying of the footings.

Excavating and backfilling for plumbing, heating and electrical work are to be done by Contractors for those trades.

CONCRETE AND MASONRY WORK

Concrete:

Furnish and install all concrete work such as footings, slabs, etc., as required or called for on drawings, including reinforcement.

Furnish in place splash pad and platforms of concrete on exterior.

Concrete is to be furnished from a Central mixing plant and shall develop 2500# compressive strength at 28 days.

Plant certificate shall accompany each batch of concrete delivered.

Masonry:

Build exterior walls of concrete block to dimensions as indicated on drawings.

Block sample to be submitted for Architect's approval.

Build in all windows, doors, blocking, etc., as required.

Furnish and install all steel angles, lintels, etc., as required to complete the masonry work.

Do all filling of present opening in existing walls as indicated on drawings.

STEEL WINDOWS:

Windows are to be of steel, commercial projected type, of size and pattern indicated on drawing, complete with all anchors, mullions, hardware, etc., Include copper screens.

Windows shall be as manufactured by Truscon Steel Co., or equal.

CARPENTRY AND MILLWORK:

Furnish all wood bucks, centers, grounds, blocking etc., required for carpentry work or for use by other trades.

Roof members as called for on drawings.

Sheathing to be 7/8" T & G roofers, cut on bearings.

Millwork:

Furnish and erect all millwork required or indicated on drawings.

All new millwork to be primed on all surfaces before erection.

Note door frame and door from exterior to Kitchen to be as indicated on drawings.

Note that where pass window is indicated on drawings, existing double hung window is to remain in place and serve that purpose after being modified as called for on drawings.

CAULKING:

Caulk around all doors and windows or wherever else required with approved gun-type caulking compound.

ROOFING AND SHEET METAL WORK:

Roofing and Sheet metal work shall be let to one contractor.

Roofing shall be Johns-Manville or approved equal, built-up composition, slag top roofing applied in accordance with the manufacturer's directions.

Apply 1" Fiber Glass Insulation in approved manner.

The Roofing Contractor shall furnish a manufacturer's 20-yr. bond for both roofing and flashing.

Sheet Metal:

Flashing at heads of exterior openings and through wall flashings shall be 10-oz. copper sheet.

Furnish and install 5" half-round copper r.w.c.'s on bronze hangers properly pitched to down-spouts.

Down-spouts to be of 16-oz. cold rolled copper of size and at locations indicated on drawings.

ASPHALT TILE:

Asphalt tile shall be layed at locations called for on drawings, shall be "C" grade and of color and pattern as selected by the Architect and layed in accordance with the manufacturer's instructions. Grease-resistant tile in Kitchen.

Rubber Base:

Rubber base where called for on drawings. Apply strictly in accordance with manufacturer's instructions.

PLASTER:

Apply plaster ceiling in Kitchen on wire lath. Plaster to be three-coat work. Scratch and brown coat applied together. Final coat to be white coat, smooth and even without blister or other defects.

STUCCO:

Apply three coats of stucco to outside of exterior wall. Mortar for scratch and brown coats shall be mixed in proportions of five sacks of Portland Cement, two 50-lb. sacks of hydrated lime, and 19 cubic feet of sand. Finish coat shall be Portland Cement stucco as approved by Architect. Stucco shall be done as follows:

Scratch and brown coats: each wet down with a hose not less than three times daily for a period of five days.

Finish Coat: wet down with a hose at least three times daily for three days.

Waterproofing of Walls:

Exterior surface of all new stucco exterior masonry walls above grade to be given one thorough coat of HYDROCYDE (Colorless) SX, a product of L. Sonneborn Sons Inc., represented by H. S. Butler, 311 S. Smedly St., Philadelphia, Pa. or DEHYDRATINE NO. 22, a product of A. C. Horn Co., Inc., represented by Harold W. Lawson, 67 Harley Road, Lansdowne, Pa. or approved equal silicone type water repellent.

Application:

Sprayed on in strict and complete accordance with the manufacturer's printed instructions.

PAINTING:

Paint all new exterior woodwork within the scope of this project, one priming and two finishing coats of exterior paint.

Paint to be the equal of E. I. duPont DeNemours & Co. and applied strictly in accordance with the manufacturer's directions.

Color as selected by the Architect.

Paint all metal on exterior of the building other than that non-ferrous, one coat of rust-inhibitive paint and two finishing coats of metal protective paint.

Paint all new interior woodwork within the scope of this project one priming and two finishing coats of Interior paint--Gloss Finish.

All old woodwork within the scope of this project is to have all defective work scraped, sanded or burned off, bare spots primed and entire surface covered with one finishing coat to match that applied to new work.

Color to be approved by Architect.

Paint to be equal of E. I. duPont DeNemours & Co.

All new masonry within the interior of the scope of this work shall have applied one coat of cement Paint, Bondex, or equal and one finishing coat of cement paint. Color to be selected.

All existing masonry on the interior within the scope of this project shall have any defective work removed, priming coat applied to bare spots and given a finishing coat to match new work.

Plaster Ceilings:

First Coat: Primer-Sealer
Second Coat: $\frac{1}{2}$ Primer-Sealer and $\frac{1}{2}$ flat white paint
Third Coat: Flat White

GLAZING:

All new openings shall be glazed with double strength "A" quality glass of new manufacture and with manufacturer's labels showing.

Putty shall be best grade white putty.

Steel windows shall be glazed with an approved glass compound for use in such windows.

Wire Guard:

Furnish and install wire mesh guard on exterior of Entrance Door to Kitchen.

Guard is to be built up using $1/8$ " x $3/4$ " steel frame with heavy $1\frac{1}{2}$ " diamond mesh pattern wire filler. Frame to be equipped with angles fitted with bolt holes.

Finish Hardware:

Allow the sum of \$100.00 for Finishing Hardware. In case the hardware costs less than the \$100.00 allowed, the Owner is to receive a credit for the difference, or it if costs more than \$100.00 the contractor is to be paid accordingly.

Alternate No. 1--New Floor in Dining Room #2.

Remove wood floor in Dining Room #2 down to present concrete slab. Place 4" reinforced slab at level of adjoining corridor in main building on gravel fill, sufficient to make up the change in elevation. Included shall be raising the level of the floor of Dining Room #1 and Kitchen to bring these floors in line with new elevation of floor in Dining Room #2.

New flooring in Dining Room #2 to be of Asphalt Tile with rubber base similar to that already described.

PLUMBING & DRAINAGE SYSTEMS

HEATING & VENTILATING

SPECIAL NOTE: The "General Conditions" and "Supplementary General Conditions" apply to the Contract and Contractor, to each and every Sub-contract and Sub-contractor and other person or persons supplying any materials or labor entering into this building directly or indirectly.

DRAWINGS: The following drawing showing the work herein described is hereby made a part of this contract -

Com. 656 - Sheet M-1 - Kitchen Addition -
Plumbing, Heating, Ventilating and Electrical

The Contractor is referred to the Architect's drawings, prepared by G. Morris Whiteside, II, Registered Architect, Wilmington, Delaware, for all structural and architectural conditions. These drawings shall be considered as part of this contract insofar as they furnish the Contractor with information relating to the building construction.

SCOPE: This section of specification provides for Plumbing, Drainage Systems, Heating and Ventilating entering into construction and completion of a Kitchen Addition to the Thomas D. Clayton School, Smyrna Special School District, Smyrna, Delaware.

An existing Shop Building and adjoining Classroom are to be converted to Cafeteria space, and a new addition is to be constructed to accommodate a Kitchen.

The following is a brief outline of the new work to be performed and alterations to existing work. The Plumbing and Drainage Systems are to be described separately from Heating and Ventilating.

PLUMBING & DRAINAGE

Soil line for Cafeteria Kitchen equipment is to be connected into existing soil at vent stack in coal vault of main building. New soil line is to be extended underground into Kitchen Addition to serve sink, dishwasher and floor drain. Sink and dishwasher are to have 2" galvanized wastes connected to grease trap set with top flush with floor. Provide vent lines as shown.

Soil line and waste connections are to be installed with extra heavy cast iron bell and spigot pipe with leaded joints. Above floor, waste and vent lines are to be installed with galvanized wrought iron pipe and galvanized cast or malleable sanitary screw type fittings. Flashings at roof shall be 4 lb. sheet lead with base and sleeve over pipe neatly dressed into top of vent. Flashing shall be made tight with roofer's work.

Grease trap shall be Josam Series J, Size J-2 or approved equal design, to be set with top flush with finished floor.

Floor drain shall be cast iron body with drainage flange, 3" bottom outlet for caulking to deep seal C.I. trap, inner C.I. strainer basket, 9" x 9" square top with chromium plated bar strainer, Josam Series 5423 or approved equal.

Dishwasher and pot sink are to be furnished and set under separate contract for equipment. This Contractor shall provide waste and water connections to dishwasher and to a two compartment sink. Waste connections are to be galvanized wrought iron pipe with galvanized screwed fittings with cleanout plugs at ends.

Water supplies for cold and hot water are to include valved lines installed from Boiler Room thru coal vault with riser, and thru toilet room into Kitchen with branch connections to two-compartment sink and to dishwasher. Each branch is to be separately valved at fixture. Water lines are to be installed with Type L copper tubing and sweat type forged copper fittings. Hot water service is to be connected to new gas water heater specified.

Cold and hot water lines are to be insulated with double section, dual service asbestos felt insulation with water-proof heat resisting lining, 4 ounce canvas jacket pasted and banded. Fittings are to have asbestos cement insulation with hard smooth finish and canvas cover. Water lines are to have insulation painted with two coats of emulsified asphaltum in Boiler Room and coal vault. Insulation in finished areas is to be painted by General Contractor.

The existing rainwater conductor from roof of present building now discharges at grade. This is to be cut-off and fitted with 30" high cast iron conductor boot with 4" cast iron soil pipe runout to a new cast iron drain line to be extended as shown, and receive roof drainage from Kitchen Addition with cast iron boot and cast iron runout. The new drain is to be extended across driveway and discharge at lower grade into 15" x 24" x 6" deep dished splash pad of concrete.

GAS SERVICE: Gas for Kitchen Addition is to be taken from the Dover Gas Company service. The Contractor shall arrange with Gas Company for extension of gas supply main to the new Kitchen Addition, including pressure regulator and gas meter where shown. The Contractor shall ascertain the cost of this service before submitting proposal and include said cost in base bid.

From the meter location a valved supply main is to be installed with branches to gas range and outlet at dishwasher equipment. The main shall continue thru toilet room and coal vault into Boiler Room with connection to new gas water heater. Provide stop valves at each equipment service. Connections shall be made to the gas range and to booster heater at dishwasher, all equipment including booster heater being furnished under separate contract.

Furnish and install in Boiler Room where shown, one (1) Penfield 65 gallon size gas water heater for mixed gas as available, having A.G.A. burner input of 75,000 B.T.U. per hour and recovery of 67 gph, 100 deg. rise. The heater shall be complete with safety device, thermostat, etc., in accordance with manufacturer's standard specification. From the heater vent cowl install 5" dia. transite pipe vent flue with proper supports, connected into existing chimney above boiler flue. Perform cutting and patching at chimney wall.

HEATING & VENTILATING

The Heating System of present School Building consists of overhead steam main with down-feed supply to cast iron radiation for one pipe vented system with pressure return main carried below First Floor back to boiler.

The existing radiator in present classroom is to be retained. The unit heater within present shop area is to be removed with branch steam and the presently exposed return line. The existing steam main is to be extended thru new Cafeteria Room with drop and into Kitchen addition to serve new radiation. From new main branch runouts are to be taken at 45 deg. from bottom to down-feed supplies to new radiators where shown, with branch and bottom terved connections for one pipe supply. The bottom of each down-feed is to connect to new return line to be installed below Kitchen and Cafeteria floors with standard wrought iron pipe all welded construction installed within 6" split terra cotta tile conduit with interior roller supports spaced not more than 8 ft. apart. Conduit system shall be equal to Ric-wil design. Pipe within conduit shall be separately tested to 100 psig hydrostatic pressure and be painted two coats of asphaltum varnish before being enclosed. Conduit shall be laid in excavation with 6" of 3/4" crushed stone bed with base sections set true and properly graded. Joints at bells and horizontal joints shall be sealed tight with cement grout. Vertical runouts to risers are to have iron pipe sleeves terminating 1" above finished floor; sleeves are to be painted.

New radiation where shown shall be standard tube design of sizes noted, without legs, selected with full size bottom tapping for one pipe steam system. Radiators are to be supported by Clip-Bar or equal wall hangers set to place bottom of radiator 8" above floor; hangers are to be secured by bolts built into masonry wall when constructed, accurately set to template. Bolts shall be 3/8" with wall plate washer in wall.

Each radiator shall have union type radiator valve with composition hand wheel, equal to Jenkins Bros. manufacture. Radiators shall be fitted with Hoffman No. 1A automatic air vent valve with lock device.

The overhead steam main including existing section thru Classroom and new piping shall be insulated with 1" standard thickness 85% sectional magnesia covering with 4 ounce canvas jacket pasted and banded. Fittings shall have asbestos cement covering with smooth finish canvas covered.

The overhead supply main is to have clamp and rod type hangers to wood joists, spaced not more than 12 ft. on centers and within 2 ft. of end or change in direction of run.

Vertical drop pipes to radiators shall have post type clamp supports to wall set about 5 ft. above floor.

All exposed piping, radiators and non-conducting covering shall be painted by General Contractor.

For ventilation of Kitchen furnish and install hood over range with connection to fan exhaust type roof ventilator.

Over range location furnish and erect a hood 6 ft. long 4'0" wide x 21" deep with radius curved front, constructed of 20 gauge stainless steel with 2" covered angle frame, fabricated with flush type seams. Hood is to be supported at wall and at front by 1/2" rod hangers to ceiling joists. Set bottom of hood 6'3" above floor. From top of hood provide 12" dia. exhaust duct of same material extended into curb at base of exhaust fan unit specified. Wood curb shall have insulation of 1/2" asbestos board lining.

Furnish and erect on curb to be constructed by General Contractor, one No. 16 Century or approved equal fan exhaust type roof ventilator having capacity of 1500 cfm against 1/8" S.P., fan speed 1350 RPM, fan tip speed 5300 F.P.M., equipped with 1/4 H.P., 120 volt, 60 cycle single phase motor.

Dated - December 9, 1952

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ELECTRICAL WORK

SPECIAL NOTE: The "General Conditions" and "Supplementary General Conditions" apply to the Contract and Contractor, to each and every Sub-contract and Sub-contractor and other person or persons supplying any materials or labor entering into this building directly or indirectly.

DRAWINGS: The following drawing showing the work herein described is hereby made a part of this contract -

Com. 656 - Sheet M-1 - Kitchen Addition
Plumbing, Heating, Ventilating and Electrical

The Contractor is referred to the Architect's drawings, prepared by G. Morris Whiteside, II, Registered Architect, Wilmington, Delaware, for all structural and architectural conditions. These drawings shall be considered as part of this contract insofar as they furnish the Contractor with information relating to the building construction.

SCOPE OF WORK: The work to be done under this section of the specification shall include all necessary labor, materials and equipment required to install a complete Electric System for Light and Power entering into the construction of a Kitchen Addition to the Thomas D. Clayton School, Smyrna Special School District, Smyrna, Delaware, in accordance with plans prepared by G. Morris Whiteside, II, Architect, Wilmington, Delaware.

The following is a general outline only and does not cover in detail all the work required under this heading. It is herein given for the convenience of bidders in determining the Scope of their work.

1. The present schoolbuilding electric service is supplied thru an overhead secondary service connecting to service equipment in Boiler Room of present building.
2. A new lighting feeder is to be installed from a new 60 amp. service switch connected to main service bus and extended to supply a new branch circuit panel in new addition.
3. Branch power circuits are to be installed from the new branch distribution panel for the several pieces of Kitchen Equipment.
4. Branch lighting circuits are to be installed from the lighting panel to supply lighting and receptacle outlets as indicated.

5. All lighting outlets are to be fitted with the lighting fixtures specified.
6. The existing classroom signal system is to be extended to supply a new bell in the Dining Room.
7. Certain changes are to be made to existing electrical work where alterations are made to accommodate the new construction.

ELECTRIC SERVICE CHARACTERISTICS: The electric service characteristics for the new addition will be 120/240 volt, single phase, 60 cycle, three wire, solid neutral.

UNDERWRITER'S RULES & REGULATIONS: The Contractor for Electrical Work must be fully acquainted with, and comply with, all laws, rules and regulations of all State, Municipalities or Townships, having jurisdiction over any part of this contract.

All work specified, or required herein, shall be executed in full accordance with the rules and regulations of the National Board of Fire Underwriters, and any other authorities that may have jurisdiction thereof; this Contractor shall obtain and pay for all the necessary certificates of approval, which must be delivered to the Architect before the work will be accepted.

MATERIALS & EQUIPMENT

All materials and equipment, unless otherwise specified, shall be new of the best quality and the most approved of their respective kinds. The workmanship of manufactured materials shall in all respects be of the highest grade, and conform to the National Electrical Code Requirements.

The appliances and materials named herein have been selected as best adapted for the purpose intended and the Architect reserves the right to reject any appliances or materials which in his judgment, are not equal to those specified. Any proposed substitute shall be made in writing and presented with the Contractor's bid.

The location of equipment, conduits, outlets, etc., as given on the drawings are approximately correct, but it is understood that they are subject to such modification as may be found necessary or desirable at the time of installation in order to meet any structural conditions. Such changes shall be made by the Contractor for Electrical Work without extra charge.

CONDUIT: All wires where specified shall be run in unlined fullweight rigid steel galvanized conduit. Samples of conduit shall be submitted to the Architect for approval. Each length shall bear the maker's trade mark or stamp and shall conform to Federal Specification No. WW-C-581a.

Conduits terminating in panels, ceiling, wall or other steel outlet boxes, shall be secured by steel locknuts and rounded terminal bushings.

All conduits 1-1/4" size or larger shall be fitted with insulated type bushings.

All conduits up to 2" size shall be fitted with capped bushings to prevent foreign matter from entering conduits.

SURFACE METAL MOLDING: All wires where indicated shall be installed in surface type metal molding or raceway complete with fittings, boxes and connectors. Metal raceways shall be similar to Wiremold Cat. #500, #700 or #1000 as required. Fittings shall be of type to suit the surface raceway to be installed.

OUTLET BOXES: Outlet boxes shall be of National, G.E., Steel City, T.B. or approved equal manufacture.

Ceiling outlets unless otherwise specified, shall be 4" hexagon 1-1/2" deep inside with knockouts as required, drilled and tapped for fixture studs. Outlets requiring more than three splice connections in wiring shall be 2-1/8" deep. Collars, if used, shall be extra deep type to set flush with finished ceiling.

Outlet boxes in partitions for insertion receptacles and local switches shall be rectangular, sectional or unit type with covers for setting into plastered partitions.

All exposed conduit work shall have conduit type boxes.

Fixture studs 3/8" size shall be installed for all ceiling and wall bracket lighting outlets shown on plan and specified, except at vapor-proof outlets.

Junctionboxes shall be fitted with flat covers.

JUNCTION & PULLBOXES: Junction and pull boxes shall be installed in conduit runs as noted or specified. All boxes shall be galvanized steel riveted or welded construction. Boxes less than 18" largest dimension shall be No. 14 gauge metal; boxes from 18" to 30" largest dimensions shall be No. 12 gauge metal; larger size boxes shall be #10 gauge. Boxes shall have flange and be fitted with flat flush covers held in place by machine screw.

FUSES: Each pole of every fusible circuit furnished under this contract shall be protected by an N.E. Code fuse until the work is completed and accepted. Cartridge type fuses shall be "renewable" link type as made by Bussman Mfg. Co., Economy Fuse Co., or approved equal.

WALL SWITCHES: At each local wall switch outlet for lighting as indicated on the drawing, there shall be a 20 amp. porcelain base switch with durable composition handle and silver plated bronze contacts. Wall switches are to be equipped with ruby red bulls-eye pilot lights where indicated.

Switches shall be Bryant 3971, 3972, 3973, 3974; H&H, Hubbell or equal.

Where more than one flush wall switch occurs in any one location, they shall be arranged in gangs and covered with a single face plate. Switch gangs of 4 or more shall be marked to indicate lights or circuits controlled.

WALL RECEPTACLES: At each flush wall receptacle outlet for 120 volt appliances, as indicated on drawings, there shall be installed a 15 amp. composition base, flush receptacle, with face plate. All wall receptacles shall be of duplex pattern.

All plug-in receptacles shall be wired on live circuit to allow use independently of any local switches controlling lighting fixtures.

Wall receptacles shall be Bryant #4812, or of size noted, H&H, G.E., or approved equal.

WALL PLATES: Provide throughout the entire area, stainless steel .060 wall plates. Wall plates shall be fitted with thin rubber gasket cut true to shape of plate in all rooms having glazed brick, tile or finished walls.

All wall plates shall be type to suit device and be of Bryant, H&H, G.E., or approved equal.

WIRES & CABLES: All wires and cables for building light and power shall be soft drawn from commercially pure copper and shall be thoroughly annealed, free from flaws, scale or other imperfections.

Wires shall be heat resisting grade (Type RH) for 600 volt insulation.

Conductors up to and including #10 AW gauge shall be solid; larger sizes shall be stranded.

FRICITION & RUBBER INSULATING TAPE: All splices shall be covered with Okonite rubber tape, or approved equal, and then covered with "Manson" or approved equal, friction tape as specified, all in accordance with the Underwriter's requirements and general practices.

LIGHTING PANEL: Lighting panel shall be safety dead-front construction, having lugs only in mains, arranged for 120/240 volt, single phase, 3 wire solid neutral service having single and double pole cartridge fusible 30 amp. tumbler switch branches in quantity as indicated on drawing. Neutral bar is to be located at top of panel.

Panel assembly shall be installed in box of Code gauge steel approximately 20" wide by 5-3/4" deep. Provide 6" top and bottom gutters, 4" side gutter.

Front shall be Code gauge full finished steel with trim of proper width. The door shall be fastened to the trim with concealed hinges and provided with combination catch and lock. Panel to be door-in-door construction.

The panel board and cabinet shall be surface mounting type and shall conform to the requirements of the Underwriter's Laboratories. Detailed drawings shall be furnished for approval of Architect.

MANUAL MOTOR STARTING SWITCHES: Provide and install where noted, manual motor starting switches with thermal overload protection, double pole type. Switches to be for surface mounting and shall be General Electric Type CR-1062, or approved equal. Provide red bulls-eye pilot lights.

INSTALLATION & WORKMANSHIP

SERVICE FEEDER: The new service feeder for the Kitchen Addition is to be installed in rigid iron conduit run exposed thru the Boiler Room, the Coal Vault and Boys Toilet into new addition there connecting to the new branch circuit panel.

Feeder is to be connected thru a new 60 ampere safety switch set adjacent to the service entrance equipment in Boiler Room.

GROUND CONNECTIONS: Ground connections shall be made to the conduit systems, to neutral leg of service feeder and to all equipment and electrical devices as required by the "Code" and Service Company.

POWER CIRCUITS:

120 Volt Kitchen Equipment: 120 volt power circuits are to be installed for the several kitchen appliances, all to be indicated on drawings. Certain equipment as indicated to be arranged for plug-in receptacle connections. The several items to be connected are the Cash Register, Ice Cream Cabinet, Water Cooler, Refrigerator and Mixer.

Dishwasher: A 240 volt, single phase power circuit is to be installed for the dishwasher terminating in a terminal box with conduit connection to motor controller and motor. This Contractor is to install motor starter, where directed. Motor is 1/2 H.P., 240 volt, single phase.

Steam Table: A 240 volt circuit is to be installed for the electric steam table terminating in a terminal box provided at steam table. Steam table is 2750 watts, 240 volt, single phase.

Kitchen Hood Exhaust Fan: 120 volt circuit connection is to be provided for the kitchen hood roof exhaust fan terminating in a manual motor starter with circuit connection to exhaust fan on roof. Fan motor is 1/4 H.P., 120 volt.

BRANCH LIGHTING CIRCUITS: Branch lighting circuits shall be run from the distributing panel to ceiling, wall and floor outlets, receptacles, wall switches and other outlets as noted, to be installed in rigid iron conduit with wire as specified. Where lighting outlets are shown to be controlled from more than one point provide the proper number of wires to secure the control indicated. In general the drawings indicate the size of the conduit and note the number of wires. Where conduit sizes are omitted they shall be in accordance with Code schedule, but in no case shall more than 2-wires be installed in 1/2" conduit.

All lighting circuits are to be installed with #12 wire, identified as required by Code.

In general circuit runs are to be fed thru ceiling outlets with runouts to switches as noted.

Sufficient wire loop shall be provided at all outlet boxes to permit the installation of appliances and fixtures.

All lighting outlets are to be fitted with fixtures as specified.

This Contractor shall prepare suitable schedule designating the circuits as actually run from panel.

LOCATION OF OUTLETS: The drawings indicate the approximate location of the outlets and their grouping on the various circuits with "home runs" to the respective distribution panel. The exact locations shall be carefully laid out by the Contractor for Electrical Work at the building in conference with the Architect's representative. The Architect reserves the right to change the location of any outlets, or the grouping thereof of any circuit, before permanent installation or finish plaster, and such changes shall be made by the Contractor for Electrical Work without extra charge.

All wall switches shall be placed on lock side of door as noted elsewhere. Outlets shall be placed at a height of 4'0" above finished floor.

Receptacle outlets shall be placed at a height as directed by the Architect.

LIGHTING FIXTURES

This Contractor shall furnish and install complete lighting equipment including Utility Fixtures, all as included in schedule of Lighting Fixtures and types, and as indicated by outlets on drawings.

Design: The fixtures specified give a general idea of the type and design as intended for use in this building, the Architect reserves the right to accept the fixtures as shown complete, or modified as to design, type or both. Fixtures of a like type, design and workmanship will be acceptable upon submission of samples of the proposed fixtures, which meet the approval of the Engineer.

Lamps: All electrical fixtures shall be provided with full lamp equipment as required, lamps to be as manufactured by General Electric, Westinghouse, Sylvania, or approved equal, of wattage and type as specified. Incandescent lamps shall be inside frosted. Fluorescent lamps shall be 4500 deg. white. All lamps shall be new and in perfect condition at the time appointed for final test and acceptance of the work. Any defective lamps and their associated equipment shall be replaced by the Contractor before acceptance.

DESCRIPTIVE SCHEDULE OF FIXTURES

- TYPE A - Fixture shall be suspension mounting, 4 lamp fluorescent egg-crate louvre unit, Silvray "Silvrescent" Cat. #160S.
- TYPE B - Fixture shall be ceiling mounting, 4-lamp fluorescent egg-crate louvre unit, Silvray "Silvrescent" Cat. #160.
- TYPE C - Fixture shall be 2-lamp light strip, Daybrite Cat. #49240.
- TYPE D - Fixture shall be bracket mounting vapor-proof unit, Russell & Stoll Cat. #4970.

QUANTITY SCHEDULE OF FIXTURES

LOCATION	FIXTURE		LAMP	
	TYPE	QUANTITY	SIZE	QUANTITY
Cafeteria	A	8	40	32
Kitchen	B	4	40	16
Kitchen Hood	C	2	40	4
Outside Entrances	D	2	100	2

CLASSROOM SIGNAL: The existing classroom bell circuit is to be extended from the existing bell in present corridor using two #14 wires in 1/2" conduit connecting to a new 4" bell in Cafeteria, where shown.

Dated - December 9, 1952

