A MODERN AGRICULTURAL BUILDING

FOR

STATE AGRICULTURAL and MECHANICAL

COLLEGE

ORANGEBURG, S. C.

A THESIS

Part I

Presented by

MILLER FULTON WHITTAKER

Candidate for the Degree of Architect

K.S.A.C.

1928

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COLLEGE

ORANGEBURG, S. C.

M. F. WHITTAKER- ARCHITECT

SPECIFICATIONS

THE GENERAL CONDITIONS OF THE CONTRACT FOR THE CONSTRUCTION OF BUILDINGS

Standard Form of the American Institute of Architects

These General Conditions have received the approval of the National Association of Builders' Exchanges, the Associated General Contractors of America, the Joint Conference on Construction Contracts, the National Association of Master Plumbers, the National Association of Sheet Metal Contractors of the United States, the National Electrical Contractors' Association of the United States, the National Association of Marble Dealers, the Building Granite Quarries Association, and the Building Trades Employers' Association of the City of New York.

INDEX TO THE ARTICLES OF THE GENERAL CONDITIONS

Art. 1. Definitions.

(a) The Contract Documents consist of the Agreement, the General Conditions of the Contract, the Drawings and Specifications, including all modifications thereof incorporated in the documents before their execution. These form the Contract.

(b) The Owner, the Contractor and the Architect are those mentioned as such in the Agreement. They are treated throughout the Contract Documents as if each were of the singular number and masculine gender.

(c) The term Subcontractor, as employed herein, includes only those having a direct contract with the Contractor and it includes one who furnishes material worked to a special design according to the plans or specifications of this work, but does not include one who merely furnishes material not so worked.

(d) Written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered mail to the last business address known to him who gives the notice.

(e) The term "work" of the Contractor or Subcontractor includes labor or materials or both.

(f) All time limits stated in the Contract Documents are of the essence of the Contract.

(g) The law of the place of building shall govern the construction of this Contract.

Art. 2. Execution, Correlation and Intent of Documents.—The Contract Documents shall be signed in duplicate by the Owner and the Contractor. In case the Owner and the Contractor fail to sign the General Conditions, Drawings or Specifications, the Architect shall identify them.

The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. The intention of the documents is to include all labor and materials, equipment and transportation necessary for the proper execution of the work. It is not intended, however, that materials or work not covered by or properly inferable from any heading, branch, class or trade of the specifications shall be supplied unless distinctly so noted on the drawings. Materials or work described in words which so applied have a well known technical or trade meaning shall be held to refer to such recognized standards.

Art. 3. Detail Drawings and Instructions.—The Architect shall furnish with reasonable promptness, additional instructions, by means of drawings or otherwise, necessary for the proper execution of the work. All such drawings and instructions shall be consistent with the Contract Documents, true developments thereof, and reasonably inferable therefrom. The work shall be executed in conformity therewith and the Contractor shall do no work without proper drawings and instructions.

The Contractor and the Architect, if either so requests, shall jointly prepare a schedule, subject to change from time to time in accordance with the progress of the work, fixing the dates at which the various detail drawings will be required, and the Architect shall furnish them in accordance with that schedule. Under like conditions, a schedule shall be prepared, fixing the dates for the submission of shop drawings, for the beginning of manufacture and installation of materials and for the completion of the various parts of the work.

Art. 4. Copies Furnished.—Unless otherwise provided in the Contract Documents the Architect will furnish to the Contractor, free of charge, all copies of drawings and specifications reasonably necessary for the execution of the work.

Art. 5. Shop Drawings.—The Contractor shall submit with such promptness as to cause no delay in his own work or in that of any other Contractor, two copies of all shop or setting drawings and schedules required for the work of the various trades, and the Architect shall pass upon them with reasonable promptness. The Contractor shall make any corrections required by the Architect, file with him two corrected copies and furnish such other copies as may be needed. The Architect's approval of such drawings or schedules shall not relieve the Contractor from responsibility for deviations from drawings or specifications, unless he has in writing called the Architect's attention to such deviations at the time of submission, nor shall it relieve him from responsibility for errors of any sort in shop drawings or schedules.

Art. 6. Drawings and Specifications on the Work.—The Contractor shall keep one copy of all drawings and specifications on the work, in good order, available to the Architect and to his representatives.

Art. 7. Ownership of Drawings and Models.—All drawings, specifications and copies thereof furnished by the Architect are his property. They are not to be used on other work and, with the exception of the signed Contract set, are to be returned to him on request, at the completion of the work. All models are the property of the Owner.

Art. 8. Samples.—The Contractor shall furnish for approval all samples as directed. The work shall be in accordance with approved samples.

Art. 9. Materials, Appliances, Employes.—Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation and other facilities necessary for the execution and completion of the work.

Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

The Contractor shall at all times enforce strict discipline and good order among his employes, and shall not employ on the work any unfit person or any one not skilled in the work assigned to him.

Art. 10. Royalties and Patents.—The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for all such loss when a particular process or the product of a particular manufacturer or manufacturers is specified, but if the Contractor has information that the process or article specified is an infringement of a patent he shall be responsible for such loss unless he promptly gives such information to the Architect or Owner.

Art. 11. Surveys, Permits and Regulations.—The Owner shall furnish all surveys unless otherwise specified. Permits and licenses of a temporary nature necessary for the prosecution of the work shall be secured and paid for by the Contractor. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Owner, unless otherwise specified.

The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the drawings and specifications are at variance therewith, he shall promptly notify the Architect in writing, and any necessary changes shall be adjusted as provided in the Contract for changes in the work. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Architect, he shall bear all costs arising therefrom.

Art. 12. Protection of Work and Property.—The Contractor shall continuously maintain adequate protection of all his work from damage and shall protect the Owner's property from injury or loss arising in connection with this Contract. He shall make good any such damage, injury or loss, except such as may be directly due to errors in the Contract Documents or caused by agents or employes of the Owner. He shall adequately protect adjacent property as provided by law and the Contract Documents. He shall provide and maintain all passage ways, guard fences, lights and other facilities for protection required by public authority or local conditions.

In an emergency affecting the safety of life or of the work or of adjoining property, the Contractor, without special instruction or authorization from the Architect or Owner, is hereby permitted to act, at his discretion, to prevent such threatened loss or injury, and he shall so act, without appeal, if so instructed or authorized. Any compensation, claimed by the Contractor on account of emergency work, shall be determined by agreement or Arbitration.

Art. 13. Inspection of Work.—The Architect and his representatives shall at all times have access to the work wherever it is in preparation or progress and the Contractor shall provide proper facilities for such access and for inspection.

If the specifications, the Architect's instructions, laws, ordinances or any public authority require any work to be specially tested or approved, the Contractor shall give the Architect timely notice of its readiness for inspection, and if the inspection is by another authority than the Architect, of the date fixed for such inspection. Inspections by the Architect shall be promptly made, and where practicable at the source of supply. If any work should be covered up without approval or consent of the Architect, it must, if required by the Architect, be uncovered for examination at the Contractor's expense.

Re-examination of questioned work may be ordered by the Architect and if so ordered the work must be uncovered by the Contractor. If such work be found in accordance with the Contract Documents the Owner shall pay the cost of re-examination and replacement. If such work be found not in accordance with the Contract Documents the Contractor shall pay such cost, unless he shall show that the defect in the work was caused by another Contractor, and in that event the Owner shall pay such cost.

Art. 14. Superintendence: Supervision.—The Contractor shall keep on his work, during its progress, a competent superintendent and any necessary assistants, all satisfactory to the Architect. The superintendent shall not be changed except with the consent of the Architect, unless the superintendent proves to be unsatisfactory to the Contractor and ceases to be in his employ. The superintendent shall represent the Contractor in his absence and all directions given to him shall be as binding as if given to the Contractor. Important directions shall be confirmed in writing to the Contractor. Other directions shall be so confirmed on written request in each case.

The Contractor shall give efficient supervision to the work using his best skill and attention. He shall carefully study and compare all drawings, specifications and other instructions and shall at once report to the Architect any error, inconsistency or omission which he may discover, but he shall not be held responsible for their existence or discovery.

Art. 15. Changes in the Work.—The Owner, without invalidating the Contract, may order extra work or make changes by altering, adding to or deducting from the work, the Contract Sum being adjusted accordingly. All such work shall be executed under the conditions of the original contract except that any claim for extension of time caused thereby shall be adjusted at the time of ordering such change.

In giving instructions, the Architect shall have authority to make minor changes in the work, not involving extra cost, and not inconsistent with the purposes of the building, but otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order from the Owner signed or countersigned by the Architect, or a written order from the Architect stating that the Owner has authorized the extra work or change, and no claim for an addition to the contract sum shall be valid unless so ordered.

The value of any such extra work or change shall be determined in one or more of the following ways:

(a) By estimate and acceptance in a lump sum.
(b) By unit prices named in the contract or subsequently agreed upon.
(c) By cost and percentage or by cost and a fixed fee.

If none of the above methods is agreed upon, the Contractor, provided he receives an order as above, shall proceed with the work. In such case and also under case (c), he shall keep and present in such form as the Architect may direct, a correct account of the net cost of labor and materials, together with vouchers. In any case, the Architect shall certify to the amount, including reasonable allowance for overhead and profit, due to the Contractor. Pending final determination of value, payments on account of changes shall be made on the Architect's certificate.

Art. 16. Claims for Extra Cost.—If the Contractor claims that any instructions by drawings or otherwise involve extra cost under this contract, he shall give the Architect written notice thereof within a reasonable time after the receipt of such instructions, and in any event before proceeding to execute the work, except in emergency endangering life or property, and the procedure shall then be as provided for changes in the work. No such claim shall be valid unless so made.

Art. 17. Deductions for Uncorrected Work.—If the Architect and Owner deem it inexpedient to correct work injured or done not in accordance with the Contract, an equitable deduction from the contract price shall be made therefor.

Art. 18. Delays and Extension of Time.—If the Contractor be delayed at any time in the progress of the work by any act or neglect of the Owner or the Architect, or of any employe of either, or by any other Contractor employed by the Owner, or by changes ordered in the work, or by strikes, lockouts, fire, unusual delay in transportation, unavoidable casualties or any causes beyond the Contractor's control, or by delay authorized by the Architect pending arbitration, or by any cause which the Architect shall decide to justify the delay, then the time of completion shall be extended for such reasonable time as the Architect may decide.

No such extension shall be made for delay occurring more than seven days before claim therefor is made in writing to the Architect. In the case of a continuing cause of delay, only one claim is necessary.

If no schedule or agreement stating the dates upon which drawings shall be furnished is made, then no claim for delay shall be allowed on account of failure to furnish drawings until two weeks after demand for such drawings and not then unless such claim be reasonable.

This article does not exclude the recovery of damages for delay by either party under other provisions in the contract documents.

Art. 19. Correction of Work Before Final Payment.—The Contractor shall promptly remove from the premises all materials condemned by the Architect as failing to conform to the Contract, whether incorporated in the work or not, and the Contractor shall promptly replace and re-execute his own work in accordance with the Contract and without expense to the Owner and shall bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement.

If the Contractor does not remove such condemned work and materials within a reasonable time, fixed by written notice, the Owner may remove them and may store the material at the expense of the Contractor. If the Contractor does not pay the expenses of such removal within ten days thereafter, the Owner may, upon ten days' written notice, sell such materials at auction or at private sale and shall account for the net proceeds thereof, after deducting all the costs and expenses that should have been borne by the Contractor.

Art. 20. Correction of Work After Final Payment.—Neither the final certificate nor payment nor any provision in the Contract Documents shall relieve the Contractor of responsibility for faulty materials or workmanship and, unless otherwise specified, he shall remedy any defects due thereto and pay for any damage to other work resulting therefrom, which shall appear within a period of

one year from the date of substantial completion. The Owner shall give notice of observed defects with reasonable promptness. All questions arising under this article shall be decided by the Architect subject to arbitration.

Art. 21. The Owner's Right to Do Work.—If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this contract, the Owner, after three days' written notice to the Contractor may, without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor; provided, however, that the Architect shall approve both such action and the amount charged to the Contractor.

Art. 22. Owner's Right to Terminate Contract.—If the Contractor should be adjudged a bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if he should fail to make prompt payment to subcontractors or for material or labor, or persistently disregard laws, ordinances or the instructions of the Architect, or otherwise be guilty of a substantial violation of any provision of the contract, then the Owner, upon the certificate of the Architect that sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor seven days' written notice, terminate the employment of the Contractor and take possession of the premises and of all materials, tools and appliances thereon and finish the work by whatever method he may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price shall exceed the expense of finishing the work including compensation for additional managerial and administrative services, such excess shall be paid to the Contractor. If such expense shall exceed such unpaid balance, the Contractor shall pay the difference to the Owner. The expense incurred by the Owner as herein provided, and the damage incurred through the Contractor's default, shall be certified by the Architect.

Art. 23. Contractor's Right to Stop Work or Terminate Contract.—If the work should be stopped under an order of any court, or other public authority, for a period of three months, through no act or fault of the Contractor or of anyone employed by him, or if the Architect should fail to issue any certificate for payment within seven days after it is due, or if the Owner should fail to pay to the Contractor within seven days of its maturity and presentation, any sum certified by the Architect or awarded by arbitrators, then the Contractor may, upon seven days' written notice to the Owner and the Architect, stop work or terminate this contract and recover from the Owner payment for all work executed and any loss sustained upon any plant or materials and reasonable profit and damages.

Art. 24. Applications for Payments.—The Contractor shall submit to the Architect an application for each payment, and, if required, receipts or other vouchers, showing his payments for materials and labor, including payments to subcontractors as required by Art. 37.

If payments are made on valuation of work done, such application shall be submitted at least ten days before each payment falls due, and, if required, the Contractor shall, before the first application, submit to the Architect a schedule of values of the various parts of the work, including quantities, aggregating the total sum of the contract, divided so as to facilitate payments to subcontractors in accordance with Article 37 (e), made out in such form as the Architect and the Contractor may agree upon, and, if required, supported by such evidence as to its correctness as the Architect may direct. This schedule, when approved by the Architect, shall be used as a basis for certificates of payment, unless it be found to be in error. In applying for payments, the Contractor shall submit a statement based upon this schedule, and, if required, itemized in such form and supported by such evidence as the Architect may direct, showing his right to the payment claimed.

If payments are made on account of materials delivered and suitably stored at the site but not incorporated in the work, they shall, if required by the Architect, be conditional upon submission by the Contractor of bills of sale or such other procedure as will establish the Owner's title to such material or otherwise adequately protect the Owner's interest.

Art. 25. Certificates of Payments.—If the Contractor has made application as above, the Architect shall, not later than the date when each payment falls due, issue to the Contractor a certificate for such amount as he decides to be properly due.

No certificate issued nor payment made to the Contractor, nor partial or entire use or occupancy of the work by the Owner, shall be an acceptance of any work or materials not in accordance with this contract. The making and acceptance of the final payment shall constitute a waiver of all claims by the Owner, other than those arising from unsettled liens, from faulty work appearing after final payment or from requirement of the specifications, and of all claims by the Contractor, except those previously made and still unsettled.

Should the Owner fail to pay the sum named in any certificate of the Architect or in any award by arbitration, upon demand when due, the Contractor shall receive, in addition to the sum named in the certificate, interest thereon at the legal rate in force at the place of building.

Art. 26. Payments Withheld.—The Architect may withhold or, on account of subsequently discovered evidence, nullify the whole or a part of any certificate to such extent as may be necessary to protect the Owner from loss on account of:

(a) Defective work not remedied.
(b) Claims filed or reasonable evidence indicating probable filing of claims.
(c) Failure of the Contractor to make payments properly to subcontractors or for material or labor.
(d) A reasonable doubt that the contract can be completed for the balance then unpaid.
(e) Damage to another Contractor.

When the above grounds are removed payment shall be made for amounts withheld because of them.

Art. 27. Contractor's Liability Insurance.—The Contractor shall maintain such insurance as will protect him from claims under workmen's compensation acts and from any other claims for damages for personal injury, including death, which may arise from operations under this Contract, whether such operations be by himself or by any subcontractor or anyone directly or indirectly employed by either of them. Certificates of such insurance shall be filed with the Owner, if he so require, and shall be subject to his approval for adequacy of protection.

Art. 28. Owner's Liability Insurance.—The Owner shall be responsible for and at his option may maintain such insurance as will protect him from his contingent liability for damages for personal injury, including death, which may arise from operations under this contract.

Art. 29. Fire Insurance.—The Owner shall effect and maintain fire insurance upon the entire structure on which the work of this contract is to be done and upon all materials, in or adjacent thereto and intended for use thereon, to at least eighty per cent of the insurable value thereof. The loss, if any, is to be made adjustable with and payable to the Owner as Trustee for whom it may concern.

All policies shall be open to inspection by the Contractor. If the Owner fails to show them on request, or if he fails to effect or maintain insurance as above, the Contractor may insure his own interest and charge the cost thereof to the Owner. If the Contractor is damaged by failure of the Owner to maintain such insurance, he may recover as stipulated in the contract for recovery of damages.

If required in writing by any party in interest, the Owner as Trustee shall, upon the occurrence of loss, give bond for the proper performance of his duties. He shall deposit any money received from insurance in an account separate from all his other funds and he shall distribute it in accordance with such agreement as the parties in interest may reach, or under an award of arbitrators appointed, one by the Owner, another by joint action of the other parties in interest, all other procedure being as provided elsewhere in the contract for Arbitration. If after loss no special agreement is made, replacement of injured work shall be ordered and executed as provided for changes in the work.

The Trustee shall have power to adjust and settle any loss with the insurers unless one of the Contractors interested shall object in writing within three working days of the occurrence of loss, and thereupon arbitrators shall be chosen as above. The Trustees shall in that case make settlement with the insurers in accordance with the directions of such arbitrators, who shall also, if distribution by arbitration is required, direct such distribution.

Art. 30. Guaranty Bonds.—The Owner shall have the right, prior to the signing of the Contract, to require the Contractor to furnish bond covering the faithful performance of the Contract and the payment of all obligations arising thereunder, in such form as the Owner may prescribe and with such sureties as he may approve. If such bond is required by instructions given previous to the submission of bids, the premium shall be paid by the Contractor; if subsequent thereto, it shall be paid by the Owner.

Art. 31. Damages.—If either party to this Contract should suffer damage in any manner because of any wrongful act or neglect of the other party or of anyone employed by him, then he shall be reimbursed by the other party for such damage.

Claims under this clause shall be made in writing to the party liable within a reasonable time of the first observance of such damage and not later than the time of final payment, except as expressly stipulated otherwise in the case of faulty work or materials, and shall be adjusted by agreement or arbitration.

Art. 32. Liens.—Neither the final payment nor any part of the retained percentage shall become due until the Contractor, if required, shall deliver to the Owner a complete release of all liens arising out of this Contract, or receipts in full in lieu thereof and, if required in either case, an affidavit that so far as he has knowledge or information the releases and receipts include all the labor and material for which a lien could be filed; but the Contractor may, if any subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the Owner, to indemnify him against any lien. If any lien remain unsatisfied after all payments are made, the Contractor shall refund to the Owner all moneys that the latter may be compelled to pay in discharging such a lien, including all costs and a reasonable attorney's fee.

Art. 33. Assignment.—Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the Contractor assign any moneys due or to become due to him hereunder, without the previous written consent of the Owner.

Art. 34. Mutual Responsibility of Contractors.—Should the Contractor cause damage to any other contractor on the work the Contractor agrees, upon due notice, to settle with such contractor by agreement or arbitration, if he will so settle. If such other contractor sues the Owner on account of any damage alleged to have been so sustained, the Owner shall notify the Contractor, who shall defend such proceedings at the Owner's expense and, if any judgment against the Owner arise therefrom, the Contractor shall pay or satisfy it and pay all costs incurred by the Owner.

Art. 35. Separate Contracts.—The Owner reserves the right to let other contracts in connection with this work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate his work with theirs.

If any part of the Contractor's work depends for proper execution or results upon the work of any other contractor, the Contractor shall inspect and promptly report to the Architect any defects in such work that render it unsuitable for such proper execution and results. His failure so to inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of his work, except as to defects which may develop in the other contractor's work after the execution of his work.

To insure the proper execution of his subsequent work the Contractor shall measure work already in place and shall at once report to the Architect any discrepancy between the executed work and the drawings.

Art. 36.—Subcontracts.—The Contractor shall, as soon as practicable after the signature of the contract, notify the Architect in writing of the names of subcontractors proposed for the principal parts of the work and for such others as the Architect may direct and shall not employ any that the Architect may within a reasonable time object to as incompetent or unfit.

If the Contractor has submitted before signing the contract a list of subcontractors and the change of any name on such list is required in writing by the Owner after signature of agreement, the contract price shall be increased or diminished by the difference in cost occasioned by such change.

The Architect shall, on request, furnish to any subcontractor, wherever practicable, evidence of the amounts certified on his account.

The Contractor agrees that he is as fully responsible to the Owner for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

Nothing contained in the contract documents shall create any contractual relation between any subcontractor and the Owner.

Art. 37. Relations of Contractor and Subcontractor.—The Contractor agrees to bind every Subcontractor and every Subcontractor agrees to be bound by the terms of the Agreement, the General Conditions, the Drawings and Specifications as far as applicable to his work, including the following provisions of this article, unless specifically noted to the contrary in a subcontract approved in writing as adequate by the Owner or Architect.

This does not apply to minor subcontracts.

The Subcontractor agrees—

(a) To be bound to the Contractor by the terms of the Agreement, General Conditions, Drawings and Specifications, and to assume toward him all the obligations and responsibilities that he, by those documents, assumes toward the Owner.

(b) To submit to the Contractor applications for payment in such reasonable time as to enable the Contractor to apply for payment under Article 24 of the General Conditions.

(c) To make all claims for extras, for extensions of time and for damages for delays or otherwise, to the Contractor in the manner provided in the General Conditions for like claims by the Contractor upon the Owner, except that the time for making claims for extra cost is one week.

The Contractor agrees—

(d) To be bound to the Subcontractor by all the obligations that the Owner assumes to the Contractor under the Agreement, General Conditions, Drawings and Specifications, and by all the provisions thereof affording remedies and redress to the Contractor from the Owner.

(e) To pay the Subcontractor, upon the issuance of certificates, if issued under the schedule of values described in Article 24 of the General Conditions, the amount allowed to the Contractor on account of the Subcontractor's work to the extent of the Subcontractor's interest therein.

(f) To pay the Subcontractor, upon the issuance of certificates, if issued otherwise than as in (e), so that at all times his total payments shall be as large in proportion to the value of the work done by him as the total amount certified to the Contractor is to the value of the work done by him.

(g) To pay the Subcontractor to such extent as may be provided by the Contract Documents or the subcontract, if either of these provides for earlier or larger payments than the above.

(h) To pay the Subcontractor on demand for his work or materials as far as executed and fixed in place, less the retained percentage, at the time the certificate should issue, even though the Architect fails to issue it for any cause not the fault of the Subcontractor.

(j) To pay the Subcontractor a just share of any fire insurance money received by him, the Contractor, under Article 29 of the General Conditions.

(k) To make no demand for liquidated damages or penalty for delay in any sum in excess of such amount as may be specifically named in the subcontract.

(l) That no claim for services rendered or materials furnished by the Contractor to the Subcontractor shall be valid unless written notice thereof is given by the Contractor to the Subcontractor during the first ten days of the calendar month following that in which the claim originated.

(m) To give the Subcontractor an opportunity to be present and to submit evidence in any arbitration involving his rights.

(n) To name as arbitrator under arbitration proceedings as provided in the General Conditions the person nominated by the Subcontractor, if the sole cause of dispute is the work, materials, rights or responsibilities of the Subcontractor; or, if of the Subcontractor and any other subcontractor jointly, to name as such arbitrator the person upon whom they agree.

The Contractor and the Subcontractor agree that—

(o) In the matter of arbitration, their rights and obligations and all procedure shall be analogous to those set forth in this contract.

Nothing in this article shall create any obligation on the part of the Owner to pay to or to see to the payment of any sums to any Subcontractor.

Art. 38. Architect's Status.—The Architect shall have general supervision and direction of the work. He is the agent of the Owner only to the extent provided in the Contract Documents and when in special instances he is authorized by the Owner so to act, and in such instances he shall, upon request, show the Contractor written authority. He has authority to stop the work whenever such stoppage may be necessary to insure the proper execution of the Contract.

As the Architect is, in the first instance, the interpreter of the conditions of the Contract and the judge of its performance, he shall side neither with the Owner nor with the Contractor, but shall use his powers under the contract to enforce its faithful performance by both.

In case of the termination of the employment of the Architect, the Owner shall appoint a capable and reputable Architect, whose status under the contract shall be that of the former Architect.

Art. 39. Architect's Decisions.—The Architect shall, within a reasonable time, make decisions on all claims of the Owner or Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the Contract Documents.

The Architect's decisions, in matters relating to artistic effect, shall be final, if within the terms of the Contract Documents.

Except as above or as otherwise expressly provided in the Contract Documents, all the Architect's decisions are subject to arbitration.

Art. 40. Arbitration.—All questions subject to arbitration under this Contract shall be submitted to arbitration at the choice of either party to the dispute.

The Contractor shall not cause a delay of the work during any arbitration proceedings, except by agreement with the Owner.

The demand for arbitration shall be filed in writing with the Architect, in the case of an appeal from his decision, within ten days of its receipt and in any other case within a reasonable time after cause thereof and in no case later than the time of final payment, except as otherwise expressly stipulated in the Contract. If the Architect fails to make a decision within a reasonable time, an appeal to arbitration may be taken as if his decision had been rendered against the party appealing.

No one shall be nominated or act as an arbitrator who is in any way financially interested in this Contract or in the business affairs of either the Owner, Contractor or Architect.

Unless otherwise provided by controlling statutes, the parties may agree upon one arbitrator; otherwise there shall be three, one named in writing, by each party to this Contract, to the other party and to the Architect and the third chosen by these two arbitrators, or if they fail to select a third within fifteen days, then he shall be chosen by the presiding officer of the Bar Association nearest to the location of the work. Should the party demanding arbitration fail to name an arbitrator within ten days of his demand, his right to arbitration shall lapse. Should the other party fail to choose an arbitrator within said ten days, then such presiding officer shall appoint such arbitrator. Should either party refuse or neglect to supply the arbitrators with any papers or information demanded in writing, the arbitrators are empowered by both parties to proceed ex parte.

If there be one arbitrator his decision shall be binding; if three the decision of any two shall be binding. Such decision shall be a condition precedent to any right of legal action, and wherever permitted by law it may be filed in Court to carry it into effect.

The arbitrators, if they deem that the case demands it, are authorized to award to the party whose contention is sustained such sums as they shall deem proper for the time, expense and trouble incident to the appeal and, if the appeal was taken without reasonable cause, damages for delay. The arbitrators shall fix their own compensation, unless otherwise provided by agreement, and shall assess the costs and charges of the arbitration upon either or both parties.

The award of the arbitrators shall be in writing and it shall not be open to objection on account of the form of the proceeding or the award, unless otherwise provided by the controlling statutes.

In the event of such statutes providing on any matter covered by this article otherwise than as hereinbefore specified, the method of procedure throughout and the legal effect of the award shall be wholly in accordance with the said statutes, it being intended hereby to lay down a principle of action to be followed, leaving its local application to be adapted to the legal requirements of the jurisdiction having authority over the arbitration.

Art. 41. Cash Allowances.—The Contractor shall include in the contract sum all allowances named in the Contract Documents and shall cause the work so covered to be done by such contractors and for such sums as the Architect may direct, the contract sum being adjusted in conformity therewith. The Contractor declares that the contract sum includes such sums for expenses and profit on account of cash allowances as he deems proper. No demand for expenses or profit other than those included in the contract sum shall be allowed. The Contractor shall not be required to employ for any such work persons against whom he has a reasonable objection.

Art. 42. Use of Premises.—The Contractor shall confine his apparatus, the storage of materials and the operations of his workmen to limits indicated by law, ordinances, permits or directions of the Architect and shall not unreasonably encumber the premises with his materials.

The Contractor shall not load or permit any part of the structure to be loaded with a weight that will endanger its safety.

The Contractor shall enforce the Architect's instructions regarding signs, advertisements, fires and smoking.

Art. 43. Cutting, Patching and Digging.—The Contractor shall do all cutting, fitting or patching of his work that may be required to make its several parts come together properly and fit it to receive or be received by work of other contractors shown upon, or reasonably implied by, the Drawings and Specifications for the completed structure, and he shall make good after them as the Architect may direct.

Any cost caused by defective or ill-timed work shall be borne by the party responsible therefor.

The Contractor shall not endanger any work by cutting, digging or otherwise, and shall not cut or alter the work of any other contractor save with the consent of the Architect.

Art. 44. Cleaning Up.—The Contractor shall at all times keep the premises free from accumulations of waste material or rubbish caused by his employes or work, and at the completion of the work he shall remove all his rubbish from and about the building and all his tools, scaffolding and surplus materials and shall leave his work "broom clean" or its equivalent, unless more exactly specified. In case of dispute the Owner may remove the rubbish and charge the cost to the several contractors as the Architect shall determine to be just.

EXCAVATION

GENERAL All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

STAKES AND BATTER-BOARDS Lay out the building accurately under the supervision of the Architect and set such stakes, batter-boards, etc., as may be necessary.

PROTECTION OF SHRUBBERY Build temporary boxes and frames to protect all existing trees and shrubs that are liable to be damaged during the progress of the work. This Contractor shall be responsible for all unnecessary damage to trees, shrubs, drives, lawns, etc.

REMOVAL OF TREES Trees that interfere with the construction of the building may be removed, but not without approval by the Architect.

GENERAL EXCAVATION Excavate for basement, foundation walls, piers, areas, and such other work as may be necessary, to the depths shown on drawings. All trenches for foundation walls or piers must have solid, level and undisturbed bottoms. All exterior foundations shall go down at least 36" below grade. The excavation shall be kept as free as possible from surface draining.

BANK WALLS Excavation for all exterior foundations shall extend at least 6" beyond each face of the wall. No bank walls will be permitted.

EXCAVATION FOR PIPING Excavate for drainage system and piping, as the Plumber may direct, and do all such miscellaneous excavating as may be necessary for the completion of the building and its equiptment.

FILLING AROUND MASONRY Refill around all masonry when directed by the Architect. Unless otherwise specified, all filling must be thoroughly puddled and rammed and be brought up to a sufficient height and so graded as to drain water away from building.

GRADING. Earth removed from excavation shall be used to form an even and neat slope from the building, as directed by the Architect, and shall then be covered over with top soil. All earth not used for refilling or grading is to be carted away by this Contractor unless otherwise directed.

GENERAL MASONRY

GENERAL All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

This Contractor shall furnish all appliances, tools, derricks, scaffolds, and all other material required to carry out his contract in the most rapid and thorough manner.

CEMENT All cement shall be Lone Star or equal Portland.

WHITE CEMENT White cement of Lone Star shall be used for all exterior cement trim.

SAND All sand used throughout the work must be approved by the Architect. It shall be clean, sharp sand or clean, yellow gravel, free from foreign matter. For cement trim, only white river sand shall be used.

MOTAR BOXES Provide proper boxes for mixing mortar. No mortar or plaster may be mixed on the ground or floors of the building.

PROTECTION All mason work shall be suspended during freezing weather, Except when specially permitted by the Architect. All walls, floors, etc., recently built, must be properly protected from the weather and from all injury. All work injured by the weather must be taken down and rebuilt. All masonry sills or projecting work must be protected by boarding, immediately after setting.

CHASES This Contractor shall ascertain where all chases or openings for pipes, wires, ducts, etc., are to go, and wait for such information to be given him. He shall construct all such chases as shown or required, subject to the approval of the Architect.

SCUPPERS OR WEEP HOLES Build all scuppers according to detail shown on drawings.

ANCHORS, ETC. This Contractor shall build in all anchors, joggles, bolts, flashings, wall plugs, nailing strips, beams, frames, etc., as may be required. These materials shall be placed according to the directions of those who furnish them.

SETTING STEEL LINTELS All flat arches where shown on drawings, unless otherwise specified, shall have steel lintels at back of same. These lintels are provided under the heading "IRON AND STEEL" but shall be set by this contractor.

SETTING FRAMES Set all frames as directed and fill with mortar between the frames and masonry until all spaces are solid.

FIRE STOPS Fill in with stone or brick between the ends of all joists where they rest upon walls or partitions. The height of the filling shall be the thickness of the joists.

WATERPROOFING BASEMENT The basement shall be made waterproof by the application of 2 coats of asphalt to the exterior of the foundation walls from bottom of the footings to grade level. All walls must be thoroughly dry before this coating is applied.

CONCRETE

GENERAL All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

WORK INCLUDED Under this contract is included sills, watertable, cornices, etc.,and all other work whereever indicated on drawings as being of concrete.

CEMENT All cement shall be Lone Star or equal Portland.

SAND All sand must be approved by the Architect. It shall be coarse, clean, sharpsand, or clean yellow gravel, free from foreign matter. Only white sand may be used for decorative concrete.

STONE All stone used in plain concrete shall be good hard broken stone, of sizes from ½" to 1-½", free from dust and dirt.

STONE FOR REINFORCED CONCRETE The stone used in reinforced concrete shall be good hard broken stone in sizes from 1-½" to ¾", free from dust and dirt.

REINFORCING RODS All reinforcing rods are provided under the heading "IRON AND STEEL."

PROTECTION FROM WEATHER All concrete work shall be discontinued during freezing weather except when specially permitted by the Architect. All work recently built must be properly protected from the elements. All work injured by the weather must be taken down and rebuilt.

CHASES This Contractor shall ascertain where all chases or openings for pipes, wires, ducts, etc., are to go, and not wait for such information to be given him. He shall construct all such chases as shown or required, subject to the approval of the Architect.

ANCHORS, ETC. This Contractor shall build in all anchors, joggles, bolts, flashings, wall plugs, frames, etc, as may be required. These materials shall be placed according to the directions of those who furnish them.

PLAIN CONCRETE Plain concrete shall be mixed in the proportions of 1 part cement, 3 parts sand, and 5 parts broken stone.

REINFORCED CONCRETE All reinforced concrete shall be mixed in the proportions of 1 part cement, 2 parts sand, and 4 parts broken stone.

CONCRETE BLOCK SILLS All concrete block sills shall be made of 1 part cement and 3 parts sand, and shall be allowed to set for sixty (60) days before being used. Each sill shall be reinforced with 2 rods of ½" reinforcement steel.

MIXING If a mechanical mixer is used, mix cement and sand dry so that the whole mass appears uniform in color, then add water and mix to a proper consistency; after a thorough wetting add the stone and mix to a uniform mass.

MIXING BOXES Provide proper boxes for mixing concrete. No concrete may be mixed on the ground or floor of the building.

FORMS Construct all forms for footings, water-table, cornices, steps, etc. so that they will be water-tight, true to line and form. The forms shall be sufficiently rigid to resist bending under load and dumping. Forms must not be removed until permission is given by the Architect.

PLACING REINFORCEMENT Special care must be taken that reinforcing members be placed exactly in the positions indicated on the drawings.

POURING All concrete must be poured into forms immediately after mixing. Concrete must be thoroughly tamped immediately after pouring.

Where concrete is to have an exposed surface, a flat tool shall be worked between the face of the form and the concrete, forcing back large stones so that finished surface will be smooth and uniform.

CONCRETE FOOTINGS All footings indicated on drawings shall be plain concrete of dimensions shown.

CONCRETE LINTELS Provide and set, in accordance with detail drawings, reinforced concrete lintels over all openings.

INTERIOR CEMENT FLOORS Level up the earth under the basement floor and cover with a 6" layer of cinders well rammed. Then lay 3" of concrete. On top of this put a finishing coat fully 1" thick, composed of 1 part cement and 2 parts sand, all of which shall be floated smooth. All work shall be level except where required to pitch for draining. Where pipes under floors run close to the surface, the work shall be reinforced with galvanized wire cloth to prevent cracking.

The first and second floors and the roof shall be covered with concrete mixed as follows: Portland cement, 1 part; fine sand, 2 parts; broken rock, 4 parts. The floors shall be floated smooth and troweled to an even finish. The roof shall be floated smooth to receive the standard built-up roofing.

All sumps, drains, conduits, plumbing, etc., shall be in place before concrete is poured.

No loads shall be placed on Hy-Rib before concrete is poured and the slabs have set. Floors of all ordinary size rooms must be poured in one continuous slab. Where this is not possible, the edges must be broken down and roughened so as to make a good bond. In no case must any edge be left incomplete more than 24 hours.

CEMENT BASES Cement floors shall have a cement base 6" high with 1-½" cove at floor.

EXTERIOR CEMENT FLOORS The porch, where so indicated, are to be paved with cement as specified for interior floors. They shall be marked off as indicated on drawings.

CEMENT AREA FLOORS Floors of all areas shall consist of 3" of cinder concrete, and a 1" finishing coat composed of 1 part cement and 2 parts sand, pitched to drains. The drains are provided under the heading "PLUMBING."

CEMENT COPINGS Provide cement copings for walls where shown, with wash and drip as detailed. The concrete shall be a 1: 2: 4 mixture.

CEMENT SILLS Provide cement sills for windows, as detailed. The concrete shall be a 1: 2: 4 mixture.

CEMENT STEPS Build cement steps to all entrances where shown, of concrete reinforced with heavy expanded metal. The foundation to steps shall be as shown on drawings.

FLOOR HARDENER Wash all interior concrete thoroughly with clean water, scrubbing with a stiff broom or scrubbing brush, removing all dirt and loose particles, and allow to dry. Dissolve "Agatex Crystals" of the Truscon Laboratories in sater, and apply according to specifications furnished therewith, 1 lb. of Crystals to each 40 sq. ft. of floor.

BRICKWORK

GENERAL All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

WORK INCLUDED Under this contract is included walls, and all other work wherever indicated on drawings as being of brick.

LIME-CEMENT MORTAR Mortar for brick masonry, unless otherwise specified, shall be composed of 1part cement and 3 parts lime mortar. Lime mortar shall be composed of 1 part fresh burned lime and 3 parts sand.

COMMON BRICK All brick throughout the work, unless otherwise specified, shall be the best hard burned common brick, approved by the Architect. Salmon brick will not be permitted on the premises.

WORKMANSHIP In hot or dry weather all bricks must be laid wet, in freezing weather they must be kept warm and dry. All bricks must be laid with solid joints, the mortar being put on the bricks at the time of laying and not flushed or grouted in. No empty spaces, no matter how small, shall be left in the walls unless so shown on the plans or directed. Fill in with brick between the ends of all beams, whether specially shown on the drawings or not.

BRICK VENEER All walls indicated on drawings as brick veneered shall be constructed of 4" of face brickwork, laid against tile walls . The brickwork shall be firmly secured to the tile by approved galvanized iron anchors, built in every fourth course. In hot and dry weather all bricks must be laid wet; in freezing weather they must be kept warm and dry. All bricks must be laid with solid joints.

BOND All face work, unless otherwise specified or shown on drawings, shall be laid up in regular bond as directed, and tied with corrugated wall ties.

POINTING All face brickwork shall have the joints neatly struck to the approval of the Architect.

SAMPLES OF BRICKWORK The contractor shall lay up, to the approval of the Architect, a portion of the face brick, showing bond, color and texture of mortar, and pointing.

HOLLOW TILE

WORK INCLUDED Hollow tile shall be used for backing exterior walls and all interior walls, and wherever else indicated on drawings.

HOLLOW TILE BLOCKS All hollow tile blocks used throughout the building shall be Georgia-Carolina load bearing, of thickness shown on drawings. All hollow tile must be hard burned, true, and regular in size. Cracked or broken blocks will not be permitted in the building.

MORTAR All mortar used for laying up the hollow tile blocks shall be composed of 1 part cement to 3 parts clean, sharp sand. If preferred, lime paste may be added, not to exceed 1/10 part.

SETTING All blocks used in the exterior walls and bearing partitions must be set with the holes or cores vertical. Care must ve taken to see that in exterior walls mortar is placed only at outer and inner edges of joints, leaving a proper air space between. Special sized blocks must be used where necessary to secure a good bond.

BEARING SLABS Provide and set 1" thick terra cotta bearing plates under all joists.

IRON AND STEEL

GENERAL All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this part is required to refer especially thereto.

SHOP DRAWINGS This Contracotr shall prepare at his own expense shop drawings and details of all the work covered by his contract. These drawings shall be submitted in duplicate to the Architect for his approval.

PAINTING AT SHOP All iron and steel shall be carefully and thoroughly cleaned at the shop from dirt, rust, and scales, and given one coat of paint before shipment.

BUILDER'S IRON Provide all anchors, clips, ties, bolts, and all other usual and necessary carpenter's and mason's iron.

REINFORCEMENT FOR CONCRETE Provide reinforcement for all reinforced concrete as shown on drawings. Unless otherwise indicated, all rods shall be square twisted steel.

LINTELS Provide steel lintels for all exterior openings of size marked on drawings. These will be set by Mason.

STRUCTURAL STEEL Provide and set structural steel where shown, of size and shape indicated on drawings. Steel shall be in accordance with the most recent "Standard Specifications for Structural Steel for Building" by the American Society for Testing Materials, and shall be framed and set according to standard shop and field practice. All beams shall have bearings and bearing plates of standard size.

Provide and set Truscon Steel joists for all floors and the roof, according to drawings. All joists shall have level bearing and be set in a true, upright position.

Temporary wood strips, 1" x 2" shall be placed at right angles to the joists and secured to them, one strip at each end and one over each line of bridging. The bridging is next installed according to details. Temporary sheathing may now be laid so that other construction work may be carried on.

WINDOWS All windows shall be Truscon Standard Steel Sash, made by the Truscon Steel Co., Detroit, Michigan. All joints and intersections shall be formed by dovetail mitres; and welded. All ventilators shall be horizontally pivoted with solid steel pivots with removable pin. Double contact weathering shall be employed throughout.

HARDWARE Cam-acting push bars shall be furnished with all ventilators, unless otherwise specified. Ventilators inaccessible to the floor shall be operated by gravity cam latch and chain.

MULLIONS Vertical mullions shall be Truscon patented T-bar or channel-bar as indicated.

PAINTING All sash and mullions shall be given one coat of paint before shipping.

GLAZING All glazing shall be done under a glazing contract.

STAIRS Stairways shall be Mesker Combination Steel and Concrete Stairs, manufactured by Mesker Brothers Iron Company of St. Louis. Stringers shall be 3/16" steel plate, bent in channel form and of width shown on drawings. Treads and risers shall be made of one continuous steel plate, No, 12 or No. 13 gauge, bent to form, as indicated. Treads shall be supported at ends by special clamps, securely bolted to stringers with acorn heads on face strings, and shall be filled with concrete, 1½" more or less in thickness.

Platforms or landings, shall be No.12 gauge steel plates, with nosings same as treads and supported on channel frames, riveted or bolted to stringers and reinforced with channels, not over 2 ft. on centers. Newels shall be No. 12 gauge blue annealed steel with cast iron caps and pendants. Newels to be welded at corners, making a continuous one-piece seamless newel. Railings to be of design indicated on drawings. All to have one shop coat of paint. All measurements for stairs must be made at the building and not from the plans. Stairs must be erected by skilled mechanics.

COLUMNS The fluted columns used in this building shall be Union Metal Pressed Steel Columns with entasis and stopped flutes, manufactured by The Union Metal Manufacturing Company, Canton, Ohio. The style and size are indicated on the drawings. They shall be No. 246, True Roman Doric, 12 ft. high with 18" Diameter. Pilasters shall be half-return, with face straight from top to bottom, but conforming with the columns. The manufacturer shall apply a priming coat of high grade metallastic paint to all columns and pilasters before shipment from his plant.

SHEET METAL AND ROOFING

GENERAL All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contracotr for this portion of the work is required to refer especially thereto. All work must be done in the neatest and best manner, and left free from rubbish, clean and perfect upon completion.

SHEET METAL INCLUDED This Contractor shall provide and apply all sheet metal work, including all flashings, all metal gussets, all gutters, rain conductors, devices for hanging and connecting same, and all other sheet metal work as specified or as required to complete the work.

ROOFING On all non-combustible roof decks as shown on plans apply Johns-Manville Class "A" Specification Roofing as follows:-

MATERIALS Felt: A heavy base sheet of asphalt impregnated asbestos roofing felt 32" wide, weighing approximately 60 lbs, per 108 square feet:to be Johns-Manville Standard Asbestos Built-up Roofing Felt.

Single ply sheets of asphalt impregnated asbestos roofing felt 32" wide, weighing approximately 14 lbs. per 108 square feet: to be Johns-Manville Asbestos Roofing Felt 14 lb.

Asphalt Concrete Primer: To be Johns-Manville Asphalt Concrete Primer.

Asphalt Cement: To be Johns-Manville Asphalt Roofing Cement.

Flashing material as specified hereinafter.

Edging: To be Johns-Manville Asbestos Flashing Material or Johns-Manville Asbestile.

Such material shall be applied over DRY concrete roof deck as follows:

APPLICATION OF MATERIALS Coat the concrete with the cold primer, using approximately 1 gallon over concrete per 100 square feet of roof surface to provide a proper bond between roof deck and asphalt. Allow the primer to dry. If two coats of primer are used, allow first to dry before applying second.

Mop the entire surface thus primed with the asphalt cement, heated to flow freely, and while the cement is hot imbed in it sheets of the 60lb. felt. Lap the joints 3" and seal them with the hot asphalt cement. The 60 lb. felt shall be laid parallel to pitch of roof and turned up 2" on all vertical surfaces, but not cemented to vertical surfaces.

Over the 60 lb. felt, edging strips composed of the flashing material shall be applied at eaves, extending 4" on roof, cemented and turned down over and secured to fascia and projected ½" beyond to form a drip edge. At gable overhang, edging strip shall be similarly applied after all roofing felts have been laid, the exposed edge on roof to be covered with a 4" wide strip of the 14 lb. felt, embedded in the hot asphalt cement.

If no nailing facilities have been provided, edging strip shall be applied after all roofing felts have been laid. Such edging strip shall be formed by applying a 1/8" thick trowelling of the asbestile cement, extending 4" on the roofing and brought down over fascia to bottom edge and finished flush. Into this shall be imbedded one layer of 14 lb. asbestos felt cut to proper width over which shall be applied a finish trowelling of the asbestile cement brought to a feather edge on top of the roofing.

Mop the entire surface of the 60 lb. felt with the asphalt cement, heated to flow freely, and while the cement is hot, imbed in it sheets of the 14 lb. felt, in two-ply construction, the 14 lb. felt to be run at right angles to the 60 lb. felt, lapped 17" and turned up 2" on all vertical surfaces.

Start at low point of roof with a one-half width wheet of the 14 lb. felt; then a full width sheet of the same felt laid flush with and entirely covering the one-half width sheet. Then lay full width sheets, setting the first so as to over lap the one-half width starting sheet 2" and then exposing 15" of each succeeding sheet to the weather.

Mop the entire surface between plies with the asphalt cement, heated to flow freely, and roll the felts closely behind the mop so that no missing of asphalt can possibly take place. Approximately 30 lbs. of asphalt shall be used per square for each mopping.

When the roofing is otherwise complete, cover the entire surface with a mopping of the asphalt cement, to be applied hot, using approximately 25 pounds to the square.

FLASHING Walls and other elevations above roof surface shall be carried vertically at least 12" to provide for proper flashing.

Roofing material shall be carried up on vertical surfaces 2". All flashings, except those around ventilators, stand-pipes, exhaust, etc., shall be composed of base flashings of Johns-Manville Asbestos Flashing Material approximately 10½" wide, cemented and nailed to vertical surface. Such flashing shall be counter-flashed with Johns-Manville Asbestile System.

GUARANTEE This Contractor shall guarantee all roofs and flashings to be water-tight and perfect for a period of 20 years, and shall make good without cost to the owner any damage caused by leakage during that period.

SPOUTING All gutters, rain conductors, and material for fastening and connecting the same, shall be best No 26 gauge galvanized iron to be approved by the Architect.

Large globe-shaped wire baskets shall be provided for all openings into rain conductors.

RAIN CONDUCTORS Provide and set rain conductors where shown. Conductors shall be 7" x 7" plain, properly secured.

All bends and connections shall be made without abrupt angles, with goose-necks and elbows of ample size.

Conductors shall be properly connected to gutters.

CONDUCTOR HEADS AND STRAPS Conductors shall have ornamental heads with capping, and straps, all according to detail drawings.

VENTILATORS Furnish and set up complete, where shown on plans, Standard Star Vehtilators of the Merchant & Evans Co., Philadelphia. Size 12" 24 gauge galvanized iron, with bases from square to round for concrete slab and asphalt-felt built up roofing.

TRAP-DOOR Cover the sides and edges of the trap-door and curb where shown on drawings with I. C. thickness, 40 lbs, coating, tin.

SCUPPERS Provide and set, where indicated on drawings, galvanized iron scuppers, in accordance with the instructions of the manufacturer, or as directed by the Architect.

PLASTER AND STUCCO

GENERAL All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

The Contractor for this part of the work shall carefully examine all ceilings, partitions, and furring, and if these are not perfectly plumb, level, and solidly secured at all angles, he shall have all such defects remedied before the lathing is commenced.

He shall provide all necessary labor and material, including scaffolding, etc., he shall do all work in the neatest and best manner, and on completion shall remove all rubbish and leave the work clean and perfect.

After the work of all other mechanics is finished, he shall replaster all damaged portions of his work.

SAMPLES Samples of all finish, other than hard white finish, shall be made for the Architect's approval of color and texture, and remade until satisfactory.

METAL LATH All interior ceilings, unless otherwise specified, shall be lathed with Hy-Rib metal lath weighing 3.4 pounds per square yard, properly stiffened, tightly stretched and secured with galvanized clips.

All interior floors, unless otherwise specified, shall be lathed with Hy-Rib metal cloth weighing 4 pounds per square yard, properly stretched and secured with galvanized clips.

CORNER BEADS Galvanized corner beads shall be used for all external angles, unless otherwise specified or indicated on drawings.

PATENT PLASTER All plaster, except where otherwise specified, shall be Acme Cement patent plaster, applied in strict accordance with the manufacturer's direction.

SMOOTH-FINISH COAT The smooth-finish coat shall be composed of lime putty strained through a screen of 100 meshes to the square inch, mixed with a small proportion of glue, and gauged with plaster of Paris. This coat shall be troweled to an even, straight and burnished surface, free from all chips, cracks or other defects.

CORNICE The ceiling of main offices and hallways shall have a plaster cornice run according to the detail drawings.

CARPENTRY AND MILLWORK

GENERAL All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor of this portion of the work is required to refer especially thereto.

The Carpenter shall furnish all rough or dressed lumber and all millwork. Unless otherwise specified he shall furnish and set all centers, templates, bracing, etc., required for the masonry work. These centers shall be well stiffened and strong enough to carry the weights they support without deformation. They must be accurately formed to the required shapes and must be left in place until ordered removed by the Architect.

He shall provide all necessary wood blocks, nailing strips, plugs, door and window bucks, etc., and see that they are built in as required by other Contractors for their work, as the work progresses.

He shall cut and frame timbers and woodwork as required by the various other trades for the completion of their work, and provide all lumber required by them for scaffolding or for the protection of finished work unless otherwise specified.

He shall furnish and erect temporary doors and sash with panels of heavy muslin, glass or wood, to keep out the weather, and shall put the building under lock and key as soon as possible.

MATERIALS All materials required, herein specified or shown on drawings, shall be the best of their respective kinds. All shall be thoroughly seasoned or kiln-dried, and shall be thoroughly protected from the weather after leaving the kiln.

SPECIAL TIMBERS All sub-door-jambs shall be of Georgia Longleaf Yellow Pine, or other approved timber.

NAILING PLUGS Provide wood wall-plugs for fastening woodwork to masonry walls, and see that they are securely built in, in the proper places.

GROUNDS Provide and set ¾" grounds for plastering and for securing millwork, and blockboards. Base boards shall have top and bottom grounds, and 1" grounds for cement base board.

TRANSOMS All door openings shall have clear yellow pine sash with transom lifters as indicated.

WEATHER STRIPPING All exterior doors shall be fitted with weather strip, and be guaranteed absolutely weather-tight.

DOOR FRAMES Exterior door frames shall be wood of Georgia Long-leaf Yellow Pine or other approved material, rabbeted for doors and screens. The staff mould shall be 2" x 2".

Interior door frames shall be of yellow pine with stop-beads nailed on.

DOORS Doors shall be of the following thickness, material, and construction:-

All doors, unless otherwise specified, shall match the adjacent trim. All paneled doors shall have mouldings cut on the solid.

LOCATION	SIZE	THICKNESS	MATERIAL	TYPE
Front Doors	6' x 9'	2"	plain Oak,	glazed, bevel plate, with raised panels.
Other Exterior Doors	6' x 7'	2"	yellow pine,	glazed, plain raised panel.
Interior Doors	3'-6" x 7'	2"	yellow pine,	glazed, plain raised panel.
Office Doors	3' x 7'	2"	yellow pine,	glazed, plain raised panel

GLAZED DOORS All glass in interior doors shall be secured by loose mouldings unless otherwise specified.

DOOR TRIM All doors, unless otherwise specifically noted, shall have wood trim made in strict accordance with the details. All architraves shall be mitered at corners.

STERLING LIFELONG BLACKBOARDS Prepare all surfaces, finish and erect all grounds, provide and erect all finished woodwork, frames, chalk rails, etc. necessary for blackboards. Install all blackboards, and set all mouldings in a neat, substantial and workmanlike manner, by nailing into the woodwork, but not into blackboards.

All installations shall be made in strict accordance with the recommendations of the manufacturer. All blackboards shall have surfaces perfectly true and smooth, free from depressions or projecting particles. All sections of 8 feet or less shall be in one piece and all sections from 8 to 16 feet, two pieces. All joints shall be made with metal Rustproof Joint moulding.

HARDWARE

ROUGH HARDWARE The Contractor for Carpentry shall furnish all rough hardware including all nails, screws, and all other hardware mentioned in this specification as being provided under his contract. He shall take proper care of all hardware at the building and be responsible for all shortages.

FINISH HARDWARE This Contractor shall furnish and set all finish hardware required to complete the building, in strict accordance with the following schedule.

The numbers given in the schedule refer to the hardware manufactured by Russell and Erwin Mfg. Co. of New Britain, Conn.

HARDWARE SCHEDULE

LOCATION	CATALOG NO.	SIZE	FINISH	NO. REQUIRED
Main Entrance Doors				
Butts	241 A	4½ x 4½	Bronze	9 pair
Locks	1298 M	Berk.	F 11	3
Bolts	194 M	3-12-3-24	F 11	6
Door checks	D			3
Inside Doors				
Butts	241 A	4½ x 4½	Bronze	64½ pair
Locks	00125	M S 2-Berk.	F 11	43
Butts	291 A	3½ x 3½	F 11	43
Lifters	280½	4'- Reach-16"	F 11	43
Outside Basement Doors				
Butts	241 A	4½ x 4½	Bronze	9 pair
Locks	11248 M	R Y-10	F 11	3
Bolts	194 M	3-12- 3-24	F 11	6
Toilet Doors				
Butts	241 A	4½ x 4½	Bronze	3 pair
Locks	0783 M	Set B	F 11	2
Pulls	627 LNX	15 x 3½	F 11	2
Push plates	615 LNX	15 x 3½	F 11	2
Checks	D			3

ALTERNATE BRANDS Goods of Yale and Towne may be substituted for those above specified, if corresponding in quality and operation. No substitution may be made without the approval of the Architect, who shall be absolute judge of the comparative merits of corresponding pieces of different makes. All hardware shall be of proper size and shape to fit the woodwork as detailed.

PAINTING

GENERAL All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

All woodwork must be thoroughly clean and dry before any paint or stain is applied. It shall be rubbed smooth, and all knots and sappy places shall be covered with grain alcohol shellac before painting.

All woodwork that is to be painted shall be primed at the earliest possible moment. The back as well as the front of all millwork coming in contact with masonry walls shall be primed. All hard wood, unless otherwise required, shall be given a coat of paste filler well rubbed in before finish is applied.

After priming, all nail holes, cracks, etc., shall be puttied with putty colored to match the finish.

No coat of paint shall be applied until the under one is perfectly dry. All mouldings and ornament shall be carefully cleaned out before each coat of paint is applied. All finished surfaces shall be left smooth and even and free from brush marks or other defects.

On completion, this Contractor shall remove all spots from floors, glass, etc., and shall repaint edges of sash and doors where necessary after fitting by the Carpenter.

GUARANTEE The Contractor shall guarantee his work in every respect, and shall make good, without cost to the Owner, any defects in material or workmanship which may develop within eighteen (18) months after the completion and acceptance thereof.

SAMPLES - Samples of all wood finish shall be made for the Architect's approval and must be accurately matched by the finished work.

MATERIALS All materials specified shall be brought to the building in the original packages, which shall remain unopened until inspected and approved. No dilution of any description will be permitted unless specially approved by the Architect.

White lead shall be best American white lead .

Linseed oil shall be pure and of best quality, raw or boiled as may be required.

Putty for exterior work shall be pure linseed oil putty; for interior work, white lead putty.
Varnish shall be Pee Gee inside or outside. Shellac shall be best grain-alcohol shellac. Stain shall be Pee Gee Wondertone.

EXTERIOR STAIN The exterior doors shall be evenly stained dark oak wondertone to produce the color directed, and finished with 1 coat of white shellac and 2 coats of outside varnish.

INTERIOR PAINTED PLASTER All plaster to be painted shall be sandpapered thoroughly, sized and finished as follows:-

LOCATION	NO. OF COATS	PAINT	FINISH
walls and ceiling	3	Pee Gee lead and oil Flat-Koatt	Flat
Vestibule			
walls	3	P-G lead and oil	
ceiling	3	(P - G)flat wall paint	flat
Class-Rooms			
walls and ceilings	3	(P - G)flat wall paint	flat
etc.	etc.	etc.	etc.

INTERIOR ENAMELED WOODWORK All woodwork in toilets shall be primed, puttied and painted with one coat white shellac, three coats lead and oil, two coats Pee Gee enamel. Before each coat is applied, all surfaces shall be lightly sandpapered.

INTERIOR STAIN All interior woodwork throughout shall be evenly stained dark oak wondertone oil stain to produce the color directed, and finished with 1 coat shellac and 1 coat inside varnish.

SANDPAPERING FOR VARNISH Before each coat of varnish is applied, all surfaces shall be lightly sandpapered.

PAINTED METAL WORK All exposed plumbing, gas pipes, hot water tank, etc. shall be given two good coats of aluminum bronze.

All metal windows, stairways, exposed iron work etc. shall be given two coats of Kover-Floor linoleum brown inside, and Stontex white, outside.

ENAMELED IRON WORK All exposed iron work of plumbinf fixtures shall be given a coat of lead and oil and two coats of enamel of colors selected.

RADIATORS All radiators and exposed pipes, except as otherwise noted, shall be thoroughly cleaned and given three good coats of aluminum bronze, of colors selected.

GLAZING

GENERAL All work included under this heading is subject to the General Conditions of the entire operation. The Contractor for this portion of the work is required to refer especially thereto.

All glass set in woodwork shall be firmly bedded in the best oil and white lead putty, and after stops are in place, shall be neatly puttied. All glass in interior doors shall be properly bedded in putty and secured by wood moulds supplied by the Carpenter. No glass shall be put in place until after the woodwork is primed.

All glass shall be free from waves or other imperfections. At the completion of the building, all glass shall be cleaned and polished; all broken glass must be replaced.

METAL WINDOWS All glass in metal windows shall be secured with spring glazing clips and metal-sash putty.

DOUBLE THICK GLASS All glass throughout the building, unless otherwise specified, shall be double thick American sheet glass.

PLATE GLASS All glass in Entrance Doors shall be best quality American polished plate glass, ¼" thick.

FIGURED ROLLED GLASS The glass in toilets and office partitions shall be figured rolled glass of a type to be approved by the Architect.

PLUMBING

GENERAL CONDITIONS All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

These specifications are intended to provide for a complete and perfect system of water supply, drainage, vent piping, etc. Anything indicated on the drawings and not specified, or vice versa, or any detail omitted which is necessary to the proper installation of the system, must be supplied and installed by this Contractor without extra charge. The Contractor will be held strictly responsible for the quality of the materials and labor furnished and for the proper installation of the system; he must maintain a competemt foreman at the building throughout the progress of the work.

All work shall conform to the Rules and Regulations of the Board of Health and the requirements of the Building Code of the City of Orangeburg.

PERMITS AND CONNECTIONS This Contractor shall file all drawings, pay all fees, and obtain and pay for all permits. He shall see that an adequate supply of water for building purposes is provided at the commencement of the operation.

EXCAVATION Excavate as may be necessary for water-supply piping and drainage systems.

LAYOUT OF SYSTEM Before the building is commenced, this Contractor shall submit for approval a complete layout of the proposed system of piping, indicating clearly the exact position of all chases, openings in foundation walls, trenches for drains, etc. One copy of this layout shall be filed in the Architect's office and another placed in the hands of the General Contractor.

CHASES, CUTTING, ETC. This Contractor shall specifically inform the General Contractor, or the various sub-contractors concerned, of the size and location of all chases, openings, supports, etc., which his work may require, and shall be responsible for the construction of the same. He shall arrange for all cutting through walls, floors, roofs, etc., and the proper closing thereof. Cutting of construction is to be avoided wherever possible, but where unavoidable must be done by the sub-contractor who erected the work.

TAGS FOR VALVES All control valves shall have brass tags properly marked indicating the rooms controlled.

TESTS This Contractor shall make all tests as called for in the Building Code, in the presence of the Architect and the Building Inspector. Any leaks that may appear shall be repaired by the Contractor without extra charge, and the tests repeated until the piping is shown to be perfectly tight.

GUARANTEE The Contractor shall guarantee his work in writing and make good without cost to the Owner, any defects in material or workmanship which may develop within one year after the completion and acceptance thereof.

TERRA COTTA PIPE Terra cotta drain pipes shall be the best quality of hard, salt-glazed terra cotta, approved by the Architect. All pipes must be straight and free from obstructions.

CAST-IRON PIPE All cast-iron pipes, traps, fittings, etc., under ground shall be "extra heavy"; They shall be factory tested, free from sand holes, splits and other defects, and of uniform weight and thickness. Underground pipes and pipes in the masonry walls shall be thoroughly coated with coal-tar pitch, after being tested by the Plumber.

WROUGHT-IRON PIPE Wrought-iron pipes, wherever specified, shall be genuine wrought-iron pipe, galvanized, "standard" in weight and thickness, lap welded, and properly tested at the mills. The name of manufacturer must appear on each length of pipe. All fittings shall be heavy beaded galvanized malleable iron.

BRASS PIPE Brass pipe, where specified, shall be annealed seamless tubing of iron pipe weights and sizes.

LEAD PIPE Lead waste, soil, vent and flush pipes and connections, shall be of the following weights:-

4" bends, 8 lbs. per running foot.
1½" waste, 3 lbs. per running foot.
1¼W waste, 2½" lbs. per running foot.
etc. etc.

EXPOSED PIPES All exposed supplies, traps, and wastes, shall be heavily nickel-plated brass.

NICKEL-PLATED WORK Nickel-plated work shall be of the best quality, warranted heavy plate, on polished brass.

ESCUTCHEONS All exposed pipes in finished rooms shall have hangers and escutcheons of the same material and finish as the pipes. Escutcheons shall be fitted closely, after the surface to which they are applied is finished.

VALVES All valves, except at fixtures or where otherwise specified, shall be Jenkins polished cast brass valves of the full size of the pipes they control

JOINTS IN TERRA COTTA Joints in terra cotta pipe must be completely filled with cement mortar composed of 1 part Portland cement and 1 part sand. All joints must be well swabbed out on the inside.

JOINTS IN CAST-IRON Joints in cast-iron pipe shall be calked first with oakum and then, flush with the hub, with pure, soft pig lead, using 1 lb. of lead to each inch of diameter of the pipe.

JOINTS IN WROUGHT IRON AND BRASS Joints in wrought iron and brass shall be screw joints made up with red lead. The burr formed in cutting shall be carefully reamed out.

JOINTS FOR LEAD PIPES Joints and connections for lead pipe shall be wiped solder joints. Connections between lead and iron pipes shall be made with brass ferrules and wiped solder joints.

FLASHING OF VENT PIPES Where vent pipes pass through roof, the joints shall be made watertight with approved special flashings or sleeves of 6 lb. sheet lead;-etc enclosing the pipe on all sides.

PROTECTION OF PIPES Iron, lead or brass pipe laid in concrete or earth shall be painted with asphalt and well wrapped with tar paper or other approved protection. Where pipes pass through exterior or interior foundation walls they shall be run in terra cotta pipes of larger diameter, or through small arched openings, to protect them against damage from settlement. In masonry walls above grade they shall be run in galvanized iron sleeves to permit expansion.

BUILDING SEWER The building sewer shall be of 6" terra cotta pipe, run as shown on drawings, and discharging into the campus main. All bends and changes in direction shall be made with long sweeps, and under no circumstances shall any part have a pitch of less than 1/8" to the foot. The sewer shall be laid at least 3 ft. below grade line.

SOIL AND VENT PIPES Soil stacks shall be of "medium" weight cast-iron pipe, properly connected with the house drain, and carried up full size through the building and above the roof. Each line shall be extended separately at least 2' above any adjacent ventilating openings or obstructions, except where otherwise specifically directed. The location of vents is to be as inconspicuous as possible and shall be subject to the approval of the Architect.

All offset shall be made at an angle of not less than 45 degrees to the horizontal. All turns shall be made with large bends and all branches with Y's. No lead bends are to be used except for waterclosets.

Pipe stacks shall be firmly supported at the base on masonry or in other approved manner, and elsewhere on approved iron hangers.

CLEANOUTS Readily accessible cleanouts shall be placed on all horizontal lines, and at the base of all risers.

WASTE PIPES The size of waste pipes, unless otherwise specified, shall be as follows:- water closets 4"; sinks, 1-1/2"; all other fistures 1-1/4".

TRAPS AND VENTS Every fixture, unless otherwise specified, shall have an approved trap, back-vented in accordance with the local sanitary requirements.

AREA DRAINS Provide and set in all areas 6" cast-iron catch basins with perforated covers, and connect properly with sewer.

SUPPLY PIPING All piping above the first floor level shall be concealed.

All supply and waste pipes must be so placed as to be readily accessible for examination and repairs. They must be so run that they can be thoroughly drained.

Pipes must not be run in or on outside walls where avoidable. All water pipes and traps in exposed places shall be boxed and packed with mineral wool, by this Contractor.

All water supply pipes, fittings and connections shall be of galvanized genuine wrought iron unless otherwise specified.

WATER SUPPLY The water supply shall be taken from the water main on campus. This Contractor shall have the proper lead connections made and shall pay for same; from this he shall continue with galvanized genuine wrought iron pipe to the inner face of the foundation wall. This pipe shall be carried at least 2'-6" below grade.

GATE VALVE Where supply pipe enters the building, install a brass gate valve with drip grade.

COLD-WATER SUPPLY The supply pipe shall be continued of the same diameter through basement, with rising lines and branches as follows:--

(A) to Toilet Rooms--1"
branches to lavatories-1/2",
branches to water closets-1/2",
to sinks-3/4" etc.

HOT-WATER SUPPLY Connect cold-water supply pipe with water service heating system and run thence hot-water lines and branches similar in size to those of the cold-water supply. Hot-water pipes shall be run to all fixtures excepting water closets and hose cocks.

PROTECTION OF FIXTURES Immediately after the setting of any fixture, fitting or piping, this Contractor is to protect it adequately against damage. He will be held responsible for all fixtures until they are accepted by the Architect. Any fixture or fitting that becomes damaged is to be replaced by this Contractor without extra cost to the Owner. At all stages of the installation, pipe openings must be protected against the entrance of foreign material.

FIXTURES Provide and set all fixtures and fittings necessary to complete the plumbing system whether herein specially mentioned or not, in accordance with the following schedule.

The numbers given below refer to the fixtures manufactured by The Crane Company.

SCHEDULE OF FIXTURES

FIXTURE	CATALOG NO.	NO REQUIRED
sinks	C 19290 J	
water closets	C 12106	12
lavatories	C 2250-P 5	10
urinals	C 15720	1 Battery
closet stalls	C 12600 size 48" x 72" with Doors 34" x 60".	12

ALTERNATE BRANDS Goods of Standard Mfg. Company may be substituted for those above specified if corresponding in quality and operation. No substitution may be made without the approval of the Architect, who shall be absolute judge of the comparative merits of corresponding pieces of different makes.

TOILET FLOOR DRAINS Provide and set in floor of toilets, where indicated, an 8" Cast Iron Combination Floor Drain, C 24660, and make all proper drainage and vent connections.

GAS FITTING

GENERAL The building shall be piped for gas, starting from the meter in basement and running to all points indicated on the drawings. This Contractor shall make all necessary arrangements with the Gas Company and see that the gas meter required is properly installed. His materials and workmanship must conform throughout with all regulations of the local authorities and of the Gas Company.

DIAGRAM Before commencing work this Contractor shall submit to the Architect for approval a diagram showing the proposed arrangement of all piping and valves.

SYSTEM All pipes shall be run as direct as possible, with a constant grade toward the risers and outlets. The system shall be arranged to drain completely all water of condensation. Special drips shall be provided if necessary for this purpose. All branches shall be taken from the sides or top of horizontal lines. Wall outlet branches shall be run from below; all outlets shall be at right angles with the wall or ceiling and shall project 1" from the finished surface. All outlets shall be properly capped.

PIPE All pipe shall be black iron of "standard" weight, with galvanized iron beaded fittings, in accordance with the rules of the local authorities and the Gas Company. Piping shall be of sufficient size to supply all burners at one time with a full head. No pipe less than 3/8" shall be used.

VALVES Outlets shall be provided with heavy lever handle gas cocks.

TEST On completion, this Contractor shall test the entire system as required by the Gas Company, and obtain and file with the Architect a certificate showing that such a test has been completed to the Gas Company's satisfaction.

HEATING

GENERAL All work included under this heading shall be subject to the General Conditions of the Contract.

These specifications describe the installation of a complete Webster Modulation System of Steam Heating.

The heating plans are diagramatic only and are not intended to show all fittings or all details of the work.

The location of all piping and equipment is approximate. The heating contractor must make any necessary changes in the mains, etc., to avoid piers, girders, transoms, plumbing, etc., at no additional cost to the Owners.

This contract is to include all material, labor, permits, etc., necessary for the complete installation of the system. All materials must be new and installed according to the best pratice.

REDUCING VALVE Underground high pressure steam supply and vacuum return mains will be brought to the building under a separate contract. This contract will include the installation of mains to a point at least 3'-0" outside of the building as indicated on the plans.

Furnish and install a high pressure steam trap of Boylston manufacture,or equal, at the end of the underground supply main, after connection has been made to the base of the supply riser to the building. This steam trap must be bypassed by means of a three valve bypass, using globe valves. Install unions on each side of the trap, also a full size Boylston Non-Klog Strainer in the steam connection to the trap. Connect the discharge from the trap to sewer or drain. All connections must be made as shown in detail.

Furnish and install in approximate location indicated one Figure Boylston Pressure Reducing Valve of size as noted, and designed to reduce from 100 pounds to one pound or to atmosphere as the demands of the heating system may require. This reducing valve must be bypassed with a globe valve on the medium pressure side, a gate valve on the low pressure side and a globe or angle valve in the bypass. Furnish and install a 1-1/2" pop safety valve set a 10 pounds in the low pressure heating mains, also a 5-1/2" dial N. P. Webster combination vacuum and pressure gauge. Gauge must be so located that the pressure may be easily read while the reducing valve is being adjusted.

Furnish and install a full size control pipe from the bowl of the reducing valve and connect same into top of the reduced pressure main at a point approximately 15'-0" distant. This connection must be sealed so that no water can come in contact with the diaphragm. Install a full size globe valve and union in this line.

TRENCHES The digging and back filling of trenches required for the installation of the mains into the building from a point approximately 3'-0" outside the building walls must be done under this contract. The trenches must be excavated so as to obtain a uniform grade between buildings and at least 24" of earth must be provided over the top of the Covering on all underground pipe.

Surplus earth must be removed from the premises by the Contractor and disposed of as directed by the Owner. Should bed rock or large rocks or boulders be encountered in excavating the trenches they will be considered extras and will be provided for accordingly. No extra will be allowed for the removal of small boulders or rotten stone.

TESTS FOR UNDERGROUND PIPING All underground supply and return mains must be treated and made tight at boiler pressure before any of the conduit covers are cemented in place. Each length of piping must be carefully examined during this test, and any leaks must be stopped.

On completion of the tests the trenches must be backfilled and tamped and the work turned over to the owners for operation.

MODULATION VENT TRAP For the purpose of relieving the air from the system, this contractor shall furnish and install in dry return main in approximate location shown on the drawings one Webster Modulation Vent Trap and one Webster ball check vent valve. All connections must be made in accordance with the detail on the drawings.

PIPING From the low pressure side of reducing valve the steam supply mains will be taken and will continue overhead through basement of the building suspended from the first floor construction, in the general direction and of the sizes given on the plans. Should it be found necessary due to structural or other conditions to run the steam mains or any of the piping differently from the main showing on the drawings, the contractor shall consult the Architect in regard to same and secure his approval in writing before proceeding with the work.

Drip the end of each low pressure supply main through a gate valve, a Webster dirt strainer and a Webster Series 26 drip trap, of size and in strict accordance with the detail drawing on the plans.

Connecting with the return risers, return connections from radiators and the drip points at the end of the supply mains, return mains shall be run suspended from the first floor construction in the general direction and of the sizes given on the plans. Where the return mains start they must be kept as close to the first floor construction as possible.

Exposed supply and return risers shall be run straight and true at the points and of the sizes shown on plans. The lateral connections from risers to radiators will be made near the floor line, and must be one size larger than radiator valves and traps. The Heating Contractor must do all necessary cutting and patching at walls, floors and partitions required for the proper installation of all risers and radiator connections.

The supply and dry return mains must grade at least 1" in every 20 feet in the direction indicated by arrows. Lateral runs from mains to risers and from risers to radiators must be graded back to mains or to risers at least 1" in every 3'-0", with a minimum fall of 1" in all cases. All connections must be taken from top of supply and return mains on 45 degrees. The sizes given are the minimum which will be allowed.

All pipe must be of full weight Spellerzied steel as manufactured by the National Tube Company, or equal, and must be reamed and thoroughly cleaned before it is assembled. Allowance must be made for expansion and contraction of all pipe.

All fittings shall be made of heavy grey cast iron. No malleable iron fittings will be allowed. Provision must be made for disconnection of pipe by using flanges or unions at suitable points.

All piping in buildings must be supported by means of substantial iron pipe hangers equal to the Grinnell Company's pattern, Fig. 107 and Fig.108, spaced in accordance with the size and weight of the piping, so there will be no sagging from the line of grade.

Overhead radiators must be hung from the floor construction above on cradles constructed of 3/8" fron rods and 3/4" pipe, capped at ends, which must be furnished and installed under this contract.

Suitable sleeves, floor and ceiling plates shall be provided where pipes pass through walls, floors, etc. All plates on and above the first floor line shall be nickel plated and of pattern approved by the Architect.

RADIATION All radiators ordered for this installation are to be of the hot water type having the supply and return connections at top and at bottom at opposite ends.

All radiators must equal the Peerless pattern as manufactured by the American Radiator Company, or equal. Wall radiators overhead in basement must be made up of No. 9 B wall radiator sections. The return end of all radiators must be provided with drip hub pattern leg sections, or with eccentric bushings turned down. All air valve tappings will be omitted or the tappings plugged.

All radiators must be thoroughly washed and cleaned at the factory and plugged with loosed wooden plugs which

are to be left in the outlets until the radiators are connected to the pipe lines.

Supply and return connections must be made in accordance with schedule given on the plans.

VALVES AND TRAPS All radiators must be equipped on the supply end with the proper size Webster Sylphon Valves.

Each radiator must be fitted with a 1/2" Webster Sylphon Trap on the return end. Provide Webster dirt strainers and Webster Series 26 drip traps at the end of each supply main, as hereinbefore specified, and as shown in detail on the drawings.

COVERING AND PAINTING All high pressure mains and connections in all buildings and underground must be covered to standard thickness 85 magnesia and laid in Ric Wil covering, or equal, provided under this contract. All fittings in covering piping must be covered with plastic material to an equal thickness of the pipe covering and trowelled smooth and hard.

Pipe covering must equal the Asbestocel manufactured by the Johns-Manville Company.

All supply and return piping and connections in basement will be left uncovered.

All radiators and all exposed supply and return piping, risers, and connections above the basement floor line must be thoroughly cleaned and given one coat of filler and one heavy coat of radiator enamel of color as may be selected. All painting must be done while the apparatus is warm and by mechanics familiar with this class of work.

TEST AND CLEANING OF SYSTEM All high pressure piping must be tested at boiler pressure. All low pressure piping must be tested at 10 pounds pressure. All piping must be tested and made tight before any covering is applied.

WEBSTER SPECIALTIES Quotations on the Webster Specialties required for this installation may be obtained from the office of Warren Webster & Company, 618 Atlanta Trust Company Building, Atlanta, Georgia.

GUARANTEE The contractor guarantees by his acceptance of these plans and specifications, and in the signing of the contract, that every part going to make up the complete system shall be of the best of its respective kind and shall be erected in a most thorough manner by experienced labor.

The contractor agrees to hold himself responsible for any defects which may develop, due to faulty workmanship, or material of any sort or description whatsoever, and replace and make good any such faulty parts during a period of one year from the date of final acceptance of this work, without cost to the Owner.

The Contractor further guarantees that the heating system will be such that steam may be circulated noiselessly and continuously throughout all parts of the system at a pressure not exceeding one pound by gauge, and that there shall be no water hammer, air binding, or water or air pocketing.

The acceptance of the installation and payment in full for same will not waive the above guarantees, which are to hold good for a period of one year from the date of acceptance.

ELECTRIC WIRING

GENERAL All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

These specifications are intended to provide for a complete and perfect system of electric wiring. Anything indicated on the drawings and not specified, or vice versa, or any detail omitted which is necessary to the proper installation of the system, must be supplied and installed by this Contractor without extra charge.

This Contractor shall pay for all permits and connection, for all surveys, and all inspectors' fees.

He shall be responsible for any injury to his work from any cause, until accepted by the Architect. He shall comply with all requirements of the Orangeburg Water and Light Plant, and the Board of Fire Underwriters.

He shall place all necessary thimbles and outlet boxes which occur in masonry work, before this work is done, or shall do such cutting and repairing as may be necessary, at his own expense and to the approval of the Architect. No cutting of joists shall be done without first securing permission from the Architect.

MATERIALS All wires, switches, fittings, etc., shall be such as are found in the list of approved fittings of the National Board of Fire Underwriters. Samples of all material to be used on the work shall be submitted to the Architect for his approval.

LAYOUT OF SYSTEM The Contractor shall submit a complete layout of the system to the Architect for approval before proceeding with the work. The Architect's approval will not be given until all drawings have been approved in writing by the Orangeburg Water and Light Plant. No approval of the Architect is to be construed as annulling in any way the guarantee of the Contractor for the perfect operation of the system.

LOCATION OF OUTLETS The locations of outlets are shown on the Architect's drawings, but must be verified by the Architect at the building before the outlets are placed. Slight changes in the position of outlets, if decided on before any work has been done by this Contractor shall be made by him without extra charge.

INSPECTION The Contractor shall have an inspection of his work made by the local Board of Fire Underwriters, and shall deliver certificates of approval to the Architect before receiving his final payment.

TESTS Upon completion, the Contractor shall test the system in the presence of the Architect. The installation must be such that between the service switch and the most remote fixture not more than 2 per cent drop may be found under full load.

SYSTEM The building shall be wired throughout for current as supplied by the Orangeburg Water and Light Plant on the two-wire system for branches and three-wire for feeders. The number of lights at each outlet is indicated on the drawings; where no number is given one light is to be understood. Each light shall be considered as 100-watt and of such voltage as is supplied by the Electric Company. Not more than 16 sockets or 1320 watts will be allowed on one circuit.

UNDERGROUND SERVICE CONNECTION The service connection shall be run underground in galvanized wrought iron conduit painted with asphalt, in trench 2' deep. Provide and install therein stranded cables with rubber and lead insulation, of sufficient capacity to insure that there shall not be more than 2 per cent drop with all lights turned on. Connect properly with main and with service switch in building.

UNDERGROUND TELEPHONE CONNECTION The telephone connection shall be run underground in similar manner to the electric light service connection, but with at least 8" space between the conduits of the two systems. The size of conduit, size and number of cables, etc. shall be required by the Telephone Company.

PANEL BOARD Provide and set, where marked on drawings, approved slate panel board of safety type, with slate side linings, in steel box with steel door. A directory showing the outlets controlled by each circuit shall be mounted on the inside of the door of the box. Each panel board must have at least two spare circuits. All switches, bars, clips, etc., shall be of approved pattern, strongly secured, of ample capacity to carry the current without heating.

CONDUIT WORK All wiring throughout shall be in galvanized iron conduit.

Conduits must in no case be fastened to gas, water, or other pipes, and shall be kept not less than 5" away from hot-water and heating pipes.

RIGID CONDUITS All conduits shall be installed behind plaster of walls and in floor construction and so run that the wires are drawn in. The inner diameter of all conduits shall be 1/3 larger than the combined diameter of the wires contained, and in no case shall it be smaller than 5/8".

All ends of conduits shall be squarely cut with hack saws, the use of cutting wheels will not be allowed. Conduits shall be threaded and reamed out clean before being put together.

Joints shall be made with plain iron couplings, freshly coated with white lead just before being secured together. Each joint shall be coated with waterproof paint as soon as it is completed.

Where conduits enter cabinets and outlets they must be threaded and secured with two lock-nuts, or be threaded into the material of the box, and have one lock-nut.

Conduits shall run as nearly straight as possible between outlets and switches. Where more than three bends are required an intersection or junction box shall be introduced to relieve the strain in pulling the wires.

OUTLETS Wiring shall terminate at all outlets in stamped steel outlet boxes of approved make, and similar finish to conduit. Outlet boxes shall be located where directed, set so that the plates will be flush with the finished wall or base board, and protected from injury by the plasterers or other workmen.

Where two or more switches are located side by side they shall be set in a gang box.

FIXTURE SUPPORTS Boxes for fixture outlets shall have suitable studs for the support of the fixtures, so arranged that the weight of the fixture will not come on the outlet box.

WIRE All wire and cable used throughout shall be 98 per cent pure copper, rubber covered and with braided insulation as approved by the National Board of Fire Underwriters. No wire smaller than No. 6 inclusive shall be stranded.

WIRE JOINTS Joints and splices will only be permitted at junction or outlet boxes, never inside conduits. All joints shall be firmly soldered without acid, and taped, first with rubber tape and then with friction tape equivalent in thickness to the insulation of the wire.

SWITCHES All wall switches shall be G. E. tumbler with metal plates not less than .004" thick, finished to match the adjacent hardware. Switches must be of the highest quality in type and workmanship, and must be approved by the Architect.

RECEPTACLES Provide and install where noted on drawings, G. E. flush receptacles of the pin type with plates and plugs complete. All metal work shall be finished to match the adjacent hardware.

OUTSIDE TELEPHONE SERVICE Run conduit, to be approved by the Telephone Company, from the exterior wall, where directed, to outlet in Directors Office with approved face plate at outlet. Leave a No. 14 iron wire in conduit for pulling in future telephone wires.

A MODERN AGRICULTURAL BUILDING

FOR

STATE AGRICULTURAL and MECHANICAL

COLLEGE

ORANGEBURG, S.C.

A THESIS

Part II

Presented by

MILLER FULTON WHITTAKER

Candidate for the Degree of Architect

K.S.A.C.

1928

A MODERN AGRICULTURAL BUILDING

FOR

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COLLEGE

ORANGEBURG, S. C.

M. F. WHITTAKER - ARCHITECT

TECHNICAL CRITICISM

A THOUGHT

THROUGH all ages men have found in architecture the permanent expression of the beauty of their character and of their spirit. The architect of today, so far as in his power lies, is expressing the beauty of his age. This beauty is the first measure of all architecture. It shall make our cities beloved; our colleges and schools inspiring; our homes charming and precious. Neither the complexity of modern demands nor the confusion of modern avenues of artistic expression should lead the architect away from the ceaseless search for the beauty that is possible of attainment in each of his buildings.

Wm. Ward Watkin, A. I. A.

HODGE AGRICULTURAL HALL

The newer buildings of our larger Colleges are representative of the steady advance of American architecture. No other type of building reflects so promptly the trend of thought of our democratic ideals; no other type of building, save, possibly our churches, reflects so eminently our development of culture. And this is as it should be, for out of our colleges come the guiding minds of the state and the nation. In the molding of character, nothing has greater inspirational and cultural value than architecture.

In America, all of our institutions are new, compared with their European ancestors and because of this youth we have certain advantages. Chief among these may be mentioned the idea of group planning and group Architecture. In this matter, the State Agricultural and Mechanical College of South Carolina has responded in a decidely individual and expressive method to an environment that is in no way convenient or beautiful. Hodge Agricultural Hall is the first of a group of three units ultimately to constitute the second quadrangle of the College. The first quadrangle is already in place, consisting of dormitories and the main building and auditorium. The second quadrangle will be flanked on one side by Hodge Hall, on the other by the Engineering building with the Gymnasium closing the quadrangle. This quadrangle will open at its far end into the main quadrangle of the College, the whole when complete forming a large plaza flanked on all sides by important buildings, giving the effect of a large campus to a one which any other group-

ing would make appear small, as it really is. While Hodge Hall forms one side of the rectangle, it will not be severly hemmed in by other buildings, first because none will be over three stories in height and because the fourth side of the quadrangle opens into the main campus or plaza of the College.

Hodge Hall is on the plan of the letter U, facing the south in such a way that the sun shines at some period of the day in each class room. Eventually it is planned to add a small Auditorium in the hallow of the U, for conference and lecture purposes. This will in no way affect the natural light of any class room, nor will it alter the general appearance of the building.

The corridors are all large and airy with high ceilings and tall doorways which enhance the height. The doorways are so placed that students coming from and going to any section of the campus have easy entrance and egress. The stairways are placed at each end of the corridors, so that those using the building may have easy access to any floor of the building without traversing a long portion of the corridor. At the same time the stairs are so broken with landings that one climbing from basement to second story does not become tired. In all, there are seventeen large class rooms or laboratories which admit of a ready flexibility in use. The appointments are all of approved modern school architecture, and the details of heating, natural and artificial lighting, ventilation and furnishings leave very little to be desired.

The building is so arranged that the construction could be very economically carried out. It lends itself readily to the use of joist spans of not unreasonable length for steel joists, and the pilasters of the main exterior walls form excellent supporting members for the hollow tile walls. It was found "Truscon Plate Girder Joists" were more economical than wood and at the same time the building could be made fireproof. Hollow tile walls keep out the dampness, and at the same time add to the heat insulating value of the walls. These are important items in a climate such as South Carolina has, where the summers are hot and the rains many.

With an eye to a pleasing window arrangement and a true appreciation of values, standard type steel ventilator windows were adopted, which harmonize with the architectural style, provide for freedom of expression and rule out the construction errors that occur with a mixed lot of sizes and dimensions.

They provide 30 per cent more light than wood windows of the same size, or the sizes may be reduced so that the same amount of light is secured as in wood windows, thus giving additional wall area. They are particularly desirable for schools where uni-lateral lighting is frequently desired and where the ratio of light area to floor area is definite.

They are made from solid rolled steel sections that never warp or stick, open easily, and when open admit plenty of air.

They are non-inflamable and fire resisting, last longer, look better, never split, splinter or decay. They save time and are adaptable to any type of construction , and when

used in architectural groupings become very attractive.

Hollow tile construction was originally developed to make possible the erection of skeleton frame structures, and at present its greatest development is for the construction of low cost masonry walls for residences, schools, factories and the like, in which field it most effectively fulfills the demand for enduring masonry at low initial and maintenance costs.

Hollow tile has ample surplus strength, and for all ordinary purposes the strength of the wall is dependent on the strength of the mortar joint. There is absolutely no depreciation of the tile itself and where the mortar joints are protected it will stand through the ages. Heat or cold may penetrate a masonry wall only by conduction, and dead air, with which the hollow tile is filled, is the poorest conductor of heat. Air cells are built into the wall in such a manner that any conduction of heat through the walls is neutralized by the wall itself.

One of the main causes of damp walls is absorption, and this is obviated in that the tile is burned to a density that renders the absorption too low to cause trouble even under that most severe weather conditions.

In the hollow tile wall, the conductive mass is greatly reduced and the absorption of heat or cold is dissipated into the warmed dead air contained in the tile cells before it has a chance to affect the interior surface. Therefore the interior surface of the wall is never really hot, cold or damp, except under most extreme or trying conditions.

The walls are fire-resistive, because a wall built of hard-burned clay cannot be burned or destroyed by fire. It is a dependable fire wall material. There is no maintenance cost, and the first cost is the last. Even the cost of installation is a little cheaper than other masonry materials such as brick or concrete.

To meet the ever present need that cuts the fire-risk to the minimum, the floors and roof were constructed of Hy-Rib reinforced concrete. Hy-Rib eliminates the expense of costly wood forms, as the mesh between ribs acts as the form. Composed of concrete and steel, the floors and the roof are absolutely fireproof. Steel joists are used at practically the same cost per square foot as wood ones; being ideal for the long spans and sufficiently rigid to support maximum loads with minimum deflection. The concrete slabs used are light in weight, and effect a marked saving over other types of poured concrete floors or roofs. This type of construction is probably the most efficient, permanent, fireproof and economical construction that could have been used for a building of the size of Hodge Hall, and for the purposes for which it is to be used.

Finally, however, Architecture is not mere bricks and stone, concrete and steel. They are necessary concomitants to its existence, but unless their physical combination is informed by a due recognition of the claims of beauty, the outcome must needs be dead, soulless and barren. The designing of a College building that will comply with physical as well as aesthetic standards is no less an opportunity than a responsibility laid upon the architect. Hodge Hall

is on the plan of a shallow U, with its important exterior decorative treatment taken from a modified Roman Doric; the building itself set upon a high base, which is the basement story, and a stairway approach in the center of each of the main elevations. The two main stories represent the shaft of the order and the entablature plain but proportional, finishes the columnation. The floor level, the archtrave, the cornice and the coping are all worked out in concrete, forming continuous lines which are difficult to obtain with limestone or cast-stone, over long areas, and yet with the near white Alabama Portland Cement and white river sand, the color effects of limestone are retained.

The texture and color of the brick work is not due to the use of any special kind of brick, but to accepting the average bricklayer as a creature of ordinary intelligence actuated by an honest impulse to do the right thing under proper direction. Considered from an architectural point of view, the versatility of common brick is one of its paramount virtues, and whether it has a wooded background or is in the open, the brick building fits pleasingly into its surroundings. Where there are many trees and clinging greenery, they heighten the color effects, and through a sun-shot foliage the play of light and shade strengthens the vividness of the picture, bringing out the vari-colored tones until the facade takes on the softness and tapestried appearance of a well worn Oriental rug.

This is valuable quality of the common brick, its wide variation of coloring. Coupling this with its charming irregularity and enhancing with the marked contrast of the near-

white concrete trim, a very high degree of textural effect at a moderate cost has been produced. Such unusual variety and freshness never grows tiresome from a sense of sameness, for always there is the ever changing kaleidoscope of color, light and shade as the point of view or the source of light is shifted.

Undoubtedly, a little of the old charm of the brick work which distinguishes those beautiful examples of medieval architecture which are scattered throughout continental Europe, has been here reproduced with striking effect. Hodge Hall, an interesting bit of architecture to which the passing years shall add maturity and age, comes close to expressing the most important demand laid upon it, a claim to beauty for its own sake, beyond the merely routine expression of the daily activity of College life.

PRELIMINARY APPLICATION

for the

PROFESSIONAL DEGREE IN ARCHITECTURE

presented by

MILLER FULTON WHITTAKER

CANDIDATE FOR THE DEGREE OF ARCHITECT

K. S. A. C.

1928

Arch

PROFESSIONAL RECORD

Miller Fulton Whittaker, 9 Lovell Street, Orangeburg, South Carolina. Age 35. Born Sumter, South Carolina. (1913 B.S., Kansas State Agricultural College, Department of Architecture.) June 1913 to September 1913, Draftsman, Miller Brothers, Oklahoma City, Okla. September 1913 to 1915, Instructor in Architectural and Mechanical Drawing, State Agricultural and Mechanical College of S.C. 1914, Architect, Machinery Hall and Power Plant, State Agricultural and Mechanical College of S.C. 1915, Director of Mechanic Arts, Professor of Architectural and Mechanical Drawing, College Architect, State Agricultural and Mechanical College of S.C. 1916, Architect, Girls' Dormitories (two, $75,000 each) State Agricultural and Mechanical College of S.C. Architect, Methodist Church, Orangeburg, S.C. ($50,000.) 1917, Registered Architect, State of South Carolina; Architect, Men's Dormitory, ($75,000) State Agricultural and Mechanical College of S.C. 1917-1926, Architect for Rural Schools, South Carolina State Department of Education. 1918 to March 1919, Second Lieutenant of Infantry, U.S. Army, with the Intelligence Section of the A.E.F., France. Student, Langres, France. 1919 to 1927, Director of Mechanic Arts and Professor of Drawing, State Agricultural and Mechanical College of S.C. 1919, Architect, Main Building and Auditorium, ($125,000) State Agricultural and Mechanical College of S.C. 1920, Architect, Hospital, State Agricultural and Mechanical College of S.C. Engineer in charge of construction of Water Tank, State Agricultural and Mechanical College. 1921, Student, Architectural Acoustics, Harvard University. 1922, Architect, Main Building ($50,000) Morris College, Sumter, S.C. Consulting Architect, Methodist Church, Lake City, S.C. Architect, Methodist Church ($50,000) Bennettsville, S.C. 1923, Architect, Church of Redeemer, Sumter, S.C.

PROFESSIONAL RECORD

1924 to 1927, Architect, Summers and Wannamaker,(Real Estate and Insurance) Orangeburg, S.C. 1925, Architect, Y.W.C.A. Recreational Building, State Agricultural and Mechanical College of S.C. 1926, Consulting Architect, Sunday School Building, First Baptist Church, Orangeburg, S.C. 1926 and 1927, Architect, Agricultural Building, Practice Home, State Agricultural and Mechanical College of S.C. Architect, Trinity Methodist Episcopal Church, Orangeburg, S.C. 1913 to 1927, Architect for hundreds of residences in various cities of South Carolina. Total time, fourteen years.

A MODERN AGRICULTURAL BUILDING

FOR THE

STATE AGRICULTURAL AND MECHANICAL COLLEGE

OF

SOUTH CAROLINA

A THESIS

(OUTLINE)

Presented by

MILLER FULTON WHITTAKER

Candidate for the Degree of Architect

K. S. A. C.

1928

THE OUTLINE

A MODERN AGRICULTURAL BUILDING

FOR THE

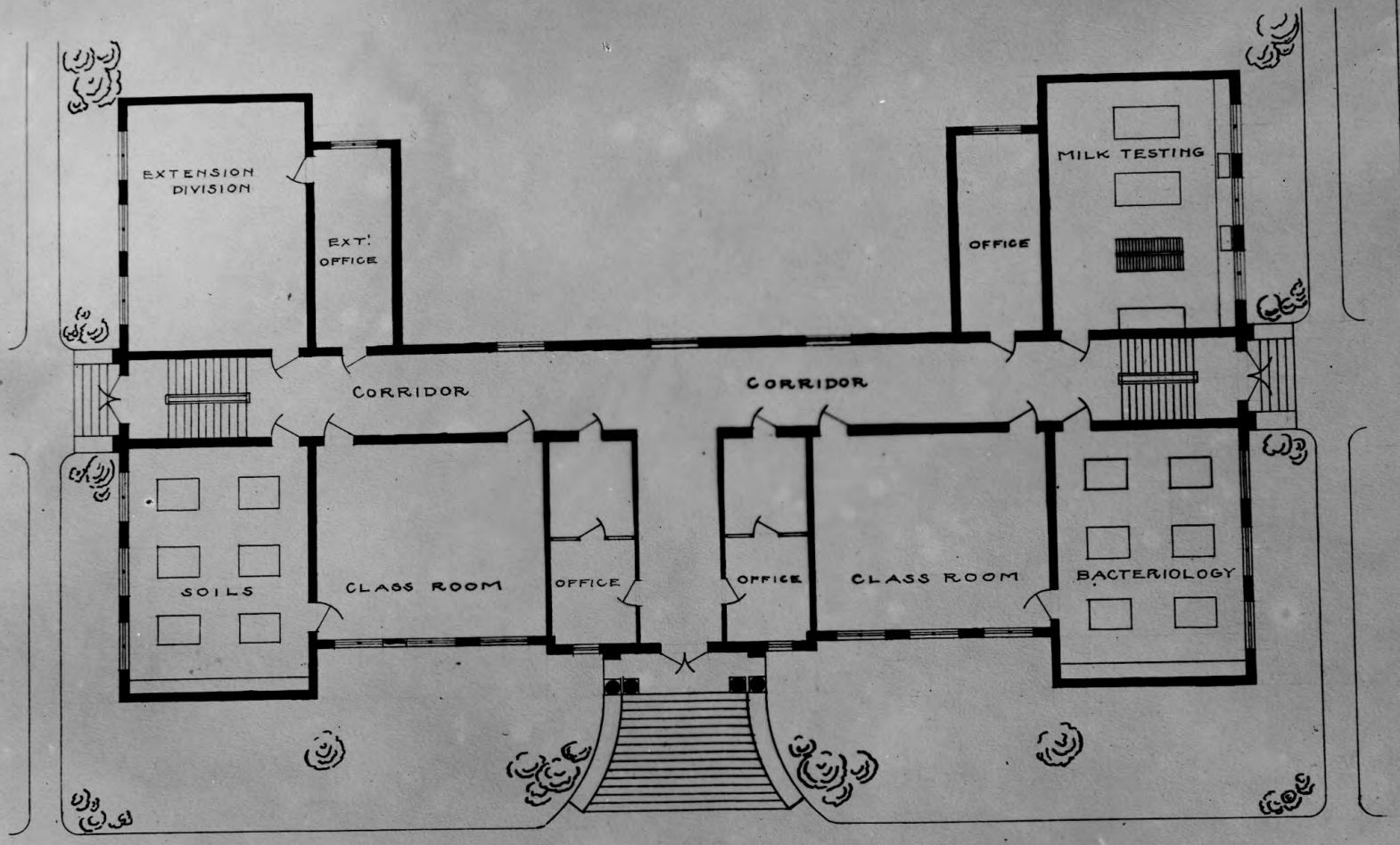
STATE AGRICULTURAL AND MECHANICAL COLLEGE

OF

SOUTH CAROLINA

Part I: Plans and Specifications.

(a) The Plans.



A MODERN AGRICULTURAL BUILDING
BY
M. F. WHITTAKER - ARCHITECT

(b) The Specifications.

1. General Construction: Fireproof, brick, hollow tile, steel and concrete.

2. Exterior Walls: Brick and hollow tile.

3. Interior Walls: Hollow tile.

4. Roof: Johns-Manville Class "A" Asbestos Built-up Roofing over Concrete deck.

5. Windows: Truscon Standard Steel.

6. Floors: Concrete.

7. Heating: Webster Vacuum System.

8. Plumbing: Iron enamel.

9. Electrical: Metal conduit wiring and semi-indirect fixtures.

10. Interior Mill Work: Southern Pine.

11. Interior Wall Finish: Acme Cement Plaster, painted and decorated.

12. Stairways: Mesker Combination Steel and Concrete.

13. Approximate Cubic Footage: 336,000.

14. Cost per Cubic Foot: $0.29

Part II. The Discussion.

(a) Part of a Group Development Plan.

(b) General Lay-out, Size and Use.

(c) Advantages and Dis-advantages of the Type of Construction.

(d) Decorative Treatment and Style.