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DIVISION NO. 1

DEMOLITION

Sec. 1-1 GENERAL:

The General Conditions, Division G, written for this project shall form a part of this Division and shall apply fully to all work hereunder.

Sec. 1-2 SCOPE:

The Contractor shall do all demolition work required in connection with this contract. Demolition work in this project consists mainly of the removal of certain parts of the existing construction. Existing construction which is to be removed is shown, in general, on the drawings; however, it shall not be construed to mean that the drawings show and/or indicate every item of demolition.

Sec. 1-3 PROTECTION:

The Contractor shall insure adequate protection of persons and property, and, as a part of this contract, shall provide and erect all planking, bridges, fences, barriers, braces, shoring, sheet piling, lights, warning signs, etc. necessary for proper and adequate protection.

Sec. 1-4 DEMOLITION OF STRUCTURES:

The work of demolition shall be executed in a careful and orderly manner, in accordance with good demolition practice. Attention is called to the fact that the existing building is to remain in use throughout the construction period.

Sec. 1-5 REMOVAL OF SALVAGE MATERIALS:

All salvage materials recovered by demolition shall, if not to be reused in the new construction, be promptly removed from the site by the Contractor. No materials or debris shall be burned on the site.

Sec. 1-6 DESCRIPTION OF SPECIAL DEMOLITION ITEMS:

Refer to Sec. G2-2, GENERAL SCOPE, Par. (f), page G2-3, for an enumeration and description of special demolition items; also to Sec. G2-2, Par. (c), page G2-2, which paragraphs are made a part of this Division No. 1 - DEMOLITION.

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DIVISION NO. 1

PREPARATION OF SITE, EXCAVATION, FILLING AND GRADING

Sec. 2-1 GENERAL:

The General Conditions, Division 0, written for this project, shall form a part of this Division and shall apply fully to all work hereunder.

Sec. 2-2 SCOPE:

- (a) The work under this Division includes the preparation of the site; the removal of bushes, stumps, shrubs, and other vegetation, or anything interfering with the erection of the new construction; all excavation, such as for footings, foundations, piers, walls, drains, sewers; general site excavation; all backfilling and grading.
- (b) It shall not include any excavation for the installation of electric, heating, plumbing or ventilation work.
- (c) All excavated earth which is not to be reused at the site, and all debris and other undesirable materials shall be removed from the premises with reasonable promptness.
- (d) The Contractor shall remove all trees, bushes, shrubs, and other vegetation on the area covered by the building; also on other adjacent areas, if so noted on the drawings. Tree roots shall be removed also.

Sec. 2-3 BENCH MARKS:

Carefully maintain bench marks, monuments, and other reference points, and if disturbed or destroyed, replace as directed.

Sec. 2-4 EQUIPMENT:

The Contractor shall furnish and install all shoring and bracing timbers, runways, trucks and other equipment of whatever kind necessary or required for the satisfactory and speedy execution of this work, including disposal of the excavated materials not required in the new construction.

Sec. 2-5 PROTECTION OF PROPERTY:

The Contractor shall fully protect the owner against claims for damages to adjoining or adjacent structures or other property resulting from work executed under this Division for which the owner may be liable under the Law, and shall have no recourse for any loss on account thereof.

Sec. 2-6 PROTECTION OF UTILITIES:

Shore up, brace, and protect all water, sewer, gas, and electric pipes and conduits encountered in this work, and notify the proper company or the City allowing them access for the purpose of further protective measures which may be deemed necessary. Where necessary, cut and cap lines in accordance with accepted good practice (first notify Architect).

Sec. 2-7 SHORING AND BRACING:

Do all shoring, bracing, etc., necessary or required to efficiently protect and support adjoining roads, streets, alleys, sidewalks, building, etc., or to retain earth banks and to prevent cave-ins and displacement of adjoining soil, furnishing and installing all necessary materials, labor, and services therefor. All bracing shall be ample to sustain its loads and shall only be removed when the progress of the work permits. Bracing shall be placed so as not to create thrusts against any walls.

Sec. 2-8 EXCAVATION:(a) General:

Do all excavation required. Excavate to elevations and to dimensions indicated, with proper allowances made for any sheet piling, construction of forms and walls, the application of waterproofing, inspection, filling, etc. Excavate, deodorize and fill old wells, if any; and where such are found under new walls or pier locations they are to be filled with 1:2:4 concrete.

(b) Footing Excavation:

Excavation for footings (only) may be made to accurate sizes and the side forms omitted if the concrete is poured in clear-cut trenches without cave-ins. Obtain approval of trenches and other footing excavation from Architect before pouring concrete footings and foundations.

(c) Rock:

If rock, as defined herein, is encountered within the limits of excavation, the contract price of lump sum contracts will be adjusted. (See "General Conditions".) Rock is defined as any boulders exceeding 12 cubic feet in volume, or ledge rock or stone which cannot be broken and removed by a power shovel of 1/2 cubic yard bucket capacity. The contract price is understood to include full compensation for all excavation, except that classified as rock.

Sec. 2-8 EXCAVATION (Contd.):(d) Water Disposal:

Provide and install all necessary efficient provisions for keeping the excavations free from water from any cause under any and all circumstances and conditions to the satisfaction of the Architect.

(e) Excess Excavation:

Any part of the work which may be excavated to a greater depth than called for without specific authorization from the Architect shall not be paid for. No footing shall rest on filled earth. Such excess excavation shall be filled to the proper level with concrete mixed in the proportions of one part Portland Cement, two and one-half parts sand, and five parts broken stone, using materials called for under Masonry and Concrete Materials. This shall be done at the Contractor's expense without reimbursement.

(f) Depths of Excavations:

Excavations shall be carried to the levels shown on the drawings or as required to receive the work called for. Pier holes and footing trenches shall be left clear of loose or surplus materials, with bottoms level and true to sizes indicated. If the soil at levels indicated does not develop sufficient bearing capacity, the Architect may order the excavation carried to a lower level where sufficient bearing capacity is found. Any such excavation shall be classed as additional work and will be paid for. Should proper bearing be found at depths less than those called for, the Architect may order the excavation stopped and the Contractor shall credit the owner's account for the value of the work not done. No exterior footing shall be taken down less than 3' -0" below present grade nor less than 1' -0" below present grade when the present grade is more than 3' -0" below new grade.

Sec. 2-9 FILLING AND GRADING:(a) General:

Do all filling, backfilling, and grading required in connection with this project.

(b) Backfill - Additional Fill:

- (1) Remove all debris and deleterious materials from areas under buildings and from excavations and other areas before backfilling. Do not use frozen materials for backfill. Do not backfill against walls until partitions is obtained. Backfill around doors shall be so laid out that doors will be readily opened and closed in place.

Sec. 3-9 FILLING AND GRADING (Contd.):

- (2) Backfill under concrete floor slabs shall be laid in 6" to 12" thick layers, well wetted, tamped, and rolled as required to minimize later settlement. Backfill under slabs shall be placed as early as possible, so as to allow as much time as possible for compacting.
- (3) When the walls have sufficiently set, or when directed in writing by the Architect, do all required backfilling with good clean soil, thoroughly wetting same and tamping and rolling every 12" to 18". All backfilling material shall be brought to proper level to receive subsequent work. Where the excavated material is not sufficient to provide the required amount or kind of material for filling, additional material shall be furnished as a part of this work.

(c) Grading:

Do all rough grading required. Slope ground away from building walls and grade entire area outside of building to a smooth, uniform surface. Finished grades not otherwise indicated shall be uniform levels or slopes between points where levels are given or between such points and existing finished grades, except that the surface shall be rounded at abrupt changes in slope.

DIVISION NO. 5

UNDERPINNING

Sec. 5-1 GENERAL:

The General Conditions, written for this project, shall form a part of this Division, and shall apply fully to all work hereunder.

Sec. 5-2 SCOPE:

- (a) The work under this division includes all underpinning of existing walls and construction where called for on the drawings and/or required.
- (b) The Contractor shall do all underpinning of the walls of the existing building in accordance with the regulations of the Baltimore City Building Code and in conformance with good practice.

Sec. 5-3 UNDERPINNING:

- (a) Underpinning procedure and technique shall be based on the outline here given; however, the actual procedure shall be as developed in conference between the Architect and the Contractor.
- (b) Underpinning shall be done generally in the following sequence:
 - Item 1. Underpinning of the south wall (and returns) of the rear stair tower; to be done in not less than four separate operations.
 - Item 2. Underpinning of a portion of the brick chimney and supporting the earth on each side of the chimney (in the boiler room); to be done in not less than three separate operations. Included in the work shall be furnishing, installing, and removing any wood braces required to aid in supporting the outer chimney wall.
 - Item 3. Any other miscellaneous underpinning required.
- (c) Underpinning under Items 1 and 3: In doing this underpinning work, the maximum unit length of wall which may be worked on in any 15-foot portion of wall at one time shall be a maximum of 5 feet (thus leaving in place 10 feet of wall in every 15 feet length). The

Sec. 5-3 UNDERPINNING (Cont'd):

adjacent (or second) 5-foot unit shall not be disturbed until the 5-foot unit previously underpinned has set and hardened, and can take full load. The third 5-foot unit shall follow a similar procedure. Underpinning may be done with concrete or brick. Concrete shall be not less than a 3,000# concrete; brick shall be hard burned common brick of an acceptable make. All mortar used shall be a 1:3 mix Portland Cement mortar, to which shall be added Master Builders Company Embecco No. 2, or an equal approved by the Architect, in the amount recommended by the manufacturer. Refer to the Drawings for data on underpinning. Do all necessary wedging with wedge bricks, etc., and drive up tight, so that no movement of the existing construction occurs. Allow adequate time for drying and setting of base underpinning before starting wedging operations.

- (d) Underpinning under Item 2: This underpinning shall be done in not less than three operations, with the center part, under the chimney, being done first. Underpinning shall be done in reinforced concrete, as shown on the drawings. Allow adequate time for drying of concrete before starting wedging operations. Wedging procedure shall, generally, be similar to that called for under par. (c).

DIVISION NO. 3CONCRETE - PLAIN AND REINFORCEDSec. 3-1 GENERAL:

The General Conditions, Division G, written for this project, shall form a part of this Division and shall apply fully to all work hereunder.

Sec. 3-2 SCOPE:

- (a) The work under this division includes all plain and reinforced concrete work with forms for same, as required for the complete execution of the project, or as is called for by these specifications and the drawings. Included are such items as concrete footings, foundations, walls, floor slabs, concrete floors, cement walks, and the like. Under this division there is included all other miscellaneous concrete and cement work indicated on the drawings or as may be reasonably implied to produce a completed building project.
- (b) In the event of discrepancies between the architectural and structural drawings, the structural drawings shall take precedence.

Sec. 3-3 MATERIALS:

- (a) Portland Cement shall conform to A.S.T.M. "Standard Specifications for Portland Cement", C150-49, Type I. Portland Cement shall be delivered to the site in the original sealed containers, and shall be suitably stored to protect same.
- (b) **Fine Aggregate:** Sand for concrete shall conform to current A.S.T.M. Specification C-33-49 and shall be composed of clean, washed, uncoated grains of strong material free from injurious amounts of organic matter or other deleterious substances, not more than 5% by volume (including not more than 2% clay). Sand shall range in size from fine to coarse, not less than 95% passing through a No. 4 sieve.
- (c) Coarse Aggregate shall be washed gravel, crushed stone, or other inert strong material conforming to current A.S.T.M. Specification C-33-49. Coarse aggregate shall be clean and free from particles of organic or other deleterious matter and shall be well graded from fine to coarse, and shall all be retained on a 1/4" screen. The maximum sizes of coarse aggregate shall be as follows:
1. Plain concrete - to pass through a 3/4" sieve.
 2. Reinforced concrete - to pass through a 1-1/2" sieve.
 3. Heavy concrete - to pass through a 2-1/2" sieve.

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Sec. 3-3 MATERIALS (Contd.):

- (d) Water shall be clean and free from injurious amounts of oils, acids, alkalis, organic materials, or other deleterious materials, and shall be the same as is used for drinking purposes.
- (e) Admixtures shall not be used unless first submitted to the Architect and specifically approved by him in writing. Where integral waterproofing in concrete is specified, the Contractor shall submit same to the Architect for approval.
- (f) Reinforcing Steel:
- (1) Reinforcing steel shall conform to the requirements of A.S.T.M. "Standard Specifications for Billet Steel bars for concrete reinforcement", A-15, and/or A.S.T.M. "Standard Specifications for Welded Steel Wire Fabric for concrete reinforcement", A-185-37. **Bars shall be deformed in accordance with A.S.T.M. Specification A-305.**
 - (2) All bars and other reinforcement of every description shall be thoroughly cleaned of all rust, scale, paint, oil, etc., before being placed. They shall be carefully formed to detail and dimensions and the radius bends shall be carefully formed to not less than 4 times the diameter of the bar. Bars with short bends or kinks shall not be used.
 - (3) Spacers, chairs, ties, etc., shall be provided in sizes and quantities not less than called for in F.C. Handbook of Concrete Reinforcing Steel, latest edition.

Sec. 3-4 DETAILS, ETC.:

As required under the General Conditions, prepare and submit complete shop and detail drawings for all reinforced concrete work and other work hereunder requiring them or as may be requested by the Architect, before beginning actual construction.

Sec. 3-5 PROPORTIONING AND MIXING CONCRETE:

- (a) Proportions of aggregate to cement and the water-cement ratio shall be such as to produce concrete with minimum 28-day compressive strength as follows:
- | | |
|----------------------------|----------------------------|
| For reinforced concrete - | 3,000 lbs. per square inch |
| For plain concrete - - - - | 3,000 lbs. per square inch |
- Not less than 6 bags of cement per cubic yard, 3,000# conc.
- (b) Mixes shall be of a workable plasticity, but shall be hard to as "stiff a mix" as possible. **Slump of concrete shall not exceed 4-1/2".**

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Sec. 3-5 PROPORTIONING AND MIXING CONCRETE (Contd.)

- (c) One brand only of cement shall be used throughout the job. The ingredients shall be accurately measured and the concrete shall be mixed in a batch mixer of approved type for at least one minute after all the materials are in the mixer. The mixer shall be completely discharged before any materials are added for a new batch. Concrete shall be deposited in the forms within not more than 30 minutes after being mixed.
- (d) Ready-mixed concrete shall be mixed and delivered in accordance with the requirements of A.S.T.M. Specifications, C-94. If a truck mixer is used to deliver concrete to the job, the water shall not be added until the truck is at the building site. There shall be at least one minute of mixing after all ingredients have been put into the mixer.
- (e) Frozen aggregates shall not be used, and, in cold weather, retardants shall be used only when authorized by the Architect. Tests, if required by the Architect, shall be made by an independent testing and inspection laboratory at the Contractor's expense.
- (f) Grout, where required, shall be composed of one part Portland cement to two parts of sand, and shall be of such consistency as will best serve the respective purposes.

Sec. 3-6 FORMS:

- (a) All forms required for this project shall be constructed and erected to conform to the shape, line, and dimensions called for on the drawings. Forms may be made of wood or metal. Note - Steeltex Floor Slabs do not require forms, see Sec. 3-11, par. (c).
- (b) All wood forms shall be made of well-seasoned lumber, free from knots, or other defects. Selection of materials used shall give consideration to the appearance of the finished concrete surfaces. All forms shall be well jointed so as to prevent leakage of cement. They shall be substantially and rigidly built and well braced and sufficiently strong to hold the concrete true to line. Forms shall be kept clean and free of foreign matter.
- (c) Forms shall remain in place a sufficiently long time to allow concrete to thoroughly harden. In all cases, the Contractor shall assume all responsibility arising from the removal of forms, and shall assure himself that the concrete is properly cured to sustain loads before forms are removed.

Sec. 3-7 CURING CONCRETE

- (a) All concrete shall be covered with a curing compound or other material approved by the Architect.

Sec. 3-7 REINFORCING BARS:

No. 16 gauge, or equivalent, at intersections, and shall be supported by concrete or metal chairs and spacers. Parallel bars shall not be spaced closer than 1-1/2 times the diameter of the bars.

- (b) All reinforcement shall be kept up off the bottom of the forms by metal chairs and after the forms are removed, no reinforcement shall be exposed.

Sec. 3-C PLACING CONCRETE:

- (a) All forms shall be cleaned and oiled before reinforcing is placed, also cleaned again before concrete is deposited.
- (b) Concrete shall be taken from the mixer to the final point of deposit as quickly as possible and by the shortest route and shall be deposited in its final position immediately. After depositing concrete, it shall be thoroughly rrammed and tamped, working it completely into all corners and around all reinforcement. All concrete shall be deposited as a continuous operation until the respective unit has been completely poured and the exposed surfaces shall then be protected from premature drying. See also Sec. 3-15.
- (c) All concrete shall be put in place before the cement has taken its initial set. No concrete shall be used after it has been mixed longer than thirty (30) minutes.
- (d) The Contractor shall give due notice to other trades of the time he expects to pour concrete for the different parts of the work, so as to allow them ample time for setting any pipes, sleeves, anchors, inserts, conduits, or other work which may pass through or come in contact with concrete work. Before pouring concrete, the Contractor shall see that all ties, anchors, etc., are in place and that chases, sleeves and conduits of other trades have been installed. Finally, it shall be the responsibility of the Contractor to see that all such built-in items, of every character and kind, are furnished and installed at the proper time, irrespective of what trades are involved.
- (e) No concrete shall be poured in freezing weather (unless specifically authorized by the Architect in writing).

Sec. 3-9 STOPPING POINTS:

- (a) The concrete must be laid continuously to top of structure. Whenever it is necessary to stop a wall, column, or pier at any other point, such stop shall be indicated as

Sec. 3-9 STOPPING POINTS (Contd.):

center of slabs and of beams. A temporary wood bulkhead shall be erected so that the jointing will follow a vertical plane at right angles with the direction of the main reinforcement. A vertical key shall be formed at the end of each day's work. This key shall be made by placing a timber of approved size and slightly bevelled in the center of the wood bulkhead. Consult Architect.

- (b) Before resuming concreting, all seam (laitance) shall be removed with a wire brush if necessary, the joint carefully cleaned and washed and neat cement grout poured on same before applying new concrete.

Sec. 3-10 STRIPPING FORMS:

- (a) Forms shall remain in place a sufficiently long time to allow concrete to thoroughly harden.
- (b) In all cases, the Contractor shall assume all responsibility arising from the removal of forms, and shall assure himself that the concrete is properly cured to sustain loads before forms are removed.

Sec. 3-11 SLABS:

- (a) All slabs, plain or reinforced, shall develop the full thickness called for on the drawings and shall be thoroughly tamped, screeded and then floated to bring the surface to the required elevation to receive the floor finish called for. When the concrete has sufficiently hardened to bear a man's weight without deep imprint, it shall be wood floated to a true and even plane, with no coarse aggregate visible. The concrete shall then be hand steel trowelled to produce a smooth impervious surface, free from trowel marks. An additional steel troweling shall be given the surface for the purpose of burnishing. The final troweling shall produce a ringing sound from the trowel.
- (b) Concrete slabs laid on earth shall be reinforced with 6" x 6" x #10 welded wire fabric (approximately 21 lb. per 100 square feet, Clinton or equal). Slabs shall be laid on a 4" thick bed of coarse gravel or crushed stone over which lay a thickness of 30 lb. asphalt impregnated building paper or Siskraft before placing concrete. Concrete floor slabs laid on earth shall contain an integral waterproofer approved by the Architect.
- (c) After floor drains are installed, the slabs shall be sloped to the drains on a straight and even plane. **Depress concrete slabs where and as required to provide for such floor finishes as ceramic tile, quarry tile, etc.**

(ca) Steeltex Reinforced Concrete Floor Slabs:

Furnish and install all Steeltex Reinforced Concrete Floor Slabs called for on the drawings:

STEELTEX FLOOR LATH: Before installing Steeltex Floor Lath, be sure that joists (or I's) are rigidly bridged and end joists securely anchored in accordance with best modern practices.

- (1) Steeltex Floor Lath, a 3" x 4" mesh, 12 gauge cold drawn, electrically welded, galvanized wire fabric, attached to a reinforced water-resistant backing, in rolls 4'-0" x 125'-0", manufactured by the Pittsburgh Steel Products Company, provides a combination of slab reinforcing and form. Included are metal clips for attaching the lath to the floor joists.
- (2) Steeltex shall be unrolled across the joists to the required length from the outer bearing walls, and shall be fastened every 12" along the end supports with special clips furnished with the Steeltex.
- (3) Steeltex Floor Lath shall be stretched longitudinally across the joists by a special stretcher, and clipped securely every 12" along the bearing to which the stretcher is attached. Steeltex shall then be clipped to each intermediate joist with two clips per width of roll when joists are spaced 16" and over, and one clip per width of roll for joist spacings less than 16". Each clip shall face in the direction opposite the one adjacent to it.
- (4) Where end laps are necessary, Steeltex shall be lapped at least one foot, directly over a joist. Side laps shall not be less than 4".
- (5) The stretcher tool will be furnished by the supplier, usually on a loan or rental basis.

Sec. 3-11 SLABS (Contd.):

- (d) Concrete interior floors, where no other floor finish is called for, shall be dustproofed by treatment with an approved hardener, Sonneborn's, Lapidolith, or equal, applied strictly in accordance with the manufacturer's instructions.
- (e) Where slabs bear on walls, a minimum of 4" of bearing shall be supplied.

Sec. 3-12 EXPANSION JOINTS:

Provide adequate expansion joints for concrete floors, etc. See special requirements noted on drawings. See Architect.

Sec. 3-13 CURING:

All concrete shall be thoroughly cured by wetting twice daily during the first two weeks after pouring. All concrete floors of finished rooms shall be adequately and effectively protected against staining from any cause whatsoever (plaster drippings, paint, etc.) by covering same with heavy paper and an ample covering of sand, which covering shall remain from the time the floors are completed until ordered removed by the Architect, or until all danger of staining has been removed.

Sec. 3-14 WALKS:

- (a) Install new concrete walks, etc., as shown on drawings, in accordance with standard public authority specifications.
- (b) Concrete walks shall be of one-course construction, 5" minimum thickness. Cut slab into blocks approximately 4 feet to 5 feet in size. Concrete shall be not less than 2,500 lb., 28-day concrete.
- (c) Provide 1/2 inch expansion joints (with pre moulded filler) not more than 50 feet apart, also at junction with street sidewalks, around utility structures, where walks abut buildings, platforms, and other fixed structures, and elsewhere as shown. Where walks terminate at curbs, provide expansion joints (with filler). Sidewalks to conform to Public Authority Requirements.
- (d) Tamp and screed concrete true to grade and section, bringing sufficient mortar to surface for finishing and give wood or carpet float finish before concrete sets. Round all edges, including those at separation plates and expansion joints, to 1/4" radius. Where walks terminate at curbs, finish walk 1/4" above curb.
- (e) Permit no pedestrian traffic on concrete walk for a period of three (3) days after pouring.**

DIVISION NO. 4

MASONRY WORK

Sec. 4-1 GENERAL:

The General Conditions, Division 0, written for this project, shall form a part of this Division and shall apply fully to all work hereunder.

Sec. 4-2 SCOPE:

The work included in this Division shall be the furnishing of all materials, plant, labor, tools and equipment, and performing all operations necessary for the installation of masonry work shown on the drawings, specified, and required for the completion of the building. LIMESTONE is specified in Division No. 6. However, the setting of all anchors in masonry work required for same shall be done under this division.

Sec. 4-3 MATERIALS:

- (a) Portland Cement:- All cement shall conform to the requirements of Standard Specifications for Portland Cement, ASTM Designation C-150-49, and shall be of a brand approved by the Architect. Non-Staining Portland Cement only shall be used for all mortar coming in direct contact with limestone.
- (b) Non-Staining Portland Cement shall contain not more than 0.30 per cent by weight of soluble alkali.
- (c) Lime for masonry mortar shall be double hydrated mason's lime, conforming to ASTM Specification C-207-49, Type S, and shall be similar or equal to MORTASEAL, manufactured by the U. S. Gypsum Company, or G. & W. H. Corson's MIRACLE LIME.
- (d) Prepared Masonry Mortar Cement may be used only if approved in writing by the Architect, in which case it shall be mixed strictly in accordance with the manufacturer's printed instructions.
- (e) All of the above materials shall be delivered to the site in original sealed containers on which has been printed the name of the brand and the manufacturer.
- (f) Sand for Masonry Mortar:-
 - (1) Sand shall be of an acceptable color and shall conform to the requirements of the American Society for Testing Materials Standard Specification C144-44.

Sec. 4-3 MATERIALS (Cont'd):

Sand shall be graded from fine to coarse within the following limits:

Sand for Mortar Joints over 1/4 inch in Thickness

Sieve No.	Percent of Sand Retained (By Weight)	
	Maximum	Minimum
4 - - - - -	0	-
8 - - - - -	10	0
16 - - - - -	40	15
30 - - - - -	65	35
50 - - - - -	85	75
100 - - - - -	98	95

- (2) No sand shall be used until it has been approved by the Architect. Any sand containing more than 5% of loam or similar materials (by volume) will be rejected and must not be used on the job. Samples of sand submitted for approval of the Architect shall be accompanied by certified tests.
- (g) Brick shall be of approved manufacture, of standard size, and all brick shall be new, whole, and free from lime pits, spawls, or other defects. Common brick shall be hard burned clay or shale. Face brick, for use where called for on the drawings, shall be selected by the Architect. Brick Allowances: Rear (alley) wall, \$39/M; all other walls, \$42/M. The \$42.00 brick shall match brick of existing Educational Building as much as possible.
- (h) Concrete Masonry Units shall be of the hollow load bearing type and shall conform to the requirements of ASTM Specification C90-44 (or later revision of this specification). Furnish all special units required for forming of corners, returns, offsets, etc., and to maintain the proper bond. Concrete masonry units shall be manufactured by the high pressure steam process. Units shall be adequately cured before delivery to the job site, and the moisture content of the units on delivery at the building site shall not exceed 35 percent of the maximum absorptive value of the units. Units shall be of manufacture approved by the Architect, and the Contractor shall submit samples to the Architect prior to placing the order for the blocks. The Contractor shall provide sufficient protection in storage on the site to insure that the moisture content at the time of use does not

Sec. 4-3 MATERIALS (Cont'd):

exceed the maximum allowable on delivery. The Architect may reject any units which appear to have moisture content in excess of the maximum allowable. The Contractor shall pay for any tests required by the Architect to be made on any shipment of concrete masonry units which, in his opinion, appear to be not properly cured or to have greater moisture content than the maximum specified. All concrete masonry units shall be delivered to the job site two weeks before the start of the laying of masonry walls. All concrete masonry units used in back-up walls shall be manufactured with blast furnace slag aggregate. **Slag blocks shall be used for all exposed partitions and walls in the Basement, unless otherwise specifically called for on the drawings.**

- (i) Limestone is specified in Division - LIMESTONE.
- (j) Granite Door Sills for exterior doors shall be gray natural stone, finished with a machine non-slip surface.
- (k) Glazed structural tile shall be stock No. 1 clear glaze tile, Stark or equal make, in 2" and 4" thicknesses as required. Included also is cove base and any other specials required.
- (l) The existing stone sills of the tall sidewall memorial windows may be reused, if in satisfactory condition and they fit the opening requirements. Cut drip in under side of these sills. Brick sills, where and as called for on the drawings.
- (m) Water used shall be obtained from City Water Lines.

Sec. 4-4 MORTAR:

- (a) Mortar for all masonry work (unless otherwise called for hereinafter) shall be composed of one volume of Portland Cement, one volume of double hydrated lime, and six volumes of sand. To this, add sufficient water to bring the mixture to the proper and required consistency.
- (b) Pointing mortar shall be mixed in the proportions of one volume of cement to two volumes of sand. Where necessary to secure the required workability, lime, not to exceed 20% by volume, may be added to the mixture.
- (c) Prepared masonry mortar cement, if used shall be mixed strictly in accordance with the manufacturer's printed specifications.

Sec. 4-4 MORTAR (Cont'd):

- (d) Freshly mixed mortar shall be used. Retempering of mortar by the addition of water shall not be permitted.

Sec. 4-5 LAYING OF MASONRY WORK:

- (a) All brick work shall be thoroughly wetted in dry weather and shall be laid with a FULL SHOVE JOINT on a full bed of mortar. SLUSHING ON TOP OF COURSES TO FILL VERTICAL JOINTS WILL NOT BE ALLOWED.
- (b) Concrete masonry units shall have mortar applied to the face shell only. Laying shall begin on a full bed of mortar. Where called for or required, completely fill cells of block with mortar.
- (c) All masonry work shall be laid to line, and shall be plumb, with all courses level. Joints shall be as shown on the drawings or directed by the Architect. All joints in work to remain exposed shall be neatly finished with hard smooth joints, slightly concave.
- (d) Where plaster and cement parging is to be applied to masonry work, the joints shall be raked out to provide adequate key.
- (e) Where pipes or conduit is to be concealed in partitions, the units shall be of sufficient thickness to completely cover the pipes at their widest parts.
- (f) Brick shall be bonded to back-up block construction, as called for in the City Building Code. In addition, furnish and install steel joint reinforcements, such as DUR-O-WAL, same to be used in every 6th block course. Install as per manufacturer's recommendations.

Sec. 4-6 BUILDING IN VARIOUS ITEMS:

- (a) Build in, as the work progresses, all items of every description, including cap flashing for roofer, which may be required by the various trades for the completion of the entire work, without cutting or patching. See General Conditions. Build all chases and openings; also install all lintels over door and window openings.
- (b) Refer to General Conditions, and, in compliance therewith, ascertain the exact locations of all items referred to, and the Contractor shall be responsible for the existence of the various items in the proper locations when later required by the trades.

Sec. 4-7 PARGING:

The exterior face of back-up walls shall be carefully parged with cement mortar as the work progresses to the end that the space between the back-up walls and the brick or limestone veneer shall be completely filled with mortar (minimum thickness of one-half inch). The sloshing of mortar into this space at the time the veneer is erected will not be permitted. This parging shall contain an integral waterproofer of approved manufacture acceptable to the Architect. This parging work is to be done under this Division No. 4.

Sec. 4-8 FLASHING UNDER BRICK SILLS:

All window sills, brick and other, unless otherwise called for, shall slope so as to shed water outward, and they shall project not less than 3/4" beyond the face of the wall below. Copper Covered Sisalkraft - 3 oz. per sq. ft. - waterproofing shall be installed under sills as shown on Drawings.

Sec. 4-9 SCAFFOLDING:

Erect and maintain, in safe condition at all times, all scaffolding required for the work of this Division, to the satisfaction of the Architect and in compliance with the Code. Such other trades as may have need for a scaffold shall be permitted to use this one, but they shall provide and erect such additional scaffolding as may be required.

Sec. 4-10 PIERS, BEAM AND GIRDER SUPPORTS, ETC.:

Where steel or reinforced concrete beams or girders rest on walls, the portion directly under them shall be laid with solid masonry or concrete as indicated on drawings, run to footings. The areas of these shall be sufficient to carry the load without exceeding the stresses stipulated by the local Building Code. See structural drawings for particular items and work. Where no other provision is made to support ends of floor slabs, corbels are to be built out so as to afford not less than 4" bearing of slab - see details. When steel joists bear on block walls, there shall be not less than four courses of brick below the joist bearing plates.

Sec. 4-11 LAYING CORNERSTONE:

- (a) Provide necessary tools, equipment and men for corner stone laying ceremonies.

Sec. 4-11A PARGING OF EXTERIOR BASEMENT WALLS (BELOW GRADE):

Apply cement mortar parging with integral waterproofing in two (2) separate coats to a total thickness of 3/4" over entire area of exterior of basement walls from under side of brick to top of footings. Waterproofing treatment specified and applied under WATERPROOFING - DAMPPROOFING Division shall be the final finish before backfilling. The integral waterproofing shall be approved by the Architect.

Sec. 4-12 WORK NOT TO BE DONE IN FREEZING WEATHER:

No stone work or other masonry shall be laid in freezing weather.

Sec. 4-13 MISCELLANEOUS: FLASHING, WATERTIGHT, CLEANING:

- (a) See Division WATERPROOFING for through flashing over door and window heads. A 3 oz. copper-on-sisalkraft paper fabric shall be cemented to steel angle and other lintels, turned up and over same, extending through the wall, and be turned up on the inside. See Division WATERPROOFING for flashing under window sills.
- (b) All exterior walls shall develop absolutely watertight, and shall be guaranteed as such by the Contractor.
- (c) In addition to cleaning as the work progresses, after completion, the entire work shall be thoroughly cleaned of all defacements by approved methods, to the entire satisfaction of the Architect.

Sec. 4-14 GLAZED TILE INSTALLATION:

Glazed structural tile shall be laid with a uniform joint of approximately 1/4", mortar to be of a color to match or harmonize with the color of the tile. Glazed tile installation shall be in accordance with the current specifications of the Facing Tile Institute.