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This is Fort McHenry located at the entrance of the harbor of Baltimore, Maryland, where the British invasion of 1812-1814, was effectively stopped after the enemy had taken the City of Washington and burned the public buildings, including the Navy Yard, the White House, and the Capitol itself. During the Revolutionary War a fortification had been thrown up by the people of Baltimore on what was then called Whetstone Point, and a chain was stretched across the harbor entrance, which was supported by Twenty one sunken schooners to keep off an expected attack by the British who were in the bay. In 1794, when the United States was on the verge of another war with Great Britain, it was decided to build the present fort, and Major J. J. Ulrich Rivardi was employed to make the plans. This fort when completed was named for James McHenry of Baltimore, who was Secretary of War at the time.

As we approach Fort McHenry you will notice the moat which lies between the lower batteries and the Fort itself. This moat was a purposeful depression to delay the enemy if they should land, and by making it necessary to scale the walls, give those who were inside the Fort a better opportunity to defend themselves.

We are now at the entrance to the Fort itself. You will notice the heavy iron studded doors that were closed at night-fall against a surprise attack or in time of danger, and also the narrow alley way through which the enemy must pass with similar iron studded doors at the other end of the alley way. The walls of the Fort in some instances are over twenty feet thick.

Below the level of the alley way on either side are the dungeons for prisoners. You will remember that when the Fort was built it was the

days of the dark hole of Calcutta, and a view of these old dungeons will show the contrast between then and the present method of treating prisoners. Notice the air holes near the top which was the only possible means of ventilation. During the Civil War, these dungeons were packed with wounded confederate prisoners who were brought here from the Battle of Gettysburg.

The Guardhouses at either side of the alley way facing the inside of the Fort and which are above the dungeons.

This is the Powder Magazine for storing the powder that was necessary for the guns of the Fort proper. The old guns were all muzzle loaders.

This is the Headquarters Building, where the business routine of the Fort was transacted.

This is the Commandant's House, which has now been fitted out as a rest house for visitors.

These are the Officers Quarters. Here the company officers lived.

These are the Soldeirs Barracks, where the enlisted men were quartered.

These buildings have all been restored, exactly as they were in September 1814, when the British were repulsed in their attack on Baltimore. The original brick work throughout the Fort has all been preserved and the buildings contain the old open fire places of the period, while the lower floors are all brick paved.

The old pump which provided the water supply for the garrison during the seige.

The one man tunnel, which permitted an entrance for any of the gunners who were left to serve the outside batteries up to the last moment.

The Flag Pole. This Pole stands in the identical place from which flew the American flag with fifteen stars and fifteen bars, that inspired Key to write the Star Spangled Banner, while he was detained by the British Fleet, which lay about two and one half miles off the Fort and incessantly bombarded it, during the whole day of September 13th and the morning of September 14th.

Bomb proof magazines to protect the powder from shells and sparks of the enemy. The brick work of these magazines are probably the most perfect exhibit of brick joining in the country.

The view of Fort McHenry from the Patapsco River.

An inside view of Fort McHenry showing the group of building.

The Armistead Monument erected by the Society of the War of 1812 in Maryland to Major George Armistead, the Commander of Fort McHenry during the Bombardment.

The Key Monument erected by the United States Government in honor of Francis Scott Key, the author of the Star Spangled Banner.

Fort McHenry continuously used as a garrison post until 1914, and where one of the largest military hospitals of the country was situated during the World War. All of the hospital buildings have been torn down and the old Star Fort has been restored exactly as it was during the War of 1812, and here its glory will live as a national shrine--the birthplace of the Star Spangled Banner--, and the defense of Baltimore the

only large city on the Atlantic coast over which an enemy's flag has never flown.

7
Mail to Mr Hancock

HEADQUARTERS THIRD CORPS AREA

OFFICE OF THE QUARTERMASTER

BALTIMORE, MARYLAND.

January 16, 1931.

S P E C I F I C A T I O N S —

FOR
CONSTRUCTION OF
ROADS, WALKS, PARKING AREA,
AND
CONCRETE BENCHES
AT
FORT McHENRY, MD.

SCOPE OF WORK.

The work covered by these specifications consists in the construction of automobile parking area, concrete sidewalks, concrete benches and the reconstruction of existing bituminous roads and construction of catch basins, drains and brick gutters. All as shown on accompanying plans, Nos. F.M.4, F.M. 5 and F.M. 6 and as hereinafter specified.

BOND.

The performance bond required in support of the contract shall be executed upon the Standard Government Form by the Contractor as principal and by a qualified Surety Company or by two responsible persons as sureties. The amount of bond shall be 50% of the consideration of the contract.

LIQUIDATED DAMAGES.

If the Contractor delays the completion of the work under contract beyond the time for completion as stated in the contract, then the Contractor shall pay to the United States as fixed, agreed and liquidated damages, the amount of Ten Dollars (\$10.00) for each calendar day of delay until the work is completed or accepted, subject to the provisions of Article 9 of the Standard Form of Government Contract.

LIABILITY FOR DAMAGES.

The Contractor will be held responsible for all damages to the work under construction, whether from fire, water, high winds or other causes, during performance and until final completion and acceptance, even though partial payments have been made under the contract. He will be held answerable for all damages that may occur to persons, property, animals or vehicles from want of proper shoring, bracing, lighting, watching, boarding or inclosing, and for any accident arising from defective scaffolding or apparatus, or any negligence on the part of himself or his employees.

CONTROL AND ACCESS TO WORK.

The work is entirely under control of the Contracting Officer, and he or his authorized representatives shall have access to same at all times. The Contracting Officer may require the Contractor to dismiss such workmen as he deems to be incompetent or careless.

CHARACTER OF WORK AND MECHANICS.

The work shall be executed in the best and most workmanship manner, in strict accordance with the drawing and specifications, by qualified, careful and efficient mechanics.

PATENTS.

The Contractor shall hold and save the U.S., its officers, agents, servants and employees, harmless from liability of any nature or kind for or on account of the use of any patented or unpatented invention, article or appliance furnished or used in the performance of this contract excepting patented articles required by the U. S. in its specifications, the use of which the Contractor does not control.

SUPERINTENDENCE BY CONTRACTOR.

The Contractor shall give his personel superintendence to the work, or have a competent foreman or superintendent, satisfactory to the Contracting Officer, on the job at all times during the progress of the work, with authority to act for him.

QUALITY OF MATERIALS.

Except it be otherwise specified, all materials shall be of the best quality of their respective kinds. Where two or more varieties of materials are specified, for any purpose, it shall be optional with the Contractor which is used, but in any one instance the same material must be used throughout for that particular purpose. In all cases where an article is mentioned in connection with the words "best quality", "approved quality" or "equal to", the Contracting Officer shall decide what is the best quality and most suitable article to use.

SAMPLES, ETC.

In addition to samples submitted as part of bid, if any, and when required by the Contracting Officer, the Contractor shall furnish him in advance with samples of the materials he proposes to use on the work, and samples so furnished must after having been approved be adhered to. The Contractor will be held responsible for all delays caused by rejection by the Contracting Officer of materials of any kind which are found unfit for use or do not confirm to samples furnished. Where any particular brand or manufactured article is specified, it is to be regarded as a standard. Another brand or make, equally good in the opinion of the Contracting Officer will be accepted.

LAYING OUT WORK.

The Contractor must take exact measurements and he shall be responsible for measurements; he must exercise proper precaution to verify the figures before laying out the work and will be held responsible for any errors therein that otherwise might have been avoided. The work must be carried on systematically and so managed at all times as to secure rapid progress and avoid annoyance and inconvenience.

ASSISTANCE.

The Contractor shall render assistance to other mechanics on the work in every way in which his special work can be of service, and such assistance must be given promptly and thoroughly, without additional charge. He and his employees must work in harmony with other contractors on the premises and in such order and places as may be required by the Contracting Officer.

CLEARING AWAY RUBBISH.

The Contractor is to clear away whenever directed by the Contracting Officer, the dirt and rubbish resulting from his operations, and at completion shall remove all rubbish from the premises, delivering same to the U. S. in a clean and perfect condition.

INSPECTION AND ACCEPTANCE OR REJECTION OF WORK.

The Contractor must understand that the materials delivered and labor furnished by him at any time and all times during the progress of the work, and prior to final acceptance of and payment for same, shall be subject to the inspection of the Contracting Officer or other authorized agent of the U. S., with the full right to accept or reject any part thereof; and that he must, at his own expense, within a reasonable time, remedy any defective or unsatisfactory materials or work; and that in event of his failure to do so, after notice, the Contracting Officer shall have the full right to have the same done, and to deduct the cost thereof from any money due the Contractor. All condemned materials must be at once removed from the reservation.

EXCAVATING.

The work under this heading shall consist of all excavating, grading, backfilling, etc., required in connection with the construction of the sidewalks, parking areas, roads, drains etc., shown on drawings and to complete the finished grading around same in strict conformity with these specifications and accompanying drawings.

EXCAVATION GENERALLY.

Do all excavating of every description and of whatever substance encountered, to the dimensions and levels shown on drawings for all walks, roads, curbs, gutters, parking areas etc.

All excavated material not required for filling and grading shall be deposited on the reservation where directed by the Contracting Officer.

CONCRETE WALKS

GENERAL

The following standard requirements for material shall apply to all work of contract, except where distinctly otherwise specified.

SAND.

Sand shall be clean, hard, sharp, siliceous, free from loam, silt, or other impurities and composed of grains of varying sizes, which will pass a $\frac{1}{4}$ " mesh screen. Sand for finish of cement walks, curbs and benches shall be well screened and shall be approved of by the Contracting Officer.

GRAVEL OR STONE.

Gravel or broken stone shall be free from clay, loam or organic matter, and shall be run of the bank or crusher, double screened from $1\frac{1}{2}$ " to $\frac{1}{2}$ ".

GENERAL NOTES.

CEMENT.

Cement shall be Portland cement complying with latest specifications of the American Society for Testing Materials and shall be delivered to the work in the original bags or barrels plainly marked with the name of brand and manufacturer and until used shall be protected from rain and dampness. Defective cement, or cement showing partial set or caking, shall not be used.

MEASUREMENTS OF AGGREGATES.

The method of measurement shall be such as to secure the specified proportions in each batch. The aggregate shall be measured separately by volume. In volume measurement, the final aggregate and the coarse aggregate shall be measured loose, as thrown into the measuring device, and struck off. The water shall be so measured as to insure the desired quantity in successive batches.

PROPORTIONS

Concrete shall be mixed in the following proportions, except where specifically otherwise called for:

Concrete shall be composed of one (1) part Portland cement, two and one-half ($2\frac{1}{2}$) parts sand, and five (5) parts of $\frac{1}{2}$ " to $1\frac{1}{2}$ " screened gravel or crushed stone.

NOTE: Variations in the grading of the aggregate on which the proportions are based may be made for the purpose of obtaining a denser or more workable mix when approved by the Contracting Officer, but no claim shall be made for extra compensation therefore.

CONSISTENCY.

The total quantity of water used shall not exceed $9\frac{1}{2}$ gals. per sack of cement. In measuring the water, allowance must be made for the moisture in the sand and aggregate. The proportions of aggregate to cement for concrete of the water-cement ratios specified shall be such as to produce concrete that can be puddled readily into the corners and angles of forms without excessive spading and without segregation or undue accumulation of water or laitance on the surface. It is desirable to reduce the proportions of water specified to the minimum that will give the workability defined.

STRENGTH.

The expected minimum ultimate compressive strength of concrete shall be 1500 pounds per square inch after 28 days.

MACHINE MIXING.

The mixing of concrete, unless otherwise authorized, by the Contracting Officer shall be done in a batch mixer of approved type which will insure a uniform distribution of the materials throughout the mass, so that the mixture is uniform in color and homogeneous. The entire contents of the drum shall be discharged before recharging. The mixer shall be cleaned at frequent intervals while in use. The volume of the mixed material per batch shall not exceed the manufacturer's capacity of the mixer.

TIME OF MIXING.

The mixing of each batch shall continue not less than $1\frac{1}{2}$ minutes after all the materials are in the mixer, during which time the mixer shall rotate at a peripheral speed of about 200 feet per minute.

HAND MIXING.

When hand-mixing is authorized by the Contracting Officer, it shall be done on a water tight platform. The cement and fine aggregate shall first be mixed dry until the whole is of a uniform color. The water and coarse aggregate shall then be added and the entire mass turned at least three (3) times, or until a homogeneous mixture of the required consistency is obtained.

RETEMPERING.

The retempering of concrete or mortar which has been allowed to stand longer than thirty minutes, that is, remixing with or without additional cement, aggregate or water, will not be permitted.

DEPOSITING.

General: Before beginning a run of concrete, hardened concrete and foreign materials shall be removed from the inner surfaces of the mixing and conveying equipment, and, before depositing concrete, debris shall be removed from the space to be occupied by the concrete.

COMPACTING.

Concrete during and immediately after depositing shall be thoroughly worked around embedded fixture, and into the corners of the forms.

REMOVAL OF WATER.

Water shall be removed from excavations before concrete is deposited. Any flow of water into the excavation shall be diverted through proper drains to a sump, or be removed by other approved methods which will avoid washing the freshly deposited concrete.

PROTECTION.

Exposed surfaces of concrete shall be protected from premature drying for a period of at least seven (7) days after being deposited.

TEMPERATURE OF CONCRETE.

Concrete, when deposited, shall have a temperature of not less than 40° Fahr. nor more than 120° Fahr. In freezing weather suitable means shall be provided for maintaining the concrete at a temperature of at least 50° Fahr. for not less than 72 hours after placing, or until the concrete has thoroughly hardened. The methods of heating the materials and protecting the concrete shall be approved by the Contracting Officer. Salt, chemicals, or other foreign materials shall not be mixed with the concrete for the purpose of preventing freezing, unless approved by the Contracting Officer.

DEPOSITING CONTINUOUSLY.

Concrete shall be deposited continuously and as rapidly as practicable until the unit of operation is completed.

BONDING.

Before depositing new concrete on or against concrete which has set, the surface of the set concrete shall be roughened as required by the Contracting Officer, thoroughly cleaned of foreign matter and laitance, and saturated with water. The new concrete placed in contact with hardened or partly hardened concrete, shall contain an excess of mortar to insure bond. To insure this excess mortar at the hardened and the newly deposited concrete, cleaned and saturated surfaces of the hardened concrete, including vertical surfaces and inclined, shall first be slushed with a coating of cement grout against which the new concrete shall be placed before the grout has attained its initial set.

FROST BED.

Frost bed for concrete walks shall be constructed of clean boiler cinders, or gravel or crushed stone as specified for concrete. Old bricks removed from walks may be broken to approximate 1½" size and used in frost bed if so desired.

Frost bed to be full width of walks and not less than 6" thickness.

MORTAR.

Mortar for top course to be composed of one part Portland cement and two parts of screened sand.

FINISH.

Top course will be trowelled to a smooth finish with steel trowel and finished with a dot roller.

Traverse joints and edges of walk to be finished with a steel jointer and edger.

Expansion joints will be made at intervals of not more than 6 feet.

FORMS.

Forms will be of good quality sound lumber, securely braced to true line and grade.

CONCRETE CURBS

Concrete curbs shall be constructed when indicated on plans and of dimensions shown. Concrete to be as specified for base of walks with exposed surfaces finished with mortar composed of one part Portland cement and two parts sand, finished smooth.

BRICK GUTTERS.

Construct brick gutters 18" wide where indicated on drawings.

Gutters to be constructed of approved vitrified paving bricks, laid on concrete base, base to be of concrete as specified for base of walks. Brick joints to be grouted with a grout composed of one part Portland cement and one part sand. Upon completion, the exposed surfaces of brick gutters to be thoroughly cleaned of all excess grout.

ROADWAYS.

Roadway, Section "A", between entrance gate and Key monument to be reconstructed to conform to the new established grade as shown on plans. Where required to conform to the new cross section and grades, the existing road surface will be spiked up or scarified and then built up within $1\frac{1}{2}$ " of the finished grade, with $1\frac{1}{2}$ " to $2\frac{1}{2}$ " trap rock or limestone. After base stone has been spread it shall be rolled with a roller weighing not less than 10 tons until thoroughly compacted.

After dry rolling has been completed screening approximately $\frac{1}{2}$ " to 1" size shall be applied over the surface of the new base stone and rolling continued until all voids are filled.

After voids of the macadam have been filled with screening, the macadam shall be sprinkled with water until saturated and screenings added where necessary to fill voids and rolling continued until base is thoroughly bonded.

Base shall then be allowed to dry out thoroughly before wearing course is applied.

WEARING COURSE.

Wearing course will be composed of bituminous concrete, Amiesite or equal which will be laid in the best accepted methods for such product.

Wearing course near entrance gate will be feathered out to conform to the existing pavement of Fort Avenue.

Care must be taken not to injure or damage the U. S. C. & G. Survey Bench mark at entrance gate.

CATCH BASINS AND DRAINS.

Catch basins will be constructed as shown on details. Brick catch basins will be constructed of dark red common brick laid in mortar composed of one part cement and three (3) parts of sand.

Concrete basins composed of one part cement, $2\frac{1}{2}$ parts sand and 5 parts stone may be substituted for brick basins if so desired by the Contractor.

Frames and grating for catch basins to be of cast iron and as shown on details.

Drains will be installed where shown. Drains to be 6" diameter vitrified tile B & S with joints cemented with mortar composed of one part cement and three (3) parts sand. All drains shall have fall of not less than $\frac{1}{8}$ " to one foot.

ROADWAY - SECTION "B".

Road Section "B" - 16 feet wide and approximately 290 feet long shall be constructed as follows:

All holes in the existing pavement shall be repaired with $\frac{3}{4}$ " stone and bituminous material, Tarvia, K.P. or equal and existing surface made reasonably smooth to receive wearing course.

WEARING COURSE.

Wearing course shall be $1\frac{1}{2}$ " bituminous concrete as specified for Section "A".

PARKING AREA.

Parking area shall be graded to conform to the established grades shown on plans. Subgrade shall be prepared and rolled with 10 ton roller until thoroughly compacted.

BASE COURSE.

Base course will be composed of trap rock or limestone ranging in sizes from $1\frac{1}{2}$ " to $2\frac{1}{2}$ ", and will be not less than 5" thickness after compacting.

Base will be thoroughly rolled dry until compacting is complete.

$\frac{1}{4}$ " to 1" screenings will then be added and rolled until all voids are filled. Base will then be sprinkled with water until saturated and rolling will be continued until thoroughly bonded.

Base will be allowed to dry out thoroughly before wearing course is applied.

WEARING COURSE.

Wearing course will be of one course, $1\frac{1}{2}$ " thickness, bituminous concrete as specified for road Section "A".

Concrete curbing and brick gutters will be constructed for Parking Areas as shown on detail plans.

CATCH BASINS AND DRAINS.

Install catch basins and drains for Parking area where shown on plans.

BENCHES.

Construct 17 concrete benches as shown on detail plan F.M. 6 and located approximately as shown on plan F.M. 4.

Concrete for benches shall be composed of one part Portland cement, 2 parts of sand and 4 parts $\frac{1}{2}$ " gravel or crushed stone. Finish for benches to be similar to existing concrete benches at Fort McHenry.

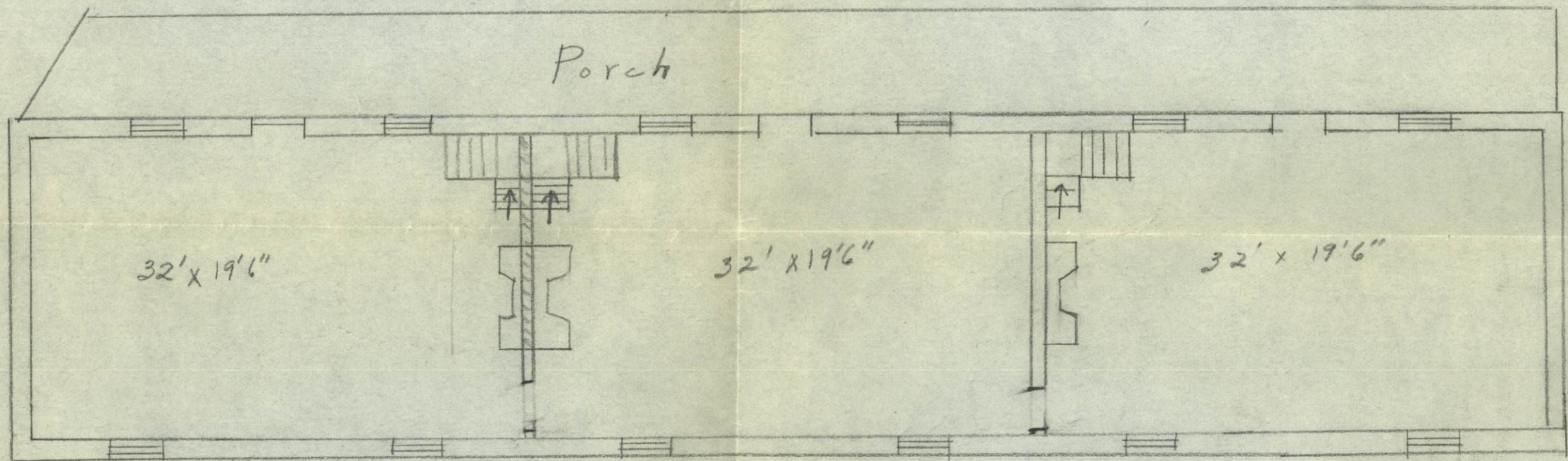
Construct ~~concrete~~ footings for benches of dimensions shown.

Concrete for footings shall be composed of one part Portland cement, $2\frac{1}{2}$ parts sand and 5 parts stone or gravel.

PROPOSALS.

Bidders will submit proposals as follows:

- (a) For work complete.
- (b) Deduct if Road, Section "A" is omitted.
- (c) Deduct if Road, Section "B" is omitted.
- (d) Deduct if concrete benches are omitted.



Fort McHenry

Marine Museum Floor Plan

Bldg. E 2nd Floor

This file contains also contains a map(s), chart(s), or other items that has/have not been scanned because it/they are oversized.