Certified Copy
Contract in file

FTC/103-36
65-7484

ST. AUGUSTINE, FLA., P.O. & CU.H.
EXTENS. & REMODEL.

ADDENDUM NO. 3 TO THE SPECIFICATION DATED SEPTEMBER 26, 1935 FOR EXTENSION AND REMODELING OF THE UNITED STATES POST OFFICE AND CUSTOM HOUSE AT ST. AUGUSTINE, FLORIDA.

PROCUREMENT DIVISION,
PUBLIC WORKS BRANCH,
WASHINGTON, D.C.,
OCTOBER 28, 1935.

BIDDERS ARE INFORMED THAT THE ABOVE NAMED SPECIFICATION IS HEREBY MODIFIED AS FOLLOWS:

1. PARAGRAPH 86 (A).--THE STRENGTH OF INTERLOCK IS CHANGED TO 12,000 POUNDS.

2. PARAGRAPH 86 (C).--THE SECTION MODULUS IS CHANGED TO 3.0 INSTEAD OF 3.25.

3. PARAGRAPH 215 IS MODIFIED TO REQUIRE THE SUB-SLAB AND TOP SLAB OF BASEMENT FLOOR TO BE OF THE THICKNESSES INDICATED ON DRAWING G-400.

4. THE DETAIL ON DRAWING G-200 REFERRING TO DOORS 2/41, 2/42, AND 2/43 SHALL MEAN TO REFER TO DOORS 2/44, 2/45 AND 2/46 IN LIEU OF THE NUMBERS INDICATED.

PERMANENT FILE COPY

BIDDERS MUST ACKNOWLEDGE ON THE FORM OF BID THE RECEIPT OF THIS ADDENDUM, GIVING NUMBER AND DATE OF SAME.

W. E. REYNOLDS,
ASSISTANT DIRECTOR OF PROCUREMENT,
PUBLIC WORKS BRANCH.

M.E.L.

ML

St. Augustine
P.O. & Cu. Hse.
10-28-1935

ST. AUGUSTINE, FLA., U.S.P.O. & CU.H.
EXTENS. & REMODEL.

ADDENDUM NO. 2 TO THE SPECIFICATION DATED SEPTEMBER 26, 1935, FOR EXTENSION AND REMODELING OF THE UNITED STATES POST OFFICE AND CUSTOM HOUSE AT ST. AUGUSTINE, FLORIDA.

PROCUREMENT DIVISION,
PUBLIC WORKS BRANCH,
WASHINGTON, D.C.,
OCTOBER 26, 1935.

BIDDERS ARE INFORMED THAT THE ABOVE NAMED SPECIFICATION AND THE CONTRACT DRAWINGS THEREWITH ARE HEREBY MODIFIED AS FOLLOWS:

1. PARAGRAPH 215 IS MODIFIED TO CHANGE THE THICKNESS OF THE 5-INCH SUB SLAB (UNDER WATERPROOFING) TO 3 INCHES, AS INDICATED ON THE STRUCTURAL DRAWINGS.

2. PARAGRAPH 85. OMIT THE LAST CLAUSE READING "AND SHALL FINISH AT THE TOP ---". SHEET PILES 12 FEET LONG SHALL BE USED.

3. PARAGRAPH 67F. (FIRST PART) OMIT THE LAST SENTENCE READING: "NEW FIRST FLOOR SLAB TO BE -----".

4. THE FOLLOWING MODIFICATIONS TO DRAWING G-402 SHALL APPLY (SEE ROOF FRAMING PLAN, BOTTOM CHORD).

(A) THE 10-WF-21 BEAM AT COLUMN 25 SHALL BE RAISED TO SUPPORT THE 7 INCH CEILING CHANNELS OVER THE P. O. STORAGE ROOM AND SHALL BE SKEWED TO CONNECT DIRECTLY TO COLUMNS 4 AND 25.

(B) THE 7 INCH CHANNELS BETWEEN COLUMNS 3 AND 25 SHALL BE RAISED TO ABOUT ELEVATION 35.00 EXACT LOCATION WILL BE DETERMINED BY ARCHITECT DURING APPROVAL OF SHOP DRAWINGS.

(C) OMIT THE 8 INCH I FRAMING TO WEB OF COLUMN 88 AT ELEVATION 30.10.

(D) PROVIDE 8 INCH I FRAMING TO FLANGE OF COLUMN 88 AT ABOUT ELEVATION 35.00 AND RUNNING NORTH TO CONNECT TO THE BENT 12 INCH CHANNELS IN THE ROOF.

(E) PROVIDE 7 INCH CHANNEL CONNECTING TO COLUMN 88 AND RUNNING EAST TO THE ABOVE 10-WF-21 AT ABOUT ELEVATION 35.00.

BIDDERS MUST ACKNOWLEDGE ON THE FORM OF BID THE RECEIPT OF THIS ADDENDUM, GIVING NUMBER AND DATE OF SAME.

W. E. REYNOLDS,
ASSISTANT DIRECTOR OF PROCUREMENT,
PUBLIC WORKS BRANCH.

M.E.L.

FRB

ST. AUGUSTINE, FLA., U.S.P.O.& CU.H.
EXTENSION & REMODELING

ADDENDUM NO. 1 TO THE SPECIFICATION DATED SEPTEMBER 26, 1935 FOR THE EXTENSION AND REMODELING (EXCEPT FREIGHT ELEVATOR) OF THE UNITED STATES POST OFFICE AND CUSTOM HOUSE AT ST. AUGUSTINE, FLA.

PROCUREMENT DIVISION
PUBLIC WORKS BRANCH,
WASHINGTON, D.C.,
OCT. 17, 1935.

BIDDERS ARE INFORMED THAT THE ABOVE NAMED SPECIFICATION IS HEREBY MODIFIED AS FOLLOWS:

IN PARAGRAPHS NUMBERED: 1059-1060-1142-1149-1227 AND 1231-STRIKE OUT THE WORD "NICKEL-PLATED" AND SUBSTITUTE THE WORD "CHROMIUM PLATED" IN LIEU THEREOF. SEE PARAGRAPH 1138A.

BIDDERS MUST ACKNOWLEDGE ON THE FORM OF BID THE RECEIPT OF THIS ADDENDUM, GIVING NUMBER AND DATE OF SAME.

W. E. REYNOLDS,
ASSISTANT DIRECTOR OF PROCUREMENT,
PUBLIC WORKS BRANCH.

FRK

SPECIFICATION FOR EXTENSION AND REMODELING (EXCEPT FREIGHT ELEVATOR) OF THE UNITED STATES POST OFFICE AND CUSTOM HOUSE AT ST. AUGUSTINE, FLORIDA.

PROCUREMENT DIVISION, PUBLIC WORKS
BRANCH, WASHINGTON, D. C.,
SEPTEMBER 26, 1935.

N.B.--BIDDERS ARE REQUIRED TO RETURN THE DRAWINGS AND SPECIFICATIONS WITHOUT MARKS, NOTES, OR OTHER MUTILATIONS.

NOTE.--THESE SPECIFICATION SHEETS WHEN SENT UNSEALED ARE CLASSIFIED AS PRINTED MATTER AND WHEN MAILED (EITHER WITH OR WITHOUT BLUEPRINTS) IN PACKAGES WEIGHING EIGHT OUNCES OR LESS ARE CHARGEABLE WITH POSTAGE AT THE RATE OF 1-1/2 CENTS FOR EACH 2 OUNCES OR FRACTION THEREOF; PARCELS EXCEEDING 8 OUNCES IN WEIGHT ARE SUBJECT TO THE PARCEL POST ZONE RATES.

M.E.L.

EVH

ST. AUGUSTINE, FLA., P.O. & CU.H.
EXT. & REMODEL.

GOVERNMENT FORM OF INVITATION FOR PROPOSALS
(CONSTRUCTION CONTRACT)

NOTICE TO PRINTER

THIS NOTICE WHEN USED AS AN ADVERTISEMENT MUST BE SET SOLID. THE NOTICE IS TO BE USED AS A PAY ADVERTISEMENT ONLY WHEN ACCOMPANIED BY WRITTEN AUTHORITY FROM THE DEPARTMENT. THE LAW FORBIDS PAYMENT FOR ADVERTISEMENTS NOT PREVIOUSLY AUTHORIZED.

TREASURY DEPARTMENT, PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, WASHINGTON, D.C., SEPT. 26, 1935. SEALED PROPOSALS IN DUPLICATE WILL BE PUBLICLY OPENED IN THIS OFFICE AT 1 P.M., NOV. 6, 1935, FOR FURNISHING ALL LABOR AND MATERIALS AND PERFORMING ALL WORK FOR THE EXTENSION AND REMODELING OF THE U.S.P.O. AND CU.H. AT ST. AUGUSTINE, FLA. ATTENTION IS DIRECTED TO THE SPECIAL CONDITIONS OF BIDDING SET FORTH IN THE SPECIFICATION. UPON APPLICATION, TWO SETS OF DRAWINGS AND SPECIFICATIONS WILL BE SUPPLIED FREE TO EACH GENERAL CONTRACTOR INTERESTED IN SUBMITTING A PROPOSAL. THE ABOVE DRAWINGS AND SPECIFICATIONS MUST BE RETURNED TO THIS OFFICE. CONTRACTOR REQUIRING ADDITIONAL SETS MAY OBTAIN THEM BY PURCHASE FROM THIS OFFICE AT A COST OF $10 PER SET, WHICH WILL NOT BE RETURNED. CHECKS OFFERED AS PAYMENT FOR DRAWINGS AND SPECIFICATIONS MUST BE MADE PAYABLE TO THE ORDER OF THE TREASURER, U.S. DRAWINGS AND SPECIFICATIONS WILL NOT BE FURNISHED TO CONTRACTORS WHO HAVE CONSISTENTLY FAILED TO SUBMIT PROPOSALS. ONE SET UPON REQUEST, AND WHEN CONSIDERED IN THE INTERESTS OF THE GOVERNMENT, WILL BE FURNISHED BUILDERS' EXCHANGES, CHAMBERS OF COMMERCE OR OTHER ORGANIZATIONS WHO WILL GUARANTEE TO MAKE THEM AVAILABLE FOR ANY SUBCONTRACTOR OR MATERIAL FIRM INTERESTED, AND TO QUANTITY SURVEYORS, BUT THIS PRIVILEGE WILL BE WITHDRAWN IF THE SETS ARE NOT RETURNED AFTER THEY HAVE ACCOMPLISHED THEIR PURPOSE. W. E. REYNOLDS, ASSISTANT DIRECTOR OF PROCUREMENT, PUBLIC WORKS BRANCH.

GUARANTEE WILL BE REQUIRED WITH EACH BID AS FOLLOWS:
(SEE PARAGRAPH 8 OF INSTRUCTIONS TO BIDDERS AND PARAGRAPHS 10 AND 11 OF THE SPECIFICATION).

PERFORMANCE BOND WILL BE REQUIRED AS FOLLOWS: 50 PER CENT OF THE AMOUNT OF THE CONTRACT, IF THE CONTRACT AMOUNTS TO $2,000.00 OR MORE.

LIQUIDATED DAMAGES FOR DELAY WILL BE AS PROVIDED IN THE SPECIFICATION.

PARTIAL PAYMENTS WILL BE MADE.
(SEE ARTICLE 16 OF CONTRACT AS MODIFIED BY THE SPECIFICATION).

ARTICLE ON PATENTS WILL BE MADE A PART OF THE CONTRACT.
(SEE DIRECTIONS ON BACK OF CONTRACT).

PREFERENCE FOR DOMESTIC MATERIALS IS REQUIRED BY TITLE III OF THE ACT OF MARCH 3, 1933, PUBLIC NO. 428.

BIDS MUST BE SUBMITTED UPON THE GOVERNMENT FORM OF PROPOSAL AND THE SUCCESSFUL BIDDER WILL BE REQUIRED TO EXECUTE THE GOVERNMENT FORM OF CONTRACT FOR CONSTRUCTION.

THE RIGHT IS RESERVED, AS THE INTEREST OF THE GOVERNMENT MAY REQUIRE, TO REJECT ANY AND ALL BIDS, TO WAIVE ANY INFORMALITY IN BIDS RECEIVED, AND TO ACCEPT OR REJECT ANY ITEMS OF ANY BID, UNLESS SUCH BID IS QUALIFIED BY SPECIFIC LIMITATION.

ENVELOPES CONTAINING BIDS MUST BE SEALED, MARKED, AND ADDRESSED AS FOLLOWS:

PROPOSAL FOR EXTENSION AND REMODELING,
U.S.P.O. & CU.H., ST. AUGUSTINE, FLA.

TO BE OPENED 1 P.M., NOVEMBER 6, 1935.

ASSISTANT DIRECTOR OF
PROCUREMENT,
PUBLIC WORKS BRANCH,
7TH & D STS. S.W.,
WASHINGTON, D.C.

NOTE.--SEE GOVERNMENT INSTRUCTIONS TO BIDDERS AND COPY OF THE GOVERNMENT FORM OF CONTRACT, BID BOND AND PERFORMANCE BOND, WHICH MAY BE OBTAINED UPON APPLICATION.

Standard Form No. 22
Approved by the President
Nov. 19, 1926

STANDARD GOVERNMENT INSTRUCTIONS TO BIDDERS

(CONSTRUCTION AND SUPPLIES)

1. **Preparation of bids.**—Unless otherwise directed in the invitation, bids shall be submitted in triplicate. Forms furnished, or copies thereof, shall be used, and strict compliance is necessary with the requirements of the invitation, these instructions, and the instructions printed on the forms. Special care should be exercised in the preparation of bids. Bidders must make their own estimates of the facilities and difficulties attending the execution of the proposed contract, including local conditions, uncertainty of weather, and all other contingencies. All designations and prices shall be fully and clearly set forth. Copies of the bids shall be identical. The proper blank spaces in the bid and guaranty forms shall be suitably filled in.

2. **Labor and material not to be furnished by the Government.**—The Government will not furnish any labor, material, or supplies unless specifically provided for in the contract.

3. **Signature to bids.**—Each bid must give the full business address of the bidder and be signed by him with his usual signature. Bids by partnerships must be signed with the partnership name by one of the members of the partnership or by an authorized representative, followed by the signature and designation of the person signing. Bids by corporations must be signed with the name of the corporation, followed by the signature and designation of the president, secretary, or other person authorized to bind it in the matter. The names of all persons signing shall also be typed or printed below the signature. A bid by a person who affixes to his signature the word "president," "secretary," "agent," or other designation, without disclosing his principal, may be held to be the bid of the individual signing. When requested by the Government, satisfactory evidence of the authority of the officer signing in behalf of the corporation shall be furnished.

4. **Bids for all or part.**—Where bids are not qualified by specific limitations, the Government reserves the right of awarding all or any of the items according to its best interests. Unless otherwise required in the specifications, bids for supplies shall be submitted in accordance with the numbered item or items given in the schedule.

5. **Alternative bids.**—Alternative bids will not be considered unless called for.

6. **Specifications and schedules.**—The specifications, schedules, and drawings which form the basis of any bid will be considered as a part thereof and will form a part of the contract. Copies of these papers, together with a copy of the standard contract form, including authorized additions or deletions, if any, will be furnished to or made available for the inspection of bidders by the office indicated in the advertisement or invitation.

7. **Corrections.**—Erasures or other changes in the bids must be explained or noted over the signature of the bidder.

8. **Guaranty.**—Where security is required to insure the execution of contract and bond for performance of the service, no bid will be considered unless it is so guaranteed. The bidder, at his option, may furnish a guaranty bond, a certified check, or deposit, in accordance with Treasury Department regulations, United States bonds (at par value) as security in the amount required: *Provided*, That where not in conflict with the law, the bidder may be limited to the option of furnishing a certified check or United States bonds when the amount of the security does not exceed $1,000, notice of such requirement to be given in the invitation to bidders.

In case security is in the form of a certified check or United States bond, the Government may make such disposition of the same as will accomplish the purpose for which submitted. Certified checks may be held uncollected at the bidder's risk. Certified checks, or the amount thereof, and United States bonds of unsuccessful bidders will be returned as soon as practicable after the opening. 10—1772

9. **Sufficiency of guarantors and sureties.**—The bond of any surety company authorized by the Secretary of the Treasury to do business, or of two responsible individual sureties, will be accepted as security for any bid or contract. Individual guarantors or sureties must make the affidavit appearing on the bond as to their sufficiency and furnish the certificate of a judge or clerk of a court of record, a United States district attorney or commissioner, or the president or cashier of a bank or trust company. Individual sureties shall justify in sums aggregating not less than double the penalty of the bond.

10. **Restrictions as to guarantors and sureties.**—A firm, as such, will not be accepted as a guarantor or surety, nor a partner for copartners or for a firm of which he is a member. Stockholders of a corporation may be accepted as guarantors or sureties provided their qualifications as such are not dependent upon their stock holdings therein. Guarantors and sureties, if individuals, must be citizens of the United States, except that sureties on bonds executed in any foreign country, the Canal Zone, the Philippine Islands, Puerto Rico, Hawaii, Alaska, or any possession of the United States, for the performance of contracts entered into in these places, need not be citizens of the United States, but if not citizens of the United States must be domiciled in the place where the contract is to be performed.

11. **Seals on bonds.**—When the principal, a guarantor, or a surety is an individual, his signature to a guaranty or bond shall have affixed to it an adhesive or scroll seal. If executed in Maine, Massachusetts, or New Hampshire, an adhesive seal is required. Corporate seals shall be affixed by corporations, whether principals or sureties.

12. **Marking and mailing bids.**—Bids, with their guaranties, must be securely sealed in suitable envelopes, addressed and marked on the outside as required by the invitation.

13. **Time for receiving bids.**—Bids received prior to the time of opening will be securely kept, unopened. The officer whose duty it is to open them will decide when the specified time has arrived, and no bid received thereafter will be considered, except that when a bid arrives by mail after the time fixed for opening, but before award is made, and it is shown to the satisfaction of the officer authorized to make the award that the nonarrival on time was due solely to delay in the mails for which the bidder was not responsible, such bid will be received and considered. No responsibility will attach to an officer for the premature opening of a bid not properly addressed and identified. Unless specifically authorized, telegraphic bids will not be considered, but modifications by telegraph of bids already submitted will be considered if received prior to the hour set for opening.

14. **Withdrawal of bids.**—Bids may be withdrawn on written or telegraphic request received from bidders prior to the time fixed for opening. Negligence on the part of the bidder in preparing the bid confers no right for the withdrawal of the bid after it has been opened.

15. **Bidders present.**—At the time fixed for the opening of bids, their contents will be made public for the information of bidders and others properly interested, who may be present either in person or by representative.

16. **Award or rejection of bids.**—The contract will be awarded to the lowest responsible bidder complying with conditions of the invitation for bids, provided his bid is reasonable and it is to the interest of the United States to accept it. The bidder to whom the award is made will be notified at the earliest possible date. The United States, however, reserves the right to reject any and all bids and to waive any informality in bids received whenever such rejection or waiver is in the interest of the United States. It also reserves the right to reject the bid of a bidder who has previously failed to perform properly or complete on time contracts of a similar nature, or a bid of a bidder who is not in a position to perform the contract.

17. **Time of performance.**—When not otherwise specified in the invitation, the bidder must state the least number of calendar days (counting Sundays and holidays) after date of receipt of notice to proceed, in which he will commence performance, and the number of calendar days (counting Sundays and holidays) thereafter in which he will complete. In stating time the bidder should make due allowance for probable difficulties which may be encountered. 10—1772

18. **Bidders interested in more than one bid.**—If more than one bid be offered by any one party, by or in the name of his or their clerk, partner, or other person, all such bids may be rejected. (Sec. 3722, R. S.) This shall not prevent a bidder from proceeding under paragraph 5 hereof, nor from quoting different prices on different qualities of material or different conditions of delivery. A party who has quoted prices on materials to a bidder is not thereby disqualified from quoting prices to other bidders or from submitting a bid directly for the materials or work.

19. **Errors in bid.**—Bidders or their authorized agents are expected to examine the maps, drawings, specifications, circulars, schedule, and all other instructions pertaining to the work, which will be open to their inspection. Failure to do so will be at the bidder's own risk, and he can not secure relief on the plea of error in the bid. In case of error in the extension of prices the unit price will govern.

20. **Preference for domestic articles.**—Preference will be given to articles or materials of domestic production, conditions of quality and price, including duty, being equal.

21. **Dealer or manufacturer.**—In bids for supplies or manufactured articles, bidders will state whether they are manufacturers of or regular dealers in the articles. If practicable to do so, bidders who are not manufacturers will give the name of the manufacturer from whom the articles are to be obtained, including catalogue references.

22. **Samples.**—When samples are required, they must be submitted by the bidder so as to reach the office designated prior to the hour set for opening the bids. Samples shall be furnished free of expense to the Government, properly marked for identification, and accompanied by a list when there is more than one sample. The Government reserves the right to mutilate or destroy any sample submitted whenever it may be considered necessary to do so for the purpose of testing. Samples not required in connection with the award or delivery of supplies will, upon request, if promptly made, be returned at the bidder's expense.

23. **Contract and bond.**—The bidder to whom award is made must, when required, enter into written contract on the standard Government form, with satisfactory security in the amount required, within the period specified or, if no period be specified, within ten days after the prescribed forms are presented to him for signature.

24. **Eight-hour law.**—The eight-hour labor statute cited in Article 11 of the construction contract does not apply to the procurement of supplies, materials, or articles which may usually be bought in the open market, whether made to conform to particular specifications or not, or to the construction or repair of levees or revetments necessary for protection against floods or overflows on the navigable waters of the United States, or to any emergency caused by fire, famine, or flood, by danger to life or to property, or by other extraordinary event or condition on account of which the President shall subsequently declare the violation to have been excusable.

25. **Patents.**—Unless specified by the Government, patented articles shall not knowingly be used in connection with the performance of the contract by the contractor, unless he is the owner or licensee thereof or procures the same in open market, or unless full information relative thereto shall have been furnished in his proposal. The contractor must notify the Government immediately of any claim or infringement of any patent in connection with the performance of the contract.

(These instructions are not to be incorporated in the contract)

PARAGRAPH 20 OF THE STANDARD INSTRUCTIONS TO BIDDERS IS AMENDED IN ACCORDANCE WITH TITLE III OF THE ACT OF MARCH 3, 1933, PUBLIC No. 428, SECTION 3 OF WHICH READS AS FOLLOWS:

SECTION 3 (A) EVERY CONTRACT FOR THE CONSTRUCTION, ALTERATION OR REPAIR OF ANY PUBLIC BUILDING OR PUBLIC WORK IN THE UNITED STATES GROWING OUT OF AN APPROPRIATION HERETOFORE MADE OR HEREAFTER TO BE MADE SHALL CONTAIN A PROVISION THAT IN THE PERFORMANCE OF THE WORK THE CONTRACTOR, SUBCONTRACTORS, MATERIAL MEN, OR SUPPLIERS, SHALL USE ONLY SUCH UNMANUFACTURED ARTICLES, MATERIALS AND SUPPLIES AS HAVE BEEN MINED OR PRODUCED IN THE UNITED STATES, AND ONLY SUCH MANUFACTURED ARTICLES, MATERIALS AND SUPPLIES AS HAVE BEEN MANUFACTURED IN THE UNITED STATES SUBSTANTIALLY ALL FROM ARTICLES, MATERIALS OR SUPPLIES MINED, PRODUCED OR MANUFACTURED, AS THE CASE MAY BE IN THE UNITED STATES EXCEPT AS PROVIDED IN SECTION 2: PROVIDED HOWEVER, THAT IF THE HEAD OF THE DEPARTMENT OR INDEPENDENT ESTABLISHMENT MAKING THE CONTRACT SHALL FIND THAT IN RESPECT TO SOME PARTICULAR ARTICLES, MATERIALS, OR SUPPLIES IT IS IMPRACTICABLE TO MAKE SUCH REQUIREMENT OR THAT IT WOULD UNREASONABLY INCREASE THE COST, AN EXCEPTION SHALL BE NOTED IN THE SPECIFICATIONS AS TO THAT PARTICULAR ARTICLE, MATERIAL, OR SUPPLY AND A PUBLIC RECORD MADE OF THE FINDINGS WHICH JUSTIFIED THE EXCEPTION.

(B) IF THE HEAD OF A DEPARTMENT, BUREAU, AGENCY, OR INDEPENDENT ESTABLISHMENT WHICH HAS MADE ANY CONTRACT, CONTAINING THE PROVISION REQUIRED BY SUBSECTION (A) FINDS THAT IN THE PERFORMANCE OF SUCH CONTRACT THERE HAS BEEN A FAILURE TO COMPLY WITH SUCH PROVISIONS, HE SHALL MAKE PUBLIC HIS FINDINGS, INCLUDING THEREIN THE NAME OF THE CONTRACTOR OBLIGATED UNDER SUCH CONTRACT, AND NO OTHER CONTRACT FOR THE CONSTRUCTION, ALTERATION, OR REPAIR OF ANY PUBLIC BUILDING OR PUBLIC WORK IN THE UNITED STATES OR ELSEWHERE SHALL BE AWARDED TO SUCH CONTRACTOR, SUBCONTRACTORS, MATERIAL MEN, OR SUPPLIERS WITH WHICH SUCH CONTRACTOR IS ASSOCIATED OR AFFILIATED, WITHIN A PERIOD OF THREE YEARS AFTER SUCH FINDING IS MADE PUBLIC.

HWS

ST. AUGUSTINE, FLA., P.O. AND CU.H.

INDEX

NOTICE:-THIS INDEX IS FOR CONVENIENCE ONLY. ITS ACCURACY IS NOT GUARANTEED, AND IT IS NOT TO BE CONSIDERED AS PART OF THE SPECIFICATION. IN CASE OF DISCREPANCY BETWEEN THE INDEX AND THE SPECIFICATION, THE SPECIFICATION SHALL GOVERN.

EVH

RATE OF WAGE REPORTS

JANUARY 8, 1935

PURSUANT TO THE PROVISIONS OF PUBLIC ACT No. 324, 73RD CONGRESS, APPROVED JUNE 13, 1934 (48 STAT. 948), CONCERNING RATES OF PAY FOR LABOR, THE SECRETARY OF THE TREASURY AND THE SECRETARY OF THE INTERIOR HEREBY JOINTLY PROMULGATE THE FOLLOWING REGULATIONS:

SECTION 1. SAID ACT READS AS FOLLOWS:

"TO EFFECTUATE THE PURPOSE OF CERTAIN STATUTES CONCERNING RATES OF PAY FOR LABOR, BY MAKING IT UNLAWFUL TO PREVENT ANYONE FROM RECEIVING THE COMPENSATION CONTRACTED FOR THEREUNDER, AND FOR OTHER PURPOSES.

BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED THAT WHOEVER SHALL INDUCE ANY PERSON EMPLOYED IN THE CONSTRUCTION, PROSECUTION, OR COMPLETION OF ANY PUBLIC BUILDING, PUBLIC WORK, OR BUILDING OR WORK FINANCED IN WHOLE OR IN PART BY LOANS OR GRANTS FROM THE UNITED STATES, OR IN THE REPAIR THEREOF TO GIVE UP ANY PART OF THE COMPENSATION TO WHICH HE IS ENTITLED UNDER HIS CONTRACT OF EMPLOYMENT, BY FORCE, INTIMIDATION, THREAT OF PROCURING DISMISSAL FROM SUCH EMPLOYMENT, OR BY ANY OTHER MANNER WHATSOEVER, SHALL BE FINED NOT MORE THAN $5,000, OR IMPRISONED NOT MORE THAN FIVE YEARS, OR BOTH

"SEC. 2. TO AID IN THE ENFORCEMENT OF THE ABOVE SECTION, THE SECRETARY OF THE TREASURY AND THE SECRETARY OF THE INTERIOR JOINTLY SHALL MAKE REASONABLE REGULATIONS FOR CONTRACTORS OR SUBCONTRACTORS ON ANY SUCH BUILDING OR WORK, INCLUDING A PROVISION THAT EACH CONTRACTOR AND SUBCONTRACTOR SHALL FURNISH WEEKLY A SWORN AFFIDAVIT WITH RESPECT TO THE WAGES PAID EACH EMPLOYEE DURING THE PRECEDING WEEK."

SECTION 2. EACH CONTRACTOR AND SUBCONTRACTOR ENGAGED IN THE CONSTRUCTION, PRESECUTION, OR COMPLETION OF ANY BUILDING OR WORK OF THE UNITED STATES OR OF ANY BUILDING OR WORK FINANCED IN WHOLE OR IN PART BY LOANS OR GRANTS FROM THE UNITED STATES, OR IN THE REPAIR THEREOF, SHALL FURNISH EACH WEEK AN AFFIDAVIT WITH RESPECT TO THE WAGES PAID EACH EMPLOYEE DURING THE PRECEDING WEEK. SAID AFFIDAVIT SHALL BE IN THE FOLLOWING FORM.

STATE OF .. ..) SS:
COUNTY OF .....)

I .....(NAME OF PARTY SIGNING AFFIDAVIT) .....(TITLE) DO HEREBY CERTIFY THAT I AM (THE EMPLOYEE OF) ..... (NAME OF CONTRACTOR OR SUBCONTRACTOR) WHO SUPERVISED THE PAYMENT OF THE EMPLOYEES OF SAID CONTRACTOR (SUBCONTRACTOR); THAT THE ATTACHED PAY ROLL IS A TRUE AND ACCURATE REPORT OF THE FULL WEEKLY WAGES DUE AND PAID TO EACH PERSON EMPLOYED BY THE SAID CONTRACTOR (SUBCONTRACTOR) FOR THE CONSTRUCTION OF .....(PROJECT), FOR THE WEEKLY PAY ROLL PERIOD FROM THE .....DAY OF .....193 , TO THE .....DAY OF ....., 19 ; THAT NO REBATES OR DEDUCTIONS FROM ANY WAGES DUE ANY

SUCH PERSON AS SET OUT ON THE ATTACHED PAY ROLL HAVE BEEN DIRECTLY OR INDIRECTLY MADE; AND THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THERE EXISTS NO AGREEMENT OR UNDERSTANDING WITH ANY PERSON EMPLOYED ON THE PROJECT, OR ANY PERSON WHATSOEVER, PURSUANT TO WHICH IT IS CONTEMPLATED THAT I OR ANYONE ELSE SHALL, DIRECTLY OR INDIRECTLY, BY FORCE, INTIMIDATION, THREAT OR OTHERWISE, INDUCE OR RECEIVE ANY DEDUCTIONS OR REBATES IN ANY MANNER WHATSOEVER FROM ANY SUM PAID OR TO BE PAID TO ANY PERSON AT ANY TIME FOR LABOR PERFORMED OR TO BE PERFORMED UNDER THE CONTRACT FOR THE ABOVE NAMED PROJECT.

_____

SWORN TO BEFORE ME THIS .....DAY OF....., 193____

_____

SECTION 3. SAID AFFIDAVIT SHALL BE EXECUTED AND SWORN TO BY THE OFFICER OR EMPLOYEE OF THE CONTRACTOR OR SUBCONTRACTOR WHO SUPERVISE THE PAYMENT OF ITS EMPLOYEES.

SAID AFFIDAVIT SHALL BE DELIVERED, WITHIN THREE DAYS AFTER THE PAYMENT OF THE PAYROLL TO WHICH IT IS ATTACHED, TO THE GOVERNMENT REPRESENTATIVE IN CHARGE AT THE SITE OF THE PARTICULAR PROJECT IN RESPECT OF WHICH IT IS FURNISHED, WHO SHALL FORWARD THE SAME PROMPTLY TO THE FEDERAL AGENCY HAVING CONTROL OF SUCH PROJECT. IF NO GOVERNMENT REPRESENTATIVE IS IN CHARGE AT THE SITE, SUCH AFFIDAVIT SHALL BE MAILED WITHIN SUCH THREE-DAY PERIOD TO THE FEDERAL AGENCY HAVING CONTROL OF THE PROJECT.

SECTION 4. AT THE TIME UPON WHICH THE FIRST AFFIDAVIT WITH RESPECT TO THE WAGES PAID TO EMPLOYEES IS REQUIRED TO BE FILED BY CONTRACTOR OR SUBCONTRACTOR PURSUANT TO THE REQUIREMENTS OF THESE REGULATIONS, THERE SHALL ALSO BE FILED IN THE MANNER REQUIRED BY SECTION 3 HEREOF A STATEMENT UNDER OATH BY THE CONTRACTOR OR SUBCONTRACTOR, SETTING FORTH THE NAME OF ITS OFFICER OR EMPLOYEE WHO SUPERVISES PAYMENT OF EMPLOYEES, AND THAT SUCH OFFICER OR EMPLOYEE IS IN A POSITION TO HAVE FULL KNOWLEDGE OF THE FACTS SET FORTH IN THE FORM OF AFFIDAVIT REQUIRED BY SECTION 2 HEREOF. A SIMILAR AFFIDAVIT SHALL BE IMMEDIATELY FILED IN THE EVENT OF A CHANGE IN THE OFFICER OR EMPLOYEE WHO SUPERVISES THE PAYMENT OF EMPLOYEES. IN THE EVENT THAT THE CONTRACTOR OR SUBCONTRACTOR IS A CORPORATION, SUCH AFFIDAVIT SHALL BE EXECUTED BY ITS PRESIDENT OR A VICE-PRESIDENT. IN THE EVENT THAT THE CONTRACTOR OR SUBCONTRACTOR IS A PARTNERSHIP, SUCH AFFIDAVIT SHALL BE EXECUTED BY A MEMBER OF THE FIRM.

SECTION 5. THESE REGULATIONS SHALL BE MADE A PART OF EACH CONTRACT EXECUTED AFTER THE EFFECTIVE DATE HEREOF BY THE GOVERNMENT FOR ANY OF THE PURPOSES ENUMERATED IN SECTION 2 HEREOF.

SECTION 6. THESE REGULATIONS SHALL BECOME EFFECTIVE ON JANUARY 15, 1935.

H. MORGENTHAU, JR.,
SECRETARY OF THE TREASURY.

HAROLD L. ICKES,
SECRETARY OF THE INTERIOR.

SPECIAL REQUIREMENTS

CONDITION OF BIDDING.--EACH BID MUST BE ACCOMPANIED BY A STATEMENT OF FACT IN DETAIL OF THE BUSINESS AND TECHNICAL ORGANIZATION OF THE BIDDER AVAILABLE FOR THE CONTEMPLATED WORK, INCLUDING FINANCIAL RESOURCES AND BUILDING EXPERIENCE. THE RIGHT IS RESERVED TO REJECT ANY BID WHERE AN INVESTIGATION OR THE EVIDENCE SUBMITTED BY SUCH BIDDER DOES NOT SATISFY THE CONTRACTING OFFICER THAT SUCH BIDDER IS QUALIFIED TO CARRY OUT PROPERLY THE TERMS OF THE CONTRACT. IN AWARDING A CONTRACT, CONSIDERATION WILL NOT BE GIVEN TO BIDDERS WHO HAVE NOT CONSTRUCTED AT LEAST ONE BUILDING COMPARABLE WITH THE PROJECT FOR WHICH THE BID IS SUBMITTED. IF THE FIRM OR INDIVIDUAL SUBMITTING THE BID HAS NOT CONSTRUCTED SUCH A BUILDING AS CONTRACTOR, BUT AS A MEMBER OF THE FIRM OR INDIVIDUAL HAS DONE SO WHEN IN CHARGE AS AN OFFICER OF ANOTHER FIRM, SUCH A BIDDER WILL RECEIVE CONSIDERATION.

ALSO IN DETERMINING THE QUALIFICATIONS OF A BIDDER, THE GOVERNMENT RESERVES THE RIGHT TO TAKE INTO CONSIDERATION HIS RECORD ON CONTRACTS HAD WITH THIS DEPARTMENT OR OTHER FEDERAL AGENCIES, AND TO REJECT HIS BID IF SUCH RECORDS DISCLOSE THAT THE BIDDER HAS HABITUALLY AND WITHOUT JUST CAUSE NEGLECTED THE PAYMENT OF BILLS AND OTHERWISE DISREGARDED HIS OBLIGATIONS TO HIS SUBCONTRACTORS, MATERIAL MEN, OR EMPLOYEES.

DOMESTIC ARTICLES.--IN THE PERFORMANCE OF THE WORK COVERED BY THIS CONTRACT THE CONTRACTOR, SUBCONTRACTORS, MATERIAL MEN OR SUPPLIERS, SHALL USE ONLY SUCH UNMANUFACTURED ARTICLES, MATERIALS, AND SUPPLIES AS HAVE BEEN MINED OR PRODUCED IN THE UNITED STATES, AND ONLY SUCH MANUFACTURED ARTICLES, MATERIALS, AND SUPPLIES AS HAVE BEEN MANUFACTURED IN THE UNITED STATES SUBSTANTIALLY ALL FROM ARTICLES, MATERIALS, OR SUPPLIES MINED, PRODUCED, OR MANUFACTURED, AS THE CASE MAY BE IN THE UNITED STATES. THE FOREGOING PROVISION SHALL NOT APPLY TO SUCH ARTICLES, MATERIALS, OR SUPPLIES OF THE CLASS OR KIND TO BE USED OR SUCH ARTICLES, MATERIALS, OR SUPPLIES FROM WHICH THEY ARE MANUFACTURED, AS ARE NOT MINED, PRODUCED, OR MANUFACTURED, AS THE CASE MAY BE, IN THE UNITED STATES IN SUFFICIENT AND REASONABLY AVAILABLE COMMERCIAL QUANTITIES AND OF A SATISFACTORY QUALITY, OR TO SUCH ARTICLES, MATERIALS, OR SUPPLIES AS MAY BE EXCEPTED BY THE SECRETARY OF THE TREASURY UNDER THE PROVISO OF TITLE III, SEC. 3 O THE ACT OF CONGRESS APPROVED MARCH 3, 1933, OR TO THE ITEMS NOTED BELOW:

CORK	LICORICE ROOT	RUBBER	CHROMIUM
SISAL	ASBESTOS	ANTIMONY	PLATINUM
HEMP	ENGLISH CHINA CLAY	MANGANESE	TIN
FLAX	ENGLISH BALL CLAY	TITANIUM	NICKEL
JUTE	CARNAUBA WAX	TUNGSTEN	NATURAL NICKEL
SILK	MICA	ZIRCONIUM	ALLOYS, ETC., ETC.

IF THE HEAD OF THE DEPARTMENT FINDS THAT IN THE PERFORMANCE OF THIS CONTRACT THERE HAS BEEN A FAILURE TO COMPLY WITH THE FOREGOING PROVISION WITH RESPECT TO DOMESTIC MATERIAL, HE WILL MAKE PUBLIC THE NAME OF THE CONTRACTOR OBLIGATED UNDER THIS CONTRACT AND NO OTHER CONTRACT FOR THE CONSTRUCTION, ALTERATION OR REPAIR OF ANY PUBLIC BUILDING OR PUBLIC WORK IN THE UNITED STATES OR ELSEWHERE SHALL BE AWARDED TO SUCH CONTRACTOR, SUBCONTRACTORS, MATERIAL MEN OR SUPPLIERS WITH WHICH SUCH CONTRACTOR IS ASSOCIATED OR AFFILIATED WITHIN A PERIOD OF THREE YEARS AFTER SUCH FINDING IS MADE PUBLIC.

WORK TO BE DONE BY CONTRACTOR.--THE CONTRACTOR SHALL EXECUTE ON THE SITE AND WITH HIS OWN ORGANIZATION WORK EQUIVALENT TO AT LEAST 25 PER CENT OF THE TOTAL AMOUNT OF THE CONTRACT PRICE, CARRYING ALL LABOR, BOTH SKILLED AND UNSKILLED, ON HIS OWN PAY-ROLL. THE COST OF THE MATERIAL UPON WHICH SUCH LABOR IS EMPLOYED IN PLACING MAY BE INCLUDED IN THE 25 PER CENT.

REPORTS.--THE CONTRACTOR WILL REPORT MONTHLY, AND WILL CAUSE ALL SUBCONTRACTORS TO REPORT IN LIKE MANNER, WITHIN FIVE DAYS AFTER THE CLOSE OF EACH CALENDAR MONTH, ON FORMS TO BE FURNISHED BY THE DEPARTMENT OF LABOR, THE NUMBER OF PERSONS ON THEIR RESPECTIVE PAY ROLLS, THE AGGREGATE AMOUNT OF SUCH PAY ROLLS, THE MAN HOURS WORKED, AND THE TOTAL EXPENDITURES FOR MATERIALS. HE SHALL FURNISH TO THE DEPARTMENT OF LABOR THE NAMES AND ADDRESSES OF ALL SUBCONTRACTORS ON THE WORK AT THE EARLIEST DATE PRACTICABLE, PROVIDED THAT THE FOREGOING SHALL BE APPLICABLE ONLY TO WORK AT THE SITE OF THE CONSTRUCTION PROJECT.

PENALTY FOR FALSE CERTIFICATION.--SECTION 35 OF THE CRIMINAL CODE, AS AMENDED, PROVIDES A PENALTY OF NOT MORE THAN $10,000 OR IMPRISONMENT OF NOT MORE THAN TEN YEARS, OR BOTH, FOR KNOWINGLY AND WILLFULLY MAKING OR CAUSING TO BE MADE "ANY FALSE OR FRAUDULENT STATEMENTS ***** OR USE OR CAUSE TO BE MADE OR USED ANY FALSE***** ACCOUNT, CLAIM, CERTIFICATE, AFFIDAVIT OR DEPOSITION, KNOWING THE SAME TO CONTAIN ANY FRAUDULENT OR FICTITIOUS STATEMENT *****" RELATING TO ANY MATTER WITHIN THE JURISDICTION OF ANY GOVERNMENTAL DEPARTMENT OR AGENCY.

CORRECTION.--IN THE FOLLOWING SPECIFICATIONS, UNDER THE VARIOUS HEADINGS OR BRANCHES OF WORK WHERE THE WORDS "SUPERVISING ARCHITECT" OCCUR, THEY ARE TO BE OMITTED AND THE WORDS "PROCUREMENT DIVISION, PUBLIC WORKS BRANCH", SHALL BE SUBSTITUTED.

RATE OF WAGE.--THE FOLLOWING PARAGRAPH PERTAINING TO THE RATE OF WAGE SHALL APPLY TO EVERY CONTRACT IN EXCESS OF FIVE THOUSAND DOLLARS ($5,000) IN AMOUNT:

THE RATE OF WAGE FOR ALL LABORERS AND MECHANICS EMPLOYED BY THE CONTRACTOR, OR ANY SUB-CONTRACTOR, ON THE PUBLIC BUILDING COVERED BY THIS CONTRACT SHALL BE NOT LESS THAN THE PREVAILING RATE OF WAGES FOR WORK OF A SIMILAR NATURE IN THE CITY, TOWN, VILLAGE OR OTHER CIVIL DIVISION OF THE STATE IN WHICH THE PUBLIC BUILDING IS LOCATED. IN CASE ANY DISPUTE ARISES AS TO WHAT ARE THE PREVAILING RATES OF WAGES FOR WORK OF A SIMILAR NATURE APPLICABLE TO THE CONTRACT WHICH CANNOT BE ADJUSTED BY THE CONTRACTING OFFICER, THE MATTER SHALL BE REFERRED TO THE SECRETARY OF LABOR FOR DETERMINATION AND HIS DECISION THEREON SHALL BE CONCLUSIVE ON ALL PARTIES TO THE CONTRACT, AS PROVIDED IN THE ACT OF MARCH 3, 1931 (PUBLIC No. 798).

EXECUTIVE ORDER, JANUARY 19, 1932.--IN ORDER TO EFFECT THE PURPOSES OF THE ACT OF MARCH 3, 1931, SPECIFIED ABOVE, THE FOLLOWING STIPULATIONS SHALL BE ADDED TO THE STIPULATION REQUIRED BY SAID ACT.

(A) IT IS EXPRESSLY UNDERSTOOD AND AGREED THAT THE AFORESAID WAGES SHALL BE PAID UNCONDITIONALLY IN FULL NOT LESS OFTEN THAN ONCE A WEEK AND IN LAWFUL MONEY OF THE UNITED STATES, TO THE FULL AMOUNT ACCRUED TO EACH INDIVIDUAL AT TIME OF PAYMENT AND WITHOUT SUBSEQUENT DEDUCTION OR REBATE ON ANY ACCOUNT.

(B) IT IS EXPRESSLY UNDERSTOOD AND AGREED THAT FOR THE PURPOSE OF SAID ACT EVERY PERSON, WHILE PERFORMING WORK OF A LABORER OR MECHANIC ON THE PUBLIC WORK COVERED BY THIS CONTRACT, IS TO BE REGARDED AS EMPLOYED AS A LABORER OR MECHANIC BY THE CONTRACTOR OR SUBCONTRACTOR, REGARDLESS OF ANY CONTRACTUAL RELATIONSHIP ALLEGED TO EXIST BETWEEN THE CONTRACTOR OR SUBCONTRACTOR AND SUCH LABORER OR MECHANIC.

(C) IT IS UNDERSTOOD AND AGREED THAT THE PAYROLLS OF THE CONTRACTOR AND ALL SUBCONTRACTORS AND AGREEMENTS MADE BY THE CONTRACTOR OR SUBCONTRACTOR OR ANY OTHER PARTY RELATING TO THE EMPLOYMENT OF LABORERS OR MECHANICS OR THE PERFORMANCE OF THE WORK OF LABORERS AND MECHANICS ON SAID BUILDING, AND TO THE WAGES OR COMPENSATION TO BE PAID THEREFOR, ARE TO BE OPEN TO INSPECTION BY THE CONTRACTING OFFICER AT SUCH TIMES AS THE LATTER MAY ELECT, PROVIDED THAT SUCH INSPECTION SHALL NOT INTERFERE WITH THE PROPER AND ORDERLY PROSECUTION OF THE WORK, AND THAT A CLEARLY LEGIBLE STATEMENT OF THE RATES PAYABLE AS AFORESAID UNDER THIS CONTRACT SHALL BE POSTED BY THE CONTRACTOR IN A PROMINENT AND EASILY ACCESSIBLE PLACE AT THE SITE OF THE WORK SO THAT SUCH STATEMENT MAY BE SEEN AT ANY TIME BY PERSONS ENGAGED ON THE WORK.

(D) IT IS FURTHER EXPRESSLY UNDERSTOOD AND AGREED THAT IF IT SHOULD BE FOUND BY THE CONTRACTING OFFICER THAT ANY LABORER OR MECHANIC EMPLOYED BY THE CONTRACTOR OR ANY SUBCONTRACTOR ON THE PUBLIC WORK COVERED BY THIS CONTRACT HAS BEEN OR IS BEING PAID A RATE OF WAGES LESS THAN THE PREVAILING RATE OF WAGES, AS AFORESAID, THE GOVERNMENT MAY, BY WRITTEN NOTICE TO THE CONTRACTOR, TERMINATE HIS RIGHT TO PROCEED WITH THE WORK, OR SUCH PART OF THE WORK AS TO WHICH THERE HAS BEEN A FAILURE TO PAY SAID PREVAILING WAGES. IN SUCH EVENT, IT IS UNDERSTOOD AND AGREED THAT THE GOVERNMENT MAY TAKE OVER THE WORK AND PROSECUTE THE SAME TO COMPLETION BY CONTRACT OR OTHERWISE, AND THAT THE CONTRACTOR AND HIS SURETIES SHALL BE LIABLE TO THE GOVERNMENT FOR ANY EXCESS COST OCCASIONED THE GOVERNMENT THEREBY.

HWS

ST. AUGUSTINE, FLA., P.O. AND CU.H.

GENERAL REQUIREMENTS

1. BIDS.--BIDS MUST BE BASED UPON DRAWINGS NOS. G-1 TO G-5 INCLUSIVE, G-100, G-101, G-102, G-200 TO G-208 INCLUSIVE, G-400 TO G-404 INCLUSIVE, G-PH-450, G-PHE-451, MISCELLANEOUS DRAWING NO. 305-1 AND THIS SPECIFICATION.

1A. DRAWING NO. X1A RELATING TO CONDITIONS OF THE SITE IS NOT TO BECOME A CONTRACT DRAWING. IT IS FURNISHED BIDDERS ONLY FOR SUCH USE AS THEY MAY CHOOSE TO MAKE OF IT. THE ACCURACY OF DATA GIVEN ON THIS DRAWING IS NOT GUARANTEED.

1B. DRAWINGS NOS. CE1; CE2; CE3; CE100; CE101; CE102; CE103 ARE FURNISHED TO SHOW CONDITIONS OF EXISTING BUILDING, PART OF WHICH IS TO BE DEMOLISHED AND PART OF WHICH IS TO BE INCORPORATED IN THE NEW BUILDING. THESE DRAWINGS SHALL NOT BE CONSIDERED AS PART OF THE CONTRACT DOCUMENTS, AND NOTHING IN THESE DRAWINGS SHALL BE USED AS A BASIS OF CLAIM AGAINST THE GOVERNMENT FOR "EXTRA" WORK.

2. BIDS WILL BE RECEIVED AND OPENED BY THE SUPERVISING ARCHITECT AND THE CONTRACT AWARDED BY THE TREASURY DEPARTMENT. ALL INQUIRIES DURING THE TIME OF BIDDING SHALL BE ADDRESSED TO THE SUPERVISING ARCHITECT WHO WILL ISSUE TO ALL BIDDERS ANY AND ALL NECESSARY ADDENDA TO THE SPECIFICATIONS. AFTER THE AWARD OF THE CONTRACT THE WORK WILL BE PERFORMED UNDER THE SUPERVISION OF THE TREASURY DEPARTMENT.

3. ONE LUMP SUM BID IS REQUIRED FOR THE ENTIRE PROJECT.

4. SCOPE.--THE WORK TO BE DONE HEREUNDER INCLUDES THE FURNISHING OF ALL LABOR AND MATERIAL AND PERFORMING ALL WORK FOR CONSTRUCTION OF THE ENTIRE PROJECT COMPLETE INCLUDING SUCH DEMOLITION, SHORING AND REPAIRING AS MAY BE REQUIRED IN THE REMODELING OF THE PRESENT BUILDING, ALL AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN.

(A) ALL APPROACH WORK SHALL BE INCLUDED AS PART OF THIS PROJECT.

5. WORK NOT INCLUDED.--THE FOLLOWING ITEMS OF WORK ARE NOT INCLUDED IN THE CONTRACT: INTERIOR LIGHTING FIXTURES, EXCEPT CERTAIN SPECIAL FIXTURES HEREINAFTER SPECIFIED, FREIGHT ELEVATOR AND DOORS TO HATCHWAYS OF ELEVATOR.

NOTE: THE COMPLETE ENTRANCES TO HOISTWAY OF ELEVATOR ARE INCLUDED IN THIS CONTRACT.

6. THE LOCK BOX AND LETTER AND PACKAGE DROP EQUIPMENT FOR THE LOBBY SCREEN WILL BE FURNISHED BY THE GOVERNMENT F.O.B., ST. AUGUSTINE, FLA. THE CONTRACTOR SHALL HAVE SAME DELIVERED AT THE BUILDING AND PROPERLY INSTALLED AS PART OF THE WORK UNDER THIS SPECIFICATION.

6A. ONE VAULT DOOR AND FRAME, NOW IN USE ELSEWHERE, WILL BE DELIVERED BY OTHERS TO THE SITE AND SHALL BE INSTALLED PROPERLY IN PLACE ON ONE OF THE VAULTS. DOOR AND FRAME SHALL BE REFINISHED (ENAMELED), IF NECESSARY, EQUAL TO THE FINISH ON NEW VAULT DOORS.

7. TIME FOR COMPLETION.--THE TIME FOR COMPLETION OF THE CONTRACT HEREUNDER SHALL BE THREE HUNDRED (300) CALENDAR DAYS FROM THE DATE OF RECEIPT OF NOTICE TO PROCEED.

8. LIQUIDATED DAMAGES.--THE CONTRACTOR SHALL PAY TO THE GOVERNMENT THE AMOUNT OF FIFTY DOLLARS ($50.00) AS FIXED, AGREED, AND LIQUIDATED DAMAGES FOR EACH CALENDAR DAY'S DELAY IN THE COMPLETION OF THE CONTRACT.

9. EXPLANATIONS TO BIDDERS.--NO ORAL INTERPRETATION WILL BE MADE TO BIDDERS AS TO THE MEANING OF DRAWINGS AND SPECIFICATIONS. REQUESTS FOR SUCH INTERPRETATIONS SHOULD BE MADE IN WRITING, ADDRESSED TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH. ANY INTERPRETATIONS MADE TO BIDDERS WILL BE IN THE FORM OF AN ADDENDUM TO THE SPECIFICATION, WHICH IF ISSUED, WILL BE SENT TO ALL BIDDERS ON OCT. 25, 1935 UNLESS THE URGENCY OF SOME INTERPRETATION WARRANTS AN EARLIER DATE.

10. BID GUARANTEE.--EACH BID SHALL BE ACCOMPANIED BY A GUARANTEE IN AMOUNT NOT LESS THAN 2 PER CENT OF THE BID PRICE, AND MAY BE: BID BOND ON U. S. STANDARD FORM NO. 24; CERTIFIED CHECK OR CASHIER'S CHECK. IN LIEU OF SURETIES ON BID BONDS THERE MAY BE DEPOSITED (IN ACCORDANCE WITH TREASURY DEPARTMENT CIRCULAR NO. 154 DATED FEBURARY 6, 1935) BONDS OR NOTES OF THE UNITED STATES. THE PHRASE 'BONDS OR NOTES OF THE UNITED STATES' MEANS 'ANY PUBLIC-DEBT OBLIGATIONS OF THE UNITED STATES AND ANY BONDS, NOTES, OR OTHER OBLIGATIONS WHICH ARE UNCONDITIONALLY GUARANTEED AS TO BOTH INTEREST AND PRINCIPAL BY THE UNITED STATES.' CHECKS AND MONEY ORDERS MUST BE MADE PAYABLE TO THE ORDER OF THE TREASURER OF THE UNITED STATES.

11. REVISED BIDS WHETHER FORWARDED BY MAIL OR TELEGRAM, IF REPRESENTING AN INCREASE IN EXCESS OF 2 PER CENT OF THE ORIGINAL BID, MUST HAVE GUARANTEE ADJUSTED ACCORDINGLY, OTHERWISE THEY WILL NOT BE CONSIDERED. ARRANGEMENTS FOR ADJUSTED GUARANTEE IN CONNECTION WITH TELEGRAPHIC MODIFICATIONS OF BIDS MAY BE MADE THROUGH SOME SURETY COMPANY, LOCAL BANK, AUTHORIZED LOCAL AGENT, OR TELEGRAPHIC MONEY ORDER.

12. VISIT TO SITE.--BIDDERS SHOULD FULLY INFORM THEMSELVES AS TO THE LOCATIONS OF THE SITE AND AS TO THE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. FAILURE TO TAKE THIS PRECAUTION WILL NOT RELIEVE THE SUCCESSFUL BIDDER FROM FURNISHING ALL MATERIAL AND LABOR NECESSARY TO COMPLETE THE CONTRACT WITHOUT ADDITIONAL COST TO THE GOVERNMENT.

13. PAYMENTS.--PARTIAL PAYMENTS ON WORK SATISFACTORILY EXECUTED IN PLACE WILL BE MADE MONTHLY ON ESTIMATES MADE AND APPROVED BY THE CONTRACTING OFFICER. THESE ESTIMATES WILL NOT INCLUDE MATERIALS DELIVERED ON THE SITE AND PREPARATORY WORK. TEN PER CENT OF SUCH ESTIMATES WILL BE RETAINED UNTIL FINAL COMPLETION AND ACCEPTANCE OF THE WORK, PROVIDED, THAT IN THE DISCRETION OF THE CONTRACTING OFFICER, PAYMENT OF A PORTION OF THE RETAINED PERCENTAGE MAY BE MADE IN CASE THE CONTRACT IS PRACTICALLY COMPLETED AND THE WORK PUT TO USE BY THE GOVERNMENT BEFORE FINAL ACCEPTANCE. NO PARTIAL PAYMENT WILL BE MADE ON WORK NOT SATISFACTORILY EXECUTED IN PLACE.

14. SCHEDULE OF ESTIMATES.--AFTER THE AWARD OF THE CONTRACT THE CONTRACTOR AND THE CONSTRUCTION ENGINEER SHALL TOGETHER MAKE UP AND AGREE ON A SCHEDULE OF THE ESTIMATED COSTS OF THE MAIN BRANCHES

OF THE WORK, THE TOTAL OF WHICH SHALL EQUAL THE AMOUNT OF THE CONTRACT. THE VALUES EMPLOYED IN MAKING THE SCHEDULE WILL BE USED ONLY FOR DETERMINING PARTIAL PAYMENTS AND WILL NOT BE CONSIDERED AS FIXING A BASIS FOR ADDITIONS TO OR DEDUCTIONS FROM THE CONTRACT. ONE COPY OF THE SCHEDULE SHALL BE FORWARDED TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, ONE COPY RETAINED BY THE CONTRACTOR, AND ONE COPY RETAINED BY THE CONSTRUCTION ENGINEER.

15. ARCHITECT.--WHEREVER THE TERM "ARCHITECT" IS USED IN THIS SPECIFICATION IT REFERS TO MELLEN C. GREELEY OF JACKSONVILLE, FLA., WHO BY CONTRACT WITH THE U. S. TREASURY DEPARTMENT ARE AUTHORIZED TO PREPARE ALL DRAWINGS AND SPECIFICATIONS AND FULL SIZE DETAILS, PASS ON ALL SHOP DRAWINGS, APPROVE OR REJECT ARCHITECTURAL SAMPLES AS LISTED HEREIN, CRITICISE AND APPROVE PLASTER MODELS OF ORNAMENTAL WORK AS SHOWN OR NOTED ON CONTRACT DRAWINGS.

16. CONSTRUCTION ENGINEER.--THE CONSTRUCTION ENGINEER HEREIN MENTIONED WILL BE DETAILED BY THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, TO SUPERVISE THE WORK UNDER THIS SPECIFICATION.

17. PROTECTION OF PUBLIC AND PROPERTY.--THE CONTRACTOR SHALL PROTECT ALL MATERIALS AND WORK, WHETHER INCORPORATED IN THE BUILDING OR NOT, AGAINST INJURY FROM ANY CAUSE, AND SHALL PROVIDE AND MAINTAIN ALL NECESSARY GUARDS, LIGHTS, ETC., FOR THE PROTECTION OF THE PUBLIC, AND HE SHALL COMPLY WITH ALL MUNICIPAL ORDINANCES WHICH APPLY TO THE USE OF SIDEWALKS AND STREETS OR ALLEYS FOR BUILDING OPERATIONS, BUT SUCH ORDINANCES DO NOT APPLY INSIDE OF LOT LINES. HE SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE OR INJURY TO PERSONS OR PROPERTY WHICH MAY OCCUR AS A RESULT OF HIS FAULT OR NEGLIGENCE IN THE PROSECUTION OF THE WORK.

18. PERMITS.--THE CONTRACTOR SHALL WITHOUT ADDITIONAL EXPENSE TO THE GOVERNMENT OBTAIN ALL REQUIRED LICENSES, PERMITS, ETC. THIS APPLIES TO WORK OUTSIDE THE LOT LINES, THE USE OF STREETS AND SIDEWALKS, THE PROTECTION OF PUBLIC AND TRAFFIC, CONNECTIONS TO UTILITY SERVICE LINES, ETC. STATE OR MUNICIPAL BUILDING REGULATIONS DO NOT APPLY TO WORK INSIDE THE GOVERNMENT'S LOT LINES.

19. REMOVAL OF DEBRIS, CLEANING, ETC.--THE CONTRACTOR SHALL AS DIRECTED DURING THE PROGRESS OF THE WORK REMOVE AND PROPERLY DISPOSE OF THE RESULTANT DIRT AND DEBRIS. UPON COMPLETION OF THE WORK HE SHALL REMOVE ALL EQUIPMENT AND UNUSED MATERIALS PROVIDED FOR THE WORK, AND PUT THE PREMISES IN A NEAT AND CLEAN CONDITION, AND DO ALL CLEANING AND WASHING REQUIRED BY THE SPECIFICATION.

20. MATERIALS ON THE SITE.--WHEN MATERIAL OF VALUE IS FOUND ON THE SITE, AND WHEN MATERIAL OF VALUE IS TAKEN FROM WORK NOW IN PLACE, IT SHALL REMAIN THE PROPERTY OF THE GOVERNMENT. SUCH MATERIALS SHALL BE STORED ON THE PREMISES OR, WHEN CONFORMING WITH THE CONTRACT REQUIREMENTS AND CONSIDERED SUITABLE FOR REUSE IN THE OPINION OF THE CONSTRUCTION ENGINEER, THEY MAY BE REUSED IN THE WORK AS DIRECTED BY HIM. MATERIAL TAKEN FROM WORK NOW IN PLACE, WHICH IN THE OPINION OF THE CONSTRUCTION ENGINEER HAS NO VALUE, SHALL BE REMOVED FROM THE PREMISES BY THE CONTRACTOR AS DEBRIS.

21. WHEN THE SITE OF THE WORK IS NOT OCCUPIED BY THE GOVERNMENT, THE CONTRACTOR SHALL, UNTIL THE COMPLETION OF THE CONTRACT, KEEP ANY ADJACENT SIDEWALKS CLEAN AND FREE FROM ICE AND SNOW.

22. PATENTS.--THE CONTRACTOR SHALL HOLD AND SAVE THE GOVERNMENT, ITS OFFICERS, AGENTS, SERVANTS AND EMPLOYEES, HARMLESS FROM LIABILITY OF ANY NATURE OR KIND, INCLUDING COSTS AND EXPENSES, FOR OR ON ACCOUNT OF ANY PATENTED OR UNPATENTED INVENTION, ARTICLE OR APPLIANCE MANUFACTURED OR USED IN THE PERFORMANCE OF THIS CONTRACT, INCLUDING THEIR USE BY THE GOVERNMENT, UNLESS OTHERWISE SPECIFICALLY STIPULATED IN THIS CONTRACT.

23. FEDERAL SPECIFICATION.--SPECIFICATIONS REFERRED TO HEREIN BY NUMBER ARE FEDERAL SPECIFICATIONS, INCLUDING REVISIONS AND ADDENDA, IN EFFECT ON THE DATE OF ISSUE OF THIS SPECIFICATION. MATERIALS SPECIFIED HEREIN SHALL CONFORM TO THE TECHNICAL REQUIREMENT OF THE RESPECTIVE FEDERAL SPECIFICATIONS REFERRED TO. "FEDERAL SPECIFICATIONS" AND "TREASURY DEPARTMENT STANDARD SPECIFICATIONS" ARE NOT FURNISHED TO BIDDERS, EXCEPT UPON REQUEST, FOR THE REASON THAT THEY WERE PREPARED IN COLLABORATION WITH THE MATERIALS PRODUCERS WHO ARE ASSUMED TO BE FAMILIAR WITH THEIR REQUIREMENTS. COPIES MAY BE OBTAINED UPON REQUEST TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, INDICATING BY NUMBER THE SPECIFICATION DESIRED.

24. MEASUREMENTS.--ALL DIMENSIONS SHOWN OF EXISTING WORK AND ALL DIMENSIONS REQUIRED FOR WORK THAT IS TO CONNECT WITH WORK NOW IN PLACE, SHALL BE VERIFIED BY THE CONTRACTOR BY ACTUAL MEASUREMENT OF THE EXISTING WORK. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS AND THE EXISTING CONDITIONS SHALL BE REFERRED TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, FOR ADJUSTMENT BEFORE ANY WORK AFFECTED THEREBY HAS BEEN PERFORMED.

25. NEW WORK.--NEW WORK IN EXTENSION OF EXISTING WORK SHALL CORRESPOND IN ALL RESPECTS WITH THAT TO WHICH IT CONNECTS, OR TO SIMILAR EXISTING WORK, UNLESS OTHERWISE INDICATED OR SPECIFIED.

26. OLD WORK.--EXISTING WORK SHALL BE CUT, ALTERED, REMOVED, OR TEMPORARILY REMOVED AND REPLACED AS NECESSARY FOR THE PERFORMANCE OF THE WORK TO BE DONE. WORK REMAINING IN PLACE DAMAGED OR DEFACED BY REASON OF WORK DONE UNDER THIS SPECIFICATION SHALL BE RESTORED EQUAL TO ITS ORIGINAL CONDITION.

27. DRAWINGS.--THE GENERAL CHARACTER OF THE DETAIL WORK IS SHOWN ON THE CONTRACT DRAWINGS, BUT MINOR MODIFICATIONS MAY BE MADE IN THE FULL SIZE DRAWINGS OR MODELS. THE CONTRACTOR SHALL NOT GET OUT ANY PART OF THE WORK REQUIRING FULL SIZE DRAWINGS OR MODELS UNTIL HE HAS RECEIVED THE SAME.

28. WHERE THE WORD "SIMILAR" OCCURS ON THE DRAWINGS, IT SHALL BE USED IN ITS GENERAL SENSE AND NOT AS MEANING IDENTICAL, AND ALL DETAILS SHALL BE WORKED OUT IN RELATION TO THEIR LOCATION AND THEIR CONNECTION TO OTHER PARTS OF THE WORK.

29. WHERE ON ANY DRAWINGS A PORTION OF THE WORK IS DRAWN OUT AND THE REMAINDER IS INDICATED IN OUTLINE, THE DRAWN OUT PARTS SHALL APPLY ALSO TO ALL OTHER LIKE PORTIONS OF THE WORK. WHERE ORNAMENT OR OTHER DETAIL IS INDICATED BY STARTING ONLY, SUCH DETAILS SHALL BE CONTINUED THROUGHOUT THE COURSES OR PARTS IN WHICH IT OCCURS AND SHALL ALSO APPLY TO ALL OTHER SIMILAR PARTS IN THE WORK, UNLESS OTHERWISE INDICATED.

30. SPECIFICATIONS.--THIS SPECIFICATION IS INTENDED TO SUPPLEMENT THE DRAWINGS AND, THEREFORE IT WILL NOT BE ITS PROVINCE TO MENTION ANY PORTION OF THE CONSTRUCTION WHICH THE DRAWINGS ARE

COMPETENT TO EXPLAIN, AND SUCH OMISSION SHALL NOT RELIEVE THE CONTRACTOR FROM CARRYING OUT SUCH PORTIONS INDICATED ONLY ON THE DRAWINGS, AND SHOULD ITEMS REQUIRED BY THE SPECIFICATION NOT INDICATED ON THE DRAWINGS THEY SHALL BE SUPPLIED EVEN IF OF SUCH NATURE THAT THEY COULD HAVE BEEN INDICATED THEREON.

31. ARTICLE 2 OF THE STANDARD GOVERNMENT FORM OF CONTRACT (CONSTRUCTION) PROVIDES: "IN CASE OF DIFFERENCE BETWEEN DRAWINGS AND SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN".

NOTE.--THE PROVISION OF THIS PARAGRAPH IS INTENDED TO APPLY ONLY WHERE AN ITEM OF WORK OR MATERIAL IS SPECIFIED DIFFERENTLY FROM THAT WHICH IS INDICATED ON THE DRAWINGS FOR THE SAME ITEM OF WORK OR MATERIAL. THE OMISSION FROM THE SPECIFICATION OF ANY ITEM CALLED FOR BY THE DRAWINGS (OR VICE VERSA) SHALL NOT BE INTERPRETED AS A "DIFFERENCE" WITHIN THE MEANING OF THIS PARAGRAPH (PAR. NO. 31).

32. INTERPRETATIONS.--THE DECISION OF THE CONTRACTING OFFICER OR HIS AUTHORIZED REPRESENTATIVE AS TO THE PROPER INTERPRETATION OF THE DRAWINGS AND SPECIFICATIONS SHALL BE FINAL. THE ASSISTANT DIRECTOR OF PROCUREMENT, PUBLIC WORKS BRANCH, IS THE DULY AUTHORIZED REPRESENTATIVE OF THE CONTRACTING OFFICER.

33. CORRECTION OF DEFECTS.--IF THE CONTRACTOR FAILS TO PROCEED AT ONCE WITH THE CORRECTION OF REJECTED DEFECTIVE MATERIAL AND WORKMANSHIP IN ACCORDANCE WITH THE PROVISIONS OF ARTICLE 6 OF STANDARD GOVERNMENT FORM OF CONTRACT (CONSTRUCTION), THE GOVERNMENT MAY BY CONTRACT OR OTHERWISE HAVE THE DEFECTS REMEDIED OR CHANGES MADE AND CHARGE THE COST OF THE SAME AGAINST ANY MONEYS WHICH MAY BE DUE THE CONTRACTOR FOR THIS OR OTHER WORK UNDER THE SUPERVISION OF THE ASSISTANT DIRECTOR OF PROCUREMENT, PUBLIC WORKS BRANCH.

34. CLIMATIC CONDITIONS.--WHEN SO ORDERED BY THE CONTRACTING OFFICER THE CONTRACTOR SHALL SUSPEND ANY WORK THAT MAY BE SUBJECT TO DAMAGE BY CLIMATIC CONDITIONS.

35. TEMPORARY HEATING.--THE CONTRACTOR SHALL PROVIDE TEMPORARY HEAT AS NECESSARY TO PROTECT ALL WORK AND MATERIALS AGAINST INJURY FROM DAMPNESS AND COLD, TO THE SATISFACTION OF THE CONSTRUCTION ENGINEER.

36. TEMPORARY TOILET ACCOMMODATIONS.--THE CONTRACTOR SHALL PROVIDE FOR THE USE OF WORKMEN AMPLE SANITARY TOILET ACCOMMODATIONS WITH SEWER AND WATER CONNECTIONS. HE SHALL KEEP SUCH PLACES IN A SANITARY CONDITION AND, PRIOR TO THE COMPLETION OF THE CONTRACT, HE SHALL REMOVE SAME AND LEAVE THE PREMISES CLEAN.

37. SURVEYS.--THE CONTRACTOR SHALL FURNISH CERTIFICATES FROM A COMPETENT ENGINEER THAT THE LINES OF THE BUILDING, THE ELEVATIONS OF BOTTOMS OF FOOTINGS, LEVELS OF FLOORS, AND THE LINES AND ELEVATIONS OF APPROACHES ARE IN EVERY RESPECT AS REQUIRED BY THE DRAWINGS. EACH CERTIFICATE SHALL BE FURNISHED THROUGH THE CONSTRUCTION ENGINEER AND AT THE TIME OF THE INSTALLATION OF THAT PORTION OF THE WORK FOR WHICH CERTIFICATE IS REQUIRED.

(A) THE ENGINEER MAKING THE SURVEYS AND CERTIFICATES SHALL NOT BE A REGULAR EMPLOYEE OF THE CONTRACTOR NOR SHALL HAVE ANY INTEREST IN THE CONTRACT.

38. PHOTOGRAPHS.--THE CONTRACTOR SHALL FURNISH TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, PHOTOGRAPHS AS FOLLOWS: ON THE FIRST OF EACH MONTH UNTIL THE WORK IS 99 PER CENT COMPLETED, PHOTOGRAPHS IN TRIPLICATE TAKEN FROM TWO POINTS SELECTED BY THE CONSTRUCTION ENGINEER SHOWING AS MUCH AS POSSIBLE OF THE WORK INSTALLED DURING THE PREVIOUS MONTH, AND WHEN THE CONTRACT IS COMPLETED, FINAL PHOTOGRAPHS IN QUINTUPLICATE FROM TWO POINTS OF VIEW, ONE SHOWING THE ENTIRE FRONT AND ONE SIDE ELEVATION, AND THE OTHER THE ENTIRE REAR AND REMAINING SIDE.

39. ALL PHOTOGRAPHS SHALL BE MADE WITH A LENS ADAPTED TO THE POSITION FROM WHICH THE PICTURE IS TO BE TAKEN, AND SHALL SHOW DISTINCTLY AT AS LARGE A SCALE AS POSSIBLE ALL PARTS OF THE WORK EMBRACED ON THE PICTURE. ALL PHOTOGRAPHS SHALL BE MARKED ON THE BACK WITH THE NAME OF THE WORK AND THE NAME OF THE CONTRACTOR, THE DATE WHEN TAKEN AND THEY SHALL BE SHIPPED FLAT.

40. THE FINAL PHOTOGRAPHS SHALL BE 8 BY 10 INCHES IN SIZE AND UNMOUNTED. ALL OTHER PHOTOGRAPHS SHALL BE 6-1/2 BY 8-1/2 INCHES IN SIZE AND MOUNTED ON MUSLIN.

41. THE MONTHLY PHOTOGRAPHS SHALL BE DELIVERED TO THE CONSTRUCTION ENGINEER, WHO WILL KEEP ONE SET FOR HIS FILES, SEND ONE SET TO THE DISTRICT ENGINEER AND FORWARD THE OTHER SET TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, WITH HIS CERTIFICATE THAT THE PHOTOGRAPHS REPRESENT THE CONDITION OF THE WORK ON THE DATES NAMED. AS THESE PHOTOGRAPHS ARE INTENDED FOR MONTHLY RECORDS, THEY SHALL BE MADE ON THE FIRST OF EACH MONTH WHETHER OR NOT ANY WORK HAS BEEN DONE DURING THE PRECEDING MONTH.

(A) ONE SET OF THE FINAL PHOTOGRAPHS SHALL BE SENT BY THE CONTRACTOR DIRECT TO THE DISTRICT ENGINEER, AND THE FOUR OTHER SETS OF FINAL PHOTOGRAPHS SHALL BE FORWARDED BY THE CONTRACTOR DIRECT TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH.

42. IN CASE PHOTOGRAPHS ARE NOT FURNISHED WITHIN FIVE DAYS OF THE DATE WHEN DUE OR WITHIN FIVE DAYS AFTER DEMAND FOR SAME THE GOVERNMENT REPRESENTATIVE SHALL HAVE SUCH PHOTOGRAPHS MADE AND THE COST OF THE SAME WILL BE DEDUCTED FROM ANY MONEY DUE THE CONTRACTOR.

43. MODELS.--THE GOVERNMENT WILL FURNISH THE MODELS INDICATED ON THE DRAWINGS. ANY ADDITIONAL MODELS OF RIGHTS, LEFTS, MITERS, ETC., AND ANY PATTERNS REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR.

44. MODELS WILL BE DELIVERED F.O.B. AT POINTS DESIGNATED BY THE CONTRACTOR WHO SHALL FURNISH THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, WITH FULL SHIPPING DIRECTIONS. THE GOVERNMENT BILL OF LADING WILL BE SENT TO THE CONSIGNEE WHO SHALL FILL OUT THE "CERTIFICATE OF DELIVERY" AND SURRENDER THE GOVERNMENT BILL OF LADING TO THE CARRIER AS PAYMENT FOR THE SHIPPING CHARGES. THE CONTRACTOR OR HIS AUTHORIZED AGENT SHALL RECEIVE THE MODELS, BE RESPONSIBLE FOR ALL CHARGES FOR STORAGE, ETC., AFTER NOTIFICATION THAT THE MODELS HAVE BEEN SHIPPED, AND FOR THE CARE OF THE MODELS FROM THE TIME OF DELIVERY TO HIM.

45. THE MODELS SHALL BE UNPACKED IMMEDIATELY AND EXAMINED. DIMENSIONS SHALL BE VERIFIED AND ANY DISCREPANCIES OR DAMAGE SHALL BE REPORTED IN WRITING TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH. NO REPAIRS OR ALTERATIONS SHALL BE MADE WITHOUT WRITTEN INSTRUCTIONS FROM THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH.

(A) THE CONTRACTOR SHALL DELIVER SUCH MODELS AT THE BUILDING FOR VERIFICATION OF THE WORK EXECUTED THEREFROM WHEN SO DIRECTED BY THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH. AFTER COMPLETION OF THE CONTRACT THE MODELS ARE TO BE DESTROYED, UNLESS PERMISSION IS OBTAINED FROM THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH TO TO DISPOSE OF THEM OTHERWISE.

46. SHOP DRAWINGS.--SHOP DRAWINGS HEREINAFTER REQUIRED, SHALL UNLESS OTHERWISE SPECIFIED, BE SUBMITTED IN QUADRUPLICATE TO THE ARCHITECT AND APPROVAL OBTAINED BEFORE ANY WORK FOR WHICH SUCH DRAWINGS ARE REQUIRED IS COMMENCED.

47. IF THE SHOP DRAWINGS SHOW VARIATIONS FROM THE CONTRACT REQUIREMENTS BECAUSE OF STANDARD SHOP PRACTICE OR OTHER REASON, THE CONTRACTOR SHALL MAKE SPECIFIC MENTION OF SUCH VARIATIONS IN HIS LETTER OF SUBMISSION IN ORDER THAT (IF ACCEPTABLE) SUITABLE ACTION MAY BE TAKEN FOR PROPER ADJUSTMENT IN THE CONTRACT; OTHERWISE THE CONTRACTOR WILL NOT BE RELIEVED OF THE RESPONSIBILITY FOR EXECUTING THE WORK IN ACCORDANCE WITH THE CONTRACT EVEN THOUGH THE SHOP DRAWINGS HAVE BEEN APPROVED.

48. THE APPROVAL OF SHOP DRAWINGS WILL BE GENERAL AND SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY FOR PROPER FITTING AND CONSTRUCTION OF THE WORK NOR FROM FURNISHING MATERIALS AND WORK REQUIRED BY THE CONTRACT WHICH MAY NOT BE INDICATED ON THE SHOP DRAWINGS WHEN APPROVED. THE APPROVAL OF SHOP DRAWINGS SHALL NOT BE CONSTRUED AS APPROVING DEPARTURES FROM FULL-SIZE DRAWINGS FURNISHED BY THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH.

49. EACH SHIPMENT OF SHOP DRAWINGS MUST BE ACCOMPANIED BY A LETTER OF TRANSMITTAL GIVING A LIST OF THE NUMBERS OF THE DRAWINGS. ALL DRAWINGS MUST BE MARKED WITH THE NAME OF THE BUILDING AND NAME OF THE CONTRACTOR AND BE NUMBERED CONSECUTIVELY. ALL DRAWINGS MUST BE COMPLETE IN EVERY RESPECT AND BOUND IN SETS WHEN SUBMITTED.

50. FINAL INSPECTION.--WHEN THE CONTRACT IS PRACTICALLY COMPLETED THE CONTRACTOR SHALL NOTIFY THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, IN WRITING THAT THE WORK WILL BE READY FOR FINAL INSPECTION ON A DEFINITE DATE WHICH SHALL BE STATED IN THE LETTER. THE NOTICE SHALL BE GIVEN FROM 7 TO 10 DAYS PRIOR TO THE DATE FOR FINAL INSPECTION AND SHALL BE FORWARDED THROUGH THE CONSTRUCTION ENGINEER WHO WILL ATTACH HIS ENDORSEMENT AS TO WHETHER OR NOT HE CONCURS IN THE CONTRACTOR'S STATEMENT THAT THE WORK WILL BE READY FOR FINAL INSPECTION ON THE DATE GIVEN, BUT SUCH ENDORSEMENT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY IN THE MATTER. IF THE OFFICER WHO MAKES THE VISIT FOR FINAL INSPECTION FINDS THAT THE WORK IS SO FAR FROM COMPLETION THAT AN ADDITIONAL VISIT MAY BE NECESSARY, THE CONTRACTOR SHALL BE LIABLE FOR ANY EXPENSE TO WHICH THE GOVERNMENT MAY BE PUT ON ACCOUNT OF SUCH ADDITIONAL VISIT AND INSPECTION.

SAMPLES

51. No samples are required to be submitted with the bids. The samples specified shall be submitted after the award of the contract. Any other samples of materials for use in the work shall be submitted by the contractor when so requested by the Procurement Division, Public Works Branch. No action will be taken on samples until after acceptance of the contractor's bond.

52. All transportation charges on samples shall be prepaid. All samples shall be submitted in time for proper consideration and action by the Government before materials which samples represent are delivered at the work and, in the case of fabricated articles, before fabrication is started.

53. All samples shall be so packed as to reach their destination in good condition. Samples in paste or liquid form must be shipped in tight metal containers to prevent the loss of their reducing oils or solvents by absorption or evaporation. Each sample shall have a label indicating the material represented, its place of origin and the name of its producer, the name of the contractor and the name of the building or work for which the material is intended.

54. To insure consideration of samples each shipment shall be submitted by a letter, signed by the contractor, and containing a list of the samples, the name of the building or work for which the materials are intended, and the brands and names of the manufacturers of materials that are subject to laboratory tests. This letter must not be sent in the same package with the samples.

55. The contractor shall furnish to the Government representative in charge of the work copies of all letters submitting samples.

56. The approval of any sample shall be only for the characteristics or for the uses named in such approval and no other. No approval of a sample shall be taken in itself to change or modify any contract requirement. When samples that do not require laboratory tests have been approved, no additional samples of that material will be considered unless, in the opinion of the Procurement Division, Public Works Branch, it is to the interests of the Government to do so. When a material requiring laboratory tests has been approved, no change in brand or make will be permitted unless (a) the manufacturer cannot make satisfactory delivery or (b) the material delivered fails to comply with the contract requirements.

57. Samples of materials not subject to destructive tests when approved by the Procurement Division, Public Works Branch will be sent to the Government representative at the building and kept on his files until the completion of the work, except approved samples of hardware in good condition which may be suitably marked for identification and used in the work.

58. Samples that are not approved will be returned to the contractor only upon his request and at his expense. If the

RETURN OF SUCH SAMPLES IS NOT REQUESTED WITHIN 90 DAYS AFTER REJECTION OR DISAPPROVAL, THEY WILL BE TREATED AS UNCLAIMED MATERIAL.

59. FAILURE OF SAMPLES TO PASS THE SPECIFIED TESTS WILL BE SUFFICIENT CAUSE FOR REFUSAL TO CONSIDER, UNDER THIS SPECIFICATION, ANY FURTHER SAMPLES FROM MANUFACTURERS WHOSE MATERIALS HAVE FAILED TO PASS THE REQUIRED TESTS.

60. THE FOLLOWING SAMPLES SUBJECT TO LABORATORY TESTS SHALL BE SUBMITTED TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH WITH THE NAMES OF THE MANUFACTURERS AND BRANDS. THE MINIMUM TIME REQUIRED FOR MAKING TESTS IS GENERALLY 20 DAYS AFTER THE RECEIPT OF THE SAMPLE. THE QUANTITIES STATED ARE THE LEAST THAT CAN BE CONSIDERED.

PORTLAND CEMENT, EACH KIND, 8 POUNDS, EXCEPT MILL TESTED CEMENT.
MASONRY CEMENT, 8 POUNDS.
ADMIXTURE, 2 POUNDS (IF USED).
COAL TAR PITCH FOR WATERPROOFING OR DAMPPROOFING, ONE QUART.
INTEGRAL WATERPROOFING, 2 POUNDS.
ASPHALT OR COAL TAR PITCH FOR ROOFING, ONE QUART.
ASPAHTL OR COAL TAR PITCH SATURATED RAG FELT, FULL WIDTH OF ROLL 40 INCHES LONG.
FLASHING FELT, FULL WIDTH OF ROLL 40 INCHES LONG.
ASPHALT PRIMER FOR ROOFING, ONE QUART.
PLASTIC ROOFING CEMENT, ONE QUART.
ELASTIC POINTING COMPOUND FOR MASONRY, 2 POUNDS.
ELASTIC ROOFING CEMENT, 2 POUNDS.
LINSEED OIL, RAW, 1 QUART.
LINSEED OIL, BOILED, 1 QUART.
DRIER, 1 QUART.
TURPENTINE, 1 QUART.
FLOOR HARDENER, METALLIC, 1 POUND.
RED LEAD, DRY 5 POUNDS.
WHITE LEAD, PASTE, 5 POUNDS.
ZINC OXIDE, PASTE, 5 POUNDS.
FINISHING WAX, 1/2 POUND.
SPAR VARNISH, 1 QUART.
VARNISH FOR ALUMINUM PAINT, 1 QUART.
WHITING PUTTY, 2 POUNDS.
WHITE LEAD-WHITING PUTTY, 2 POUNDS.
WATER-CEMENT PAINT, 1 QUART.
CASEIN COLD WATER PAINT, 1 QUART.
CORK CARPET, 14 INCHES LONG THE FULL WIDTH OF THE ROLL.
METALS THAT ARE REQUIRED TO HAVE A SPECIFIED CHEMICAL ANALYSIS, EACH KIND, OF ADEQUATE SIZE FOR TESTS.

61. THE FOLLOWING SAMPLES SHALL ALSO BE SUBMITTED TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH:

SAND FOR CONCRETE, 2 POUNDS.
SAND FOR BRICK MORTAR, 2 POUNDS.
SAND FOR PLASTERING, 2 POUNDS.
SAND FOR STUCCO, 2 POUNDS.
COMMON BRICK, 10 REPRESENTATIVE BRICK.
HOLLOW TILE, 4 REPRESENTATIVE SAMPLES.
PAVING BRICK, IN DUPLICATE.

FIRE BRICK, IN DUPLICATE.
METAL SLOTS, INSERTS AND FASTENINGS SPECIFIED FOR USE IN CONCRETE, EACH TYPE.
THROUGH FLASHINGS, AT LEAST 1 SQUARE FOOT.
GLASS, EACH KIND, 6 BY 12 INCHES. BEARING MANUFACTURERS LABEL.
BUILDERS' HARDWARE FOR ONE CORRIDOR DOOR TO OFFICE TO SHOW WORKMANSHIP, MATERIALS AND FINISH. THIS IS THE MINIMUM OF HARDWARE SAMPLES REQUIRED AND THE CONTRACTOR MAY SUBMIT ANY ADDITIONAL SAMPLES OR DRAWINGS THAT HE CONSIDERS NECESSARY.
HARDWARE FOR DOORS TO PLUMBING INCLOSURES, ONE SET.

62. THE FOLLOWING SAMPLES SHALL BE SUBMITTED TO THE ARCHITECT AND A COPY OF THE LETTER OF SUBMISSION SENT TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH. SAMPLES THAT ARE ACCEPTABLE TO THE ARCHITECT WILL BE FORWARDED BY HIM UNDER GOVERNMENT BILL OF LADING TO THE SUPERVISING ARCHITECT FOR FINAL ACTION. ANY SAMPLES REJECTED BY THE ARCHITECT WILL BE HELD BY HIM UNTIL ADDITIONAL SAMPLES OF SUCH MATERIALS HAVE BEEN APPROVED. IN HIS LETTER TRANSMITTING THE ACCEPTABLE SAMPLES, THE ARCHITECT WILL LIST THE REJECTED AND ACCEPTED SAMPLES, GIVING HIS REASONS FOR REJECTION, AND WILL SEND A COPY OF SUCH LETTER TO THE CONTRACTOR.

FACING BRICK, (SALT GLAZED), IN SUFFICIENT NUMBER TO SHOW RANGE OF COLORS.

STONE, EACH KIND, 2 BY 12 BY 12 INCHES, FINISHED AS SPECIFIED.
GRANITE, " " " " " " "
INTERIOR MARBLE, ABOUT 1 SQ. FT. FINISHED AS " } IN DUPLICATE SHOWING THE EXTREME IN COLOR AND MARKING

STUCCO, 12 BY 12 INCHES SHOWING COLOR AND TEXTURE.
ROOFING TILE SHOWING SHAPES, QUALITY AND RANGE OF COLORS.
ORNAMENTAL METAL WORK SHOWING WORKMANSHIP AND FINISH.
HOLLOW METAL WORK; CORNER SECTION OF DOOR AND TRIM, SHOWING CONSTRUCTION. WHEN THIS SAMPLE HAS SERVED ITS PURPOSE, IT WILL BE TURNED OVER BY THE CONSTRUCTION ENGINEER TO THE CONTRACTOR FOR RETURN TO THE MANUFACTURER. SEPARATE SAMPLES, EACH ABOUT 3 BY 6 INCHES SHOWING FINISHES.
FLOOR TILE, EACH TYPE, SHOWING COLORS AND QUALITY.
WALL TILE, EACH TYPE, SHOWING COLORS AND QUALITY.
TERRAZZO, ABOUT 1 SQUARE FOOT.

63. THE FOLLOWING SAMPLES SHALL BE SUBMITTED TO THE GOVERNMENT REPRESENTATIVE ON THE WORK:

AGGREGATE, EACH KIND EXCEPT SAND, 2 QUARTS.
GYPSUM BLOCK.
METAL LATH.
CORNER BEAD.

EXCAVATION, OLD WORK, FILLING, GRADING, ETC.

64. TREES, ETC.--ALL TREES, PALMS, SHRUBS, ETC., SO LOCATED AS TO INTERFERE WITH THE WORK TO BE PERFORMED AND SO DESIGNATED ON THE APPROACH PLAN SHALL BE REMOVED BY THE CONTRACTOR.

65. ALL TREES, PALMS, SHRUBS, ETC., LOCATED NEAR THE BUILDING OPERATION, BUT WHICH ARE NOT TO BE REMOVED SHALL BE CAREFULLY PROTECTED, AND TRIMMED WHERE NECESSARY TO PREVENT DAMAGE.

66. EXCAVATION.--ALL EXCAVATION SHALL BE DONE AND WITH SUFFICIENT WORKING SPACE TO PERMIT THE PLACING, INSPECTION, AND COMPLETION OF ALL WORK EMBRACED IN THE CONTRACT. EXCAVATED MATERIAL THAT IS UNSUITABLE OR NOT REQUIRED FOR FILLING OR GRADING SHALL BE REMOVED FROM THE PREMISES.

67. PARTIAL RAZING OF OLD BUILDING.--BIDDERS SHOULD EXAMINE THE PREMISES AND INFORM THEMSELVES AS TO THE CHARACTER AND TYPE OF STRUCTURE TO BE PARTIALLY REMOVED. FAILURE TO TAKE THIS PRECAUTION WILL NOT RELIEVE THE SUCCESSFUL BIDDER FROM THE NECESSITY OF FURNISHING ALL MATERIAL AND LABOR NECESSARY TO COMPLETE THE CONTRACT WITHOUT ADDITIONAL COST TO THE GOVERNMENT.

67A. ALL MATERIALS REMOVED, WHICH CANNOT BE REUSED, SHALL BECOME THE PROPERTY OF THE CONTRACTOR, (EXCEPT AS OTHERWISE NOTED, SEE PAR. 67F.) AND SHALL BE TAKEN FROM THE PREMISES AS THE STORAGE OF SUCH OLD MATERIALS ON THE SITE WILL NOT BE PERMITTED.

67B. ALL RUBBISH AND DEBRIS FOUND ON THE SITE AND RESULTING FROM THE WORK OF RAZING SHALL BE REMOVED FROM THE PREMISES. THE STREETS AND SIDE WALKS ADJACENT TO THE PREMISES SHALL BE KEPT IN A NEAT AND CLEAN CONDITION. ALL MASONRY MATERIAL TO BE REMOVED SHALL BE DRENCHED BEFORE OR DURING THE REMOVAL AS MAY BE NECESSARY TO PREVENT DUST FROM RISING FROM THE MATERIALS WHEN HANDLED.

67C. WATER SERVICE PIPING IN BUILDING SHALL BE REMOVED BACK TO THE POINT OF ENTRY AND CAPPED OR PLUGGED. SOIL AND DRAIN PIPES IN THE BUILDING SHALL BE REMOVED AND SEWER CONNECTIONS CAPPED OR PLUGGED, AS DIRECTED. THE CONTRACTOR SHALL NOTIFY THE OWNERS OF ALL OTHER PIPES, WIRES, ETC., SUPPLYING SERVICE TO THE BUILDING TO DISCONNECT SUCH PIPES AND WIRES AND TO REMOVE ANY METERS AND EQUIPMENT BELONGING TO SUCH OWNERS. SUCH SERVICE LINES AND EQUIPMENT FOR WHICH NO OWNERSHIP IS CLAIMED SHALL BE REMOVED BY THE CONTRACTOR AND PROPERLY TERMINATED.

67D. IN THE PARTIAL RAZING OF THE OLD BUILDING AND THE PREPARATION OF THE REMAINING ELEMENTS FOR INCORPORATION IN THE NEW BUILDING THE CONTRACTOR WILL BE GOVERNED BY ELEVATION DRAWINGS NOS. G-100 AND G-101 AND FLOOR PLAN DRAWINGS NOS. G-1, G-2, G-3 AND G-4 AND SECTION DRAWING NO. G-102.

67E. THE FOLLOWING IS A LIST OF THE IMPORTANT OLD BUILDING ELEMENTS TO BE REMOVED:

ALL OLD WINDOWS AND DOOR FRAMES THRUOUT.
GALLERIES ON NORTH AND SOUTH SIDES, FIRST AND SECOND FLOOR.
ALL OLD WOODEN CORNICES AND BALCONY ON EAST SIDE.
ALL INSIDE PARTITIONS, COLUMNS, AND WALLS, EXCEPT ONE MASONRY WALL ON EAST SIDE OF STAIRS.

ALL SECOND STORY FLOOR CONSTRUCTION.
ALL SECOND STORY CEILING CONSTRUCTION.
ALL ROOF FRAMING, TRUSSES, ETC.
ALL FLUES AND CHIMNEYS, EXCEPT THOSE NEAR NORTHEAST CORNER.
ALL PLUMBING AND ELECTRIC SERVICE FIXTURES AND LINES.
PARTS OF SOUTH AND WEST WALLS AS SHOWN ON DRAWINGS NOS. G-1, G-2, G-3 AND G-4.
ALL FIRST FLOOR SLABS, EXCEPT WHERE SHOWN OTHERWISE. CUT THROUGH REMAINING SLABS FOR COLUMN FOOTINGS, AND FOR HEATING AND PLUMBING LINES, ETC.

67F. THE FOLLOWING WORK IS TO BE DONE ON THE ELEMENTS LEFT STANDING:

OLD COQUINA WALLS TO REMAIN AS IS WHERE SHOWN. THEY ARE TO HAVE (1) ON EXTERIOR FACE, ALL OLD STUCCO REMOVED WHERE IT IS LOOSE AND OTHERWISE NECESSARY FOR INSTALLATION OF NEW WORK, AND BALANCE CHIPPED FOR NEW FINISH COAT, (2) INTERIOR FACE CUT WHERE NECESSARY FOR SETTING OF STEEL (AND OTHER WORK) AND TO BE CHIPPED FOR NEW PLASTER COAT, OR FOR SETTING AND BONDING OF FURRING, TILE, ETC. THE NEW STEEL COLUMNS ARE TO BE SET INSIDE OF WALLS ON NEW SPREAD FOOTINGS (TO BE TIED TO OLD FOOTINGS) TO CARRY SECOND FLOOR CONCRETE CONSTRUCTION, STEEL ROOF TRUSSES AND METAL LATH AND PLASTER SECOND FLOOR CEILING. NEW FIRST FLOOR SLAB TO BE BUILT UP OVER OLD CONCRETE SLAB WITH EXPANSION REINFORCING.

THE INTERIOR PARTITIONS TO BE STRUCTURAL TILE WITH PLASTER.
THE FURRING OF EXTERIOR WALLS TO SUIT ARCHITECTURAL TREATMENT TO BE OF STRUCTURAL TILE WITH PLASTER.

68. THE REQUIREMENTS OF PARAGRAPHS 67E AND 67F SHALL NOT BE CONSTRUED AS LIMITING THE FULL SCOPE OF CHANGES INVOLVED IN THE ENTIRE AND PROPER EXECUTION OF THE WORK UNDER THIS CONTRACT.

69. ANY OLD FOUNDATION WALLS, FLOORS OR FOOTINGS IN PLACE INSIDE OF A LINE DRAWN 2 FEET OUTSIDE OF ALL NEW FOOTINGS SHALL BE ENTIRELY REMOVED, EXCEPT SUCH PORTIONS AS EXIST BELOW THE LEVELS OF NEW EXCAVATIONS AND DO NOT INTERFERE WITH THE PROPER INSTALLATION OF NEW WORK.

70. THE BASIS OF BIDDING SHALL BE THAT ALL OTHER MATERIAL TO BE REMOVED IS EARTH. MATERIAL WHICH IS PRACTICABLE TO REMOVE AND HANDLE WITH PICK AND SHOVEL OR BY HAND OR TO LOOSEN AND REMOVE BY A POWER SHOVEL (INCLUDING BOULDERS UP TO 1/2 CUBIC YARD IN SIZE) SHALL BE CLASSED AS EARTH.

71. IF OTHER MATERIAL, NOT INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN, IS ENCOUNTERED WITHIN THE LIMITS OF THE EXCAVATIONS REQUIRED UNDER THE CONTRACT, OR IF THE ACTUAL SUBSURFACE CONDITIONS AS ENCOUNTERED VARY MATERIALLY FROM THE CONDITIONS AS SHOWN AND SPECIFIED, THEN THE CONTRACTOR SHALL CONTINUE WITH THE WORK AND SHALL SUBMIT TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, THROUGH THE CONSTRUCTION ENGINEER OR OTHER AUTHORIZED REPRESENTATIVE OF THE GOVERNMENT A COMPLETE REPORT OF THE CONDITIONS ENCOUNTERED AND PROPER ADJUSTMENT WILL BE MADE IN THE CONTRACT AS DETERMINED BY THE CONTRACTING OFFICER.

71A. WORK NOT COVERED BY THE CONTRACT SHALL NOT BE DONE UNTIL AUTHORIZED IN THE MANNER PROVIDED IN THE CONTRACT.

72. ANY PIPING, CONDUITS, ETC., ENCOUNTERED IN EXCAVATING, UNLESS REQUIRED TO BE REMOVED, SHALL BE TEMPORARILY SUPPORTED AND MAINTAINED UNTIL PERMANENT SUPPORT HAS BEEN RESTORED. PIPING, CONDUITS, ETC., WHEN REQUIRED TO BE REMOVED SHALL BE CUT OFF AND CAPPED OUTSIDE

73. ABANDONED WATER, GAS, SEWER, ELECTRIC, ETC., SERVICE LINES (IF ANY) SHALL BE DISCONTINUED AT THE MAIN OR MAINS IN ACCORDANCE WITH THE REGULATIONS OF THE CITY OR SERVICE INVOLVED. THE COST OF THE FOREGOING SHALL BE BORNE BY THE CONTRACTORS HEREIN, WHETHER THE WORK IS ACTUALLY PERFORMED BY THEM OR BY OTHERS.

74. THE FINISHED EXCAVATED LEVEL UNDER THE ENTIRE BUILDING (EXCEPT THE PORTION OCCUPIED BY THE BOILER ROOM OR ANY OTHER SPACE SO NOTED ON THE DRAWINGS) SHALL BE TO A DEPTH OF 3.6 FEET BELOW THE ESTABLISHED FIRST FLOOR LEVEL.

75. WHEN EXCAVATIONS FOR SPREAD FOUNDATIONS (EXCEPT IN ROCK) HAVE REACHED THE REQUIRED DEPTH AT LEAST FOUR BORINGS 8 INCHES IN DIAMETER AND 3 FEET DEEP SHALL BE MADE WHERE DIRECTED. IF THE MATERIAL DISCLOSED IS SATISFACTORY TO THE CONSTRUCTION ENGINEER THE HOLES SHALL BE FILLED WITH CONCRETE.

76. THE SIDES OF THE EXCAVATIONS SHALL BE TEMPORARILY SUPPORTED AND MAINTAINED SECURE UNTIL PERMANENT SUPPORT IS PROVIED.

76A. ALL EXCAVATIONS SHALL BE KEPT FREE FROM WATER WHILE CONCRETE OR OTHER WORK IS BEING PLACED AND KEPT SANITARY AT ALL TIMES.

77. EXCAVATION FOR FOOTINGS WITHIN THE AREA TO BE INCLOSED IN STEEL SHEET PILING SHALL NOT BE DONE UNTIL ALL THE STEEL PILING IS IN PLACE.

78. FILLING AND GRADING.--EXCAVATIONS BELOW THE FINISHED GRADES SHALL BE FILLED WITH SUITABLE MATERIAL FREE FROM PERISHABLE RUBBISH AND MASONRY DEBRIS. ALL TEMPORARY PLANKING, TIMBERING, ETC. SHALL BE REMOVED AS THE BACK FILL IS PLACED.

79. NO BACKFILLING SHALL BE DONE UNTIL SO DIRECTED. ANY CAVING OF EXCAVATIONS THAT MAY OCCUR OR ANY BACK FILL PLACED BEFORE INSPECTIONS ARE COMPLETE SHALL BE REMOVED AS DEEMED NECESSARY IN THE OPINION OF THE CONSTRUCTION ENGINEER.

80. ALL BACK FILL SHALL BE CLEAN EARTH PLACED IN HORIZONTAL LAYERS NOT OVER 8 INCHES IN DEPTH. EACH LAYER SHALL BE THOROUGHLY TAMPED, PACKED OR PUDDLED, AS DIRECTED, SO THAT NO SETTLEMENT SHALL OCCUR.

81. ALL GRADING SHALL BE DONE AS REQUIRED TO BRING THE GROUNDS TO THE FINISHED GRADES. GRADES NOT OTHERWISE INDICATED SHALL BE UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE GIVEN, OR BETWEEN SUCH POINTS AND EXISTING FINISHED GRADES.

82. FILL SHALL BE CLEAN EARTH PLACED IN EVENLY DISTRIBUTED LAYERS OVER THE ENTIRE FILLED AREAS, AND EACH LAYER SO COMPACTED THAT NO SETTLEMENT IN THE COMPLETED WORK SHALL OCCUR. THE DEPTH OF EACH LAYER SHALL NOT EXCEED 12 INCHES.

83. MATERIALS FROM OTHER SOURCES SHALL BE SUPPLIED FOR FILL WHEN SUFFICIENT OR SUITABLE MATERIAL IS NOT AVAILABLE ON THE SITE.

84. LAWNS AND GRASS PLOTS, INCLUDING GRASS SPACES INSIDE OF SIDEWALK CURB LINES, SHALL BE SURFACES WITH AT LEAST 4 INCHES OF THE BEST LOAM OBTAINABLE IN THE LOCALITY AND FINISHED WITH 2 INCHES OF SUITABLE TOP DRESSING.

STEEL SHEET PILING

85. SCOPE.--THE FOUNDATION OF THE EXCAVATED PORTION OF BUILDING SHALL BE ENCLOSED BY SHEET PILING. THE PILING SHALL BE CENTERED APPROXIMATELY ON THE LINES SHOWN ON DRAWING G-400. THE PILING SHALL BE DRIVEN TO NOT LESS THAN THE DEPTH NOTED ON ABOVE DRAWING, AND SHALL FINISH AT THE TOP TO EXACT UNIFORM ELEVATION.

(A) THE CONTRACTOR SHALL PROVIDE FOR THE PROPER DRAINAGE OF THE ENCLOSURE DURING DRIVING AND UNTIL THE 3-INCH SUB-SLAB AND ALL WATERPROOFING IS IN PLACE. HE SHALL FURNISH ALL PUMPS NECESSARY FOR SUCH DRAINAGE.

86. ALL STEEL SHEET PILING SHALL BE OF APPROVED MAKES, WEB, FLANGE AND INTERLOCK HAVING A MINIMUM THICKNESS OF NOT LESS THAN 3/8 INCH.

(A) ALL STEEL PILING SECTIONS SHALL HAVE A POSITIVE INTERLOCK, CAPABLE OF WITHSTANDING A PULL OF NOT LESS PER LINEAL INCH OF INTERLOCK THAN 9,750 POUNDS AT FAILURE, AND SO DESIGNED AS TO PERMIT A 15 DEGREE CHANGE IN DIRECTION TO RIGHT OR LEFT OF LINE.

(B) WEIGHT PER SQUARE FOOT OF WALL IN PLACE TO DEPEND ON THE ABILITY OF SECTION TO BE DRIVEN TO DEPTHS REQUIRED ON PLANS, BUT NOT LESS THAN 3/8 INCH MATERIAL AS STATED ABOVE.

(C) PILES TO HAVE A SECTION MODULUS PER 12 INCH OF WALL OF NOT LESS THAN 3.25 INCHES CUBED.

(D) INTERLOCKED SECTION MODULUS WILL NOT BE CONSIDERED.

(E) AN ASSEMBLY METHOD, OR A METHOD OF ASSEMBLING AND PARTLY DRIVING IN WALL FORM BEFORE FINALLY DRIVING

THESE SECTIONS TO GRADE IS TO BE SUBMITTED FOR APPROVAL, GIVING THE TYPE OF HAMMER PROPOSED FOR USE, AND LENGTH OF SECTION TO BE CONTINUOUSLY DRIVEN.

(F) SHEET PILING SHALL BE PROPERLY BRACED AND SHOVED AGAINST DISPLACEMENT.

87. BACKFILLING.--BACKFILLING BETWEEN PILING AND FOUNDATION WALLS SHALL BE AS SPECIFIED UNDER "EXCAVATION, FILLING, ETC."

CONCRETE AND CEMENT WORK

88. PORTLAND CEMENT SHALL COMPLY WITH FEDERAL SPECIFICATION NO. SS-C-191, EXCEPT THAT THE 28 DAY TEST WILL BE WAIVED. CEMENT SHALL BE DELIVERED IN THE ORIGINAL PACKAGES AND KEPT DRY UNTIL USED.

89. IF THE AMOUNT OF THE CEMENT REQUIRED IS MORE THAN 1,000 BBLS., AND LESS THAN 5,000 BBLS., THE USE OF MILL TESTED CEMENT SHALL BE OPTIONAL WITH THE CONTRACTOR. IF THE AMOUNT OF THE CEMENT REQUIRED IS 5,000 BBLS., OR MORE, THE CEMENT SHALL BE MILL TESTED. CEMENT WILL NOT BE MILL TESTED IN QUANTITIES OF LESS THAN 1,000 BBLS.

90. MILL TESTED CEMENT SHALL BE TESTED AND PASSED AT THE MILL BY A GOVERNMENT INSPECTOR, OR SHALL BE TAKEN FROM GOVERNMENT TESTED AND SEALED BINS. EACH SHIPMENT SHALL BE CERTIFIED BY A GOVERNMENT INSPECTOR THAT THE CEMENT COMPLIES WITH FEDERAL SPECIFICATION, AND SHALL BE SEALED OR TAGGED OR OTHERWISE IDENTIFIED AS CERTIFIED MATERIAL.

91. THE CONTRACTOR SHALL NOTIFY THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH OF THE AMOUNT, BRAND AND MAKE OF CEMENT HE INTENDS TO USE AND THE PLACE OF PRIMARY SHIPMENT IN AMPLE TIME FOR THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH TO ARRANGE FOR INSPECTION AND CERTIFICATION OF SHIPMENTS. ALL CEMENT OF ITS KIND SHOULD BE OBTAINED FROM THE SAME PLACE TO AVOID POSSIBLE DELAY DUE TO THE ADDITIONAL TIME REQUIRED FOR MAKING INSPECTIONS AT SEVERAL PLACES.

92. FEDERAL SPECIFICATION SS-C-191 PROVIDES THAT CEMENT REMAINING IN STORAGE PRIOR TO SHIPMENT FOR A PERIOD GREATER THAN SIX MONTHS AFTER TEST SHALL BE RETESTED.

93. TESTS AND INSPECTION WILL BE MADE AT GOVERNMENT EXPENSE. AFTER A CEMENT HAS BEEN APPROVED, NO CHANGE IN BRAND OR MAKE WILL BE PERMITTED FOR THIS CONTRACT UNLESS THE MANUFACTURERS CANNOT MAKE SATISFACTORY DELIVERY.

94. SAND FOR CONCRETE SHALL COMPLY WITH FEDERAL SPECIFICATION NO. SS-A-281 FOR FINE AGGREGATE, GRADE A. SAND SHALL BE SUBJECTED TO THE A.S.T.M. TEST C:40-33 FOR ORGANIC IMPURITIES. SAND PRODUCING A COLOR DARKER THAN THE STANDARD SHALL BE REJECTED OR WASHED SUFFICIENTLY TO ENABLE IT TO PASS THE TEST.

95. COARSE AGGREGATE FOR CONCRETE SHALL COMPLY WITH FEDERAL SPECIFICATION NO. SS-A-281 FOR COARSE AGGREGATE, GRADE A, UNLESS OTHERWISE INDICATED ON DRAWINGS.

96. WATER SHALL BE FRESH, CLEAN AND FREE FROM ALKALI.

97. MIXTURES.---PROPORTIONS SPECIFIED ARE IN EQUAL PARTS BY VOLUME. ONE SACK OF PORTLAND CEMENT (94 POUNDS NET) SHALL BE CONSIDERED EQUAL TO 1 CUBIC FOOT. ALL CEMENT SHALL BE PORTLAND CEMENT, UNLESS OTHERWISE SPECIFIED.

CONCRETE MIXTURES SHALL BE AS FOLLOWS:

CLASS A. 1 OF CEMENT, 2 OF SAND AND 4 OF COARSE AGGREGATE.
CLASS B. 1 OF CEMENT, 3 OF SAND AND 5 OF COARSE AGGREGATE.
CLASS C. 1 OF CEMENT, 4 OF SAND AND 8 OF COARSE AGGREGATE.

(A) CONCRETE SHALL BE CLASS A WITH 3/4 INCH AGGREGATE, UNLESS OTHERWISE SPECIFIED.

(B) ALL CONCRETE FILL OVER STRUCTURAL SLABS SHALL BE CLASS B, EXCEPT THE FILL UNDER TERRAZZO SHALL BE CLASS C. THE COARSE AGGREGATE FOR CONCRETE FILL SHALL BE 3/4 INCH.

98. LIGHT-WEIGHT CONCRETE AS SPECIFIED HEREIN MAY BE SUBSTITUTED AT THE OPTION OF THE CONTRACTOR FOR THE CONCRETE FILL SPECIFIED ABOVE FOR USE OVER STRUCTURAL SLABS, EXCEPT WHERE CEMENT FINISHED FLOORS OCCUR. LIGHT-WEIGHT CONCRETE SHALL WEIGH NOT MORE THAN 80 POUNDS PER CUBIC FOOT AND SHALL HAVE A CRUSHING STRENGTH OF AT LEAST 400 POUNDS PER SQUARE INCH AT THE END OF 28 DAYS AFTER MIXING. IT SHALL CONSIST OF PORTLAND CEMENT AND A CLEAN LIGHT-WEIGHT INERT AGGREGATE (OTHER THAN CINDERS OR CLINKERS) THAT IS SPECIALLY PREPARED FOR SUCH USE AND ACCURATELY GRADED, OR IT SHALL CONSIST OF PORTLAND CEMENT AND SAND ACCURATELY GRADED AND PROPORTIONED AND SPECIALLY TREATED OR PROCESSED TO PRODUCE A LIGHT WEIGHT CONCRETE. IN EITHER CASE IT SHALL BE FREE FROM COMBUSTIBLE MATERIAL.

(A) THE AGGREGATES USED IN LIGHT WEIGHT CONCRETE SHALL BE SO CAREFULLY GRADED IN SIZES AND PROPORTIONS THAT THE CONCRETE CAN BE SCREEDED, COMPACTED AND FINISHED AS SPECIFIED HEREIN UNDER "SLABS AND FILL".

99. VARIATIONS IN PROPORTIONS OF AGGREGATE.--SLIGHT VARIATIONS FROM THE SPECIFIED PROPORTIONS OF SAND AND COARSE AGGREGATE SHALL BE MADE AS APPROVED BY THE CONSTRUCTION ENGINEER, WHEN NECESSARY TO DO SO, IN ORDER TO OBTAIN THE REQUIRED CONSISTENCY. NO CHANGE WILL BE PERMITTED THAT INCREASES THE COMBINED QUANTITIES OF SAND AND COARSE AGGREGATE BEYOND THAT SPECIFIED, AND IN NO CASE SHALL THE QUANTITY OF COARSE AGGREGATE BE LESS THAN ONE-HALF OR MORE THAN TWO-THIRDS THE COMBINED QUANTITIES OF SAND AND COARSE AGGREGATE.

100. MEASUREMENT OF AGGREGATES.--SAND AND AGGREGATE SHALL BE SEPARATELY STORED AND SEPARATELY MEASURED AS USED. THE QUANTITIES OF MATERIAL FOR EACH BATCH SHALL BE MEASURED BY WEIGHT OR VOLUME AND THE QUANTITIES OF SAND AND COARSE AGGREGATE SHALL BE ON THE BASIS OF DRY RODDED MATERIAL AND PROPER ADJUSTMENT SHALL BE MADE FOR ANY FREE WATER PRESENT IN THE SAND AND AGGREGATE AT THE TIME OF MEASURING.

101. WATER CEMENT RATIO.--THE AMOUNT OF WATER USED IN EACH BATCH SHALL BE ONLY SUCH PREDETERMINED QUANTITY AS IS NECESSARY TO PRODUCE CONCRETE OF THE SPECIFIED CONSISTENCY AND SLUMP. IN NO CASE SHALL THE TOTAL QUANTITY OF WATER PRESENT IN EACH BATCH EXCEED SIX AND ONE-HALF GALLONS PER SACK OF CEMENT USED FOR CLASS A, SEVEN GALLONS FOR CLASS B AND NINE GALLONS FOR CLASS C CONCRETE. CORRECTION OF THE WATER MEASURE SHALL BE IN ACCORDANCE WITH THE VARYING FREE MOISTURE CONTENT OF THE SAND AND COARSE AGGREGATE. MEASURING DEVICES FOR WATER SHALL BE AS NEARLY AUTOMATIC AS PRACTICABLE AND SHALL BE SO CALIBRATED THAT THE CONTENTS AT ANY SETTING MAY BE READILY DETERMINED.

102. MIXING.--NO FROZEN, CAKED OR LUMPY MATERIAL SHALL BE USED. MATERIALS, INCLUDING WATER, FOR EACH BATCH SHALL BE ACCURATELY MEASURED AND THOROUGHLY MIXED UNTIL EVENLY DISTRIBUTED THROUGHOUT, AND IN NO CASE SHALL THE PERIOD OF MIXING BE LESS THAN 1-1/2 MINUTES AFTER ALL INGREDIENTS, INCLUDING WATER, ARE IN THE MIXER. NO MORTAR OR CONCRETE SHALL BE RETEMPERED FOR USE. MIXING TOOLS AND APPARATUS SHALL BE KEPT CLEAN. HAND MIXED CONCRETE SHALL NOT BE MADE IN BATCHES EXCEEDING SIX CUBIC FEET, OR ONE BAG OF CEMENT PER BATCH, NOR USED FOR CLASS "A" REINFORCED CONCRETE.

103. SLUMP TEST.--CLASS "A" CONCRETE SHALL BE TESTED FOR CONSISTENCY AT THE MIXER, OR AT THE PLACE OF DEPOSIT IF MIXED AT A MIXING PLANT. A COMPLETE BATCH SHALL BE MIXED AS SPECIFIED AND THEN DUMPED. THE SAMPLE SHALL BE TAKEN IMMEDIATELY FROM THE BATCH AND TESTED UNDER THE DIRECTION OF THE CONSTRUCTION ENGINEER. THE TEST SHALL CONFORM TO TENTATIVE STANDARD D-138 OF THE AMERICAN SOCIETY OF TESTING MATERIALS. THE SLUMP OF CONCRETE FOR WALKS AND DRIVEWAYS SHALL NOT BE LESS THAN THREE NOR MORE THAN FIVE INCHES AND THE SLUMP OF ALL OTHER CLASS "A" CONCRETE SHALL BE NOT LESS THAN THREE AND ONE-HALF INCHES NOR MORE THAN SIX INCHES.

104. READY MIXED CONCRETE.--CONCRETE MAY BE MIXED AT A CENTRAL MIXING PLANT, PROVIDED THE CONTRACTOR MAKES SUCH ARRANGEMENTS AS WILL ASSURE THE CONSTRUCTION ENGINEER TO HIS SATISFACTION THAT THE MATERIALS ARE BEING MIXED AND THE CONCRETE DELIVERED UNDER CONDITIONS THAT WILL PROVIDE A FINISHED PRODUCT MEETING THE CONTRACT REQUIREMENTS IN ALL RESPECTS. THE CONSTRUCTION ENGINEER SHALL HAVE FREE ACCESS AT ALL TIMES TO THE MIXING PLANT FOR INSPECTION AND SAMPLING OF ALL MATERIALS BEING FURNISHED AND WORK PERFORMED FOR THIS PARTICULAR PROJECT, AND SUCH PRIVILEGE SHALL NOT BE CONSTRUED TO RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR COMPLIANCE WITH THE CONTRACT REQUIREMENTS. WHEN THE CONCRETE IS DUMPED AT THE PLACE OF DEPOSIT, IT SHALL HAVE THE SPECIFIED CONSISTENCY AND SLUMP AND SHALL BE PLACED IMMEDIATELY IN ITS FINAL POSITION. IF NECESSARY, THE CONCRETE SHALL BE DELIVERED TO THE JOB IN TRUCKS SO DESIGNED AND OPERATED THAT THE CONCRETE WILL BE THOROUGHLY MIXED DURING THE TIME THAT IT IS IN TRANSIT.

105. ADMIXTURE.--IF THE COMBINED "FINE AND COARSE" AGGREGATES TO BE USED FOR CLASS A CONCRETE ARE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATION, NO ADMIXTURE WILL BE REQUIRED.

PERCENTAGE BY WEIGHT OF COMBINED AGGREGATES FOR CONCRETE PASSING LABORATORY SIEVES HAVING SQUARE OPENINGS.

SIEVE	MINIMUM	MAXIMUM
1 IN.	100	100
3/4 IN.	95	100
3/8 IN.	58	72
NO. 4	43	55
NO. 16	26	35
NO. 50	7	14
NO. 100	1	4

106. IF, HOWEVER, THE GRADATION OF THE AGGREGATES DO NOT COME WITHIN THE RANGE OF PERCENTAGES LISTED IN THE ABOVE TABLE, THE SPECIFIED PLASTICITY OF CLASS A CONCRETE SHALL BE OBTAINED BY ADDING MORE CEMENT OR ADMIXTURE, AS NECESSARY.

107. IN THE EVENT THAT AN ADMIXTURE HAS TO BE USED AS A SUPPLEMENT TO THE FINE AND COARSE AGGREGATE AVAILABLE TO INSURE PLASTICITY IT SHALL HAVE THE FOLLOWING CHARACTERISTICS AS DETERMINED BY THE NATIONAL BUREAU OF STANDARDS:

(A) ADMIXTURE SHALL BE AN ACTIVE SILICA, SUCH AS DIATOMACEOUS SILICA, COLLOIDAL TRIPOLI SILICA OR PUMICITE (VOLCANIC ASH), AND SHALL BE STRONGLY PUZZOLANIC TO COMBINE WITH THE LIME SET FREE DURING THE HYDRATION OF THE PORTLAND CEMENT, FORMING STABLE CALCIUM HYDRO SILICATES WHICH HAVE CEMENTING VALUE. IT SHALL INCREASE THE PLASTICITY, IMPERMEABILITY AND DURABILITY OF THE CONCRETE.

(B) THE ADMIXTURE SHALL BE EITHER CLASS 1 OR CLASS 2 AS SPECIFIED HEREIN, AT THE OPTION OF THE CONTRACTOR.

(C) THE ADMIXTURE SHALL BE FINELY DIVIDED SILICA FREE FROM CLAY AND ORGANIC MATTER.

(D) NOT MORE THAN 1 PER CENT BY WEIGHT OF THE MATERIAL SHALL BE RETAINED ON A NO. 30 SIEVE AND NOT MORE THAN 10 PER CENT BY WEIGHT SHALL BE RETAINED ON A NO. 200 SIEVE AND NOT LESS THAN 30 PER CENT BY WEIGHT SHALL BE FINER THAN 10 MICRONS.

(E) THE ADMIXTURE SHALL NOT CONTAIN MORE THAN 6 PER CENT BY WEIGHT OF MOISTURE AS DETERMINED BY DRYING A SAMPLE TO CONSTANT WEIGHT AT A TEMPERATURE OF 212 DEGREES F.

(F) AN AIR-DRY SAMPLE OF THE MATERIAL SHALL NOT CONTAIN MORE THAN 3 PER CENT BY WEIGHT OF WATER SOLUBLE ALKALIES OR OTHER WATER SOLUBLE DELETERIOUS SUBSTANCES.

(G) A MOISTURE FREE SAMPLE OF THE MATERIAL SHALL NOT SHOW A LOSS ON IGNITION AT 1800 DEGREES F. OF MORE THAN 7 PER CENT BY WEIGHT.

(H) THE USE OF THE ADMIXTURE SHALL NOT INCREASE THE FREE LIME CONTENT OF THE CONCRETE.

(J) CLASS 1 ADMIXTURE: AN IGNITED SAMPLE SHALL CONTAIN NOT LESS THAN 89 PER CENT BY WEIGHT OF SILICA AND NOT OVER 6 PER CENT BY WEIGHT OF ALUMINA.

(K) CLASS 2 ADMIXTURE: A MOISTURE FREE SAMPLE SHALL CONTAIN NOT LESS THAN 70 PER CENT BY WEIGHT OF SILICA NOR MORE THAN 14 PER CENT BY WEIGHT OF ALUMINA, AND THE COMBINED PERCENTAGES BY WEIGHT OF SILICA, ALUMINA AND IRON OXIDES SHALL BE NOT LESS THAN 85 PER CENT OF THE TOTAL WEIGHT OF THE SAMPLE. LOSS ON IGNITION SHALL NOT EXCEED 7 PER CENT.

(L) IN CASE THE ADMIXTURE IS FURNISHED IN PASTE FORM, THE LIQUID SHALL BE WATER AND SHALL BE INCLUDED AS A PART OF THE TOTAL WATER CONTENT OF THE CONCRETE. THE SOLID MATTER SHALL COMPLY WITH THE REQUIREMENTS SPECIFIED FOR EITHER CLASS 1 OR CLASS 2 ADMIXTURE.

108. PROTECTION FROM COLD.--NO CONCRETE WORK SHALL BE DONE IN FREEZING WEATHER UNLESS SUITABLE MEANS ARE USED TO HEAT THE MATERIALS BEFORE PLACING AND TO PROTECT THE CONCRETE AFTER PLACING, SO THAT NO DAMAGE FROM FROST OR FREEZING SHALL OCCUR. PROTECTION AFTER PLACING SHALL INCLUDE THE USE OF TEMPORARY HEAT AND COVERING IF NECESSARY. NO ANTI-FREEZING INGREDIENT SHALL BE MIXED WITH CONCRETE OR CEMENT WORK.

109. FORMS.--FORMS SHALL BE TIGHT AND RIGID TO SUSTAIN THE CONCRETE WITHOUT LEAKAGE OR DISTORTION AND SHALL BE CLEAN INSIDE WHEN THE CONCRETE IS POURED. FORMS SHALL BE LEFT IN PLACE UNTIL THE CONCRETE IS SAFELY SELF-SUPPORTING AND SHALL BE REMOVED WITHOUT DAMAGE TO THE CONCRETE.

110. FORMS FOR CONCRETE EXPOSED AS A FINISHED SURFACE SHALL HAVE SMOOTH FACES WITH TIGHT, FLUSH JOINTS AND SHALL BE ACCURATELY SHAPED AND SET TO THE REQUIRED LINES AND LEVELS.

111. FORMS FOR WALLS, COLUMNS OR PIERS SHALL HAVE REMOVABLE PANELS AT THE BOTTOM FOR CLEANING AND INSPECTION.

112. METAL SLOTS AND INSERTS.--METAL SLOTS OR INSERTS, WITH WIRE OR DOVETAIL ANCHORAGE TO THE CONCRETE AND WITH ANCHORS FOR THE FACING OR FURRING MATERIALS, SHALL BE BUILT VERTICALLY INTO THE CONCRETE BACKING AND SPACED NOT OVER 2 FEET APART HORIZONTALLY. THE SLOTS OR INSERTS SHALL BE DESIGNED AND LOCATED TO PROVIDE ANCHORS IN EVERY HORIZONTAL JOINT OF STONEWORK, EVERY 3RD COURSE OF BRICK WORK AND APPROXIMATELY 25 INCHES APART VERTICALLY FOR FURRING. WIRE INSERTS SHALL BE AT LEAST 6 GAUGE (.19 INCH) FOR STONE OR TERRA COTTA FACING AND AT LEAST 11 GAUGE (.12 INCH) FOR OTHER FACING AND FURRING.

113. ANCHORS SHALL BE HOOKED, LOOPED OR CRIMPED FOR ANCHORAGE. WIRE ANCHORS SHALL BE AT LEAST 3 GAUGE (.24 INCH) FOR STONEWORK, AND 11 GAUGE (.12 INCH) FOR OTHER WORK. SHEET METAL ANCHORS SHALL BE AT LEAST 12 GAUGE FOR STONE WORK AND 16 GAUGE FOR OTHER WORK AND AT LEAST 7/8 INCH WIDE. ALL METAL SHALL BE ZINC COATED.

114. FREE STANDING FURRING 4 INCHES OR LESS IN THICKNESS AND 2 INCHES OR LESS FROM ITS BACKING (EXTERIOR WALLS) SHALL HAVE ANCHORAGE PROVIDED AS ABOVE SPECIFIED EXCEPT THAT SHEET METAL ANCHORS ONLY SHALL BE USED AND SUCH ANCHORS SHALL HAVE A LONGITUDINAL CORRUGATION OR CRIMP FOR STIFFNESS. FOR FURRING MORE THAN 2 INCHES FROM WALL SEE UNDER "BRICKWORK ETC."

115. ANCHOR BOLTS SHALL BE PROPERLY LOCATED AND BUILT INTO THE CONNECTING WORK FOR SUPPORT AND TYING TOGETHER OF MASONRY UNITS AND SUPPORT OF BALCONIES AS SHOWN ON DETAIL SHEETS NOS. G-200 AND G-201.

116. WIRE FASTENINGS, ETC.--SPECIAL PROVISION SHALL BE MADE FOR FASTENING METAL LATH, GROUNDS, FURRING AND OTHER ACCESSORIES OF PLASTER WORK. PREPARED WIRE INSERTS SHALL BE AT LEAST 11 GAUGE (.12 INCH), TIE WIRE LOOPS AT LEAST 14 GAUGE (.08 INCH) AND ALL WIRE SHALL BE ZINC COATED.

(A) SIZES OF FASTENERS AND HANGERS FOR SUSPENDED CEILINGS SHALL BE AS INDICATED ON THE DRAWINGS.

117. RIBBED LATH AND METAL FURRING SECURED TO THE UNDERSIDE OF CONCRETE JOISTS SHALL HAVE EACH RIB OR FURRING STRIP FASTENED AT ALL BEARINGS. IF JOISTS ARE MORE THAN 7 INCHES WIDE, TWO ROWS OF FASTENINGS SHALL BE USED SO THAT THE UNSUPPORTED SPAN SHALL NOT EXCEED 27 INCHES.

118. WHEREVER HEAVY RUN MOULDINGS ARE LOCATED FROM 6 TO 8 GAUGE ANNEALED STAY WIRES SHALL BE EMBEDDED IN CONCRETE ABOUT 1 TO EVERY SQUARE FOOT AND LEFT PROJECTING 3 INCHES. ADDITIONAL HORIZONTAL REINFORCING FOR RUN WORK SHALL BE INSTALLED BY PLASTERER AND DETAILS FOR THIS ARE COVERED UNDER PLASTER SPECIFICATION.

119. FILLERS.--HOLLOW TILE FILLERS SHALL CONFORM TO FEDERAL SPECIFICATION NO. SS-T-307 FOR CLAY PARTITION TILE, CLASS M. SUFFICIENT ONE-HALF LENGTHS SHALL BE FURNISHED TO AVOID CUTTING. ENDS OF ROWS SHALL BE CLOSED WITH CEMENT MORTAR RECESSED 1 INCH.

120. METAL TILE FILLERS SHALL BE OF SUITABLE WEIGHT AND FORM TO SECURE THE REQUIRED RIGIDITY. THEY SHALL BE IN SUCH LENGTHS AS WILL ALLOW COMBINATIONS TO COVER ALL SPANS WITHOUT CUTTING. THE ENDS OF EACH ROW OF TILE SHALL BE CAPPED.

121. WHERE ATTACHED PLASTER CEILINGS ARE INDICATED ON CONCRETE JOIST CONSTRUCTION WITH METAL TILE FILLERS, THE USE OF METAL FILLERS WITH LATH BOTTOMS WILL BE PERMITTED PROVIDED THE FOLLOWING REQUIREMENTS ARE MET IN ADDITION TO OTHER REQUIREMENTS SHOWN OR SPECIFIED:

(A) THE FILLERS SHALL BE DESIGNED FOR THIS TYPE OF CONSTRUCTION.

(B) THE LATH SHALL COMPLY WITH FEDERAL SPECIFICATION NO. QQ-B-101A AND SHALL BE EXPANDED 3/8-INCH RIB LATH OF NOT LIGHTER THAN 26 GAUGE COPPER-BEARING STEEL AND WEIGHING NOT LESS THAN 4 POUNDS PER SQUARE YARD, WITH STRANDS NOT LESS THAN 1/16 INCH WIDE. THE USE OF ATTACHED RIBS WILL BE PERMITTED.

(C) THE ENDS OF THE BOTTOMS SHALL BE TURNED UP AT THE FACTORY NOT LESS THAN 1-1/2 INCHES SO AS TO BE CONTINUOUSLY BONDED IN THE CONCRETE JOISTS OR, IF THE BOTTOMS ARE FLAT, EACH RIB SHALL BE SECURELY CLIPPED OR ANCHORED TO THE EDGES OF THE METAL FILLERS AND THE ENDS OF THE BOTTOMS SHALL EXTEND NOT LESS THAN 1-1/2 INCHES SO AS TO BECOME BEDDED IN THE BOTTOMS OF THE JOISTS.

(D) THE BOTTOMS SHALL BE GIVEN TWO DIP COATS OF ASPHALT PAINT AND ALLOWED TO DRY BETWEEN COATS.

(E) A CERTIFICATE, GIVING THE NAME OF THIS BUILDING AND STATING THAT THE BOTTOMS FURNISHED FOR SAID BUILDING ARE MADE OF COPPER-BEARING STEEL SHEETS OF NOT LESS THAN THE GAUGE AND WEIGHT SPECIFIED AND THAT THEY HAVE BEEN GIVEN TWO SEPARATE DIP COATS OF ASPHALT PAINT, SHALL BE SIGNED BY THE MANUFACTURER OF THE BOTTOMS AND BY THE CONTRACTOR. THIS CERTIFICATE SHALL BE FURNISHED IN DUPLICATE TO THE CONSTRUCTION ENGINEER WHO WILL FORWARD ONE COPY TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH.

(F) A SAMPLE OF THE BOTTOMS, NOT LESS THAN 23 INCHES SQUARE, SHALL BE SUBMITTED TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH.

(G) FOR SPECIAL CONDITIONS OF CONSTRUCTION REQUIRING CLEAR SPANS BETWEEN JOISTS OF MORE THAN 24 INCHES, THE CONTRACTOR SHALL FURNISH THE PROCUREMENT DIVISION WITH A DETAILED DESCRIPTION, BY LETTER OR BY SHOP DRAWINGS OR BOTH, OF THE CONSTRUCTION HE PROPOSES TO USE AND SAID CONSTRUCTION SHALL BE APPROVED IN WRITING BY THE PROCUREMENT DIVISION BEFORE THE BOTTOMS ARE FABRICATED. IN EVERY CASE, THE BOTTOMS SHALL BE OF COPPER-BEARING STEEL AND SHALL HAVE THE TWO DIP COATS OF ASPHALT PAINT SPECIFIED ABOVE.

122. WHERE THE JOISTS ARE EXPOSED IN THE FINISHED WORK, METAL FORMS SHALL BE A REMOVABLE TYPE AND SHALL BE TAKEN DOWN, OR REMOVABLE WOOD FORMS MAY BE USED. METAL FORMS SHALL BE NEW OR "SELECTED" AND TRUE TO SHAPE AND SIZE.

123. REMOVABLE METAL FORMS SHALL HAVE PLAIN, FLAT SURFACES, EXCEPT THAT CORRUGATED FORMS OF NOT LIGHTER THAN 16 GAUGE METAL MAY BE USED IN SUCH PORTIONS OF BASEMENT AS FUEL ROOM, BOILER ROOM, STORAGE ROOMS, ETC.

124. WHERE OUTLETS FOR LIGHTING FIXTURES OCCUR, EXCEPT WHERE SMOOTH CEILINGS ARE PROVIDED, "DUMMY" CONCRETE JOISTS 12 INCHES WIDE ARE TO BE PROVIDED FOR SEATING OF CANOPY OF LIGHTING FIXTURES; OR IF OUTLETS OCCUR IN STRUCTURAL JOISTS THE JOIST IS TO BE THICKENED AT THAT POINT TO PROVIDE A FLAT AREA 12 INCHES SQUARE FOR OUTLET BOX TO SET IN CENTER OF SAME.

125. METAL REINFORCEMENT.--REINFORCING METAL SHALL INCLUDE STIRRUPS, SPACERS, CHAIRS, TIES, ETC., AS REQUIRED AND NECESSARY FOR ASSEMBLING, PLACING AND SUPPORTING THE REINFORCEMENT IN PLACE. METAL SHALL BE CLEAN AND FREE FROM SCALE OR FLAKE RUST OR ANY COATING. FABRIC MAY BE ZINC COATED. METAL SHALL BE KEPT CLEAN UNTIL USED, OR BE CLEANED WITH WIRE BRUSHES BEFORE PLACING.

126. BARS SHALL CONFORM TO FEDERAL SPECIFICATION No. QQ-B-71. BARS NOT OTHERWISE SPECIFIED SHALL BE TYPE B, AND MAY BE ANY GRADE AND CLASS, EXCEPT STRUCTURAL GRADE.

127. METAL FABRIC SHALL BE EITHER STEEL WIRE OR EXPANDED SHEET STEEL. SUSTAINING MEMBERS SHALL BE NOT LESS THAN 3 INCHES NOR MORE THAN 8 INCHES APART. THE LENGTH OF MESH SHALL NOT EXCEED 16 INCHES. AREAS SPECIFIED ARE THE NET SECTIONAL AREA OF SUSTAINING MEMBERS ONLY PER FOOT OF WIDTH.

128. AREAS OF METAL FABRIC WHEN NOTED ON THE DRAWINGS ARE FOR WIRE FABRIC. WHERE AREAS OF FABRIC ARE NOT INDICATED, THE AREA SHALL BE AT LEAST 0.135 SQ. IN. FOR EXPANDED METAL AND 0.08 SQ. IN. FOR WIRE FABRIC. THE MANUFACTURER'S CATALOGUE DESIGNATION OF METAL FABRIC TO BE USED SHALL BE SUBMITTED FOR APPROVAL OF THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH.

(A) WHERE THE TYPE OF REINFORCEMENT IS NOT DEFINITELY INDICATED ON THE DRAWINGS METAL FABRIC SHALL BE USED.

129. REINFORCEMENT FOR CONCRETE SURROUNDING STRUCTURAL STEEL SHALL BE No. 10 GAUGE WIRE LOOPS SPACED 6 INCHES APART, OR OTHER REINFORCEMENT OF EQUIVALENT SECTION, AND KEPT 3/4 INCH AWAY FROM THE SURFACES OF THE STEEL.

130. SHRINKAGE FABRIC.--REINFORCEMENT FOR FLOOR FILL SHALL BE STEEL FABRIC NOT LIGHTER THAN 16 GAUGE. EXPANDED METAL SHALL BE 3 X 7 INCH OR 3 X 8 INCH MESH AND WEIGH AT LEAST 1.8 LBS. PER SQUARE YARD. WIRE FABRIC SHALL BE ZINC COATED AND SHALL BE EITHER 2 INCH HEXAGONAL MESH WEIGHING 1-1/2 POUNDS, OR 2 INCH SQUARE MESH WEIGHING 1.17 POUNDS, OR 4 X 4 INCH MESH WEIGHING AT LEAST 1-1/4 LBS. ALL WEIGHTS ARE PER SQUARE YARD.

131. THE TREADS AND PLATFORMS OF CEMENT STEPS AND STAIRS, BOTH EXTERIOR AND INTERIOR, WHICH ARE INDICATED AS "NON-SLIP", SHALL BE MADE NON-SLIP IN EMBEDDING IN THE SURFACE A FINE ABRASIVE AGGREGATE, APPLIED UNIFORMLY AT THE RATE OF NOT LESS THAN 2-1/4 POUNDS PER SQUARE YARD. THE ABRASIVE AGGREGATE SHALL BE COMPOSED OF AT LEAST 55 PER CENT ALUMINA OXIDE (AL_2O_3) CERAMICALLY BONDED AT A VERY HIGH TEMPERATURE, OR OTHER SIMILAR ABRASIVE AGGREGATE ACCEPTABLE TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH AND SHALL BE OF HOMOGENEOUS STRUCTURE, RUST PROOF, NON-GLAZING AND UNAFFECTED IN FREEZING MOISTURE OR BY CLEANING COMPOUNDS.

132. SHOP DRAWINGS.--BENDING AND ASSEMBLING DIAGRAMS SHOWING SHAPES, DIMENSIONS AND DETAILS OF RODS AND BARS AND ACCESSORIES FOR SECURING AND SUPPORTING THE SAME SHALL BE SUBMITTED IN QUADRUPLICATE FOR THE APPROVAL OF THE ARCHITECT.

133. PLACING FILLERS AND REINFORCEMENT.--FILLERS SHALL BE PLACED WITH CLOSE JOINTS AND IN TRUE ALIGNMENT. ROWS SHALL BE ACCURATELY SPACED AND MAINTAINED IN POSITION ON THE FORMS.

134. REINFORCEMENT SHALL BE ACCURATELY PLACED AND SECURELY FASTENED AND SUPPORTED TO PREVENT DISPLACEMENT BEFORE OR DURING THE POURING OF THE CONCRETE. FABRIC SHALL BE NEAR THE CENTER OF WALLS AND 3/4 INCH ABOVE THE BOTTOM OF FLOORS OR HORIZONTAL SLAB WORK GENERALLY AND SHALL BE LAPPED AND WIRED AT ALL JOINTS.

135. REINFORCEMENT AND FILLERS SHALL BE INSPECTED IN THE FORMS AND APPROVED IN WRITING BY THE CONSTRUCTION ENGINEER BEFORE THE CONCRETE IS POURED. THE CONTRACTOR SHALL FORWARD A COPY OF THE WRITTEN APPROVAL TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH.

136. PLACING CONCRETE.--CONCRETE SHALL NOT BE PLACED OVER PIPES, CONDUITS, WATERPROOFING, ETC., UNTIL SUCH WORK HAS BEEN TESTED, INSPECTED AND APPROVED AND DEFINITE INSTRUCTIONS GIVEN BY THE CONSTRUCTION ENGINEER TO PROCEED WITH THE WORK. UNLESS OTHERWISE DIRECTED, WOOD FORMS AND HOLLOW TILE FILLERS SHALL BE WET WHEN THE CONCRETE IS PLACED.

137. FOR THE ORDER OF PROCEDURE IN POURING BASEMENT CONCRETE FLOOR SLABS AND WALLS AND THE PLACING OF MEMBRANE WATERPROOFING SEE UNDER "WATERPROOFING, MEMBRANE TYPE."

138. CONCRETE SHALL BE SO HANDLED AS TO MAINTAIN ITS CONSISTENCY AND NOT PERMIT THE INGREDIENTS TO SEPARATE. IT SHALL BE PLACED IMMEDIATELY AFTER MIXING, AND SHALL BE SO VIBRATED, RODDED, TAMPED OR WORKED INTO PLACE THAT NO VOIDS OR SEGREGATION OF THE AGGREGATE SHALL SHOW WHEN THE FORMS ARE REMOVED. NO SPADING SHALL BE DONE ALONG FORMS WHERE SPECIAL TREATMENT IS REQUIRED FOR APPLIED FINISH.

139. CONSTRUCTION JOINTS SHALL BE AVOIDED WHERE POSSIBLE IN WORK THAT IS SHOWN CONTINUOUS. VERTICAL JOINTS SHALL BE TONGUED OR TENONED TO BOND THE CONNECTING SECTIONS. HORIZONTAL JOINTS SHALL BE FREE FROM SOFT OR SPONGY MATERIAL AND SHALL HAVE A PERFECT BOND BETWEEN THE LAYERS OF CONCRETE.

140. THE DEPTHS OF FOOTINGS AND THICKNESS OF SLABS AS INDICTED ARE THE MINIMUM REQUIRED. FOOTINGS SHALL HAVE NO HORIZONTAL JOINTS AND MAY HAVE VERTICAL JOINTS ONLY AT JUNCTIONS OF WIDE AND NARROW SECTIONS, OR MIDWAY BETWEEN CONCENTRATED LOADS OR ON CENTER LINES OF STRUCTURAL DIVISION.

141. COLUMNS OR PIERS SHALL BE PLACED CONTINUOUSLY UP TO A LEVEL 1 INCH BELOW THE COLUMN HEAD OR CONNECTING BEAM OR GIRDER. COLUMNS OR PIERS SHALL BE POURED AT LEAST TWO HOURS IN ADVANCE OF THE SUPERIMPOSED CONCRETE.

142. REINFORCED SLABS, JOISTS, BEAMS, GIRDERS, ETC., SHALL BE POURED CONTINUOUSLY IF POSSIBLE. WHERE CONSTRUCTION JOINTS CANNOT BE AVOIDED THEY SHALL BE PERPENDICULAR TO THE AXIS OR SURFACE OF THE MEMBER JOINTED AND AT THE CENTER OF THE SPAN. IF AN INTERSECTING MEMBER OCCURS AT THAT POINT, THE JOINT SHALL BE OFF-SET TWICE THE DEPTH OF THE INTERSECTING MEMBER.

142A. CONCRETE SOFFITS FOR STEEL FRAMING SHALL BE PLACED WHOLLY FROM ONE SIDE AND FORCED THROUGH TO THE OTHER SIDE.

143. CONCRETE WHICH IS TO BE GIVEN A FINISH COAT OF ANY KIND SHALL BE KEPT CLEAN, AND WHERE AN APPLIED FINISH IS REQUIRED THE CONCRETE SHALL NOT BE PLACED UNTIL IT CAN BE FINISHED AS SPECIFIED.

144. ANCHORS, BOLTS, SLEEVES, DOWELS, INSERTS, ETC., AS REQUIRED SHALL BE PROPERLY LOCATED AND BUILT IN AS THE WORK PROGRESSES. SLOTS SHALL BE FORMED OR ANCHORS BUILT IN AS DIRECTED FOR BONDING ABUTTING MASONRY WALLS OR PARTITIONS. FOR REGLETS IN CONCRETE SEE DETAILS.

144A. INSERTS OR BOND BLOCKS FOR FASTENING THE GUIDE RAILS AND BRACKETS OF ELEVATOR WILL BE FURNISHED BY THE ELEVATOR CONTRACTOR AND SHALL BE BUILT IN BY THIS CONTRACTOR WHERE DIRECTED.

145. CONCRETE THAT IS TO BE COVERED WITH MEMBRANE WATERPROOFING OR DAMPPROOFING SHALL BE SMOOTH AND EVEN, BUT TROWELING WILL NOT BE REQUIRED.

146. CONCRETE SHALL BE PROTECTED AGAINST RAPID DRYING AND SHALL BE KEPT MOIST FOR AT LEAST SIX DAYS.

147. VIBRATORS.--EACH VIBRATOR SHALL BE A MECHANICAL UNIT, POWER DRIVEN, AND ESPECIALLY DESIGNED FOR THE SERVICE REQUIRED. FOR VIBRATING THE CONCRETE FIREPROOFING AND FLOOR ARCHES OF STEEL FRAMEB STRUCTURES, THE VIBRATOR SHALL BE CLAMPED DIRECTLY TO THE STEEL MEMBERS. THE STEEL SHALL BE VIBRATED IMMEDIATELY AFTER THE CONCRETE IS PLACED AROUND IT, AND EACH OPERATION SHALL BE RESTRICTED TO A LIMITED AREA TO PRODUCE THE BEST RESULTS. THE VIBRATING PROCESS SHALL MAKE THE CONCRETE BOND WITH ALL THE STEEL IN THE STRUCTURE, CAUSING THE CONCRETE TO FLOW AND SETTLE AND COMPLETELY FILLING THE MINUTE VOIDS WITH DENSE CONCRETE AND MORTAR AND BRINGING THE AIR AND EXCESS WATER TO THE SURFACE.

148. SPECIAL TREATMENT OF CONCRETE.--IN GENERAL, ALL VERTICAL OR OVERHEAD SURFACES OF CONCRETE THAT ARE TO RECEIVE AN APPLIED FINISH OF MORTAR, STUCCO OR PLASTER AFTER THE FORMS ARE REMOVED SHALL BE GIVEN A SPECIAL TREATMENT IN PREPARATION FOR SUCH FINISH. THE CHARACTER OF THE TREATMENT SHALL BE SUCH THAT THE SURFACE OF THE CONCRETE SHALL BE REMOVED TO AN APPRECIABLE DEPTH (AT LEAST 1/16 INCH) EXPOSING THE AGGREGATE AND LEAVING A CLEAN, FIRM GRANULAR SURFACE FOR THE PERMANENT ADHESION OF THE FINISH.

149. IF A COMPOUND THAT RETARDS THE SETTING OF THE SURFACE CEMENT HAS BEEN USED ON THE INSIDE OF THE FORMS, ALL LOOSE MATERIAL SHALL BE REMOVED BEFORE FINISHING. IF MECHANICAL TREATMENT SUCH AS HACKING OR CHIPPING OR GRINDING IS USED, CARE SHALL BE TAKEN TO LEAVE NO UNTREATED SURFACES.

150. IMPERFECTIONS SHOWING IN EXPOSED SURFACES OF CONCRETE SHALL BE CORRECTED AND MADE GOOD. NO POINTING OR PATCHING SHALL BE DONE, OR RESTORATION OF BROKEN SURFACES OR ARRISES BE COMMENCED, UNTIL SUCH PLACES HAVE BEEN INSPECTED AND PASSED UPON BY THE CONSTRUCTION ENGINEER.

150A. METAL STAYS AND BRACES FOR FORMS IF EXTENDING INTO THE CONCRETE SHALL BE CUT BACK AT LEAST 1 INCH FROM FACES OF CONCRETE EXPOSED TO THE WEATHER.

151. INTEGRAL WATERPROOFING.--WHERE INTEGRAL WATERPROOFING OF CONCRETE IS INDICATED ON THE DRAWINGS AND/OR SPECIFIED HEREIN, THE CONCRETE SHALL BE MADE WATERPROOF THROUGHOUT THE MASS BY ADDING TO THE CONCRETE MIX A WATERPROOFING MATERIAL WHICH HAS BEEN ESPECIALLY PREPARED FOR SUCH USE. INTEGRAL WATERPROOFING MATERIAL IS REQUIRED IN THE FOLLOWING CONCRETE WORK: ALL EXPOSED CONCRETE CONSTRUCTION OF BUILDING INCLUDING WALLS AND COLUMNS, ALSO ALL EXTERIOR CONCRETE WALLS AND FLOOR SLABS OF GALLERY WHICH ARE SPECIFIED TO BE FINISHED WITH STUCCO OR CEMENT.

152. THE CHARACTER OF THE WATERPROOFING MATERIAL SHALL BE SUCH THAT THE TOTAL NECESSARY WATER CONTENT OF THE CONCRETE MIX SHALL NOT EXCEED 7-1/2 GALLONS PER SACK OF CEMENT IN ORDER TO PRODUCE WATERPROOFED CONCRETE OF THE PLASTICITY AND SLUMP REQUIRED BY THE CONTRACT. THE WATERPROOFING MATERIAL SHALL BE EITHER A LIQUID, PASTE OR POWDER AT THE OPTION OF THE CONTRACTOR, BUT WHEN A LIQUID OR PASTE IS USED, THE WATER CONTENT OF THE WATERPROOFING MATERIAL SHALL BE INCLUDED IN THE WATER CONTENT OF THE CONCRETE MIX.

153. WHEN MECHANICAL MEASURING DEVICES ARE NOT REQUIRED UNDER THE CONTRACT, THE TOTAL WATER CONTENT OF THE CONCRETE MIX SHALL BE DETERMINED ON THE ASSUMPTION THAT THE AMOUNT OF WATER PRESENT UNDER NORMAL CONDITIONS IN THE COMBINED SAND AND AGGREGATE USED PER SACK OF CEMENT IS AS FOLLOWS:

1 GALLON FOR 1: 1-1/2 : 3 CONCRETE.
1-1/2 GALLONS FOR 1: 2: 4 CONCRETE.
2 GALLONS FOR 1: 3: 5 CONCRETE.

154. THE WATERPROOFING MATERIAL SHALL HAVE BEEN USED FOR THIS PURPOSE FOR MORE THAN FIVE YEARS. IT SHALL BE MIXED INTEGRALLY WITH THE WATER, CEMENT AND AGGREGATE IN STRICT ACCORDANCE WITH THE PRINTED DIRECTIONS OF THE MANUFACTURER.

155. THE WATERPROOFING MATERIAL SHALL HAVE MET THE FOLLOWING REQUIREMENTS AS DETERMINED BY TESTS CONDUCTED

OVER A PERIOD OF ONE YEAR BY THE U.S. BUREAU OF STANDARDS:

A. THE ABSORPTION OF CURED SPECIMENS SHALL NOT BE GREATER THAN 5 PER CENT OF THE WEIGHT OF THE DRY SPECIMEN AFTER IMMERSION IN WATER FOR 72 HOURS.

B. THE PERMEABILITY OF THE SPECIMENS CONTAINING WATERPROOFING UNDER A WATER PRESSURE OF 20 POUNDS PER SQUARE INCH, SHALL BE REDUCED 100 PER CENT AS COMPARED WITH SPECIMENS WITHOUT WATERPROOFING.

C. THE COMPRESSIVE STRENGTH OF THE SPECIMENS CONTAINING WATERPROOFING SHALL BE NOT LESS THAN THAT OF SPECIMENS WITHOUT WATERPROOFING.

156. THE METHOD OF TESTING SHALL BE SAME AS THE TESTS OF THE INTEGRAL WATERPROOFING MATERIALS DESCRIBED IN BUREAU OF STANDARDS RESEARCH PAPER NO. 394 AND NO EXTENSION OF CONTRACT TIME WILL BE ALLOWED BECAUSE OF THE ONE YEAR REQUIREMENT.

157. TESTS REPORTED IN BUREAU OF STANDARDS RESEARCH PAPER NO. 394 OF INTEGRAL WATERPROOFING MATERIALS WILL BE ACCEPTED IN LIEU OF FURTHER TESTS, PROVIDED THE SAMPLE OF WATERPROOFING NOW SUBMITTED FOR TEST PASSES THE SAME ANALYSIS USED FOR CLASSIFICATION PURPOSES WHICH THE SAME BRAND OF WATERPROOFING PASSED IN TESTS REPORTED IN SAID RESEARCH PAPER NO. 394.

158-159. CONCRETE VAULTS.--SHALL BE CONSTRUCTED OF CLASS A CONCRETE IN ACCORDANCE WITH DETAIL ON DRAWING NO. G-3 AND WITH REINFORCEMENT AS SHOWN ON STRUCTURAL DRAWINGS. THE EXTERIOR WALL SURFACE SHALL RECEIVE TREATMENT THE SAME AS ADJACENT WALLS. THE INTERIOR WALL AND CEILING SURFACES SHALL HAVE NO SPECIAL FINISH.

160. LOAD TEST.--SUITABLE MATERIALS AND APPARATUS SHALL BE FURNISHED AND LOAD TESTS APPLIED TO A FIVE-FOOT STRIP PARALLEL WITH THE MAIN REINFORCING OF THE SLAB AND EXTENDING OVER TWO ADJACENT AND CONTINUOUS BAYS. THE LOCATION OF EACH TEST SHALL BE SELECTED BY THE CONSTRUCTION ENGINEER. THE TESTS SHALL BE MADE BEFORE THE FLOOR FILL AND TILE PARTITIONS ARE INSTALLED, AND THE APPLIED LOAD SHALL BE 200 POUNDS PER SQUARE FOOT OVER THE ENTIRE AREA TESTED.

161. THE TEST LOAD SHALL BE SUCH MATERIAL AND SO APPLIED THAT THE ACTUAL LOAD AND THE RESULTS MAY BE ACCURATELY MEASURED. READINGS FOR DEFLECTION SHALL BE TAKEN AT ONE-HALF LOAD, AT FULL LOAD, AT END OF 48 HOURS WITH FULL LOAD, AND AFTER THE REMOVAL OF THE LOAD.

162. A FULL REPORT OF THE RESULT OF THESE TESTS SHALL BE FORWARDED AT ONCE BY THE CONSTRUCTION ENGINEER TO THE PROCUREMENT DIVISION PUBLIC WORKS BRANCH.

163. SLABS AND FILL.--IN ALL CASES THE INDICATED THICKNESS OF THE STRUCTURAL SLABS SHALL BE MAINTAINED THRUOUT, BUT THE ELEVATION OF THE TOP OF THE SLAB IN RELATION TO THE FINISHED FLOOR LEVEL (WITH THE EXCEPTION OF STAIRS, LANDINGS AND INSPECTOR'S GALLERY) SHALL BE MINUS 4 INCHES FOR WOOD FLOOR, TILE, CEMENT AND TERRAZZO. FOR THE TRIPLE LAYER CONSTRUCTION OF THE BASEMENT SLABS SEE DRAWING No. G-400.

164. SLABS AND FILL OF GUTTERS AND ROOF SURFACES, INCLUDING CANTS AND CRICKETS, SHALL BE STRUCK OFF TO TRUE, EVEN GRADES AND COMPACTED WITH A WOOD FLOAT. SURFACES UNDER ROOFING OR WATERPROOFING SHALL HAVE FLOATED FINISH, AND SURFACES UNDER SHEET METAL SHALL BE TROWELED SMOOTH.

165. FLOOR FILL FOR CEMENT FINISHED FLOORS OVER STRUCTURAL FLOOR SLABS SHALL BE REINFORCED WITH SHRINKAGE FABRIC.

166. STRUCTURAL SLABS (EXCEPT WHERE DAMPPROOFING OR MEMBRANE WATERPROOFING OCCURS) SHALL BE SWEPT CLEAN, THOROUGHLY WET, AND THEN DUSTED WITH NEAT PORTLAND CEMENT AS THE FILL IS PLACED.

167. CONCRETE FILL FOR MARBLE, CLAY TILE OR TERRAZZO FLOORS IS INCLUDED UNDER THE SPECIFICATION FOR SAME.

168. FILL UNDER WOOD FLOORS ON SLEEPERS SHALL BE LEVELED OFF FLUSH WITH THE TOPS OF THE SLEEPERS AND TROWELED SMOOTH. ANY SPACES UNDER THE SLEEPERS SHALL BE FILLED SOLID WITH CONCRETE OR MORTAR AND THE SLEEPERS CAREFULLY LEVELED. (ALL WOOD FLOORS WILL BE LAID ON SLEEPERS).

169. PIPES, ETC.--PROVISION SHALL BE MADE FOR THE PASSAGE OF PIPES, CONDUITS, ETC., THROUGH WALLS, FLOORS, ETC., TO AVOID NEEDLESS CUTTING OF CONCRETE. PIPE SLEEVES AND THIMBLES ELSEWHERE SPECIFIED, SHALL BE BUILT IN AS DIRECTED FOR ALL PIPES PASSING THROUGH WALLS, FLOORS, ETC., ABOVE GRADE.

170. VAULT VENTILATION.--THE VAULT SHALL HAVE GALVANIZED IRON OR STEEL VENT PIPE AND FITTINGS INSTALLED AS SHOWN ON DETAIL DRAWING No. G-403.

171. FIRE STOPS.--PIPE CHASES SHALL BE STOPPED WITH CONCRETE AT EACH FLOOR AND CEILING LEVEL TO A DEPTH OF AT LEAST 4 INCHES. THIMBLES OF ZINC-COATED SHEET METAL SHALL BE PLACED AROUND THE PIPES.

172. CEMENT FINISH.--CEMENT FINISH SHALL BOND PERFECTLY WITH THE UNDERLYING CONCRETE AND SHALL BE FINISHED TO TRUE, EVEN LINES AND SURFACES AND LEFT FREE FROM DEFECTS. JOINTS SHALL BE STRAIGHT AND TRUE AND FINISHED WITH A JOINTING TOOL. FINISH IN CONNECTION WITH SAFETY THREADS, CORNER BARS, FRAMES, ETC., SHALL BE FLUSH WITH THE METAL.

173. INTERIOR CEMENT FINISH SHALL BE TROWELED SMOOTH, AND EXTERIOR CEMENT FINISH SHALL BE FLOATED.

174. AT GRADE LINES, THE FINISH SHALL EXTEND 2 INCHES BELOW GRADE. HORIZONTAL SURFACES GENERALLY SHALL BE GRADED TO DRAIN WATER, AND PROPERLY CONNECTED TO FLOOR DRAINS, OUTLETS, ETC.

175. ALL OTHER INTERIOR CEMENT FINISH AND THE FLOORS OF AREAS SHALL BE EITHER INTEGRAL OR APPLIED AS BEST SUITED TO THE CONDITIONS. THE EXPOSED SURFACES OF ALL OTHER EXTERIOR CONCRETE SHALL HAVE INTEGRAL FINISH. THE USE OF INTEGRAL FINISH SHALL NOT CHANGE THE OVER-ALL THICKNESS OR OTHER DIMENSIONS OF THE WORK AS REQUIRED BY THE DRAWINGS.

176. CEMENT FINISH OF FLOOR SLABS IN BOILER ROOM SHALL BE JOINTED 1/2 INCH DEEP IN BOTH DIRECTIONS ON THE CENTER LINES OF COLUMNS AND PIERS AND ON LINES MIDWAY BETWEEN SAME TO FORM BLOCKS OF ABOUT 20 SQ. FT. IN AREA.

177. INTEGRAL FINISH SHALL BE PRODUCED WITHOUT A SEPARATE TOPPING OR FINISH COAT. THE CONCRETE SHALL BE SO WORKED IN PLACING AS TO BRING THE FINE MATERIAL TO THE SURFACE, THEN FINISHED AS SPECIFIED THE SAME DAY THAT THE CONCRETE IS PLACED. EXCESS WATER SHALL BE TAKEN UP BY A DRY MIXTURE OF 1 PART CEMENT AND 2 PARTS SAND WORKED INTO THE FINISH.

178. APPLIED FINISH SHALL BE A SEPARATE TOPPING OR FINISH COAT COMPOSED OF ONE PART PORTLAND CEMENT AND TWO PARTS SAND, AND SHALL BE 3/4 INCH THICK UNLESS OTHERWISE SPECIFIED. CEMENT FINISH ON SPECIAL TREATMENT SHALL BE NO THICKER THAN NECESSARY TO PRODUCE TRUE, EVEN SURFACES. MORTAR SHALL BE A STIFF MIX AND FINISHED WITHOUT THE USE OF DRY CEMENT. THE FINISH SHALL BE APPLIED AND FINISHED THE SAME DAY THAT THE CONCRETE IS POURED, EXCEPT AS PROVIDED HEREIN FOR HEAVY DUTY CEMENT FLOORS, FOR LIGHT-WEIGHT CONCRETE AND FOR CERTAIN PRE-CAST ROOF SLABS.

179. FLOOR FINISH UNDER WOOD FLOORS SHALL BE TROWELED TO A SMOOTH AND LEVEL SURFACE AND ALLOWED TO DRY AND SEASON THOROUGHLY BEFORE THE FLOOR COVERING IS LAID. THE LEVEL OF CEMENT FINISH SHALL BE ADJUSTED TO BRING SURFACE COVERING TO FINISHED FLOOR LEVEL.

180. CURING.--CEMENT FINISH OF EVERY DESCRIPTION SHALL BE PROTECTED AGAINST FROST OR RAPID DRYING AND KEPT MOIST FOR AT LEAST SIX DAYS. WITHIN 24 HOURS AFTER TROWELING, ALL FLOOR TOPPING, STAIRS, RAMPS AND WALKS SHALL BE COVERED UNIFORMLY WITH ONE INCH OF CLEAN WET SAND, OR ONE INCH OF CLEAN WET SAWDUST FREE FROM TANNIC ACID, AND SHALL BE KEPT WET FOR NOT LESS THAN 10 DAYS BY SPRINKLING WITH CLEAN WATER AT INTERVALS OF NOT MORE THAN TEN HOURS.

181. A STRONG, TWO-PLY, KRAFT PAPER WITH ASPHALT MEMBRANE IN THE CENTER MAY BE USED INSTEAD OF THE SAND OR SAWDUST; THE PAPER TO BE REINFORCED WITH CROSSED

FIBERS COMPLETELY EMBEDDED IN THE ASPHALT. THIS PAPER SHALL BE LAID WITH AS FEW JOINTS AS PRACTICABLE; THE JOINTS TO BE LAPPED AT LEAST THREE INCHES AND SEALED WITH GUMMED KRAFT PAPER TAPE OR GLUED AS DIRECTED BY THE MANUFACTURER.

182. CEMENT BASE.--CEMENT BASE SHALL BE ONE PART PORTLAND CEMENT TO 2 PARTS SAND AND SHALL BE RUN IN PLACE. THE TOP EDGE SHALL FINISH AGAINST METAL GROUNDS SPECIFIED UNDER "LATH, PLASTERING, FURRING, ETC.," AND SHALL BE PARALLEL WITH THE SURFACE OF THE FLOORS, RAMPS AND STAIR INCLINES. FOR OTHER CONDITIONS SEE DRAWINGS NOS. G-202, G-203 AND G-204.

183. CEMENT COVES.--THE INTERSECTION OF CEMENT FLOORS WITH CEMENT BASE SHALL BE FORMED WITH A 1 INCH COVE, RUN STRAIGHT AND TRUE AND FINISHED SMOOTH.

184. STAIRS.--ALL STAIRS, UNLESS OTHERWISE SHOWN, SHALL BE CONCRETE WITH TREADS AND RISERS ACCURATELY SPACED. SEE STRUCTURAL DRAWINGS G-204 AND G-208 FOR ALL DETAILS. MAIN LOBBY STAIRS SHALL HAVE CONCRETE TREADS AND RISERS RECESSED TO RECEIVE LIMESTONE TREADS AND RISERS. THE NORTHWEST AND SOUTHWEST SERVICE STAIRS SHALL BE CONCRETE WITH INTEGRAL FINISH ON STRING, RISERS AND TREAD. OUTSIDE AREA STEPS SHALL BE CONCRETE WITH INTEGRAL FINISH THROUGHOUT.

185. METALLIC FLOOR HARDENER.--ALL INTERIOR CEMENT FINISHED FLOORS, EXCEPT FLOORS COVERED WITH TILE TERRAZZO AND WOOD, SHALL BE HARDENED INTEGRALLY BY DUSTING ON AND INCORPORATING IN THE FINISH A CLEAN, WATER-ABSORBENT, ALL-FERROUS METALLIC HARDENER. THE PRESENCE IN THE HARDENER OF ANY NON-FERROUS METAL OR OF DIRT, OILS, GREASE OR OTHER FOREIGN SUBSTANCE OR MATERIAL THAT OFFERS RESISTANCE TO THE FREE ABSORPTION OF WATER AND OXIDATION OF THE HARDENER WILL BE CAUSE FOR REJECTION.

186. THE METALLIC PARTICLES SHALL BE JAGGED AND ANGULAR IN SHAPE TO EXPOSE MAXIMUM BONDING SURFACE TO THE CEMENT, AND SHALL BE OF CAREFULLY GRADUATED SIZES THAT WILL MEET THE FOLLOWING STANDARD SCREEN ANALYSIS: ALL SHALL PASS A NO. 8 SIEVE, FROM 3 TO 5 PER CENT SHALL REMAIN ON A NO. 14 SIEVE, NOT MORE THAN 45 PER CENT SHALL REMAIN ON A NO. 28 SIEVE, NOT MORE THAN 20 PER CENT SHALL PASS A NO. 50 SIEVE AND NOT MORE THAN 10 PER CENT SHALL PASS A NO. 100 SIEVE.

187. EQUAL PARTS BY VOLUME OF HARDENER AND PORTLAND CEMENT SHALL BE THOROUGHLY MIXED DRY AND AT LEAST 45 POUNDS OF THIS MIXTURE SHALL BE USED PER 100 SQUARE FEET OF SURFACE AREA. THE MIXTURE OF HARDENER AND CEMENT SHALL BE SPREAD EVENLY AND INCORPORATED IN THE FRESH FLOATED CONCRETE SURFACE IMMEDIATELY AFTER THE SURPLUS SURFACE WATER HAS DISAPPEARED AND IN ACCORDANCE WITH THE PRINTED DIRECTIONS OF THE MANUFACTURER OF THE HARDENER. THE FINISHED WORK SHALL PRESENT A SMOOTH, EVEN SURFACE FREE FROM DEFECTS AND OF REASONABLY UNIFORM COLOR.

188. APPROACH WORK.--THE SUB-GRADE FOR DRIVEWAYS, WALKS, CURBS, ETC., SHALL BE ACCURATELY SHAPED TO THE REQUIRED DEPTH AND PARALLEL TO THE FINISHED GRADES. SOFT OR SPONGY PLACES IN THE SUB-GRADE SHALL BE TAMPED OR ROLLED AND REFILLED UNTIL PROPERLY COMPACTED.

189. EXPANSION JOINT FILLER SHALL BE A BITUMINOUS COMPOUND THAT WILL NOT FLOW OR CRUMBLE AT EXTREMES OF OUTSIDE TEMPERATURE. JOINT FILLER SHALL BE EITHER IN THE FORM OF PRE-MOULDED STRIPS OR BE POURED IN PLACE.

190. CONCRETE DRIVEWAYS WITH CEMENT FINISH SHALL BE 6 INCHES THICK WITH AN INTEGRAL FLOATED FINISH AND SHALL BE REINFORCED AS INDICATED, EXCEPT THAT THE REINFORCEMENT SHALL BE PLACED IN THE MIDDLE OF SLAB. DRIVEWAYS SHALL HAVE 1/2 INCH EXPANSION JOINTS THE FULL DEPTH OF THE CONCRETE AND FILLED WITH BITUMINOUS FILLER. EXPANSION JOINTS, IF NOT SHOWN ON THE DRAWINGS, SHALL BE ABOUT 12 FEET APART AND LOCATED AS DIRECTED. EXPANSION JOINTS SHALL BE PROVIDED AT BUILDING WALLS, AT RETAINING WALLS AND AT CURBS WHERE THEY CONTACT THE DRIVEWAY.

191. CONCRETE WALKS SHALL BE 4 INCHES THICK, WITH AN INTEGRAL FLOATED FINISH. WALKS SHALL BE MARKED OFF WITH SURFACE JOINTS IN ABOUT 4 FOOT SQUARES, UNLESS OTHERWISE SHOWN. WALKS SHALL HAVE 3/8 INCH EXPANSION JOINTS NOT OVER 20 FEET APART AND AT INTERSECTIONS WITH OTHER WALKS OR DRIVEWAYS, AND AT INTERSECTIONS WITH INSIDE CURB AND AT STREET CURB AND EXPANSION JOINTS SHALL EXTEND THROUGH THE CONCRETE AND BE FILLED WITH BITUMINOUS JOINT FILLER.

192. CONCRETE CURBS, ETC. SHALL HAVE AN INTEGRAL FLOATED FINISH. CURBS SHALL BE JOINTED AT POINTS ABOUT 10 FEET APART OR SHALL BE JOINTED AT THE EXPANSION JOINTS IN DRIVEWAYS AND WALKS. FOR CONSTRUCTION DETAILS SEE DRAWING NO. G-1.

193. STEEL CURB PLATES.--SEE DETAIL ON DRAWING NO. G-1, CURB PLATES ARE SPECIFIED UNDER MISCELLANEOUS AND ORNAMENTAL STEEL, IRON OR METAL WORK. ANCHORS FOR CURB PLATES AS WELL AS THE PLATES SHALL BE SET BEFORE CONCRETE SLABS ARE POURED.

194. DRIVEWAY CATCH BASINS.--SEE DETAIL DRAWING NO. G-1. THE OUTLET FITTING AND FIRST LENGTH OF PIPE SHALL BE EXTRA HEAVY CAST IRON SOIL PIPE. THE JOINT BETWEEN PIPE AND FITTING SHALL BE MADE WITH OAKUM GASKET AND PIG LEAD CAULKED SOLID. THE CONNECTION TO SEWER IS SPECIFIED UNDER "PLUMBING". THE COVER AND FRAME ARE INCLUDED UNDER "MISCELLANEOUS METAL WORK".

195. DRIVE WAY WALLS, GARDEN WALLS, ETC.--DRIVE WAY WALLS AT THE REAR OF THE BUILDING SHALL BE OF POURED CONCRETE CONSTRUCTION WITH STUCCO FINISH SAME AS BUILDING WALLS.

196. FOR OTHER GARDEN WALLS OF MASONRY CONSTRUCTION SEE UNDER "BRICK WORK, HOLLOW TILE WORK, ETC."

MORTARS

197. PORTLAND CEMENT SHALL COMPLY WITH FEDERAL SPECIFICATION No. SS-C-191, EXCEPT THAT THE 28 DAY TEST WILL BE WAIVED. WHITE CEMENT SHALL BE NON-STAINING PORTLAND CEMENT.

198. MASONRY CEMENT SHALL COMPLY WITH FEDERAL SPECIFICATION No. SS-C-181.

199. SLAG CEMENT SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS: THE METHOD OF TESTING TO BE IN ACCORDANCE WITH FEDERAL SPECIFICATION No. SS-C-191, EXCEPT THAT TESTS FOR SOUNDNESS SHALL BE IN ACCORDANCE WITH FEDERAL SPECIFICATION No. SS-C-181.

(A) FINENESS: NOT MORE THAN 12 PER CENT RESIDUE ON A STANDARD No. 200 MESH.

(B) SOUNDNESS: PATS OF NEAT CEMENT AFTER BEING STORED FOR SEVEN DAYS, ONE PAT IN LABORATORY AIR AND ONE PAT IN WATER, SHALL BE FIRM AND HARD AND SHOW NO SIGNS OF DISINTEGRATION, DISTORTION OR CRACKING UNDER BOTH CONDITIONS OF STORAGE.

(C) TIME OF SETTING BY THE GILMORE NEEDLE TEST: INITIAL SET IN NOT LESS THAN 45 MINUTES AND FINAL SET IN NOT MORE THAN 20 HOURS.

(D) COMPRESSIVE STRENGTH: AT LEAST THREE 2-INCH CUBES, 1 TO 3 STANDARD OTTAWA SAND, 24 HOURS IN MOIST AIR AND REMAINDER OF TIME IN WATER.
7 DAYS,--AVERAGE NOT LESS THAN 350 POUNDS PER SQUARE INCH.
28 DAYS,--AVERAGE SHALL BE HIGHER THAN THE STRENGTH AT SEVEN DAYS.

200. NON-STAINING CEMENT SHALL NOT CONTAIN MORE THAN .030 PER CENT BY WEIGHT OF SOLUBLE ALKALI CALCULATED AS Na_2O WHEN TESTED IN ACCORDANCE WITH METHODS ADOPTED BY THE NATIONAL BUREAU OF STANDARDS. IT SHALL ALSO MEET THE REQUIREMENTS SPECIFIED ABOVE FOR SLAG CEMENT.

201. LIME SHALL BE EITHER HYDRATED LIME COMPLYING WITH FEDERAL SPECIFICATION No. SS-L-351, OR PULVERIZED QUICK LIME COMPLYING WITH FEDERAL SPECIFICATION No. SS-Q-351, TYPE C. PULVERIZED QUICK LIME SHALL PASS A No. 20 SIEVE AND AT LEAST 90 PER CENT SHALL PASS A No. 50 SIEVE.

202. PROTECTION.--CEMENT AND LIME SHALL BE DELIVERED IN THE ORIGINAL PACKAGES AND SHALL BE KEPT DRY UNTIL USED.

203. LIME PUTTY SHALL BE A STIFF MIXTURE OF LIME AND WATER, THOROUGHLY SLAKED AND ALLOWED TO COOL. PUTTY SHALL SOAK NOT LESS THAN 24 HOURS AFTER COOLING, AND SHALL BE KEPT MOIST UNTIL USED.

204. SAND SHALL COMPLY WITH FEDERAL SPECIFICATION No. SS-A-281 FOR FINE AGGREGATE, GRADE A, EXCEPT THAT ALL SHALL PASS A No. 8 SIEVE, NOT LESS THAN 5 PER CENT SHALL BE RETAINED ON A No. 16 SIEVE AND NOT LESS THAN 97 PER CENT SHALL BE RETAINED ON A No. 100 SIEVE.

205. WATER SHALL BE FRESH, CLEAN AND FREE FROM ALKALI.

206. MIXTURES.--PROPORTIONS SPECIFIED ARE IN EQUAL PARTS BY VOLUME. ONE SACK OF PORTLAND CEMENT (94 POUNDS NET) SHALL BE CONSIDERED EQUAL

TO 1 CUBIC FOOT. ONE SACK OF SLAG CEMENT WEIGHING 80 POUNDS GROSS OR MORE SHALL BE CONSIDERED EQUAL TO 1 CUBIC FOOT. MORTAR MIXTURES SHALL BE AS FOLLOWS:

CLASS A. 1 OF PORTLAND CEMENT, 2 OF SAND AND 1/5 LIME PUTTY.
CLASS B. 1 OF PORTLAND OR SLAG CEMENT, 3 OF SAND AND 1/5 LIME PUTTY.
CLASS BM. 1 OF MASONRY CEMENT AND 3 OF SAND.
CLASS C. 1 OF PORTLAND OR SLAG CEMENT, 1 OF LIME PUTTY AND 6 OF SAND.

CLASS D MORTAR SHALL BE EITHER OF THE FOLLOWING MIXTURES AT THE OPTION OF THE CONTRACTOR: 1 OF WHITE PORTLAND CEMENT, 1 OF LIME PUTTY AND 6 OF SAND; OR 1 OF NON-STAINING CEMENT OTHER THAN WHITE PORTLAND, 1/2 OF LIME PUTTY AND 4 OF SAND.

WATERPROOFING

(MEMBRANE TYPE)

207. SCOPE.--THE EXTERIOR AND INTERIOR WALLS BELOW GRADE AND FLOOR OF THE BASEMENT AND FLOOR OF MAILING PLATFORM SHALL BE WATERPROOFED WITH A CONTINUOUS AND IMPERVIOUS MEMBRANE COATING THROUGHOUT AND EXTENDING ABOVE THE GRADE LINE. FOR CONSTRUCTION DETAILS SEE DRAWING NO. G-400 AND G-401. THE OUTER REINFORCED CONCRETE SHELL FORMING BUILDING WALLS OF NEW BUILDING SHALL BE TREATED WITH INTEGRAL WATERPROOFING. ALL EXTERIOR COLUMNS SHALL BE WATERPROOFED WITH INTEGRAL WATERPROOFING.

208. TREATMENT.--WHERE MEMBRANE WATERPROOFING IS REQUIRED, ALL SURFACES THAT ARE TO BE WATERPROOFED SHALL BE CLEAN AND DRY, REASONABLY SMOOTH AND FREE FROM DEFECTS THAT WOULD PREVENT THE PROPER APPLICATION AND ADHESION OF THE WATERPROOFING. JOINTS SHALL BE NEATLY STRUCK AND ANY HOLES, CRACKS, ETC., POINTED FLUSH WITH CEMENT MORTAR. CONCRETE SURFACES SHALL BE GIVEN A HEAVY COAT OF CREOSOTE OIL JUST BEFORE STARTING THE WATERPROOFING.

209. MEMBRANE WATERPROOFING.--FIVE-PLY MEMBRANE SHALL CONSIST OF FIVE LAYERS OF FELT AND SIX LAYERS OF PITCH. THREE-PLY MEMBRANE SHALL CONSIST OF THREE LAYERS OF FELT AND FOUR LAYERS OF PITCH. THE MEMBRANE SHALL BE FIVE-PLY UNLESS OTHERWISE SPECIFIED.

210. MATERIALS SHALL COMPLY WITH FEDERAL SPECIFICATIONS AS FOLLOWS:

CREOSOTE, SPECIFICATION NO. TT-W-561.
COAL TAR SATURATED FELT, SPECIFICATION NO. HH-F-201.
COAL TAR PITCH, TYPE II, SPECIFICATION NO. R-P-381.

211. REINFORCEMENT.--THE REINFORCEMENT AT ANGLES, CORNERS AND AROUND PIPES, ETC., SHALL BE PLAIN COTTON FABRIC WITHOUT SIZING AND WEIGHING AT LEAST 4 OUNCES PER SQUARE YARD AND EVENLY WOVEN APPROXIMATELY 22 THREADS PER INCH IN BOTH DIRECTIONS.

212. TO INSURE COMPLIANCE WITH FEDERAL SPECIFICATIONS, IT IS SUGGESTED THAT THE FELT AND PITCH FOR THIS WORK BE SHIPPED DIRECT FROM THE MANUFACTURER.

213. WORKMANSHIP.--THE PITCH SHALL BE HEATED TO FLOW FREELY (BUT NOT ABOVE 375 DEGREES F.) AND MOPPED ON IN UNIFORM COATS OF AT LEAST 30 POUNDS EACH PER 100 SQUARE FEET OF SURFACE. FELT AND FABRIC SHALL BE COMPLETELY

BEDDED IN PITCH OVER ALL UNDERLYING SURFACES AND ALL AIR POCKETS, WRINKLES, ETC., SHALL BE REMOVED. THE FELT SHALL BE LAID IN REGULAR COURSES WITH LAPPED JOINTS AND THE JOINTS IN SUCCEEDING COURSES BROKEN AT LEAST ONE-THIRD THE WIDTH OF THE FELT. THE FINAL COURSE OF FELT SHALL BE COVERED WITH A MOPPING OF PITCH.

214. THE MEMBRANE SHALL BE CONTINUOUS THROUGH WALLS, FLOORS, PIERS, COLUMNS, ETC., AND SHALL BE APPLIED IN ONE OPERATION UNLESS OTHERWISE SHOWN. FOR SPECIAL CONNECTING BETWEEN FLOOR AND WALL MEMBRANES, SEE DETAILS.

215. THE BASEMENT CONCRETE WORK AND WATERPROOFING SHALL BE PLACED IN THE FOLLOWING ORDER: (1) 5 INCH CONCRETE FLOOR SLAB, (2) 1 INCH GROUTING AND 5 PLY MEMBRANE WATERPROOFING LAID ACCORDING TO SPECIFICATION FOR SAME AND EXTENDING THROUGH UNDER CONCRETE WALL, (3) 4-1/4 INCH METAL FABRIC REINFORCED CONCRETE PROTECTION SLAB, (4) CONCRETE REINFORCED BASEMENT WALLS, (5) EXTERIOR MEMBRANE WATERPROOFING MADE CONTINUOUS WITH FLOOR WATERPROOFING (6) 5 INCH BRICK PROTECTION AGAINST BACK FILL DESCRIBED IN PARAGRAPH No. 215 FOLLOWING, THERE SHALL BE 2 EXTRA LAYERS OF COTTON FABRIC IN ALL CORNERS, (7) 4-1/4 INCH METAL FABRIC REINFORCED CONCRETE FILL, AND (8) 1-1/2 HARDENED FLOOR FINISH.

216. AT ANGLES AND CORNERS AND AROUND PIPES, ETC., THE MEMBRANE SHALL BE REINFORCED BOTH SIDES WITH STRIPS OF COTTON FABRIC EXTENDING AT LEAST 10 INCHES FROM THE ANGLE OR OPENING.

217. PIPES AND PIPE SLEEVES PASSING THROUGH WATERPROOFING SHALL HAVE WATER-TIGHT CONNECTIONS TO THE MEMBRANE. WHERE PIPES PASS THROUGH FLOORS, THE MEMBRANE SHALL BE SECURED TO THE PIPES WITH IRON CLAMPS AND BOLTS. PIPES THROUGH WALLS SHALL HAVE SLEEVES WITH DOUBLE FLANGES SO BUILT IN THAT THE MEMBRANE SHALL BE CLAMPED BETWEEN THE FLANGES. AFTER THE PIPES ARE IN PLACE THE SPACE AROUND PIPES SHALL BE CAULKED AND SEALED WATER-TIGHT.

218. WATERPROOFING THAT CONNECTS WITH OTHER WORK EXPOSED TO THE WEATHER SHALL EXTEND BACK OF SAME, OR BE SO COUNTERFLASHED AS TO FORM A WATER-TIGHT CONNECTION.

219. ANY LEAKS THAT MAY DEVELOP IN THE WATERPROOFED SPACES SHALL BE CORRECTED AND MADE WATER-TIGHT AND ALL WORK DISTURBED THEREBY SHALL BE PROPERLY RESTORED BEFORE FINAL ACCEPTANCE.

220. PROTECTION.--THE WATERPROOFING ON THE OUTSIDE OF WALLS AGAINST BACKFILL SHALL BE PROTECTED BY A COURSE NOT LESS THAN 5 INCHES THICK OF COMMON BRICK OF THE QUALITY SPECIFIED UNDER "BRICK WORK AND HOLLOW TILE", LAID IN CEMENT MORTAR.

221. INTEGRAL WATERPROOFING.--FOR INTEGRAL WATERPROOFING ON CONCRETE SEE SPECIFICATION ON CONCRETE AND CEMENT WORK, PARAGRAPH 152.

BRICK WORK, STRUCTURAL TILE WORK, ETC.

222. COMMON BRICK SHALL COMPLY WITH FEDERAL SPECIFICATION No. SS-B-656 FOR CLAY COMMON BRICK; CLASS H FOR CHIMNEYS AND SMOKE-STACK, FOR USE BELOW FIRST FLOOR LEVEL AND WHERE EXPOSED TO THE WEATHER; CLASS M AND BETTER FOR ALL OTHER COMMON BRICK WORK. ABSORPTION TESTS WILL BE WAIVED.

223. UNLESS OTHERWISE SPECIFIED OR DEFINITELY SHOWN BY THE DRAWINGS, DETAILS AND DIMENSIONS OF BRICKWORK GIVEN ON THE DRAWINGS ARE BASED ON THE USE OF STANDARD SIZE BRICK AS ESTABLISHED BY SIMPLIFIED PRACTICE, TO WIT: 2-1/4 BY 3-3/4 BY 8 INCHES.

224. COMMON BRICK THAT ARE ACCEPTABLE FOR QUALITY BUT THAT DO NOT COME WITHIN THE SPECIFIED LIMITATIONS FOR SIZE IN ONE OR MORE DIMENSIONS MAY BE USED PROVIDED THE CONTRACTOR MAKES, AND ASSUMES RESPONSIBILITY FOR, ALL NECESSARY ADJUSTMENTS IN THE WORK AFFECTED BY SUCH CHANGE TO THE SATISFACTION OF THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH.

225. CLAY OR SHALE BRICK THAT ARE REGULARLY MANUFACTURED AND SOLD AS PAVING BRICK BUT WHICH COMPLY WITH THE REQUIREMENTS OF THIS SPECIFICATION WILL BE ACCEPTABLE AS COMMON BRICK.

226. SAND-LIME BRICK SHALL COMPLY WITH FEDERAL SPECIFICATION No. SS-B-681 FOR SAND-LIME BRICK, CLASS M AND BETTER.

(A). SAND-LIME BRICK MAY BE SUBSTITUTED AT THE OPTION OF THE CONTRACTOR FOR ALL CLAY COMMON BRICK REQUIRED BY THE DRAWINGS.

227. CONCRETE BRICK SHALL COMPLY WITH FEDERAL SPECIFICATION No. SS-B-663 FOR CONCRETE BRICK, CLASS M AND BETTER.

(A). CONCRETE BRICK MAY BE SUBSTITUTED AT THE OPTION OF THE CONTRACTOR FOR ALL CLAY COMMON BRICK REQUIRED BY THE DRAWINGS FOR BACK-UP WORK IN EXTERIOR WALLS ABOVE THE FIRST FLOOR LEVEL.

228. SALT GLAZED BRICK SHALL BE HARD BURNED, STRAIGHT AND TRUE WITH FULL, CLEAN-CUT CORNERS AND EDGES AND WITH FINISHED FACES FREE FROM CHIPPING OR CRAZING. THE SURFACES THAT WILL BE EXPOSED WHEN THE BRICK ARE LAID IN PLACE SHALL HAVE THE COLORS AND FINISH PRODUCED DURING THE PROCESS OF BURNING BY INTRODUCING SALT OR OTHER COLORING AGENTS INTO THE FIRE. THE COLORS FURNISHED SHALL NOT BE OUTSIDE THE RANGE REPRESENTED BY THE APPROVED SAMPLES AND SHALL BE WELL DISTRIBUTED THROUGHOUT THE FINISHED WORK.

229. THE BRICK MAY BE EITHER SOLID OR CORED AT THE OPTION OF THE CONTRACTOR. THE NET SECTIONAL AREA OF CORED BRICK SHALL BE NOT LESS THAN 75 PER CENT OF THE GROSS SECTIONAL AREA. THE BRICK SHALL BE STANDARD BRICK SIZES AS SPECIFIED HEREIN FOR SMOOTH FACE BRICK, UNLESS OTHERWISE SPECIFIED OR INDICATED ON THE DRAWINGS. WHERE DOUBLE-BRICK UNITS ARE INDICATED, THE EXPOSED FACE DIMENSIONS SHALL BE APPROXIMATELY 5 BY 8 INCHES. WHERE CURBED, COVED OR MOLDED UNITS ARE INDICATED, THEY SHALL BE FURNISHED AND SHALL INCLUDE THE NECESSARY STOPS, MITERS AND RETURNS.

230. WHEN COLORS ARE REQUIRED FOR BASE, CAP, ETC., THAT CANNOT BE PRODUCED FROM THE NATURAL CLAY OF THE BRICK, CERAMIC SLIPS MAY BE USED BUT THE GLAZE SHALL COVER THE SLIP AND SHALL BE PRODUCED IN BURNING AS SPECIFIED ABOVE.

(A). SALT GLAZED BRICK, OF A NATURAL SHADE CREAM COLOR (TO BE SELECTED) SHALL BE USED FOR EXTERIOR FACING ON MAILING PLATFORM WHERE BRICK IS INDICATED AND FOR INTERIOR FACING IN MAILING VESTIBULE.

231. STRUCTURAL TILE FOR FIREPROOFING, PARTITIONS AND FURRING SHALL COMPLY WITH FEDERAL SPECIFICATION No. 508 (SS-T-351) CLASS S OR BETTER, UNLESS OTHERWISE SPECIFIED.

232. TILE SHALL BE OF STANDARD DIMENSIONS AND SHALL INCLUDE ANY STOCK SPECIALS REQUIRED TO PROPERLY BOND THEMSELVES AND WITH CONNECTING WORK. SURFACES THAT ARE TO BE PLASTERED SHALL BE SCORED. SCORING SHALL BE OMITTED FROM THE FACES OF TILE THAT WILL BE EXPOSED IN THE FINISHED WORK. TERRA COTTA FLASHING BLOCKS SHALL BE SOLID CLAY BLOCK VITRIFIED AND FORMED WITH REGLET AS INDICATED.

233. MORTAR.--MATERIALS AND PROPORTIONS SHALL BE AS SPECIFIED UNDER "CEMENTS, AGGREGATES AND MIXTURES."

234. COMMON BRICK BELOW THE FIRST FLOOR LEVEL AND FOR THE BACKS OF PARAPET WALLS SHALL BE LAID IN CLASS B MORTAR. ALL OTHER COMMON BRICK SHALL BE LAID IN CLASS C OR CLASS BM MORTAR.

235. MORTAR FOR SETTING STRUCTURAL TILE AND CONCRETE MASONRY UNITS SHALL BE CLASS C OR CLASS BM. MORTAR COMPOSED OF ONE PART NEAT GYPSUM PLASTER AND THREE PARTS SAND MAY BE USED, AT THE OPTION OF THE CONTRACTOR, FOR SETTING STRUCTURAL TILE OF PARTITIONS, FURRING AND FIRE-PROOFING.

236. SALT GLAZED BRICK SHALL BE LAID IN CLASS B, CLASS C OR CLASS BM MORTAR, AT THE OPTION OF THE CONTRACTOR. WHERE WHITE OR LIGHT COLORED MORTAR JOINTS ARE INDICATED, THE CLASS OF MORTAR USED SHALL GIVE AN ACCEPTABLE COLOR, AND CLASS D MORTAR SHALL BE USED IF NECESSARY.

237. WHERE CLASS D MORTAR IS USED FOR THE EXTERIOR STONE OR BRICK FACING, THE SAME MORTAR MAY BE USED THROUGHOUT THE [illegible] OF THE WALL CONTRACTOR SO DESIRES.

238. MATERIALS FOR MORTAR SHALL BE ACCURATELY MEASURED AND THOROUGHLY MIXED UNTIL EVENLY DISTRIBUTED THROUGHOUT THE BATCH. MORTAR SHALL NOT BE RETEMPERED FOR USE.

239. DIMENSIONS.--FIGURED THICKNESSES OF WALLS, SPACING OF BRICK COURSES, ETC., ARE BASED ON STANDARD SIZE UNITS WITH JOINTS FROM 3/8 TO 1/2 INCH WIDE, EXCEPT AS OTHERWISE REQUIRED FOR PATTERN WORK OR SPECIAL DETAILS. IF UNITS OF OTHER THAN STANDARD SIZES ARE USED, THERE SHALL BE NO CHANGE IN STORY HEIGHTS, IN OUTSIDE DIMENSIONS OF OUTER WALLS NOR IN THE LOCATION OF CENTER LINES OF INTERIOR WALLS OR PARTITIONS, AND ALL CONNECTING WORK SHALL BE PROPERLY ADJUSTED TO ANY OTHER VARIATIONS DUE TO THE USE OF SUCH UNITS.

240. PORTECTION.--MASONRY SHALL NOT BE LAID IN FREEZING WEATHER UNLESS SUITABLE MEANS ARE USED TO HEAT THE MATERIALS OR TO PROTECT THE WORK FROM COLD, OR BOTH IF NECESSARY, THAT THE MORTAR SHALL PROPERLY HARDEN WITHOUT FREEZING AND THAT NO DAMAGE FROM FROST SHALL OCCUR. NO ANTI-FREEZING INGREDIENT SHALL BE MIXED WITH THE MORTAR.

241. SALT GLAZED BRICK SHALL BE LAID IN REGULAR BOND WITH JOINTS NOT MORE THAN 1/4 INCH WIDE.

242. WHERE EXTERIOR BRICK SILLS ARE INDICATED, THE BRICK SHALL BE LAID ON EDGE WITH WASH AND DRIP AND ALL JOINTS SHALL BE FILLED SOLID WITH MORTAR. JOINTS IN THE WASH OF SILLS SHALL BE FINISHED SMOOTH.

243. LAYING COMMON BRICK.--UNLESS OTHERWISE DIRECTED, BRICK SHALL BE DRENCHED WITH WATER, ALLOWED TO DRAIN AND SHALL BE DAMP WHEN LAID. EACH BRICK SHALL BE SHOVED INTO A FULL MORTAR BED AND ALL

JOINTS SHALL BE FILLED, LEAVING NO VOIDS. WHERE BRICK ARE LAID AGAINST CONCRETE, METAL WORK OR WATERPROOFING, THE JOINTS NEXT TO SAME SHALL BE SLUSHED OR GROUTED FULL AS EACH COURSE IS LAID.

244. EVERY SIXTH COURSE IN THE HEIGHT OF COMMON BRICK WORK SHALL BE A FULL-BRICK OR OVERLAPPING HEADER COURSE EXTENDING THROUGH THE WALL OR TO THE FACING. JOINTS THAT WILL BE CONCEALED IN THE FINISHED WORK SHALL BE CUT OFF FLUSH.

245. OPENINGS WHICH ARE TO BE MADE IN EXISTING MASONRY WORK SHALL BE MADE WITH THE JAMBS FULL AND TRUE AND OF FULL BRICK BONDED INTO THE OLD WORK.

(A) OPENINGS IN EXISTING WORK WHICH ARE TO BE CLOSED SHALL HAVE THE FILLER BRICK BONDED INTO THE OLD WORK AT THE PANELS AND WEDGED TIGHTLY AT THE HEAD.

246. BRICK WORK SHALL BE PLUMB, TRUE TO LINE AND WITH COURSES LEVEL. ALL METAL WORK REQUIRED SHALL BE BUILT IN AS THE WORK PROGRESSES. BRICK MASONRY SHALL BE BONDED OR ANCHORED TO ABUTTING CONCRETE OR STONE WORK.

247. SUITABLE RECESSES SHALL BE PROVIDED FOR BUILT IN RADIATORS, CABINETS, JUNCTION BOXES, ETC. EXACT SIZE AND LOCATION OF RECESSES NOT INDICATED SHALL BE AS REQUIRED BY THE MECHANICAL EQUIPMENT.

248. REGLETS FOR COUNTERFLASHINGS SHALL BE FORMED BY RAKING OUT THE FACE JOINT ITS FULL WIDTH TO A DEPTH OF 1-1/2 INCHES, OR BY BUILDING IN A 1-1/2 INCH STRIP WHICH SHALL BE REMOVED AFTER THE MORTAR HAS SET.

249. CHASES FOR PIPES, CONDUITS, ETC., SHALL BE PLUMB AND SMOOTH ON THE INSIDE, WITH OFFSETS FORMED WHERE REQUIRED. CHASES SHALL BE KEPT FREE OF OBSTRUCTIONS AND SHALL BE CLEANED OUT ON COMPLETION. THERE SHALL BE AT LEAST 8 INCHES OF MASONRY BETWEEN CHASES AND THE JAMBS OF OPENINGS.

250. SETTING TILE.--STRUCTURAL TILE SHALL BE SET PLUMB AND TRUE TO LINE IN REGULAR BOND AND PROPERLY JOINED TO OTHER CONNECTING WORK. TILE SHALL BE SET IN FULL BEDS OF MORTAR AND ALL JOINTS FILLED. FACE JOINTS OF INTERIOR WORK THAT WILL NOT BE COVERED BY OTHER FINISH SHALL BE NEATLY STRUCK.

251. PARTITIONS, FURRING, FIREPROOFING, ETC., SHALL START ON THE STRUCTURAL SLABS OR FOOTINGS. THEY SHALL BE BONDED EACH COURSE AT CORNERS AND INTERSECTIONS, AND VERTICAL JOINTS SHALL BE BROKEN AT LEAST 3 INCHES. TILE WORK TERMINATING AGAINST BEAM SOFFITS, FLOOR SLABS AND STRUCTURAL CEILINGS SHALL BE WEDGED TIGHT AND THE JOINT FILLED WITH MORTAR. PARTITIONS AND FURRING SHALL EXTEND AT LEAST 2 INCHES ABOVE THE CEILING LEVEL OF SUSPENDED CEILINGS. IT IS NOT THE INTENTION THAT TILE WORK SHALL EXTEND ABOVE THE LATH THAT CONTACTS THE BOTTOM OF CONCRETE JOIST CONSTRUCTION.

252. PARTITIONS THAT ABUT UNFURRED WALLS SHALL BE BONDED OR ANCHORED THERETO ONCE EVERY FOUR FEET IN HEIGHT. DOUBLE PARTITIONS OF TILE LESS THAN 4 INCHES THICK SHALL HAVE A THROUGH BLOCK EVERY 10 SQUARE FEET OF AREA. PARTITIONS OR FURRING INCLOSING PIPE SPACES SHALL BE BUILT AFTER THE PIPES ARE IN PLACE AND TESTED TO THE SATISFACTION OF THE CONSTRUCTION ENGINEER.

253. SUITABLE RECESSES SHALL BE PROVIDED FOR BUILT IN RADIATORS, CABINETS, JUNCTION BOXES, ETC. THE EXACT SIZE AND LOCATION OF RECESSES SHALL BE AS REQUIRED BY THE MECHANICAL EQUIPMENT. METAL WORK REQUIRED SHALL BE BUILT IN AS THE WORK PROGRESSES.

254. FREE STANDING FURRING MORE THAN TWO INCHES FROM THE BACKING (WALLS) AND 4 INCHES OR LESS IN THICKNESS SHALL BE BLOCKED FULL HEIGHT WITH TILE APPROXIMATELY 3 FEET 6 INCHES ON CENTER (OF BLOCKING.) THE BLOCKING SHALL BE BONDED TO THE FURRING AND SHALL ABUT THE BACKING WALL AND BE ANCHORED THERETO WITH AN ANCHOR IN EACH COURSE. THE BLOCKING SHALL NOT INTERFERE WITH THE INSTALLATION OF CONCEALED RADIATORS.

255. TILE FURRING AGAINST MASONRY SHALL BE ANCHORED THERETO WITH TIES OF WIRE NETTING OR U SHAPED WIRE SPACED ABOUT 2 FEET APART IN HORIZONTAL JOINTS OF THE TILE. NO TIES OR ANCHORS SHALL BE USED THROUGH METALLIC OR PLASTIC WATERPROOFING.

256. THE GARDEN WALLS AND WALLS AT NORTHEAST CORNER OF OLD BUILDING SHALL BE CONSTRUCTED OF IRREGULAR COQUINA ROCK LAID IN MORTAR, DEEP SCRAPED, SO AS TO GIVE THE APPEARANCE OF A DRY LAID WALL. THE WALL COPINGS SHALL BE OF THE SAME MATERIAL AS THE WALLS. THE MOULDINGS AND CAP AT TOP OF ALL POSTS SHALL BE OF ARCHITECTURAL CAST STONE. SEE DRAWINGS NOS. G-1, G-100, G-101 AND G-201, FOR DETAILS OF CONSTRUCTION.

257. SMOKE FLUES THAT ARE 18 INCHES AND LESS IN ANY INSIDE CROSS DIMENSION SHALL HAVE TILE FLUE LINING. LARGER FLUES SHALL BE LINED WITH EITHER TILE OR FIRE BRICK. TILE LINING SHALL EXTEND FROM 1 FOOT BELOW THE INLET TO 2 INCHES ABOVE THE TOP OF THE FLUE. FIRE BRICK LINING SHALL START AT LEAST 1 FOOT BELOW THE INLET AND EXTEND TO A LEVEL 15 FEET ABOVE SAME; THE LINING ABOVE THE FIRE BRICK TO BE CLASS H COMMON BRICK. BRICK LINING SHALL BE INCLUDED IN THE THICKNESS OF THE WALL AS SHOWN.

258. TILE FLUE LINING SHALL BE SOUND, HARD-BURNED, UNWARPED AND FREE FROM CRACKS AND SPALLS. LINING SHALL HAVE INLET OPENINGS OF THE PROPER SIZE FORMED BEOFE BURNING, OR THE INLET SECTION SHALL BE OF FIRE BRICK. INLETS SHALL BE FITTED WITH TERRA-COTTA THIMBLES UNLESS OTHERWISE SPECIFIED. LINING SHALL BE SET STRAIGHT AND PLUMB AND WITH CLOSE, SMOOTH JOINTS IN CLASS B MORTAR.

(A) CHIMNEY POTS WHERE SHOWN SHALL BE OF NATURAL CLAY TILE VITRIFIED ON ALL SURFACES AND OF STOCK DESIGN.

259. FIRE BRICK SHALL COMPLY WITH FEDERAL SPECIFICATION NO. HH-B-671, CLASS M-73. FIRE CLAY FOR MORTAR SHALL CONFORM TO FEDERAL SPECIFICATION NO. HH-C-471, CLASS C. FIRE BRICK SHALL BE LAID BY DIPPING EACH BRICK IN A SOFT MIXTURE OF FIRE CLAY AND WATER AND THEN RUBBING THE BRICK INTO PLACE. BRICK SHALL BE LAID FLAT IN REGULAR BOND AND THE FACE JOINTS WIPED CLEAN.

260. SIDE FLUES.--THE TWO SIDE FLUES OF THE MAIN STACK IN WEST WALL OF THE BUILDING AT THE SOUTHWEST CORNER SHALL BE LINED WITH TERRA COTTA TILE.

261. THE FIRE BRICK LINING FOR THE FIRST AND SECOND FLOOR FIREPLACED OPENING INTO OLD CHIMNEY NEAR NORTHEAST CORNER OF THE OLD BUILDING SHALL BE BUILT UP TO PROPER HEIGHT ACCORDING TO SPECIFICATIONS AND DETAIL DRAWINGS.

(A) THESE FIRE PLACES SHALL BE CUT INTO EXISTING FLUES OF OLD CHIMNEY BY MEANS OF FLUE LINING TILE AT POINTS DETERMINED BY THE CONTRACTOR.

262. PAVING BRICK FOR PAVING AT BOILER SHALL BE EITHER VITRIFIED COMMON BRICK SELECTED FOR UNIFORMITY OF SHAPE AND SIZE, OR PLAIN WIRE CUT PAVING BRICK, 2-1/2 BY 4 BY 8-1/2 INCHES IN SIZE, COMPLYING WITH FEDERAL SPECIFICATION SS-B-671. THE BRICK SHALL BE LAID ON EDGE IN A DRY MIXTURE OF 1 PART PORTLAND CEMENT AND FOUR PARTS SAND SPREAD 1/2 INCH THICK, THEN TAMPED TO A UNIFORM BEARING AND LEVEL SURFACE AND GROUTED WITH 1 TO 2 CEMENT AND SAND UNTIL ALL THE JOINTS ARE FILLED. THE SURFACE SHALL BE WIPED CLEAN AND THE JOINTS FINISHED SMOOTH.

263. ANCHORS, TIES, ETC.--TIES FOR BRICK AND TILE WORK SHALL BE OF WIRE OR SHEET METAL SO LOOPED OR CORRUGATED AS TO FORM A SECURE BOND AND SHALL BE ZINC-COATED. WIRE SHALL BE AT LEAST No. 11 GAUGE (.12 INCH) AND SHEET METAL SHALL BE AT LEAST 7/8 INCH WIRE AND NOT LIGHTER THAN 22 U.S. STANDARD GAUGE. TIES OF WIRE NETTING SHALL BE STRIPS AT LEAST 5 INCHES LONG OF 1/2 INCH MESH No. 16 GAUGE WIRE FABRIC. TIES SHALL EXTEND AT LEAST 4 INCHES INTO MASONRY BACKING AND TO WITHIN 1/2 INCH OF THE FACE OF THE FACING OR FURRING. ANCHORAGE TO CONCRETE BACKING IS SPECIFIED UNDER "CONCRETE AND CEMENT WORK."

(A) SEE REFERENCE TO ANCHORS, TIES, ETC., IN PARAGRAPHS 117 TO 120 INCLUSIVE AND 148, OF CONCRETE AND CEMENT WORK.

(B) ANCHORS SHALL BE OF BAR IRON OR STEEL NOT LIGHTER THAN 1/4 BY 1-1/4 INCHES WITH ENDS TURNED 2 INCHES. ANCHORS SHALL BE OF PROPER LENGTH FOR THEIR LOCATION AND, WHERE PRACTICABLE, SHALL EXTEND 8 INCHES INTO BRICK WORK AND CONCRETE AND 12 INCHES INTO HOLLOW TILE. ANCHORS SHALL BE COATED WITH ASPHALTUM OR RED LEAD OR SHALL BE ZINC-COATED.

264. GROUTING AND CAULKING.--SILLS OF WOOD WINDOWS SHALL BE BEDDED IN CLASS B MORTAR. SILLS OF METAL WINDOWS SHALL BE GROUTED SOLID AND THE BACKS OF JAMBS AND HEADS SHALL BE FILLED WITH CLASS B MORTAR FLUSH WITH THE INSIDE EDGE.

265. OUTSIDE JOINTS AT THE PERIMETER OF EXTERIOR DOOR AND WINDOW FRAMES (BOTH WOOD AND METAL) SHALL BE CLEANED OUT TO A UNIFORM DEPTH OF AT LEAST 2/3 INCH AND FILLED SOLID WITH ELASTIC POINTING COMPOUND FORCED INTO PLACE WITH A GUN UNDER PRESSURE. CAULKING SHALL INCLUDE THE JOINTS AT THE ENDS OF SPANDRELS, CORNICES AND SIMILAR FEATURES OF DOOR OR WINDOW TREATMENT.

266. POINTING COMPOUND SHALL BE LIGHT IN COLOR, ELASTIC AND WATERPROOF. IT SHALL NOT STAIN LIMESTONE, MARBLE OR TERRA COTTA NOR CORRODE COPPER. IT SHALL NOT BE AFFECTED BY LONG EXPOSURE TO EXTREMES OF OUTSIDE TEMPERATURES. IT SHALL GRADUALLY FORM A THIN, TOUGH "SKIN" ON EXPOSED SURFACES, BUT UNDERNEATH THE SURFACE IT SHALL REMAIN PLASTIC INDEFINITELY. IT SHALL BE MIXED TO THE PROPER CONSISTENCY AT THE FACTORY AND SHALL BE USED AS DELIVERED.

267. CLEANING.--ON COMPLETION OF THE WORK ALL BRICK EXPOSED WHEN FINISHED SHALL BE CLEANED DOWN, REMOVING EXCESS MORTAR, MORTAR STAINS, ETC. IF ACID IS USED, IT SHALL NOT BE STRONGER THAN A 10 PER CENT SOLUTION OF MURIATIC ACID, AND ALL WORK CONNECTING WITH THE BRICK SHALL BE CAREFULLY AND ADEQUATELY PROTECTED AGAINST CONTACT WITH THE ACID SOLUTION.

268. BRICK FILL FOR OLD WALLS.--ALL BRICK FILL IN OLD WALL AROUND DOORS, WINDOWS, RECESSES, ETC., SHALL BE OF COMMON BRICK. SEE DRAWINGS NOS. G-1, G-2, G-3, G-4, G-100, G-101, G-102, G-200 AND G-201 FOR DETAIL OF CONSTRUCTION.

269. PROTECTION WALL.--THE PROTECTION WALL FOR THE MEMBRANE WATERPROOFING ON EXTERIOR BASEMENT WALL SHALL BE COMMON BRICK LAID ACCORDING TO DETAILS ON BASEMENT DRAWINGS.

STONE WORK

270. GENERAL.--THE WORK "STONE" AS USED HEREIN SHALL APPLY TO ALL EXTERIOR GRANITE, STONE, AND CAST STONE AND CERTAIN INTERIOR STONE AS MAY BE NOTED ON THE DRAWINGS OR NAMED IN THIS SPECIFICATION.

271. STONE SHALL BE SO DELIVERED, PILED AND HANDLED AT ALL TIMES AS TO PROTECT IT FROM DAMAGE. THE PATCHING OR HIDING OF DEFECTS SHALL NOT BE PERMITTED. ANY STONE CHIPPED OR STAINED ON THE FACE SHALL BE REDRESSED OR CLEANED TO REMOVE ALL TRACES OF SUCH DEFECTS BEFORE IT IS SET IN PLACE, OR NEW STONE SHALL BE FURNISHED. NO STONE SHALL BE REDRESSED TO LESS THAN THE MINIMUM THICKNESS ALLOWED UNDER THE CONTRACT.

272. KINDS OF STONE.--THE NAMING OF MARBLES, GRANITES OR OTHER STONES ON THE DRAWINGS OR IN THE SPECIFICATIONS FOR THE PURPOSE OF INDICATING THE TYPE THAT IS REQUIRED, BUT IS NOT INTENDED TO EXCLUDE ANY MARBLES, GRANITE OR OTHER STONES, WHICH, IN THE OPINION OF THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, ARE SO NEARLY LIKE THOSE SCHEDULED ON THE DRAWINGS OR NAMED IN THE SPECIFICATION THAT THEY WILL GIVE PRACTICALLY THE SAME EFFECT.

273. GRANITE.--EXTERIOR STEPS AND LANDINGS FOR DOOR OPENINGS NOS. 1/1 AND 1/20 INTO MAIN LOBBY SHALL BE GRANITE, LIGHT PINK IN SHADE.

274. STONE.--EXTERIOR CUT STONE TRIM AT ENTRANCE AND STONE FOR WALLS OF VESTIBULE AT DOOR OPENING NO. 1/20 SHALL BE LIMESTONE, WHITE OR NEARLY WHITE IN COLOR, GRANULAR IN TEXTURE AND OF DISTINCTIVE SHELL AND/OR FOSSIL FORMATION AND SHALL HAVE THE CHARACTERISTICS OF THE FLORIDA QUARRY KEY LIMESTONE.

275. CORNER STONE.--THE CORNER STONE SHALL BE LIMESTONE, LIGHT BUFF IN COLOR, OF FINE UNIFORM TEXTURE, SELECTED FREE FROM PITS, HOLES OR SIMILAR IMPERFECTIONS AND OF A HARDNESS SUITABLE FOR CARVING. FOR SIZE, LETTERING AND LOCATION SEE DRAWING NO. G-200.

276. RANDOM ASHLAR STONE FOR GARDEN WALLS SHALL BE COQUINA OF THE TYPE FOUND ON ANASTASIA ISLAND, FLORIDA. COQUINA ROCK IS AN UNCONSOLIDATED CONGLOMERATE OF SMALL BROKEN SHELLS AND SILICA BINDING. SEE UNDER "BRICKWORK, HOLLOW TILE WORK, ETC."

277. INTERIOR LOBBY STAIRS SHALL BE LIMESTONE, LIGHT BUFF IN COLOR AND OF FINE UNIFORM TEXTURE AND SHALL BE SELECTED FREE FROM PITS, HOLES OR SIMILAR SURFACE IMPERFECTIONS. FOR STAIR PURPOSES IT SHALL BE ESPECIALLY HARD.

278. CAST STONE.--MATERIALS INDICATED ON THE DRAWINGS AS CAST STONE SHALL COMPLY WITH FEDERAL SPECIFICATION NO. SS-S-721 AND MAY BE EITHER TYPE I OR TYPE II.

(A) ALL CAST STONE SHALL SIMULATE THE COLOR AND GENERAL CHARACTER OF THE STUCCO SPECIFIED, UNLESS OTHERWISE NOTED ON THE DRAWINGS. THE USE OF COLOR PIGMENTS SHALL BE AVOIDED WHERE PRACTICABLE. PIGMENTS (WHEN USED) SHALL BE PURE MINERAL OXIDES AND SHALL NOT EXCEED 2 PER CENT BY WEIGHT OF THE PORTLAND CEMENT USED IN THE TINTED PORTION OF THE CAST STONE. THE USE OF SURFACE WATERPROOFING COMPOUNDS IS PROHIBITED.

279. QUALITY.--STONE SHALL BE SOUND AND DURABLE, FREE FROM QUARRY SAP, SEAMS AND MINERAL STAINS AND SHALL BE OF A QUALITY, COLOR AND TEXTURE WITHIN THE RANGE OF VARIATIONS SPECIFIED AND REPRESENTED BY THE APPROVED SAMPLES. NATURAL VARIATIONS IN COLOR AND MARKINGS CHARACTERISTIC OF THE MATERIAL THAT DO NOT, IN THE OPINION OF THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, IMPAIR ITS STRENGTH OR DURABILITY NOR MAR ITS APPEARANCE WILL BE ADMITTED. STOCK THAT IS TO BE CARVED SHALL BE SELECTED FOR FINE GRAIN.

280. DRAWINGS.--CUTTING AND SETTING DRAWINGS IN QUADRUPLICATE SHALL BE SUBMITTED TO THE ARCHITECT, AND NO STONE SHALL BE CUT UNTIL SUCH DRAWINGS ARE APPROVED. DRAWINGS SHALL SHOW THE JOINTING AND BONDING, CONNECTION WITH OTHER WORK, TYPICAL AND SPECIAL ANCHORING AND THE SECTIONS, DIMENSIONS AND SETTING NUMBER OF EACH STONE.

281. CUTTING.--FINISHED SURFACES SHALL BE TRUE, AND FACES OF STONE IN THE SAME PLANE SHALL BE FLUSH AT THE JOINTS. MOLDINGS AND ARRISES SHALL BE SHARP, TRUE AND CONTINUOUS AT THE JOINTS. BEDS AND JOINTS SHALL BE AT RIGHT ANGLES TO THE FACE OF THE STONE.

282. BEDS AND JOINTS OF GRANITE SHALL BE CUT FULL AND SQUARE FOR A DISTANCE OF TWO INCHES BACK FROM THE FACE, FROM WHICH POINT THEY MAY FALL OFF NOT TO EXCEED 1 INCH IN 12 INCHES AND SHALL BE REASONABLY FREE FROM LARGE CUPPINGS OR DEPRESSIONS. BEDS AND JOINTS OF OTHER STONE SHALL BE FULL AND TRUE OVER THEIR ENTIRE AREA. BACKS SHALL NOT VARY MORE THAN 1 INCH FROM VERTICAL.

283. STRATIFIED STONE WHICH EXPERIENCE HAS SHOWN TO WEATHER BETTER WHEN SO PLACED, SHALL BE SET ON ITS NATURAL BED WITH STRATA HORIZONTAL.

284. STONES RESTING ON STRUCTURAL WORK SHALL HAVE BEDS SHAPED TO FIT THE SUPPORT. STONE COMING IN CONTACT WITH STRUCTURAL STEEL OR FIREPROOFING SHALL BE BACKCHECKED AS REQUIRED, BUT SUCH CHECKING SHALL NOT IMPAIR THE STRENGTH OR BEARING CAPACITY OF THE STONE.

285. THE FOLLOWING REQUIREMENTS SHALL GOVERN UNLESS OTHERWISE SHOWN:

(A) JOINTS SHALL BE PLUMB AND LEVEL AND SHALL BE UNIFORMLY 1/4 INCH WIDE. NO STONE SHALL HAVE LESS THAN 4 INCH BED.

(B) STONE WORK AT GRADE SHALL EXTEND AT LEAST 4 INCHES BELOW GRADE. REVEALS OF OPENINGS SHALL BE WITHOUT VERTICAL JOINTS. RETURNS SHALL BE CUT SOLID WITHOUT A JOINT AT THE CORNER AND SHALL BE BONDED INTO THE WALL IN ALTERNATE COURSES.

(C) STONE THAT IS TO BE BACKED WITH OTHER MATERIAL SHALL BE KEPT AT LEAST 4 INCHES FROM THE BACK OF WALL.

286. EXTERIOR SILLS, STEPS, PLATFORMS, COPINGS, PROJECTING COURSES AND STONES WITH EXPOSED TOP SURFACES SHALL BE CUT WITH A WASH. WHERE OTHER WORK IS BUILT UPON THE WASH OF SUCH STONES, RAISED

SEATS OR LUGS SHALL BE CUT TO FORM LEVEL BEDS FOR SUCH WORK. WINDOW SILLS SHALL HAVE RAISED FILLETS AT THE BACK. STONES THAT PROJECT BEYOND THE FACE OF THE WORK BELOW SHALL HAVE DRIPS UNDER THE OUTER EDGE.

287. MOULDINGS OR PROJECTIONS SUBJECT TO PRESSURE SHALL HAVE SEATS CUT ON THE UPPER SURFACE TO RECEIVE THE WEIGHT OF THE WORK ABOVE; THE OUTER EDGE OF THE SEAT TO BE KEPT BACK A SUFFICIENT DISTANCE TO PROTECT THE OUTER EDGE OF THE STONE.

288. HOLES AND SINKAGES SHALL BE CUT FOR ALL ANCHORS, CRAMPS, DOWELS, ETC., REQUIRED. LEWIS HOLES SHALL BE CUT IN ALL STONES WEIGHING MORE THAN 100 LBS., EXCEPT THAT LEWIS HOLES SHALL NOT BE CUT IN EXPOSED TOP SURFACES, NOR NEARER THAN 2 INCHES TO AN EXPOSED FACE. REGLETS SHALL BE CUT WHERE REQUIRED AND IN ACCORDANCE WITH DETAIL ON DRAWING NO. G-5.

289. CARVING SHALL BE DONE IN A CORRECT AND ARTISTIC MANNER AND SHALL REPORDUCE THE SPIRIT AND INTENT OF THE MODELS OR DETAILS FURNISHED. LETTERS, NUMERALS, ETC., SHALL BE CLEAN CUT TO PERFECT OUTLINES AND WITH SMOOTH, INCISED SURFACES. FOR INSCRIPTION ON CORNER STONE, SEE DETAIL ON DRAWING NO. G-200.

290. COPINGS OF PARAPETS SHALL HAVE CRAMPS IN VERTICAL JOINTS. SINKAGE FOR CRAMPS ARE SHOWN BY DETAIL ON DRAWING NO. G-5.

291. FINISH.--CARVED WORK SHALL BE LEFT AS IT COMES FROM THE TOOL. THE FINISH ON OTHER EXPOSED SURFACES SHALL BE AS FOLLOWS:

GRANITE:-SIX-CUT OR EQUIVALENT SAWED WORK FOR ALL OTHER GRANITE WORK. SAWED WORK SHALL BE CLEANED WITH SAND BLAST AT THE MILL.
LIME ROCK (FLORIDA STONE)--SAND RUBBED (WET PROCESS) FOR ALL WASH SURFACES.
ALL OTHER SURFACES SHALL BE SMOOTH, MACHINE-DRESSED, FREE FROM TOOL MARKS OR OTHER IMPERFECTIONS.
LIMESTONE SHALL BE FINISHED SMOOTH ON ALL EXPOSED SURFACES EQUAL TO A SAND RUBBED FINISH.

292. ANCHORS, DOWELS, ETC.--DOWELS SHALL BE 3 INCHES LONG, AND CUT FROM 1/2 INCH RED BRASS PIPE OF IRON PIPE SIZES. ANCHORS, BOLTS, CRAMPS, ETC., SHALL BE STEEL OR WROUGHT IRON AND ZINC COATED OR DIPPED IN ASPHALTUM OR RED LEAD PAINT AFTER FABRICATION. CRAMPS SHALL BE 1/2 BY 3/4 INCH BY 10 INCHES LONG AFTER BENDING WITH ENDS TURNED 1 INCH INTO THE STONE. ANCHORS SHALL BE 1/4 BY 1-1/4 INCHES WITH WALL ENDS TURNED 2 INCHES AND OUTER ENDS SENT 1 INCH INTO THE STONE. ANCHORS SHALL EXTEND 8 INCHES INTO THE BACKING WHERE PRACTICABLE. SEE DETAIL DRAWINGS NOS. G-200 AND G-208.

293. EXPANSION BOLTS SHALL BE AT LEAST 1/2 INCH IN DIAMETER WITH EXPANSION SLEEVES. FOR SPECIAL ANCHORS OF PROJECTING STONES, SEE DETAIL DRAWINGS NOS. G-200 AND G-208.

294. ANCHORS FOR STONE FACING ON CONCRETE ARE SPECIFIED UNDER PARAGRAPH 113, 115 AND 144 OF "CONCRETE AND CEMENT WORK." SPECIFICATION.

295. MORTAR.--SETTING MORTAR FOR LIMESTONE SHALL BE CLASS D. SETTING MORTAR FOR CAST STONE SHALL BE CLASS C. SETTING AND POINTING MORTAR FOR GRANITE SHALL BE CLASS A, CONTAINING NOT MORE THAN 1/5 PART LIME PUTTY.

296. POINTING MORTAR FOR LIMESTONE, SHALL BE COMPOSED EITHER OF ONE VOLUME OF NON-STAINING PORTLAND CEMENT AND TWO OF SAND WITH SUFFICIENT COLD LIME PUTTY TO MAKE A STIFF MIX, OR OF ONE VOLUME OF NON-STAINING CEMENT (OTHER THAN PORTLAND) AND TWO OF SAND.

297. SETTING.--ALL STONE SHALL BE CLEANED, THEN SPONGED OR DRENCHED WITH CLEAN WATER JUST BEFORE SETTING. EACH STONE SHALL BE SET LEVEL AND TRUE TO LINE IN A FULL BED OF PLASTIC MORTAR AND TAPPED HOME TO A FULL, EVEN BEARING. VERTICAL JOINTS SHALL BE FILLED WITH MORTAR. JOINTS SHALL BE UNIFORM AND RAKED OUT 1/2 INCH DEEP ON THE FACE FOR POINTING. FACES OF STONE SHALL BE KEPT FREE OF MORTAR.

298. STONE FACING SHALL NOT BE BUILT UP MORE THAN TWO COURSES ABOVE THE BACKING, AND NO STONE HAVING A GREATER DEPTH OF BED THAN THE ONE BELOW IT SHALL BE SET UNTIL THE LOWER COURSE IS BACKED UP.

299. THE BACKS OF LIMESTONE AND MARBLE SHALL BE PLASTERED WHILE DAMP WITH AT LEAST 1/2 INCH OF SETTING MORTAR WHICH SHALL BE ALLOWED TO HARDEN BEFORE THE STONE IS BACKED UP. STONE FACING, WHEN APPLIED TO PREVIOUSLY ERECTED STRUCTURAL WORK, SHALL HAVE BOTH THE BACKS OF STONE AND FACE OF STRUCTURAL WORK PLASTERED WITH SETTING MORTAR TO ASSURE A FULL JOINT. BACK PLASTERING IS NOT REQUIRED FOR CAST STONE.

300. EVERY STONE WITH LESS THAN 8-INCH BED THAT DOES NOT HAVE AT LEAST ONE BED BONDED BY CONTACT WITH A BOND STONE OR COURSE THAT EXTENDS BACK INTO THE WALL SHALL HAVE ONE ANCHOR FOR EACH 2 FEET OR FRACTION THEREOF IN LENGTH. LARGE OR ISOLATED PANELS SHALL HAVE SIMILAR ANCHORAGE. SPECIAL ANCHORS SHALL BE PROVIDED FOR PROJECTING STONE. SEE DETAILS ON CONTRACT DRAWINGS.

301. STONES WITH CONSIDERABLE PROJECTION OR OVERHANG SHALL BE SECURELY BRACED UNTIL THE MORTAR HAS SET AND THE CONSTRUCTION ABOVE IS IN PLACE. ARCHES SHALL BE TURNED ON RIGID CENTERS.

302. CORNICES, PROJECTING COURSES, BLOCKING COURSES AND PARAPET COPINGS SHALL BE SET WITH THE VERTICAL JOINTS OPEN, THEN THE JOINT MOISTENED AND FILLED SOLID WITH A 1 TO 1 GROUT OF NON-STAINING CEMENT AND FINE SAND TO WITHIN 2 INCHES OF TOP.

303. LUG SILLS SHALL BE BEDDED AT THE ENDS ONLY, AND, AFTER THE WALLS ARE BUILT, THE JOINTS UNDER THE SILLS SHALL BE FILLED AND POINTED. STEPS AND PLATFORMS SHALL BE SET WITH A PITCH TO THE FRONT OF 1/8 INCH PER FOOT OF WIDTH, WHEN NOT OTHERWISE INDICATED.

304. ALL ANCHORS, CRAMPS, DOWELS, ETC., SHALL BE ACCURATELY SET AND ADJUSTED, AND THE HOLES AND SINKAGES FILLED WITH MORTAR.

305. THE GROUTING AND CALKING OF OUTSIDE FRAMES IS SPECIFIED UNDER "BRICK WORK, HOLLOW TILE WORK, ETC."

306. POINTING.--ALL FACE JOINTS SHALL BE CLEANED OUT 1/2 INCH IN DEPTH, WET THOROUGHLY AND POINTED FULL AND FLUSH WITH POINTING MORTAR.

307. JOINTS IN THE WASHES OF CORNICES, PROJECTING COURSES, TOP RAILS OF BALUSTRADES, BLOCKING COURSES AND PARAPET COPINGS SHALL BE CAULKED WITH LEAD WOOL TO WITHIN 1 INCH OF THE SURFACE, THEN FILLED SOLID WITH ELASTIC POINTING COMPOUND. SEE DETAIL ON DRAWING NO. G-5.

308. POINTING COMPOUND SHALL BE LIGHT COLORED, ELASTIC AND WATERPROOF. IT SHALL NOT STAIN THE STONE NOR CORRODE COPPER NOR BE AFFECTED BY LONG EXPOSURE TO EXTREMES OF OUTSIDE TEMPERATURE. IT SHALL GRADUALLY FORM A THIN, TOUGH "SKIN" ON THE EXPOSED SURFACES, BUT UNDERNEATH THE SURFACE IT SHALL REMAIN SOFT AND PLASTIC INDEFINITELY. IT SHALL BE MIXED TO THE PROPER CONSISTENCY AT THE FACTORY AND SHALL BE USED ACCORDING TO THE MANUFACTURERS' PRINTED DIRECTIONS.

309. BEFORE USING THE COMPOUND, ALL CONTACT SURFACES SHALL BE CLEANED AND COATED WITH A 20 PER CENT SOLUTION OF SILICATE OF SODA.

(A) THE FILLING OF FLASHING REGLETS IS INCLUDED UNDER "SHEET METAL WORK."

310. CLEANING.--AFTER THE COMPLETION OF THE SETTING, ALL STONE SHALL BE CLEANED WITH STIFF FIBER BRUSHES, USING SOAP POWDER BOILED IN WATER, AND THE STONE RINSED WITH CLEAN WATER. CLEANING SHALL COMMENCE AT THE TOP AND CONTINUE PROGRESSIVELY DOWN THE FACE OF THE BUILDING.

311. THE BRUSHES USED IN CLEANING MAY BE OF BRISTLES, VEGETABLE FIBER OR FINE STEEL WIRE, DEPENDING ON THE FINISH, HARDNESS AND CONDITION OF THE STONE, AND SHALL BE SELECTED FOR THEIR EFFICIENCY IN CLEANING WITH THE LEAST POSSIBLE INJURY TO THE SURFACE OF THE STONE.

312. ANY COMPOUND, FLUID OR SOLUTION USED IN CLEANING SHALL BE FREE FROM ANY INJURIOUS ACID OR ANY INGREDIENT THAT WILL DAMAGE THE STONE AND SHALL BE SUBJECT TO THE APPROVAL OF THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH. A QUART SAMPLE OF THIS MATERIAL SHALL BE SUBMITTED FOR TEST.

STRUCTURAL METAL WORK

313. STEEL SHALL COMPLY WITH THE REQUIREMENTS OF FEDERAL SPECIFICATION NO. QQ-S-721 FOR STRUCTURAL STEEL FOR BUILDING, CLASSES "A" AND "C". IT SHALL BE CLEAN AND FREE FROM MILL SCALE OR FLAKE RUST OR RUST PITTING.

314. MILL AND SHOP INSPECTION WILL BE MADE BY GOVERNMENT REPRESENTATIVES, UNLESS SUCH INSPECTION IS WAIVED BY THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH. AFTER THE AWARD OF THE CONTRACT THE CONTRACTOR SHALL INFORM THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, AS TO WHERE THE MATERIAL IS TO BE ROLLED, AND WHERE IT IS TO BE FABRICATED, AND THE ESTIMATED TONNAGE.

315. IN CASE MILL INSPECTION IS WAIVED, AS SPECIFIED, THE CONTRACTOR SHALL FURNISH CERTIFIED COPIES OF THE MILL ANALYSIS SHOWING THAT THE MATERIAL TO BE USED IS IN CONFORMITY TO THE CONTRACT REQUIREMENTS.

316. CASTINGS SHALL BE OF TOUGH, GRAY IRON, TRUE TO PATTERN, CLEAN AND FREE FROM INJURIOUS FLAWS OR DEFECTS.

317. SHOP DRAWINGS IN QUADRUPLICATE SHOWING SETTING DIAGRAMS AND DETAILS OF ALL STRUCTURAL MEMBERS, AND BASED ON THE CONTRACT REQUIREMENTS, SHALL BE SUBMITTED FOR APPROVAL OF THE ARCHITECT.

318. ANY APPROVED STEEL SHAPES MAY BE USED WHICH WILL NOT CHANGE THE ARCHITECTURAL LINES. BEAMS SHALL HAVE SECTIONAL MODULI EQUAL TO THOSE CALLED FOR. COLUMNS SHALL HAVE CROSS SECTIONAL AREAS AND RADII OF GYRATION EQUAL TO THOSE CALLED FOR.

319. BEARING PLATES SHALL BE PROVIDED FOR ALL BEAMS, GIRDERS, TRUSSES, ETC., RESTING ON MASONRY. UNLESS OTHERWISE INDICATED BEARING PLATES SHALL BE "STANDARD" SIZES AS GIVEN IN THE STRUCTURAL STEEL MANUFACTURERS HAND BOOKS.

320. STEEL LINTELS SHALL BE PROVIDED FOR ALL SQUARE HEAD OPENINGS IN MASONRY WHERE OTHER LINTELS ARE NOT INDICATED. BUILT UP LINTELS SHALL BE BOLTED OR RIVETED TOGETHER. PROVIDE SEPARATORS WHERE INDICATED.

321. LINTELS SHALL BE PROVIDED FOR ALL SQUARE HEAD OPENINGS IN PARTITIONS OF HOLLOW TILE OR CONCRETE MASONRY UNITS. LINTELS FOR SINGLE PARTITIONS SHALL BE STEEL CHANNELS OF WIDTHS EQUAL TO THE THICKNESS OF THE TILE. LINTELS FOR DOUBLE PARTITIONS SHALL BE OF STEEL ANGLES OF WIDTH AND DEPTH NOT LESS THAN THE THICKNESS OF THE TILE. LINTELS SHALL HAVE BEARINGS NOT LESS THAN 4-1/2 INCHES NOR LESS THAN 1 INCH PER FOOT OF SPAN. PROVIDE SIMILAR LINTELS FOR OPENINGS OVER 3-1/2 FEET WIDE IN GYPSUM BLOCK PARTITIONS.

322. ANGLE LINTELS SHALL BE PROVIDED FOR ALL OPENINGS IN WALL FURRING OF HOLLOW TILE OR CONCRETE MASONRY UNITS. LINTELS FOR ARCHED OPENINGS SHALL BE BENT CONCENTRIC TO THE ARCH. LINTELS SHALL EXTEND TO THE FACE OF THE FURRING, HAVE EQUAL LEGS AND AT LEAST 4-1/2 INCH BEARING AT EACH END.

323. WORKMANSHIP.--SHEARING AND PUNCHING SHALL BE WITHOUT RAGGED OR TORN EDGES. THE DIAMETER OF THE PUNCH SHALL NOT EXCEED THAT OF THE RIVET, OR THE DIAMETER OF THE DIE EXCEED THAT OF THE PUNCH, BY MORE THAN 1/16 INCH. THE THICKNESS OF MATERIAL IN PUNCHED WORK SHALL NOT EXCEED THE NOMINAL DIAMETER OF THE RIVET PLUS 1/8 INCH. HOLES SHALL BE ACCURATELY SPACED SO THAT WHEN PARTS ARE ASSEMBLED HOT RIVETS WILL ENTER WITHOUT DISTORTION. HOLES SHALL BE ENLARGED ONLY BY REAMING. DRIFT PINS SHALL NOT ENLARGE OR DISTORT THE HOLES.

324. RIVETS SHALL HAVE WELL FINISHED CONCENTRIC HEADS IN FULL CONTACT WITH THE METAL. ALL RIVETS SHALL BE TIGHT. SHOP RIVETS SHALL BE MACHINE DRIVEN. RIVETED PARTS SHALL BE CLOSELY DRAWN TOGETHER BEFORE RIVETING. SHOP CONNECTIONS GENERALLY SHALL BE RIVETED.

325. ALL MEMBERS SHALL BE FREE FROM TWISTS, KINKS, BUCKLES OR OPEN JOINTS. PARTS ASSEMBLED WITH RIVETS OR BOLTS SHALL BE IN CLOSE CONTACT, EXCEPT WHERE SEPARATORS ARE REQUIRED. ALL MEMBERS SHALL BE SO ACCURATELY MADE THAT WHEN ASSEMBLED THE PARTS SHALL COME TOGETHER WITHOUT DISTORTION AND WITHOUT SHIMMING. BEARING STIFFENERS FOR GIRDERS SHALL HAVE THEIR ENDS CLOSELY FITTED TO THE FLANGES. SEPARATORS FOR BEAMS SHALL BE CLOSE FITTING. BEARING ENDS OF COLUMNS AND TOPS OF COLUMN BASE PLATES OVER 2 INCHES THICK SHALL HAVE MACHINED BEARINGS.

326. OTHER WORK.--OPEN HOLES SHALL BE PROVIDED AS NECESSARY FOR BOLTED CONNECTIONS OF OTHER WORK UNDER THE GENERAL CONTRACT TO STRUCTURAL METAL WORK.

(A) FOR HANGERS AND FRAMING OF LOOKOUT GALLERY, SEE DETAILS ON DRAWING G-205.

327. ERECTION.--ALL STRUCTURAL METAL WORK SHALL BE ACCURATELY SET AND PROPERLY SECURED IN PLACE. UNLESS OTHERWISE SPECIFIED OR NOTED ON THE STRUCTURAL DRAWINGS, FIELD CONNECTIONS OF STEEL WORK SHALL BE RIVETED. WHERE RIVETING IS NOT PRACTICABLE, BOLTED CONNECTIONS AS SPECIFIED HEREIN SHALL BE USED.

328. BOLTED CONNECTIONS SHALL BE MADE WITH BOLTS THAT HAVE BEEN TURNED OR SPECIALLY RIBBED TO A DRIVING FIT, EXCEPT WHERE THE USE OF ROUGH MACHINE BOLTS IS PERMITTED BY NOTES ON THE STRUCTURAL DRAWINGS. BOLTS SHALL BE OF THE EXACT REQUIRED LENGTHS AND AFTER THE CONNECTION HAS BEEN DRAWN TIGHT, THE NUTS SHALL BE HELD FAST BY SELF-LOCKING THREADS OR BY UPSETTING THE ENDS OF THE BOLTS.

(A) BOLTS FOR STRUCTURAL WORK EXPOSED TO THE WEATHER SHALL BE DIPPED IN RED LEAD PAINT JUST BEFORE THEY ARE PUT IN PLACE.

329. ANCHOR BOLTS AND ANCHORS SHALL BE PROPERLY LOCATED AND BUILT INTO THE CONNECTING WORK IN ADVANCE. COLUMN BASES AND GRILLAGE BEAMS SHALL BE SET ON METAL SHIMS AND GROUTED SOLID WITH EQUAL PARTS OF PORTLAND CEMENT AND SAND. BEARING PLATES SHALL BE SET IN 1 TO 2 PORTLAND CEMENT MORTAR.

330. ALL STRUCTURAL METAL WORK SHALL HAVE SUITABLE TEMPORARY BRACES AND STAYS TO HOLD IT IN POSITION UNTIL PERMANENTLY SECURE.

331. PAINTING.--ALL STRUCTURAL METAL SHALL BE CLEANED FREE FROM SCALE, RUST AND ALL FOREIGN MATTER AND, AFTER INSPECTION, SHALL BE GIVEN A SHOP COAT OF PAINT. MACHINE FINISHED SURFACES SHALL BE PROTECTED FROM CORROSION.

332. AFTER ERECTION THE FIELD CONNECTIONS AND ALL ABRADED PLACES SHALL BE PAINTED, THEN THE ENTIRE WORK SHALL BE GIVEN AN ADDITIONAL COAT OF PAINT, EXCEPT STRUCTURAL WORK THAT IS TO BE ENCASED IN CONCRETE MORE THAN 4 INCHES THICK.

333. PAINTING MATERIALS SHALL CONFORM TO FEDERAL SPECIFICATIONS, UNLESS OTHERWISE SPECIFIED. THE PAINT FOR WORK SHALL BE MIXED AS FOLLOWS:

FIRST COAT	SECOND COAT	BY WEIGHT
RED LEAD, DRY...25 LBS.	FLAKE SILICA-GRAPHITE	32 TO 40%
RAW LINSEED OIL. 1 GAL.	BOILED LINSEED OIL...	49 TO 60%
TURPENTINE.....1/2 PINT	DRIER.....	5 TO 8%
	TURPENTINE.....	0 TO 3%

THE FLAKE SILICA GRAPHITE SHALL BE THE NATURAL CRYSTALLINE VARIETY MINED IN THE UNITED STATES AND SHALL CONTAIN NOT LESS THAN 45 PER CENT NOR MORE THAN 60 PER CENT GRAPHITIC CARBON BY WEIGHT OF DRY MATERIAL.

THE DRY PIGMENT SHALL BE A MIXTURE OF 90 TO 91.75 PER CENT FLAKE SILICA GRAPHITE AND 8.25 TO 10 PER CENT OF CARBON BLACK. IT SHALL BE SUFFICIENTLY FINE TO PASS A MINIMUM OR 90 PER CENT THROUGH A NO. 325 SIEVE.

334. OPTIONS.--EITHER ALUMINUM PAINT OR SUBLIME BLUE LEAD PAINT AS SPECIFIED HEREIN MAY BE SUBSTITUTED, AT THE OPTION OF THE CONTRACTOR, FOR THE GRAPHITE PAINT FOR THE SECOND COAT ON STRUCTURAL STEEL.

335. THE ALUMINUM PAINT SHALL BE MIXED IN THE PROPORTIONS OF 2 POUNDS OF PASTE OR POWDER PER GALLON OF VARNISH VEHICLE. ALUMINUM BRONZE POWDER SHALL CONFORM WITH FEDERAL SPECIFICATION NO. TT-A-476, TYPE A. IF PASTE IS USED THE ALUMINUM PIGMENT FOR MIXING ALUMINUM PAINT SHALL CONFORM WITH THE REQUIREMENTS OF FEDERAL SPECIFICATION NO. TT-A-476, TYPE B (EXTRA FINE), EXCEPT THAT IT SHALL BE SUPPLIED IN THE FORM OF A UNIFORM PASTE. THE PASTE SHALL CONTAIN NOT LESS THAN 63 PER CENT OF THIS ALUMINUM PIGMENT. THE REMAINDER SHALL BE MINERAL SPIRITS AND SHALL BE COMPLETELY VOLATILE AT 110 DEGREES C. THE VARNISH VEHICLE FOR MIXING ALUMINUM PAINT SHALL BE IN ACCORDANCE WITH FEDERAL SPECIFICATION NO. TT-V-81.

(A) THE ALUMINUM PAINT SHALL BE FRESHLY MIXED AND ONLY ENOUGH FOR ONE DAY'S USE SHALL BE MIXED AT ONE TIME. THE MIXING SHALL BE ACCOMPLISHED BY POURING THE MEASURED AMOUNT ON VEHICLE OVER THE WEIGHED AMOUNT OF PIGMENT AND STIRRED THOROUGHLY.

336. SUBLIMED BLUE LEAD PAINT SHALL BE AS FOLLOWS:

SUBLIMED BLUE LEAD, DRY.	90 LBS.
RAW LINSEED OIL	4-1/2 GALS.
TURPENTINE.	2 QTS.
DRIER (ROSIN FREE).	1 QT.

APPROXIMATE PAINT PRODUCED: 6-2/3 GALLONS, WEIGHING 18-1/2 TO 19-1/2 POUNDS TO THE GALLON.

THE SUBLIME BLUE LEAD SHALL BE A CHEMICAL COMBINATION OF LEAD SULPHATE, LEAD OXIDE AND OTHER COMPOUNDS IN THE FOLLOWING PROPORTIONS:

LEAD SULPHATE.	45 TO 55%
LEAD OXIDE	30 TO 40%
LEAD SULPHIDE, NOT OVER.	12%
LEAD SULPHITE, NOT OVER.	5%
ZINC OXIDE, NOT OVER	5%
CARBON AND UNDETERMINED, NOT OVER.	5%

COARSE PARTICLE RETAINED ON A NO. 325 SIEVE SHALL NOT COMPRISE OVER 1.0 PER CENT.

337. NO PAINT SHALL BE USED AFTER THE PIGMENT HAS CAKED OR HARDENED. THE PAINT SHALL BE KEPT WELL STIRRED WHILE IT IS BEING APPLIED. PAINT SHALL BE THOROUGHLY BRUSHED ON AND WELL WORKED INTO JOINTS AND OPEN SPACES. ALL SURFACES SHALL BE CLEAN AND DRY WHEN PAINTED.

MISCELLANEOUS & ORNAMENTAL METAL WORK

338. GENERAL.--ALL MISCELLANEOUS AND ORNAMENTAL IRON AND STEEL WORK SHALL BE FURNISHED AND INSTALLED COMPLETE WITH ALL NECESSARY ANCHORS, BOLTS, HARDWARE AND OTHER ACCESSORIES.

339. DRAWING NUMBERS CITED UNDER THIS HEADING ARE REFERRED TO ONLY AS ILLUSTRATIVE OF THE CHARACTER OF THE WORK REQUIRED AND ARE NOT ASSUMED TO SHOW THE EXTENT OF THE WORK SPECIFIED OR SHOWN ON DRAWINGS NOT MENTIONED BY NUMBER.

340. REINFORCING METAL FOR CONCRETE, ANCHORS AND FASTENINGS FOR WOOD WORK AND STONE WORK, EXCEPT AS HEREIN SPECIFIED, AND LIGHT METAL FURRING FOR PLASTER ARE INCLUDED IN THE SEVERAL SPECIFICATIONS FOR THESE DIVISIONS OF THE WORK.

MATERIALS.

341. STEEL AND WROUGHT IRON SHALL BE STANDARD, WELL FINISHED, STRUCTURAL SHAPES, OR BAR STEEL OR BAR IRON. EITHER STEEL OR WROUGHT IRON MAY BE USED AT THE OPTION OF THE CONTRACTOR, UNLESS OTERWISE SPECIFIED.

(A) CAST IRON SHALL BE SOFT, TOUGH, GRAY IRON.
(B) WIRE NOT OTHERWISE SPECIFIED SHALL BE COLD DRAWN STEEL.
(C) GAUGES SPECIFIED FOR PLATE AND SHEET IRON OR STEEL ARE U. S. STANDARD AND ARE THE MINIMUM ACCEPTABLE UNDER THE CONTRACT.
(D) PIPE SHALL BE STANDARD WEIGHT, IRON OR MILD STEEL, SCREW JOINTED PIPE. PIPE SIZES ARE THE NOMINAL INSIDE DIAMETERS. FITTINGS SHALL BE MALLEABLE RAIL FITTINGS.

342. SHOP DRAWINGS IN QUADRUPLICATE OF METAL WORK (EXCEPT THRESHOLDS AND WORK SHOWN BY DETAIL DRAWINGS) SHOWING SIZES, DETAILS OF CONSTRUCTION, METHODS OF ASSEMBLING, HARDWARE, ETC., SHALL BE SUBMITTED TO AND APPROVED BY THE ARCHITECT BEFORE ANY OF THE WORK IS EXECUTED.

343. WORKMANSHIP.--WROUGHT IRON AND STEEL SHALL BE WELL FORMED TO SHAPE AND SIZE, WITH SHARP LINES AND ANGLES AND SMOOTH SURFACES. MEMBERS IN CONTACT SHALL BE WELDED OR RIVETED UNLESS OTHERWISE SPECIFIED. WIDE BARS SHALL BE DRILLED OR PUNCHED FOR SMALL BARS TO PASS THROUGH AND THE SMALL BARS SECURED BY RIVETS OR SPOT WELDING. SIMILAR BARS WHERE PASSING SHALL BE HALVED TOGETHER AND ABUTTING MEMBERS SHALL BE WELDED OR TENONED AND RIVETED. SCREWS SHALL NOT BE USED IN ASSEMBLING WHERE THEY CAN BE AVOIDED.

344. CASTINGS SHALL BE OF FINE TEXTURE, UNWARPED AND SOUND. LINES SHALL BE SHARP, TRUE AND ACCURATE AND ORNAMENT FULL AND TRUE TO PATTERN. CASTINGS SHALL COME FROM THE MOULD CLEAN AND SMOOTH. ENRICHED ORNAMENT SHALL BE CAREFULLY INSPECTED AND ANY EXCESS METAL OR SIMILAR IMPERFECTIONS THAT TEND TO OBSCURE THE DESIGN SHALL BE REMOVED. JOINTS SHALL BE MACHINED TO A TIGHT FIT WITH MOULDINGS AND ORNAMENT IN ALIGNMENT. WORK EXECUTED FROM DETAILS OR MODELS FURNISHED SHALL FAITHFULLY REPRODUCE SAME IN FORM AND FEELING.

345. PROVIDE THE NECESSARY REBATES, LUGS AND BRACKETS SO THAT THE WORK CAN BE ASSEMBLED IN A NEAT SUBSTANTIAL MANNER. HOLES FOR BOLTS AND SCREWS SHALL BE DRILLED. FASTENINGS SHALL BE CONCEALED WHERE POSSIBLE. THICKNESS OF METAL AND DETAILS OF ASSEMBLY AND SUPPORT SHALL GIVE AMPLE STRENGTH AND STIFFNESS. BUILT UP PARTS SHALL BE OUT OF WIND. JOINTS EXPOSED TO THE WEATHER SHALL BE FORMED TO EXCLUDE WATER.

346. METAL WORK SHALL BE PROPERLY COUNTERSUNK TO RECEIVE THE REQUIRED HARDWARE AND PROVIDED WITH THE PROPER BEVELS OR CLEARANCES.

PLATES FOR MOUNTING HARDWARE SHALL BE RIVETED OR WELDED IN PLACE, AND PLATES FOR LOCKS OR LATCHES THAT ARE NOT PROTECTED BY KEY OPERATION ONLY SHALL BE OF PROPER SIZE TO PREVENT THE OPERATION OF THE LOCKS OR LATCHES FROM THE OUTSIDE WITHOUT A KEY.

347. RIVETS AND BOLTS AND SCREWS EXPOSED TO TRAFFIC OR WHERE SO REQUIRED FOR PROPER CLEARANCE SHALL BE FLUSH.

348. SMOOTH SURFACES SHALL BE MADE SAFE FOR FOOT TRAFFIC BY HAVING A NON-SLIP ABRASIVE UNIFORMLY EMBEDDED IN THE WEARING SURFACE AT THE TIME OF CASTING.

349. PAINTING.--ALL IRON AND STEEL WORK SHALL BE THOROUGHLY CLEANED AND GIVEN A SHOP COAT OF PAINT. PAINTING MATERIALS SHALL CONFORM TO THE APPLICABLE FEDERAL SPECIFICATIONS.

350. ANCHORS IN CONNECTION WITH MASONRY AND CONCRETE SHALL BE COATED WITH ASPHALTUM OR WITH RED LEAD. INTERIOR IRON AND STEEL WORK THAT WILL BE EXPOSED TO VIEW (EXCEPT METAL COUNTER TOPS AND SHELVES, AND STEEL WAINSCOT WHICH ARE NOT TO BE PAINTED) SHALL BE PAINTED WITH LAMP BLACK AND LINSEED OIL. ALL OTHER IRON AND STEEL SHALL BE PAINTED WITH RED LEAD. PAINT SHALL BE EVENLY BRUSHED ON, AND ON EXPOSED SURFACES SHALL NOT BE ALLOWED TO RUN OR CLOG OR FILL CORNERS.

351. ERECTION.--ALL METAL WORK WILL BE ACCURATELY SET AND RIGIDLY SECURED IN PLACE. HINGED, OR FOLDING, OR SLIDING PARTS SHALL BE ERECTED COMPLETE AND FITTED AND ADJUSTED TO GOOD WORKING CONDITION.

MISCELLANEOUS METAL WORK.

352. CURBS, BUFFERS AND GUARDS.--SHALL BE PROVIDED WHERE SHOWN.

(A) FOR STEEL BUFFERS AND GUARDS AT MAILING PLATFORM AND VESTIBULE SEE DRAWINGS NOS. G-201 AND G-203. WHERE GUARDS ARE INDICATED ON EXPOSED CORNERS OF JAMBS AND OTHER CORNERS AT ENTRANCES TO MAILING VESTIBULE, THE GUARDS SHALL BE 3 BY 3 BY 5/16 OR 4 BY 4 BY 5/16 INCH STEEL ANGLES, (ACCORDING TO JAMB CONDITION) AND SHALL BE SECURELY ANCHORED NEAR THE TOP, CENTER AND BOTTOM OF THE JAMB OR CORNER CONSTRUCTION. THE COLUMNS OF LOADING PLATFORM SHALL BE PROTECTED BY 4 BY 4 BY 5/16 INCH STEEL ANGLES AND 1/2 INCH STEEL PLATE ON FOUR SIDES. SEE DETAIL DRAWINGS NOS. G-201 AND G-203. CORNERS OF MASONRY AROUND COLUMN 47 INSIDE MAILING VESTIBULE SHALL HAVE ANGLE GUARDS.

353. COVERS AND FRAMES.--METAL OF COVERS AND FRAMES SHALL BE AT LEAST 3/8 INCH THICK. SOLID COVERS SHALL HAVE FLUSH DROP HANDLES. STOCK COVERS AND FRAMES OF SIMILAR DESIGN MAY BE USED PROVIDED CUTS OR DRAWINGS OF SAME ARE FIRST SUBMITTED TO AND APPROVED BY THE PROCUREMENT DIVISION PUBLIC WORKS BRANCH.

354. CATCH BASIN SHALL HAVE PERFORATED CAST IRON COVER AND SOLID CAST IRON FRAME, COVER AND FRAME WEIGHING ABOUT 400 POUNDS, TYPE AND DIMENSIONS AS SHOWN ON DETAIL DRAWING NO. G-1.

355. COAL HOLE RING AND COVER SHALL BE OF HEAVY DUTY CONSTRUCTION MADE OF CLOSE GRAINED GREY IRON. THE RING SHALL HAVE SIX RIBS. RING AND COVER SHALL HAVE CHECKERED OR NON-SLIP TOP SURFACES. LOCKING BAR SHALL BE WELDED OR RIVETED TOGETHER AT ENDS. LOWER END OF HOOK SHALL BE HEADED TO PREVENT LOSS OF TAIL NUT.

356. STACK CLEANOUT.--A 12 BY 20 INCH CAST IRON CLEANOUT DOOR AND FRAME OF STOCK DESIGN SHALL BE INSTALLED AT THE BOTTOM OF SMOKE STACK. AN 8 BY 8 INCH CAST IRON CLEANOUT DOOR AND FRAME OF STOCK DESIGN SHALL BE INSTALLED AT THE BOTTOM OF ONE OF THE SMALLER FLUES IN THE SMOKE STACK.

357. LADDERS.--WROUGHT IRON LADDERS ARE SHOWN BY DETAIL DRAWING NO. G-205. THEY SHALL BE ANCHORED AT TOP AND BOTTOM AND AT POINTS BETWEEN NOT OVER 6 FEET APART.

358. DOOR IRONS AND FRAMES.--THE METAL FRAMES AT DOOR OPENINGS NOS. 1/33-1/34-1/37-N/1 AND Q/1 ARE SHOWN BY DRAWING NO. G-203. THE HEAD AND JAMBS SHALL BE MACHINED TO A CLOSE FIT AT CORNERS; THE JOINTS TO BE WELDED OR REINFORCED WITH ANGLES RIVETED ON THE BACK. WELDING SHALL BE CONTINUOUS ALONG THE LINE OF CONTACT AND SHALL BE DRESSED SMOOTH ON EXPOSED SURFACES. THE HEAD SHALL BE CUT TO RECEIVE THE DOOR BOLTS SPECIFIED UNDER "BUILDERS' HARDWARE." ANCHORS 1/4 BY 1-1/4 BY 18 INCHES WITH BENT ENDS SHALL BE RIVETED TO THE JAMBS NEAR TOP, CENTER AND BOTTOM.

359. FILLETS SHALL BE RIVETED TO THE FRAMES NEAR ENDS AND AT POINTS BETWEEN NOT OVER 10 INCHES APART. SINKAGES FOR HINGES SHALL BE TAPPED FOR SCREWS SO PLACED THAT THE SPRING ADJUSTMENT OF HINGES WILL BE AT THE TOP. YOKES SHALL BE RIVETED TO THE HINGES AND LET INTO THE EDGE OF THE DOORS. STRAPS AND BUFFERS SHALL BE SECURED WITH THROUGH BOLTS. SEE DETAIL DRAWING NO. G-203.

360. FOR TREATMENT OF ELEVATOR HATCHWAY FRAMES REFER TO SPECIFICATION ON "ELEVATOR HARCHWAYS."

ORNAMENTAL METAL WORK.

361. PIPE RAILS.--PIPE SHALL BE STANDARD WEIGHT WROUGHT IRON OR MILD STEEL, WITH MALLEABLE IRON SCREW FITTINGS CAST TO THE PROPER ANGLE TO FIT THE WORK. FULL WELDED CONNECTIONS WILL BE ALLOWED WHERE NECESSARY TO PROPERLY INSTALL THE WORK. PIPE THREADS SHALL NOT SHOW IN THE ASSEMBLED WORK. THREADS OF JOINTS EXPOSED TO THE WEATHER SHALL BE COATED WITH RED LEAD AND LINSEED OIL. FOR TYPICAL CONSTRUCTION, SEE DETAILS NOS. G-204, G-205 AND G-404.

362. POSTS ON CONCRETE SHALL BE SET IN PIPE SLEEVES CAST IN PLACE, AND POSTS ON STONE OR GRANITE SHALL BE LET IN AS INDICATED; THE JOINT GROUTED WITH CEMENT OR CAULKED WITH LEAD AND COVERED BY THE FLOOR PLATES. POSTS AND RAILS SHALL BE SECURED TO METAL WORK BY TAP SCREWS AND TO MASONRY BY BOLTS THROUGH FLANGED FITTINGS EXCEPT AS OTHERWISE DETAILED.

363. HAND RAILS OF STAIRS SHALL HAVE NEAT SCREW PLUGS OR BALL FITTINGS AT EXPOSED ENDS. WALL RAILS SHALL BE SECURED FROM THE UNDER SIDE. SEE DRAWING NO. G-204.

364. FOOT RESTS SHALL BE OF BRASS AND HAVE FLANGED FITTINGS WITH COUNTERSUNK BOLTS OR SCREWS.

365. FOR DETAILS OF PIPE RAIL GUARDS IN LOOKOUT SYSTEM, SEE DETAIL DRAWING NO. G-205.

366. BALUSTRADES.--FOR CONSTRUCTION OF BALUSTRADES AT DOOR OPENINGS NOS. 1/2-1/4-1/5-2/2-2/3-2/4-2/5-2/20 AND 2/20A, SEE DETAILS NOS. G-202; G-203. THE BALUSTERS SHALL BE TURNED ON EACH END WITH SQUARE SHOULDERS AND DOWELS TO FIT INTO THE COUNTER SUNK HOLES IN THE TOP AND BOTTOM RAILS. THE TOP RAIL SHALL BE IN TWO PARTS, THE BOTTOM PART OF WHICH SHALL BE DRILLED AND COUNTERSUNK TO FASTEN UPPER MOULDED PART OF THE RAIL IN PLACE. FOR THE CONSTRUCTION AND MOUNTING OF ALL RAILS OTHER THAN PIPE RAILS SEE PROPER DETAIL DRAWINGS.

367. FOR DETAILS OF GRILLE AT WINDOW 2/1, SEE DRAWING G-200. THE CAST IRON ORNAMENT AT HEAD OF GRILLE SHALL HAVE CAST ON PINTLES TO FIT INTO SLOTS OR HOLES IN TOP RAIL OF GRILLE. IN ADDITION, THE ORNAMENT SHALL BE FASTENED TO GRILLE WITH COUNTERSUNK BRASS SCREWS.

368. THRESHOLDS.--METAL THRESHOLDS SHALL BE AT LEAST 1/4 INCH THICK. THRESHOLDS SHALL HAVE NON-SLIP ABRASIVE UNIFORMLY EMBEDDED IN THE WEARING SURFACE AT THE TIME OF CASTING OR SHALL HAVE CHECKERED OR CHANNELED PATTERN ON THE UPPER SURFACE TO WITHIN 3 INCHES OF JAMBS. THRESHOLDS FOR DOUBLE DOORS SHALL BE CUT OR COUNTERSUNK FOR FOOT BOLTS WHERE DETAILED AND ALL THRESHOLDS CUT OUT FOR THE MOUNTING OF SPRING DOOR HINGES WHERE DETAILED. FOR THE TYPE, DIMENSIONS, AND MOUNTING OF THRESHOLDS SEE DRAWINGS NOS. G-202 AND G-203.

369. THRESHOLDS SHALL BE FASTENED BY 2 ROWS OF BOLTS OR SCREWS PROVIDING TWO FASTENINGS AT EACH END AND INTERMEDIATE ONES STAGGERED AND SPACED NOT OVER 12 INCHES IN EACH ROW.

370. THRESHOLDS AT DOORS TO CONCRETE MAILING PLATFORM SHALL BE FLAT OR T SHAPED AS INDICATED AND SHALL BE FLUSH WITH THE FINISHED FOOR LEVEL OF VESTIBULE AND PLATFORM. ENDS OF THRESHOLDS SHALL BE BOLTED TO THE STEEL JAMBS OF DOOR FRAMES THROUGH STEEL CLIP ANGLES. FLAT THRESHOLDS SHALL BE WIDE ENOUGH TO EXTEND FROM THE INSIDE LINE OF THE WALL TO A LINE 2 INCHES OUTSIDE THE EXTERIOR FACE OF THE DOORS. FASTENINGS OF FLAT THRESHOLDS SHALL EXTEND INTO SUITABLE ANCHORS WHICH SHALL BE BEDDED IN THE CONCRETE.

371. THRESHOLDS SHALL BE CUT OUT TO RECEIVE BOLTS AND FLOOR TYPE DOOR CLOSERS WHERE SPECIFIED UNDER "BUILDERS' HARDWARE".

372. RAIL BRACKETS.--FOR BRACKETS OF WALL RAILS ON STAIRS SEE DETAIL DRAWINGS NOS. G-204 AND G-208. BRACKETS SHALL BE SPACED NOT MORE THAN 6 FEET APART NOR MORE THAN 10 INCHES FROM THE ENDS OF EACH RAIL. BRACKETS SHALL BE SECURED WITH EXPANSION OR TOGGLE BOLTS. BRACKETS SHALL BE OF CAST IRON.

373. FLAG POLE.--THE FLAG POLE SHALL BE MADE OF STANDARD WEIGHT CONTINUOUS TAPERED STEEL TUBING. THE TAPERED TUBING SHALL BE IN ONE PIECE.

(A) THE TRUCK SHALL BE OF CAST IRON AND SHALL HAVE MACHINED BEARINGS, AND THE BALLS OF BALL BEARINGS SHALL BE AT LEAST 1/4 INCH IN DIAMETER. EACH SET OF HALYARDS SHALL BE FITTED WITH SWIVEL SNAP HOOKS AND THE ENDS SHALL BE SPLICED AROUND METAL THIMBLES.

(B) THE CLEATS SHALL BE OF BRASS CONSTRUCTION TO BE MOUNTED ON THE TAPERED STEEL POLE NEAR THE BASE.

(C) FOR FLAG POLE DETAILS SEE DRAWINGS NOS. G-200 AND G-206, AND FOR SPECIFICATION OF BRONZE FLAG POLE BASE SEE SPECIFICATIONS FOR BRONZE.

374. MARQUISE IRONS.--THE MARQUISE RODS SHALL BE STEEL 1-1/4 INCHES IN DIAMETER, FITTED WITH STEEL TURN-BUCKLES NEAR THE LOWER ENDS. FOR THE SIZE, CONSTRUCTION AND MOUNTING OF OTHER MARQUISE SUPPORTS SUCH AS PLATES, ANCHORS, ETC., SEE DETAIL DRAWING NO. G-201.

375. GRATINGS.--FOR CONSTRUCTION OF WROUGHT IRON GRATINGS OF BASEMENT WINDOW AREAS AT WINDOW OPENINGS NOS. B/1- B-2 B/4-B/5 AND B/6 SEE DETAIL DRAWING NO. G-1. FRAMES SHALL BE FORMED FROM 1/2 BY 1-3/4 INCH BARS. GRATINGS OF RETICULATED OR RECTANGULAR DESIGN AS SPECIFIED HEREIN AND 1-1/4 INCHES DEEP MAY BE SUBSTITUTED AT THE OPTION OF THE CONTRACTOR FOR THE WROUGHT IRON GRATINGS OF AREAS.

376. GRATINGS OF RETICULATED OR RECTANGULAR DESIGNS SHALL COMPLY WITH FEDERAL SPECIFICATION NO. RR-G-661. THEY SHALL HAVE STRAIGHT BARS THE SHORT WAY OF THE SPAN SPACED NOT MORE THAN 1-1/8 INCHES BETWEEN BARS AND RIVETED, WELDED OR INTERLOCKED AT LEAST EVERY 7 INCHES TO THE RETICULINE OR CROSS BARS; ALL BARS TO BE AT LEAST 1/8 INCH THICK. STRAIGHT (SUPPORTING) BARS FOR AREA GRATINGS SHALL BE AT LEAST 5/16 INCH THICK.

(A) GRATINGS FOR AREAS SHALL BE 1-1/4 INCHES DEEP AND EACH SECTION SHALL BE BOLTED TO THE WALLS OR CLIPPED TO THE STEEL SUPPORTS.

377. WINDOW GRILLES.--FOR THE CONSTRUCTION AND HANGING OF WROUGHT IRON GRILLES FOR WINDOW OPENINGS NOS. 1/31, 1/32, 1/39, SEE DETAIL DRAWING NOS. G-202 AND G-203. LUGS SHALL BE BUILT INTO BRICKWORK AND LEADED INTO STONEWORK AND CONCRETE.

378. CAST IRON DOOR FRAME & WROUGHT IRON TRANSOM GRILLE.--FOR DETAILS OF CAST IRON DOOR FRAME AND WROUGHT IRON TRANSOM GRILLE AT OPENING No. 1/1 SEE DRAWING No. G-200.

379. WIRE GRILLES FOR DOORS Nos. 1/33-1/34-1/37-1/38 AND B/3 ARE SHOWN ON DETAIL DRAWING No. G-203. GRILLES SHALL BE HINGED. WIRE SHALL BE No. 11 GAUGE (.12 INCH DIAMETER) CRIMPED AND WOVEN TO A 1-1/2 INCH DIAMOND MESH AND LET INTO 1 INCH HOT ROLLED CHANNEL FRAMES. CORNERS OF FRAMES SHALL BE TENONED AND RIVETED OR MITERED AND WELDED. BACK BANDS SHALL BE CONTINUOUS AROUND CORNERS AND RIVETED EVERY 8 INCHES, BACK BANDS TO BE CUT OUT FOR BUTTS.

(A) WHERE WIRE GRILLES FOR DOORS ARE INDICATED TO BE HINGED AND LOCKED, THEY SHALL BE HUNG ON FAST-PIN, FIVE-KNUCKLE, STEEL TEMPLATE BUTTS NOT LESS THAN 2 INCHES HIGH AND SHALL BE FITTED WITH SMALL BRONZE PADLOCKS SIMILAR TO TYPE 1-A, FEDERAL SPECIFICATION No. FF-P-101A; PADLOCKS TO BE KEYED ALIKE. FLUSH GRILLES SHALL HAVE PADLOCK EYES. SURFACE GRILLES SHALL HAVE SAFETY HASP AND STAPLE, ZINC COATED.

380. INSIDE WINDOW GUARDS.--WINDOWS SO INDICATED SHALL HAVE HINGED WIRE GRILLES IN ACCORDANCE WITH DETAIL DRAWINGS No. G-202 AND G-203, HUNG ON THE WINDOW FRAME. WIRE SHALL BE No. 11 GAUGE (.12 INCH DIAMETER) CRIMPED AND WOVEN TO A 1-1/2 INCH DIAMOND MESH AND LET INTO 1 INCH HOT ROLLED CHANNEL FRAMES. CORNERS OF FRAMES SHALL BE TENONED AND RIVETED OR MITERED AND WELDED. BACK BANDS SHALL BE CONTINUOUS AROUND CORNERS AND RIVETED EVERY 8 INCHES, BACK BANDS TO BE CUT OUT FOR BUTTS.

381. BUTTS SHALL BE WROUGHT STEEL 5 KNUCKLE, FAST PIN, 3 INCHES HIGH AND OF PROPER WIDTH TO FIT GRILLES AND FRAMES. LOCKS SHALL BE SURFACE TYPE WITH 3/8 INCH STEEL TOP AND BOTTOM BOLTS, BRONZE TEE HANDLE AND BRONZE LOCK CASE. BOLTS SHALL BE CHECKED WITH PIN TUMBLER LOCK AND ALL LOCKS KEYED ALIKE. TEE HANDLE SHALL BE PLACED WITHIN EASY REACH OF FLOOR.

382. THE FOLLOWING MAY BE SUBSTITUTED FOR WIRE MESH AND CHANNEL FRAMES SPECIFIED ABOVE FOR WINDOW GUARDS; DIAMOND MESH 13 GAUGE EXPANDED SHEET METAL WEIGHING AT LEAST 0.68 POUND PER SQUARE FOOT; THE MESH TO BE 1-3/8 INCH (1-1/2 INCH NOMINAL) AND NOT MORE THAN 3 INCHES LONG. THE EXPANDED METAL SHALL BE DRESSED FREE FROM FINS AND SHALL BE RIVETED TO FRAMES OF 1-1/4 x 1-1/4 INCH HOLLOW T SECTIONS OF 16 GAUGE COLD ROLLED STEEL; THE CORNERS OF FRAMES TO BE REINFORCED BY 16 GAUGE PLATE AND ASSEMBLED BY RIVETS. HARDWARE SHALL BE SAME AS SPECIFIED FOR THE WIRE GUARDS.

383. WIRE PARTITIONS, ETC.--PARTITIONS SHALL CONSIST OF A RIGID FRAMEWORK OF VERTICAL AND HORIZONTAL MEMBERS WITH FILLING OF WIRE PANELS. VERTICALS SHALL BE LOCATED ACCORDING TO DRAWINGS Nos. G-3 AND G-102 AND SHALL OCCUR AT ENDS, INTERSECTIONS AND CHANGES IN DIRECTION. FRAMES SHALL BE FITTED WITH STOPS, GUIDES, KEEPERS, ETC., FOR MOVABLE PANELS AND HARDWARE. SEE DETAIL DRAWINGS No. G-204.

384. END UPRIGHTS AT WALLS, COLUMNS OR PARTITIONS SHALL BE HOT ROLLED STEEL CHANNELS OR SQUARE STEEL TUBING SECURED WITH COUNTERSUNK SCREWS OR BOLTS EVERY 24 INCHES. ALL OTHER UPRIGHTS SHALL BE SQUARE STEEL TUBING. STEEL TUBING SHALL BE EITHER 14 GAUGE SEAMLESS OR ELECTRIC RESISTANCE WELDED OR 1/8 INCH THICK HOT ROLLED WELDED. BOTTOMS OF UPRIGHTS SHALL BE FITTED WITH FLANGED SHOES AND FASTENED BY HEAVY SCREWS.

(A) MINIMUM SIZES FOR CHANNELS ARE INDICATED AND SIZE OF TUBING OF FRAMEWORK SHALL BE 2 INCHES SQUARE.

385. TOPS OF UPRIGHTS EXTENDING TO CEILING SHALL BE FASTENED SEPARATELY THROUGH FLANGED FITTINGS, OR FRAMED TO A 1-1/2 INCH STEEL CHANNEL BOLTED TO THE CEILING CONSTRUCTION EVERY 30 INCHES. TOP RAILS OF LOW PARTITIONS, AND INTERMEDIATE HORIZONTAL MEMBERS OF PARTITIONS TO CEILING, SHALL BE TUBING SIMILAR TO VERTICALS WITH FLUSH FITTINGS OR CONCEALED KNEE BRACES. INTERMEDIATE SUPPORTS OF CEILING PANELS SHALL BE HOT ROLLED TEES.

386. GRILLE PANELS SHALL BE NO. 11 GAUGE (.12 INCH DIAMETER) WIRE CRIMPED AND WOVEN TO A 2-INCH DIAMOND MESH, WITH THE ENDS OF THE WIRE LET INTO THE FRAMES AND TURNED OR HEADED. FRAMES OF PANELS SHALL BE NOT LESS THAN 7/8 INCH HOT ROLLED STEEL CHANNELS, TENONED AND RIVETED OR MITERED AND WELDED AT ALL CORNERS. LINK CHAIN FABRIC, NO. 11 GAUGE (.12 INCH) WIRE, 1-1/2 INCH OR 2 INCH MESH, MAY BE SUBSTITUTED FOR THE WOVEN WIRE FABRIC SPECIFIED, AT THE OPTION OF THE CONTRACTOR.

387. CHANNEL BACKS OF ALL MOVABLE SECTIONS AND WHERE EXPOSED SHALL BE FITTED WITH 1/8 INCH THICK BACK BANDS SECURED TO THE FRAME EVERY 8 INCHES BY COUNTERSUNK RIVETS. BACK BANDS SHALL BE CONTINUOUS AROUND ALL CORNERS AND IN AS LONG LENGTHS AS PRACTICABLE. BACK BANDS OF HINGED DOORS AND WICKETS SHALL BE CUT TO RECEIVE THE BUTTS. DOORS SHALL BE LOCK RAILS CONSISTING OF TWO 7/8 INCH CHANNELS PLACED BOTH SIDES OF THE WIRE WITH WEBS TO THE OUTSIDE AND RIVETED EVERY 8 INCHES AND AT ENDS. FIXED PANELS AT FLOOR THAT ARE OVER 5-1/2 FEET HIGH SHALL HAVE SIMILAR CROSS RAILS.

388. HARDWARE SHALL COMPLY WITH FEDERAL SPECIFICATIONS NOS. FF-H-106, FF-H-111 AND FF-H-116 UNLESS OTHERWISE SPECIFIED. BUTTS SHALL BE TEMPLATE TYPE AND CUT TO FIT THE PANEL AND FRAME. LOCKS AND LATCHES SHALL BE MORTISE TYPE SUITABLE FOR WIRE MESH DOORS, WITH PIN TUMBLER CYLINDER KEY-WAY AND ALL BRONZE WORKING PARTS. LOCKS AND LATCHES SHALL BE OPERATED FROM THE OUTSIDE BY KEY ONLY AND FROM THE INSIDE BY COUNTERSUNK TURN KNOBS OR HANDLE. THE LOCKS AND LATCHES SHALL BE KEYED DIFFERENTLY AND ALL SHALL BE MASTER KEYED TO THE SAME SYSTEM AS OTHER ADJACENT LOCKS.

(A) EACH HINGED DOOR SHALL BE HUNG ON THREE BUTTS, 3 INCHES HIGH, TYPE 2010B.

389. SLIDING DOORS SHALL BE OF THE GRAVITY SELF-CLOSING TYPE WITH BALL BEARING HANGERS RUNNING IN AN ENCLOSED TRACK. PROVIDE ALL NECESSARY GUIDES AND STOPS FOR CONVENIENT OPERATION. EACH SLIDING DOOR SHALL BE FITTED WITH MORTISE SLIDING DOOR LOCK.

390. FOR DUTCH DOORS SEE DRAWING NO. G-204. EACH PANEL SHALL BE HUNG ON ONE PAIR OF 3 INCH BUTTS, TYPE 2010B. LOWER PANEL SHALL HAVE STOP PLATE AND BE FITTED WITH MORTISE LATCH. UPPER PANEL SHALL BE FITTED WITH 6 INCH SQUARE NECKED BOLT ENGAGING KEEPER ON LOWER PANEL. WOOD SHELF IS SPECIFIED UNDER "WOODWORK".

391. VERTICAL SLIDING GRILLES SHALL BE FITTED WITH FASTS AND KEEPERS OF THE CAR WINDOW TYPE IN CAST BRONZE ABOUT 2-1/2 x 1-1/8 INCHES IN SIZE; TWO AT OR NEAR THE BOTTOM OF EACH GRILLE.

392. BRACKETS FOR WOOD SHELVES SHALL BE OF PRESSED STEEL WITH RIGID CONNECTION TO PARTITION FRAMES AS SHOWN ON DRAWING NO. G-204.

393. OPTION.--THE FOLLOWING MAY BE SUBSTITUTED FOR THE WIRE MESH, PANEL FRAMES AND FRAME WORK SPECIFIED ABOVE FOR WIRE PARTITIONS AT THE OPTION OF THE CONTRACTOR; NO CHANGE IN HARDWARE. PANELS SHALL CONSIST OF DIAMOND MESH 13 GAUGE EXPANDED SHEET METAL WEIGHING AT LEAST 0.68 POUNDS PER SQUARE FOOT. THE MESH SHALL BE EITHER 1-3/8 INCH (1-1/2 INCH NOMINAL) OR 1-7/8 INCH (2 INCH NOMINAL) BUT IN NO CASE SHALL THE LENGTH

OF THE DIAMOND EXCEED TWICE ITS NOMINAL MESH SIZE. THE EXPANDED METAL SHALL BE DRESSED FREE FROM FINS AND SHALL BE RIVETED TO THE FRAMES.

394. PANEL FRAMES SHALL BE 1-1/4 x 1-1/4 INCH HOLLOW T SECTIONS FROM AT LEAST 18 GAUGE COLD ROLLED STEEL AND HAVE CORNERS REINFORCED WITH 16 GAUGE PLATE AND RIVETED. EACH PANEL AT FLOOR OVER 5-1/2 FEET HIGH SHALL BE REINFORCED AT OR NEAR THE CENTER BY A CROSS BRACING OF 1/8 x 1 INCH FLATS ON BOTH SIDES RIVETED TO THE FRAMES AND THROUGH THE MESH EVERY 8 INCHES.

395. PANELS SHALL BE ASSEMBLED BY SPECIAL CLIPS AND BOLTS, THE BOTTOMS SECURED BY BOLTS THROUGH 14 GAUGE FLOOR SOCKET AND THE TOPS SECURED BY SPECIAL CLAMPS TO A CONTINUOUS TOP RAIL OF 1-1/2 INCH HOT ROLLED STEEL CHANNEL.

396. PARTITIONS MORE THAN 8 FEET HIGH SHALL BE STRENGTHENED AND STIFFENED AS FOLLOWS:

> PARTITIONS UP TO AND INCLUDING 12 FEET IN HEIGHT SHALL (A) HAVE A RIGID FRAME WORK OF STANDARD WEIGHT, 1-1/2 INCH, HOT ROLLED STEEL SECTIONS PLACED AT ENDS, INTERSECTIONS AND TOPS OF PARTITIONS AND AS UPRIGHTS BETWEEN PANELS, OR (B) THE HOLLOW T PANEL FRAMES SHALL BE FORMED FROM AT LEAST 14 GAUGE STEEL AND, WHEN ASSEMBLED, SHALL FORM POSTS AT LEAST 1-1/2 INCHES SQUARE WITH HALF POSTS AT ENDS, OMITTING THE HOT ROLLED STEEL UPRIGHTS SPECIFIED UNDER (A) EXCEPT AT EXTERNAL CORNERS OF PARTITIONS. PARTITIONS MORE THAN 12 FEET IN HEIGHT SHALL HAVE THE HOLLOW T PANEL FRAMES FORMED FROM AT LEAST 14 GAUGE STEEL AND, WHEN ASSEMBLED, SHALL FORM POSTS AT LEAST 2 INCHES SQUARE WITH HALF POSTS AT ENDS. PARTITIONS SHALL HAVE CONTINUOUS TOP RAILS OF 2 INCH HOT ROLLED STEEL CHANNELS, AND THE EXTERNAL ANGLES FORMED BY ABUTTING PARTITIONS SHALL HAVE STEEL ANGLE CLOSURES.

397. OBSERVATION UNITS.--FOR TYPICAL DETAILS OF OBSERVATION UNITS WITH GLAZED FLAPS IN LOOKOUTS, SEE DETAIL DRAWINGS OF LOOKOUT SYSTEM No. G-205.

398. GLAZED FLAPS SHALL HAVE THE GLASS SET IN HEAVY FELT OR RUBBER STRIPS IN STEEL FRAMES OF AT LEAST 14 GAUGE PLATE WITH BRASS OR BRONZE LIFTS AND BRASS OR BRONZE HINGES WITH STEEL PINS. GLASS IS INCLUDED UNDER "GLASS AND GLAZING."

399. LOOKOUT VENTILATORS.--SEE DETAIL DRAWING No. G-205. THE CHANNEL FRAMES SHOWN IN DETAIL SHALL HAVE TWO ANCHORS ON EACH SIDE 1/8 x 1 x 16 INCHES WELDED TO FRAME NEAR CORNERS FOR ANCHORING IN THE 2 INCH PLASTER PARTITION.

400. VENTILATING GRILLES.--FOR DETAILS OF CONSTRUCTION AND LOCATION OF CAST IRON VENTILATING GRILLES IN BASEMENT WALLS SEE DRAWING No. G-1. GRILLES SHALL BE NOT LESS THAN 3/8 INCH THICK.

401. SERVICE GRILLES.--FOR SLIDING GRILLES AT SERVICE WINDOWS OF POST OFFICE LOBBY SCREEN SEE DETAIL DRAWING No. G-208. GRILLES SHALL BE FITTED WITH LOCK, PULLEYS, CORDS AND LEAD WEIGHTS SPECIFIED UNDER "BUILDERS' HARDWARE".

402. COLLAPSIBLE GATE.--THE GATE SHALL BE CONSTRUCTED OF STEEL OR IRON, AND AS SHOWN BY DRAWING No. G-206. THE CHANNEL OF UPRIGHTS SHALL BE HOT ROLLED SECTIONS WITH SUITABLE SEPARATORS TO ALLOW FOR THE EASY

OPERATION OF THE GATE. THE COLLAPSIBLE FILLING SHALL WORK FREELY AND WITHOUT RATTLE OR BINDING. ALL CONNECTIONS SHALL BE RIVETED IN A NEAT SUBSTANTIAL MANNER. THE GATE SHALL BE FITTED WITH A PIVOTED LOCK BAR WITH KEEPERS DESIGNED TO HOLD THE BAR FIRMLY IN PLACE IN BOTH ITS UPRIGHT AND HORIZONTAL POSITIONS. THE LOCKING DEVICE SHALL CONSIST OF A PADLOCK EYE AND STAPLE WITH 1-3/4 INCH BRONZE PADLOCK, TYPE NO. L-A, FEDERAL SPECIFICATION NO. FF-P-101A.

403. STAIR RAILINGS AND BALUSTERS.--FOR DETAILS OF WROUGHT IRON STAIR RAILINGS AND BALUSTERS SEE DRAWING NO. G-208. THE WROUGHT IRON BALUSTERS OF THE MAIN LOBBY STAIRS SHALL BE HEADED INTO THE LOWER MEMBER OF THE TOP RAIL WHICH SHALL CONSIST OF A STEEL CHANNEL AND A FLAT. THE WROUGHT IRON TOP RAIL SHALL BE DRILLED AND COUNTERSUNK EVERY 12 INCHES FOR MOUNTING THE WOOD HAND RAIL. THE BOTTOM END OF EACH ALTERNATE BALUSTER SHALL BE LET INTO THE STONE TREADS 4 INCHES AND SET IN LEAD. THE OTHER BALUSTERS SHALL BE LET INTO THE STONE TREADS SUFFICIENT DEPTH FOR RIGID SUPPORT AND LEADED. THE METHOD OF JOINING BALUSTRADE TO NEWEL POSTS AND OF ANCHORING NEWEL POSTS IS SHOWN ON DRAWING NO. G-208.

404. FOR DETAILS OF WROUGHT IRON GRILLES WITH CAST ORNAMENT IN UPPER PART OF POST OFFICE SCREEN SEE DRAWING NO. G-207.

405. TOP TREAD AND NOSING.--WHERE WOOD FLOORS ABUT CONCRETE STAIR A CAST IRON TREAD WITH NOSING AND NON-SLIP TOP SURFACE SHALL BE PROVIDED AT THE LANDING. PROVIDE SIMILAR NOSING WITH CAST FACIA AROUND STAIR WELL UNLESS OTHERWISE INDICATED.

406. THE EXTERIOR TITLE LETTERS SHALL BE FURNISHED AND INSTALLED AS PART OF THE WORK HEREUNDER. LETTERS SHALL BE WROUGHT IRON OF THE SIZES AND DESIGN SHOWN. THE LETTERS SHALL BE GIVEN A HEAVY PLATING OF CADMIUM BEFORE INSTALLING IN PLACE. AFTER INSTALLATION THEY SHALL BE PAINTED AS PROVIDED UNDER "PAINTING AND FINISHING".

407. METAL COUNTER COVERING.--MATERIAL SHALL COMPLY WITH U. S. NAVY DEPARTMENT SPECIFICATIONS NO. 47S20, DATED SEPTEMBER 1, 1933 FOR CORROSION RESISTING STEEL SHEETS EITHER GRADE 1 OR GRADE 4 MATERIAL OR MAY BE COPPER-NICKEL ALLOY COMPLYING WITH FEDERAL SPECIFICATIONS NO. QQ-C-541, TYPE III, CLASS A, FULL FINISHED.

(A) THE FINISH ON ALL EXPOSED SURFACES SHALL BE EQUIVALENT TO A FINE EMERY (180) FINISH.

408. THE COUNTER COVERING SHALL BE NO. 16 GAUGE (.0625 INCH). THE EDGES SHALL BE BEVELED AND FASTENED WITH OVAL HEADED COUNTERSUNK SCREWS NOT OVER 4 INCHES APART. SCREWS TO BE SAME METAL AS COUNTER COVERING.

409. ALL METAL SHALL BE FORMED, CUT, DRILLED AND OTHERWISE FITTED IN THE SHOP AND PROPERLY PROTECTED FROM DAMAGE.

BRONZE WORK

410. SCOPE OF WORK.--THIS PORTION OF THE SPECIFICATION INCLUDES ALL THE CAST, EXTRUDED OR DRAWN BRONZE WORK AS HEREIN REQUIRED AND/OR AS NOTED IN THE DRAWINGS (EXCEPT SUCH BRONZE WORK AS IS FURNISHED BY THE GOVERNMENT, AND IS NOT INCLUDED IN THE CONTRACT).

411. SHOP DRAWINGS.--COMPLETE SHOP DRAWINGS IN QUADRUPLICATE FOR ALL BRONZE WORK SHALL BE SUBMITTED FOR APPROVAL OF THE ARCHITECT AND NO WORK SHALL BE FABRICATED UNTIL SUCH APPROVAL IS GIVEN.

412. SHOP DRAWINGS SHALL SHOW THE METHOD OF ERECTION OR PLACING THE THICKNESS OF ALL METALS, THE DETAILS OF ALL CASTINGS, AND SHALL CONTAIN FULL AND COMPLETE INSTRUCTIONS REGARDING THE NECESSARY REINFORCEMENT, ANCHORAGE AND STRUCTURAL SUPPORTS.

413. WORKMANSHIP.--ALL WORKMANSHIP MUST BE FIRST CLASS IN EVERY PARTICULAR AND IN ACCORDANCE WITH THE BEST PRACTICE. ALL WORK SHALL BE CLEAN AND SHARP AND SHALL BE ARTISTICALLY TREATED BY SKILLED WORKMEN.

THE FINISH SHALL BE ANTIQUE VERDE UNLESS OTHERWISE SPECIFIED.

414. ALL WORKMANSHIP SHALL BE FABRICATED AND ASSEMBLED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS, FULL SIZE DRAWINGS AND MODELS FURNISHED BY THE GOVERNMENT. ENRICHMENT SHALL BE PROPERLY LAID OUT AND SPACED SO THAT THERE SHALL BE NO "CUT-OFFS" OR OTHER UNCERTAIN FINISH.

415. ALL CAST BRONZE SHALL BE SECURED WITH BOLTS, TOP SCREWS, OR LAG SCREWS; WHERE PRACTICABLE ALL SCREWS AND BOLT HEADS SHALL BE CONCEALED. WHERE THIS IS IMPRACTICABLE ON EXTERIOR FACES THEY SHALL BE COUNTERSUNK.

416. CASTINGS SHALL BE OF FINE TEXTURE, UNWARPED AND SOUND; ALL LINES SHALL BE SHARP, PROFILES ACCURATE AND ORNAMENT TRUE TO PATTERN ARTISTICALLY REPRODUCING THE SPIRIT OF THE MODELS OR FULL SIZE DRAWING. ALL ORNAMENTS SHALL BE DELICATELY HAND CHASED AND UNDERCUT WHERE NECESSARY TO RESTORE AND FAITHFULLY REPRODUCE THE DETAIL OF THE MODELS. THE BACKGROUND OF ALL ORNAMENT SHALL BE CLEANED AND LEFT AS IT COMES FROM THE MOULD. CASTINGS SHALL BE OF PROPER THICKNESS TO INSURE PERFECT WORK AND THE REQUIRED STRENGTH FOR THEIR INTENDED PURPOSE. FACES OR SURFACES OF METAL IN CONTACT SHALL BE MACHINED TO A HAIR METAL-TO-METAL JOINT. BOLTS AND SCREWS HOLES SHALL BE PROVIDED AS DETAILED.

417. FLAG POLES.--THE BASE OF THE FLAG POLES SHALL BE CAST BRONZE IN STRICT ACCORDANCE WITH FULL SIZE DETAILS AND MODELS, ALLOWING THE POLES TO SLIP THROUGH THE CORE. SEE DETAIL DRAWING NO. G-200.

417A. FLAG POLE CLEATS SHALL BE BRASS. FOR SHAPE AND MOUNTING SEE DRAWING NO. G-200.

418. THRESHOLDS.--THRESHOLDS FOR DOUBLE DOORS SHALL BE CUT OR COUNTERSUNK FOR FOOT BOLTS WHERE DETAILED, AND ALL THRESHOLDS CUT OUT TO ALLOW FOR THE MOUNTING OF SPRING DOOR HINGES WHERE DETAILED. FOR THE TYPE, DIMENSIONS, AND METHOD OF PLACING BRONZE THRESHOLD SEE DRAWINGS NOS. G-200, G-201, G-202 AND G-203.

419. PEN TRAYS AND PEDESTAL BASE.--PEN TRAYS AND PEDESTAL BASE SHALL BE OF BRONZE POLISHED ON EXPOSED SURFACES AND FINISHED A MEDIUM COLOR. CASTINGS SHALL HAVE SHARP LINES AND ACCURATE PROFILES, AND BE FREE FROM DEFECTS. TRAYS SHALL BE CAST AND SECURED FROM THE UNDERSIDE WITH SCREWS AND WASHERS. RECEPTACLES FOR MONEY ORDER BLANKS SHALL BE 2 x 4 x 8 INCHES (OUTSIDE DIMENSIONS) AND OF NOT LIGHTER THAN 18 B & S GAUGE BRONZE AND SHALL BE TOP SCREWED TO THE PEN TRAYS ON ONE DESK ONLY NEAR THE MONEY ORDER WINDOW. BASE COVERING SHALL BE 1/16 INCH THICK AND SECURED WITH COUNTERSUNK OVAL HEAD SCREWS.

420. RADIATOR GRILLES.--THE RADIATOR GRILLES SHALL BE OF CONCENTRIC SQUARES DESIGN, PUNCHED FROM HEAVY GAUGE BRONZE (MINIMUM 9 GAUGE) AND FINISHED TO HARMONIZE WITH ADJACENT METAL WORK. THE SMALL GRILLES IN THE MAIN LOBBY SHALL BE SLIGHTLY RECESSED FROM THE SURFACE OF THE MARBLE FINISH AND MOUNTED ON METAL ANGLE CLIPS FROM THE BACK. THE

LARGE GRILLES IN THE LOBBY AND EAST LOBBY SHALL BE RECESSED FROM THE PLASTER WALL SURFACE AND MOUNTED FROM THE BACK OF METAL ANGLE SUPPORTS LET INTO THE MASONRY. FOR DETAILS OF DESIGN AND MOUNTING SEE DRAWINGS Nos. G-207; G-208; GPH450.

VAULT DOORS

421. FOR CONSTRUCTION OF VAULT DOORS SEE DETAIL DRAWING No. G-206. COMBINATION LOCKS SHALL HAVE GRAVITY FENCE AND HOOK LEVER. ALL LOCKS SHALL HAVE BRONZE CASES. KEY LOCKS SHALL HAVE FOUR OR MORE LEVER TUMBLERS, AND FOUR KEYS SHALL BE FURNISHED WITH EACH LOCK.

422. THE DOORS SHALL BE FABRICATED BY MANUFACTURERS OF RECOGNIZED STANDING. THE CONTRACTOR FOR THIS PROJECT SHALL SUBMIT TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, WITHIN AMPLE TIME FOR FACTORY INSPECTION, THE NAMES AND ADDRESSES OF THE MANUFACTURERS OF THE DOOR SETS AND LOCKS GIVING THE CLASS AND TYPE OF COMBINATION AND KEY LOCKS WITH CATALOGUE NUMBERS, ALSO WHETHER RIGHT OR LEFT. AFTER SUCH SUBMISSION THE CONTRACTOR WILL BE ADVISED OF THE APPROVAL OR DISAPPROVAL OF THE MANUFACTURER OF THE DOORS, ALSO WHETHER THE LOCKS PROPOSED ARE SATISFACTORY. SHOP INSPECTION BEFORE SHIPPING WILL BE MADE IF CONSIDERED NECESSARY BY THE GOVERNMENT.

423. SHOULD THE CONTRACTOR DESIRE TO SUBSTITUTE A DOOR DEVIATING IN MINOR RESPECTS FROM DOORS SHOWN ON THE CONTRACT DRAWINGS, HE SHALL SUBMIT SHOP DRAWING THEREFOR IN TRIPLICATE FOR APPROVAL.

424. THE PAINTING AND FINISHING OF VAULT DOOR IS SPECIFIED ON DRAWING No. G-206. CLEAR PYROXYLIN LACQUER MAY BE SUBSTITUTED AT THE OPTION OF THE CONTRACTOR FOR THE TRANSPARENT VARNISH NOTED.

STEEL WINDOWS

425. GENERAL.--THE WINDOWS SHALL BE FURNISHED COMPLETE WITH ALL NECESSARY ANCHORS, HARDWARE AND EQUIPMENT AS HEREINAFTER SPECIFIED UNDER THE FOLLOWING TYPES:

(1) PIVOTED WINDOWS, MECHANICALLY OPERATED.
(2) PIVOTED AND HINGED WINDOWS, MANUALLY OPERATED.
(3) RIGID STEEL SASH WINDOWS (NON-VENTILATING).

426. GLAZING IS INCLUDED UNDER "GLASS AND GLAZING."

427. FIELD PAINTING IS INCLUDED UNDER "PAINTING AND FINISHING."

428. GROUTING AND CALKING OF WINDOWS IS INCLUDED UNDER "BRICK WORK, HOLLOWING TILE WORK, ETC."

429. HARDWARE SHALL BE OF BRONZE WITH DULL FINISH IN STATUARY BRONZE COLOR, UNLESS OTHERWISE SPECIFIED, AND OF PLAIN HEAVY PATTERN. BRONZE HARDWARE NOT AN INTEGRAL PART OF WINDOW SHALL BE SHIPPED UNATTACHED AND CAREFULLY PACKED TO PREVENT DAMAGE.

430. WHERE HARDWARE IS SPECIFIED TO BE SUBMITTED FOR APPROVAL, PHOTOSTATS OR DRAWINGS OF PARTS ON PERMANENT FILE IN THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, WILL BE CONSIDERED SUFFICIENT, PROVIDED THREE COPIES ARE SUBMITTED WITH THE SHOP DRAWINGS, FOR APPROVAL.

431. MECHANICAL OPERATORS.--ALL MECHANICAL OPERATORS SHALL BE FURNISHED COMPLETE BY THE WINDOW MANUFACTURER. ALL WINDOWS OF THE VENTILATING TYPE AND SUCH OTHER WINDOWS AS MAY BE INDICATED ON THE DRAWINGS OR HEREINAFTER SPECIFIED SHALL BE MECHANICALLY OPERATED.

432. MATERIALS, GAUGES AND WEIGHTS OF SECTIONS.--ALL WINDOWS, EXCEPT AS OTHERWISE SPECIFIED, SHALL BE OF SOLID HOT ROLLED SECTIONS OF GENUINE PUDDLED WROUGHT IRON CONFORMING WITH A.S.T.M. SPECIFICATION A-84-30 GRADE C, OR SHALL BE OF SOLID SECTIONS HOT ROLLED FROM NEW BILLETS OF STRUCTURAL GRADE STEEL AND ZINC COATED AFTER FABRICATION. HOT ROLLED SECTIONS SHALL BE NOT LESS THAN 1/8 INCH THICK EXCEPT AS MAY BE HEREINAFTER SPECIFIED. THE MAXIMUM TOLERANCE FOR DEFICIENCY IN THE LIMITING WEIGHTS OF SECTIONS SPECIFIED IS 3 PER CENT. WROUGHT IRON SECTIONS SHALL BE AT LEAST 1-1/2 INCHES IN DEPTH. GAUGES OF METAL SPECIFIED ARE U.S. STANDARD AND SHALL BE THE MINIMUM ACCEPTABLE UNDER THE CONTRACT.

433. METAL COATING SHALL BE ZINC, CADMIUM, OR AN ALLOY OF TIN AND LEAD CONTAINING AT LEAST 24 PER CENT TIN.

434. STEEL ALLOYS AND METAL COATED MATERIALS SHALL SHOW NO RUST AFTER 72 HOURS CONTINUOUS EXPOSURE AT ROOM TEMPERATURE TO THE SPRAY OF 20 PER CENT SALT (SODIUM CHLORIDE) SOLUTION. THE TEST WILL BE MADE AT THE GOVERNMENT'S EXPENSE AND BY THE METHOD DESCRIBED IN CIRCULAR NO. 80 OF THE U.S. BUREAU OF STANDARDS. THE TEST SAMPLE MAY BE ANY SELECTED WINDOW OR PORTION OF A WINDOW TAKEN BEFORE OR AFTER SHIPMENT. IF THE FIRST SAMPLE FAILS TO MEET THE TEST NOT MORE THAN ONE ADDITIONAL SAMPLE SHALL BE SELECTED FOR ANY ONE CONTRACT. IF THE ADDITIONAL SAMPLE FAILS TO MEET THE TEST SUCH FAILURE SHALL CONSTITUTE CAUSE FOR THE REJECTION OF THE MATERIAL.

435. STANDARD WINDOW SIZES.--WHERE THE ARCHITECTURAL DESIGN WILL PERMIT, ALL PIVOTED, WINDOWS SHALL BE FURNISHED IN THE STANDARD SIZES AS RECOMMENDED BY THE DIVISION OF SIMPLIFIED PRACTICE AND SHOWN MOSTLY IN PAMPHLET R-72 OR SUCH REVISIONS OR ADDITIONAL STANDARDIZATION AS MAY HEREAFTER BE ESTABLISHED THROUGH PROPOSAL BY THE SOLID SECTION STEEL WINDOW INDUSTRY AND APPROVED BY THE DIVISION OF SIMPLIFIED PRACTICE.

436. SHOP DRAWINGS SHALL BE SUBMITTED IN QUADRUPLICATE FOR APPROVAL. DRAWINGS SHALL SHOW FULL SIZE SECTIONS OF SASH AND FRAMES, DETAILS OF CONSTRUCTION, HARDWARE AND METHODS OF ANCHORING.

437. SHOP PAINTING.--ALL WINDOWS SHALL BE THOROUGHLY CLEANED AND GIVEN A SHOP COAT OF PAINT ON ALL SURFACES BEFORE SHIPMENT. PAINT FOR UNCOATED STEEL SHALL BE AN IRON OXIDE, GREY METALLIC OR SIMILAR WATERPROOF AND RUST INHIBITIVE PAINT. PAINT FOR METAL COATED STEEL SHALL BE SPECIALLY PREPARED TO MEET ALL CONDITIONS PECULIAR TO THE METAL USED AS A COATING.

438. ERECTION.--WINDOWS OF ALL TYPES SHALL BE SET AFTER THE WALLS ARE BUILT OR THEY SHALL BE BUILT INTO THE WALLS AT THE OPTION OF THE CONTRACTOR. ALL FRAMES OR WINDOWS SHALL BE BRACED AS NECESSARY TO PREVENT DISTORTION AND SHALL BE SET STRAIGHT, PLUMB AND LEVEL.

439. MASTIC CEMENT.--SHALL BE USED FOR SETTING ALL WINDOWS IN PREPARED OPENINGS. MASTIC SHALL BE USED IN SUFFICIENT QUANTITY TO PROVIDE A WEATHERTIGHT SEAL BETWEEN WINDOWS AND WALL CONSTRUCTION. THE MASTIC SHALL BE NONSTAINING AND SPECIFICALLY ADAPTED FOR SUCH USE AND SHALL NOT BE AFFECTED BY WEATHER CONDITIONS OR INSIDE TEMPERATURES.

440. ADJUSTMENT.--ALL WINDOWS, SHALL HAVE CAREFUL ADJUSTMENT BEFORE GLAZING. ALL WINDOWS SHALL BE LEFT IN A WEATHERTIGHT CONDITION AND IN PERFECT WORKING ORDER.

PIVOTED WINDOWS

441. SCOPE.--PIVOTED WINDOWS, WITH MECHANICAL OPERATORS, SHALL BE INSTALLED AT OPENINGS NOS. A1/34 A/34 A1/36 A/36 A1/38 A/38.

PIVOTED WINDOWS, MANUALLY OPERATED, SHALL BE INSTALLED AT OPENINGS NOS. B/1-B/2-B/4-B/5-B/6-A/31, AND A/33.

442. MATERIALS.--FRAME AND MUNTIN SECTIONS SHALL BE NOT LESS THAN 1/3/8 INCHES DEEP, FRONT TO BACK. GLASS REBATES SHALL BE NOT LESS THAN 5/16 INCH NOR MORE THAN 7/16 INCH DEEP. FRAME MEMBERS SHALL PROVIDE FOR A CONTINUOUS FLAT BEARING OF NOT LESS THAN 1/2 INCH AGAINST THE WALL CONSTRUCTION OF OPENINGS. APPLIED WEATHERING MEMBERS SHALL BE NOT LIGHTER THAN NO. 16 GAUGE (.062").

443. MULLIONS SHALL BE OF SPECIAL HOT ROLLED T OR H MEMBERS OR STANDARD HOT ROLLED STRUCTURAL SHAPES. WHEN STANDARD STRUCTURAL SHAPES ARE USED FOR HORIZONTAL MULLIONS, NO SIZES LESS THAN 3/16 INCH IN SCHEDULED THICKNESS SHALL BE EMPLOYED. MULLIONS SHALL BE SUBJECT TO CHECK BY THE GOVERNMENT FOR STRENGTH AND RIGIDITY.

444. CONSTRUCTION.--SECTIONS SHALL BE STRAIGHT AND TRUE AND CLOSELY FITTED AT ALL JOINTS. ABUTTING MEMBERS SHALL BE COPED OR MITRED, THEN WELDED OR TENONED AND RIVETED. MUNTIN INTERSECTIONS SHALL BE MECHANICALLY INTERLOCKED OR WELDED. ON WELDED JOINTS SURPLUS WELDING MATERIAL SHALL BE DRESSED FROM ALL EXPOSED AND CONTACT SURFACES. PROVIDE SPRING WIRE CLIPS FOR GLAZING, NOT LESS THAN FOUR PER LIGHT.

445. VENTILATORS SHALL BE HUNG ON SUBSTANTIAL PIVOTS WHICH SHALL BE FULLY WEATHERED AND LOCATED, UNLESS OTHERWISE SPECIFIED, AT THE SIDES FROM 2 INCHES TO 4 INCHES ABOVE THE CENTER. VENTILATORS SHALL SWING OUT AT THE BOTTOM. VENTILATORS AND THEIR SUPPORTING FRAMES SHALL BE DESIGNED TO FORM A CONTINUOUS TWO-POINT, METAL TO METAL WEATHERING AROUND THE ENTIRE PERIMETER. THE DESIGN OF WEATHERING SHALL PROVIDE OUTSIDE DRIPS AT TOP AND BOTTOM RAILS.

446. HARDWARE.--SHALL BE STEEL OR IRON. EACH VENTILATOR SHALL HAVE A SPRING CATCH OPERATED BY A CHAIN EXTENDING TO WITHIN EASY REACH OF THE FLOOR. CHAIN HOLDERS SHALL BE PROVIDED TO HOLD THE SASH OPEN AT ANY ANGLE. CHAIN AND HOLDERS SHALL BE ZINC COATED.

447. OPERATORS.--VENTILATORS OF WINDOWS NOS. A/31-A/32-A/33-A/34-A/35 & A/35A SHALL BE CONTROLLED IN GROUPS OF 12 AND 6 BY POWER OPERATORS, OF THE FOLLOWING TYPE AND CONTROL.

448. CHAIN CONTROLLED POWER, STEEL SHAFT EXTENSION, WORM AND GEAR OPERATOR.--THE POWER SHALL BE OPERATED FROM FLOOR BY A SUITABLE HAND CHAIN, OPERATING OVER A CHAIN WHEEL WITH CHAIN GUARD. WHEEL SHALL BE ACCURATELY DRILLED AND SECURELY MOUNTED ON BEVEL GEAR SHAFT. CHAIN SHALL TERMINATE APPROXIMATELY 2 FEET ABOVE THE FLOOR. THERE SHALL BE TWO VERTICAL PIPE SHAFTS 3/4 INCH IN DIAMETER MOUNTED BY POWER BRACKETS TO WALL COLUMNS, FITTED WITH BEVEL GEARS, THRUST BEARINGS AND WORMS. ONE OF THESE VERTICAL SHAFTS SHALL CONTROL A 2 ROW 6 WINDOW EACH RUN, AND THE OTHER A 2 ROW 3 WINDOW EACH RUN. THERE SHALL BE FOUR HORIZONTAL PIPE SHAFTS NOT LESS THAN 1 INCH INSIDE DIAMETER WITH BEARINGS ON POWER BRACKETS. STEEL OPERATING PUSH ARMS SHALL BE RIGIDLY CLAMPED TO THE HORIZONTAL SHAFTS AND CONNECTED TO THE VENTILATOR BY PUSH ROD AND HINGE BRACKET. THE MACHINE CUT GEARS AND MACHINED TRUST BEARINGS SHALL BE HOUSED IN DUST-PROOF CASES WITH PROVISIONS FOR LUBRICATION. TWO OF THE POWER BRACKET CASES SHALL BE FOR END MOUNTING ON HORIZONTAL PIPE SHAFTS AND TWO FOR CENTER MOUNTING. NO SINGLE LINE SHALL EXTEND MORE THAN 30 FEET FROM EITHER OR BOTH SIDES OF THE POWER. SEE DRAWING NO. G-201 FOR DETAILS.

449. MANUALLY OPERATED VENTILATORS.--THE VENTILATORS ON WINDOWS NOS. A/31 AND A/33 SHALL BE HAND OPERATED. SEE DRAWING NO. G-204 FOR DETAILS.

A. FOR HINGED STEEL SASH BASEMENT WINDOWS NOS. B/1-B/2-B/4-B/5 AND B/6 SEE DETAIL DRAWING G-204.

450. RIGID STEEL SASH WINDOWS, NON-VENTILATING.- -THE WINDOWS AT OPENINGS NOS. 1/35-1/36-0/1 AND P/1 SHALL BE NON-VENTILATING AND SHALL BE SET RIGIDLY IN THE OPENINGS. SEE DRAWING NO. G-302 FOR DETAILS.

451. GLAZING PROVISION.--GLASS SHALL BE APPLIED FROM THE INTERIOR AND HELD IN PLACE BY SPRING WIRE GLAZING CLIPS AND FACE PUTTY, AS IS SPECIFIED UNDER "GLASS AND GLAZING."

FREIGHT ELEVATOR HOISTWAY ENTRANCES.

452. SCOPE.--THE HOISTWAY OPENINGS OF THE FREIGHT ELEVATOR SHALL BE PROVIDED, BY THE CONTRACTOR HEREUNDER, WITH METAL FRAMES COMPLETE, CONSISTING OF HEADERS, JAMBS, JAMBS EXTENSION AND METAL SILLS, ALL AS INDICATED ON DRAWINGS OR AS SPECIFIED. SEE DETAIL DRAWING NO. G-204.

453. SILLS.--THE METAL SILLS SHALL BE ONE PIECE NON-SLIP TYPE OR OF THE BUILT-UP PLATE AND ANGLE NON-SLIP TYPE. THICKNESS OF SILL SHALL NOT BE LESS THAN 3/8 INCH. THE SILL SHALL BE OF THE SAME WIDTH AS JAMB OPENING. THE SILL SHALL BE RIGIDLY ANCHORED AND EXPANSION BOLTED TO THE STRUCTURAL WORK AND GROUTED SOLID. SILLS SHALL BE SET LEVEL AND THE INNER EDGES SHALL BE PLUMB AND IN ALIGNMENT WITH THE CENTER LINE OF GUIDES, WHICH WILL BE ESTABLISHED WHEN THE ELEVATOR EQUIPMENT IS INSTALLED, SO THAT THERE WILL BE NO VARIATION IN THE DISTANCE BETWEEN THE EDGE OF ALL SILLS AND THE CAR PLATFORM.

454. JAMBS.--METAL JAMBS AND HEADS SHALL BE OF STEEL ANGLES OR IRON AS INDICATED. COLD ROLLED SECTIONS SHALL BE OF AT LEAST 12 GAUGE STEEL PLATE. CASTINGS SHALL BE STRAIGHT AND TRUE, AT LEAST 1/4 INCH THICK AND WITH SMOOTH EXPOSED SURFACES FREE FROM DEFECTS. HOT ROLLED SECTIONS SHALL BE OF STANDARD STRUCTURAL STEEL SHAPES. JOINTS AT INTERSECTIONS OF JAMBS AND HEADS SHALL BE WELDED OR RIVETED AND FINISHED SMOOTH ON EXPOSED SURFACES. FRAMES SHALL BE SET STRAIGHT AND PLUMB AND SECURELY ANCHORED IN PLACE.

455. ERECTION.--THE WORK SHALL BE ERECTED WITH ACCURACY AND ALL SUPPORTING MEMBERS SHALL BE RIGIDLY SECURED TO THE STRUCTURAL PARTS OF THE BUILDING. ALL PARTS SHALL BE PLUMB AND LEVEL.

456. PAINTING.--METAL OF FRAMES SHALL BE THOROUGHLY CLEANED AND GIVEN A SHOP COAT OF PAINT ON ALL SURFACES. SILLS SHALL BE PAINTED WITH LAMP BLACK AND LINSEED OIL. ALL OTHER SHOP PAINT SHALL BE RED LEAD PAINT MIXED IN THE PROPORTIONS OF 25 POUNDS OF PURE DRY RED LEAD TO EACH GALLON OF LINSEED OIL AND 1/2 PINT OF OIL DRIER. PAINT SHALL BE WELL BRUSHED OUT TO A SMOOTH UNIFORM COATING.

457. ALL COUNTERBALANCED HOISTWAY DOORS FOR FREIGHT ELEVATOR, AFTER INSTALLATION SHALL BE PAINTED WITH NOT LESS THAN THREE COATS OF LEAD AND OIL PAINT OF A COLOR DIRECTED BY THE CONSTRUCTION ENGINEER. COUNTERBALANCED DOORS WILL BE FURNISHED IN PLACE BY THE CONTRACTOR FOR ELEVATOR.

STEEL ROLLING CURTAINS.

458. THE CURTAINS AT PARCEL POST COUNTER SHALL BE OF THE MECHANICALLY OPERATED ROLLING TYPE. ALL SHEET METAL PARTS SHALL BE ZINC COATED AND NOT LIGHTER THAN No. 20 U. S. STANDARD GAUGE.

459. CURTAINS SHALL BE BUILT OF INTERLOCKING STEEL PLATES OR SLATS NOT LESS THAN No. 20 U. S. STANDARD GAUGE AND 1-1/4 INCHES WIDE, WITH WATERPROOF JOINTS AND SHALL TRAVEL ON STEEL GUIDES AND FRAMES MOUNTED AT THE SIDES OF OPENINGS AND SECURELY FASTENED IN PLACE. THE HOODS AT THE TOP SHALL BE NOT LIGHTER THAN No. 24 GAUGE AND SHALL BE OF RIVETED CONSTRUCTION AND SECURELY BOLTED OR RIVETED TO THE FRAME.

460. OPERATION SHALL BE BY EXTENSION ROD WITH BEVEL GEARS AT TOP AND WITH WORM AND GEAR AT THE BOTTOM, WITH WHEEL OR CRANK CONTROL. GEARS TO BE MACHINE CUT, AND EXTENSION ROD SHALL BE NOT LESS THAN 1/2 INCH INSIDE DIAMETER STANDARD WEIGHT IRON PIPE SIZES.

461. ALL PARTS TO BE ACCESSIBLE FOR OILING AND REPAIRS THROUGH A REMOVABLE COVER ON THE INNER SIDE OF HOOD.

462. THE OPERATOR SHALL BE DESIGNATED TO OPEN AND CLOSE THE CURTAIN AND TO LOCK THE SAME AT ANY POINT IN ITS TRAVEL, INCLUDING OPEN AND CLOSED POSITION.

463. ALL METAL SURFACES SHALL BE CLEANED AND GIVEN A SHOP COAT OF IRON OXIDE OR SIMILAR RUST RESISTING PAINT SUITABLE FOR ZINC COATED SURFACES. THE LOBBY SIDE OF THE STEEL CURTAIN SHALL BE FINISHED TO MATCH ADJACENT METAL FINISHES.

464. SHOP DRAWINGS IN QUADRUPLICATE SHALL BE SUBMITTED FOR THE APPROVAL OF THE ARCHITECT.

(A). FOR DETAILS SEE DRAWING No. G-208.

HOLLOW METAL WORK

465. SCOPE OF WORK.--WORK UNDER THIS SECTION OF THE SPECIFICATION CONSISTS OF THE FOLLOWING ITEMS: HOLLOW METAL DOORS, BUCKS AND FRAMES.

(A) HARDWARE, GLASS AND STRUCTURAL STEEL BUCKS OR LINTELS ARE INCLUDED IN THE SPECIFICATIONS FOR SUCH WORK.

466. DRAWINGS.--SHOP DRAWINGS IN QUADRUPLICATE SHOWING THICKNESSES OF METAL, DETAILS OF CONSTRUCTION, PROFILES OF MOULDINGS, CONNECTIONS TO OTHER WORK, FASTENINGS, ANCHORS, ETC., SHALL BE SUBMITTED FOR THE APPROVAL OF THE ARCHITECT.

467. MATERIALS --EXPOSED MEMBERS OF HOLLOW STEEL WORK SHALL BE OF COLD ROLLED FURNITURE STOCK STEEL THAT HAS BEEN PROPERLY ANNEALED AND PROCESS LEVELED AND HAS SMOOTH, CLEAN SURFACES.

(A) CONCEALED STRUCTURAL OR REINFORCING MEMBERS SHALL BE WELL FINISHED SHEET STEEL OR ROLLED STEEL SHAPES.

468. GAUGES SPECIFIED ARE U. S. STANDARD FOR SHEET STEEL AND SHALL BE MINIMUM ACCEPTABLE UNDER THE CONTRACT.

(A) SHEET STEEL SHALL BE OF THE FOLLOWING:

PRESSED STEEL BUCKS, 14 GAUGE, (.078 INCHES)
COMBINATION BUCKS AND FRAMES, 14 GAUGE. (.078 INCHES)
SASH FRAMES IN POST OFFICE SCREEN, 16 GAUGE.
RAILS AND STILES OF DOORS AND SASH, 18 GAUGE (.050 INCHES)
PANELS MORE THAN 60 INCHES ON THE DIAGONAL, 18 GAUGE.
MOULDINGS, GLAZING BEADS, MUNTINS, ETC., AND PANELS
60 INCHES OR LESS ON THE DIAGONAL, 20 GAUGE (.037 INCHES)

469. WORKMANSHIP.--THE FINISHED WORK SHALL BE STRONG AND RIGID, NEAT IN APPEARANCE AND FREE FROM DEFECTS. PLAIN SURFACES SHALL BE SMOOTH AND FREE FROM WARPING OR BUCKLE. MOLDED MEMBERS SHALL BE CLEAN CUT, STRAIGHT AND TRUE. MITERS SHALL BE WELL FORMED AND IN TRUE ALIGNMENT. FASTENINGS SHALL BE CONCEALED WHERE PRACTICABLE. EXPOSED SCREWS SHALL HAVE COUNTERSUNK OVAL HEADS.

470. CONSTRUCTION JOINTS OF STEEL WORK SHALL BE WELDED THEIR FULL LENGTH AND CLEANED OFF FLUSH ON EXPOSED SURFACES. SPOT WELDING SHALL BE USED WHERE PRACTICABLE IN PREFERENCE TO THE USE OF RIVETS, SCREWS AND BOLTS.

471. DOORS SHALL HAVE NOT MORE THAN 3/32 INCH CLEARANCE AT JAMBS AND HEADS, AND SHALL HAVE THE PROPER BEVEL ON LOCK STILES OR RAILS TO OPERATE WITHOUT BINDING. THEY SHALL BE OUT OF WIND AND REINFORCED AT CORNERS TO PREVENT SAGGING OR TWISTING.

472. SUITABLE SINKAGES SHALL BE PROVIDED IN DOORS, FRAMES, CABINET JAMBS, ETC., FOR ALL MORTISE OR COUNTERSUNK HARDWARE. STEEL REINFORCEMENT SHALL BE INSERTED FOR ATTACHING ALL HARDWARE AND SHALL BE OF AMPLE SIZE TO STIFFEN THE SHEET METAL AGAINST THE STRAIN OF SERVICE REQUIRED.

473. REINFORCEMENT FOR LOCKS AND ESCUTCHEONS SHALL BE BOX TYPE AT LEAST 16 GAUGE WITH SPRING LEAF CONTACTS FOR LOCK CASES. REINFORCEMENT FOR BUTTS SHALL BE AT LEAST 10 INCHES LONG AND NOT LESS THAN .156 INCH THICK (No. 9 GAUGE).

474. FITTING FOR HARDWARE SHALL BE DONE AT THE FACTORY, EITHER TO TEMPLATES OR TO THE HARDWARE, AS MAY BE REQUIRED.

475. COMBINATION BUCKS AND FRAMES SHALL HAVE REBATES TO RECEIVE THE HINGED DOORS. WHERE PLASTER OCCURS, THE EDGE OF THE FRAME SHALL BE FLANGED 2 INCHES AND FORM A PLASTER GROUND. PROVISION SHALL BE MADE FOR ANCHORING AND FOR SECURING TRIM. BED MOULDS AT UNFINISHED JAMBS MAY BE EITHER APPLIED OR FORMED INTEGRALLY WITH THE FRAME. DOOR JAMBS SHALL BE ANCHORED TO THE FLOOR AND ALL JAMBS SHALL HAVE ADJUSTABLE ANCHORS AT LEAST EVERY 3 FEET IN HEIGHT.

476. DOORS SHALL BE 1-3/4 INCHES THICK UNLESS OTHERWISE SPECIFIED. RAILS AND STILES, EXCLUSIVE OF APPLIED MOULDINGS, SHALL BE MADE FROM SINGLE SHEETS, EXCEPT THAT BOTTOM RAILS OF DOORS MAY BE FORMED OF TWO SHEETS WELDED TO REINFORCING CHANNELS. STILES AND LOCK RAILS OF DOORS SHALL BE FILLED ALONG THE CENTER WITH SOLID STRIPS OF COMPRESSED CORK AT LEAST 2-1/2 INCHES WIDE. BOTTOM RAILS OF DOORS SHALL HAVE INTERIOR CROSS BRACING.

477. PANELS SHALL FINISH AT LEAST 1/4 INCH THICK AND SHALL HAVE A CONTINUOUS CORE OF COMPRESSED INSULATING MATERIAL SUCH AS CORK, FELT OR ASBESTOS FIBRE.

478. APPLIED MOULDINGS AND BEADS SHALL BE MADE UP IN FRAMES WITH WELDED OR BRAZED JOINTS. GLAZING BEADS SHALL BE FASTENED WITH OVAL HEAD SCREWS.

479. ANCHORS FOR ROUGH BUCKS AND COMBINATION BUCKS AND FRAMES SHALL BE NOT LIGHTER THAN 14 GAUGE, 3 INCHES WIDE, CORRUGATED OR PERFORATED FOR BOND AND SHALL EXTEND 10 INCHES INTO THE MASONRY WHERE PRACTICABLE. ANCHORS SHALL BE ADJUSTABLE ATTACHED SO THAT THEY CAN BE BUILT INTO THE MASONRY JOINTS WITHOUT BENDING.

480. FINISH ON STEEL.--ALL SURFACES SHALL BE CLEAN AND DRY WHEN PAINT OR FINISH IS APPLIED. LINSEED OIL, RED LEAD AND IRON OXIDE SHALL COMPLY WITH FEDERAL SPECIFICATIONS NOS. JJJ-O-336, TT-R-191 AND TT-P-31. OTHER MATERIALS FOR FINISHING SHALL BE HIGH GRADE BAKING ENAMELS, VARNISHES AND LACQUERS PRODUCING DURABLE, WATERPROOF FINISH. ALL COATS SHALL BE EVENLY APPLIED.

481. ALL HOLLOW STEEL WORK SHALL HAVE A PLAIN ENAMEL FINISH AT THE FACTORY.

(A) PRIME FINISH SHALL CONSIST OF ONE DIP COAT OF RUST RESISTING PAINT BAKED ON BEFORE THE VARIOUS PARTS ARE ASSEMBLED AND, AFTER ASSEMBLY, ONE FILLER COAT AND ONE PRIME COAT OF PAINT ON EXPOSED SURFACES. EACH COAT SHALL BE BAKED ON AND RUBBED SMOOTH.

(B) PLAIN ENAMEL FINISH SHALL CONSIST OF 3 COATS OF ENAMEL ON ALL EXPOSED SURFACES IN ADDITION TO THE PRIME FINISH ABOVE SPECIFIED. EACH COAT SHALL BE BAKED AND RUBBED SMOOTH; THE FINAL COAT BEING RUBBED TO AN EGG SHELL GLOSS.

482. MIRRORS.--ALL TOILET ROOMS SHALL HAVE MIRRORS. FOR GLASS SPECIFICATIONS SEE "GLASS AND GLAZING."

(A) MIRRORS SHALL BE SUPPORTED ON 18 GAUGE CHROMIUM PLATED BRASS FRAMES WITH WELDED CORNERS.

(B) FRAMES SHALL BE BOLTED TO PLASTERED MASONRY WALLS OR TO MARBLE WAINSCOT OR SLABS AS DETAILED, WITH BRASS BOLTS.

(C) FOR SIZES OF MIRRORS SEE DRAWING NO. G-205.

SHEET METAL WORK

483. SCOPE.--THIS SECTION INCLUDES SHEET METAL WORK GENERALLY AND SHEET METAL IN CONNECTION WITH COMPOSITION ROOFING.

(A) ALL EXTERIOR SHEET METAL WORK SHALL BE OF COPPER.

(B) ALL INTERIOR SHEET METAL WORK SHALL BE ZINC COATED.

(C) FLASHINGS IN CONNECTION WITH TILE ROOFING AND THEIR COUNTER-FLASHINGS ARE INCLUDED UNDER SUCH ROOFING.

(D) INTERIOR DOWN SPOUTS, ROOF DRAINS, LEAD FLASHINGS FOR PLUMBING PIPES, ARE INCLUDED UNDER "MECHANICAL EQUIPMENT."

(E) LEAD PANS FOR SHOWER INCLOSURES ARE INCLUDED UNDER "INTERIOR MARBLE".

484. STEEL AND IRON SHALL BE CLEAN, WELL FINISHED SHEETS THAT WILL STAND SEAMING WITHOUT CRACKING OR BREAKING.

(A) STEEL SHALL BE SOFT GRADE. THE SUM OF CARBON, MAGANESE, SULPHUR, PHOSPHORUS AND SILICON IN THE STEEL SHALL NOT EXCEED 0.70 PER CENT. COPPER-BEARING STEEL SHALL CONTAIN NOT LESS THAN 0.20 PER CENT COPPER. STEEL SHEETS MAY BE EITHER WITH OR WITHOUT COPPER AT THE OPTION OF THE CONTRACTOR, EXCEPT WHERE COPPER-BEARING STEEL IS SPECIFIED.

(B) IRON SHALL NOT CONTAIN MORE THAN 0.25 PER CENT CARBON, MANGANESE, SULPHUR, PHOSPHORUS AND SILICON IN THE AGGREGATE. THE ADDITION OF COPPER WITH OR WITHOUT MOLYBDENUM TO THE IRON IS OPTIONAL.

485. ZINC COATED SHEET METAL SHALL COMPLY WITH FEDERAL SPECIFICATION NO. QQ-I-696 AND SHALL BE STEEL OR IRON EVENLY COATED WITH AT LEAST 1-1/2 OUNCES OF ZINC PER SQUARE FOOT OF SHEET. ZINC COATED METAL NOT OTHERWISE SPECIFIED SHALL BE 24 GAUGE (.025 INCH).

486. COPPER SHALL COMPLY WITH FEDERAL SPECIFICATION NO. QQ-C-501. SHEET COPPER SHALL BE HARD OR SOFT AS BEST SUITED FOR THE PURPOSE INTENDED AND SHALL WEIGH 16 OUNCES PER SQUARE FOOT, UNLESS OTHERWISE SPECIFIED. HARD COPPER SHALL BE USED FOR CORNICES, MOULDINGS, HANGING GUTTERS, DOWN SPOUTS, COUNTER FLASHINGS AND LOUVERS.

487. SHEET LEAD SHALL COMPLY WITH FEDERAL SPECIFICATION NO. QQ-L-201, AND SHALL WEIGH 3 POUNDS PER SQUARE FOOT, UNLESS OTHERWISE SPECIFIED. LEAD FOR EXTERIOR WORK SHALL BE AN ALLOY OF LEAD AND ANTIMONY KNOWN AS HARD LEAD; THE ANTIMONY CONTENT TO BE NOT LESS THAN 6 PER CENT NOR MORE THAN 7.5 PER CENT AND THE REMAINDER TO BE LEAD.

488. SOLDER SHALL BE GRADE A, FEDERAL SPECIFICATION NO. QQ-S-571 AND SHALL BEAR THE MAKER'S NAME AND BRAND.

489. FASTENINGS FOR COPPER AND LEAD WORK SHALL BE OF BRONZE OR COPPER, AND FOR OTHER SHEET METAL WORK THEY SHALL BE TINNED OR ZINC COATED.

490. PLASTIC ROOFING CEMENT SHALL COMPLY WITH FEDERAL SPECIFICATION No. SS-C-153.

491. POINTING COMPOUND SHALL BE LIGHT COLORED, ELASTIC AND WATERPROOF. IT SHALL NOT STAIN THE STONE NOR CORRODE COPPER NOR BE AFFECTED BY LONG EXPOSURE TO EXTREMES OF OUTSIDE TEMPERATURES. IT SHALL GRADUALLY FORM A THIN, TOUGH "SKIN" ON THE EXPOSED SURFACES, BUT UNDERNEATH THE SURFACE IT SHALL REMAIN SOFT AND PLASTIC INDEFINITELY. IT SHALL BE MIXED TO THE PROPER CONSISTENCY AT THE FACTORY AND SHALL BE USED ACCORDING TO THE MANUFACTURER'S PRINTED DIRECTIONS. SURFACES OF STONE THAT WILL BE IN CONTACT WITH THE COMPOUND SHALL BE CLEANED AND COATED WITH A COLORLESS LIQUID WATERPROOFING BEFORE USING THE COMPOUND.

492. SHOP DRAWINGS OF EXPANSION JOINTS, SKYLIGHTS AND VENTILATORS SHOWING THE MATERIALS, GAUGES OF METAL AND ALL DETAILS OF CONSTRUCTION SHALL BE SUBMITTED IN QUADRUPLICATE FOR THE APPROVAL OF THE ARCHITECT.

493. WORKMANSHIP.--SHEET METAL WORK EXPOSED TO THE WEATHER SHALL BE PERMANENTLY WATER AND WEATHER TIGHT. SUITABLE PROVISION SHALL BE MADE FOR FREE EXPANSION AND CONTRACTION WITHOUT CAUSING LEAKS.

494. SEAMS SHALL BE SINGLE LOCKED AND SOAKED WITH SOLDER, OR DOUBLE LOCKED AND MALLETED FLAT. SEAMS SHALL OVERLAP IN THE DIRECTION OF THE FLOW. SOLDERING FLUX SHALL BE NON-ACID.

495. SHEET METAL SHALL BE FASTENED TO WOOD WORK WITH 1-1/2 BY 3 INCH CLEATS OF THE SAME METAL SPACED NOT OVER 15 INCHES APART ALONG THE SEAMS; ONE END OF THE CLEAT TO BE TURNED IN WITH THE SEAM AND THE OPPOSITE END NAILED AND TURNED BACK OVER THE NAIL HEAD.

496. COPPER SHALL NOT COME IN CONTACT WITH OTHER METAL, EXCEPT LEAD. WHEN COPPER IS JOINED TO SUCH OTHER MATERIAL, THE METALS SHALL BE SEPARATED BY SHEET LEAD OR EQUIVALENT INSULATION. WHERE PRACTICABLE, SINGLE LOCKED SEAMS OF COPPER WORK SHALL BE TINNED BEFORE ASSEMBLING.

497. EXPOSED EDGES OF METAL ROOFING, ON WOOD CONSTRUCTION, SHALL BE LOCKED TO A CONTINUOUS METAL STRIP NAILED TO THE TOP OR FACE EDGE, THAN EVENLY TURNED DOWN ABOUT AN INCH TO FORM A FINISHED EDGE WITH A DRIP.

498. THIMBLES.--PIPES PASSING THROUGH INTERIOR CONCRETE CONSTRUCTION AND FIRE STOPS IN CHASES SHALL HAVE ZINC COATED METAL THIMBLES THE FULL THICKNESS OF THE CONCRETE AND 1/4 INCH LARGER THAN THE PIPE.

499. FLASHINGS.--SHEET METAL ROOFING AND COVERINGS EXPOSED TO THE WEATHER SHALL BE FLASHED AND MADE WATER-TIGHT AT ALL EDGES ABUTTING OR CONNECTING WITH OTHER WORK. FLASHINGS AGAINST VERTICAL SURFACES SHALL TURN UP AT LEAST 5 INCHES WHERE POSSIBLE. THE TOP EDGE SHALL, WHERE PRACTICABLE, BE SECURED EVERY 12 INCHES WITH TINNED FLASHING HOOKS OR OTHER SUITABLE FASTENINGS THAT WILL PERMIT FREE LONGITUDINAL MOVEMENT.

(A) HANGER RODS, BRACES, ETC., SHALL BE FLASHED WITH THIMBLES COMPLETELY SURROUNDING THEM.

(B) FLASHINGS ON COMPOSITION ROOFING SHALL BE BEDDED IN PITCH AND THE PORTION ON THE ROOF SHALL BE COVERED WITH TWO LAYERS OF FELT AND PITCH 16 INCHES WIDE BEFORE THE SURFACING MATERIALS ARE APPLIED.

500. COUNTERFLASHINGS.--COUNTERFLASHINGS FOR SHEET METAL SHALL BE OF THE SAME MATERIAL AS THE FLASHINGS AND FOR PLASTIC FLASHINGS SHALL BE OF COPPER.

501. ALL FLASHINGS, BOTH METAL AND PLASTIC, HAVING THE TOP EDGE EXPOSED AND NOT OTHERWISE WATERTIGHT, SHALL BE COUNTERFLASHED. THE COUNTERFLASHING SHALL BE IN PIECES NOT OVER 10 FEET IN LENGTH, SHAPED TO LIE FLAT AGAINST THE FLASHING AND OVERLAP THE SAME NOT LESS THAN 4 INCHES. END JOINTS SHALL LAP 3 INCHES AND THE METAL AT CORNERS SHALL BE CONTINUOUS AROUND THE ANGLE OR SHALL BE LOCKED AND SOLDERED.

502. COUNTERFLASHINGS AGAINST MASONRY OR CONCRETE SHALL HAVE THE TOP EDGE BENT UP 1/4 INCH AND TURNED INTO GROOVES OR REGLETS AT LEAST 1-1/2 INCHES WHERE POSSIBLE. THE METAL SHALL BE FASTENED EVERY 12 INCHES WITH LEAD WEDGES OR METAL CLIPS, AND THE GROOVES OR REGLETS FILLED SOLID WITH POINTING COMPOUND FORCED INTO PLACE. EXPOSED EDGES OF METAL SHALL BE SLIGHTLY BROKEN FOR STIFFNESS.

503. COUNTERFLASHINGS FOR HANGER RODS, BRACES, ETC., PASSING THROUGH ROOFS SHALL BE SOLDERED TO THE RODS OR BRACES; THE METAL FIRST BEING THOROUGHLY CLEANED AND TINNED.

504. THROUGH FLASHINGS OF CRIMPED COPPER SHALL BE PROVIDED BELOW THE PARAPET COPINGS, FOR COUNTERFLASHINGS IN MASONRY PARAPETS AND WHERE LOW ROOFS ABUT THE SUPERSTRUCTURE, AND ELSEWHERE AS INDICATED ON DRAWINGS. FLASHINGS IN PARAPETS SHALL EXTEND THROUGH THE WALL TO WITHIN 1/2 INCH OF THE EXTERIOR FACE AND THE UNEXPOSED EDGE SHALL BE TURNED UP ABOUT 1/4 INCH TO TURN SEEPAGE WATER TO THE ROOF. ALL THROUGH FLASHINGS, EXCEPT THOSE IN PARAPETS, SHALL EXTEND THROUGH THE WALL AND TURN UP AT LEAST 2 INCHES ON THE UNEXPOSED FACE. THROUGH FLASHINGS SHALL BE PLACED WITH THE CRIMPING AT RIGHT ANGLES TO THE RUN OF THE WALL. END JOINTS SHALL BE SINGLE LOCKED NOT LESS THAN 1 INCH.

505. INSTEAD OF CRIMPED COPPER, THROUGH FLASHINGS MAY BE OF SHEET COPPER THAT HAS BEEN SPECIALLY FORMED TO BOND IN THE MORTAR BED AND PREVENT LATERAL MOVEMENT IN BOTH DIRECTIONS. THE BONDING FEATURES SHALL OCCUR AT INTERVALS OF NOT MORE THAN 3 INCHES AND SHALL BE A SERIES OF RIBS EXTENDING TRANSVERSELY OF THE SHEET OR A SERIES OF RIBS AND RAISED PROJECTIONS OR SIMILAR FEATURES OF EQUIVALENT EFFICIENCY. THE METAL SHALL BE SO FORMED AS NOT TO CAUSE ANY ACCUMULATION OF WATER ON THE SURFACE, AND SHALL NOT BE BROKEN OR PERFORATED IN ANY MANNER. THE END JOINTS SHALL BE SO LAPPED AND LOCKED THAT WATER WILL NOT LEAK THROUGH.

506. THROUGH FLASHINGS SHALL BE LEAD COATED WHERE THEY WILL COME IN CONTACT WITH ANY METAL OTHER THAN COPPER OR LEAD.

507. METAL ROOFING SHALL BE LAID WITH FLAT SEAMS, UNLESS OTHERWISE INDICATED. FOR FLAT SEAM WORK COPPER SHALL BE IN SHEETS NOT LARGER THAN 18 BY 24 INCHES. THE SHEETS SHALL BE LAID SINGLY WITH STAGGERED SEAMS AND SECURED BY THREE CLEATS TO EACH SHEET; TWO ON THE LONG SIDE AND ONE ON THE SHORT SIDE.

(A) FLASHINGS AND COUNTERFLASHINGS SHALL BE AS HEREINBEFORE SPECIFIED.

(B) WHERE METAL ROOFING ABUTS TILE, IT SHALL EXTEND UNDER SAME AT LEAST 6 INCHES WITH THE EDGE CRIMPED AND CLEATED EVERY 15 INCHES.

(C) OUTER EDGES OF METAL DECK COVERINGS SHALL BE DOUBLE LOCKED TO THE FLASHINGS OF ADJOINING ROOF SECTIONS.

508. HANGING GUTTERS SHALL BE COPPER SINGLE BEADED AND SHALL HAVE CLOSED ENDS AND MITERED CONNECTIONS AT ANGLES. THEY SHALL BE GRADED AT THE RATE OF 1 INCH IN 16 FEET TO DRAIN TO THE OUTLETS. OUTLETS SHALL BE FITTED WITH FLANGED THIMBLES SOLDERED TO THE GUTTERS AND EXTENDING 3 INCHES INTO DOWN SPOUTS, AND SHALL HAVE CLOSE PATTERN STRAINERS OF 16 GAUGE WIRE; THIMBLES AND WIRE TO BE THE SAME METAL AS THE GUTTERS. HANGERS SHALL BE ADJUSTABLE AND SPACED NOT OVER 30 INCHES APART NOR MORE THAN 12 INCHES FROM ENDS. HANGERS SHALL BE BRASS OR BRONZE.

509. EXPANSION JOINTS.--GUTTERS OF 40 FEET CONTINUOUS LENGTH OR MORE SHALL HAVE EXPANSION JOINTS AT THE HIGH POINTS BETWEEN OUTLETS. THESE JOINTS SHALL BE SO MADE AS TO PERMIT FREE MOVEMENT ON BOTH SIDES OF THE JOINT WITHOUT LEAKAGE. SEE DETAIL DRAWING No. G-5.

510. SCUPPERS.--OPENINGS THROUGH PARAPET WALLS SHALL BE LINED WITH SHEET COPPER AND CONNECTED WITH THE FLASHING SYSTEM. SEE DETAIL DRAWINGS NOS. 5 AND 201.

511. DOWN SPOUTS.--EXTERIOR SHEET METAL DOWN SPOUTS SHALL BE CORRUGATED. COPPER DOWN SPOUTS SHALL BE SUPPORTED WITH HEAVY STRAPS OF THE SAME METAL SOLDERED TO THE DOWN SPOUT AND SECURED WITH BOLTS OR SCREWS. SUPPORTS SHALL BE PLACED NEAR ALL BENDS AND OFFSETS AND NOT OVER 10 FEET APART UNLESS SHOWN OTHERWISE. DOWN SPOUTS SHALL BE HELD ONE INCH FROM THE SURFACE TO WHICH THEY ARE ATTACHED.

(A) ORNAMENTAL HEADS OF DOWN SPOUTS SHALL HAVE TOPS PROTECTED WITH SCREEN WIRE ACCORDING TO DETAIL DRAWINGS.

(B) EXTERIOR DOWN SPOUTS OTHER THAN SHEET METAL ARE SPECIFIED UNDER "MECHANICAL EQUIPMENT".

(C) DOWN SPOUTS SHALL BE PROPERLY CONNECTED NEAR GRADE TO THE DRAINAGE SYSTEM.

512. BOOTS FOR SHEET METAL DOWN SPOUTS WILL BE CAST IRON OF THE SAME SHAPE AND NOMINAL SIZE AS THE PIPE AND ARE SPECIFIED UNDER "MECHANICAL EQUIPMENT".

513. SPLASH PANS OF THE SAME MATERIAL AS THE COUNTERFLASHING BEDDED IN ROOFING PITCH AND COUNTERFLASHED WHERE CONNECTING WITH WALLS, SHALL BE PROVIDED FOR DOWN SPOUTS DISCHARGING ONTO COMPOSITION ROOFS. SEE DETAILS ON DRAWINGS No. 201.

514. CRICKETS AND SADDLES SHALL BE COVERED WITH THE SAME METAL AS FLASHINGS AND SHALL BE LAID WITH FLAT SEAMS. THEY SHALL BE FLASHED AT LEAST 5 INCHES AGAINST ABUTTING VERTICAL SURFACES AND MADE WATERTIGHT WITH CAP FLASHINGS. THEY SHALL EXTEND AT LEAST 6 INCHES UNDER ADJOINING SLATE OR TILE, BE TURNED UP AND BACK 1/2 INCH AND CLEATED AT CLOSE INTERVALS.

(A) DECK MOLDINGS FOR COMPOSITION DECKS SHALL EXTEND ABOUT 6 INCHES ONTO THE ROOFING, BE BEDDED IN HOT PITCH AND COVERED WITH TWO LAYERS OF PITCH AND FELT 16 INCHES WIDE BEFORE THE SURFACING IS APPLIED. SEE DETAIL DRAWING No. 5.

515. VENTILATORS.--VENTILATORS SHALL INDUCE AN OUTWARD FLOW OF AIR AT ALL TIMES AND EXCLUDE RAIN AND SNOW. THEY SHALL BE RIGIDLY BRACED AND REINFORCED, AND EXPOSED EDGES OF METAL SHALL BE BEADED OR WIRED. VENTILATORS SHALL HAVE SQUARE BASES MOUNTED OVER SUITABLE CURBS AND THEIR FLASHINGS, AND SHALL BE SECURELY FASTENED IN PLACE.

(A) THE SIZES OR CAPACITIES OF VENTILATORS AS SPECIFIED OR INDICATED ON THE DRAWINGS ARE FOR VENTILATORS OF THE SIMPLE STATIONARY TYPE. VENTILATORS OF THE SIPHON-ACTION TYPE OR BALL BEARING ROTARY TYPE, AND OF THE SAME RATED CAPACITY AS THE PLAIN STATIONARY VENTILATORS UNDER LIKE CONDITIONS MAY BE SUBSTITUTED, AT THE OPTION OF CONTRACTOR, PROVIDED THE TYPE, DIAMETER, HEIGHT, RATED CAPACITY, AND CONDITIONS OF RATING OF EACH VENTILATOR ARE FIRST SUBMITTED TO, AND APPROVED BY, THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH.

(B) VENTILATORS FROM UNFINISHED ROOF SPACES SHALL HAVE DAMPERS OPERATED FROM THE ROOF, THE DAMPERS TO INCLUDE A DEVICE BY WHICH THEY CAN BE SECURELY LOCKED IN ANY POSITION. SUCH DAMPERS SHALL HAVE DRIP PANS OF 14 OUNCE COPPER 6 INCHES WIDER THAN THE VENTILATOR, AND TWO INCHES DEEP WITH WIRED OR BEADED EDGES. THE PANS SHALL BE SET LEVEL ON SUITABLE SUPPORTS AT A DISTANCE APPROXIMATELY EQUAL TO THE DIAMETER OF THE VENTILATOR, BELOW THE UNDERSIDE OF ROOF AT CENTER OF PAN.

516. VENTILATING LOUVERS.--LOUVERS EXPOSED TO THE WEATHER SHALL HAVE FLANGED OR WIRED EDGES SO FORMED AS TO EXCLUDE RAIN OR SNOW. LOUVERS FOR EXTERIOR OPENINGS IN MASONRY SHALL HAVE HOT ROLLED STEEL CHANNEL BUCKS BUILT INTO THE MASONRY IN ADVANCE AND WITH SUITABLE PROVISION FOR SECURING THE LOUVERS IN PLACE AFTER THE MASONRY IS COMPLETE.

(A) COPPER COVERED LOUVERS AND FRAME SHALL HAVE THE 12 OUNCE COPPER COVERING DIE DRAWN ONTO THE WOOD CORES.

517. VENTILATING LOUVERS IN EXTERIOR OPENINGS SHALL HAVE WIRE NETTING SCREENS ON THE INSIDE OF THE LOUVERED OPENINGS. SCREENS NOT OTHERWISE REQUIRED SHALL BE 1/2 INCH MESH - 14 GAUGE COPPER WIRE IN 3/4 INCH, BRASS CHANNEL FRAMES - 16 GAUGE ZINC COATED WIRE IN 3/4 INCH, ZINC COATED CHANNEL FRAMES.

(A) VENTILATING OPENINGS IN FOUNDATION WALLS SHALL HAVE 1/4 INCH MESH ZINC COATED WIRE NETTINGS INSIDE OF THE GRILLES.

518. DOORS, ETC.--WHERE METAL PROTECTION IS SHOWN ON THE LOWER PORTION OF MAILING VESTIBULE DOORS, BOTH SIDES OF DOORS SHALL BE COVERED TO THE HEIGHT INDICATED WITH 20 GAUGE (.037 INCH) ZINC COATED METAL FASTENED BY OVAL HEAD SCREWS ABOUT 4 INCHES APART ALONG THE EDGES AND ABOUT 10 INCHES APART IN STAGGERED ROWS ACROSS THE WIDTH OF THE SHEET. JOINTS IN THE METAL SHALL BE BUTTED FLUSH. THE METAL SHALL BE APPLIED BEFORE ANY HARDWARE OR FITTINGS ARE PUT ON.

519. OUTSWINGING EXTERIOR WOOD DOORS AND SASH SHALL HAVE THE TOP EDGES COVERED WITH 20 OUNCE COPPER EVENLY FLANGED DOWN 1/2 INCH ON VERTICAL FACES AND EDGES. THE COPPER TO BE LET IN FLUSH AND FASTENED WITH FLATHEAD SCREWS.

520. RADIATOR RECESSES.--THE BACKS AND ENDS OF RADIATOR RECESSES SHALL BE INSULATED WITH PLASTIC OR CELLULAR ASBESTOS AND THEN LINED WITH ZINC COATED SHEET METAL. THE TOP OF THE LINING SHALL BE CURVED OUTWARD TO THE FRONT OF THE RECESS. SEE DETAIL DRAWING No. G-PH-450.

521. PAINTING OF SHEET METAL.--ALL SURFACES OF IRON AND STEEL WORK IN CONNECTION WITH EXTERIOR SHEET METAL, AND THE UNDERSIDE OF EXTERIOR TERNE PLATE, AND THE UNEXPOSED SURFACE OF EXTERIOR ZINC-COATED METAL SHALL BE PAINTED BEFORE THE WORK IS PUT IN PLACE. THE EXPOSED SURFACES OF EXTERIOR SHEET METAL (EXCEPT COPPER AND LEAD) SHALL BE PAINTED ONE COAT AFTER IT IS IN PLACE.

522. SURFACES THAT ARE TO BE PAINTED SHALL BE THOROUGHLY CLEANED AND ALL TRACES OF FLUX REMOVED. ZINC COATED METAL SHALL BE WASHED WITH A SOLUTION OF 8 OUNCES OF COPPER ACETATE IN ONE GALLON OF WATER AND ALLOWED TO DRY BEFORE PAINTING.

523. PAINT SHALL BE COMPOSED OF 25 POUNDS OF DRY RED LEAD TO EACH GALLON OF LINSEED OIL WITH NOT MORE THAN 1/2 PINT OF LIQUID DRIER. PAINT SHALL BE KEPT WELL STIRRED WHILE BEING APPLIED AND SHALL BE THOROUGHLY AND EVENLY BRUSHED ON. MATERIALS SHALL COMPLY WITH FEDERAL SPECIFICATIONS. THE FINISH COATS OF PAINT ARE SPECIFIED UNDER "PAINTING AND FINISHING".

COMPOSITION ROOFING

524. GENERAL.--MATERIALS FOR COMPOSITION ROOFING, WHEN NOT OTHER WISE SPECIFIED, SHALL COMPLY WITH THE FOLLOWING FEDERAL SPECIFICATIONS:

COAL TAR PITCH, TYPE I, No. R-P-381.
ASPHALT, TYPE I, No. SS-A-666.
COAL TAR SATURATED FELT, No. HH-F-201.
ASPHALT SATURATED FELT, No. HH-F-191; TYPE I FOR ROOFING AND TYPE II FOR FLASHING.
ASPHALT PRIMER, No. SS-A-701.
BITUMINOUS PLASTIC CEMENT, TYPE I, No. SS-C-153.
GRAVEL OR SLAG, No. 82.

525. MANUFACTURED MATERIALS SHALL BE DELIVERED ON THE SITE IN ORIGINAL PACKAGES MARKED WITH THE MANUFACTURER'S NAME AND BRAND. TO INSURE COMPLIANCE WITH FEDERAL SPECIFICATIONS, IT IS SUGGESTED THAT MATERIALS FOR THIS WORK BE SHIPPED DIRECT FROM THE FACTORY.

526. COMPOSITION ROOFING ON CONCRETE OR INSULATION SHALL BE EITHER TYPE 5 ACS OR TYPE 5 TCS.

527. MATERIALS.--TYPE 5 AWS ROOFING SHALL CONTAIN NOT LESS THAN THE FOLLOWING QUANTITIES PER 100 SQUARE FEET: FIVE LAYERS ASPHALT FELT, 76 POUNDS; ASPHALT, 125 POUNDS; GRAVEL, 400 POUNDS OR SLAG, 300 POUNDS.

528. TYPE 5ACS ROOFING SHALL CONTAIN NOT LESS THAN THE FOLLOWING QUANTITIES OF MATERIALS PER 100 SQUARE FEET: ASPHALT PRIMER ON CONCRETE OR INSULATION, 7.5 POUNDS; ASPHALT PRIMER OR GYPSUM, 15 POUNDS; FIVE LAYERS ASPHALT FELT, 76 POUNDS; ASPHALT, 170 POUNDS; GRAVEL 400 POUNDS OR SLAG, 300 POUNDS.

529. TYPE 5 ACS ROOFING SHALL HAVE THE ROOF SURFACE UNIFORMLY COATED WITH ASPHALT PRIMER, USING NOT LESS THAN 1 GALLON PER 100 SQUARE FEET. THE ROOF SHALL THEN BE GIVEN A COATING OF HOT ASPHALT, USING NOT LESS THAN 30 POUNDS PER 100 SQUARE FEET. OVER THIS COATING SHALL BE LAID 5 LAYERS OF FELT. THE LAPS OF ALL SHEETS OF FELT SHALL BE MOPPED FULL WIDTH OF THE LAP, USING NOT LESS THAN 20 POUNDS OF HOT ASPHALT PER 100 SQUARE FEET IN EACH MOPPING.

530. TYPE 5 TCS ROOFING SHALL CONTAIN NOT LESS THAN THE FOLLOWING QUANTITIES OF MATERIALS PER 100 SQUARE FEET: FIVE LAYERS OF COAL TAR SATURATED FELT, 76 POUNDS; COAT TAR PITCH, 210 POUNDS, GRAVEL, 400 POUNDS OR SLAG, 300 POUNDS.

531. TYPE 5 TCS ROOFING SHALL HAVE THE ROOF SURFACE UNIFORMLY COATED WITH HOT COAL TAR PITCH, USING NOT LESS THAN 40 POUNDS PER 100 SQUARE FEET. OVER THIS COATING SHALL BE LAID 5 LAYERS OF FELT. THE LAPS OF ALL SHEETS OF FELT SHALL BE MOPPED FULL WIDTH OF THE LAP, USING NOT LESS THAN 25 POUNDS OF HOT COAL TAR PITCH PER 100 SQUARE FEET IN EACH MOPPING.

532. WORKMANSHIP.--ASPHALT SHALL NOT BE HEATED ABOVE 400 DEGREES F. COAL TAR PITCH SHALL NOT BE HEATED ABOVE 375 DEGREES F. THEY SHALL BE HOT WHEN THE FELTS ARE LAID. ASPHALT AND COAT TAR PITCH SHALL BE EVENLY APPLIED SO AS TO LEAVE NO BARE SPOTS.

(A) THE SURFACING MATERIAL SHALL ALWAYS BE DRY WHEN APPLIED AND IN ADDITION SHALL BE HEATED IN COLD WEATHER.

(B) THE FINAL COATING OF ASPHALT SHALL BE NOT LESS THAN 60 POUNDS, AND OF COAL TAR PITCH SHALL BE NOT LESS THAN 70 POUNDS, PER 100 SQUARE FEET AND THE SURFACING MATERIAL SHALL BE EMBEDDED IN IT WHILE THE ASPHALT OR PITCH IS HOT.

(C) THE FLASHINGS AND ALL CONNECTIONS OF ROOFING WITH OTHER WORK SHALL BE COMPLETE BEFORE THE FINAL COATING AND THE SURFACING MATERIALS ARE APPLIED.

(D) FELTS SHALL BE SMOOTHLY LAID WITHOUT WRINKLES. FELT LAID OVER ASPHALT OR PITCH SHALL BE ROLLED CLOSELY BEHIND THE MOPPING SO THAT NO VOIDS OR AIR POCKETS SHALL OCCUR UNDER THE FELT.

(E) FELTS SHALL BE LAID WITH NOT LESS THAN THE FOLLOWING LAPS:

	32" FELT:	36" FELT
2 LAYERS:	17" LAP:	19" LAP
3 LAYERS:	22" LAP:	21-1/2" LAP
4 LAYERS:	24-1/2" LAP:	27-1/2" LAP
5 LAYERS:	26-1/2" LAP:	29-1/2" LAP

(F) ENDS OF SHEETS SHALL BE LAPPED 6 INCHES. FELTS SHALL, SO FAR AS PRACTICABLE, BE LAID AT RIGHT ANGLES TO THE INCLINES OF THE ROOF AND STARTING AT THE LOW POINTS.

(G) WHERE CANT STRIPS DO NOT OCCUR, NOT LESS THAN TWO LAYERS OF FELT SHALL BE CARRIED UP ABOVE THE PLANE OF THE ROOF AT LEAST 5 INCHES AGAINST ALL ABUTTING STRUCTURES. WHERE CANT STRIPS OCCUR, ALL LAYERS OF FELT SHALL BE CARRIED UP TO THE TOP EDGE OF SAME.

(H) THE PARTS OF ALL METAL FLASHINGS AND FITTINGS OVERLAPPING THE ROOFING FELT SHALL BE BEDDED IN HOT BITUMEN OF THE TYPE SPECIFIED FOR THE ROOF AND THEN COVERED WITH NOT LESS THAN TWO STRIPS OF FELT; THE FIRST EXTENDING AT LEAST 8 INCHES BEYOND THE EDGES OF THE UNDERLYING METAL, AND THE SECOND AT LEAST 2 INCHES BEYOND THE FIRST, AND BOTH LAID IN HOT BITUMEN.

533. PLASTIC FLASHINGS SHALL BE USED WHERE COMPOSITION ROOFING INTERSECTS ABUTTING WALLS OR OTHER STRUCTURES (EXCEPT WHERE METAL BASE FLASHINGS OCCUR) AND WHERE NECESSARY TO MAKE THE ROOF INTERSECTION AND TERMINATIONS PERMANENTLY WATER-TIGHT.

534. THE FLASHING SHALL CONSIST OF THREE LAYERS OF FLASHING FELT SET IN THE ANGLES OR ON THE CANT STRIPS AND EXTENDING UP TO THE COUNTER FLASHING REGLET, OR TO THE HEIGHT REQUIRED WHERE NO REGLETS OCCUR. WHERE CANT STRIPS DO NOT OCCUR, THE UNDER LAYER OF FELT BASE FLASHING SHALL EXTEND OUT ON TO THE ROOFING NOT LESS THAN 4 INCHES, AND EACH SUCCEEDING LAYER SHALL EXTEND AT LEAST 2 INCHES BEYOND THE EDGE OF THE ONE PRECEDING. WHERE CANT STRIPS OCCUR, THE FLASHING FELTS SHALL EXTEND TO THE BOTTOM EDGE OF SAME. THE FELTS SHALL BE CEMENTED TOGETHER AND TO THE UNDERLYING MATERIALS WITH PLASTIC ROOFING CEMENT EVENLY APPLIED WITH A TROWEL. THE LAST LAYER SHALL BE EVENLY COATED WITH NOT LESS THAN 1/16 INCH THICKNESS OF THE SAME CEMENT.

535. COUNTERFLASHINGS SHALL BE INSTALLED TO COVER TOP EDGES OF THE FLASHINGS WHEREVER THEY WOULD BE OTHERWISE EXPOSED AND NOT PERMANENTLY SECURE AND WATER-TIGHT. THE COUNTERFLASHINGS SHALL BE INSTALLED AFTER THE FLASHING IS COMPLETED.

536. METAL COUNTERFLASHINGS ARE SPECIFIED IN CONNECTION WITH THE "SHEET METAL WORK".

TILE ROOFING

537. SCOPE.--FOR EXTENT OF WORK AND GENERAL CHARACTER OF THE ROOF TILES REQUIRED, SEE DRAWINGS. WOOD ROOF SURFACES WHERE TILE ARE TO BE LAID SHALL BE COVERED WITH FELT. ALL SHEET METAL FLASHINGS AND COUNTERFLASHINGS NECESSARY FOR A COMPLETE AND WATERTIGHT INSTALLATION SHALL BE PROVIDED. OTHER SHEET METAL IS INCLUDED UNDER "SHEET METAL WORK".

538. SHEET METAL WORK SHALL BE OF COPPER WEIGHING AT LEAST 16 OUNCES PER SQUARE FOOT. COPPER SHALL COMPLY WITH FEDERAL SPECIFICATION No. 467 (QQ-C-501).

539. NAILS FOR SECURING THE TILE SHALL BE EITHER COPPER CLAD STEEL NAILS NOT SMALLER THAN No. 8 GAUGE (.162 INCH) WITH A COPPER COATING AT LEAST ONE-TWELFTH THE OVER-ALL DIAMETER OF THE NAIL, OR THEY SHALL BE SOLID COPPER NOT SMALLER THAN No. 10 GAUGE (.135 INCH). NAILS SHALL BE LONG ENOUGH TO PENETRATE THE WOOD NAILERS OR SHEATHING 1 INCH WHEN THE TILE ARE IN THEIR FINAL POSITION.

540. FELT SHALL BE ASPHALT SATURATED ROOFING FELT WEIGHING AT LEAST 30 POUNDS PER 100 SQUARE FEET AND COMPLYING WITH FEDERAL SPECIFICATION No. 86 (HH-F-236) EXCEPT AS TO WEIGHT.

541. TILES SHALL BE OF SHALE OR MIXTURES OF SHALE AND CLAY AND SHALL BE DENSE, HARD-BURNED, REASONABLY STRAIGHT AND TRUE AND FREE FROM CHECKS AND BLISTERS ON EXPOSED SURFACES.

542. SIZES SPECIFIED ARE NOMINAL AND A PLUS OR MINUS TOLERANCE OF NOT MORE THAN 1/4 INCH IN WIDTH AND 1/2 INCH IN LENGTH FROM THE DIMENSIONS GIVEN WILL BE PERMITTED, IT BEING UNDERSTOOD THAT EACH KIND OR TYPE OF TILE FURNISHED SHALL BE REASONABLY UNIFORM IN SIZE.

543. COLORS SHALL BE NATURAL SHADES OF REDS AND RUSSETS FROM BUFF TO PURPLE AND GUN METAL, AND UNIFORMLY DISTRIBUTED THROUGHOUT THE ROOF SURFACES.

544. SHINGLE TYPE SHALL BE PLAIN, FLAT SHINGLE TILE 1/2 INCH THICK AND NOT SMALLER THAN 6 BY 12 INCHES NOR LARGER THAN 9 BY 16 INCHES. FIELD TILE THAT VERGE ALONG HIPS AND VALLEYS SHALL BE CUT BEFORE BURNING. END BANDS SHALL BE FURNISHED TO BREAK THE JOINTS OF COURSES. UNDER-EAVE STARTER TILE SHALL BE FURNISHED AT EAVES, AND THE TOP COURSE AT RIDGE OR DECK SHALL BE OF PROPER LENGTH TO SHOW THE SAME EXPOSURE AS OTHER FIELD TILE. HIPS AND RIDGES SHALL HAVE FLAT V COVER TILE WITH HIP STARTERS AND PLAIN TERMINALS, UNLESS OTHERWISE SPECIFIED. GABLES SHALL HAVE END BANDS AND CLOSED GABLE ENDS AT RIDGE.

545. LAYING.--THE FELT SHALL BE LAID HORIZONTALLY, LAPPED AT LEAST 4 INCHES OVER VALLEY AND GUTTER METAL AND TURNED UP 5 INCHES AGAINST ALL ABUTTING VERTICAL SURFACES WHERE POSSIBLE. THE JOINTS SHALL BE LAPPED AT LEAST 3 INCHES AND CEMENTED TOGETHER. THE FELT SHALL EXTEND OVER HIPS AND RIDGES AND THE SURFACES LEFT UNBROKEN. HOLES SHALL NOT BE MADE IN THE FELT EXCEPT AS NECESSARY FOR SECURING THE TILE.

546. ALL TILE SHALL BE LAID IN REGULAR COURSES PARALLEL WITH THE EAVES AND NO ATTEMPT SHALL BE MADE TO STRETCH THE COURSES. FLAT SHINGLE TILE SHALL BE LAID WITH AT LEAST 2 INCH HEAD LAP UNDER THE SECOND COURSES ABOVE. ALL OTHER TILE SHALL BE LAID WITH AN END LAP OF AT LEAST 3 INCHES. ALL NAILS SHALL BE COVERED IN THE FINISHED WORK. EAVE CLOSURES SHALL BE RECESSED AT LEAST 1-1/2 INCHES FROM THE LOWER END OF THE TILE. VALLEYS SHALL BE OPEN 6 INCHES WIDE BETWEEN TILES.

547. EVERY PLACE OF TILE SHALL BE SECURED BY AT LEAST ONE NAIL OR WIRE FASTENING, AND TWO NAILS SHALL BE USED WHERE PRACTICABLE. WHERE NAILING IS NOT PRACTICABLE, OR TO AVOID NAILING THROUGH SHEET METAL, THE TILE SHALL BE SECURED WITH WIRE ATTACHED TO NAILS DRIVEN ABOVE THE METAL LINE OR TO OTHER PERMANENT FASTENING.

548. A LIMITED AMOUNT OF ELASTIC CEMENT MAY BE USED FOR LEVELING TILE, FOR POINTING AROUND THE EDGES OF TOP FIXTURES AND EAVE CLOSURES, BETWEEN THE JOINTS OF HIP AND RIDGE ROLLS AND WHERE FIELD TILE ABUT THE HIP STRINGERS.

549. WHERE THE SIDES OF TILES ALONG SLOPES ABUT VERTICAL SURFACES THE FLASHINGS SHALL EXTEND UNDER THE TILE AT LEAST 4-1/2 INCHES WITH AN UPTURNED EDGE AS HIGH AS THE CONTOUR OF THE TILE WILL PERMIT.

550. AT THE UPPERSIDE OF ABUTTING VERTICAL SURFACES, THE FLASHINGS SHALL EXTEND UNDER THE TILE AT LEAST 6 INCHES, AND FARTHER WHERE NECESSARY, WITH THE UPPER EDGE TURNED BACK 1/2 INCH. SEE DETAIL DRAWINGS FOR VARIOUS CONDITIONS.

551. RIDGE FLASHINGS AND THE FLASHINGS AT THE LOWER SIDE OF VERTICAL SURFACES SHALL EXTEND ONTO THE ROOF TILE OR TOP FIXTURES AT LEAST 4-1/2 INCHES AND HAVE THE EDGES FASTENED WITH STORM NAILS SET BETWEEN THE TILES OR TURNED DOWN 1 INCH ONTO THE FACE OF THE TOP FIXTURES AND MALLETED FLAT. RIDGE FLASHINGS SHALL BE FORMED OVER THE WOOD STRINGERS AND SHALL BE FREE FROM LONGITUDINAL JOINTS.

552. SPACES BETWEEN THE FIELD TILE AND HIP STRINGERS SHALL BE FILLED WITH ELASTIC CEMENT MAKING A WATERPROOF JOINT.

553. TILE ROOFING LAID IN CEMENT.--FOR DETAIL OF THIS CONDITION SEE DRAWING NO. 201. ON ROOF DECK APPLY THE PLIES SPECIFIED FOR COMPOSITION ROOF AS SPECIFIED UNDER "COMPOSITION ROOFING", OMITTING GRAVEL OR SLAG. DETAIL SHOWS HOOKS FOR ANCHORING CONCRETE FILL WHICH SHALL BE PLACED BEFORE THE FINAL MOPPING. OVER THIS COMPOSITION ROOF PLACE A CLASS B CONCRETE (SEE PARAGRAPH NO. 103 OF THIS SPECIFICATION) FILL REINFORCED WITH METAL FABRIC (SEE PARAGRAPH NO. 130 OF THIS SPECIFICATION) AS SHOWN ON PLANS. TILE SHALL BE LAID OVER THIS FILL ON A BED OF CLASS A (SEE PARAGRAPH NO. 103 OF THIS SPECIFICATION) MORTAR, TAKING CARE TO INSURE A GOOD BOND TO FILL FLASHINGS SHALL BE AS SPECIFIED ABOVE UNDER "TILE ROOFS".

INSULATION AND WATER CUTOFFS

554. SCOPE.--ALL COMPOSITION ROOF SURFACES OF ENCLOSED SPACES SHALL BE INSULATED. THE INSTALATION SHALL BE PLACED ABOVE ROOF CONSTRUCTION.

555. INSULATION SHALL BE EITHER INSULATING FIBER BOARD COMPLYING WITH FEDERAL SPECIFICATION NO. LLL-F-321 FOR GRADE B BOARD OR IT SHALL BE COMPRESSED CORK BOARD COMPLYING WITH FEDERAL SPECIFICATION NO. HH-C-561.

556. WATER CUTOFFS.--SHALL BE 8 INCH WIDE STRIPS OF ASPHALT OR COAL TAR SATURATED ROOFING FELT LAID TO SEPARATE SECTIONS OF INSULATION INTO AREAS AS INDICATED ON DRAWINGS NO. 5.

557. THE ACTUAL THICKNESS OF THE INSULATION USED SHALL BE BASED ON ITS INSULATING VALUE AS DETERMINED BY THE U.S. BUREAU OF STANDARDS DIMENSIONAL THICKNESS SPECIFIED OR GIVEN ON THE DRAWINGS IS THE MAXIMUM DESIRED AND IS BASED ON THE USE OF A MATERIAL HAVING A THERMAL CONDUCTIVITY OF NOT MORE THAN 0.36 FOR 1 INCH THICKNESS. INSULATING MATERIAL HAVING A THERMAL CONDUCTIVITY OF LESS THAN 0.36 FOR 1 INCH THICKNESS AS DETERMINED BY THE U.S. BUREAU OF STANDARDS MAY HAVE ITS THICKNESS REDUCED PROPORTIONATELY. WHERE NO DIMENSIONAL THICKNESS IS GIVEN ON THE DRAWINGS, THE INSULATING MATERIAL SHALL BE NOT OVER 2 INCHES THICK AND SHALL HAVE A THERMAL CONDUCTIVITY OF NOT MORE THAN 0.36 FOR THE THICKNESS OF MATERIALS USED.

558. APPLICATION.--THE INSULATION SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS. JOINTS SHALL BE BROKEN AND, WHEN APPLIED IN TWO OR MORE LAYERS, SURFACES IN CONTACT SHALL BE BEDDED IN PITCH OR ASPHALT AND THE JOINTS SHALL BE BROKEN BETWEEN LAYERS.

(A) INSULATION ON TOP OF CONCRETE SHALL BE BEDDED IN HOT ASPHALT OR COAL TAR PITCH, USING AT LEAST 7-1/2 POUNDS OF ASPHALT PRIMER AND 20 POUNDS OF ASPHALT, OR AT LEAST 30 POUNDS OF PITCH, PER 100 SQUARE FEET OF SURFACE. ASPHALT PRIMER, ASPHALT AND COAL TAR PITCH SHALL COMPLY WITH FEDERAL SPECIFICATIONS.

(B) INSULATION ON SHEATHING SHALL BE NAILED AT POINTS NOT OVER 24 INCHES APART IN BOTH DIRECTIONS.

(c) INSULATION THAT IS TO BE COATED WITH ASPHALT OR PITCH SHALL BE UNDERLAID WITH BUILDING PAPER OVER WOOD SHEATHING, THE PAPER TO WEIGH AT LEAT 5 POUNDS PER 100 SQUARE FEET, BE LAPPED 2 INCHES AT JOINTS AND TACKED IN PLACE.

LATHING, PLASTERING, FURRING, ETC.

559. GENERAL.--PLASTER WORK SHALL INCLUDE ALL INTERIOR PLASTERING, LATHING, METAL GROUNDS AND CORNER BEADS AND METAL STUDS AND METAL FURRING. GYPSUM PLASTER SHALL BE USED FOR SCRATCH AND BROWN COATS UNLESS OTHERWISE SPECIFIED. PORTLAND CEMENT BASE IS INCLUDED UNDER "CONCRETE AND CEMENT WORK". TILE FURRING IS INCLUDED UNDER "BRICK WORK, STRUCTURAL TILE WORK, ETC".

560. NOTE.--ALL OLD PLASTER WORK SHALL BE REMOVED FROM ANY WALLS OR OTHER SURFACES LEFT IN PLACE. FOR EXTENT AND CHARACTER OF PLASTER WORK, SEE NOTES AND DETAILS ON DRAWINGS. PLASTERED "CEILINGS" SHALL INCLUDE BEAMS AND THE SOFFITS OF STAIRS, LOOKOUTS, ETC., WITH THE OTHER OVERHEAD PLASTER WORK, UNLESS OTHERWISE SPECIFIED. PLASTERED "WALLS" SHALL INCLUDE WALLS, PIERS AND COLUMNS AND PLASTER REVEALS, EXCEPT WHERE OTHER FINISH IS REQUIRED. PLASTERING ON MASONRY AND CONCRETE SHALL BE TWO-COAT WORK GENERALLY, AND PLASTERING ON LATH SHALL BE THREE-COAT WORK.

561. THE INSIDE OF VAULTS WILL NOT BE PLASTERED. THE INSIDE OF LOOKOUTS WILL BE PLASTERED THROUGHOUT. PLASTER, EXCEPT THE FINISH COAT, SHALL BE CARRIED TO THE FLOOR BACK OF WOOD BASE AND WAINSCOT. PLASTERING WILL BE OMITTED BACK OF MARBLE WALL FINISH.

562. GYPSUM PLASTER SHALL CONFORM TO FEDERAL SPECIFICATION No. SS-P-401, AND MAY BE "NEAT" OR "WOOD-FIBERED". NEAT PLASTER SHALL BE FIBERED FOR SCRATCH COAT.

563. CALCINED GYPSUM SHALL CONFORM TO FEDERAL SPECIFICATION No. SS-G-901; CLASS "C" FOR CAST AND RUN WORK; CLASS "F" FOR PLAIN FINISH COAT.

564. LIME SHALL CONFORM TO FEDERAL SPECIFICATION No. SS-L-351 FOR HYDRATED LIME, OR SHALL BE FINELY PULVERIZED QUICK LIME COMPLYING WITH FEDERAL SPECIFICATION No. SS-Q-351. QUICK LIME SHALL PASS A No. 20 SIEVE AND AT LEAST 90 PER CENT SHALL PASS A No. 50 SIEVE.

565. PORTLAND CEMENT SHALL CONFORM TO FEDERAL SPECIFICATION No. SS-C-191.

566. HAIR AND FIBER SHALL BE CLEAN AND IN VARIOUS LENGTHS FROM 1/2 INCH TO 2 INCHES.

567. SAND SHALL BE WASHED CLEAN, WELL GRADED FROM FINE TO COARSE AND FREE FROM ORGANIC MATTER. WHEN DRY ALL SAND SHALL PASS A No. 8 SIEVE, NOT MORE THAN 80 PER CENT PASS A No. 30 SIEVE, NOR MORE THAN 20 PER CENT PASS A No. 50 SIEVE.

568. WATER SHALL BE CLEAN, FRESH AND FREE FROM ALKALI.

569. LATH SHALL CONFORM TO FEDERAL SPECIFICATION No. QQ-B-101A. LATH SHALL BE PAINTED AND FREE FROM RUST.

570. LATH NOT OTHERWISE SPECIFIED SHALL BE EITHER 24 GAUGE, FLAT EXPANDED METAL LATH NOT LIGHTER THAN 3.4 POUNDS PER SQUARE YARD, OR 2-1/2 MESH PER INCH 19 GAUGE WOVEN WIRE LATH NOT LIGHTER THAN 2.48 POUNDS PER SQUARE YARD.

571. WELDED WIRE FABRIC OF 14 GAUGE WIRES IN 2 BY 2 INCH MESH AND WITH INTEGRAL PAPER OR SCREEN WIRE BACKING MAY BE USED WHERE LATH IS REQUIRED ON WALLS, BUT SHALL NOT BE USED ON CORNICES, CEILINGS OR OTHER OVERHEAD PLASTER WORK, EXCEPT WHERE THIS TYPE OF LATH IS PERMITTED BY THE DETAILS OF LOOKOUT GALLERIES WITH SOLID PLASTER WALLS.

572. RIB LATH SHALL HAVE 3/8 INCH RIBS AND SHALL BE EITHER EXPANDED METAL OF AT LEAST 26 GAUGE AND WEIGHING NOT LESS THAN 4 POUNDS PER SQUARE YARD OR 2-1/2 MESH PER INCH 19 GAUGE WOVEN WIRE WEIGHING AT LEAST 3.3 POUNDS PER SQUARE YARD.

573. CORNER BEADS SHALL BE ZINC-COATED SHEET METAL NOT LIGHTER THAN 25 GAUGE. CORNER BEADS SHALL HAVE PERFORATED OR EXPANDED FLANGES NOT LESS THAN 2-1/2 INCHES WIDE SO SHAPED AS TO SECURE A GOOD BOND WITH THE PLASTER.

574. ALL VERTICAL EXTERNAL PLASTER CORNERS NOT COVERED BY OTHER FINISH SHALL HAVE METAL CORNER BEADS.

575. METAL GROUNDS SHALL BE ZINC-COATED SHEET METAL NOT LIGHTER THAN 26 GAUGE AND KEYED FOR THE PLASTER. THE TOP EDGES OF CEMENT WAINSCOT AND OF CEMENT BASE SHALL FINISH TO METAL GROUNDS.

576. METAL FURRING SHALL BE EITHER HOT ROLLED OR COLD ROLLED STEEL SHAPES. COLD ROLLED CHANNELS SHALL HAVE FLANGES 3/8 INCH WIDE AND THE FOLLOWING MINIMUM WEIGHTS PER 1000 LINEAR FEET: 276 POUNDS FOR 3/4 INCH, 332 POUNDS FOR 1 INCH, 442 POUNDS FOR 1-1/2 INCH AND 553 POUNDS FOR 2 INCH. CHANNELS SHALL BE PAINTED SIMILAR TO LATH. HOT ROLLED STEEL SHAPES SHALL BE AT LEAST OF THE DEPTH REQUIRED.

577. BRACKETS FOR BEAMS, CORNICES, ETC., SHALL BE NOT LIGHTER THAN 1 INCH CHANNELS OR 3/16 BY 1 INCH FLATS, AND SPACED NOT OVER 3 FEET APART.

578. LONGITUDINAL BEARERS FOR LATH OF BEAMS, CORNICES, ETC., SHALL BE NOT LIGHTER THAN 3/4 INCH CHANNELS OR 3/8 INCH RODS, AND SHALL BE PLACED AT ALL PRINCIPAL ANGLES AND AT POINTS NOT OVER 12 INCHES APART.

579. FURRING SHALL INCLUDE ALL BOLTS, INSERTS, CLIPS, FASTENINGS AND HANGERS AND ALL MATERIAL (OTHER THAN STRUCTURAL STEEL) NECESSARY FOR A COMPLETE INSTALLATION.

580. ATTACHMENTS FOR HANGERS, BRACKETS AND ALL FURRING MEMBERS SHALL BE OF SUCH SIZE, NUMBER AND DESIGN AS WILL DEVELOP THE FULL STRENGTH OF THE MEMBERS. WIRE FOR HANGERS AND FASTENINGS SHALL BE ZINC-COATED.

581. METAL FURRING SHALL BE PROVIDED FOR ALL LINES, CONTOURS AND PLANES WHERE LATH IS REQUIRED FOR PLASTERING, EXCEPT WHERE WOOD FURRING IS INDICATED OR SPECIFIED.

582. WHERE THE DRAWINGS INDICATE PROJECTED MOULDINGS IN STUCCO OR BRICKWORK, SUCH MOULDINGS SHALL BE FORMED BY METAL FURRING. ALL INTERIOR FURRING AND LATH SHALL BE ZINC-COATED. WHERE THE THICKNESS OF STUCCO AS INDICATED ON THE DRAWINGS IS ONE INCH OR GREATER, THE STUCCO SHALL BE APPLIED OVER ZINC-COATED METAL LATH PROPERLY SECURED TO THE CONSTRUCTION.

583. METAL STUDS WHERE REQUIRED SHALL HAVE BOTH ENDS FASTENED TO HORIZONTAL MEMBERS SECURED TO FLOOR AND CEILING. EACH PAIR OF DOUBLE STUDS FOR HOLLOW PARTITIONS SHALL HAVE RIGID SPACERS OR BRACERS LOCATED NOT OVER 3 FEET APART IN THE HEIGHT OF THE STUDS. PARTITIONS OVER 10 FEET HIGH SHALL BE BRIDGED HORIZONTALLY NEAR THE CENTER. STUDS SHALL BE RIGIDLY FRAMED AT ALL CORNERS AND AROUND ALL OPENINGS AND SHALL BE SECURED TO THE BUCKS OR FRAMES OF OPENINGS.

584. WHERE PIPING INTERFERES WITH THE PLACING OF THE HORIZONTAL MEMBERS OF STEEL STUDS, OR WHERE SUCH MEMBERS WILL INTERFERE WITH THE PROPER PLACING OF THE PIPING, THE HORIZONTAL MEMBERS SHALL BE CUT FOR THE PIPING, OR SUCH MEMBERS MAY BE OMITTED AND EACH VERTICAL BOLTED TO THE FLOOR AND CEILING CONSTRUCTION THROUGH BENT ENDS OR STEEL ANGLE CLIPS.

585. METAL STUDS LARGER THAN 2 INCHES WIDE SHALL BE FORMED FROM STEEL PLATE NOT LIGHTER THAN 16 GAUGE (.062 INCH) OR FROM PAIRS OF HOT-ROLLED STEEL CHANNELS WITH WEBS DEFORMED AND WELDED TOGETHER AT REGULAR INTERVALS TO FORM A DIAGONALLY BRACED TRUSS DESIGN. THE WEBS OF STEEL PLATE STUDS SHALL BE SOLID OR MAY BE PERFORATED TO FORM A DIAGONALLY BRACED DESIGN. ALL STUDS SHALL BE OF AMPLE STRENGTH AND RIGIDITY FOR THE SERVICE REQUIRED AND SHALL BE DIP-PAINTED WITH ASPHALTUM PAINT.

586. OPTION.--PLASTER FOR SCRATCH AND BROWN COATS SHALL BE EITHER GYPSUM PLASTER OR LIME PLASTER AT THE OPTION OF THE CONTRACTOR.

587. GYPSUM PLASTER.--NEAT GYPSUM PLASTER SHALL BE MIXED 1 PART PLASTER TO 2 PARTS SAND FOR SCRATCH COAT, AND 1 PART PLASTER TO 3 PARTS SAND FOR BROWN COAT AND FOR USE ON MASONRY. PARTS ARE BY WEIGHT.

588. WOOD FIBERED PLASTER SHALL BE USED WITHOUT SAND FOR SCRATCH COAT, AND MIXED 1 PART PLASTER TO 1 PART SAND, BY WEIGHT, FOR BROWN COAT AND FOR USE ON MASONRY.

589. GYPSUM PLASTER (NEAT OR WOOD FIBERED) SHALL BE USED WITHOUT SAND ON CONCRETE.

590. LIME PLASTER FOR SCRATCH COAT SHALL CONSIST OF 1 VOLUME OF PUTTY AND 2 VOLUMES OF SAND WITH 7-1/2 POUNDS OF HAIR PER CUBIC YARD OF MORTAR. FOR BROWN COAT AND FOR USE ON MASONRY IT SHALL CONSIST OF 1 VOLUME OF PUTTY AND 3 VOLUMES OF SAND WITH 3-1/2 POUNDS OF HAIR PER CUBIC YARD OF MORTAR. AN EQUIVALENT BULK OF FIBER MAY BE SUBSTITUTED FOR HAIR AS SPECIFIED.

591. FINISH COAT FOR GYPSUM PLASTER AND LIME PLASTER SHALL BE A PREPARED WHITE FINISH, OR SHALL BE A MIXTURE OF LIME PUTTY AND PLASTER OF PAIR THAT WILL PRODUCE A SMOOTH, HARD, WHITE FINISH.

592. LIME PUTTY SHALL BE A STIFF MIXTURE OF LIME AND WATER, THOROUGHLY SLAKED AND ALLOWED TO COOL. PUTTY FOR HYDRATED LIME SHALL SOAK AT LEAST 24 HOURS, AND PUTTY FROM PULVERIZED LIME SHALL SOAK AT LEAST 72 HOURS AFTER COOLING, AND BE KEPT MOIST UNTIL USED.

593. WHERE "SAND" PLASTER IS CALLED FOR ON THE DRAWINGS, THE PLASTER FOR FINISH SHALL BE USED IN THE FOLLOWING PROPORTIONS:

STIFF LIME PUTTY----------3 PARTS (BY VOLUME)
WHITE SAND----------3 PARTS
PLASTER OF PARIS----------1 PART

594. WORKMANSHIP.--METAL FURRING SHALL BE ERECTED TO TRUE LINES AND SURFACES AND BE RIGIDLY SUPPORTED AND FASTENED IN PLACE. FURRING FOR CORNICES, BEAMS AND IRREGULAR SURFACES SHALL BE SHAPED TO WITHIN 2 INCHES OF THE FINISHED PROFILES. GROUNDS, FURRING, FRAMING, ETC., SHALL BE TESTED AND ALL NEEDED CORRECTIONS MADE BEFORE LATHING OR PLASTERING IS BEGUN.

595. LATH SHALL BE LAID WITH EDGES OF SHEETS LAPPED 1/2 INCH AND ENDS OF SHEETS LAPPED AT LEAST 1 INCH. RIBBED LATH SHALL HAVE THE RIBS "NESTED" AT JOINTS. WIRE LATH SHALL BE TIGHTLY STRETCHED. END JOINTS OF SHEETS SHALL BE MADE ONLY AT BEARINGS AND SHALL BE STAGGERED. LATH SHALL BE CONTINUOUS AROUND THE CORNERS OF INTERSECTING PLASTER SURFACES.

596. FLAT AND WIRE LATH SHALL BE FASTENED EVERY 6 INCHES ALONG SUPPORTS, AND SIDE JOINTS WIRED ONCE BETWEEN SUPPORTS. RIB LATH SHALL BE FASTENED AT ALL RIBS. LATH ABUTTING MASONRY OR CONCRETE SURFACES THAT ARE TO BE PLASTERED SHALL EXTEND ONTO SAME AT LEAST 4 INCHES AND BE FASTENED EVERY 6 INCHES. ALL FASTENINGS SHALL BE ZINC-COATED. LACING WIRE SHALL BE AT LEAST 18 GAUGE (.048 INCH).

597. METAL GROUNDS AND CORNER BEADS SHALL BE SET TO STRAIGHT, TRUE LINES AND SECURELY FASTENED IN PLACE. BEADS SHALL BE PLUMB AND GROUNDS PARALLEL WITH FLOORS AND RAKE OF STAIRS.

598. PLASTERING.--THE EXTERIOR OPENINGS SHALL BE KEPT CLOSED AS NECESSARY TO PROPERLY REGULATE THE DRYING AND CURING OF THE PLASTER. PLASTER SHALL BE PROTECTED FROM RAPID DRYING AND FROM FROST.

599. ALL SURFACES THAT ARE TO RECEIVE PLASTER SHALL BE CLEAN AND FREE FROM DUST AND EFFLORESCENCE. THE PREPARATION OF CONCRETE FOR PLASTERING IS SPECIFIED UNDER "CONCRETE AND CEMENT WORK." MIXING BOXES AND TOOLS SHALL BE CLEANED FOR EACH BATCH.

600. NO LUMPY OR CAKED OR FROZEN MATERIALS SHALL BE USED. ALL INGREDIENTS SHALL BE ACCURATELY MEASURED AND THOROUGHLY MIXED UNTIL EVEN DISTRIBUTED THROUGHOUT. MORTAR THAT HAS COMMENCED TO SET SHALL NOT BE RETEMPERED OR USED.

601. MATERIALS SHALL BE PROPORTIONED AS HEREIN SPECIFIED, WITH SUCH VARIATIONS ONLY AS WILL, UNDER PREVAILING CONDITIONS, IMPROVE THE QUALITY OF THE WORK AND AS SHALL BE APPROVED BY THE CONSTRUCTION ENGINEER.

602. CONCRETE, MASONRY AND ALL UNDER COATS OF PLASTER, SHALL BE MOISTENED TO SECURE PROPER SPREADING AND ADHESION OF THE PLASTER OR FINISH WHEN APPLIED.

603. SCREEDS SHALL BE RUN ON ALL SURFACES AT SUCH INTERVALS AS SHALL ESTABLISH THE EXACT SURFACE OF THE BROWN COAT AND SERVE AS GUIDES FOR RODDING WHEREVER GROUNDS FOR THE FINISH SURFACE ARE NOT AVAILABLE.

604. PLASTER SHALL BE APPLIED WITH SUFFICIENT FORCE TO CAUSE PERFECT ADHESION AND TO FORM GOOD KEYS ON LATH. THE SCRATCH COAT SHALL BE CROSS SCRATCHED IN BOTH DIRECTIONS BEFORE THE MORTAR HAS SET. PLASTER ON CONCRETE CEILINGS, BEAMS AND SOFFITS SHALL BE APPLIED IN THIN COATS AND SHALL BE NO THICKER THAN NECESSARY TO SECURE A TRUE, EVEN SURFACE.

605. THE BROWN COAT OF GYPSUM PLASTER SHALL BE APPLIED AFTER THE SCRATCH COAT HAS SET BUT BEFORE THE SCRATCH COAT IS DRY. THE BROWN COAT OF LIME PLASTER SHALL NOT BE APPLIED OVER A SCRATCH COAT UNTIL IT IS THOROUGHLY DRY.

606. THE BROWN COAT SHALL BE RODDED AND BROUGHT TO TRUE UNIFORM SURFACES, LIGHTLY BROOMED AND ALLOWED TO SET AND DRY FOR THE FINISH COAT. IF NO FINISH COAT IS REQUIRED THE BROWN COAT SHALL BE FLOATED TO A TRUE UNIFORM SURFACE FLUSH WITH THE GROUNDS.

607. WHERE SMOOTH PLASTER FINISH IS CALLED FOR THE FINISH COAT SHALL COVER THE ROUGH PLASTER SO COMPLETELY THAT NO PART OF THE UNDER COAT SHALL SHOW THROUGH, AND SHALL BE TROWELED A DENSE CLOSE GRAINED SURFACE WITH A POLISH.

608. WHERE THE PLASTER FINISH IS TO BE ROUGH AND LAST COAT SHALL BE FINISHED WITH A CORK FLOAT TO A UNIFORM "SAND" FINISH, FREE FROM TOOL MARKS AND BLEMISHES.

609. THE FINISHED WORK SHALL BE TRUE TO THE GROUNDS AND GUIDE LINES AND BE STRAIGHT, LEVEL AND PLUMB, WITH TRUE SURFACES AND SHARP LINES AND ARRISES. THE FINISHED WORK SHALL SHOW NO VISIBLE JOINTS, CRACKS, CRAZING, TOOL MARKS OR DISCOLORATIONS.

610. ORNAMENTAL WORK.--SUCH ORNAMENTAL WORK AS LUNETTES AND BRACKETS SHALL BE CAST TRUE TO THE MODELS AND THEN SET IN PLACE AND FIRMLY SECURED. FOR DETAILS OF CONSTRUCTION AND LOCATION SEE DRAWINGS NOS. G-200 AND G-207. MOULDED WORK AND BEDS FOR SAME SHALL BE SET IN PLACE BEFORE THE FINISH COAT OF PLASTER IS APPLIED. IF MOULDED WORK IS OF SUCH CHARACTER THAT IT CANNOT BE RUN IN PLACE IT SHALL BE RUN OR CAST ON THE BENCH AND THEN FIRMLY SECURED IN PLACE.

611. CORNICES AND MOULDINGS SHALL BE STRAIGHT AND TRUE TO LINE, MAKE TRUE INTERSECTIONS AND BE NEATLY MITERED AT CORNERS. COVES SHALL FINISH WITH A 1/4 INCH OFFSET OR FILLET AT THE LOWER EDGE.

612. ORNAMENTAL WORK SHALL FAITHFULLY REPRODUCE THE MODELS OR DESIGNS FURNISHED, AND SHALL BE REINFORCED AS NECESSARY WITH FIBER OR ZINC-COATED WIRE FABRIC.

613. KEENES CEMENT SHALL COMPLY WITH FEDERAL SPECIFICATION No. SS-C-161. WHERE KEENES CEMENT PLASTER IS CALLED FOR, THE KEENES CEMENT FINISH (1 OF CEMENT AND NOT OVER 1 PART LIME PUTTY BY WEIGHT) SHALL BE APPLIED OVER GYPSUM BASE.

614-615. PORTLAND CEMENT PLASTER.--PROPORTIONS FOR MORTAR SHALL BE BY VOLUME AS FOLLOWS:

SCRATCH COAT:	1 OF CEMENT, 2 OF SAND, 1/4 OF LIME PUTTY.
BROWN COAT:	1 OF CEMENT, 2-1/2 OF SAND.
FINISH COAT:	1 OF CEMENT, 3 OF SAND.

SCRATCH COAT SHALL BE FIBERED FOR PROPER APPLICATION.

616. AS SOON AS THE SCRATCH COAT HAS ATTAINED ITS INITIAL SET, IT SHALL BE CROSS SCRATCHED AND THE BROWN COAT APPLIED AS SOON AS PRACTICABLE. THE BROWN COAT SHALL BE SCRATCHED OR BROOMED FOR BOND OF FINISH COAT AND ALLOWED TO SET HARD. THE BROWN COAT SHALL BE KEPT MOIST UNTIL THE FINISH COAT IS APPLIED.

617. THE FINISH COAT SHALL BE BROUGHT TO TRUE, EVEN SURFACES AND TROWELED SMOOTH AND FREE FROM TOOL MARKS AND BLEMISHES. CEMENT PLASTER SHALL BE KEPT MOIST FOR AT LEAST THREE DAYS AND PROTECTED AGAINST RAPID DRYING UNTIL PROPERLY CURED.

618. CEMENT WAINSCOT SHALL HAVE NEATLY FINISHED VERTICAL V JOINTS BELOW WINDOW JAMBS AND AT REGULAR INTERVALS OF ABOUT 6 FEET. WHEN NO OTHER FINISH OR SEPARATION FROM THE WALL PLASTER IS REQUIRED THE TOP EDGE SHALL FINISH WITH A V JOINT.

619. CEMENT WAINSCOT HAVING NO OTHER BASE SHALL HAVE A 6 INCH CEMENT BASE SHOWING A DISTINCT LINE OF SEPARATION.

STUCCO

620. GENERAL.--THIS SPECIFICATION INCLUDES ALL EXTERIOR STUCCO AND RUN MOULDINGS; THE METAL REINFORCING FOR SAME, THE PREPARATION OF MASONRY WALLS FOR THE APPLICATION OF STUCCO COAT. (SEE ALSO PARAGRAPH 582).

621. MATERIALS.--SAND, LIME, WATER, HAIR AND FIBER SHALL BE OF THE SAME QUALITY SPECIFIED FOR SIMILAR MATERIALS UNDER "LATHING, PLASTERING, FURRING, ETC." SAND FOR FINISH COAT SHALL BE WHITE OR LIGHT COLORED WITH WHICH SHALL BE MIXED CRUSHED COQUINA SHELL AS MINED IN SURFACE MINES ON ANASTASIA ISLAND, FLORIDA.

(A) PORTLAND CEMENT SHALL CONFORM TO FEDERAL SPECIFICATION SS-C-191.

(B) LATH FOR REINFORCING CORNICES AND OTHER RUN WORK SHALL BE 2-1/2 MESH PER INCH, NO. 18 GAUGE WELDED AND ZINC COATED WIRE FABRIC. LATH FOR COVERING JOINTS BETWEEN OLD AND NEW MASONRY SHALL BE EITHER EXPANDED STEEL FABRIC NOT LARGER THAN 1-1/2 BY 3 INCH MESH AND WEIGHING AT LEAST 1.8 POUNDS PER SQUARE YARD, OR 2 BY 2 INCH MESH AND ZINC COATED WIRE FABRIC WEIGHING AT LEAST 1.17 POUNDS PER SQUARE YARD.

622. PREPARATION.--ALL SURFACES OF OLD WALLS WHICH ARE TO BE FINISHED WITH STUCCO SHALL BE CHIPPED TO REMOVE OLD PAINT AND OLD LOOSE STUCCO AND TO FORM A KEY FOR NEW STUCCO. NEW MASONRY USED TO FILL OLD OPENINGS IN OLD WALL AND TO FURR CUT WALLS TO NEW LINES SHALL BE COVERED WITH STUCCO AS REQUIRED TO BRING SURFACE EVEN WITH SURFACE OF EXISTING STUCCO, THE NEW STUCCO TO BE BONDED AND KEYED TO OLD STUCCO BY THE USE OF METAL LATH COVERING THE JOINTS BETWEEN OLD AND NEW WORK AND SECURELY FASTENED TO MASONRY. CONCRETE SHALL BE PREPARED FOR STUCCO FINISH BY THE SPECIAL TREATMENT SPECIFIED UNDER "CONCRETE AND CEMENT WORK." MASONRY AND CONCRETE AND OLD STUCCO SHALL BE CLEAN AND DAMP WHEN STUCCO IS APPLIED.

623. MIXTURES.--STUCCO SHALL BE MIXED IN THE FOLLOWING PROPORTIONS BY VOLUME; ONE SACK OF CEMENT BEING CONSIDERED EQUAL TO 1 CUBIC FOOT:

FIRST COAT ON MASONRY ONLY: 1 OF CEMENT, 2-1/2 OF SAND AND 1/5 OF LIME PUTTY, WITH HAIR OR FIBER AS NECESSARY FOR PROPER APPLICATION.

FIRST COAT ON CONCRETE ONLY: 1 OF CEMENT, 2-1/2 OF SAND, 1/10 OF LIME PUTTY WITH HAIR OR FIBER AS NECESSARY FOR PROPER APPLICATION.

SECOND COAT: 1 OF CEMENT AND 2-1/2 OF SAND.

THIRD COAT-FINISH COAT: 1 OF CEMENT, 2 OF SAND, 1 OF CRUSHED COQUINA SHELL AND 1/10 OF LIME PUTTY.

624. APPLICATION.--MATERIALS FOR EACH BATCH SHALL BE ACCURATELY MEASURED AND THOROUGHLY MIXED UNTIL EVENLY DISTRIBUTED THROUGHOUT. THE WATER CONTENT SHALL BE KEPT AS LOW AS POSSIBLE, PLASTICITY BEING OBTAINED BY EXTRA MIXING WITHOUT EXCESS WATER. SPECIAL CARE SHALL BE TAKEN WITH FINISH COAT TO SECURE A UNIFORM COLOR IN THE FINISHED WORK. NO FROZEN, CAKED OR LUMPY MATERIALS SHALL BE USED. MORTAR THAT HAS COMMENCED TO SET SHALL NOT BE USED.

(A) STUCCO SHALL BE APPLIED WITH SUFFICIENT FORCE TO CAUSE PERFECT ADHESION, AND TO FULL EMBED THE LATH. ALL UNDERCOATS SHALL BE DAMPENED TO THE PROPER DEGREE BY SPRINKLING BEFORE THE SUCCEEDING COATS ARE APPLIED. STUCCO SHALL NOT BE APPLIED IN FREEZING WEATHER.

(B) STUCCO ON MASONRY IN FILLED OPENINGS OF OLD WALLS AND EXTERIOR MASONRY FURRING OF OLD WALLS SHALL BE APPLIED IN THREE COATS, THE FIRST COAT TO BE AS THIN AS PRACTICABLE TO FORM A GOOD KEY, THE SECOND COAT TO BE OF SUFFICIENT THICKNESS TO BRING STUCCO IN LINE WITH EXISTING STUCCO ON OLD WALLS, A TOTAL OF NOT LESS THAN ONE INCH THICK FOR THE TWO COATS.

(C) STUCCO FOR PATCHING OLD WALLS SHALL BE APPLIED THE SAME AS FOR MASONRY.

(D) STUCCO ON ALL JAMBS AND HEADS OF OPENINGS, ALSO WHERE NECESSARY TO BRING FACE OF STUCCO UP TO A UNIFORM STRAIGHT SURFACE SHALL BE APPLIED IN TWO COATS, THE TOTAL THICKNESS OF THE TWO COATS ON JAMBS TO BE NOT LESS THAN 3/4 INCH. STUCCO ON HEADS OF ALL OPENINGS SHALL HAVE A SLIGHT PITCH OR SLOPE OF ABOUT 1/4 INCH PER FOOT FROM FRAME OUT TO FACE OF WALL.

(E) STUCCO ON ALL CONCRETE WALL SURFACES, CEILINGS, SOFFIETS, POSTS, WALLS, ETC. THROUGHOUT SHALL BE APPLIED IN ONE COAT, THE FINISH COAT.

(F) RUN MOULDINGS, CORNICES, ETC., SHALL BE COMPOSED OF THE SAME MATERIALS AS SPECIFIED FOR STUCCO ON MASONRY AND SHALL BE APPLIED IN THREE OR MORE COATS TO THE THICKNESS DETAILED, NO COAT HOWEVER TO BE MORE THAN 3/4 INCH THICK.

625. FINISH COAT.--THE FINISH COAT OVER ALL FLAT SURFACES INCLUDING POSTS, COLUMNS, ETC., SHALL BE APPLIED TO AN AVERAGE THICKNESS OF 1/4 INCH WITH TRUE SURFACES AND ARRISES AND FINISHED WITH A ROUGH BURLAP FLOAT OR CARPET FLOAT WITH AS LITTLE DELAY AS POSSIBLE. THE FINISH SHALL HAVE A COARSE, GRANULAR SURFACE WITH THE COQUINA SHELL IN FULL EVIDENCE; NO OBJECTION TO SMALL LAPS, WAVES AND TOOL MARKS, BUT MUST BE FREE FROM CRAZING. FINISH SHALL MATCH AS NEARLY AS POSSIBLE THE FINISH COLOR OF ARCHITECTURAL CAST STONE AS SPECIFIED UNDER "ARCHITECTURAL CAST STONE", BUT SHALL HAVE A COARSER TEXTURE. FINISH OR RUN MOULDINGS, COLUMN CAPS, CORNICES, BASES, ETC., SHALL BE THE SAME AS FINISH FOR FLAT SURFACES, EXCEPT THAT THE SURFACE SHALL BE FLOATED WITH A CORK FLOAT TO A UNIFORM TEXTURE AND TONE.

626. CURING.--AS SOON AS THE FINISH COAT HAS TAKEN INITIAL SET, THE STUCCO SHALL BE COVERED WITH CLOTHS AND PROTECTED AGAINST FROST OR RAPID DRYING FOR AT LEAST SIX DAYS. DURING THIS TIME THE STUCCO SHALL BE KEPT MOIST BY FREQUENT SPRAYING. CARE SHALL BE TAKEN TO PREVENT THE STAINING OF THE STUCCO.

INTERIOR MARBLE

627. GENERAL.--THE NAMING OF MARBLES OR STONES ON THE DRAWINGS OR IN THE SPECIFICATION IS FOR THE PURPOSE OF INDICATING THE TYPE

THAT IS REQUIRED, BUT IT IS NOT INTENDED TO EXCLUDE ANY MARBLES OR STONES WHICH, IN THE OPINION OF THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, ARE SO NEARLY LIKE THOSE SCHEDULED ON THE DRAWINGS OR NAMED IN THE SPECIFICATION THAT THEY WILL GIVE PRACTICALLY THE SAME EFFECT.

628. KINDS OF MARBLE.--FOR TOILET PARTITIONS, WAINSCOT, AND LOBBY FLOOR STRIPS THE MARBLE SHALL HAVE THE CHARACTERISTICS OF EITHER WHITE GEORGIA, WHITE ALABAMA, WHITE TENNESSEE, OR WHITE VERMONT, INDICATED AS (V) ON KEY CHART, DRAWING NO. G-3.

(A) FOR FLOOR BORDERS AND BASE THE MARBLE SHALL BE: DARK GREEN VERDE, INDICATED AS (W) ON KEY CHART, DRAWING NO. G-3.

(B) FOR LOBBY WALLS THE MARBLE SHALL HAVE THE CHARACTERISTICS OF: TENNESSEE ROSEAL, OR DOMESTIC FLEURI, OR CAMPANA VERT., INDICATED AS (X) ON KEY CHART, DRAWING NO. G-3.

629. MARBLE SHALL BE REPRESENTATIVE OF ITS KIND AND SHALL COME WITHIN THE EXTREMES INDICATED BY THE APPROVED SAMPLES. PIECES THAT SHOW UNUSUAL CONTRASTS OR MARKINGS THAT WOULD DETRACT FROM THE GENERAL APPEARANCE OF THE WORK SHALL BE ELIMINATED.

630. MARBLE SHALL BE SOUND AND FREE FROM FILLING. MARBLE FOR FLOOR BORDERS AND FLOOR STRIPS, SHALL HAVE AN ABRASION HARDNESS OF NOT LESS THAN 11 AS DETERMINED BY METHODS ADOPTED BY THE U.S. BUREAU OF STANDARDS. MARBLE FOR TOILET ROOMS AND PLUMBING INCLOSURES SHALL BE DENSE AND SHALL BE WHITE WITH MODERATE CLOUD OR VEINING.

631. THE GOVERNMENT RESERVES THE RIGHT TO WAIVE THE TESTS FOR ABRASION HARDNESS FOR MARBLES THAT HAVE BEEN TESTED BY THE U. S. BUREAU OF STANDARDS OR OTHER RECOGNIZED TESTING LABORATORY AND FOUND TO HAVE AN ABRASION HARDNESS OF 11 OR MORE.

632. MARBLE FOR FLOOR BORDERS, AND FLOOR STRIPS SHALL HAVE A SMOOTH RUBBED FINISH. MARBLE SO INDICATED SHALL HAVE A FINE HONED FINISH. STANDING MARBLE NOT OTHERWISE SPECIFIED SHALL HAVE A HIGH POLISH.

633. TRIMMINGS.--METAL FASTENINGS AND SUPPORTS FOR PLUMBING INCLOSURES AND THE HARDWARE FOR THE DOORS OF INCLOSURES SHALL BE HEAVY PATTERN CAST BRASS AND BRASS TUBING. METAL WORK SHALL BE SECURED IN PLACE WITH 1/4 INCH BOLTS OR SCREWS HAVING HEXAGONAL, ROUND HEADS AND CAP NUTS. ALL METAL WORK SHALL BE FINISHED AND NICKEL PLATED OR CHROMIUM PLATED TO MATCH THE TRIM OF PLUMBING FIXTURES. SEE DRAWING NO. G-205.

634. FILL.--THE FILL UNDER FLOOR STRIPS AND BORDERS SHALL BE THE SAME AS SPECIFIED FOR THE CLAY TILE OR TERRAZZO FIELD. FILL SHALL BE PLACED NOT MORE THAN 24 HOURS IN ADVANCE OF THE MARBLE SETTING.

635. ANCHORS, DOWELS, ETC.--SHALL BE OF BRASS OR BRONZE. ANCHORS SHALL BE NOT LIGHTER THAN NO. 8 BROWN AND SHARPE GAUGE (.128 INCH).

636. SHOP DRAWINGS IN TRIPLICATE, SHOWING JOINTING AND ANCHORING OF WORK GENERALLY SHALL BE SUBMITTED FOR APPROVAL OF THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH.

637. WORKMANSHIP.--FINISHES SHALL BE FULL AND UNIFORM AND FREE FROM SCRATCHES. PLAIN SURFACES SHALL BE FLAT AND STRAIGHT. ALL JOINTS SHALL BE SQUARE AND TRUE AND DRESSED TO A CLOSE FIT. MOLDINGS AND ARRISES SHALL BE FULL AND TRUE TO LINE AND ACCURATELY MATCHED AT JOINTS. MOLDINGS AT MITERS AND RETURNS SHALL BE CUT FROM THE SOLID.

638. CARVING SHALL BE SHARP AND CLEAN CUT, SHALL FAITHFULLY REPRODUCE THE DETAILS OR MODELS IN FORM AND FEELING, AND SHALL BE LEFT AS IT COMES FROM THE TOOL.

639. PLAIN SLABS FOR WALLS AND FLOORS SHALL BE AT LEAST 7/8 INCH THICK. PILASTER RETURNS SHALL BE CUT FROM THE SOLID UNLESS OTHERWISE SHOWN.

640. WALL FINISH SHALL EXTEND INTO THE REVEALS OF OPENINGS, AND WINDOW STOOLS SHALL MATCH THE JAMBS. WINDOWS SHALL HAVE MARBLE STOOLS, WHERE INDICATED. BASE SHALL INCLUDE PLINTHS FOR TRIM AT OPENINGS, AND BORDERS SHALL EXTEND TO THE BACK OF THE BASE. SLABS AND STRIPS SHALL BE CAREFULLY CUT AND FITTED FOR THE CABINETS, OUTLETS, ETC., OF OTHER TRADES. THE MARBLE FLOOR BORDERS SHALL BE 2 INCHES THICK AND GROUND TO FORM A COVE AT WALL INTERSECTION AS DETAILED.

641. UNLESS OTHERWISE SHOWN, SLABS AND STRIPS SHALL BE IN AS LARGE AND UNIFORM PIECES AS PRACTICABLE AND JOINTED IN PROPER RELATION TO THE JOINTS IN CONNECTING WORK. JOINTS AT EXTERNAL ANGLES IN PUBLIC LOBBIES, VESTIBULES, CORRIDORS, ETC., SHALL BE MITERED TO A 1/8 INCH QUIRK, EXCEPT WHERE THE FULL RETURNS ARE CUT FROM ONE PIECE. ELSEWHERE JOINTS AT EXTERNAL ANGLES SHALL BE MADE ON THE SIDE LEAST EXPOSED TO VIEW.

642. THE SPACES BACK OF STANDING FINISH SHALL BE FILLED WITH BRICK OR HOLLOW TILE LAID IN CLASS B MORTAR.

643. SETTING.--WALL FINISH AND BASE SHALL BE SET STRAIGHT, LEVEL AND PLUMB AND WELL BACKED UP AND JOINTED WITH PLASTER OF PARIS. EACH PIECE OF STANDING WORK (EXCEPT PARTITIONS) SHALL BE SECURED IN PLACE WITH AT LEAST TWO ANCHORS SO PLACED AS TO BE CONCEALED IN THE FINISHED WORK. ALL JOINTS SHALL BE CLOSE AND FLUSH.

644. FLOOR WORK SHALL BE BEDDED SOLID IN PORTLAND CEMENT MORTAR AND THE JOINTS FILLED WITH NEAT CEMENT GROUT. TOP SURFACES SHALL BE PERFECTLY FLUSH AND LEVEL, JOINTS STRAIGHT AND CLOSE, AND THE FINISHED WORK LEFT FREE FROM CRACKED, LOOSE OR HOLLOW SOUNDING PIECES.

645. TOILETS, ETC.--FOR TYPICAL DETAILS OF WORK IN TOILET ROOMS AND SIMILAR SPACES, SEE DRAWINGS NO. G-205. THE GENERAL ARRANGEMENT OF PARTITIONS AND INCLOSURES IS SHOWN ON THE CONTRACT DRAWINGS. THE WORK SHALL BE LAID OUT FROM ACTUAL DIMENSIONS TAKEN AT THE BUILDING.

646. TOILET ACCESSORIES ARE INCLUDED UNDER "MECHANICAL EQUIPMENT". INCLOSURE DOORS ARE SPECIFIED UNDER "METAL DOORS OF PLUMBING ENCLOSURES" "MILLWORK AND FINISH." MIRRORS ARE SPECIFIED UNDER "GLASS AND GLAZING."

(A) SEAT OF SHOWER INCLOSURE SHALL BE OF WHITE OAK, FILLED AND FINISHED WITH THREE COATS OF SPAR VARNISH, RUBBED AND POLISHED. ALL WORK SHALL BE PROPERLY CUT, DRILLED AND COUNTERSUNK FOR OUTLETS AND THE FASTENINGS OF HARDWARE AND ACCESSORIES.

647. TOILET ROOMS HAVING TERRAZZO OR TILE FLOORS SHALL HAVE COVED FLOOR BORDERS OF THE SAME MATERIALS AS THE BASE OR WALL SLABS, UNLESS OTHERWISE SPECIFIED.

648. EACH SHOWER INCLOSURE SHALL HAVE FLOOR SLAB, AND DRESSING INCLOSURE SHALL HAVE COVED FLOOR BORDERS, OF THE SAME MATERIAL AS THE INCLOSURE. THE SILL AT SHOWER ENTRANCE SHALL BE SECURED BY DOWELS. JOINTS IN SLAB WORK OF SHOWER BATH INCLOSURE AND BETWEEN THE FLOOR DRAIN AND FLOOR SLAB SHALL BE MADE WATER-TIGHT WITH CEMENT COMPOSED OF GLYCERINE AND LITHARAGE.

649. SHOWER-BATH INCLOSURES SHALL BE PLACED ABOVE GENERAL FLOOR LEVEL AND SHOWER SPACE AND DRESSING ROOM FLOORS SHALL BE SET IN A WATER-TIGHT PAN OF SHEET LEAD WEIGHING NOT LESS THAN 6 POUNDS PER SQUARE FOOT. LEAD PAN SHALL BE SOLDERED OR SECURED WATER-TIGHT TO FLOOR DRAIN AND TURNED UP AND FOLDED AT CORNERS, NOT CUT AND SOLDERED. THE CONCRETE FILL UPON WHICH THE LEAD PAN IS LAID SHALL BE GIVEN A SMOOTH CEMENT FINISH AND WHEN DRY SHALL BE GIVEN A COAT OF BITUMINOUS PAINT. THE TOP OF THE LEAD PAN SHALL BE GIVEN A SIMILAR COAT OF BITUMINOUS PAINT BEFORE THE TOPPING IS LAID. THE CEMENT MORTAR ABOVE PAN SHALL CONSIST OF 1 PART PORTLAND CEMENT AND 3 PARTS, CLEAN SHARP SAND. WASTE PIPE FROM SHOWER SHALL BE RUN IN FLOOR FILL OR AT CEILING BELOW AS SHOWN ON PLANS FOR THE WORK.

METAL DOORS OF PLUMBING ENCLOSURES

650. GENERAL.--THE DOORS OF PLUMBING ENCLOSURES SHALL BE METAL AND OF THE FLUSH TYPE WITH PAPER CORES AND SHALL INCLUDE THE HARDWARE SPECIFIED HEREIN.

(A) METAL GAUGES SPECIFIED ARE U. S. STANDARD FOR SHEET STEEL AND BROWNE AND SHARPE FOR SHEET ALUMINUM AND ARE THE MINIMUM ACCEPTABLE UNDER THE CONTRACT.

651. MATERIALS.--STEEL DOORS SHALL BE CONSTRUCTED OF COLD ROLLED, FURNITURE STOCK STEEL THAT HAS BEEN PROPERLY ANNEALED AND PROCESS LEVELED AND HAS SMOOTH, CLEAN SURFACES. FACE PANELS SHALL BE 22 GAUGE, AND THE STRIPS OF EDGES SHALL BE 20 GAUGE.

652. CORES SHALL CONSIST OF NOT LESS THAN TWO LAYERS OF DOUBLE - WALL AND TWO LAYERS OF SINGLE WALL PADS GLUED INTO BOARDS APPROXIMATELY 1 INCH THICK. THE TWO OUTER SINGLE WALL PADS SHALL BE MADE WITH TWO .016 CYLINDER KRAFT LINERS AND ONE .009 STRAW B FLUTE CORRUGATIONS. THE TWO INNER PADS SHALL BE MADE WITH THREE .009 CHIP LINERS AND TWO .009 STRAW A FLUTE CORRUGATIONS.

653. WORKMANSHIP.--DOORS SHALL BE MADE UP OF TWO FLUSH SHEETS WITH U-FORMED EDGES CEMENTED OVER THE CORE AND ASSEMBLED BY INTERLOCKING THE EDGES WITH SLIP LOCKING STRIPS WHICH SHALL BE MITRED AND WELDED AT THE CORNERS. LOCKING STRIPS SHALL BE DIE DRAWN AND SHALL HAVE THE OUTER FACE UNIFORMLY ROUNDED AND DESIGNED TO LOCK THE PANELS WITH A TENSION GRIP.

654. THE DOORS SHALL FINISH NOT LESS THAN 7/8 NOR MORE THAN 1-1/16 INCH THICK, BUT EACH DOOR SHALL BE OF UNIFORM THICKNESS THROUGHOUT AND THERE SHALL BE NO VARIATION IN THICKNESS OF ALL DOORS FOR ANY ONE BUILDING OF MORE THAN 1/16 INCH.

655. THE FINISHED WORK SHALL BE STRONG AND RIGID AND FREE FROM DEFECTS. SURFACES SHALL BE SMOOTH AND FREE FROM WAVE, WARP, OR BUCKLE. MITRES SHALL BE WELL FORMED AND IN TRUE ALIGNMENT. WELDS SHALL BE NEATLY DRESSED. FINISH SHALL BE FREE FROM SCRATCHES AND ABRASIONS.

656. A PROTECTIVE PAPER COVERING SHALL BE APPLIED TO THE DOORS DURING ERECTION AND MAINTAINED UNTIL FINAL INSPECTION OF THE WORK.

657. FINISH ON STEEL SHALL CONSIST OF PRIME FINISH FOLLOWED WITH PLAIN ENAMEL FINISH. ALL SURFACES SHALL BE CLEAN AND DRY WHEN PAINT OR ENAMEL IS APPLIED.

(A) PRIME FINISH SHALL CONSIST OF ONE DIP OR SPRAY COAT OF RUST-RESISTING PAINT ON ALL EXPOSED AND INTERIOR SURFACES, AND ONE PRIME COAT OF PAINT ON EXPOSED SURFACE; EACH COAT TO BE BAKED ON AND EXPOSED SURFACES RUBBED SMOOTH.

(B) PLAIN ENAMEL FINISH SHALL CONSIST OF TWO COATS OF ENAMEL ON ALL EXPOSED SURFACES, IN ADDITION TO THE PRIME FINISH ABOVE SPECIFIED; THE FINAL COAT TO BE RUBBED TO AN EGG SHELL GLOSS. ENAMEL FINISH SHALL BE IN ONE SOLID COLOR AS SELECTED.

658. HARDWARE.--DOORS SHALL BE HUNG ON GRAVITY TYPE DOUBLE-ACTING HINGES WITH CONCEALED STAINLESS STEEL BALL-BEARING ROLLERS

ON HARDENED STAINLESS STEEL CAMS, ADJUSTABLE TO PERMIT DOORS TO BE MADE SELF-OPENING, SELF-CLOSING OR AJAR AT TIME OF INSTALLATION, AND ON AN UPPER PIVOT GUIDE PIN OF STAINLESS STEEL OPERATING IN A GRAPHITE IMPREGNATED BUSHING. EACH DOOR SHALL BE FITTED WITH A COMBINATION KEEPER AND BUMPER, THROW LATCH AND COMBINATION COAT AND HAT HOOK WITH RUBBER TIPPED BUMPER.

(A) ALL HARDWARE SHALL BE OF PLAIN, HEAVY PATTERN AND EXPOSED SURFACES SHALL HAVE A POLISHED FINISH. HARDWARE SHALL BE APPLIED WITH SCREWS, BOLTS AND CAP NUTS MATCHING THE HARDWARE.

(B) HARDWARE FOR STEEL DOORS SHALL BE OF BRASS OR BRONZE, CHROMIUM PLATED OVER NICKEL PLATE, EXCEPT PARTS SPECIFIED TO BE OF STAINLESS STEEL.

(C) HARDWARE FOR ALUMINUM DOORS SHALL BE OF NICKEL BRONZE OF THE COMPOSITION SPECIFIED IN FEDERAL SPECIFICATION No. FF-H-101, EXCEPT PARTS SPECIFIED TO BE OF STAINLESS STEEL.

(D) HINGES OF OUT-SWINGING DOORS SHALL OPERATE IN A 180 DEGREE ARC AND SHALL BE SELF-CLOSING ONLY.

(E) HINGES OF IN-SWINGING DOORS SHALL BE ADJUSTED TO HOLD THE DOORS OPEN ABOUT 30 DEGREES WHEN DOORS ARE AT REST.

(F) UNLESS OTHERWISE SHOWN OR SPECIFIED, ALL DOORS SHALL BE IN-SWINGING.

TILE WORK

659. GENERAL.--FOR THE LOCATION OF THE TILE WORK SEE THE FINISH SCHEDULE ON DRAWINGS NOS. G-3 AND G-4.

660. TYPES OF TILE.--TOILET FLOOR TILE SHALL BE 2 x 2 INCH, SQUARE OR HEXAGON, OF VITREOUS FINISH, COLORS AS SELECTED. ALL FLOOR TILE SHALL MEET THESE SPECIFICATIONS.

(A) TILE FOR TOILET BASE AND PLINTHS (WHERE THERE IS NO WAINSCOT ABOVE) SHALL BE 6 INCH, SANITARY COVED AND MATT FINISH. THIS TYPE APPLIES TO TOILETS NOS. 1 AND 2, DRAWING NO. G-3.

(B) OTHER BASE TILE SHALL BE 6 x 6 INCH, SANITARY COVED UNIT, VITREOUS TILE, COLORS AS SELECTED. THIS TYPE OF BASE SHALL BE USED IN TOILETS NOS. 5, 6 AND 7. THIS BASE IS TO BE LAID FLAT WITH WIDE SIDE ON THE FLOOR AND NARROW SIDE UP ON WALL. SEE DRAWING NO. G-205.

(C) NATURAL CLAY TYPE TILE SHALL BE MADE PRINCIPALLY FROM UNWASHED CLAYS AND OTHER CERAMIC MATERIALS AND SHALL HAVE A DENSE BODY AND A NATURAL, FINE GRAINED SURFACE OF SUCH TEXTURE AS CAN BE EASILY CLEANED.

(D) WHERE TILES INDICATED ON THE DRAWINGS ARE MADE BY BOTH THE DUST-PRESSED PROCESS AND THE EXTRUDED (PLASTIC) PROCESS AND THE PROCESS DESIRED IS NOT INDICATED OR SPECIFIED, EITHER PROCESS MAY BE USED AT THE OPTION OF THE CONTRACTOR, PROVIDED THE TILES MEET THE GRADE REQUIREMENTS AS SPECIFIED HEREIN.

(E) ALL EDGES OF EXTRUDED TILES SHALL BE SQUARE CUT, EXCEPT WHERE SLIGHTLY ROUNDED SURFACE EDGES (HAND FETTLED TILE) ARE INDICATED.

661. SIZES NOTED ARE NOMINAL AND SLIGHT VARIATIONS WILL BE PERMITTED, BUT IN ANY CASE THE TILE SHALL LAY TO THE PATTERNS INDICATED AND WITHOUT NOTICEABLE VARIATION IN THE WIDTH OF JOINTS.

(A) TRIMMERS SUCH AS STOP TILE, WINDOW TRIM, DOOR TRIM, COVERS, MITERS AND OTHER SPECIALS SHALL BE PROVIDED AS NECESSARY FOR A COMPLETE AND ACCEPTABLE INSTALLATION.

662. FINISH.--UNGLAZED TILE SHALL HAVE THE SAME COLOR THROUGHOUT THE BODY OF THE TILE, AND THE SURFACE TEXTURE SHALL BE PRODUCED IN THE BURNING OF THE BODY.

663. COLORS.--PLAIN COLORED TILE (WHETHER GLAZED OR UNGLAZED) SHALL HAVE AS NEARLY ONE SOLID COLOR ON EACH TILE AS IS POSSIBLE TO SECURE WITHIN MANUFACTURING LIMITATIONS, BUT SLIGHT VARIATIONS IN COLOR BETWEEN TILE IS PERMITTED.

664. GRADE.--ALL TILE SHALL BE STANDARD GRADE AS DEFINED BY SIMPLIFIED PRACTICE RECOMMENDATION R61-30 OF THE U.S. DEPARTMENT OF COMMERCE.

665. CERTIFICATE OF GRADE.--BEFORE SETTING ANY TILE, THE CONTRACTOR SHALL FURNISH THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, A CERTIFICATE OF GRADE IN DUPLICATE PROPERLY FILLED IN AND SIGNED BY THE TILE MANUFACTURER. THE CERTIFICATE SHALL STATE THE GRADE, KIND AND FULL QUANTITIES OF TILE AND SHALL GIVE IDENTIFICATION MARKS FOR ALL PACKAGES OF TILES FURNISHED UNDER THE CONTRACT. PACKAGES SHALL BE BRANDED WITH CORRESPONDING SHIPPING MARKS AND SHALL BE SUBJECT TO INSPECTION BY THE CONSTRUCTION ENGINEER BEFORE BEING OPENED.

666. PREPARATORY WORK.--FLOOR FILL UNDER TILE SHALL BE CLASS B, CONCRETE, REINFORCED WITH SHRINKAGE FABRIC. MORTAR SHALL BE CLASS A, UNLESS OTHERWISE SPECIFIED. SEE SPECIFICATION FOR "CONCRETE AND CEMENT WORK."

667. STRUCTURAL SLABS SHALL BE SWEPT CLEAN AND THEN DRENCHED WITH CLEAN WATER AND KEPT WET UNTIL THE CONCRETE FILL IS PLACED. ANY EXCESS WATER SHALL BE REMOVED AND A COAT OF NEAT CEMENT GROUT SHALL BE BRUSHED ONTO THE SURFACE OF THE SLAB AS THE FILL IS PLACED. THE FILL SHALL BE PLACED ONLY IN SUCH QUANTITY EACH DAY AS WILL BE COVERED BY TILE NOT LATER THAN THE FOLLOWING DAY.

668. A SCRATCH COAT OF PORTLAND CEMENT MORTAR NOT LESS THAN 1/2 INCH THICK SHALL BE APPLIED BACK OF ALL WALL TILE, BROUGHT TO A TRUE, EVEN SURFACE AND DEEPLY SCORED TO PROVIDE A BOND FOR THE SETTING MORTAR. CONCRETE AND MASONRY SHALL BE DAMP WHEN THE SCRATCH COAT IS APPLIED. MORTAR FOR THE SCRATCH COAT ON LATH SHALL CONTAIN HAIR OR FIBRE. THE SCRATCH COAT SHALL BE ALLOWED TO SET NOT LESS THAN 24 HOURS NOR MORE THAN 48 HOURS, THEN MOISTENED WITH CLEAN WATER AS NECESSARY TO REDUCE SUCTION, AND THE TILE SET IN PORTLAND CEMENT MORTAR.

669. NO TILE SHALL BE SET ON SURFACES WHERE OTHER WORK IS SHOWN OR SPECIFIED TO BE EMBEDDED IN THE TILE WORK UNTIL SUCH WORK HAS BEEN INSTALLED AND APPROVED.

670. PROTECTION.--TILE SHALL BE KEPT DRY WHILE IN PACKAGES AND SHALL NOT BE ALLOWED TO LIE UPON WET MATERIALS OR SURFACES. NO TILE WORK SHALL BE LAID IN FREEZING WEATHER, EXCEPT WHERE PROPER TEMPERATURES ARE MAINTAINED TO PREVENT FREEZING.

671. ALL ROOMS OR SPACES IN WHICH TILE FLOORS ARE BEING LAID SHALL BE CLOSED TO TRAFFIC OR OTHER WORK AND SHALL BE KEPT CLOSED UNTIL THE FLOORS ARE COMPLETED AND THE TILE FIRMLY SET. TILE WORK SHALL BE ADEQUATELY PROTECTED FROM DAMAGE UNTIL THE COMPLETION OF THE CONTRACT.

672. SETTING TILE.--TILES SHALL BE FIRMLY SECURED IN PLACE. JOINTS SHALL BE WELL FILLED, LINES KEPT STRAIGHT AND TRUE AND FINISHED SURFACES BROUGHT TO TRUE PLANES. THE COMPLETED WORK SHALL BE FREE FROM LOOSE, CRACKED OR BROKEN TILE.

673. INTERSECTIONS AND RETURNS SHALL BE PERFECTLY FORMED. CUTTING AND DRILLING OF TILES SHALL BE NEATLY DONE WITHOUT MARRING THE SURFACE OF THE TILE. THE CUT EDGES OF TILES AGAINST TRIM, FINISH, ETC., SHALL BE CAREFULLY GROUND AND JOINTED. THE TILES SHALL FIT CLOSELY AROUND ELECTRIC OUTLETS, PIPING, FIXTURES OR FITTINGS, SO THAT PLATES, COLLARS OR COVERINGS, WHERE USED, SHALL OVERLAP THE TILE.

674. THE TILE WORK SHALL BE LAID OUT ON FLOORS AND LENGTHWISE ON WALLS SO THAT, WHEREVER POSSIBLE, NO TILES LESS THAN ONE-HALF FULL SIZE SHALL OCCUR.

675. TRIMMERS SHALL BE BACKED FULL WITH MORTAR AND TAMPED INTO PLACE, PROPERLY INTERSECTING WITH OTHER TILES.

676. TILE BASE SHALL BE SET BEFORE WORK ON THE FLOOR IS STARTED. BASE TILES SHALL BE SET IN FULL BEDS OF MORTAR AND THE TILES TAMPED INTO PLACE. THE TILES SHALL BE BROUGHT TO TRUE LINES AND LEVELS AND WITH JOINTS FLUSH.

677. SETTING BEDS OF FLOOR TILE SHALL BE NOT LESS THAN 1/2 INCH THICK FOR CERAMIC MOSAIC, NOR LESS THAN 1-1/2 INCHES THICK FOR OTHER FLOOR TILE, AND SHALL BE SPREAD NOT LATER THAN THE DAY FOLLOWING THAT ON WHICH THE CONCRETE FILL IS PLACED. THE MORTAR SHALL BE SPREAD AND WORKED TO A TRUE AND EVEN PLANE, EITHER LEVEL OR SLOPED TO DRAIN AS REQUIRED. FOR AREAS OF MORE THAN 100 SQUARE FEET, SCREED STRIPS SHALL BE SET AS TEMPORARY GUIDES TO SECURE THESE RESULTS.

678. AS LARGE A FLOOR AREA AS CAN BE COVERED WITH TILE BEFORE THE MORTAR HAS REACHED ITS INITIAL SET SHALL BE PLACED IN ONE OPERATION. WHEN MORE SETTING MORTAR HAS BEEN SPREAD THAN CAN BE THUS COVERED, THE UNFINISHED PORTION SHALL BE CUT BACK TO A CLEAN, BEVELED EDGE CLOSE TO THE TILE AND REMOVED.

679. UNDER NO CIRCUMSTANCES SHALL RETEMPERED MORTAR BE USED.

(A) THE TILES OR SHEET UNITS OF FLOORS OR MORE THAN 100 SQUARE FEET AREA SHALL BE LAID TO A STRAIGHT EDGE AT REGULAR INTERVALS.

680. JOINTS IN TILE WORK, NOT OTHERWISE INDICATED, SHALL BE OF THE WIDTHS SPECIFIED HEREIN. WHERE MINIMUM AND MAXIMUM WIDTHS ARE SPECIFIED FOR A KIND OF TILE, THE JOINTS USED SHALL BE WITHIN SUCH LIMITS AND SHALL BE AS NEARLY UNIFORM AS PRACTICABLE THROUGHOUT THE WORK. WIDTHS OF JOINTS SHALL BE AS FOLLOWS:

FOR CERAMIC MOSAIC TILE, 1/16 INCH.
FOR UNGLAZED WALL TILE, 1/4 INCH TO 3/8 INCH.

681. GROUTING SHALL BE DONE AS SOON AS THE MORTAR BEDS HAVE SUFFICIENTLY SET. ALL CEMENT SHALL BE PORTLAND CEMENT.

(A). FACE JOINTS OF GLAZED WALL TILE AND GLAZED VITREOUS TILE SHALL BE CAREFULLY WASHED OUT AND FILLED WITH CEMENT AND FINE SHARP WHITE SAND, MIXED 2 PARTS CEMENT TO 1 PART SAND.

(B) WHERE LIGHT COLORED MORTAR IS REQUIRED IT SHALL BE MADE WITH WHITE CEMENT, AND NONFADING MINERAL OXIDES SHALL BE USED AS NECESSARY TO PRODUCE THE DESIRED COLOR.

682. CLEANING.--UPON COMPLETION OF THE GROUTING, TILE SHALL BE THOROUGHLY CLEANED AND MAINTAINED IN THIS CONDITION UNTIL COMPLETION OF THE CONTRACT.

TERRAZZO WORK

683. MATERIALS.--PORTLAND CEMENT FOR TERRAZZO AND THE MATERIALS AND MIXING OF CONCRETE FILL UNDER TERRAZZO SHALL CONFORM TO THE REQUIREMENTS FOR SIMILAR WORK UNDER "CONCRETE AND CEMENT WORK."

684. MARBLE CHIPS SHALL BE HARD AND DURABLE. THE FOLLOWING IS A LIST OF THE PERCENTAGES OF WHITE AND COLORED MARBLES FOR TERRAZZO FLOORS. FOR TOILET FLOORS THE PERCENTAGES SHALL BE: WHITE NO. 1-35 PER CENT, WHITE NO. 2-35 PERCENT AND WHITE NO. 3-30 PER CENT, AS INDICATED BY (Y) ON KEY CHART, DRAWINGS NOS. G-3 AND G-4. FOR OTHER FLOORS THE PERCENTAGES SHALL BE: WHITE NO. 1-30 PER CENT, WHITE NO. 2-50 PER CENT, RED NO. 2-15 PER CENT, GREEN NO. 2-5 PER CENT AS INDICATED BY (Z) ON KEY CHART, DRAWINGS NOS. G-3 AND G-4.

685. GRAY PORTLAND CEMENT SHALL BE USED AND SHALL BE MADE WATERPROOF BY THE ADDITION OF INTEGRAL WATERPROOFING MIXED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS.

686. FELT SHALL CONFORM TO FEDERAL SPECIFICATION NO. HH-F-236 OR HH-F-241.

687. CONCRETE FILL.--THE FILL UNDER TERRAZZO SHALL BE CLASS C CONCRETE REINFORCED WITH SHRINKAGE FABRIC AND SHALL BE SPREAD OVER A CONTINUOUS LAYER OF ROOFING FELT. THE CONCRETE SHALL BE WELL TAMPED AND LEVELED OFF TO A TRUE SURFACE 1-1/2 INCHES BELOW THE FINISHED FLOOR LEVEL. ALL CONCRETE FILL PLACED EACH DAY SHALL BE COVERED BY THE MORTAR UNDERBED NOT LATER THAN THE FOLLOWING DAY.

688. UNDERBED.--THE UNDERBED FOR TERRAZZO SHALL CONSIST OF ONE PART PORTLAND CEMENT AND FOUR PARTS CLEAN, SHARP, SCREENED SAND. THIS MORTAR SHALL BE THOROUGHLY MIXED, THEN EVENLY SPREAD AND COMPACTED ON THE CONCRETE FILL AND BROUGHT TO A LEVEL AT LEAST 3/4 INCH BELOW THE FINISHED FLOOR SURFACE. ALL MORTAR SPREAD EACH DAY SHALL BE COVERED BY TERRAZZO NOT LATER THAN THE FOLLOWING DAY.

689. DIVIDING STRIPS.--THE TERRAZZO SHALL BE JOINTED AS INDICATED ON THE DRAWINGS WITH BRASS DIVIDING STRIPS NOT LESS THAN .05 INCH THICK. THE STRIPS SHALL BE SET IN STRAIGHT TRUE LINES

OR IN THE PATTERN REQUIRED AND SHALL SHOW ON THE SURFACE OF THE FINISHED WORK. THE STRIPS SHALL BE DESIGNED WITH SECURE ANCHORAGE AND SHALL BE SET WELL INTO THE MORTAR UNDERBED.

690. TERRAZZO SHALL BE TAMPED OR ROLLED INTO A COMPACT MASS AND TROWELED TO THE REQUIRED LEVEL, THEN MARBEL CHIPS SHALL BE ROLLED INTO THE SURFACE, USING NOT LESS THAN 85 POUNDS OF CHIPS PER 100 SQUARE FEET OF SURFACE AND AS MANY MORE AS CAN BE EMBEDDED, AND THE TERRAZZO FINALLY WORKED TO A DENSE, EVEN SURFACE. THE TERRAZZO FINISH (MARBLE CHIPS AND CEMENT) SHALL BE AT LEAST 3/4 INCH THICK.

691. THE TERRAZZO FLOORS IN ENTRANCE VESTIBULES AND PUBLIC LOBBY, AND IN TOILETS, SHALL BE MADE NON-SLIPPING BY THE USE OF AN ABRASIVE AGGREGATE, WHICH SHALL BE COMPOSED OF AT LEAST 55 PER CENT ALUMINA OXIDE, (Al_2O_3) CERAMICALLY BONDED AT A VERY HIGH TEMPERATURE, OR BY OTHER SIMILAR ABRASIVE AGGREGATES ACCEPTABLE TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH. THE ABRASIVE AGGREGATE SHALL BE OF HOMOGENEOUS STRUCTURE, RUST-PROOF, NON-CRAZING AND UNAFFECTED BY FREEZING, MOISTURE OR BY CLEANING COMPOUNDS. THE ABRASIVE AGGREGATE SHALL BE IN A SUFFICIENT RANGE OF COLORS TO ALLOW SELECTIONS REASONABLY SIMILAR TO THE MARBLE CHIPS, AND SHALL BE SUFFICIENTLY POROUS TO BE RETAINED IN THE CEMENT BOND.

692. THE ABRASIVE AGGREGATES SHALL BE MIXED WITH THE MARBEL CHIPS THAT ARE ROLLED INTO THE SURFACE OF THE TERRAZZO AFTER IT HAS BEEN TROWELED TO THE REQUIRED LEVEL. NOT LESS THAN 40 POUNDS OF THE AGGREGATE AND 85 POUNDS OF THE MARBEL CHIPS SHALL BE USED ON EVERY 100 SQUARE FEET OF SURFACE. THE AGGREGATE AND CHIPS SHALL BE WELL MIXED TOGETHER WHILE DRY AND THEN SPREAD UNIFORMLY OVER THE SURFACE OF THE TERRAZZO.

693. TERRAZZO SHALL CURE AT LEAST 6 DAYS BEFORE GRINDING. DURING THIS PERIOD IT SHALL BE COVERED UNIFORMLY WITH ONE INCH OF CLEAN WET SAND OR ONE INCH OF CLEAN, WET SAWDUST FREE FROM TANNIC ACID, AND SHALL BE KEPT WET BY SPRINKLING WITH CLEAN WATER AT INTERVALS OF NOT MORE THAN 10 HOURS.

694. A STRONG, TWO-PLY KRAFT PAPER WITH ASPHALT MEMBRANE IN THE CENTER MAY BE USED INSTEAD OF THE SAND OR SAWDUST; THE PAPER TO BE REINFORCED WITH CROSSED FIBERS COMPLETELY EMBEDDED IN THE ASPHALT. THIS PAPER SHALL BE LAID WITH AS FEW JOINTS AS PRACTICABLE; THE JOINTS TO BE LAPPED AT LEAST 3 INCHES AND SEALED WITH GUMMED KRAFT PAPER TAPE OR GLUE AS DIRECTED BY THE MANUFACTURER.

695. AFTER CURING, THE TERRAZZO AND THE FLOOR STRIPS AND/OR BORDERS SHALL BE GROUND SMOOTH AND EVEN TO A TRUE PLANE, REMOVING ALL SURFACE CEMENT, HOLES OR PITS, AND THEN WASHED CLEAN.

CORK CARPET

696. GENERAL.--THE FLOORS OF LOOKOUTS SHALL BE COVERED WITH CORK CARPET LAID OVER A SINGLE LAYER OF DEADENING FELT.

697. MATERIAL.--CORK CARPET SHALL BE OF COARSE GRANULATED CORK COMPOSITION WITH A HIGH DEGREE OF ELASTICITY. IT SHALL BE 1/4 INCH THICK AND SHALL BE NOT MORE THAN 9.5 POUNDS PER SQUARE YARD. A PLUS OR MINUS TOLERANCE OF .0075 INCH IN THICKNESS IS PERMITTED.

698. FELT SHALL BE A DEADENING FELT WEIGHING NOT LESS THAN 1-1/2 POUNDS PER SQUARE YARD. PASTE AND CEMENT SHALL BE SPECIALLY PREPARED FOR LAYING CORK CARPET AND THE CEMENT SHALL BE WATERPROOF.

699. WORKMANSHIP.--THE WORK SHALL BE DONE BY SKILLED WORKMEN EXPERIENCED IN LAYING CORK CARPET. THE FLOORS SHALL BE CLEAN AND DRY WHEN THE FELT IS APPLIED. CONCRETE SHALL HAVE A TROWELED FINISH WITH A TRUE EVEN SURFACE.

700. THE DEADENING FELT SHALL BE LAID IN THE SAME DIRECTION OR PARALLEL WITH THE CARPET, WITH SEAMS BUTTED AND THE FELT CAREFULLY FITTED INTO PLACE AROUND ALL OPENINGS AND PROJECTIONS. THE FELT SHALL BE PASTED IN PLACE OVER ITS ENTIRE SURFACE AND THOROUGHLY ROLLED.

701. THE CORK CARPET SHALL BE LAID WITH A MINIMUM AMOUNT OF SEAMS AND SHALL BE CAREFULLY FITTED AGAINST ALL WALLS AND AROUND OPENINGS, ETC. SEAMS SHALL BE LAPPED AND CUT THROUGH BOTH THICKNESSES AT THE SAME TIME WITH A SEAM CUTTING TOOL TO MAKE PRACTICALLY INVISIBLE JOINTS. THE CARPET SHALL BE PASTED OVER ITS ENTIRE UNDER SURFACE TO WITHIN ABOUT 4 INCHES OF THE SEAMS AND SLOWLY ROLLED TO SMOOTH OUT ALL AIR BLISTERS AND CAUSE PERFECT ADHESION. THE EDGES OF THE STRIPS SHALL THEN BE LIFTED ENOUGH TO COAT THE UNPASTED SURFACES AND THE EDGES OF THE SEAMS WITH CEMENT, THEN THE SEAMS SHALL BE ROLLED SMOOTH.

702. CLEANING.--ON COMPLETION OF THE WORK, THE CARPET SHALL BE CLEANED, REMOVING ALL TRACES OF PASTE AND CEMENT.

WOODWORK

CARPENTRY

703. GENERAL.--THE CLASSIFICATION, BASIC GRADES AND SIZES OF STRUCTURAL MATERIAL, BOARDS AND STRIPS, INCLUDING ROUGH, SURFACED OR WORKED LUMBER, SHALL BE IN ACCORDANCE WITH FEDERAL SPECIFICATION No. MM-L-791.

704. THE GRADES OF MATERIALS SHALL BE AS DEFINED BY THE RULES OF THE RECOGNIZED ASSOCIATION OF LUMBER MANUFACTURERS PRODUCING THE MATERIALS SPECIFIED, BUT THE MAXIMUM DEFECTS AND BLEMISHES PERMISSIBLE IN ANY SPECIFIED GRADE SHALL NOT EXCEED THE LIMITATIONS OF AMERICAN LUMBER STANDARDS. GRADES BETTER THAN SPECIFIED WILL BE ACCEPTED.

705. DEFECTS OR BLEMISHES PROHIBITED BY THIS SPECIFICATION, EVEN THOUGH PERMISSIBLE IN THE SPECIFIED GRADE, SHALL NOT APPEAR IN THE MATERIAL USED. SIZES SPECIFIED ARE NOMINAL (BOARD MEASURE) DIMENSIONS, UNLESS OTHERWISE NOTED.

706. MATERIALS GENERALLY SHALL BE FREE FROM WARP THAT CANNOT BE CORRECTED IN PROCESS OF BRIDGING OR NAILING.

707. WOODWORK EXPOSED TO VIEW ON THE OUTSIDE OF BUILDING OR IN FINISHED INTERIOR SPACES, SHALL BE DRESSED.

708. MATERIAL SHALL BE SO DELIVERED, PILED AND HANDLED AS TO PROTECT IT AGAINST DAMAGE.

709. MATERIALS.--LUMBER AND TIMBER SHALL BE SOUND, THOROUGHLY SEASONED AND WELL MANUFACTURED.

710. UNLESS OTHERWISE SPECIFIED MATERIALS FROM STOCK LESS THAN 2 INCHES THICK SHALL BE EITHER OF THE FOLLOWING:

No. 1 COMMON GRADE: SOUTHERN PINE OR CYPRESS.

711. STRUCTURAL MATERIAL OF EVERY DESCRIPTION 2 BY 4 INCHES (NOMINAL) AND LARGER IN CROSS-SECTION SHALL BE STRUCTURAL GRADES OF JOISTS AND PLANK OR BEAMS AND STRINGERS OR POSTS AND TIMBERS AS THE USE MAY REQUIRE AS FOLLOWS:

(A) FOR WORK ON THE INSIDE OF BUILDING ENTIRELY PROTECTED, UNLESS OTHERWISE SPECIFIED, DENSE STRUCTURAL SQUARE EDGE AND SOUND SOUTHERN PINE.

(B) FOR WORK ON THE EXTERIOR PARTLY OR WHOLLY EXPOSED, INCLUDING ALL FRAMING FOR GALLERY AND BALCONIES, SELECT STRUCTURAL HEART CYPRESS.

712. EACH PIECE OF LUMBER (OR BUNDLE IN BUNDLED STOCK) SHALL BEAR THE OFFICIAL GRADE AND TRADE MARK OF THE ASSOCIATION UNDER WHOSE RULES IT IS GRADED, OR THE LUMBER SHALL BE ACCOMPANIED BY A CERTIFICATE OF INSPECTION ISSUED BY THAT ASSOCIATION.

713. FRAMING.--WOODWORK SHALL BE PROPERLY FRAMED, CLOSELY FITTED, ACCURATELY SET IN THE REQUIRED LINES AND LEVELS AND RIGIDLY SECURED IN PLACE. SHIMS SHALL NOT BE USED FOR LEVELING ON WOOD OR METAL BEARINGS. SLATE OR TILE SHIMS WITH FULL BEARINGS MAY BE USED AS NECESSARY FOR LEVELING ON MASONRY OR CONCRETE.

(A) HEADERS AND TRIMMERS SHALL BE FRAMED AROUND CHIMNEYS AND FLUES IN ROOFS. FRAMING SHALL BE KEPT AT LEAST 1 INCH AWAY FROM ANY SMOKE FLUE OR CHIMNEY.

(B) RAFTERS SHALL BE CUT OR BUILT UP TO THE REQUIRED INCLINES, AND SHALL BE SPIKED TO WOOD BEARINGS AND AT LAPPED ENDS WHERE POSSIBLE.

(C) STUDS FOR DWARF PARTITIONS AND THE SHOES AND CAPS FOR SAME SHALL BE 2 INCH STOCK BY THE REQUIRED WIDTH. STUDS SHALL BE SPACED NOT MORE THAN 16 INCHES ON CENTERS.

714. BRIDGING AND BLOCKING.--BLOCKING BETWEEN STUDS, AND RAFTERS, SHALL BE OF 2 INCH STOCK AND THE FULL DEPTH OF THE FRAMING MEMBERS. CROSS-BRIDGING SHALL BE 1-1/2 BY 3 INCH STOCK.

(A) RAFTERS OF "FLAT" ROOFS, SHALL BE CROSS-BRIDGED ONCE EVERY 8 FEET, UNLESS OTHERWISE INDICATED.

(B) NAILING STRIPS THAT ARE TO BE EMBEDDED IN CONCRETE SHALL BE OF 1-1/2 BY 3 INCH STOCK AND CREOSOTED. THEY SHALL BE BEVELED 1/2 INCH ON ONE OR BOTH EDGES AND PROPERLY SPACED FOR THE REQUIRED NAILING.

(C) NAILERS ON STEEL FRAMING SHALL BE AT LEAST 2 INCH STOCK OF THE REQUIRED WIDTH AND BORED FOR BOLTING. SEE STRUCTURAL DRAWINGS.

715. SHEATHING.--SHEATHING SHALL BE WORKED FROM 1 BY 6 INCH STOCK EXCEPT WHERE HEAVIER SHEATHING IS INDICATED WHERE SUPPORTED BY STEEL PURLINES. ALL SHEATHING SHALL BE DRESSED AND MATCHED. SHEATHING SHALL BE DRIVEN CLOSE AND DOUBLE-NAILED AT ALL BEARINGS. END JOINTS SHALL BE WELL DISTRIBUTED AND MADE AT BEARINGS ONLY, UNLESS END MATCHED.

716. ROOF SURFACES SHALL BE FORMED WITH CRICKETS, VALLEYS, GUTTERS, ETC., FOR PROPER DRAINAGE.

717. CANT STRIPS ABOUT 6 INCHES WIDE SHALL BE SET AT AN ANGLE OF 45 DEGREES AGAINST ALL PROJECTIONS ABOVE COMPOSITION ROOFS ON WOOD SHEATHING.

718. WOOD GROUNDS.--GROUNDS SHALL BE SET FOR PLASTER AT POINTS WHERE OTHER FINISH WILL CONNECT THEREWITH. GROUNDS SHALL BE CONTINUOUS AND SET BACK 1/2 INCH FROM THE EXPOSED EDGES OF OVERLAPPING FINISH. THEY SHALL BE STRAIGHT AND PLUMB OR LEVEL AND IN TRUE ALIGNMENT. SPOT GROUNDS SET IN PLASTER OF PARIS NOT MORE THAN 12 INCHES ON CENTERS MAY BE USED WHERE CONTINUOUS GROUNDS ARE NOT PRACTICABLE. SEE SPECIFICATIONS FOR METAL PLASTER GROUNDS WHERE CEMENT BASE AND PLASTER ABUT.

(A) GROUNDS FOR MATCHED WAINSCOTING SHALL BE NOT OVER 18 INCHES APART. WOOD BASE SHALL HAVE HORIZONTAL GROUNDS AT TOP AND BOTTOM EDGES.

(B) GROUNDS SHALL BE 5/8 INCH THICK ON MASONRY AND 1-1/2 INCHES WIDE.

(C) TEMPORARY GROUNDS SHALL BE SET TO PROVIDE 1/2 INCH CLEARANCE BETWEEN THE PLASTER EDGE AND OTHER FINISH REQUIRING THE REMOVAL OF GROUNDS BEFORE IT IS INSTALLED.

(D) GROUNDS OF 1-1/4 INCH BY 4 INCH STOCK WITH TOP EDGE BEVELED SHALL BE SET TO RECEIVE FLASHINGS OR CAP-FLASHINGS AGAINST STUCCO FINISH.

719. TEMPORARY CLOSURES.--TEMPORARY DOORS AND CLOTH COVERED FRAMES FOR WINDOWS SHALL BE PROVIDED FOR ALL EXTERIOR OPENINGS DURING PLASTERING AND UNTIL THE BUILDING HAS DRIED OUT.

720. STEEL WINDOWS MAY BE GLAZED INSTEAD OF BEING FITTED WITH TEMPORARY CLOSURES, BUT THE WINDOWS AND GLASS SHALL BE CAREFULLY PROTECTED AND ANY GLASS THAT IS BROKEN, SCRATCHED OR OTHERWISE DAMAGED SHALL BE REPLACED WITH NEW.

721. FOR ATTIC WALK, SEE MISCELLANEOUS DETAIL NOTED ON DRAWING No. G-5, THE WALK SHALL BE FLOORED WITH 1 BY 6 INCH MATCHED SHEATHING. RAIOING MEMBERS SHALL BE CHAMFERED.

722. ANCHORAGE OF FRAMING.--WHERE THE LOCATION OF ANCHORS IS NOT INDICATED ON THE DRAWINGS, THE FOLLOWING REQUIREMENTS SHALL GOVERN:

(A) FRAMING ABOVE FIRST FLOOR AND PARALLEL WITH EXTERIOR WALLS SHALL BE ANCHORED THERETO AT EACH LINE OF CROSS BRIDGING.

(B) THE STUDS AND SHOES OF FRAMMED DWARF PARTITIONS ABUTTING OR RESTING ON CONCRETE SHALL BE SECURED THERETO ONCE IN EVERY 4 FEET WITH ANCHORS OR EXPANSION BOLTS.

(C) NAILING OR BEARING STRIPS ON STEEL FRAMING SHALL BE BOLTED TO THE STEEL AT POINTS STAGGERED AND SPACED ABOUT 30 INCHES ON CENTERS.

723. ANCHORS, BOLTS, ETC.--ALL BOLT HEADS AND NUTS BEARING ON WOOD SHALL HAVE STANDARD WASHERS. WHERE SIZES OF ANCHORS, BOLTS, ETC., ARE NOT INDICATED ON THE DRAWINGS THE FOLLOWING REQUIREMENTS SHALL GOVERN:

724. ANCHOR BOLTS GENERALLY SHALL BE 1/2 INCH DIAMETER WITH NUT AND WASHER AND WALL END BENT 2 INCHES. ANCHOR BOLTS FOR STUDS SHALL EXTEND AT LEAST 4 INCHES INTO MASONRY OR CONCRETE. EXPANSION BOLTS SHALL BE 1/2 INCH DIAMETER WITH EXPANSION SLEEVES. SPECIAL ANCHOR BOLTS FOR HEAVY WOOD FRAMING OF GALLERY AND BALCONIES SHALL BE AS DETAILED. SEE SHEETS No. G-200 AND G-201.

725. WALL ANCHORS FOR JOISTS AND RAFTERS SHALL BE 1/4 BY 1-1/4 INCH FLATS WITH WALL ENDS BENT 4 INCHES AND BUILT IN 8 INCHES, EXTENDED AT LEAST 16 INCHES ONTO THE FRAMING AND FASTENED WITH THREE SPIKES OR BOAT NAILS. ANCHORS AT RIGHT ANGLES TO FRAMING SHALL EXTEND ONTO AND BE FASTENED TO THREE JOISTS OR RAFTERS.

726. BOLTS FOR NAILERS AND BEARING STRIPS ON STEEL SHALL BE 1/2 INCH FOR NAILERS AND 3/4 INCH FOR BEARING STRIPS.

727. ANCHORS FOR WOOD SLEEPERS SHALL BE ZINC-COATED AND SO DESIGNED THAT THEY CANNOT BE PULLED OUT AFTER THE CONCRETE HAS SET. THEY SHALL BE OF ANNEALED STEEL WIRE AT LEAST .14 INCH IN DIAMETER OR OF NOT LIGHTER THAN 20 U.S. STANDARD GAUGE METAL 1-1/4 INCH WIDE.

(A) ANCHORS FOR WOOD FRAMES AND BUCKS SHALL BE 1/8 BY 1-1/4 INCH FLATS WITH ENDS TURNED 2 INCHES, EXTENDED NOT LESS THAN 8 INCHES INTO MASONRY, AND SECURED TO FRAMES AND BUCKS WITH SCREWS.

728. FASTENINGS FOR WOOD GROUNDS, FURRING, ETC., TO MASONRY OR CONCRETE SHALL BE OF METAL AND OF TYPE AND SPACING BEST SUITED TO CONDITIONS. HARDENED STEEL NAILS, EXPANSION SCREWS, TOGGLE BOLTS, SELF-CLINCHING NAILS, METAL PLUGS, INSERTS OR SIMILAR FASTENINGS SHALL BE USED. WOOD PLUGS OR NAILING BLOCKS ARE NOT ACCEPTABLE.

729. NAILS, SPIKES, SCREWS, ETC., SHALL BE OF SUITABLE TYPES AND SIZES TO DRAW THE MEMBERS INTO PLACE AND SECURELY HOLD SAME.

730. CHEMICAL TREATMENT.--CHEMICALS FOR PROTECTION OF WOOD SHALL BE ZINC CHLORIDE, WOLMAN SALTS OR META ARSENITE, AT THE OPTION OF THE CONTRACTOR, USING THE ONE POUND (DRY SALT) OR 1/4 POUND WOLMAN SALTS OR META ARSENTITE PRESSURE TREATMENT IN ACCORDANCE WITH THE STANDARD SPECIFICATION OF THE AMERICAN WOOD PRESERVERS' ASSOCIATION.

731. THE OUTSIDE 6" ROW OF ROOF SHEATHING FORMING THE EAVES UNDER TILE ROOF AND ALL BLOCKING OR OTHER WOOD SUPPORTS FOR SAME SHALL BE PROTECTED BY IMPREGNATION OF CHEMICALS.

732. SLEEPERS UNDER FLOORING AND METAL THRESHOLDS OF DOORS, WHERE SHOWN, SHALL BE TREATED WITH CHEMICALS AS SPECIFIED. SEE DRAWINGS NO. G-203.

733. PAPER.--SLEEPERS AND FILL UNDER WOOD FLOORS AND THE SHEATHING BACK OF STUCCO SHALL BE COVERED WITH TWO-PLY BUILDING PAPER CONSISTING OF TWO LAYERS OF 30-POUND NORTHERN KRAFT COMBINED TOGETHER WITH ASPHALT, TYPE II, FEDERAL SPECIFICATION NO. SS-A-666. EACH LAYER OF PAPER SHALL BE SEPARATELY COATED WITH ASPHALT BEFORE THE TWO ARE BROUGHT TOGETHER TO INSURE A UNIFORM MEMBRANE FREE FROM VOIDS. THE FINISHED PAPER SHALL WEIGH NOT LESS THAN 21-1/2 POUNDS PER 500 SQUARE FEET; THE PAPER WEIGHING NOT LESS THAN 10.4 POUNDS AND THE BALANCE BEING ASPHALT. THE BUILDING PAPER SHALL BE LAPPED AT JOINTS AND TACKED IN PLACE.

734. GALLERY AND BALCONIES.--THE GALLERY ON SECOND FLOOR AND THREE BALCONIES IN SECOND FLOOR SHALL BE FRAMED OF HEAVY SOLID TIMBERS FOR BRACKETS, BEAMS, POSTS, RAFTERS ETC. AS SHOWN ON DRAWINGS NOS. G-200 AND G-201. FRAMING SHALL BE FITTED TOGETHER, ANCHORED AND TIED AS SHOWN ON THE DETAILS. POSTS SHALL BE BORED FULL LENGTH AS DETAILED. ALL FRAMING LUMBER OF GALLERY AND BALCONIES SHALL BE SELECT STRUCTURAL HEART CYPRESS.

MILLWORK & FINISH

735. GENERAL.--ALL MILLWORK AND WOOD FINISH REQUIRED UNDER THE CONTRACT SHALL BE PROVIDED WHETHER OR NOT EVERY ITEM OF WORK IS SPECIFICALLY MENTIONED HEREIN.

736. LUMBER SHALL BE LIVE, SOUND STOCK THAT IS THOROUGHLY SEASONED AND WELL MANUFACTURED.

737. WOOD THAT IS TO BE FINISHED IN PAINT SHALL HAVE EXPOSED SURFACES FREE FROM DEFECTS AND BLEMISHES THAT WOULD SHOW AFTER BEING FINISHED AS SPECIFIED UNDER "PAINTING AND FINISHING", REGARDLESS OF THE GRADE SPECIFIED.

738. THE TERMS "NATURAL FINISH" AND "FINISHED NATURAL" SHALL MEAN ANY APPLIED FINISH THAT SHOWS THE GRAIN OF THE WOOD.

NOTE.--ALL EXTERIOR AND INTERIOR WOOD FINISH ARE FOR NATURAL FINISH, EXCEPT WOOD IN PENT HOUSE AND ATTIC TO HAVE PAINTED FINISH.

739. EXTERIOR WOODWORK SHALL BE OF THE FOLLOWING MATERIALS:

(A) GLAZED DOORS AND SASH: CLEAR STOCK WHITE PINE OR CLEAN HEART CYPRESS.

(B) SPECIAL UNGLAZED DOORS OPENING TO OR FROM VESTIBULE AND PUBLIC LOBBIES ON FIRST FLOOR:- CLEAR HEART RED CYPRESS.

(C) TURNED WORK:--CLEAR HEART RED CYPRESS.

(D) GALLERY AND BALCONY RAILS, AND MOULDINGS OVER 4" BY 4" STOCK:- SELECT STRUCTURAL HEART RED CYPRESS.

(E) MOULDINGS FROM LESS THEN 4" BY 4" STOCK:- CLEAR HEART RED CYPRESS.

(F) FRAMES FOR DOORS, FRENCH WINDOWS AND CASEMENT WINDOWS: SELECT HEART STRUCTURAL CYPRESS.

(G) PULLEY STILES OF BOX HEAD FRAMES:- B AND BETTER EDGE GRAIN SOUTHERN PINE.

(H) ALL OTHER WOOD FINISH INCLUDING SILLS AND TRIM OF BOX HEAD FRAMES:- CLEAR HEART RED CYPRESS.

740. FLOORS OF BALCONIES; CLEAR HEART CYPRESS IN FULL LENGTHS NO BUTT JOINTS.

741. INTERIOR WOOD WORK (EXCEPT FLOORING):-

(A) GLAZED DOORS AND SASH:-CLEAR STOCK WHITE PINE OR CLEAR HEART CYPRESS.

(B) SPECIAL UNGLAZED DOORS OPENING TO OR FROM PUBLIC LOBBIES ON FIRST FLOOR:- CLEAR HEART CYPRESS.

(C) ALL OTHER DOORS AND SASH NOT OTHERWISE NOTED:- CLEAR STOCK WHITE PINE OR CLEAR HEART CYPRESS.

(D) CEILING BEAMS IN PUBLIC LOBBIES, FIRST FLOOR: SOLID TIMBERS PECKY CYPRESS, THE PECK TO RUN FULL LENGTH ON THREE (3) FACES.

(E) CEILING IN LOBBIES:- PECKY CYPRESS, AS PER FIGURE NO. 1, PAGE 22 (COARSE PECK) STANDARD GRADING RULES OF THE SOUTHERN CYPRESS MANUFACTURERS ASSOCIATION PUBLISHED JUNE 1, 1934; EACH SQUARE FOOT OF BOARDS TO CONTAIN PECK AS DESCRIBED.

(F) MATCHED BOARDS FOR WAINSCOT:- GRADE B - FINISH, CYPRESS.

(G) LOBBY DESKS AND TURNED WORK THROUGH THE INTERIOR:- PECKY CYPRESS AS PER FIGURE NO. 3, PAGE 22 (FINE PECK) STANDARD GRADING RULES OF THE SOUTHERN CYPRESS MANUFACTURERS ASSOCIATION PUBLISHED JUNE 1, 1934.

(H) HAND RAILS OR STAIRS: CLEAR HEART CYPRESS.

(J) ALL OTHER WOOD FINISH INCLUDING FRAMES NOT OTHERWISE NOTED:- GRADE B AND BETTER CYPRESS.

742. WOOD THAT IS TO BE FINISHED NATURAL SHALL BE BRIGHT AND UNIFORM IN COLOR AND FREE FROM DEFECTS AND BLEMISHES ON EXPOSED SURFACES, EXCEPT WHERE SAME ARE ALLOWED IN THE GRADES SPECIFIED.

743. ATTENTION IS DIRECTED TO THE FOLLOWING SPECIAL REQUIREMENTS:

(A) THE DOORS ON MAILING PLATFORM AND IN MAILING VESTIBULE SHALL BE SOLID AND OF CYPRESS OR WHITE PINE OR SOFT SOUTHERN PINE FOR PAINT OR NATURAL FINISH AS SPECIFIED.

(B) THE DOORS NUMBERED 1/12, 1/13, 1/20 AND 103 SHALL BE BUILT UP OF HEAVY SOLID STOCK THREE-PLY CYPRESS WITH SOLID PANELS IN DOOR No. 103, ALL FOR STAIN OR NATURAL FINISH.

(C) ALL OTHER DOORS 1-3/4 INCHES THICK SHALL BE SOLID STILES AND RAILS WITH PLY-WOOD VENEERED PANELS, FOR INTERIOR AND SOLID PANELS FOR EXTERIOR FOR PAINT OR NATURAL FINISH AS SPECIFIED.

(D) DOORS OF CUPBOARDS AND CABINETS SHALL MATCH THE ROOM FINISH. DOORS OF PARTITIONS IN TOILET ROOMS SHALL MATCH THE ROOM DOORS, UNLESS OTHERWISE SPECIFIED.

(E) INTERIOR WOOD SASH SHALL BE SOLID AND OF THE SAME KIND OF WOOD AS THE MORE IMPORTANT OR EXPENSIVE ADJOINING FINISH.

(F) WOOD TREADS OF STEPS IN OFFICE No. 201 SHALL BE PLAIN SAWED AND OF WHITE OAK, TO HARMONIZE WITH ABUTTING WOOD FLOOR.

(G) COUNTER TOPS AND SHELVES OF DUTCH DOORS SHALL BE OF OAK OR BIRCH FOR NATURAL FINISH.

(H) WOOD FLOORING IS HEREINAFTER SPECIFIED.

744. STOCK SIZES, INTERIOR WOOD FINISH AND DOORS.--BIDS SHALL BE BASED ON THE USE OF THE FOLLOWING STOCK FOR TYPICAL INTERIOR WOOD FINISH, EXCEPT IN POST OFFICE WORKROOMS AND WHERE SPECIAL TRIM IS CLEARLY SHOWN.

PLAIN BASE - 4/4 X 8 INCH.
BASE WITH OFFSET - 5/4 X 8 INCH.
BASE TOP MOULD - 4/4 X 1-3/4 INCH.
DOOR AND WINDOW ARCHITRAVES - 4/4 X 4-1/2 INCH WITH 6/4 X 2 INCH BACK BANDS.
WINDOW STOOLS - 5/4 INCH BY WIDTH REQUIRED.
PICTURE MOULD - 4/4 X 2-5/8 INCHES.
WINDOW APRONS - 4/4 X 4-1/2 INCH. BED MOULDS, 4/4 X 1-1/4 INCH.
CHAIR RAIL - 4/4 X 4-1/2 INCHES.
INTERIOR DOORS - STILES AND TOP RAILS 5 INCHES, CROSS RAILS 4 INCHES AND BOTTOM RAILS 10 INCHES, ACTUAL WIDTH ON THE SQUARE.

(A) ANY VARIATIONS FROM THE ABOVE SIZES IN THE STOCK REQUIRED BY FULL SIZED DETAILS WILL BE SUBJECT TO AN ADJUSTMENT IN THE CONTRACT AS DETERMINED BY THE CONTRACTING OFFICER.

745. PROTECTION.--WOOD WORK SHALL BE DELIVERED DRY AND PROTECTED AT ALL TIMES FROM INJURY OR DAMPNESS. DOORS, SASH, FLOORING AND INTERIOR FINISH SHALL NOT BE STORED OR INSTALLED IN ANY PART OF THE BUILDING UNTIL AFTER THE CONCRETE AND PLASTER WORK IN SUCH PART ARE COMPLETED AND THAT PART OF THE BUILDING IS THOROUGHLY DRY.

746. THE CONTRACTOR SHALL MAINTAIN A TEMPERATURE OF AT LEAST 70 DEGREES F. IN EVERY PART OF THE BUILDING WHERE INTERIOR MILLWORK AND FINISH IS STORED OR INSTALLED DURING SUCH STORAGE OR INSTALLATION AND UNTIL THE COMPLETION OF THE CONTRACT.

747. WORKMANSHIP.--WOODWORK GENERALLY SHALL BE FINISHED SMOOTH. INTERIOR WOODWORK SHALL HAVE A FINE, SMOOTH FINISH AND SHALL BE FREE FROM MACHINE OR TOOL MARKS, ABRASIONS, RAISED GRAIN, ETC., ON EXPOSED SURFACES.

748. JOINTS SHALL BE TIGHT AND SO FORMED AS TO CONCEAL SHRINKAGE. SHOP MITERS 4 INCHES OR MORE FROM HEEL TO POINT SHALL BE GLUED AND FEATHERED, LOCKED OR SPLINED. TENONS AND DOWELS SHALL BE MADE TO A DRIVING FIT. DOWELS SHALL BE OF HARD WOOD AND AT LEAST TWO SHALL BE USED IN EACH JOINT.

749. JOINTS OF OUTSIDE WORK SHALL EXCLUDE WATER AND BE SET IN WHITE LEAD PASTE OR WATERPROOF GLUE. SHOP JOINTS OF INTERIOR WORK SHALL BE MADE WITH WATERPROOF GLUE OR HOT-GLUED UNDER PRESSURE.

750. DOOR AND WINDOW TRIM SHALL BE IN SINGLE LENGTHS WITHOUT SPLICING. RUNNING FINISH, SUCH AS CORNICE, BASE, CHAIR RAIL, PICTURE MOULD, ETC., SHALL BE IN COMMERCIAL LONG LENGTHS AND JOINTED ONLY WHERE SOLID FASTENINGS CAN BE MADE. END JOINTS IN BUILT UP MEMBERS SHALL BE WELL BROKEN AND DISTRIBUTED.

751. DOOR FRAMES.--EXTERIOR DOOR FRAMES GENERALLY SHALL BE OF 4 INCH STOCK BY 6 INCH OR 8 INCH OR 10 INCH AS SHOWN ON THE DETAILS, GROOVED OR KERFED ON THE BACK, REBATED AT BOTH EDGES FROM THE SOLID AND WITH MOULDED INSIDE CORNER IN LOBBIES. DOOR FRAMES FOR OPENINGS NOS. 1/12 AND 1/13 SHALL BE SIMILAR BUT 6 INCH BY 10 INCH. SEE DRAWINGS NOS. G-200, G-201, G-202, G-203.

(A) FRAME FOR ENTRANCE DOOR 1/1 SHALL BE WORKED UP FROM 2-1/2 INCH STOCK WITH MOULDED PILASTER BASES AND CAPS, CORNICE, MOULDINGS, ETC., AS DETAILED ON DRAWING NO. G-200.

(B) FRAMES OF ALL OTHER OUTSIDE DOORS SHALL BE WORKED FROM 2-1/2 INCH STOCK.

(C) OUTSIDE FRAMES SHALL HAVE APPLIED STAFF BEADS INSTALLED AFTER THE FRAMES ARE SET AND CAULKED. PLASTERED OR UNFINISHED REVEALS SHALL HAVE APPLIED MEMBERS AT JAMBS AND HEADS.

752. DOORS.--DOORS SHALL BE 1-3/4 INCHES THICK, UNLESS OTHERWISE SPECIFIED. ALL DOORS SHALL BE FREE FROM OPEN JOINTS, WARP OR TWIST.

(A) UNLESS OTHERWISE NOTED OUTSIDE DOORS SHALL BE SOLID. WOOD PANELS (EXCEPT FLUSH PANELS) AND SINGLE GLASS PANELS SHALL BE SET WITH SPLINES AND MOLDINGS.

(B) ALL INTERIOR DOORS 1-3/4 INCHES THICK SHALL BE SOLID FOR BOTH PAINTED AND NATURAL FINISH, UNLESS OTHERWISE SPECIFIED.

(C) DUTCH DOORS SHALL HAVE COUNTER SHELVES OF OAK OR BIRCH SUPPORTED ON BRACKETS AND BED MOLDS. SEE DETAILS NOTED ON DRAWINGS NO. G-204.

753. DOORS OF CUPBOARDS AND CABINETS SHALL BE SOLID WITH RAILS AND STILES WORKED FROM 1 INCH STOCK, EXCEPT THAT DOORS LARGER THAN 40 INCHES HIGH AND 20 INCHES WIDE SHALL HAVE RAILS AND STILES OF 1-1/4 INCH STOCK.

754. MEETING STILES OF DOUBLE DOORS SHALL BE REBATED, UNLESS OTHERWISE SPECIFIED. MEETING STILES OF DOUBLE-ACTING DOORS SHALL BE ROUNDED. MEETING STILES OF DOUBLE MAIN ENTRANCE DOORS AND OF DOUBLE INTERIOR VESTIBULE DOORS SHALL BE WORKED TO STANDARD BEVEL WITH EDGES SLIGHTLY ROUNDED. SEE MISCELLANEOUS DETAIL ON DRAWING NO. G-202.

755. THE RAILS OF DOORS SHALL BE TONGUED AND TENONED OR TONGUED AND DOWELED TO THE STILES. TENONS AND DOWELS TO BE CONCEALED. DOWELED JOINTS MORE THAN 3-1/2 INCHES WIDE SHALL HAVE THREE DOWELS. JOINTS MORE THAN 7 INCHES WIDE SHALL HAVE DOUBLE TENONS OR AT LEAST FOUR DOWELS.

756. THE BOTTOM RAILS OF DOORS AND "FRENCH" WINDOWS SHALL BE GROOVED AS DETAILED IN DRAWING G-202 UNLESS OTHERWISE NOTED AND SHALL HAVE DRIP MOULDINGS DADOED INTO THE LOWER RAILS AS DETAILED.

(A) THE TOPS OF ALL DOORS AND "FRENCH" WINDOWS OPENING TO THE OUTSIDE SHALL HAVE A METAL CAP OR WEATHER PROTECTION AS SPECIFIED UNDER "SHEET METAL WORK".

757. WINDOW FRAMES.--GENERALLY SILLS OF OUTSIDE FRAMES FOR HINGED SASH SHALL BE WORKED FROM 3 INCH STOCK AS DETAILED ON DRAWINGS NOS. G-200, G-202, G-203.

(A) SILLS FOR ALL EXTERIOR WINDOW FRAMES SHALL HAVE DRIP, WASH AND WEATHER STOP AND SHALL BE KERFED ON THE BACK.

758. BOX HEAD FRAMES SHALL HAVE PULLY STILES, YOKES AND OUTSIDE MEMBERS OF 1-1/4 INCH STOCK, BACKS AND INSIDE MEMBERS OF 1 INCH STOCK. FRAMES SHALL HAVE POCKETS FOR ACCESS TO CHAINS AND PULLEYS; POCKET PIECES TO BE SECURED WITH BRASS SCREWS. PARTING STRIPS SHALL BE TIGHTLY FITTED IN GROOVES, BUT NOT FASTENED. SEE DRAWING G-200 FOR EXTENDED FRAME (OPENING 2/1).

759. PLANK FRAMES FOR EXTERIOR WINDOWS SHALL BE WORKED FROM 4 INCH BY 6 INCH STOCK OR 2 INCH BY 6 INCH STOCK ACCORDING TO LOCATION AT DETAILED ON DRAWINGS NOS. G-202 AND G-203, AND SHALL BE GROOVED OR KERFED ON THE BACK, AND SHALL BE REBATED FROM THE SOLID.

760. FRAMES FOR FIXED OR HINGED SASH ON INTERIOR SHALL BE WORKED FROM 5/4 INCH STOCK AND SHALL HAVE PLOWED-IN STOPS. FRAMES FOR PIVOTED SASH SHALL HAVE PLOWED-IN FILLETS WHICH SHALL BE BEDED AND REBATED TO MATCH THE SASH.

761. OUTSIDE FRAMES IN MASONRY OPENINGS SHALL HAVE STAFF BEADS. APPLIED BEADS SHALL BE INSTALLED AFTER THE FRAMES ARE SET AND CAULKED.

762. FRAMES IN PLASTERED OR UNFINISHED REVEALS SHALL HAVE APPLIED MEMBERS AT JAMES AND HEADS.

763. FRAMES IN SCREEN LINE SHALL BE BOX TYPE WITH PULLEY STILE BACKS AND OTHER MEMBERS OF 1 INCH STOCK. FRAMES SHALL HAVE POCKETS FOR ACCESS TO CHAINS AND PULLEYS; POCKET PIECES TO BE SECURED WITH BRASS SCREWS. PARTING STRIPS SHALL BE TIGHTLY FITTED IN GROOVES BUT NOT FASTENED.

764. SASH.--SASH SHALL BE 1-3/4 INCHES THICK, UNLESS OTHERWISE SPECIFIED. EXTERIOR SASH SHALL BE REBATED ON THE OUTSIDE FOR PUTTY GLAZING. INTERIOR SASH GENERALLY SHALL BE REBATED ON THE INSIDE AND HAVE GLAZING BEADS.

765. EXTERIOR SASH HINGED AT THE SIDE TO SWING IN SHALL BE PLOWED FOR WOOD DRIP MOULDINGS AS DETAILED ON DRAWING G-202. THE TOPS OF ALL EXTERIOR HINGED SASH OPENING TO THE OUTSIDE SHALL HAVE A METAL CAP OR WEATHER PROTECTION AS SPECIFIED IN "SHEET METAL WORK".

766. MEETING STILES OF DOUBLE HINGED SASH SHALL BE REBATED AND BEADED AS DETAILED ON DRAWING No. G-202.

767. ALL SASH SHALL HAVE MORTISE AND TENON JOINTS; EXTERIOR SASH PINNED, AND INTERIOR SASH WEDGED AND GLUED.

768. DOOR AND WINDOW TRIM.--PLAIN TRIM SHALL BE BUTT-JOINTED, AND MOULDED MEMBERS MITERED, AT CORNERS. TRIM EXTENDING TO FLOOR SHALL HAVE PLINTH BLOCKS IN CONNECTION WITH WOOD BASE. ARCHITRAVES SHALL HAVE MOULDED BACK BANDS, UNLESS OTHERWISE SHOWN. BACK BANDS IN WORK ROOMS SHALL MEMBER WITH THE TOP MOULDING OF WOOD BASE OR WAINSCOT.

769. FIXED AND SLIDING SASH SHALL HAVE MOULDED STOPS 1/2 INCH THICK. STOPS FOR SLIDING SASH SHALL BE BORED AND COUNTERSUNK FOR STOP ADJUSTERS NEAR THE ENDS AND AT INTERVALS OF 15 INCHES. WINDOWS IN PLASTERED WALLS SHALL HAVE WOOD STOOLS WITH MOULDED APRON AND BED MOULD, EXCEPT WHERE OTHER WALL FINISH OCCURS OR WHERE OTHER MATERIAL IS SPECIFIED OR NOTED FOR STOOLS.

770. FRAME LININGS OR SUB-CASTINGS SHALL BE AT LEAST 1/2 INCH THICK AND HAVE BED MOULDS EXCEPT WHERE WOOD REVEALS OCCUR. WOOD REVEALS SHALL BE OF 1-INCH STOCK AND TONGUED TO SUB-CASTINGS.

771. BASE, CHAIR RAIL AND PICTURE MOULD, SHALL BE KERFED ON THE BACK OR WORKED HOLLOW BACK. BASE ON WOOD FLOORS SHALL EXTEND 3/4 INCHES BELOW FINISHED LINE OF FLOOR. OFFICES SHALL HAVE PICTURE MOULD. FOR EXTENT OF CHAIR RAIL SEE DRAWINGS.

772. WOOD BEAMS AND CEILING IN LOBBIES.--THE CEILING IN MAIN LOBBY AND CEILING BEAMS IN LOBBIES ON FIRST FLOOR NOT INCLUDING EAST LOBBY SHALL BE PECKY CYPRESS.

(A) THE BEAMS SHALL BE SOLID TIMBERS AND ALL IN ONE PIECE FROM END TO END OF PIECE. THE SIZES SHALL BE 4 INCHES BY 8 INCHES, 4 INCHES BY 10 INCHES AND 6 INCHES BY 12 INCHES ACCORDING TO DETAILS. ALL FLAT WORK SHALL BE NAILED UP CLOSE WITH JOINTS AT RIGHT ANGLES TO BEAMS; ALL STRAIGHT AND TRUE TO LINE.

773. THE SUPPORTING FRAME WORK FOR CEILINGS SHALL CONSIST OF WOOD GROUNDS ATTACHED TO SLAB ABOVE OR SUSPENDED FROM SLAB ABOVE. THE MEMBERS OF THE CEILING, THE BEAMS, MOULDINGS ETC., TO BE SCREWED OR NAILED OR BOLTED AS REQUIRED TO THE GROUNDS. SCREWS TO BE COUNTERSUNK AND NAILS, SCREWS AND OTHER FASTENINGS TO BE CONCEALED FROM VIEW. SEE DRAWING No. G-201.

774. BULLETIN BOARDS.--SEE DETAILS NOTED ON DRAWING No. G-207. BACK BOARDS SHALL HAVE THREE-PLY LAMINATED CORES VENEERED BOTH SIDES; CORES AND VENEERS OF CLEAR WHITE PINE. FELT COVERING SHALL BE HEAVY WOOL FELT OR COLOR SELECTED GLUED AND STRETCHED TIGHT. FRONTS SHALL BE OF WOOD.

775. DIRECTORY.--SEE MISCELLANEOUS DETAILS NOTED ON DRAWING No. G-207. DIRECTORY BOARD SHALL BE EITHER THE GROOVED TYPE OR SECTION TYPE AS SPECIFIED HEREIN, AT THE OPTION OF THE CONTRACTOR. FRONTS SHALL BE OF WOOD.

776. EACH BOARD OF THE GROOVED TYPE SHALL CONSIST OF A FLUSH WOOD PANEL OF FIVE-PLY LAMINATED CONSTRUCTION, AND A VENEER OF SUITABLE THICKNESS FOR GROOVING WHICH SHALL BE GLUED TO ONE SIDE OF THE PANEL

TO FORM THE FACE OF THE BOARD. THE FACE OF THE BOARD SHALL HAVE HORIZONTAL GROOVES, 1/4 INCH CENTER TO CENTER, FOR A CHANGEABLE LETTER SYSTEM AND SHALL BE COVERED WITH ALL-WOOL BROADCLOTH OF FINE, DURABLE QUALITY AND BLACK OR DARK GREEN IN COLOR AS SELECTED.

777. LETTERS AND NUMERALS FOR GROOVED BOARDS SHALL BE WHITE EMBOSSED CELLULOID AND SHALL HAVE INTEGRAL PRONGS FITTING THE GROOVES AND HOLDING THE LETTERS AND NUMERALS IN PERFECT ALIGNMENT. ROOM NUMBERS AND NAMES OF OCCUPANTS SHALL BE 1/2 INCH HIGH, OFFICE OR BUREAU DESIGNATIONS SHALL BE 3/4 INCH HIGH AND FLOOR DESIGNATIONS SHALL BE 1 INCH HIGH. A SUPPLY OF THIRTY ASSORTED LETTERS AND NUMERALS PER ROOM SHALL BE FURNISHED.

778. SECTION TYPE BOARDS SHALL CONSIST OF ONE OR MORE REMOVABLE SECTIONS WITH METAL FRAMES AND CHANGEABLE NAME STRIPS. THE SECTION FRAMES SHALL BE OF EXTRUDED ALUMINUM OR NICKEL-BRONZE WITH A DULL POLISH FINISH, UNLESS OTHERWISE SPECIFIED.

779. THE NAME STRIPS SHALL BE OF WATERPROOFED, FLEXIBLE CARDBOARD, PROPERLY COVERED WITH BLACK WATERPROOF PAPER AND WITH LETTERS AND NUMERALS OF WHITE, GUMMED PAPER OF A SIZE TO FIT THE WIDTH OF THE STRIP. NAME STRIPS SHALL BE OF THE FOLLOWING WIDTHS:-

1/2 INCH FOR ROOM NUMBERS AND NAMES OF OCCUPANTS,
3/4 INCH FOR OFFICE OR BUREAU DESIGNATIONS,
1 INCH FOR FLOOR DESIGNATIONS.

780. EACH SECTION SHALL BE FILLED WITH STRIPS. THE EXACT DESIGNATIONS REQUIRED SHALL BE OBTAINED FROM THE CONSTRUCTION ENGINEER AFTER THE ROOMS HAVE BEEN ASSIGNED. THE NAME AND ADDRESS OF THE MANUFACTURER OF THE BOARDS SHALL BE FILED WITH THE CUSTODIAN FOR FUTURE REFERENCE.

781. MATCHED WORK.--EXCEPT WHERE RANDOM WIDTHS ARE NOTED MATCHED PANELS AND WAINSCOTING SHALL BE OF DRESSED AND MATCHED STRIPS NOT OVER 3-1/4 INCHES WIDE WITH V JOINTS. WAINSCOTING SHALL BE TONGUED TO DOOR OR WINDOW TRIM AND SHALL HAVE REBATED CAP WITH TOP MOULD, PLAIN BEVELED BASE, AND REBATED APRON UNDER WINDOW STOOLS.

782. BED MOULDS AND SIMILAR FINISH SHALL BE PROVIDED AT MARGINS AND INTERSECTIONS OF MATCHED FINISH AS REQUIRED.

783. STAIRS IN OFFICE No. 201 SHALL HAVE CARRIAGES OF 2 INCH STOCK SPACED 18 INCHES ON CENTERS AND RIGIDLY FRAMED, BLOCKED AND BRIDGED.

784. TREADS AND NOSINGS SHALL BE OF 1-1/4 INCH STOCK. TREADS AND RISERS SHALL BE TONGUED AND GLUED TOGETHER, AND HOUSED, WEDGED AND GLUED INTO WALL-STRINGS OF 1-1/2 INCH STOCK; OR WALL STRINGS OF 1 INCH STOCK SHALL BE TONGUED INTO THE TREADS AND RISERS. WALL-STRINGS SHALL MEMBER WITH CONNECTING BASE. CONNECTIONS OF TREADS AND RISERS TO CLOSED FACE-STRINGS SHALL BE THE SAME AS FOR WALL-STRINGS. OPEN FACE STRINGS SHALL BE MITERED TO RISERS. PROVIDE NOSINGS WITH BED MOULDS AT EXPOSED EDGES OF FLOORS, TREADS AND LANDINGS. PROVIDE MOULDINGS TO COVER THE EDGES OF SOFFITS. PLATFORMS SHALL BE LAID WITH FLOORING TO MATCH ADJOINING WOOD FLOORS.

785. WOOD BALUSTERS SHALL BE DOVETAILED AND GLUED INTO LANDINGS. RAILS AND CLOSED STRINGS SHALL BE GROOVED AND BLOCKED FOR THE BALUSTERS. RAILS SHALL HAVE THE REQUIRED RAMPS AND EASINGS AND SHALL BE ASSEMBLED

AND INSTALLED WITH RAIL BOLTS. WALL RAILS SHALL HAVE METAL BRACKETS NEAR ALL ENDS AND AT TURNS AND AT POINTS NOT OVER 6 FEET APART. BRACKETS SHALL MATCH THE BUILDERS HARDWARE, UNLESS OTHERWISE SPECIFIED. POSTS AND NEWELS SHALL BE RIGIDLY SECURED WITH CONCEALED ANCHORS OR BOLTS. NEWELS AND BALUSTERS SHALL BE TURNED FROM SOLID WOOD. SEE DETAILS ON DRAWINGS NOS. G-200 AND G-208.

786. WOOD RAILS FOR LOBBY STAIRS SHALL HAVE METAL BALUSTERS WITH METAL TOP SUPPORT CONSISTING OF TWO MEMBERS WHICH ARE SPECIFIED IN MISCELLANEOUS METAL WORK. THE TOP METAL SUPPORT IS TO BE TURNED UP AT NEWELS TO FORM SUPPORTING BRACKETS FOR RAIL. WOOD RAIL IS TO BE FASTENED TO METAL TOP RAIL WITH SCREWS.

787. PLATFORMS.--EXPOSED WOOD WORK OF PLATFORM SHALL MATCH THE ADJOINING WOOD STAIRS IN ALL RESPECTS, EXCEPT THE FLOORING INSIDE THE NOSING AT EXPOSED EDGES SHALL MATCH THE FLOOR OF ROOM.

788. CLOSETS.--COAT CLOSETS SHALL HAVE A SHELF ON ONE SIDE SUPPORTED ON 1 BY 4 INCH HOOK RAILS PLACED AT THE PROPER HEIGHT ON THREE SIDES OF THE CLOSET. EACH CLOSET SO INDICATED SHALL HAVE A METAL CLOTHES POLE SPECIFIED UNDER "BUILDERS HARDWARE".

789. LOOKOUT GALLERIES.--FOR WOOD FINISH IN LOOKOUT GALLERIES, SEE DETAILS ON DRAWING NO. G-205.

790. COUNTERS, CUPBOARDS, ETC.--COUNTER TOPS OF POST OFFICE SCREEN SHALL BE VENEERED. SEE SPECIFICATION UNDER "VENEERS". COUNTER TOPS SHALL FINISH 1-3/4 INCHES THICK; SERVICE SHELVES 1-1/4 INCHES THICK.

(A) METAL COVERINGS OF COUNTER TOPS AT PARCEL POST WINDOWS ARE SPECIFIED IN MISCELLANEOUS METAL WORK.

791. DRAWERS SHALL HAVE SIDES DOVETAILED TO THE FRONTS AND GROOVED FOR BACKS, BOTTOMS AND GUIDE STRIPS. SIDES SHALL EXTEND BACK AS FAR AS THE SPACE PERMITS. BOTTOMS SHALL BE THREE-PLY LAMINATED AND LET INTO THE FRONTS, SIDES AND BACKS. DRAWERS SHALL HAVE HARDWOOD RUNS AND GUIDE STRIPS. DUST PANELS SHALL BE PLACED UNDER ALL DRAWERS.

792. FOR METAL LINING AND COMPARTMENTS OF CASH AND STAMP DRAWERS SEE DRAWING NO. G-208. SHEET METAL SHALL BE COLD-ROLLED FURNITURE STOCK STEEL THAT HAS BEEN PROPERLY ANNEALED AND PROCESS LEVELED AND HAS SMOOTH, CLEAN SURFACES. ALL SURFACES SHALL HAVE A PRIME COAT OF PAINT, AND EXPOSED SURFACES SHALL HAVE TWO COATS OF ENAMEL; EACH COAT TO BE BAKED ON AND RUBBED SMOOTH. ALL DRAWERS SHALL HAVE CARRIAGES AS DETAILED.

793. CONDUIT DUCTS WITH REMOVABLE FRONTS SHALL BE PROVIDED FOR PIPES AND CONDUITS ON THE BACK OF THE POST OFFICE SCREEN AS INDICATED. THE FRONTS SHALL BE SECURED WITH ROUND HEAD SCREWS.

794. THE WORK ROOM SIDE OF SCREENS BELOW THE CONDUIT DUCT, INCLUDING CUPBOARDS AND OPEN SPACES UNDER COUNTERS, SHALL BE FINISHED WITH MATCHED WAINSCOTING, EXCEPT WHERE SASH AND DOORS OCCUR.

795. SHELVES AND PARTITIONS FOR CUPBOARDS SHALL BE GLUED UP IN THE REQUIRED WIDTHS. SHELVES SHALL BE ADJUSTABLE AND SUPPORTED ON METAL RESTS.

796. LOCK BOXES AND DRAWERS AND METAL FRONT MAIL DROPS FURNISHED BY THE GOVERNMENT SHALL BE INSTALLED IN THE POST OFFICE SCREENS; THE CONTRACTOR TO PROVIDE ANY FILLER PIECES, MOULDINGS, ETC., REQUIRED.

797. SHELF SUPPORTS.--MOVABLE WOOD SHELVES IN CUPBOARDS, CABINETS, ETC., SHALL HAVE CONTINUOUS ZINC-COATED METAL SUPPORTS .05-INCH THICK. SEE DETAIL ON DRAWING No. G-207.

798. SHOP COATING.--ALL FRAMES AND WOOD FINISH (EXCEPT FLOORING) SHALL BE STAINED, FILLED AND SHELLACKED, OR STAINED AND SHELLACKED, OR OILED OR OTHERWISE PREPARED FOR THE FINISH SPECIFIED; AND ALL UNEXPOSED SURFACES AND SURFACES THAT ARE TO BE PAINTED OR ENAMELED SHALL BE GIVEN A PRIMING COAT OF PAINT; ALL BEFORE LEAVING THE SHOP WHERE FABRICATED. PANELS SHALL BE PRIMED, STAINED OR FILLED AND GIVEN ONE COAT OF FINISH BEFORE THEY ARE SET IN PLACE.

799. THE PAINT FOR UNEXPOSED SURFACES OF ALL FRAMES AND WOOD FINISH AND FOR OUTSIDE EXPOSED SURFACES OF EXTERIOR WOOD WORK, INCLUDING DOORS AND SASH, WHERE SAME ARE SPECIFIED TO BE PAINTED SHALL BE ALUMINUM PAINT MIXED IN THE PROPORTIONS OF 2 POUNDS OF ALUMINUM POWDER PER GALLON OF VARNISH. THE ALUMINUM BRONZE POWDER SHALL COMPLY WITH FEDERAL SPECIFICATION No. TT-A-476. VARNISH VEHICLE SHALL COMPLY WITH FEDERAL SPECIFICATION No. TT-V-81.

800. THE PREPARATION OF SURFACES BEFORE SHOP COATING, AND THE REQUIREMENTS FOR STAINING, FILLING, ETC., SHALL BE AS SPECIFIED UNDER "PAINTING AND FINISHING".

801. ERECTION.--WOOD FINISH SHALL BE SET STRAIGHT, PLUMB OR LEVEL IN TRUE ALIGNMENT, CLOSELY FITTED AND RIGIDLY FASTENED IN PLACE. NAIL HEADS OF EXPOSED NAILING SHALL BE SUNK FOR FACE PUTTY. OTHER FASTENINGS SHALL BE CONCEALED WHERE POSSIBLE.

802. FRAMES SHALL BE ACCURATELY SET AND BRACED TO HOLD THEIR POSITION AND SHAPE. FRAMES IN PREPARED OPENINGS SHALL BE WEDGED ON THE BACK. FRAMES WITHOUT BUCKS IN MASONRY OR CONCRETE SHALL HAVE JAMB ANCHORS NEAR THE TOP AND BOTTOM AND AT POINTS BETWEEN NOT OVER 3 FEET APART. ANCHORS ARE SPECIFIED UNDER "CARPENTRY". THE CAULKING OF EXTERIOR FRAMES IS INCLUDED UNDER "BRICK WORK AND HOLLOW TILE".

803. BASE ON WOOD FLOORS SHALL BE SET BEFORE THE FLOORS ARE LAID AND WITH THE BOTTOM EDGE 3/4 INCH BELOW LINE OF FINISH FLOOR. BASE (EXCLUSIVE OF MOULDINGS) SHALL BE TONGUED TOGETHER AT INTERNAL ANGLES AND MITERED AT EXTERNAL ANGLES. MOULDINGS SHALL BE COPED OR MITERED AT ALL ANGLES.

804. CHAIR RAIL AND PICTURE MOULD SHALL BE COPED OR MITERED AT ANGLES AND SHALL BUTT AGAINST DOOR OR WINDOW TRIM.

805. DOORS, SASH, DRAWERS AND ALL MOVABLE PARTS SHALL BE ACCURATELY FITTED WITH PROPER CLEARANCE AND LEFT IN PERFECT WORKING ORDER.

806. ONE-HALF LENGTH WOOD SHUTTER FOR OPENING No. 2/22 SHALL BE COMPLETE WITH WOOD LOUVERS DADOED INTO SIDES AS DETAILED ON DRAWING No. G-203.

807. WORK GENERALLY SHALL BE LEFT CLEAN AND FREE FROM WARP, TWIST, OPEN JOINTS OR OTHER DEFECTS. FINISHED STAIR WORK SHALL BE SOLID, RIGID AND FREE FROM CREAK.

808. HARDWARE SHALL BE ACCURATELY FITTED AND ADJUSTED. WHERE PRACTICABLE, AFTER FITTING, HARDWARE SHALL BE TAKEN OFF AND BE REPLACED AFTER COMPLETION OF PAINTING OR FINISHING. DOOR KNOBS SHALL BE KEPT COVERED WITH HEAVY CLOTH UNTIL THE BUILDING IS OCCUPIED.

809. DOOR KNOBS SHALL CENTER 38 INCHES ABOVE THE FLOORS. SINGLE PUSH BARS SHALL CENTER 48 INCHES ABOVE THE FLOOR. WHERE TWO OR THREE BARS OCCUR ON THE SAME DOOR THEY SHALL BE SET 4-1/2 INCHES ON CENTERS AND BOTTOM BAR SHALL CENTER 45 INCHES ABOVE THE FLOOR UNLESS OTHERWISE NOTED. DOOR PULLS SHALL CENTER 45 INCHES ABOVE THE FLOOR.

810. FLOORING.--FLOORS SHALL BE OF WOOD, DRESSED AND MATCHED TO STANDARD SIZES FROM 1 BY 3-INCH STOCK, UNLESS OTHERWISE INDICATED OR SPECIFIED. STRONGLY DISCOLORED PIECES SHALL NOT BE USED.

811. FLOORING IN THE POST OFFICE WORK ROOM, MAILING VESTIBULE, MONEY ORDER AND REGISTRY DIVISION AND FINANCE SECTION SHALL BE OF MAPLE WORKED TO STANDARD SIZES FROM 1-1/4 BY 3-INCH STOCK. FLOORING IN OFFICES SHALL BE OF SAWED WHITE OAK. FLOORING IM MONEY ORDER AND REG. SECTION AND IN SUPT. OF MAILS ROOM SHALL BE OAK. ALL OTHER WOOD FLOORING SHALL BE EITHER MAPLE, OAK, SOUTHERN YELLOW PINE OR DOUGLAS FIR AT THE OPTION OF THE CONTRACTOR.

812. MAPLE AND OAK SHALL BE FIRST GRADE AND END MATCHED. SOUTHERN YELLOW PINE SHALL BE CLOSE GRAINED, B AND BETTER GRADE, EDGE-GRAINED STOCK. DOUGLAS FIR SHALL BE A GRADE, EDGE GRAINED, HEART FACE STOCK.

813. JUST BEFORE ANY FLOORING IS LAID THE BEARINGS SHALL BE TESTED WITH A STRAIGHT-EDGE AND MADE TRUE AND LEVEL. SUB-FLOORING THAT IS WARPED OR LOOSE OR BROKEN SHALL BE CORRECTED OR REPLACED WITH NEW MATERIAL.

814. FLOORING SHALL BE LAID AFTER ALL OTHER WOOD FINISH IS INSTALLED. IT SHALL FIT TIGHT AGAINST ALL BASE, PERMANENT FIXTURES, ETC. NO SHOE MOULD SHALL BE USED UNLESS SPECIFIED.

815. FLOORING SHALL BE DRIVEN TIGHT, WITH END JOINTS WELL DISTRIBUTED AND BROKEN AT LEAST 16 INCHES IN ADJOINING STRIPS. END JOINTS SHALL HAVE FIRM BEARINGS AND, IF NOT MATCHED, SHALL BE MADE ONLY OVER JOISTS OR SLEEPERS. FLOORING SHALL BE NAILED EVERY 12 INCHES OR 16 INCHES ACCORDING TO THE SPACING OF JOISTS OR SLEEPERS WITH CUT NAILS. END JOINTS THAT ARE NOT MATCHED SHALL BE FACE NAILED WITH FINISHING NAILS AND THE NAILS SUNK.

816. FLOORING IN WORK ROOM, MAILING VESTIBULE, MONEY ORDER AND REGISTRY DIVISION AND FINANCE SECTION SHALL BE DRESSED FLUSH AT JOINTS BUT NEED NOT BE SCRAPED AND SANDED. ALL OTHER FLOORING (EXCEPT IN LOOKOUTS AND STORAGE ROOMS) SHALL BE SCRAPED AND SANDED OR MACHINE FINISHED TO A SMOOTH, EVEN SURFACE AFTER LAYING. ALL FLOORS SHALL BE PROTECTED FROM DIRT, STAIN, GRIT, ETC., UNTIL THE COMPLETION OF THE CONTRACT.

817. OUTSIDE FLOORING SHALL BE PRIMED ALL OVER BEFORE LAYING AND BE JOINTED IN A HEAVY MIXTURE OF WHITE LEAD AND LINSEED OIL APPLIED FREELY TO THE GROOVED EDGE; SURPLUS OIL AND LEAD TO BE WIPED FROM THE SURFACE AS THE FLOORING IS LAID.

818. FIRST AID CABINET.--ONE FIRST AID CABINET SHALL BE PROVIDED IN THE POST OFFICE WORK ROOM WHERE DIRECTED OR INDICATED ON THE DRAWINGS.

819. THE CABINET SHALL BE FURNISHED AND INSTALLED COMPLETE WITH ALL NECESSARY HARDWARE AND ATTACHMENT. DIMENSIONS SPECIFIED ARE APPROXIMATE. THE OVER ALL OUTSIDE DIMENSIONS OF CABINET SHALL BE 26-5/8 INCHES HIGH, 14 INCHES WIDE, AND 6-1/8 INCHES DEEP. ALL FRAMING, INCLUDING DOOR AND BACK SHALL BE CLEAR PLAIN SAWED OAK. FRAMING SHALL BE FINISHED 1-1/6 INCHES THICK WITH DOVETAILED CORNER JOINTS, GLUED.

820. EDGES OF BACK SHALL BE REBATED TO RECIEVE THE BACK LINING, WHICH SHALL BE LAMINATED 3/8 INCH THICK. FRONT EDGES AT TOP AND BOTTOM OF FRAME SHALL BE REBATED 5/16 INCH DEEP TO RECEIVE THE DOOR.

821. RAILS AND STILES OF DOOR SHALL BE WORKED FROM ONE INCH STOCK AND FINISHED 2 INCHES WIDE, WORKED WITH A NEAT MOLD. DOOR PANEL TO BE IN ONE PIECE, LAMINATED AND 3/8 INCH THICK.

822. THE CABINET SHALL BE PROVIDED WITH 3 SHELVES, EITHER BIRCH OR HARD MAPLE, 1/2 INCH THICK, GROOVED OR HOUSED AND GLUED INTO THE SIDE PIECES 1/4 INCH DEEP. THE SPACING OF SHELVES SHALL BE AS FOLLOWS: 9 INCHES BETWEEN BOTTOM OF FRAME AND THE FIRST SHELF; 6 INCHES BETWEEN FIRST AND SECOND SHELVES, AND 4 INCHES BETWEEN THE BALANCE OF SHELVES.

823. DOOR SHALL BE HUNG ON TWO 2-1/2 INCH BY 1-3/4 INCH TIGHT PIN BRASS OR BRONZE BUTTS, AND PROVIDED WITH ONE HEAVY BRASS OR BRONZE CUPBOARD CATCH.

824. DOOR PANEL SHALL BE LETTERED "FIRST AID" ONE INCH HIGH, BLACK TYPE, EITHER DECALCOMANIA OR PAINTED GLOSS BLACK.

825. THE CABINET SHALL BE SECURELY FASTENED WITH TWO ANGLE IRONS, 3/16 BY 1 INCH BY 1 INCH BY 2 INCHES, ONE AT TOP AND BOTTOM. THE ANGLES SHALL BE PAINTED TWO COATS OF GLOSS BLACK.

(A) CABINET SHALL BE VARNISHED OR OTHERWISE FINISHED TO MATCH SIMILAR OTHER WORK SPECIFIED UNDER "PAINTING AND FINISHING".

FIXTURES.

826. GENERAL.--LOBBY DESKS, ARE INCLUDED UNDER THIS HEADING. ALL LUMBER SHALL BE THOROUGHLY SEASONED AND KILN DRY.

827. WORKMANSHIP.--ALL WORK SHALL BE THE HIGHEST GRADE OF CABINET WORK, PUT TOGETHER WITH CONCEALED FASTENINGS AND GLUED UNDER PRESSURE SO AS NOT TO SHOW SHRINKAGE, WARP, SPLITS OR OPEN JOINTS. THE WORK SHALL BE FINISHED COMPLETE BEFORE DELIVERY, OR MAY BE GIVEN THE LAST COAT OF FINISH AFTER INSTALLATION. PANELS SHALL BE FILLED OR STAINED AS REQUIRED AND GIVEN NOT LESS THAN 2 COATS OF FINISH BEFORE THEY ARE SET.

828. FITTINGS.--ALL METAL PARTS AND GLASS TOP REQUIRED SHALL BE FURNISHED WITH THE FIXTURES. THE NECESSARY CUTTING AND FITTING SHALL BE DONE AT THE SHOP AND, WHERE PRACTICABLE, HARDWARE SHALL BE APPLIED BEFORE DELIVERY.

829. FINISH.--FINISHING MATERIALS SHALL BE HIGH GRADE PRODUCTS AND SHALL MEET THE REQUIREMENTS OF FEDERAL SPECIFICATION FOR MATERIALS

OF THEIR KINDS. SEE UNDER "PAINTING AND FINISHING" OF THIS SPECIFICATION FOR DETAILS, BUT THE FINISH SHALL BE APPLIED BY THE MANUFACTURER OF THE DESKS.

830. LOBBY DESKS.--SEE MISCELLANEOUS DETAILS NOTED ON DRAWING No. G-201.

831. EXPOSED WOOD SHALL BE PECKY CYPRESS, AS SPECIFIED IN INTERIOR WOOD WORK, AND WELL MATCHED IN FIGURE, GRAIN AND COLOR. THE LOBBY DESKS SHALL HAVE THE ANTIGUE PECKY FINISH SPECIFIED IN PARAGRAPH 941 UNDER "PAINTING AND FINISHING".

832. THE TOPS, BASES AND PEDESTALS SHALL BE BUILT UP SEPARATELY, THE PARTS DOWELED AND BOLTED TOGETHER. PROVISION SHALL BE MADE FOR ANCHORS AS DETAILED ON DRAWING No. G-201.

833. PEN TRAYS AND THE METAL COVERING OF PEDESTAL BASE SHALL BE OF BRONZE. THESE ITEMS ARE COVERED UNDER "BRONZE WORK".

834. ANCHOR RODS SHALL EXTEND THROUGH THE FLOOR CONSTRUCTION WITH BOTH ENDS THREADED AND FITTED WITH HEXAGON NUTS, AND WASHERS; THE UPPER END THREADED 6 INCHES AND LOWER ENDS 10 INCHES. FASTENINGS EXPOSED IN FINISHED SPACES SHALL HAVE ORNAMENTAL CAP NUTS AND WASHERS.

835. GLASS TOPS FOR LOBBY DESKS ARE SPECIFIED UNDER "GLASS AND GLAZING".

BUILDERS' HARDWARE

836. GENERAL.--HARDWARE FOR THE FOLLOWING ITEMS OF WORK, EXCEPT AS NOTED, IS INCLUDED UNDER THEIR RESPECTIVE HEADINGS.

METAL DOORS AND WINDOWS, EXCEPT METAL COVERED AND HOLLOW METAL WORK.
METAL GATES, GRILLES, ETC., EXCEPT IN POST OFFICE SCREEN.
DOORS TO INCLOSURES OF PLUMBING FIXTURES.
ROLLING STEEL DOORS.
HINGED FLAPS OF OBSERVATION UNITS IN LOOKOUTS.
HARDWARE AND FITTINGS FOR MECHANICAL EQUIPMENT.

837. ALL HARDWARE NECESSARY FOR THE PROPER FASTENING AND OPERATION OF ALL MOVABLE PARTS OF THE BUILDING SHALL BE PROVIDED WHETHER OR NOT IT IS SPECIFICALLY MENTIONED HEREIN.

838. IF THE HARDWARE FOR ANY PARTICULAR LOCATION IS NOT DESCRIBED HEREIN, IT SHALL BE PROVIDED AND SHALL BE LIKE THAT SPECIFIED FOR SIMILAR LOCATIONS SO FAR AS PRACTICABLE. IF NO SIMILAR LOCATIONS ARE SPECIFIED, SUCH HARDWARE SHALL BE OF PLAIN, HEAVY PATTERN AND OF SUITABLE TYPE AND AMPLE SIZE FOR THE SERVICE REQUIRED.

839. WHERE THE FINISHED SHAPE OR SIZE OF MEMBERS TAKING HARDWARE IS SUCH AS TO PREVENT OR MAKE UNSUITABLE THE USE OF THE EXACT TYPES SPECIFIED, SUITABLE TYPES SHALL BE FURNISHED HAVING AS NEARLY AS PRACTICABLE THE SAME OPERATION AND QUALITY AS THE TYPE SPECIFIED. ALL SIZES SHALL BE AMPLE FOR THE SERVICE REQUIRED.

840. EACH SAMPLE OF HARDWARE SUBMITTED FOR THE APPROVAL OF THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, SHALL BE MARKED WITH THE TYPE NUMBER AND OTHERWISE LABELED FOR IDENTIFICATION.

841. THE TYPE NUMBERS REFERRED TO HEREIN ARE SELECTED FROM FEDERAL SPECIFICATIONS NOS. FF-P-101A FOR PADLOCKS, FF-H-106 FOR LOCKS AND TRIM FF-H-111 FOR SHELF AND MISCELLANEOUS, FF-H-116 FOR HINGES, FF-H-121 FOR DOOR CLOSERS AND RR-C-271 FOR SASH CHAIN AND FASTENINGS. HARDWARE SHALL CONFORM TO THE GENERAL REQUIREMENTS OF THE SPECIFICATIONS CITED, EXCEPT AS MODIFIED HEREIN.

842. FOR THE PURPOSE OF THIS SECTION OF THE SPECIFICATION, THE TERM "CORRIDOR" SHALL INCLUDE LOBBIES, CORRIDORS, HALLS, PASSAGES AND SIMILAR MEANS OF PUBLIC COMMUNICATION IN THE BUILDING, WHETHER OR NOT SPECIFICALLY NAMED IN THE DRAWINGS. THIS DOES NOT INCLUDE AN ANTE-ROOM, WAITING ROOM OR RECEPTION ROOM FOR ONE OR MORE OFFICES.

843. TEMPLATES.--HARDWARE FOR HOLLOW METAL WORK SHALL BE SENT TO THE FACTORY AND THERE APPLIED, OR TEMPLATES SHALL BE FURNISHED TO THE FACTORY FROM WHICH THE WORK MAY BE FITTED TO RECEIVE THE HARDWARE.

844. FINISH.--ALL HARDWARE, EXCEPT UNPLATED IRON AND STEEL, SHALL HAVE THE FOLLOWING FINISHES: IN THE TOILET ROOMS, FINISH US 14; FOR BRONZE TO MATCH THE COLOR OF THE BRONZE; ELSEWHERE, FINISH US10; UNLESS OTHERWISE SPECIFIED.

845. KEYING.--EACH LOCK SHALL BE KEYED DIFFERENTLY FROM ANY OTHER LOCK, UNLESS OTHERWISE SPECIFIED.

846. LOCKS FOR DOORS TO LOOKOUTS AND TO POST OFFICE INSPECTOR'S ROOMS SHALL BE FITTED TO THE STANDARD POST OFFICE LOOKOUT KEY. THESE LOCKS SHALL BE FURNISHED WITHOUT KEYS AND ARE NOT TO BE MASTER KEYED.

847. THE LOCKS OF DOORS TO STORAGE ROOMS FOR STAMPS AND ENVELOPES ARE NOT TO BE MASTER KEYED.

848. LOCKS OF CASH DRAWERS AND MONEY DRAWERS SHALL BE KEYED SEPARATELY. LOCKS OF DIRECTORIES AND BULLETIN BOARDS SHALL BE KEYED ALIKE. OTHER CABINET LOCKS SHALL BE KEYED ALIKE IN EACH ROOM, BUT THE KEYING FOR EACH ROOM SHALL BE DIFFERENT FROM THAT OF ANY OTHER ROOM.

849. ALL OTHER INTERIOR CYLINDER LOCKS AND PIN TUMBLER PADLOCKS SHALL BE MASTER KEYED IN TWO SYSTEMS, ONE FOR SPACES ASSIGNED TO POST OFFICE ACTIVITIES AND ONE FOR THE BALANCE OF THE BUILDING, WITH THREE MASTER KEYS FOR EACH SYSTEM.

850. CYLINDER LOCKS OF METAL DOORS, GRILLES, GATES, ETC., SHALL BE MASTER KEYED WITH OTHER LOCKS OF THE SAME SYSTEM.

851. LOCKS AND LATCHES THAT ARE KEYED ALIKE (EXCEPT LOOKOUT LOCKS) SHALL HAVE THREE KEYS FOR EACH GROUP.

852. KEY TAGS.--EACH KEY SHALL HAVE ATTACHED A BRONZE TAG ABOUT 1 INCH IN DIAMETER STAMPED WITH THE NUMBER OF THE OPENING TO WHICH IT BELONGS AS INDICATED BY THE OPENING NUMBERS OF THE DRAWINGS. IN THE CASE OF LOCKS KEYED ALIKE THE KEY TAGS SHALL BE STAMPED WITH DISTINGUISHING NUMBERS OR LETTERS.

853. LOCKS AND LATCHES.--FRONTS AND STRIKES SHALL FIT THE DETAILS STILES OR DOUBLE-ACTING DOORS WILL BE ROUNDED. ALL OTHER STILES MORE THAN 1-1/2 INCHES THICK WILL HAVE STANDARD BEVEL. SINGLE SWING DOUBLE DOORS WILL HAVE REBATED MEETING STILES, EXCEPT TO FIRE STAIRS AND FOR PUBLIC ENTRANCES AND VESTIBULES. WHEN LOCK STILES REQUIRED ARE TOO NARROW FOR THE BACKSETS SPECIFIED, SPECIAL BACKSETS SHALL BE FURNISHED. BACKSETS OF REBATED LOCKS ARE ON LONG SIDE.

854. MORTISE LOCKS AND LATCHES WITH KNOBS SHALL HAVE BRASS OR BRONZE HUBS WITH MACHINED BEARINGS. CYLINDER LOCKS SHALL HAVE THE KEY CHANGE NUMBER STAMPED ON THE SHELL OR CAM. METAL FRAMES SHALL HAVE WROUGHT BOX STRIKES.

855. TRIM SPECIALTIES.--ESCUTCHEONS SHALL BE 8 x 2-1/2 INCHES, UNLESS OTHERWISE SPECIFIED HEREIN. ELLIPSOID KNOBS WHEN SPECIFIED SHALL BE AT LEAST 1-3/4 INCHES DIAMETER ON THE SHORTER AXIS. DOOR HANDLES SHALL BE OFFSET ON PUSH SIDE FOR CLEARANCE. LEVER HANDLES SHALL BE OF PLAIN PATTERN IN CAST BRONZE 3 INCHES LONG WITH SPINDLES, LIKE KNOBS No. 211. OUTSIDE KNOBS AND LEVER HANDLES SHALL BE PINNED. INSIDE KNOBS SHALL HAVE SLEEVES TO COVER THE SET SCREWS.

856. CATCHES SHALL HAVE STRIKES, AND BOLTS SHALL HAVE KEEPERS, TO FIT THE LOCATION AND PROTECT THE CONNECTING WORK.

857. BOLTS.--DOUBLE DOORS WITH LOCKS OR LATCHES SHALL HAVE TOP AND BOTTOM BOLTS ON STANDING LEAF: No. 10448 IN TRIMMED AND PLASTERED SPACES, AND ROUND CASE No. 1022A x No. 1050A, 6 INCHES LONG, IN UNPLASTERED SPACES.

858. STOPS.--DOORS WITHOUT CLOSERS THAT OPEN INTO TRIMMED AND PLASTERED SPACES SHALL HAVE STOPS: No. 1334 FOR BASE AND No. 1340 FOR FLOOR, UNLESS OTHERWISE SPECIFIED. STOPS SHALL HAVE EXPANSION SLEEVES EXCEPT ON WOOD OR METAL.

(A) DOORS THAT OPEN AGAINST RADIATORS OR PLUMBING FIXTURES SHALL HAVE ROUND RUBBER BUMPERS ABOUT 1 INCH IN DIAMETER.

859. DOOR CLOSERS.--CLOSERS WITH CAST IRON CEASES IN TOILETS AND SIMILAR SPACES WITH FINISH US14 SHALL HAVE ALUMINUM BRONZE FINISH. CLOSERS WITH HOLD-OPEN ARMS SHALL BE SET TO STOP THE DOOR AT 135 DEGREES WHERE PRACTICABLE, BUT IN NO CASE TO PERMIT THE DOOR OR HARDWARE TO STRIKE THE ADJACENT WALL FINISH.

860. LETTER DROP PLATES.--DROPS SHALL HAVE CAST BRONZE BOX PLATES WITH FLAP AND HOOD WITH CLEAR OPENINGS 1-1/2 x 7 INCHES IN SIZE.

861. BUTTS AND HINGES.--DOORS AND SIDE HINGED SASH 5 FEET OR LESS IN HEIGHT SHALL HAVE TWO BUTTS OR HINGES AS SPECIFIED AND FOR GREATER HEIGHT, ONE ADDITIONAL BUTT OR HINGE FOR EACH ADDITIONAL 2-1/2 FEET OR FRACTION THEREOF. SASH HINGED AT TOP OR BOTTOM UP TO FOUR FEET WIDE SHALL HAVE TWO BUTTS AND IF OVER FOUR FEET WIDE THEY SHALL HAVE THREE BUTTS.

862. BUTTS FOR METAL DOORS AND SASH SHALL BE TEMPLATE BUTTS, DOOR BUTTS TO BE BALL BEARING TYPE. BUTTS FOR METAL COVERED DOORS AND SASH SHALL BE HALF-SURFACE BUTTS EXCEPT THAT FULL SURFACE BUTTS SHALL BE USED WHERE SUCH DOORS AND SASH HAVE FRAMES OF STRUCTURAL STEEL SHAPES; THE DOOR BUTTS TO BE BALL BEARING TYPE. THE SURFACE FLAP ON METAL COVERED DOORS MORE THAN 1-1/2 INCHES THICK SHALL BE FASTENED WITH MACHINE SCREWS AND GOMMET NUTS.

863. OPTION FOR TYPE 3520 A CHECKING FLOOR HINGE. AN OVERHEAD CONCEALED DOOR CLOSER AS SPECIFIED HEREIN MAY BE SUBSTITUTED AT THE OPTION OF THE CONTRACTOR FOR TYPE 3520 A CHECKING FLOOR HINGE. THE OPERATING MECHANISM OF THE CLOSER SHALL BE CONCEALED IN THE HEAD OF THE DOOR FRAME. THE CLOSER SHALL HAVE THE FOLLOWING FEATURES: NONFREEZING LIQUID CONTROL. RACK AND PINION ASSEMBLY IN LEAKPROOF CHECKING CYLINDER WITH SPECIAL BALL BEARINGS AT TOP AND BOTTOM OF SPINDLE, ELIMINATING FRICTION AND ALLOWING COMPLETE CONTROL OF DOOR THROUGH FULL SWING. ACCESSIBLE REGULATING SCREW GIVING TWO SPEED ADJUSTMENT FOR SWINGING AND LATCHING. ADJUSTABLE COIL SPRING WITH LARGE RANGE OF SPRING POWER, MOUNTED ON BALL BEARING RATCHET SPINDLE CONNECTED TO CHECKING SHAFT WITH HARDENED STEEL ROLLER BEARING CHAIN INSURING SMOOTH OPERATION. ADJUSTABLE SHOCK ABSORBER CONCEALED IN TOP OF DOOR. HOLD OPEN FEATURE NOT DESIRE. SIZE FURNISHED SHALL BE AMPLE FOR SERVICE REQUIRED.

864. WHEN OVERHEAD CONCEALED CLOSER IS USED, THE DOOR SHALL BE HUNG ON EITHER THREE JAMB TYPE PIVOTS OR ON TOP AND BOTTOM PIVOTS WITH INTERMEDIATE JAMB PIVOT, ALL ADAPTED TO REBATED JAMB. ALL JAMB PIVOTS SHALL BE CAPABLE OF VERTICAL ADJUSTMENT AND SHALL HAVE COMBINATION RADIAL AND (VERTICAL) THRUST HARDENED STEEL BALL BEARINGS. TOP AND BOTTOM PIVOTS SHALL HAVE HARDENED STEEL BALL BEARINGS AND TOP PIVOT SHALL HAVE RETRACTING TYPE PINTLE. JAMB TYPE PIVOTS SHALL BE OF CAST BRONZE, AND STUD SHALL HAVE SLOT FOR SET SCREW.

865. DOORS.--DOUBLE DOORS SHALL HAVE BOTH LEAVES TRIMMED ALIKE UNLESS OTHERWISE SPECIFIED.

(A) PUBLIC ENTRANCE DOORS NOS. 1/12 AND 1/13 (SINGLE):

BUTTS, CAST BRONZE, EXTRA HEAVY, STEEL BUSHED, SELF-RETAINING PINS, BALL BEARING, 8 X 8, SIMILAR TO TYPE 2011, 1-1/2 PAIR EACH DOOR.
LOCK #7, WITH SPECIAL BACKSET, LATCH BOLT BY KNOB AND DEAD BOLT BY BIT KEY, BOTH FROM EITHER SIDE.
KNOB #210, IN PLAIN WROUGHT IRON FINISH.
KEY HOLE ESCUTCHEON, SPECIAL DESIGN, WROUGHT IRON SAME AS SHOWN WITH PULL RING ON DRAWING NO.G-206, BOTH SIDES OF DOOR.
STOP AND HOLDER, COMBINATION HOOK STYLE, MARBLE FLOOR MOUNT, CAST BRONZE, SIMILAR TO TYPE 1341.
RAISING BOLT, WROUGHT IRON, ORNAMENTAL ONLY, EXTERIOR AS SHOWN ON DRAWING NO. G-206.

(B) PUBLIC ENTRANCE DOOR NO. 1/20 (PAIR):

BUTTS, CAST BRONZE, EXTRA HEAVY, STEEL BUSHED, SELF-RETAINING, PINS, BALL BEARING, 6 X 6 INCH, SIMILAR TO TYPE 2011, 3 PAIRS.
LOCK #38A, WITH SPECIAL BACKSET, DEAD BOLT OPERATED BY BIT KEY FROM BOTH SIDES.
KEY HOLE ESCUTCHEON, SPECIAL DESIGN, WROUGHT BRONZE AS SHOWN ON DRAWING NO. G-206, OUTSIDE ONLY.
PULL RING, WROUGHT BRONZE, SPECIAL DESIGN, OUTSIDE ONLY. BOTH LEAVES AS DETAILED ON DRAWING NO. G-206.
PUSH PLATE, WROUGHT BRONZE, SPECIAL DESIGN, INSIDE ONLY BOTH LEAVES, ONE ON MOVING LEAF ONLY TO HAVE KEY SLOT AS DETAILED ON DRAWING NO. G-206.
FLUSH BOLTS, #1044B, EXTENSION, CAST BRONZE, TOP AND BOTTOM STANDING LEAF ONLY.
STOP AND HOLDER, COMBINATION HOOK STYLE, VERTICAL STONE MOUNT, CAST BRONZE, SIMILAR TO TYPE 1336, EACH DOOR.

(C) PUBLIC ENTRANCE DOORS NOS. 1/3-1/6-1/8-1/9-1/10 & 1/11. (PAIR):

SPRING FLOOR HINGE, #3520A, SIZE III, LIQUID CONTROLLED, SINGLE ACTING, MECHANISM IN FLOOR.
LOCK #7, WITH SPECIAL BACKSET, LATCH BOLT BY SPECIAL HANDLE AND DEAD BOLT BY BIT KEY FROM BOTH SIDES.
KEY HOLE ESCUTCHEON, SPECIAL DESIGN, WROUGHT BRONZE AS SHOWN ON DRAWING NO. G-206, BOTH SIDES MOVING LEAF. DUMMY ON DEAD LEAF.
DOOR HANDLE, SPECIAL DESIGN, WROUGHT BRONZE, LIVE HANDLE BOTH SIDES MOVING LEAF, DEAD HANDLE BOTH SIDES STANDING LEAF AS DETAILED ON DRAWING NO. G-206.
KICK PLATE, #1224, WROUGHT BRONZE, SQUARE CORNERS, INSIDE ONLY BOTH LEAVES, DRAWING NO. G-202.
FLUSH BOLTS, #1044, EXTENSION, CAST BRONZE, TOP AND BOTTOM STANDING LEAF ONLY.
STOP AND HOLDER, COMBINATION HOOK STYLE, VERTICAL STONE MOUNT, CAST BRONZE SIMILAR TO #1336, EACH DOOR.

(D) Outside Doors Nos. 1/2-1/4 & 1/5. (Pair).

Butts, cast bronze, self lubricating, steel bushed, self-retaining pin, similar to #1336, 4-1/2 x 4-1/2, 3 pairs.
Lock #7, with special backset, latch bolt by special handle and dead bolt by bit key from inside only (Rabbet Face)
Key Hole Escutcheon, special design, wrought bronze as shown on Drawing No. G-206, inside only moving leaf. Dummy on dead leaf.
Door Handle, special design, wrought bronze, live handle inside moving leaf only, dead handle inside standing leaf only as shown on Drawing No. G-206.
Flush Bolts, #1044 extension, cast bronze top and bottom standing leaf only.
Adjuster, #1000 friction type, wrought bronze, 12 inch head mount.

(E) Public Entrance Inner Vestibule Doors Nos. 1/1 & F/1. (Pair)
Spring Floor Hinge, #2350B, Size III, Liquid controlled, single acting, mechanism in floor.
Lock #115 x Cylinder Collars #320, two bronze cylinder mortise dead lock, keyed alike.
Push Bars, double bar, 1 inch square tube bronze mounted on 3-1/2 x 7 x 1/8 inch bronze plates, special design as shown on Drawing No. G-206, on inside of both leaves only.
Pull Bars, single vertical bar, 1-1/4 inch square tube bronze mounted on 3-1/2 x 7 x 1/8 inch bronze plates, special design as shown on Drawing No. G-206, on outside of both leaves only.
Kick Plates, #1224, wrought bronze, square corners, both sides both leaves as shown on Drawing No. G-200.
Flush Bolts, #1044B extension, cast bronze, top and bottom standing leaf only.
Stop and Holder, combination hook style, marble floor mount, cast bronze, similar to #1341.

(F) Outside Entrance to Boiler Room Door No. B/3 (Single)

Butts, #2014-1/2P, 4-1/2 x 4-1/2 inches. One and one-half pair.
Lock #88B x Escutcheons #300A x Knobs #211.

(G) Employee's Entrance Door No. 1/38 (Single)

Butts #2001, 4-1/2 x 4-1/2 inches, one and one-half pairs.
Lock #88B x Escutcheons #300A x Knobs #211.

(H) Double Acting Outside Doors, Mailing Vestibules and Elevator Lobby Nos. 1/33-1/34 & 1/37 (Pair)
Hinges #2330A, 10 inch, in Japanned Steel, with rivets to yokes and with tap screws to frame. Hinges with yokes equivalent to those detailed will be acceptable.
Each leaf, except one leaf at opening No. 1/33, shall have garage type bolt #1028. One leaf at Door No. 1/33 shall have lock #88B x Escutcheons #300A x Knobs #211.

(J) Double Acting Inside Doors of Mailing Vestibule, Nos. N/1 & Q/1 (Pair)

Hinges #2330A, 10 inch in Japanned steel with rivets to yokes and with tap screws to frame. Hinges with yokes equivalent to those detailed will be acceptable.

Welded link steel chain, 3/16 inch diameter metal, to pass through 1 inch holes in doors and of suitable lenght for ends to be connected by the padlock. Provide plated staple on plate at side of door to hold chain and padlock when not in use.

Padlock #1A, size 1-3/4 inch, for each pair of doors. All padlocks keyed alike.

(K) DOORS- Lobby to Ass't Post Master (101) Single
Lobby to Post Master (102 - 103) Single
Lobby to Janitor's Closet (A-1) Single
Lobby to Entry (G-1) Single

Butts, #2001, ball bearings, 5 x 5 inches, non rising steel pin, 1-1/2 pair, for Doors #101, 102 and 103.

Butts, #2001, ball bearings, 4- 1/2x 4-1/2 inches, non rising steel pin, 1-1/2 pair, for Doors No. A-1 and G-1.

Locks, #94, latch bolt by special handle from lobby side, Knob #211 from inside, dead bolt by cylinder from either side, cylinder collars #320; except Door No. A-1 which shall have lock #93, latch bolt by special handle from Lobby side, dead bolt by key from Lobby side, only. Special handle shown on Drawing No. G-206.

Closers #1128B and Holder #1154 for all doors except A-1.

(L) DOORS - Passage between Post Master's Office and Ass't Post Master's Office, Nos. 101/A and 102/A (Single)

Butts, #2001, ball bearings, non rising steel pins, wrought bronze, 4-1/2 x 4-1/2 inch, 1-1/2 pair.

Locks, #20, latch bolt by knob from either side, split dead bolt by turn knob from either side, each locking against the other x Escutcheons No. 300A x Knobs #211.

Closers #1128B and Holder #1154.

(M) DOORS - Passage Way to Private Toilet, D/1 (single)
Passage Way to Closet, C/1 (single)
Ass't Post Master's Room to Closet E/1 (single)
Work Space to Women's Toilet, K/1 (single)

Butts, #2005, wrought bronze, steel bushed, self lubricating, non rising steel pin, 4-1/2 x 4-1/2 inch, 112 pair.

Locks, #17A, latch bolt by knob from either side, dead bolt by turn knob from inside, and emergency key from outside x Escutcheon #300A x Knobs #211.

(N) DOORS - Work Space to Southwest Stairs, S/1 (single)
Entry to Superintendent of Mails' Office H/1 (single)
Entry to Work Space L/1 (single)

Butts, #2005, wrought bronze, steel bushed, self lubricating, non rising steel pin, 4-1/2 x 4-1/2 inch, 1-1/2 pair.

LOCK #94, LATCH BOLT BY KNOB FROM EITHER SIDE, DEAD BOLT BY KEY FROM EITHER SIDE X ESCUTCHEON #300A X KNOB #211.
CLOSERS #1128B AND HOLDERS #1154.

(P) DOORS - INNER EMPLOYEE'S ENTRANCE DOOR, R/1 (SINGLE).

BUTTS, #2005, WROUGHT BRONZE, STEEL BUSHED, SELF LUBRICATING, NON RISING STEEL PIN, 4-1/2 X 4-1/2 INCH, 1-1/2 PAIR.
PULL AND PLATE #450, CAST BRONZE WITH SQUARE CORNERS ON PULLSIDE PUSH PLATE #460, CAST BRONZE WITH SQUARE CORNERS AND KICK PLATE #1224, 8 INCHES HIGH ON PUSH SIDE.
CLOSER #3002, SIZE III.
DOOR HOLDER, #B1149.

(Q) DOORS - WORK SPACE TO STAMPED ENVELOPES, J/1 (SINGLE)
WORK SPACE TO LOOKOUT GALLERY, M/1 (SINGLE).

BUTTS, #2005, WROUGHT BRONZE, STEEL BUSHED, SELF LUBRICATING, NON RISING STEEL PIN, 4-1/2 X 4-1/2 INCH, ONE PAIR.
LOCK #93, LATCH BOLT BY KNOB FROM EITHER SIDE, DEAD BOLT BY KEY FROM OUTSIDE, TURN KNOB FROM INSIDE X ESCHUTCHEON #300A X KNOBS #211, FOR DOOR # J/1.
LOCK #91-C X ESCHUTCHEONS #300A X KNOBS #211. ALL LOCKS KEYED ALIKE. (SPECIAL LOOKOUT KEY) LOCK TO HAVE AUXILIARY LATCH BOLT, FOR DOOR # M/1.
CLOSER #1128B FOR DOOR J/1.

(R) DOOR - LOBBY DOOR # 1/7 (PAIR)

BUTTS, CAST BRONZE, SELF LUBRICATING, STEEL BUSHED, SELF RETAINING PIN, 4-1/2 X 4-1/2 INCH 2 PAIR.
CREMONE BOLT #1027, ALL BRONZE WITH WROUGHT BRONZE ROD 1/2 INCH WIDE.
FASTENER #1134 WITH PROPER STRIKE FOR SASH UP TO 4 FEET.
CASEMENT ADJUSTERS #1000 FRICTION TYPE, WROUGHT BRONZE, 12 INCH HEAD MOUNT.

(S) DOORS - BASEMENT TO NORTH STAIRS, B/7 (SINGLE)
BASEMENT TO SOUTH STAIRS, B/10 (SINGLE)

BUTTS, #2014-1/2P, WROUGHT STEEL, NON RISING STEEL PIN, 4-1/2 X 4-1/2 INCH, TWO PAIR.
LOCK #94, X ESCUTCHEONS #300A X KNOBS #211.

(T) DOORS - BOILER ROOM TO FUEL ROOM B/8, (PAIR)

HALF SURFACE BUTTS #2080-1/2P, 4-1/2 INCHES HIGH.
THUMB LATCH #1189.
PADLOCK EYES #1430.
TOP AND BOTTOM BOLTS #1022 A X #1050A.
PADLOCK #111A, CAST BRONZE. (SPEC. FF-P101).

(U) DOOR - ACCESS TO UNEXCAVATED SPACES B/11 (KALAMEIN)

TEE HINGES #2208, 6 INCH.
DOOR PULL #1274C X 5 INCH BOLT #1019R.

(V) DOOR - PENT HOUSE A/A (SINGLE)

BUTTS, #2014-1/2P, WROUGHT STEEL, NON RISING STEEL PIN, 4-1/2 X 4-1/2 INCH, TWO PAIR.
THUMB LATCH #1189, HEAVY WROUGHT STEEL, GALVANIZED.
PADLOCK EYES #1430, GALVANIZED STEEL.
PADLOCK #111A, CAST BRONZE. (SPEC. FF-P-101).

(W) DOORS - EXTERIOR DOORS ON EAST ELEVATION SECOND FLOOR NOS. 2/2 - 2/3 - 2/4 AND 2/5 (PAIRS)
EXTERIOR DOORS ON SOUTH ELEVATION SECOND FLOOR NOS. 2/7 - 2/8 - 2/9 - 2/10 AND 2/11 (PAIRS)
OFFICE TO EAST BALCONY NO. 2/12 (PAIR)
OFFICES TO SOUTH BALCONY NOS. 2/41-2/42 & 2/43. (PAIR)

BUTTS, #2005, WROUGHT BRONZE, STEEL BUSHED, SELF LUBRICATING, NON RISING STEEL PIN, 4-1/2 X 4-1/2 INCH, TWO PAIR.
LOCKS, #93, LATCH BOLT BY KNOB FROM EITHER SIDE, DEAD BOLT BY KEY FROM INSIDE, NO TURN KNOB X ESCUTCHEON #300A, CYLINDER HOLE ONLY ON INSIDE X KNOB #210.
STOP AND HOLDER, COMBINATION HOOK STYLE, VERTICAL STONE MOUNT, CAST BRONZE, SIMILAR TO #1336.
FLUSH BOLTS #1044B, EXTENSION, CAST BRONZE, TOP AND BOTTOM STANDING LEAF ONLY.
CLOSERS #1128B, SIZE III, ON ACTIVE LEAF ONLY.

(X) DOORS - STAIRWAY TO NORTH BALCONY NOS. 2/18 - 2/19 (PAIR)

BUTTS #2005, WROUGHT BRONZE, STEEL BUSHED, SELF LUBRICATING, NON RISING STEEL PIN, 4-1/2 X 4-1/2 INCH, TWO PAIR.
CREMONE BOLT #1027, ALL BRONZE WITH WROUGHT BRONZE ROD 1/2 INCH WIDE.
FASTENERS #1134 WITH PROPER STRIKE FOR SASH UP TO 4 FEET.
CASEMENT ADJUSTERS #1000, HEAD MOUNT. FRICTION TYPE 12".

(Y) DOOR - POST OFFICE INSPECTOR'S OFFICE TO NORTH BALCONY NO. 2/20 (PAIR)

BUTTS #2005, WROUGHT BRONZE, STEEL BUSHED, SELF LUBRICATING, NON RISING STEEL PIN, 4-1/2 X 4-1/2 INCH. 3 PAIR.
LOCKS #93, LATCH BOLT BY KNOB FROM EITHER SIDE, DEAD BOLT BY KEY FROM INSIDE, NO TURN KNOB X ESCUTCHEON #300A, CYLINDER HOLE ONLY ON INSIDE X KNOB #210.
STOP AND HOLDER, COMBINATION HOOK STYLE, VERTICAL STONE MOUNT, CAST BRONZE, SIMILAR TO SARGENT #22.
FLUSH BOLTS #1044B, EXTENSION, CAST BRONZE, TOP AND BOTTOM STANDING LEAF ONLY.
CLOSER #1128B, SIZE III, ON ACTIVE LEAF ONLY.

(Z) DOOR - POST OFFICE INSPECTOR'S OFFICE TO PRIVATE TOILET NO. 202/
POST OFFICE INSPECTOR'S OFFICE TO CORRIDOR NO. 202
(SINGLE)

BUTTS #2005, WROUGHT BRONZE, STEEL BUSHED, SELF LUBRICATING, NON RISING STEEL PIN, 4-1/2 X 4-1/2 INCH, 1-1/2 PAIR.
LOCKS, #17A, LATCH BOLT BY KNOB FROM EITHER SIDE, DEAD BOLT BY TURN KNOB FROM INSIDE, OR EMERGENCY KEY FROM OUTSIDE X ESCUTCHEON #300A X KNOBS #211, FOR DOOR NO. 202A

MLC

LOCKS #91, LATCH BOLT BY KNOB FROM EITHER SIDE X ESCUTCHEONS #300A X KNOBS #210. LOCK SHALL HAVE SPECIAL CYLINDERS FITTED WITH STANDARD POST OFFICE LOOKOUT KEY FOR INSPECTOR'S USE AND THREE PASS KEYS FOR JANITOR'S USE. KEYS FOR JANITOR'S USE SHALL NOT OPERATE THE LOCKS OF LOOKOUT SYSTEM. FOR DOOR NO. 202.
CLOSER #3002, SIZE III.
DOOR NO. 202 SHALL HAVE LETTER SLOT PLATES SAME AS SPECIFIED FOR OTHER OFFICE CORRIDOR DOORS.

(AA) DOORS - EAST OFFICES TO CORRIDOR NOS. 201-203-205 & 206 (SINGLE)
UNASSIGNED ROOM TO CORRIDOR NO. D/2.
STORAGE TO CORRIDOR NO. 204 (SINGLE)

BUTTS #2005, WROUGHT BRONZE, STEEL BUSHED, SELF LUBRICATING, NON RISING STEEL PIN, 4-1/2 X 4-1/2 INCH, 1-1/2 PAIR.
LOCK #88, LATCH BOLT BY KNOB FROM EITHER SIDE, DEAD BOLT BY KEY FROM OUTSIDE AND TURN KNOB FROM INSIDE X ESCUTCHEONS #300A X KNOBS #210.
HOLDERS #1154, PLUNGER TYPE, CAST BRONZE, 8 INCHES.
CLOSERS #1128B, SIZE II FOR OFFICE ENTRANCES.
LETTER DROP PLATES, CAST BRONZE, 3-1/4 X 8-1/2 INCHES OUTSIDE PLATE WITH OPENING 1-1/2 X 7 INCH, INSIDE PLATE SAME SIZE AS OUTSIDE, TO BE SUPPLIED FOR DOORS NOS. 201-203-205 & 206.

(BB) DOORS - DOORS TO LOOKOUT SPACES NOS. 202/B-1/2-N/2 & O/2. (SINGLE)
BUTTS #2005, WROUGHT BRONZE, STEEL BUSHED, SELF LUBRICATING, NON-RISING STEEL PIN, 4-1/2 X 4-1/2 INCH, 1-1/2 PAIR.
LOCK #91C, LATCH BOLT BY INSIDE KNOB, OUTSIDE KNOB RIGID, BRONZE CYLINDER ON EITHER SIDE AS NEEDED X ESCUTCHEON #300A X KNOBS #210. ALL LOCKS KEYED ALIKE (SPECIAL LOOKOUT KEY).

(CC) DOORS - DOORS BETWEEN OFFICES NOS. 206/A-206/B-206/C-206/D & 206/E.
BUTTS #2005, WROUGHT BRONZE, STEEL BUSHED, SELF LUBRICATING, NON-RISING STEEL PIN, 4-1/2 X 4-1/2 INCH, 1-1/2 PAIR.
LOCK #20, LATCH BOLT BY KNOB FROM EITHER SIDE, SPLIT DEAD BOLT BY TURN KNOB FROM EITHER SIDE, EACH LOCKING AGAINST THE OTHER X ESCUTCHEON #300A X KNOBS #210.
HOLDERS #1154, PLUNGER TYPE, CAST BRONZE 8 INCHES.

(DD) DOORS - CORRIDOR TO CUSTODIAN'S ROOM NO. C/2 (SINGLE)
BUTTS #2005, WROUGHT BRONZE, STEEL BUSHED, SELF LUBRICATING, NON-RISING STEEL PIN, 4-1/2 X 4-1/2 INCH, 1-1/2 PAIR.
LOCK #93, LATCH BOLT BY KNOB FROM EITHER SIDE, DEAD BOLT BY KEY FROM OUTSIDE AND TURN KNOB FROM INSIDE, X ESCUTCHEON #300A X KNOBS #210.

(EE) DOORS - CORRIDOR DOOR TO PUBLIC TOILETS NOS. A/2 & B/2.
BUTTS #2005, WROUGHT BRONZE, STEEL BUSHED, SELF LUBRICATING, NON-RISING STEEL PIN, 4-1/2 X 4-1/2 INCH, 1-1/2 PAIR.
LOCKS #106, LATCH BOLT BY KNOB FROM EITHER SIDE, LATCH BY KEY FROM OUTSIDE X ESCUTCHEON #300A X KNOBS #210.
CLOSERS #1128 B.
HOLDER #1154, PLUNGER TYPE, CAST BRONZE, 8 INCH.

MLC
CEH

(FF) DOORS.--SWING ROOM #1 TO TOILET #6 DOOR NO. K/2 (SINGLE)
SWING ROOM #2 TO TOILET #7 DOOR NO. M/2 (SINGLE)
BUTTS #2006, WROUGHT BRONZE STEEL BUSHED, SELF LUBRICATING, NON-RISING STEEL PIN, 4-1/2 X 4-1/2 INCH, 1-1/2 PAIR.
PUSH PLATE #461, 12 X 3-1/2 INCHES AND
KICK PLATE #1224, 8 INCHES HIGH ON PUSH SIDE.
PULL #1274.
CLOSER #3002, SIZE III.

(GG) DOOR.--FROM TOILET #6 TO TOILET #7 NO. L/2 (SINGLE)

BUTTS #2005, WROUGHT BRONZE, STEEL BUSHED, SELF LUBRICATING, NON-RISING STEEL PIN, 4-1/2 X 4-1/2 INCH, 1-1/2 PAIR.
LOCK #7, LATCH BOLT BY KNOB FROM EITHER SIDE, DEAD BOLT BY KEY, FROM EITHER SIDE X ESCUTCHEON #300A X KNOBS #210.

(HH) DOORS.--POST OFFICE STORAGE ROOM TO ELEVATOR HALL NO. F/2 (SINGLE)
STORAGE ROOM TO ELEVATOR HALL NO. E/2 (SINGLE)
BUTTS, #2005, WROUGHT BRONZE, STEEL BUSHED, SELF LUBRICATING, NON-RISING STEEL PIN, 5 X 5 INCH, 1-1/2 PAIR.
LOCKS, #88, LATCH BOLT BY KEY FROM EITHER SIDE, DEAD BOLT BY KEY FROM OUTSIDE AND TURN KNOB FROM INSIDE X ESCUTCHEONS #300A X KNOBS #210.
CLOSER #1128,B, SIZE III.
HOLDER #1154, PLUNGER TYPE, CAST BRONZE, 8 INCH.

(JJ) DOOR.--SWING ROOM #6 TO STAIRS, NO. H/2 (SINGLE)
ELEVATOR HALL TO STAIRS, DOOR NO. G/2 (SINGLE)
BUTTS #2005, WROUGHT BRONZE, STEEL BUSHED, SELF LUBRICATING, NON-RISING STEEL PIN, 4-1/2 X 4-1/2 INCH, 1-1/2 PAIR.
LOCK #7, LATCH BOLT BY KNOB FROM EITHER SIDE, DEAD BOLT BY KEY FROM EITHER SIDE X ESCUTCHEON #300A X KNOBS #210.
CLOSER #1128B, SIZE III.

866. DOORS.--DOOR FROM WORK SPACE TO MONEY ORDERS, REGISTRY & POSTAL SAVINGS ROOM NO. T/1 (WIRE MESH)
DOORS INTO WIRE MESH INCLOSURE IN WORK SPACE NOS. X/1-Y/1-Z/1. (WIRE MESH).
DUTCH DOORS INTO C.O.D. ROOM FROM WORK ROOM (WIRE MESH) NOS. U/1 & V/1.
SLIDING DOOR INTO C.O.D. ROOM FROM WORK SPACE (WIRE MESH) NO. W/1
VERTICAL SLIDING WICKET BETWEEN MONEY ORDERS, REGISTRY & POSTAL SAVINGS ROOM AND C.O.D. ROOM. FOR CONSTRUCTION DETAILS SEE DRAWING NO. G-208. THIS WICKET SHALL BE FURNISHED WITH PULLEYS, CHAINS, GUIDES, SASH CORD, LEAD WEIGHTS AND LOCK (WIRE MESH DOOR TYPE).

(A) THE HARDWARE FOR ALL THE ABOVE ITEMS IS COVERED UNDER MISCELLANEOUS AND ORNAMENTAL IRON AND STEEL.

867. CABINET HARDWARE.

(A) DOORS TO CUPBOARDS AND CABINETS:

BUTTS NO. 2015B, 2-1/2 X 2 INCH FOR DOORS FROM 1 INCH STOCK AND 2-1/2 X 2-1/2 INCH FOR DOORS FROM 1-1/4 INCH STOCK.
CUPBOARD TURN NO. 1082.
ELBOW CATCH NO. 1080 FOR STANDING LEAF OF DOUBLE DOORS.
HARDWARE FOR FIRST AID CABINET IS SPECIFIED UNDER "WOODWORK".

(B) DRAWERS: PARAGRAPH NO. 835.

PULLS NO. 1297. LOCK NO. 655, EXCEPT SASH AND STAMP DRAWERS SHALL HAVE LOCK NO. 650.

(C) BULLETINS AND DIRECTORY (WOOD FRONT):

BUTTS NO. 2005, 3 X 3 INCHES.
LOCK NO. 701.

(D) HINGED FLAP AT PARCEL POST SCALES:

FAST PIN, BRONZE PLATED BUTTS, 3 X 2 INCHES, NO. 20298.

868. VERTICAL BOX HEAD SLIDING SASH:

LIFTS, #1208, WROUGHT BRONZE FLUSH TYPE, 2 ON BOTTOM RAIL.
FASTENER #1146, CAR TYPE CAST BRONZE.

869. SERVICE WINDOWS IN POST OFFICE SCREEN (SLIDING) & VERTICAL SLIDING WICKET IN C.O.D. ROOM.
FASTENERS #1146 TWO ON EACH SASH UP TO 3 FEET WIDE. MORTISE BOLT #1053A AND TWO LIFTS # 1219 ON SASH OVER 3 FEET WIDE
PULLEYS WITH CAST BRASS OR BRONZE CASE AND WHEEL AND STEEL AXLE.
WHEEL TO BE GROOVED FOR 1/8 INCH DIAMETER WIRE CORD AND WITH STEEL BUSHING AND ANTIFRICTION BEARINGS.
WIRE CORD, PHOSPHOR BRONZE, SIX STRANDS OF NINETEEN WIRES EACH, WITH COTTON CORE. TOTAL DIAMETER 1/8 INCH. TENSILE STRENGTH AT LEAST 400 LBS.
CORD ATTACHMENTS TO BE SOCKET EYE AT SASH AND CLAMP AT WEIGHT END, BOTH SOLDERED. CORD ATTACHMENTS SHALL HAVE A TENSILE STRENGTH OF AT LEAST 400 POUNDS.
WEIGHTS #1701B OR #1701C.

870. SLIDING GRILLES IN POST OFFICE SCREEN:

PULLEYS, CORDS AND WEIGHTS AS SPECIFIED FOR SERVICE WINDOWS.
PULLEY CASES TO HAVE NARROW FRONTS.
FASTENER AS SHOWN BY DRAWING NO. G-208.
PROVIDE STOPS AS SHOWN AT BOTH SIDES OF EACH GRILLE.

871. CASEMENT SASH:

FOR ALL CASEMENT SASH HUNG IN PAIRS:

BUTTS #2005, 3 X 3 INCHES.
FASTENER #1134 WITH PROPER STRIKE FOR SASH UP TO 4 FEET HIGH.
CREMONE BOLT #1027 WITH LEVER HANDLE FOR EACH SASH OVER 4 FEET HIGH TOP AND BOTTOM STANDING LEAF ONLY.
HEAD ADJUSTER #100, LENGTH 10 INCHES.
BUTTS FOR SASH OPENING OUT SHALL HAVE FAST-PIN FEATURE.

872. FOR ALL CASEMENT WINDOWS NOS. 1/14-1/17-1/27-1/28 & 2/26.

BUTTS #2005, 3 X 3 INCHES.
FASTENER #1134A.
HEAD ADJUSTER #1000, LENGTH 10 INCHES.
BUTTS FOR SASH OPENING OUT SHALL HAVE FAST-PIN FEATURE.

873. BOTTOM HINGED WOOD SASH: WOOD AND GLASS PARTITION AROUND SUPERINTENDANT OF MAILS ROOM.

BUTTS #2028, WROUGHT BRONZE 3 X 3 INCH, ONE PAIR.
TRANSOM CATCH #1100, CAST BRONZE.
CHAINS #1122, BRONZE 15 INCH, 2 CHAINS. PLACE WHERE DIRECTED.

874. COAT CLOSETS:

COAT HOOKS #11628, 10 INCHES APART.
NICKLE-PLATED BRASS EXTENSION CLOTHES HANGER BARS #A1010; ONE IN EACH CLOSET.

875. WOOD LOUVER AS SHOWN ON DRAWING G-5.

HINGES, #2029A WROUGHT STEEL, GALVANIZED FIVE KNUCKLE STEEL PIN 3-1/2 X 3-1/2 INCH, 1 PAIR.
PADLOCK HASP #1420, GALVANIZED STEEL, ADJUSTABLE, STAPLE 3 INCH.
PADLOCK #1B, CASE HARDENED STEEL SHACKLE, RUST PROOFED. (SPECIFICATION FF-P-101).

876. CYLINDRICAL CASE LOCKS AND LATCHES OF HEAVY DUTY TYPE MAY BE SUBSTITUTED AT THE OPTION OF THE CONTRACTOR FOR THE LOCKS AND LATCHES SPECIFIED HEREIN FOR INTERIOR DOORS, SUBJECT TO THE FOLLOWING CONDITIONS:

THE CYLINDRICAL CASE LOCKS AND LATCHES SHALL BE SO DESIGNED AND CONSTRUCTED AS TO GIVE THE SAME PERFORMANCE IN OPERATION AND DOOR CONTROL AS THE CORRESPONDING LOCKS SPECIFIED. THE CYLINDRICAL CASE LOCKS AND LATCHES SHALL COMPLY WITH FEDERAL SPECIFICATION NO. FF-H-106 EXCEPT THAT LATCHES SHALL HAVE 1/2 INCH MINIMUM THROW INSTEAD OF 3/8 INCH, THE CASES SHALL BE OF HEAVY PATTERN WROUGHT OR CAST BRONZE, ALL WORKING PARTS OF LOCK MECHANISM SHALL BE OF NON-FERROUS METAL OR NON-CORROSIVE ALLOY AND THE KNOBS AND ESCUTCHEONS SHALL BE ALL CAST BRONZE INSTEAD OF WROUGHT BRONZE. FINISH OF EXPOSED PARTS SHALL BE AS SPECIFIED HEREIN.

(A) THE ABOVE CONDITIONS SHALL APPLY WHEREVER CYLINDRICAL CASE LOCKS AND LATCHES ARE SUBSTITUTED FOR CYLINDER LOCKS AND LATCHES AND FOR COMMUNICATING DOOR LOCKS TYPE 2C.

877. THE ABOVE CONDITIONS SHALL ALSO APPLY WHEREVER CYLINDRICAL CASE LOCKS AND LATCHES ARE SUBSTITUTED FOR UNIT TYPE LOCKS AND LATCHES, EXCEPT THAT IN SUCH CASES SQUARE PATTERN CAST BRONZE ESCUTCHEONS AND HEAVY CAST BRONZE KNOBS 2-1/4 INCHES IN DIAMETER ARE TO BE USED.

878. CYLINDRICAL CASE LOCKS AND LATCHES COMPLYING WITH FEDERAL SPECIFICATION NO. FF-H-106 MAY BE SUBSTITUTED AT THE OPTION OF THE CONTRACTOR FOR THE BIT KEY, LEVER TUMBLER TYPE LOCKS AND LATCHES SPECIFIED HEREIN, PROVIDED THE CYLINDRICAL CASE LOCKS AND LATCHES ARE SO DESIGNED AND CONSTRUCED AS TO GIVE THE SAME PERFORMANCE IN OPERATION AND DOOR CONTROL AS THE CORRESPONDING LOCKS SPECIFIED. FINISH OF EXPOSED PARTS SHALL BE AS SPECIFIED HEREIN.

PAINTING AND FINISHING

879. GENERALLY.--THE FOLLOWING ITEMS ARE INCLUDED UNDER THEIR RESPECTIVE HEADINGS:

SHOP AND ERECTION PAINTING OF STRUCTURAL METAL.
SHOP PAINTING OF MISCELLANEOUS AND ORNAMENTAL METAL.
SHOP PAINTING OF STEEL WINDOWS.
PRIME FINISH ON STEEL COMBINATION BUCKS AND FRAMES AND OTHER UNFINISHED WORK SO SPECIFIED UNDER "HOLLOW METAL WORK."
BAKED ENAMEL ON HOLLOW METAL WORK.
FIRST COAT ON EXTERIOR SHEET METAL AND ON METAL COVERED WORK.
SHOP COATING ON WOOD FRAMES AND WOOD FINISH UNDER "WOODWORK".
FINISH COMPLETE ON LOBBY DESKS IS INCLUDED UNDER "PAINTING AND FINISHING".
APPLIED FINISH FOR FLOORS IS INCLUDED UNDER "TREATMENTS FOR FLOOR FINISHES."
FINISH COMPLETE ON VAULT DOORS, METAL PLUMBING ENCLOSURES, DOORS, METAL CABINETS, AND HOLLOW METAL WORK SPECIFIED TO BE FINISHED BY THE MANUFACTURER.

880. SCOPE OF WORK.--EXPOSED SURFACES OF IRON AND STEEL WORK OF EVERY DESCRIPTION (EXCEPT HOLLOW METAL WORK AND WORK FINISHED BY THE MANUFACTURER) SHALL HAVE TWO COATS OF OIL PAINT IN ADDITION TO ANY PREVIOUS PAINTING.

(A) WORK FINISHED BY THE MANUFACTURER SHALL BE CAREFULLY PROTECTED AT ALL TIMES, AND, AT THE END OF THE CONTRACT, EXPOSED SURFACES SHALL BE CLEANED AND ANY ABRASIONS OR BLEMISHES SHALL BE REPAIRED OR REMOVED.

(B) EXPOSED SURFACES OF EXTERIOR AND INTERIOR SHEET METAL WORK (EXCEPT NON-FERROUS METALS) SHALL HAVE THREE COATS OF OIL PAINT IN ADDITION TO ANY PREVIOUS PAINTING.

(C) ALL EXTERIOR WOODWORK, INCLUDING THE OUTSIDE OF DOORS AND SASH SHALL HAVE ONE COAT OF LIMEWATER WASH, FOLLOWED BY ONE COAT OF ACID STAIN THE DESIRED SHADE AND FINISHED BY 2 COATS OF SPAR VARNISH. THE INSIDE OF EXTERIOR DOORS AND SASH SHALL HAVE A FINISH SIMILAR TO THAT OF THE ADJOINING WOOD TRIM AND SHALL MATCH SAME IN COLOR TONE.

(D) INTERIOR WOOD FINISH EXPOSED IN PENT HOUSES, ATTIC SPACES SHALL HAVE TWO COATS OF OIL PAINT IN ADDITION TO PRIMING. FOR KINDS AND LOCATION OF ALL WOOD FINISHES SEE FINISH SCHEDULES ON DRAWINGS NOS. G-2, G-3 AND G-4.

(E) ALL OTHER INTERIOR WOOD FINISH SHALL HAVE VARNISH FINISH AS SPECIFIED.

(F) UNDER THIS SPECIFICATION THE TERM "INTERIOR WOOD FINISH" SHALL INCLUDE DOORS AND SASH AND ALL OTHER WOODWORK (EXCEPT FLOORS) NOT OTHERWISE SPECIFIED.

(G) THE UNEXPOSED EDGES OF DOORS AND MOVABLE SASH SHALL BE TOUCHED UP AFTER FITTING AND THEN FINISHED AS REQUIRED FOR THE EXPOSED PARTS.

(H) RADIATORS AND RADIATOR SHIELDS INCLUDING WALL AND CEILING PLATES (EXCEPT NICKEL PLATED WORK) SHALL HAVE TWO COATS OF RADIATOR ENAMEL.

CEH

(J) FRAMES OR STEEL OR IRON AND THE FRONTS OF ELECTRIC CABINETS SHALL BE PAINTED TO MATCH THE COLOR OF THE SURROUNDING FINISH.

(K) THE INSIDE OF LOOKOUTS, EXCEPT FLOOR, SHALL BE GIVEN TWO COATS OF BLACK CASEIN PAINT. A BLACK BAND APPROXIMATELY 8 INCHES WIDE SHALL BE PAINTED IN CASEIN PAINT ON THE OUTSIDE OF LOOKOUTS ALONG THE LINES OF OBSERVATION UNITS, AS NOTED ON DRAWING NO. 205 OF LOOKOUT GALLERY.

(L) ALL PLASTER WORK SHALL BE GIVEN TWO COATS OF CASEIN PAINT.

(M) ALL UNPLATED IRON OR STEEL HARDWARE AND COMPOSITION ORNAMENT SHALL BE FINISHED TO MATCH THE WORK TO WHICH IT IS ATTACHED.

(N) CEMENT FINISHED FLOORS AND BASE IN PENT HOUSES, VAULTS AND BASEMENT (EXCEPT IN FUEL ROOM AND WHERE METALLIC HARDENER OCCURS) SHALL HAVE TWO COATS OF CEMENT FLOOR PAINT.

(P) THE INSIDE WALLS AND CEILINGS OF VAULTS SHALL BE GIVEN TWO COATS OF CEMENT WATER PAINT.

(Q) THE WALLS AND CEILINGS OF BOILER ROOM, STORAGE ROOMS AND SIMILAR SERVICE PORTIONS OF BASEMENT (EXCEPT FUEL ROOM) SHALL BE GIVEN TWO COATS OF CASEIN PAINT.

(R) PAINTING OF PIPE COVERING AND EXPOSED PLUMBING AND HEATING PIPES (OTHER THAN RADIATOR CONNECTIONS) IS INCLUDED UNDER "MECHANICAL EQUIPMENT."

881. SHOP COATING IS SPECIFIED UNDER "WOODWORK" AS FOLLOWS: ALL FRAMES AND WOOD FINISH (EXCEPT FLOORING) SHALL BE STAINED, FILLED AND SHELLACKED OR STAINED AND SHELLACKED OR OILED OR OTHERWISE PREPARED FOR THE FINISH SPECIFIED; AND ALL UNEXPOSED SURFACES AND SURFACES THAT ARE TO BE PAINTED OR ENAMELED SHALL BE GIVEN A PRIMING COAT OF PAINT; ALL BEFORE LEAVING THE SHOP WHERE FABRICATED. PANELS SHALL BE PRIMED, STAINED OR FILLED AND GIVEN ONE COAT OF FINISH BEFORE THEY ARE SET IN PLACE.

882. COLOR SAMPLES.--THE FINISHED WORK SHALL MATCH SAMPLES OF COLORS AND FINISHES WHICH WILL BE FURNISHED BY THE GOVERNMENT TO THE CONTRACTOR UPON REQUEST.

883. MATERIALS SHALL BE HIGH GRADE PRODUCTS OF WELL KNOWN MANUFACTURERS AND WHEN APPROVED SHALL BE DELIVERED ON THE WORK IN ORIGINAL UNBROKEN PACKAGES BEARING THE MAKERS NAMES AND BRANDS. MATERIALS NOT OTHERWISE SPECIFIED SHALL CONFORM TO THE FEDERAL SPECIFICATIONS FOR SAME, VIZ:

LINSEED OIL, RAW	No.	JJJ-O-336
LINSEED OIL, BOILED	"	JJJ-O-331
WHITE LEAD, PASTE, TYPE B	"	TT-W-251
TURPENTINE, TYPE I	"	LLL-T-791
ZINC OXIDE, FRENCH PROCESS	"	TT-Z-301
DRIER, TYPE A	"	TT-D-651
PUTTY, WHITE LEAD-WHITING	"	TT-P-791
VARNISH	"	TT-V-121
SHELLAC VARNISH, TYPE 2 BLEACHED, LIGHT BODY	"	TT-V- 91

884. COLORS SHALL BE PURE, NON-FADING PIGMENTS FINELY GROUND IN LINSEED OIL. COLORS THAT ARE TO BE USED ON PLASTER, CEMENT OR STUCCO SHALL BE LIME-PROOF.

885. RADIATOR ENAMEL SHALL BE ZINC OXIDE GROUND IN DAMAR VARNISH THINNED WITH PALE BAKING VARNISH AND TURPENTINE, AND SHALL BE TINTED ANTIQUE VERDE. THE ENAMEL SHALL BE FREE FROM MINERAL SPIRITS, SHALL COVER WELL IN TWO COATS AND DRY WITH A GOOD GLOSS. THE ENAMEL SHALL CONTAIN NOT LESS THAN 38 PER CENT PIGMENT.

886. CEMENT-WATER PAINT SHALL BE A HYDRAULIC BASE PAINT DELIVERED IN POWDER FORM READY FOR USE WITH THE ADDITION OF WATER ONLY. THE POWDER SHALL CONSIST OF HYDRAULIC CEMENT, HYDRATED LIME, HYGROSCOPIC SALT, A SMALL AMOUNT OF WATER-REPELLENT METALLIC SOAP AND SMALL AMOUNTS OF OTHER AGENTS OR CHEMICALS TO IMPART WORKABILITY. A SMALL PERCENTAGE OF TITANIUM OXIDE MAY BE INCLUDED. LIMEPROOF PIGMENT COLORS SHALL BE ADDED AT THE FACTORY TO PROVIDE THE DESIRED COLOR TONE, BUT THE AMOUNT OF COLOR USED SHALL NOT BE IN EXCESS OF 4 PER CENT BY WEIGHT.

(A) THE PAINT SHALL BE SUITABLE FOR BRUSH OR SPRAY APPLICATION TO CLEAN, UNPAINTED, POROUS SURFACES OF CONCRETE, MASONRY, STUCCO OR SAND-FINISH PLASTER AND, WHEN APPLIED, SHALL FLOW EVENLY AND COVER SOLIDLY. SURFACES TO BE PAINTED SHALL BE DAMP WHEN THE PAINT IS APPLIED. WHEN HARDENED AND CURED, THE PAINT SHALL FORM A DAMP-PROOF FILM THAT WILL NOT POWDER, CHIP OR RUB OFF AND THAT MAY BE WASHED REPEATEDLY WITHOUT DAMAGE TO THE FILM.

(B) THE POWDER SHALL BE MIXED WITH WATER IN STRICT ACCORDANCE WITH THE PRINTED DIRECTIONS OF THE MANUFACTURER. NO MORE SHALL BE MIXED AT ONE TIME THAN CAN BE USED WITHIN 4 HOURS AFTER MIXING. ANY MIXED PAINT THAT IS NOT USED AT THE END OF THE DAY SHALL BE WASTED.

887. CASEIN PAINT (WHITE AND LIGHT TINTS).--CASEIN PAINT SHALL BE DELIVERED IN PASTE OR POWDER FORM READY FOR USE WITH THE ADDITION OF WATER.

NOTE.--FOR PAINTING PLASTER WORK THE PASTE SHALL BE USED.

(A) THE PIGMENT FOR POWDER AND PASTE SHALL CONSIST OF EITHER LIGHT-PROOF LITHOPONE, TITANIUM PIGMENT, ZINC SULPHIDE OR ANY SUITABLE MIXTURE THEREOF, WITH EXTENDER SUCH AS CLAY, MICA OR SIMILAR MATERIAL, FREE LIME, CASEIN WITH A NON-POISONOUS PRESERVATIVE AND LIME-PROOF TINTING COLOR WHEN REQUIRED. AT LEAST 15 PER CENT BY DRY WEIGHT OF THE TOTAL PIGMENT SHALL BE ZINC SULPHIDE (ZnS) OR TITANIUM DIOXIDE (TiO_2) OR A MIXTURE OF THE TWO. PAINT SHALL BE FREE FROM COMPOUNDS OF MERCURY.

(B) THE PASTE SHALL BE AT LEAST 10 PER CENT CASEIN, (FACTOR NITROGEN 7.7) BASED ON TOTAL SOLIDS, NOT MORE THAN 35 PER CENT VOLATILE MATTER (MOSTLY WATER) AND SHALL BE FREE FROM THE ODOR OR COLOR OF DECOMPOSED CASEIN. HYDRATED LIME MAY BE ADDED TO THE PASTE PAINT READY FOR USE TO INCREASE WORKABILITY, BUT THE AMOUNT OF LIME ADDED SHALL NOT EXCEED 7 OUNCES PER GALLON PASTE. THE PASTE SHALL BE OF SMOOTH, UNIFORM CONSISTENCY, FREE FROM CURDS, COAGULATED OR GRANULATED MATERIAL. THERE SHALL BE NO SETTLING OR PACKING IN THE CAN AND NO LIQUID SHALL BE PRESENT ON THE SURFACE AFTER STANDING FOR 30 DAYS. EACH GALLON OF PASTE SHALL REQUIRE APPROXIMATELY 2 QUARTS OF WATER TO THIN TO SUITABLE PAINTING CONSISTENCY.

(C) THE POWDER SHALL CONTAIN AT LEAST 10 PER CENT BY WEIGHT OF CASEIN (FACTOR NITROGEN 7.7) AND SUFFICIENT SUITABLE MATERIALS TO RENDER THE CASEIN SOLUBLE IN ONE HOUR AFTER THE WATER IS ADDED. THE POWDER SHALL MIX READILY WITH WATER TO FORM A THIN PASTE AND BE REDUCED WITH WATER AND/OR BOILED LINSEED OIL. EACH TEN POUNDS OF POWDER SHALL BE PROPERLY MIXED WITH 4 TO 5 QUARTS OF WATER AND, IF DESIRED, 1 PINT OF PALE BOILED LINSEED OIL MAY BE ADDED AND SHALL GIVE

A SMOOTH PAINT OF AVERAGE BRUSHING OR SPRAYING CONSISTENCY, FREE FROM UNDISSOLVED PARTICLES OF CASEIN AND WITHOUT OFFENSIVE ODOR, BEFORE IT HAS BEEN SCREENED.

(D) THE PAINT SHALL BE MIXED AND APPLIED IN ACCORDANCE WITH THE PRINTED DIRECTIONS OF THE MANUFACTURER. THE PAINT SHALL HAVE GOOD HIDING POWER, SHALL SPREAD EASILY AND SHALL GIVE SMOOTH, EVEN COVERAGE WITHOUT STREAKING, RUNNING OR SAGGING. THE PAINT MADE FROM EITHER PASTE OR POWDER, ACCORDING TO THE MANUFACTURER'S DIRECTIONS, SHALL REMAIN FOR A PERIOD OF NOT LESS THAN 18 HOURS IN A WORKING CONDITION WITHOUT EXCESSIVE SETTLING OR HARDENING, OR THE DEVELOPMENT OF AN OFFENSIVE ODOR. IT SHALL SET TO TOUCH WITHIN 2 HOURS AND DRY WITHIN 18 HOURS TO A SMOOTH, UNIFORM, OPAQUE, FLAT FINISH THAT IS NON-YELLOWING AND NON-RUBBING. THE WHITE PAINT SHALL SHOW A LIGHT REFLECTION VALUE OF AT LEAST 84 PER CENT. AFTER 5 DAYS TO 30 DAYS OF DRYING, MARKS MADE WITH A SOFT LEAD PENCIL (No. 2) SHALL BE EASILY REMOVED WITH WATER AND SOAP WITHOUT APPRECIABLY MARRING THE SURFACE.

888. CASEIN PAINT (BLACK).--PIGMENT FOR POWDER AND PASTE SHALL CONSIST OF EITHER BLACK OXIDE, CARBON BLACK, DROP BLACK OR BONE BLACK, OR ANY SUITABLE MIXTURE THEREOF, IN SUCH AMOUNT THAT ONE COAT WILL GIVE A SOLID BLACK FINISH TO A WHITE SURFACE AND STILL RETAIN GOOD BRUSHING QUALITIES, WITH EXTENDER (SUCH AS CLAY, MICA OR SIMILAR MATERIAL), FREE LIME AND CASEIN WITH A NON-POISONOUS PRESERVATIVE. PAINT SHALL BE FREE FROM COMPOUNDS OF MERCURY. IN OTHER RESPECTS, THE BLACK PAINT SHALL COMPLY WITH THE REQUIREMENTS SPECIFIED HEREIN FOR WHITE CASEIN PAINT IN SO FAR AS THEY CAN APPLY TO BLACK PAINT.

889. STAINS SHALL BE CLEAR TONES, PENETRATING NON-FADING MATERIALS THAT WILL NOT CLOUD OR OBSCURE THE GRAIN OF THE WOOD.

890. FILLER SHALL BE FINELY GROUND SILICA, LINSEED OIL AND DRIER, TINTED AS REQUIRED. DRY FILLER SHALL BE FINELY GROUND SILICA AND, IF COLORED, SHALL BE TINTED WITH DRY PIGMENT.

891. FINISHING WAX SHALL BE MIXED IN THE PROPORTIONS OF 2 PARTS CARNAUBA WAX, 2 PARTS CERESIN AND 3 PARTS TURPENTINE BY WEIGHT. THE WAX SHALL BE THINNED TO PROPER WORKING CONSISTENCY BY MIXING WITH MINERAL SPIRITS OR TURPENTINE.

892. GOLD LEAF SHALL BE 23 KARAT FINE. SIZE FOR GILDING SHALL BE SLOW DRYING FAT OIL GOLD SIZE.

893. OIL PAINT SHALL BE PROPORTIONED APPROXIMATELY IN ACCORDANCE WITH THE FOLLOWING TABLES, UNLESS OTHERWISE SPECIFIED. PIGMENT SHALL BE COMPOSED OF 75 TO 80 PER CENT WHITE LEAD PASTE AND 20 TO 25 PER CENT ZINC OXIDE PASTE, GROUND AND MIXED AT THE FACTORY.

(A) COLOR PIGMENTS SHALL BE ADDED TO PRODUCE THE REQUIRED TINTS OR SHADES. FOR DARK COLORS, THE PERCENTAGE OF PIGMENT TO COLOR IS TO BE VARIED AS NECESSARY.

894. PAINT FOR OUTSIDE WOODWORK:

COAT	PIGMENT	OIL	TURPENTINE	DRIER
PRIMING	SPECIFIED UNDER "MILLWORK AND FINISH"			
BODY	100 LBS.	1-1/2 GALS.	2 GALS.	1 PINT
FINISH	100 LBS.	3-1/2 GALS.	1 QUART	1 PINT

(A) PAINT FOR EXTERIOR METAL WORK SHALL BE AS SPECIFIED ABOVE FOR BODY AND FINISH COATS OF OUTSIDE WOODWORK.

895. PAINT FOR INSIDE WOODWORK.

COAT	PIGMENT	OIL	TURPENTINE	DRIER
PRIMING	100 LBS.	3 GALS.	3 GALS.	1 PINT
BODY	100 LBS.	1-1/2 GALS.	2 GALS.	1 PINT
		VARNISH		
FINISH (GLOSS)	100 LBS.	1-1/4 GALS.	1-1/2 GALS.	1/2 PINT
FINISH (FLAT)	100 LBS.	1 PINT	2 GALS.	1/2 PINT

(A) PAINT FOR INSIDE METAL WORK SHALL BE AS SPECIFIED ABOVE FOR BODY AND FINISH COATS OF INSIDE WOODWORK. PAINT FOR ORNAMENTAL METAL WORK SHALL BE APPLIED IN THIN COATS THAT WILL NOT OBSCURE THE ORNAMENT AND TEXTURE OF THE METAL, AND THE FINISH COAT SHALL BE FLAT.

(B) BLACK PAINT SHALL CONSIST OF BLACK PIGMENT WITH LINSEED OIL AND/OR VARNISH BINDER AND TURPENTINE THINNER WITH A SMALL AMOUNT OF DRIER. THE PIGMENT SHALL BE EITHER BLACK OXIDE, CARBON BLACK, DROP BLACK OR BONE BLACK, OR ANY SUITABLE MIXTURE THEREOF, IN SUCH AMOUNT THAT ONE COAT WILL GIVE A SOLID BLACK FINISH TO A WHITE SURFACE AND STILL RETAIN GOOD BRUSHING QUALITIES. THE VEHICLE SHALL BE SO PROPORTIONED THAT THE PAINT WILL GIVE A FLAT (DEAD) BLACK FILM THAT IS TOUGH AND ELASTIC.

896. PAINT FOR CEMENT FLOORS:

PIGMENT	OIL	VARNISH	TURPENTINE	DRIER
100 LBS.	4-1/2 GALS.	2 GALS.	1/2 GAL.	1 PINT

(A) PIGMENT FOR FLOOR PAINT SHALL BE COMPOSED OF 65 PER CENT WHITE LEAD PASTE AND 35 PER CENT ZINC OXIDE PASTE AND THE NECESSARY TINTING COLORS.

897. FACTORY MIXED OIL PAINT, IF USED, SHALL BE DELIVERED ON THE WORK IN ORIGINAL UNBROKEN PACKAGES BEARING THE MANUFACTURER'S CERTIFICATE THAT THE INGREDIENTS AND PROPORTIONS COMPLY WITH THE REQUIREMENTS OF THIS SPECIFICATION FOR THE USE TO BE NAMED IN THE CERTIFICATE AND GIVING FORMULA FOR REDUCING TO PROPORTIONS HEREIN SPECIFIED FOR OTHER USES. IF FACTORY MIXED PAINT IS USED, THE CONSTRUCTION ENGINEER WILL FORWARD 1-QUART SAMPLES OF THE VARIOUS MIXTURES TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, FOR TEST.

898. PREPARATION OF SURFACES, ETC.--ALL SURFACES SHALL BE CLEAN AND DRY AT THE TIME ANY COATING IS APPLIED, EXCEPT THAT SURFACES FOR CEMENT-WATER PAINT SHALL BE DAMP WHEN THE PAINT IS APPLIED. BASE COATS PROVIDED BY OTHERS SHALL BE IN GOOD CONDITION AND THE SURFACES WELL COVERED BY TOUCHING UP ANY BARE OR ABRADED SPOTS. BASE COATS ON WORK SUBJECT TO CLOSE INSPECTION SHALL BE RUBBED SMOOTH.

899. WOODWORK SHALL BE SMOOTH AND FREE FROM RAISED GRAIN OR OTHER SURFACE IMPERFECTIONS. KNOTS AND PITCH STREAKS SHALL BE SHELLACKED BEFORE PAINTING. NAIL HOLES, CRACKS AND SIMILAR BLEMISHES SHALL BE NEATLY PUTTIED AND SANDED SMOOTH AFTER PRIMING OR STAINING AND BEFORE BODY OR FINISH COATS ARE APPLIED.

900. CEMENT AND CONCRETE SURFACES, THAT ARE TO BE PAINTED WITH OIL PAINTS, SHALL BE CLEANED AND THEN WASHED WITH ZINC SULPHATE SOLUTION (2 LBS. PER GAL. OF WATER) AND ALLOWED TO DRY BEFORE PAINTING.

THE ZINC SULPHATE SOLUTION MAY BE OMITTED FROM FLOORS THAT HAVE BEEN TREATED WITH LIQUID FLOOR HARDENER.

901. PAINTS AND FINISHING MATERIALS SHALL BE FREE FROM SKINS, LUMPS OR ANY FOREIGN MATTER WHEN USED, AND PIGMENTS, FILLERS, ETC., SHALL BE KEPT WELL STIRRED WHILE BEING APPLIED.

902. WORK THAT IS NOT TO BE FINISHED UNDER THIS SECTION SHALL BE PROTECTED AGAINST SPATTERS, STAINS OR SOILING AND EACH TYPE OF FINISH SHALL BE PROTECTED AGAINST SIMILAR DEFACEMENTS BY OTHER FINISH AND SHALL BE LEFT CLEAN.

903. PAINTING.--EACH COAT OF PAINT SHALL BE EVENLY WORKED OUT AND ALLOWED TO DRY BEFORE ANY SUBSEQUENT COAT IS APPLIED OR RUBBING DONE. EACH COAT SHALL BE A DIFFERENT TINT FROM THAT OF THE PRECEDING COAT. FINISH COATS SHALL BE THE EXACT SHADES AND TEXTURES SELECTED. THE FINISHED WORK SHALL BE FREE FROM RUNS AND SAGS, DEFECTIVE BRUSHING AND CLOGGING OF LINES OR ANGLES.

904. ENAMELING.--RADIATORS SHALL BE DISCONNECTED WHEN EACH COAT OF ENAMEL IS APPLIED. WHERE POSSIBLE THEY SHALL BE CONNECTED AND HEAT TURNED ON AFTER EACH COAT.

905. VARNISHING.--HARD WOODS SHALL BE SPONGED WITH CLEAN WATER TO RAISE THE GRAIN, THEN SANDED SMOOTH. APPLY ACID STAIN OF THE REQUIRED SHADE, THEN A THIN COAT OF SHELLAC AND THREE FULL COATS OF VARNISH. OPEN GRAINED WOODS SHALL BE FILLED BETWEEN THE SHELLAC AND FIRST COAT OF VARNISH AND WIPED OFF ACROSS THE GRAIN. EACH UNDERCOAT OF SHELLAC, FILLER AND VARNISH SHALL BE RUBBED SMOOTH WITH FINE STEEL WOOL OR SANDPAPER, AND THE LAST COAT RUBBED TO A DULL GLOSS WITH PUMICE STONE AND WATER AND WIPED CLEAN.

906. ANTIQUE PECKY FINISH.--THE WOODWORK FOR THIS FINISH SHALL BE THOROUGHLY BRUSHED WITH WIRE BRUSH TO REMOVE DUST AND LOOSE PECKY POWDER. THIS OPERATION SHALL BE FOLLOWED BY ONE COAT OF LIMEWATER. NEXT THERE SHALL BE APPLIED ONE COAT OF ACID STAIN FOLLOWED BY ONE COAT OF WHITE LEAD IN OIL (PREPARED ACCORDING TO GOVERNMENT SPECIFICATION) BRUSHED OR SPONGED IN SUFFICIENTLY TO FILL PECKY CREVICES. THE EXCESS WHITE PAINT SHALL THEN BE WIPED OFF TO MATCH SAMPLE. FOR FINISH APPLY 2 COATS OF GOVERNMENT SPECIFIED CLEAR VARNISH.

907. ANTIQUE VARNISH FINISH.--THE WOODWORK FOR THIS FINISH SHALL HAVE ALL JOINTS AND CRACKS FILLED, ALLOWING THE GRAINS TO REMAIN RAISED. THEN APPLY ACID STAIN OF THE REQUIRED SHADE. FOR FINISH APPLY 3 COATS MINIMUM OF VARNISH STAIN No. 37 OR AS MANY MORE REQUIRED TO PRODUCE DESIRED EFFECT.

908. VARNISH SHALL NOT BE THINNED IN ANY MANNER AND SHALL NOT BE APPLIED IN A TEMPERATURE BELOW 70 DEGREES F. NOR IN ANY PLACE NOT PROPERLY CLOSED AND PROTECTED FROM DRAFTS AND FROM DUST. VARNISH SHALL BE EVENLY FLOWED ON WITHOUT RUNS, SAGS OR BRUSH MARKS.

909. OILING.--THE UNEXPOSED EDGES OF DOUBLE HUNG SASH AND THE RUNS FOR SAME (EXCEPT WHERE EXPOSED ON THE OUTSIDE) SHALL BE GIVEN ONE COAT OF RAW AND ONE COAT OF BOILED LINSEED OIL. AFTER THE OIL IS DRY, THE EDGES OF SASH SHALL BE GIVEN A COAT OF WAX.

910. GILDING.--FLAG STAFF HEADS, INCISED LETTERS IN WOODWORK AND RAISED OR INCISED LETTERS IN INTERIOR METAL WORK AND WORK SO SPECIFIED OR INDICATED SHALL BE GILDED WITH XX GOLD LEAF.

911. ALL SURFACES TO BE GILDED SHALL BE THOROUGHLY CLEANED AND ALL RUST REMOVED. EXTERIOR METAL WORK SHALL BE GIVEN ONE COAT OF RED LEAD AND TWO COATS OF YELLOW LEAD PAINT. ALL OTHER SURFACES TO BE GILDED (EXCEPT GLASS) SHALL BE GIVEN TWO COATS OF YELLOW LEAD PAINT.

912. LETTERING, ETC.--INTERIOR DOORS SHALL BE NUMBERED. THE NUMBERS GIVEN ON THE PLANS SHALL BE THE BASIS OF BIDDING, BUT THE CONTRACTOR SHOULD REQUEST INSTRUCTIONS FROM THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, RELATIVE TO ANY CHANGES IN NUMBERS THAT MAY BE DESIRED BEFORE THE NUMBERING IS STARTED. DOORS OPENING FROM LOBBIES, HALLS AND CORRIDORS, AND DOORS TO EMPLOYEES TOILET ROOMS SHALL BE LETTERED WITH THE NAMES OF THE ROOMS OR THE TITLES OF THE OCCUPANTS AS DIRECTED. ENTRANCES TO ELEVATORS SHALL BE LETTERED AS DIRECTED ON THE OUTSIDE AND WITH THE STORY NUMBERS ON THE INSIDE. BULLETINS AND DIRECTORIES AND OPENINGS IN LOBBIES AND CORRIDORS FOR THE TRANSACTION OF PUBLIC BUSINESS AND FOR THE DEPOSIT OF MAIL SHALL BE LETTERED WITH THEIR TITLES AS DIRECTED.

913. IT IS ASSUMED THAT OFFICE DOORS WILL AVERAGE 20 LETTERS TWO INCHES HIGH; IF A GREATER OR LESS AMOUNT OF LETTERING IS REQUIRED, THE DIFFERENCE IN COST WILL BE SUBJECT TO ADJUSTMENT ON THE BASIS OF TEN CENTS PER LETTER MORE OR LESS.

914. LETTERING SHOWING IN PUBLIC PLACES SHALL BE IN GOLD LEAF, OUTLINED IN BLACK. INCISED LETTERS SHALL BE IN GOLD ONLY. LETTERING ELSEWHERE SHALL BE IN BLACK.

915. PLASTER PAINTING.--SURFACES SHALL BE DRY AND CLEAN AND FREE FROM DUST WHEN PAINT IS APPLIED. ALL PREVIOUS COATS (EXCEPT AS REQUIRED FOR STIPPLING) SHALL BE DRY BEFORE ANY SUBSEQUENT COAT IS APPLIED.

916. EACH COAT OF PAINT SHALL BE THOROUGHLY AND EVENLY APPLIED AND SHALL BE FREE FROM NOTICEABLE BRUSH MARKS, CLOGGING, LUMPS, RUNS, OR SAGS. EDGES OF PAINT ADJOINING OTHER MATERIALS OR OTHER COLORS SHALL BE FULL AND CLEAN WITHOUT OVERLAPPING.

917. WORK THAT IS NOT TO BE PAINTED SHALL BE PROTECTED AND LEFT FREE FROM SPATTERS, STAINS, OR SOILING.

918. COLORS.--CORNICES SHALL GENERALLY BE PAINTED THE SAME COLOR AS CEILINGS. WHERE PICTURE MOLDINGS OCCUR, THE CEILING COLOR SHALL EXTEND DOWN TO THE PICTURE MOLD.

919. WHERE THERE ARE CHAIR RAILS THE WALL BELOW THE RAIL SHALL BE PAINTED THREE SHADES DARKER THAN THAT ABOVE THE RAIL.

920. WHERE COVES OCCUR AT JUNCTION OF WALLS AND CEILINGS AND WHERE THERE ARE NO PICTURE MOLDINGS OR OTHER DIVIDING LINES, THE CEILING COLOR SHALL EXTEND TO THE BOTTOM OF THE COVE, OR SUCH FURTHER DISTANCE AS DIRECTED, AND BE SEPARATED FROM THE WALL COLOR BY A TWO-INCH BAND OF AN APPROVED COLOR. THIS COLOR ARRANGEMENT SHALL NOT APPLY WHERE WALLS AND CEILINGS ARE SPECIFIED TO BE OF THE SAME COLOR.

921. SAMPLES OF COLORS FOR THE FINISHED WORK WILL BE FURNISHED BY THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, TO THE CONTRACTOR UPON REQUEST. NO PART OF THE LAST TWO COATS OF PAINT SHALL BE APPLIED UNTIL AFTER THE CONTRACTOR HAS RECEIVED THE COLOR SAMPLES. FINISHED WORK WILL NOT BE ACCEPTABLE THAT DOES NOT MATCH TO THE SATISFACTION OF THE GOVERNMENT'S REPRESENTATIVE THE COLOR SAMPLES FURNISHED.

922. TOUCHING UP.--AT THE COMPLETION OF OTHER BRANCHES OF THE WORK ALL PAINTED AND FINISHED WORK SHALL BE TOUCHED UP AND RESTORED WHERE DAMAGED OR DEFACED, AND THE ENTIRE WORK LEFT FREE FROM BLEMISHES.

923. FINISH FOR WOOD LOBBY FIXTURES.--THE SURFACES OF THE PECKY LOBBY DESKS SHALL BE CLEANED AND SMOOTHED PERFECTLY BEFORE ANY FINISH IS APPLIED.

924. THE LOBBY DESKS ARE TO BE FINISHED IN ANTIQUE PECKY IN THE MANNER DESCRIBED IN PARAGRAPH 941 THIS SPECIFICATION.

925. THE WOOD OF THE BULLETIN BOARDS AND DIRECTORIES SHALL BE SANDED SMOOTH BEFORE THE FINISH IS APPLIED.

926. THE BULLETIN BOARDS AND DIRECTORIES SHALL HAVE THE ANTIQUE VARNISH FINISH AS DESCRIBED IN SECTION ON (A) OF PARAGRAPH 941 OF THIS SPECIFICATION.

927. THE NUMBER OF COATS SPECIFIED INCLUDES THE FINAL COAT.

928. EACH COAT OF STAIN, FILLER OR FINISH SHALL BE ALLOWED TO DRY AND BE RUBBED SMOOTH AND CLEANED OFF BEFORE THE NEXT COAT IS APPLIED. THE FINISH SHALL MATCH THE COLOR OF THE SAMPLES THAT WILL BE FURNISHED ON REQUEST OF THE GOVERNMENT.

929. ALL VARNISHES, STAINS, FILLERS, ETC. USED IN FINISHING WOOD LOBBY FIXTURES SHALL COMPLY WITH FEDERAL SPECIFICATIONS FOR SAME.

ALL WORKMANSHIP SHALL BE OF THE HIGHEST GRADE OBTAINABLE.

TREATMENTS FOR FLOOR FINISHES.

MATERIALS:

930. GENERAL.--ALL MATERIALS USED FOR CLEANING, FILLING AND TREATMENT OF FLOORS UNDER THIS CONTRACT SHALL MEET THE SPECIFICATIONS, AND BE USED AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED DIRECTIONS TO SUIT THE PARTICULAR FLOORING MATERIAL. ALL MATERIALS MUST BE RECEIVED AT SITE OF WORK IN ORIGINAL SEALED CONTAINERS AS SHIPPED BY MANUFACTURER.

931. CLEANER A SHALL BE A LIQUID EMULSION COMPOUND OF PURE LINSEED OIL AND POTASH. IT SHALL BE OF A CREAMY CONSISTENCY AND SHALL HAVE A SOLID CONTENT OF NOT LESS THAN 20 PER CENT. IT SHALL BE SOLUBLE IN WATER AND WHEN DILUTED WITH WATER SHALL ACT AS A CLEANER. IT SHALL NOT BE INFLAMMABLE NOR CONTAIN ANY SOLVENTS, VOLATILE SPIRITS OR FREE OILS THAT WILL DISSOLVE ASPHALTIC FLOORS. IT SHALL NOT CONTAIN MORE THAN .15 PER CENT FREE ALKALI OR ACID. THE TOTAL ALKALI CONTENT CALCULATED AS K_2I SHALL NOT BE LESS THAN 2.8 PER CENT NOR MORE THAN 3.2 PER CENT. MATTER INSOLUBLE IN ALCOHOL SHALL NOT EXCEED 2.6 PER CENT AND MATTER INSOLUBLE IN WATER SHALL NOT EXCEED .03 PER CENT.

932. FILLER SHALL BE A PASTE CONTAINING FINELY GROUND SILICA HELD IN A VEHICLE THAT IS SUFFICIENTLY VOLATILE TO DRY IN TWO OR THREE HOURS, LEAVING ONLY A CEMENT RESIDUE WHICH WILL COMBINE THE SILICA AND FILL THE CAVITIES OF THE SURFACE WITH A PERMANENT, ADHERING SOLID. THE VOLATILE MATTER SHALL NOT BE MORE THAN 5.0 PER

CENT. THE CILICA CONTENT SHALL BE NOT LESS THAN 78 PER CENT NOR MORE THAN 85 PER CENT. THE BALANCE SHALL CONSIST OF VARNISH, DRYING OILS AND DRIERS. IT SHALL BE SUPPLIED IN "NATURAL" (WHICH IS STAIN-LESS) WHEN NO COLOR IS SPECIFIED. THE PASTE SHALL BE THINNED AT THE JOB WITH MINERAL SPIRITS FOR EASY APPLICATION.

933. FLOOR SEALER B SHALL BE A PREPARATION HAVING 26 PER CENT OR MORE NON-VOLATILE MATTER CONSISTING OF VARNISH GUMS AND DRYING OILS HELD IN SEMI-LIQUID FORM BY VOLATILE THINNERS. IT SHALL BE WATERPROOF WHEN DRY. IT SHALL BE OF SUCH A NATURE AS TO PERMIT APPLICATION WITH A LAMBS WOOL MOP AND GIVE QUICK PENETRATION. IT SHALL SPREAD EVENLY AND THINLY AND SHALL DRY HARD WITHIN TWELVE TO FOURTEEN HOURS AFTER APPLICATION, LEAVING NO SURFACE COATING. IT SHALL BE SUPPLIED IN "NATURAL" WHEN NO COLOR IS SPECIFIED.

(A) THE ACID NUMBER SHALL BE NOT MORE THAN 3.5. THE BOILING RANGE OF THE SOLVENT SHALL BE BETWEEN 130 DEGREES C. AND 190 DEGREES C., ABOVE 75 PER CENT GOING OVER UNDER 170 DEGREES C. THE SPECIFIC GRAVITY OF THE SOLVENT SHALL BE ABOUT 0.77 AT 20 DEGREES C.

934. UNDERCOATER A SHALL BE A LIQUID MIXTURE OF CREAMY CONSISTENCY HAVING 12 PER CENT OF MERE SOLID CONTENT OF VARNISH GUM AND WAX. THE TOTAL SOLIDS SHALL HAVE A MELTING POINT NOT LOWER THAN 63 DEGREES C. (145 DEGREES F.) AND SHALL BE VEGETABLE WAXES COMBINED WITH NOT LESS THAN 10 PER CENT OF VARNISH GUM AND NOT MORE THAN 15 PER CENT OF MINERAL WAX. THE UNDERCOATER SHALL CONTAIN ONLY SPIRIT THINNERS WHICH SHALL HAVE A FLASH POINT NOT LOWER THAN 28 DEGREES C. THINNERS SHALL COMPLETELY EVAPORATE IN THIRTY MINUTES OR LESS AT NORMAL ROOM TEMPERATURE, AND SHALL CONTAIN NOT LESS THAN 20 PER CENT OF SPIRITS OF TURPENTINE. THE DISTILLATION RANGE OF THE SOLVENTS SHALL BE BETWEEN 138 DEGREES C. AND 193 DEGREES C. THE MIXTURE SHALL BE A WATERLESS EMULSION AND SHALL HAVE BEEN PROCESSED IN A COLLOID MILL WHICH WILL BREAK DOWN THE SOLIDS INTO MINUTE PARTICLES. WHEN A FILM OF THE CLEAR UNDER-COATER IS DRIED ON A GLASS PLATE, IT SHALL SHOW A SEMI-TRANSPARENT BROWNISH FILM THAT DRIES IN NOT MORE THAN 1 HOUR AND DOES NOT TURN WHITE.

935. THE UNDERCOATER SHALL SPREAD EVENLY AND THINLY WHEN APPLIED WITH A LAMBS WOOL MOP OR SIMILAR DEVICE. IT SHALL TAKE A HIGH, HARD, NON-SLIPPERY SHEEN WHEN POLISHED WITH AN ELECTRIC MACHINE OR WEIGHTED PAD. IT SHALL NOT LEAVE A STICKY OR GUMMY SURFACE. IT SHALL NOT CRACK, CHECK OR PEEL AND SHALL NOT SHOW MARKS OF OVERLAP WHEN REPAIRS ARE MADE. IT SHALL NOT RAISE THE GRAIN OF WOOD FLOORS. IT SHALL BE SUPPLIED IN "NATURAL" WHEN NO COLOR IS SPECIFIED. THE COLORING MATTER OF COLORED UNDER-COATER SHALL BE A TRANSPARENT DYE THAT WILL STAIN WOOD AND LINOLEUM.

936. UNDERCOATER B SHALL BE A LIQUID EMULSION OF CREAMY CONSISTENCY HAVING AT LEAST 12 PER CENT SOLID CONTENT OF VARNISH GUM AND WAX. THE MELTING POINT OF THE SOLIDS SHALL BE NOT LESS THAN 65 DEGREES C. (150 DEGREES F). THIS PRODUCT SHALL NOT BE MADE WITH A STEARIC OR OLEIC ACID SOAP, TRIETHANOLAMINE, HEXALIN OR AMMONIA. IT SHALL BE A WATER EMULSION WITH NOT MORE THAN .15 PER CENT FREE ALKALI, CALCULATED ON DRY TOTAL SOLIDS; THE VEHICLE SHALL BE WATER ONLY WITH NOT MORE THAN 1 PER CENT ALLOWED FOR PERFUME AND PERFUME SOLVENT.

(A) THE UNDERCOATER SHALL SPREAD EVENLY AND THINLY WHEN APPLIED WITH A LAMBS WOOL MOP OR SIMILAR DEVICE. IT SHALL DRY WITHIN THIRTY MINUTES. THE PRODUCT SHALL TAKE A HIGH, HARD, NON-SLIPPERY SHEEN

WHEN POLISHED WITH AN ELECTRIC POLISHING MACHINE OR WEIGHTED PAD. IT SHALL NOT LEAVE A STICKY OR GUMMY SURFACE AND SHALL NOT CRACK, CHECK OR PEEL. IT SHALL BE A WATERPROOF FINISH, THE FILM OF WHICH SHALL NOT BE IMPAIRED AFTER 2-1/2 HOURS IMMERSION IN COLD WATER. IT SHALL NOT BE INJURIOUS TO RUBBER TILE AND TERRAZZO FLOORS.

937. FINISH MATERIAL SHALL BE A LIQUID EMULSION OF CREAMY CONSISTENCY HAVING AT LEAST 17 PER CENT OF SOLIDS OF VARNISH GUMS AND WAX. THE TOTAL SOLIDS SHALL CONTAIN NOT LESS THAN 8 PER CENT NOR MORE THAN 12 PER CENT VARNISH GUMS AND NOT LESS THAN 70 PER CENT VEGETABLE WAX, WITH A MELTING POINT NOT LOWER THAN 80 DEGREES C. (175 DEGREES F.) THE SOLIDS SHALL NOT CONTAIN MINERAL WAXES OR ROSIN. COLD WATER SOLUBILITY SHALL NOT BE MORE THAN 15 PER CENT. THE PRODUCT SHALL NOT CONTAIN MORE THAN 1 PER CENT OF FREE OIL, WHICH IS PERMITTED FOR PERFUME PURPOSES AND SHALL NOT CONTAIN FREE ALKALI TO EXCEED .15 PER CENT. THESE ARE CALCULATED ON DRY SOLIDS. AMMONIA AND TRIETHANOLAMINE ARE NOT TO BE CONSIDERED AS FREE ALKALI. ALKALINE SALTS SHALL NOT EXCEED..25 PER CENT AND MATTER INSOLUBLE IN ALCHOL SHALL NOT EXCEED 3.0 PER CENT, AND MATTER INSOLUBLE IN WATER SHALL NOT EXCEED 1.0 PER CENT.

938. WOOD FLOORS.--THE FLOORS SHALL BE BRUSHED CLEAN TO REMOVE ALL DUST OR OTHER FOREIGN MATTER.

(A) HARDWOOD FLOORS SHALL BE GIVEN ONE COAT OF SEALER A APPLIED WITH A LAMBS WOOL MOP AND WELL RUBBED OUT TO COVER THE SURFACE COMPLETELY. ALLOW THE SEALER TO DRY, THEN RUB WITH CLEAN STEEL WOOL, REMOVING ANY SURFACE GLOSS. NEXT APPLY TWO COATS OF UNDER-COATER A AND ONE COAT OF FINISH MATERIAL; EACH COAT TO BE POLISHED WHEN DRY.

(B) OAK FLOORS SHALL BE FILLED BEFORE THE SEALER A IS APPLIED. THE FILLER SHALL BE APPLIED WITH A BRUSH OR MOP AND WORKED INTO THE SURFACE BY RUBBING ACROSS THE GRAIN WITH A MOP OR RAG. WHEN THE FILLER IS "SET" THE FLOORING SHALL BE RUBBED ACROSS THE GRAIN UNTIL ALL SURPLUS FILLER IS REMOVED FROM THE SURFACE.

(C) WHERE A COLOR OTHER THAN THAT OF THE NATURAL WOOD IS INDICATED OR SPECIFIED, THE UNDER-COATER SHALL BE FURNISHED IN THE COLOR REQUIRED.

939. TERRAZZO.--MOP THE TERRAZZO FLOORS WITH CLEAN WATER. PREPARE A SOLUTION IN THE PROPORTION OF ONE PINT OF CLEANER A, ONE PINT OF UNDER-COATER B, AND ONE GALLON WARM WATER. AS SOON AS THE CLEAN WATER HAS BEEN ABSORBED WITH THE SURFACE OF THE TERRAZZO, SCRUB THE FLOORS WITH THIS SOLUTION AND SQUEEGEE OFF THE EXCESS. WHEN THE FLOOR IS DRY, IT SHALL BE POLISHED THOROUGHLY. NEXT APPLY TWO COATS OF UNDER-COATER B, DILUTED WITH ONE HALF WATER AND ONE COAT OF FINISH MATERIAL; EACH COAT TO BE POLISHED THOROUGHLY WHEN DRY.

(A) MARBLE STRIPS AND BORDERS (IF ANY) IN CONNECTION WITH TERRAZZO FLOOR SHALL BE GIVEN THE SAME TREATMENT AS THE TERRAZZO.

940. APPLICATION.--THE FLOOR SHALL BE FREE FROM DUST AND FOREIGN MATERIAL WHEN THE SPECIFIED TREATMENT IS STARTED. MOP APPLICATION SHALL, IN GENERAL, BE MADE WITH A LAMBS WOOL MOP, EXCEPT THE APPLICATION OF FINISH MATERIAL SHALL BE MADE WITH A COTTON STRING MOP. FOR LARGE FLOOR AREAS APPLICATION OF FINISH MATERIAL SHALL BE MADE BY ONE MAN WITH A SHORT (15 INCH) STRAND COTTON STRING MOP FOLLOWED

BY A SECOND MAN USING A LONG (20 INCH) STRAND COTTON STRING DRY MOP TO ASSURE EVEN, THIN DISTRIBUTION OVER FLOOR AREA. FINISH MATERIAL SHALL NOT BE RUBBED UNTIL DRY.

941. ON POROUS FLOORS WHERE POLISHING IS DONE BEFORE THE TREATMENT IS COMPLETELY DRY, USE A FIBRE BRUSH AND FINISH WITH A SOFT (TAMPICO) BRUSH. IF TREATMENT HAS BEEN APPLIED TOO THICK AND BRUSH WAVES APPEAR, USE MAT OR CLEAN "0" OR "00" STEEL WOOL BENEATH WEIGHT OR BRUSH AND REPOLISH OR RUB OUT WAVES WITH BURLAP. WHERE POLISHING IS SPECIFIED, THE USE OF A SINGLE DISK ELECTRIC POLISHER WITH WHEELS FREE FROM FLOOR IS ADVOCATED.

942. TESTS.--LABORATORY TESTS OF MATERIALS FOR FLOOR TREATMENTS SHALL BE MADE IN ACCORDANCE WITH METHODS APPROVED BY THE NATIONAL BUREAU OF STANDARDS. A COMPLETE SPECIFICATION OF TESTS MAY BE HAD ON REQUEST FROM THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH.

943. PROTECTION.--ALL ROOMS OR SPACES IN WHICH FLOORS ARE BEING TREATED SHALL BE CLOSED TO TRAFFIC OR OTHER WORK AND SHALL BE KEPT CLOSED UNTIL THE FLOOR TREATMENTS ARE COMPLETED. THEN CONTRACTOR SHALL ADEQUATELY PROTECT FROM DAMAGE, USING SUITABLE COVERINGS WHERE NECESSARY, AND SHALL MAINTAIN SUCH PROTECTION UNTIL COMPLETION OF THE CONTRACT.

GLASS AND GLAZING

944. ALL GLASS REQUIRED BY THE CONTRACT SHALL BE FURNISHED AND INSTALLED COMPLETE. JUST BEFORE FINAL INSPECTION, THE GLASS SHALL BE CAREFULLY CLEANED AND ANY GLASS THAT HAS BEEN BROKEN, SCRATCHED OR OTHERWISE DAMAGED SHALL BE REPLACED WITH NEW GLASS TO THE SATISFACTION OF THE CONSTRUCTION ENGINEER.

945. GLASS SHALL BE GRADED IN ACCORDANCE WITH FEDERAL SPECIFICATION NO. DD-G-451 UNLESS OTHERWISE SPECIFIED. EACH PIECE OF CLEAR GLASS SHALL BEAR THE MANUFACTURER'S LABEL GIVING THE NAME OF THE MANUFACTURER AND THE QUALITY OF THE GLASS, INCLUDING ITS WEIGHT OR THICKNESS. ABSENCE OF LABEL WILL CONSTITUTE CAUSE FOR REJECTION.

(A) GLASS SHALL BE CLEAR, EXCEPT WHERE OBSCURE GLASS IS SPECIFIED. GLASS THAT IS SPECIFIED TO BE POLISHED SHALL BE GROUND AND POLISHED.

(B) OBSCURE GLASS SHALL HAVE A SMOOTH (FIRE FINISH) SURFACE ON ONE SIDE, UNLESS OTHERWISE SPECIFIED.

946. GLASS SHALL CONFORM WITH THE FOLLOWING SCHEDULE:

(A) POLISHED PLATE, 1/4 INCH THICK, GLAZING QUALITY:

PUBLIC ENTRANCE DOORS, INCLUDING TRANSOMS AND WINDOW 2/1.

(B) POLISHED PLATE, 3/16 INCH THICK, GLAZING QUALITY:

BULLETINS.
DIRECTORIES.

(C) WIRE GLASS, 1/4 INCH THICK, POLISHED BOTH SIDES:

DOORS SO INDICATED ON THE DRAWINGS.
MAILING VESTIBULE DOORS AND WINDOWS.

(D) DRAWN WINDOW GLASS, 3/16 INCH THICK, GLAZING QUALITY:

SELECTED QUALITY.
BASEMENT WINDOWS.
PRIVATE OR SERVICE ENTRANCE DOORS.
PENTHOUSE WINDOWS AND DOORS.

(E) DRAWN WINDOW GLASS, DOUBLE STRENGTH A QUALITY:

ALL EXTERIOR WINDOWS NOT OTHERWISE SPECIFIED.
ALL DOORS NOT OTHERWISE SPECIFIED.

(F) ORNAMENTAL PLATE, 1/4 INCH THICK, POLISHED ONE SIDE:

ALL GLASS IN LOBBY SCREEN.
ALL TOILET ROOM WINDOWS.
ALL OTHER GLASS INDICATED AS "OBSCURE".

(G) STRUCTURAL GLASS, 1/2 INCH THICK, BLACK POLISHED ON ALL EXPOSED FACES FOR LOBBY DESKS.

(H) TYPE H GLASS GOVERNMENT SPECIFICATION DD-G-451, GLASS FOR ABSORBING AND INTERCEPTING ULTRA VIOLET AND INFRA-RED RAYS. ROLLED FIGURED SHEET FOR VENTILATOR WINDOWS IN CLEAR STORY.

947. MIRRORS SHALL BE RED LABELED, A QUALITY, 3/16 INCH OR 1/4 INCH THICK POLISHED PLATE GLASS MIRRORS AS SPECIFIED IN COMMERCIAL STANDARDS CS 27-30 ISSUED BY THE U.S. DEPARTMENT OF COMMERCE, WITH MANUFACTURER'S IDENTIFICATION STAMP ON THE BACK OF EACH MIRROR.

948. ALL MIRRORS SHALL BE MADE WITH TWO COATS OF SILVER APPLIED TO PROPERLY PROCESSED GLASS. THE SILVER FILM SHALL BE HERMETICALLY SEALED BY ELECTROPLATING WITH A HEAVY UNIFORM COATING OF COPPER, AND FINISHED WITH AN EXTERIOR COAT OF SPECIAL COMPOSITION HARD PAINT.

949. OBSERVATION UNITS.--THE GLASS FOR GLAZED OBSERVATION UNITS IN THE LOOKOUT SYSTEM SHALL BE POLISHED PLATE GLASS NOT LESS THAN 1/8 INCH THICK NOR MORE THAN 5/32 INCH THICK AND OF THE DIMENSIONS 1-3/4 WIDE BY 13-1/2 INCHES LONG, TO FIT THE STANDARD OBSERVATION UNIT. THE GLASS FOR OBSERVATION UNITS MORE THAN 10 FEET ABOVE THE FLOOR SHALL BE CLEAR GLASS.

950. THE GLASS FOR OBSERVATION UNITS 10 FEET AND LESS ABOVE THE FLOOR WILL BE FURNISHED BY THE GOVERNMENT TO THE CONTRACTOR AT THE BUILDING, BUT THE CONTRACTOR SHALL PAY THE TRANSPORTATION CHARGES ON THE GLASS AND SHALL INSTALL THE GLASS. THESE GLASS UNITS WILL BE FURNISHED BY OTHERS UNDER AN ANNUAL CONTRACT WITH THE GOVERNMENT. THE GLASS WILL BE SHIPPED FROM NEW YORK, N.Y., AND SAFE DELIVERY WILL BE GUARANTEED BY THE SHIPPER. AS SOON AS THE SHIPMENT IS RECEIVED, THE GLASS SHALL BE INSPECTED BY THE CONSTRUCTION ENGINEER WHO WILL REPORT AT ONCE TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, AS TO THE CONDITION IN WHICH THE GLASS WAS RECEIVED. ANY GLASS UNITS THAT ARE BROKEN OR DAMAGED IN SHIPMENT WILL BE REPLACED WITHOUT COST TO THE CONTRACTOR.

951. THE CONTRACTOR SHALL NOTIFY THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, AT LEAST 15 DAYS IN ADVANCE, THAT HE WILL BE READY FOR THE INSTALLATION OF THE GLASS ON A SPECIFIC DATE.

952. PUTTY NOT OTHERWISE SPECIFIED SHALL BE WHITING PUTTY AND CONFORM TO FEDERAL SPECIFICATION NO. TT-P-791.

953. PUTTY FOR METAL SASH SHALL BE A HIGH GRADE SPECIAL PUTTY FOR METAL SASH AND SHALL BE DELIVERED ON THE WORK IN THE MANUFACTURER'S ORIGINAL PACKAGES.

954. GLASS SHALL BE SET WITHOUT SPRINGING. GLASS SHALL BE BEDDED IN PUTTY AND BACK PUTTIED, EXCEPT WHEN PUTTYLESS GLAZING IS SPECIFIED. GLASS SHALL BE FACE PUTTIED EXCEPT WHERE GLAZING BEADS OR MOLDING ARE REQUIRED. PUTTYING SHALL BE SMOOTHLY FINISHED TO TRUE EVEN LINES.

955. REBATES THAT ARE TO RECEIVE PUTTY SHALL BE PRIMED BEFORE PUTTYING. REBATES AND EDGES OF BEADS IN CONTACT WITH GLASS SHALL BE FINISHED TO MATCH THE COLOR OF ADJOINING WORK BEFORE THE GLASS AND BEADS ARE SET.

956. OBSCURE GLASS SHALL GENERALLY BE SET WITH THE SMOOTH SIDE OUT AND THE ROUGHENED SIDE TOWARD THE PLACE TO BE OBSCURED. CEILING LIGHTS SHALL BE SET WITH THE SMOOTH SIDE UP.

957. GLASS FOR EXTERIOR WOOD SASH 1-3/4 INCHES OR LESS IN THICKNESS SHALL BE SET WITH GLAZING POINTS AND PUTTY.

958. GLASS FOR EXTERIOR WOOD SASH OVER 1-3/4 INCHES THICK, FOR INTERIOR SASH AND FOR DOORS, SHALL BE SET WITH GLAZING BEADS. BEADS FOR DOORS SHALL BE FASTENED WITH BRASS SCREWS; AND WOOD BEADS FOR SASH SHALL BE FASTENED WITH BRADS. METAL BRADS FOR CEILING SASH SHALL BE FASTENED WITH FLUSH HEAD SCREWS.

959. GLASS FOR METAL SASH SHALL BE SET WITH GLAZING CLIPS AND PUTTY, OR WITH GLAZING BEADS, AS REQUIRED.

SPECIAL LIGHTING FIXTURES

960. SCOPE OF WORK.--THIS PORTION OF THE SPECIFICATION COVERS THE FURNISHING AND INSTALLING OF SPECIAL LIGHTING FIXTURES AS SHOWN ON DRAWINGS 206, PHE 451, AND AS HEREINAFTER SPECIFIED AND ILLUMINATED DIRECTIONAL SIGNS AS HEREINAFTER SPECIFIED INCLUDING CONNECTION OF FIXTURES TO ELECTRIC WIRING OF THE BUILDING.

961. EXTERIOR LIGHT BRACKETS.--EXTERIOR LIGHT BRACKET LANTERNS AT ENTRANCES ARE TO BE CONSTRUCTED ENTIRELY OF WROUGHT IRON AND BLACK HOT ROLLED SHEETS OF SUBSTANTIALLY PURE IRON, EXCEPT THAT SQUARE TUBE MAY BE SEAMLESS DRAWN STEEL TUBING. WROUGHT IRON PARTS SHALL BE OF SIZE AND FORM SHOWN. SHEET METAL PARTS OF LANTERN FRAME SHALL NOT BE LESS THAN 16 GAUGE AND ORNAMENTAL BORDERS, HOOD ETC., SHALL NOT BE LESS THAN 26 GAUGE. REAR PANEL SHALL BE MADE HINGED WITH SCREW CATCH FOR RELAMPING. WELD ALL JOINTS. BRACKETS SHALL BE PAINTED A DULL BLACK AS SPECIFIED FOR EXTERIOR WROUGHT IRON UNDER "PAINTING".

(A) WIRING CONNECTION OF BRACKETS WILL BE AS SPECIFIED UNDER "CONDUIT AND WIRING". WIRE WAY SHALL HAVE NO SHARP CORNERS OF BURRS TO INJURE LEAD WIRE SHEATH WHEN PULLED IN.

(B) BRACKETS SHALL BE FURNISHED COMPLETE WITH PROCELAIN MEDIUM LAMP RECEPTACLES AND GLASS AND SECURELY FASTENED IN PLACE AS DETAILED.

(C) FOUR (4) BRACKETS WILL BE REQUIRED.

962. BALCONY LANTERNS.--BALCONY LANTERS ARE TO BE CONSTRUCTED ENTIRELY OF WROUGHT IRON AND BACK HOT ROLLED SHEETS OF SUBSTANTIALLY PURE IRON, AND SHALL BE CONSTRUCTED ACCORDING TO DETAIL. WROUGHT IRON HANGER IS TO BE PROVIDED WITH MEANS FOR ATTACHING TO 3/8 INCH FIXTURE STUD AND OF PROPER LENGTH TO ASSURE HANGING HEIGHT AS INDICATED ON THE ELEVATIONS. HANGER IS TO BE CONCEALED THEREIN.

963. METAL CORNERS AND OTHER SHEET METAL FRAME PARTS OF LANTERN ARE TO BE NOT LESS THAN 20 GAUGE IRON. TOP, BOTTOM, MOULDINGS, ETC., ARE TO BE OF NOT LESS THAN 26 GAUGE IRON. BOSS IN BOTTOM IS TO BE ROUND, OF SHEET METAL. ALL JOINTS ARE TO BE WELDED ONE PANEL IS TO BE MADE HINGED WITH SCREW CATCH FOR RELAMPING. LANTERNS SHALL BE PAINTED A DULL BLACK AS SPECIFIED FOR EXTERIOR WROUGHT IRON UNDER "PAINTING".

(A) LANTERNS ARE TO BE FURNISHED COMPLETE WITH INTERMEDIATE PORCELAIN RECEPTACLE, GLASS AND COMPLETEY WIRED AND PROPERLY INSTALLED.

(B) NINE (9) LANTERNS WILL BE REQUIRED LOCATED ON BALCONIES AND GALLERIES AS SHOWN ON ELEVATIONS, DRAWING NOS. 100 AND 101.

964. LOBBY LANTERNS.--LOBBY LANTERN ARE TO BE CONSTRUCTED ENTIRELY OF WROUGHT IRON AND BLACK HOT ROLLED SHEETS OF SUBSTANTIALLY PURE IRON AND SHALL BE CONSTRUCTED ACCORDING TO DETAIL. HANGER IS TO BE PROVIDED WITH MEANS FOR ATTACHING TO 3/8 INCH FIXTURE STUD.

965. METAL CORNERS AND OTHER SHEET METAL FRAME PARTS ARE TO BE OF NOT LESS THAN 20 GAUGE IRON; TOP, BOTTOM AND ORNAMENTAL PARTS ARE TO BE OF NOT LESS THAN 26 GAUGE IRON. BAND ORNAMENT IS TO BE EMBOSSED ACANTHUS LEAF ORNAMENT ON CANOPY IS TO BE HAND WROUGHT AND APPLIED. BOSS SHOWN TURNED MAY BE MADE OF SHEET METAL. ALL JOINTS SHALL BE WELDED.

(A) ONE PANEL IS TO BE HINGED FOR RELAMPING AND IS TO BE PROVIDED WITH SCREW CATCH.

(B) LANTERNS ARE TO BE FINISHED IN "VERDE ANTIQUE" AS SPECIFIED UNDER "PAINTING" FOR INTERIOR WROUGHT IRON.

(C) LANTERNS ARE TO BE FURNISHED COMPLETE WITH INTERMEDIATE BRASS LAMP RECEPTACLES PAINTED BLACK, GLASS, COMPLETELY WIRED AND PROPERLY INSTALLED. FIXTURES WIRE MAY BE EXPOSED, ENTERING LANTERN THROUGH BOSS AT BOTTOM OF RING.

966. TWENTY (20) LANTERNS WILL BE REQUIRED LOCATED AS FOLLOWS (SEE DRAWING PHE 451):

FIRST FLOOR

MAIN LOBBY - 12
LOBBY - 3
EAST LOBBY - 3

SECOND FLOOR

LOBBY STAIR - 1
CORRIDOR NO. 1 - 1

967. RECESSED LIGHTS IN NORTH AND SOUTH VESTIBULES.--RECESSED LIGHTS SHALL BE CONSTRUCTED AS DETAILED ON DRAWING NO. PHE 451. BOX FOR CONDUIT ATTACHMENT SHALL BE NOT LESS THAN NO. 14 U.S. GAUGE GALVANIZED STEEL AND BALANCE OF BOX NOT LESS THAN 22 GAUGE. BORDER ANGLES SHALL BE 3/4 INCH X 3/4 INCH X 1/8 INCH. REFLECTOR SHALL BE POLISHED NICKEL PLATED BRASS. GLASS SHALL BE SOLID OPAL OF THE SIZE INDICATED AND SHALL BE SET IN SHEET BRASS FRAME, HINGED IN PLACE AND FASTENED WITH A SCREW CATCH. FINISH OF EXPOSED PARTS SHALL BE "VERDE ANTIQUE" AS SPECIFIED UNDER "PAINTING" FOR INTERIOR WROUGHT IRON. RECEPTACLES SHALL BE BRASS, PROPERLY PLACED FOR LAMP SIZE SHOWN ON ELECTRICAL PLAN. RECESSED LIGHTS ARE TO BE FURNISHED COMPLETE AS DETAILED, COMPLETELY WIRED AND PROPERLY INSTALLED. SEE ALSO DRAWING NO. 200 FOR FURTHER DETAILS AS TO INSTALLATION.

(A) TWO (2) RECESSED LIGHTS WILL BE REQUIRED.

968. ILLUMINATED DIRECTIONAL SIGNS.--DIRECTIONAL SIGNS WITH PROPER DESIGNATIONS SHALL BE PROVIDED AT POINTS IN MAIN LOBBY SHOWN ON DRAWING NO. PHE 451. SIGNS SHALL BE OF THE BRACKET OR PROJECTING TYPE AND SHALL BE DOUBLE FACED.

969. THE COMPLETE SIGN SHALL CONSIST OF THE FRAME, SUPPORTING BRACKET OR HANGERS, LAMP SOCKETS, WIRING, WIRE TROUGH AND FACE PLATES

WITH INSCRIPTIONS AS DESIGNATED. INTERIORS SHALL BE COATED IN ALUMINUM OR WHITE ENAMEL. THE PLATES AND WIRING TROUGH SHALL BE HELD IN PLACE WITH SOFT METAL CLIPS ON SIMILAR MEANS THAT WILL PERMIT EASY REMOVAL FOR REPLACEMENT OR CHANGES.

970. THE EXPOSED METAL PARTS SHALL BE OF SHEET STEEL. STEEL SHALL BE NOT LIGHTER THAN NO. 20 U.S. STANDARD GAUGE, COLD ROLLED FURNITURE STOCK, PROPERLY ANNEALED, AND WITH SMOOTH CLEAN SURFACES. FINISH SHALL BE "VERDE ANTIQUE" AS SPECIFIED FOR INTERIOR IRON WORK UNDER "PAINTING".

971. INSCRIPTION PLATES SHALL CONSIST OF CLEAR PLATE GLASS WITH POLISHED EDGES OVER WHICH IS PLACED A METAL STENCIL CUT TO THE CHARACTERS REQUIRED. THE METAL SHALL BE AT LEAST 14 GAUGE AND SHALL BE HELD IN INTIMATE CONTACT WITH THE GLASS. THE INSCRIPTION SHALL BE SAND-BLASTED ON THE GLASS AND THE LIGHT SHALL BE DIFFUSED THROUGH THE TOP EDGE OF THE GLASS. A HEAT PROOF PAPER SHALL BE INSERTED BETWEEN THE GLASS SURFACES OF THE TWO FACES.

972. SIGNS SHALL HAVE INSCRIPTIONS AS DESIGNATED BY THE CONSTRUCTION ENGINEER. THEY SHALL BE PROPERLY INSTALLED AND CONNECTED TO THE WIRING SYSTEM.

973. SHOP DRAWINGS.--FULL SIZE SHOP DRAWINGS IN QUINTUPLE SHALL BE FURNISHED COMPLETE FOR ALL THESE FIXTURES AND NO WORK SHALL BE DONE UPON SAME UNTIL DESIGNS HAVE BEEN APPROVED BY THE ARCHITECT.

974. WORK NOT INCLUDED.--NO LAMPS ARE REQUIRED TO BE FURNISHED UNDER THIS CONTRACT. THE LAMP WILL BE FURNISHED BY THE GOVERNMENT AND INSTALLED BY THIS CONTRACTOR.

975-977. THE FURNISHING AND INSTALLING OF INTERIOR LIGHTING FIXTURES FOR ALL REMAINING OUTLETS WILL BE COVERED UNDER A SEPARATE CONTRACT.

MECHANICAL EQUIPMENT

978. THIS SECTION OF THE SPECIFICATION INCLUDES THE PLUMBING SANITARY AND ROOF DRAINAGE, HEATING APPARATUS AND CONDUIT AND WIRING SYSTEM.

979. KIND AND QUALITY OF MATERIAL.--ALL MATERIAL, APPLIANCES AND FIXTURES FURNISHED MUST BE IN STRICT ACCORDANCE WITH THE SPECIFICATION REQUIREMENTS IN EACH CASE AND OF THE BEST QUALITY AND GRADE.

980. ESPECIAL ATTENTION IS CALLED TO THE FACT THAT WITHIN 90 DAYS AFTER THE DATE OF RECEIPT OF NOTICE TO PROCEED, THE CONTRACTOR MUST SUBMIT FOR APPROVAL A COMPLETE LIST OF THE FOLLOWING MATERIAL THAT HE PROPOSES TO USE IN THE WORK (NO CONSIDERATION WILL BE GIVEN TO PARTIAL LISTS SUBMITTED FROM TIME TO TIME), GIVING THE NAME AND ADDRESS OF MANUFACTURER AND ALSO, WHEN SO REQUIRED FOR PROPER IDENTIFICATION, THE TRADE NAME OR CATALOGUE NUMBER:

MATERIAL	NAME OF MANUFACTURER	CATALOGUE NO. OR TRADE NAME
PLUMBING FIXTURES		
ELECTRIC WATER COOLERS & DRINKING FOUNTAIN		
INDIRECT WATER HEATER		
PRESSURE REDUCING VALVE ON WATER SUPPLY		
NONCONDUCTING COVERING FOR PLUMBING		
SUMP PUMP		
BRASS PIPE		
BOILER		
TUBE RADIATORS		
WALL RADIATORS		
CONCEALED RADIATORS		
NON-CONDUCTING COVERING FOR HEATING		
RADIATOR VALVES		
MECHANICAL TRAPS		
THERMOSTATIC TRAPS		
VACUUM PUMPS		
MAIN SWITCH		
LIGHTING DISTRIBUTION PANEL		
FEEDER PANEL		

MATERIAL	NAME OF MANUFACTURER	CATALOGUE NO. OR TRADE NAME
WIRE AND CABLE		
RECEPTACLES		
FLUSH SWITCHES		
CLOCK SYSTEM		
RUBBER COVERED WIRE (GIVE MAKE)		

981. IN THE EVENT THE CONTRACTOR FAILS TO COMPLY WITH ANY OF THE REQUIREMENTS OF THE PRECEDING PARAGRAPHS RELATIVE TO MATERIAL, APPLIANCES, AND FIXTURES, I.E.--

(1) FAILS TO SUBMIT FOR APPROVAL WITHIN 90 DAYS AFTER THE DATE OF RECEIPT OF NOTICE TO PROCEED, THE LIST OF MATERIAL, APPLIANCES, ETC., IN ACCORDANCE WITH THE ABOVE SCHEDULE:

(2) NAMES MATERIALS, APPLIANCES, ETC., NOT STRICTLY IN ACCORDANCE WITH SPECIFICATION REQUIREMENTS OR NOT OF THE BEST QUALITY AND GRADE:

(3) FAILS TO NAME A MANUFACTURER SATISFACTORY TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH WHO MAKES A COMPLETE LINE OF PLUMBING FIXTURES IN ACCORDANCE WITH THE SPECIFICATION -

THEN THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH RESERVES THE RIGHT TO SELECT A FULL LINE OF MATERIAL AND APPLIANCES, IN THE EVENT NONE ARE NAMED AT THE TIME STATED AND IN THE EVENT THOSE NAMED ARE NOT SATISFACTORY, THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH RESERVES THE RIGHT TO REJECT THE SAME AND TO SELECT THE MANUFACTURERS AND A FULL LINE OF MATERIAL AND APPLIANCES, WHICH SELECTION SHALL BE FINAL AND BINDING UPON THE CONTRACTOR, AND THE MATERIAL SELECTED OR APPROVED AS THE CASE MAY BE BY THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH MUST BE USED IN THE WORK.

982. THE PLUMBING FIXTURES MUST BE THE PRODUCT OF ONE MANUFACTURER AND (UNLESS OTHERWISE SPECIFIED) MUST BE IN STRICT ACCORDANCE WITH THE FEDERAL SPECIFICATION FOR PLUMBING FIXTURES, (FOR SHORE PURPOSES) WW-P-541, WHICH IS HEREIN REFERRED TO AND WHICH FORMS A PART OF THIS SPECIFICATION. THE TERM "MANUFACTURER" AS USED IN THIS PARAGRAPH IS TO BE UNDERSTOOD AS APPLYING TO THE COMPANY OF ESTABLISHED REPUTATION IN THE MANUFACTURE OF EARTHENWARE WHO ASSEMBLES THE PLUMBING OUTFITS FROM PRODUCTS OF THEIR OWN MANUFACTURE OR OTHERS AND ASSUMES THE RESPONSIBILITY FOR PRODUCTS IN SAID OUTFITS WHICH ARE NOT MANUFACTURED BY THEM.

983. INSPECTION AND TESTS.--NO SHOP OR FINAL INSPECTION OR TEST WILL BE MADE EXCEPT UPON FORMAL NOTICE TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH FROM THE CONTRACTOR BY LETTER OR TELEGRAM. WHERE SUCH NOTICE RELATES TO A "FINAL" INSPECTION IT SHALL BE SUBMITTED THROUGH THE CONSTRUCTION ENGINEER AT THE BUILDING. NOTICES OF READINESS FOR SHOP INSPECTION SHALL BE SUBMITTED TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH DIRECT. NO CONSIDERATION WILL BE GIVEN TO NOTICES

FROM SUBCONTRACTORS. SHOULD ANY INSPECTION OR TEST NOT BE BEGUN, THROUGH NO FAULT OF THE CONTRACTOR, WITHIN 10 DAYS OF RECEIPT OF NOTICE BY THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, ALLOWANCE WILL BE MADE AS PROVIDED BY THE CONTRACT.

984. THE CONTRACTOR MUST FURNISH ALL NECESSARY LABOR, FUEL AND APPLIANCES (SUCH AS SMOKE MACHINE, MERCURY GAUGE, AIR PUMP, BOILER MAKERS' FORCE PUMP FOR BOILER TEST, ETC.) FOR THE TESTS AND MUST MEET ALL EXPENSES OF SAID TESTS, EXCEPT THOSE OF THE DEPARTMENT'S INSPECTOR, WHEN HIS CASE DOES NOT COME UNDER THE PROVISION OF THE FOLLOWING PARAGRAPH.

985. SHOULD INSPECTION OR TEST BE DELAYED UPON ARRIVAL OF THE INSPECTOR OR REQUIRE REPETITION FOR ANY REASON FOR WHICH THE CONTRACTOR IS RESPONSIBLE, THE COST OF DELAYED OR SUBSEQUENT INSPECTIONS AND TESTS, INCLUDING SALARY OF THE INSPECTOR AND HIS TRAVELING AND OTHER EXPENSES, SHALL BE AT THE EXPENSE OF THE CONTRACTOR AND BE DEDUCTED FROM ANY MONEY DUE HIM UPON THE CONTRACT.

986. UPON COMPLETION OF THE PLUMBING, GAS PIPING, ELECTRIC CONDUIT AND WIRING SYSTEMS, AND HEATING APPARATUS. THE CONTRACTOR SHALL GIVE WRITTEN NOTICE TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH THROUGH THE CONSTRUCTION ENGINEER OF HIS READINESS FOR INSPECTION AND TESTS SPECIFIED TO BE MADE BY THE INSPECTOR DETAILED BY THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH.

987. IF THESE TESTS SHOW THAT THE WORK IS IN ANY WAY DEFECTIVE OR AT VARIANCE WITH THE SPECIFICATION REQUIREMENTS THE CONTRACTOR MUST IMMEDIATELY MAKE ALL CHANGES NECESSARY TO CORRECT THE SAME AND REMEDY ALL DEFECTS TO THE SATISFACTION OF THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH. IN THE EVENT THE CONTRACTOR DOES NOT WITHIN A REASONABLE TIME REMEDY ALL DEFECTS AND MAKE ALL CHANGES DEMANDED BY THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH TO COMPLETE THE WORK SATISFACTORILY THE RIGHT IS RESERVED TO HAVE DEFECTS REMEDIED OR CHANGES MADE AND TO CHARGE THE COST OF SAME AGAINST THE ACCOUNT OF THE CONTRACTOR.

988. PIPING, HANGERS, ETC., GENERALLY.--ALL PIPING CONDUITS, ETC., EXCEPT ELECTRIC CONDUITS RUN IN FLOOR CONSTRUCTION OR ROOF SPACE, SHALL BE RUN PARALLEL WITH THE LINES OF THE BUILDING UNLESS OTHERWISE DIRECTLY SHOWN OR NOTED ON DRAWINGS. SUCH SERVICE PIPES AS ARE PRACTICABLE, EXCEPT STEAM PIPES, SHALL BE PLACED AT SAME ELEVATION AND HUNG ON MULTIPLE HANGERS. ELECTRIC CONDUITS SHALL NOT BE HUNG ON HANGERS WITH ANY OTHER SERVICE, AND SO FAR AS POSSIBLE, SHALL BE HUNG ABOVE ALL OTHER SERVICE PIPES. BRANCH PIPES FROM SUCH SERVICE LINES SHALL BE TAKEN OFF TOP OF MAIN, BOTTOM OF MAIN, OR SIDE OF MAIN, USING CROSSOVER FITTINGS, AS MAY BE REQUIRED BY STRUCTURAL AND OPERATING CONDITIONS. ALL THE DIFFERENT SERVICE PIPES, VALVES, FITTINGS, ETC., SHALL BE KEPT A SUFFICIENT DISTANCE FROM OTHER WORK TO PERMIT FINISHED COVERING NOT LESS THAN 1/2 INCH FROM SUCH OTHER WORK AND LESS THAN 1/2 INCH BETWEEN FINISHED COVERINGS ON THE DIFFERENT SERVICES. ALL HANGERS MUST BE SPACED NOT MORE THAN 10 FEET APART ON ALL SERVICES, AND THOSE ON DIFFERENT SERVICE LINES RUNNING PARALLEL WITH EACH OTHER AND NEAR TOGETHER MUST BE IN LINE WITH EACH OTHER AND PARALLEL TO THE LINES OF THE BUILDING. ALL FINISHED BRASS PIPING RUN ON FACE OF MARBLE, SLATE, OR PLASTER SHALL BE SET WITH NOT LESS THAN 3/4 INCH NOR MORE THAN ONE INCH CLEAR SPACE BETWEEN BACK OF PIPE AND FACE OF MARBLE, SLATE, OR PLASTER.

989. APPLICATION OF NON-CONDUCTING COVERINGS.--THE CONTRACTOR MAY INSTALL THE NON-CONDUCTING COVERINGS AT ANY TIME HE DESIRES; BUT IF THE COVERINGS ARE INSTALLED BEFORE THE PIPING, ETC., HAS BEEN TESTED AND APPROVED AND DEFECTS DEVELOP AT OR BEFORE THE TIME OF INSPECTION AND TESTS, THE COVERINGS MUST BE REMOVED, DEFECTS CORRECTED AND COVERINGS SATISFACTORILY REINSTALLED WITHOUT EXPENSE TO THE GOVERNMENT.

990. JOINTING AND CONNECTIONS.--ALL JOINTS IN PIPING AND CONNECTIONS TO FIXTURES SHALL BE MADE AS SPECIFIED FOR PIPE OR FIXTURE IN QUESTION. NO THREADS SHALL BE EXPOSED ON FINISHED BRASS WASTE PIPE.

991. GUARANTIES.--ALL WORK UNDER THE MECHANICAL EQUIPMENT SECTION OF THIS SPECIFICATION SHALL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF FINAL SETTLEMENT UNDER THIS CONTRACT AND ANY SPECIAL GUARANTIES SUBSEQUENTLY MENTIONED IN THE SPECIFICATION SHALL BE SUBJECT TO THE TERMS OF THIS PARAGRAPH, UNLESS OTHERWISE EXPRESSLY AGREED IN WRITING BY THE PARTIES HERETO. WHEREVER WORK, REPAIRS OR CHANGES ARE REQUIRED UNDER ANY GUARANTY, REQUIRED BY THIS CONTRACT, THIS CONTRACTOR, WHENEVER NOTIFIED BY THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH WHOSE DECISION IN ALL CASES SHALL BE FINAL, MUST IMMEDIATELY (1) PLACE IN SATISFACTORY CONDITION IN EVERY PARTICULAR ANY OF SUCH GUARANTEED WORK, AND (2) MAKE GOOD ALL DAMAGE TO THE BUILDING OR GROUNDS, OR THE EQUIPMENT OR CONTENTS THEREOF, IF SUCH UNSATISFACTORY CONDITION OR DAMAGE DEVELOPS WITHIN THE PERIOD STIPULATED BY THE GUARANTY AND IS DUE TO THE USE OF MATERIALS OR WORKMANSHIP WHICH IS INFERIOR, DEFECTIVE, OR NOT IN ACCORDANCE WITH THIS CONTRACT, AND MUST MAKE GOOD ANY WORK OR MATERIALS, OR THE EQUIPMENT AND CONTENTS OF SAID BUILDING OR GROUNDS, WHICH IS DISTURBED IN FULFILLING ANY SUCH GUARANTY. IN ANY CASE WHERE, IN FULFILLING THE REQUIREMENTS OF THIS CONTRACT OR OF ANY GUARANTY, EMBRACED IN OR REQUIRED THEREBY, THIS CONTRACTOR DISTURBS ANY WORK GUARANTEED UNDER ANOTHER CONTRACT, HE MUST RESTORE SUCH DISTURBED WORK TO A CONDITION SATISFACTORY TO THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH AND GUARANTEE SUCH RESTORED WORK TO THE SAME EXTENT AS IT WAS GUARANTEED UNDER SUCH OTHER CONTRACTS. UPON THE CONTRACTOR'S FAILURE SO TO PROCEED PROMPTLY TO COMPLY WITH THE TERMS OF ANY GUARANTY UNDER THIS CONTRACT OR STILL RUNNING UPON WORK ORIGINALLY EXECUTED BY OTHER CONTRACTORS, THE UNITED STATES, ACTING THROUGH ITS DULY AUTHORIZED REPRESENTATIVES, MAY (1) EITHER HAVE SUCH WORK PERFORMED AS THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH DEEMS NECESSARY TO FULFILL SUCH GUARANTIES OR (2) ALLOW SUCH DAMAGED OR DEFECTIVE WORK OR PORTION OF THE BUILDING OR GROUNDS OR CONTENTS OR EQUIPMENT OF THE BUILDING, OR WORK DISTURBED IN FULFILLING GUARANTIES, OR GUARANTEED WORK, WHICH SHOWS SUCH A CONDITION AS TO MAKE ANY SUCH GUARANTY OPERATIVE, TO REMAIN IN SUCH UNSATISFACTORY CONDITION: PROVIDED THAT IN EITHER EVENT THE CONTRACTOR SHALL PROMPTLY PAY TO THE UNITED STATES SUCH SUMS AS WERE (IN THE FIRST INSTANCE) EXPENDED SO TO FULFILL SUCH GUARANTY, OR AS IT WOULD HAVE BEEN (IN THE SECOND INSTANCE) NECESSARY TO EXPEND TO FULFILL SUCH GUARANTY. USUAL WEAR AND TEAR AND THE RESULTS OF ACCIDENTS NOT CHARGEABLE TO THE CONTRACTOR OR HIS AGENTS ARE EXPECTED FROM THE REQUIREMENTS OF THIS PARAGRAPH. EVERYTHING DONE IN THE FULFILLMENT OF ANY GUARANTY MUST BE WITHOUT ADDITIONAL EXPENSE TO THE UNITED STATES.

992. FACTORY TEST OF PIPING.--FACTORY TEST OF PIPING SPECIFIED IN THE FEDERAL SPECIFICATIONS HEREINAFTER REFERRED TO, ARE HEREBY WAIVED AND CERTIFICATE THAT THE PIPE HAS WITHSTOOD THE TESTS WILL NOT BE REQUIRED.

993. INSERTS.--INSERTS FOR SECURING PIPE HANGERS, ETC., TO CONCRETE FLOOR CONSTRUCTION SHALL BE OF CAST IRON OR STEEL AND MUST BE OF A DESIGN WHICH WILL PERMIT USE OF THE FULL STRENGTH OF THE BOLT. THEY MUST PERMIT ADJUSTMENT OF BOLT IN ONE DIRECTION AND MUST ALSO PERMIT REMOVAL OR INSERTION OF BOLT OR NUT AFTER INSTALLATION OF THE INSERT.

994. MOTORS, GENERALLY.--ALL MOTORS ARE TO BE OF THE INDUCTION TYPE WITH ROTATING SECONDARIES. THEY ARE TO BE SINGLE OR TWO SPEED SQUIRREL CAGE, OR SLIP RING/TYPE AS SPECIFIED UNDER THE RESPECTIVE MOTORS. IF NOT SPECIFIED OTHERWISE, MOTORS WITH SINGLE SPEED SQUIRREL CAGE ROTORS ARE TO BE FURNISHED. TWO SPEED MOTORS MUST HAVE TWO SEPARATELY WOUND AND INSULATED WINDINGS. UNLESS OTHERWISE HEREINAFTER SPECIFIED, MOTORS ARE TO BE WOUND FOR 230 VOLTS 3 PHASE 60 CYCLE ALTERNATING CURRENT, EXCEPT MOTORS CONNECTED TO THE LIGHTING SYSTEM ARE TO BE WOUND FOR 115 VOLTS, SINGLE PHASE, 60 CYCLE ALTERNATING CURRENT. ALL MOTORS MUST BE CAPABLE OF CONTINUOUS OPERATION AT FULL CAPACITY WITH A RISE OF TEMPERATURE NOT EXCEEDING 40 DEGREES CENTIGRADE (40 DEGREES CENTIGRADE) ON OPEN MOTORS AND NOT OVER 55 DEGREES CENTIGRADE (55 DEGREES CENTIGRADE) FOR FULLY ENCLOSED MOTOR.

995. ALL MOTORS MUST HAVE SUFFICIENT CAPACITY TO START AND OPERATE THE MACHINE OR APPARATUS IT DRIVES AT ANY SPEED SPECIFIED.

996. ALL SQUIRREL CAGE MOTORS MUST BE SUITABLE FOR ACROSS THE LINE STARTING ON ALL SPEEDS.

997. MOTORS MUST BE OF STANDARD GENERAL PURPOSE TYPE UNLESS OTHERWISE SPECIFIED. THE DESIGN OF FRAMES, END BRACKETS, ETC., MUST BE SUCH AS TO INSURE PERFECT ALIGNMENT OF BEARINGS AND TO MINIMIZE VIBRATION. THE BEARINGS MUST BE OF AMPLE SIZE, WITH SUITABLE CONTINUOUS, AUTOMATIC OILING DEVICES. BEARINGS AND OIL RESERVOIRS MUST BE DESIGNED SO AS TO BE VIRTUALLY DUST TIGHT. THE OILING ARRANGEMENT MUST BE SUCH AS TO MINIMIZE THE POSSIBILITY OF OIL GETTING INTO THE MOTOR. BELT OR CHAIN CONNECTED MOTORS MUST HAVE ADJUSTABLE BASES.

998. THE INSULATION RESISTANCE BETWEEN STATOR CONDUCTORS AND FRAMES OF MOTORS MUST BE NOT LESS THAN 1 MEGOHM AND THE INSULATION OF STATORS MUST BE CAPABLE OF WITHSTANDING A BREAK-DOWN TEST OF TWICE THE NORMAL VOLTAGE PLUS 1000 VOLTS ALTERNATING CURRENT FOR 1 MINUTE. SQUIRREL CAGE ROTORS MUST HAVE THE BARS PERMANENTLY CONNECTED TO THE END RINGS. ALL DETAILS OF CONSTRUCTION OR PERFORMANCE NOT DEFINITELY SPECIFIED SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS OF THE A. I. E. E. AND N. E. M. A.

999. MOTORS ARE TO BE PRIMED AND PAINTED AT LEAST ONE COAT AT SHOP. AFTER INSTALLATION THEY ARE TO BE PAINTED AS HEREINAFTER SPECIFIED TO MATCH THE DRIVEN MACHINES.

1000. NO SHOP TESTS OF MOTORS WILL BE REQUIRED BUT THE HEATING EFFECT, INSULATION RESISTANCE AND GENERAL OPERATING CHARACTERISTICS WILL BE DETERMINED AT THE BUILDING AT TIME OF FINAL INSPECTION.

1001. MOTOR STARTERS, GENERALLY.--EACH MOTOR MUST BE PROVIDED WITH A FULLY ENCLOSED MOTOR STARTER OF PROPER DESIGN TO MEET THE SPECIAL REQUIREMENTS OF THE MOTOR. WHEN STARTING RESISTANCES ARE A PART OF THE APPARATUS THE CASES ENCLOSING SAME MUST BE PROPERLY VENTILATED.

1002. STARTERS ARE TO BE ARRANGED FOR FLOOR OR WALL MOUNTING AS REQUIRED BY THE LOCATIONS OF STARTERS AND MUST BE COMPLETE WITH ALL NECESSARY FRAMES, ANGLE OR PIPE LEG SUPPORTS, ETC. ALL ENCLOSING CASES ARE TO BE OF CAST IRON OR STEEL WITH SUITABLE HINGED DOORS ARRANGED FOR PADLOCKING. CONTROLLERS MUST BE OF A DESIGN WHICH WILL ALLOW EASY ACCESS TO CONNECTIONS, ETC., FOR REPLACEMENT OR REPAIR.

1003. IN CONNECTION WITH EACH STARTER AND MOUNTED WITH, OR ADJACENT TO SAME, FURNISH AND INSTALL A FULLY ENCLOSED, EXTERNALLY OPERATED, MAIN LINE, FUSED SAFETY SWITCH OR AN AIR CIRCUIT BREAKER OF PROPER CAPACITY. SWITCHES OR CIRCUIT-BREAKERS MUST HAVE A SEPARATE POLE OR BLADE FOR EACH MAIN WIRE.

1004. EXCEPT FOR SMALL SINGLE PHASE MOTORS, STARTERS MUST PROVIDE OVERLOAD AND UNDERVOLTAGE PROTECTION. STARTERS MUST BE EQUIPPED WITH SUITABLE RESET DEVICES FOR RESETTING SAME SHOULD SAFETY DEVICES OPERATE.

1005. IN GENERAL, AND UNLESS OTHERWISE HEREINAFTER SPECIFIED, ALL MOTOR STARTERS ARE TO BE OF THE MAGNETICALLY OPERATED TYPE CONTROLLED BY PUSH BUTTONS, FLOAT SWITCHES, PRESSURE SWITCHES, THERMOSTATS, ETC., AS REQUIRED BY THE PARTICULAR SERVICE. MANUALLY OPERATED STARTERS ARE TO BE USED ONLY WHERE HEREINAFTER SPECIFICALLY CALLED FOR.

1006. IN GENERAL, ALL MOTORS OVER FIVE HORSEPOWER ARE TO BE PROVIDED WITH REDUCED VOLTAGE STARTING EQUIPMENT WITH TIME LIMIT ACCELERATION. UNLESS OTHERWISE HEREINAFTER SPECIFIED, PRIMARY RESISTANCE TYPE STARTERS FOR SQUIRREL CAGE MOTORS AND SECONDARY RESISTANCE TYPE STARTERS FOR SLIP RING MOTORS WILL BE ACCEPTABLE AS REDUCED VOLTAGE STARTERS.

1007. WHERE THE LOCAL ELECTRIC COMPANY PERMITS, SQUIRREL CAGE MOTORS NOT OVER 30 HORSEPOWER DRIVING ROTATING MACHINES, SUCH AS FANS, CENTRIFUGAL PUMPS, ETC., MAY HAVE FULL VOLTAGE STARTING EQUIPMENT PROVIDED THAT IN ALL CASES WHERE IT IS PROPOSED TO USE FULL VOLTAGE STARTING EQUIPMENT FOR MOTORS OVER 5 HORSEPOWER, THE CONTRACTOR MUST FURNISH THE ASSISTANT DIRECTOR, PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, THROUGH THE CONSTRUCTION ENGINEER, WITH A STATEMENT SIGNED BY A RESPONSIBLE OFFICIAL OF THE ELECTRIC COMPANY THAT THE USE OF SUCH MOTORS WILL BE PERMITTED. FULL VOLTAGE STARTING EQUIPMENT WILL NOT BE CONSIDERED FOR MOTORS OVER 5 HORSEPOWER DRIVING RECIPROCATING MACHINES SUCH AS COMPRESSORS, RECIPROCATING PUMPS, ETC.

1008. ALL MOTORS 5 HORSEPOWER AND UNDER ARE TO HAVE FULL VOLTAGE STARTING EQUIPMENT.

1009. IN ALL CASES, WHERE PILOT DEVICES CONTROLLING MOTORS ARE OF PROPER CAPACITY, THEY MAY BE USED TO CONNECT THE MOTOR DIRECTLY TO THE LINE.

1010. SPEED CONTROL MUST BE PROVIDED ON CONNECTION WITH STARTERS WHEREVER HEREINAFTER SPECIFIED.

1011. STARTERS AND PUSH BUTTONS ARE TO BE LOCATED WHERE SHOWN OR WHERE NOT SHOWN, IN A POSITION WHERE THE MOTOR WILL BE VISIBLE FROM ITS STARTER AND PUSH BUTTONS.

1012. CONNECTIONS, ETC., GENERALLY.--ELECTRIC FEEDERS WILL BE BROUGHT TO POINTS NEAR EACH MACHINE UNDER THE CONDUIT AND WIRING SECTION OF THIS SPECIFICATION. ALL ELECTRICAL CONNECTIONS FROM ENDS OF FEEDERS (OR MAIN SWITCH WHERE SAME ARE PROVIDED UNDER CONDUIT AND WIRING) TO STARTERS, MOTORS, PUSH BUTTONS, ETC., MUST BE MADE COMPLETE BY THIS CONTRACTOR.

1013. ALL WIRES GENERALLY ARE TO BE RUN IN RIGID STEEL CONDUITS TERMINATING IN APPROVED CONDUIT FITTINGS, OR IN FLEXIBLE STEEL CONDUIT. WIRES ARE TO BE RUBBER COVERED AND MUST BE OF SUCH SIZE THAT THE MAXIMUM CURRENT CARRIED WILL NOT EXCEED THE LIMITS PRESCRIBED BY THE NATIONAL ELECTRICAL CODE. NO WIRE EXCEPT TO PUSH BUTTONS WHERE NO. 14 MAY BE USED, ARE TO BE SMALLER THAN NO. 12. WIRES NO. 8 AND LARGER MUST BE STRANDED.

1014. ALL MATERIALS AND WORKMANSHIP ARE TO BE FIRST CLASS IN EVERY RESPECT AND IN ACCORDANCE WITH THE CONDUIT AND WIRING SECTION OF THIS SPECIFICATION. WIRING MUST HAVE AN INSULATION RESISTANCE OF AT LEAST ONE MEGOHM AND MUST BE FREE FROM SHORT CIRCUITS AND GROUNDS.

PLUMBING

1015. SCOPE OF WORK.--THIS PORTION OF THE SPECIFICATION INCLUDES THE INSTALLATION COMPLETE, OF THE PLUMBING, SANITARY, AND ROOF DRAINAGE.

1016. REFERENCES IN THIS SECTION OF THE SPECIFICATION TO PAGES, PARAGRAPHS, FIGURES, ETC., MEAN PAGES, PARAGRAPHS, FIGURES, ETC., IN THE FEDERAL SPECIFICATION FOR PLUMBING FIXTURES NO. WW-P-541, WHICH REFERENCES FORM A PART OF THIS SPECIFICATION AND A COPY OF WHICH MAY BE SECURED ON APPLICATION TO THE ASSISTANT DIRECTOR OF PROCUREMENT, PUBLIC WORKS BRANCH.

1017. CAST IRON SOIL PIPE, FITTINGS AND CONNECTIONS.--ALL SOIL, WASTE, VENT AND DRAIN PIPING IN THE BUILDING BELOW BASEMENT FLOOR OR GROUND AND OUTSIDE OF BUILDING BELOW GROUND, INCLUDING THE MAIN CONNECTION FROM THE BUILDING TO THE CITY SEWER, SHALL BE EXTRA HEAVY CAST IRON SOIL PIPE AND FITTINGS IN ACCORDANCE WITH FEDERAL SPECIFICATION No. WW-P-401, EXCEPT SUCH PIPE AS IS HEREINAFTER SPECIFIED TO BE CLAY SEWER PIPE. EITHER COATED OR UNCOATED PIPE MAY BE USED. (PIPE AND FITTINGS WITH OR WITHOUT THE LEAD GROOVE WILL BE ACCEPTABLE). PIPES LARGER THAN 8 INCHES DIAMETER SHALL BE EXTRA HEAVY OF WEIGHT CORRESPONDING TO THOSE FOR SMALLER SIZES GIVEN IN THE FEDERAL SPECIFICATION No. WW-P-401.

1018. ALL CHANGES IN PIPE SIZE ON SOIL, WASTE, AND DRAIN LINES SHALL BE MADE WITH REDUCING FITTINGS OR RECESSED REDUCERS. Y-FITTINGS AND 1/8 OR 1/16 BENDS OR COMBINATION Y AND 1/8 BENDS SHALL BE USED WHERE POSSIBLE.

1019. SANITARY LONG-SWEEP BENDS AND TEES MAY BE USED FOR CONNECTIONS OF BRANCH LINES TO FIXTURES AND ON VERTICAL RUNS OF PIPE.

1020. JOINTS BETWEEN CAST-IRON PIPE SHALL BE MADE WITH A PICKED OAKUM GASKET AND PIG LEAD; JOINT SHALL BE RUN FULL AT ONE POURING AND CAULKED SOLID, FLUSH WITH THE HUB.

1021. JOINTS BETWEEN CAST-IRON PIPE AND WROUGHT-IRON, STEEL OR BRASS PIPES SHALL BE MADE SAME AS ABOVE, THE END OF SCREW JOINTED PIPE SHALL HAVE A RING OR PART OF A COUPLING SCREWED ON TO FORM A SPIGOT END.

1022. CONNECTIONS BETWEEN LEAD AND WROUGHT STEEL OR CAST-IRON PIPE SHALL BE MADE WITH BRASS FITTINGS AND WIPED JOINTS.

1023. JOINTS BETWEEN CAST-IRON AND VITRIFIED-CLAY PIPE SHALL BE MADE WITH PICKED OAKUM GASKET AND PORTLAND-CEMENT MORTAR MIXED IN PROPORTION 1 PART CEMENT AND 1 PART CLEAN, SHARP SAND, FILLED FULL DEPTH AND TROWELED TO A SMOOTH BEVEL AROUND SOCKET OF PIPE.

1024. IN LIEU OF EXTRA HEAVY CAST-IRON PIPE, THE SEWER BETWEEN THE LOT LINE AND THE CITY SEWER MAY BE CLAY SEWER PIPE, IF THE CONTRACTOR ELECTS AND PROVIDED

THE CITY REGULATIONS PERMIT. IF CLAY SEWER PIPE IS USED IT SHALL BE LAID IN THE MANNER DICTATED BY THE CITY.

1025. CLAY SEWER PIPE, FITTINGS AND CONNECTIONS.-- ONLY PIPE SO NOTED ON DRAWINGS OR SPECIFIED ABOVE SHALL BE CLAY PIPE AND ALL SUCH PIPE SHALL BE IN ACCORDANCE WITH FEDERAL SPECIFICATION No. SS-P-361. EITHER STANDARD SOCKET OR DEEP AND WIDE SOCKET PIPE WILL BE ACCEPTABLE.

1026. Y-FITTINGS AND 1/8 OR 1/16 BENDS SHALL BE USED WHERE POSSIBLE.

1027. JOINTS BETWEEN VITRIFIED CLAY PIPE SHALL BE MADE WITH PICKED OAKUM GASKET AND CEMENT MORTAR MIXED IN PROPORTION OF 1 PART PORTLAND CEMENT AND 1 PART CLEAN SHARP SAND, FILLED FULL DEPTH AND TROWELED TO A SMOOTH BEVEL AROUND SOCKET OR PIPE; EACH LENGTH OF PIPE AFTER BEING FIRMLY SET IN PLACE SHALL BE MOPPED OUT IN ORDER THAT NO MORTAR WILL BE LEFT IN PIPE. EACH JOINT SHALL BE OF UNIFORM THICKNESS AT ALL POINTS.

1028. WHEN MANHOLES ARE PLACED ON CLAY SEWERS, THERE SHALL BE NOT LESS THAN 5 FEET OF EXTRA HEAVY CAST-IRON PIPE ON EACH SIDE OF MANHOLE. ON THE INLET SIDE OF MANHOLE THE IRON PIPE SHALL BE ONE SIZE LARGER THAN THE CLAY PIPE, SO THAT THE CAST-IRON HUB MAY RECEIVE THE END OF THE CLAY PIPE. BOTTOM OF TRENCHES SHALL BE CUT TRUE TO GRADE WITH SOCKET HOLES PROPERLY CUT. CLAY PIPE WILL NOT BE TESTED BUT MUST NOT BE COVERED UNTIL INSPECTED AND APPROVED BY THE CONSTRUCTION ENGINEER.

1029. EXCAVATION AND BACKFILLING OF TRENCHES.--ALL TRENCHES MUST BE EXCAVATED WITH BOTTOMS TO THE PROPER GRADE SO THAT PIPES WILL HAVE A SOLID BEARING AND MUST BE BACKFILLLED IN A MANNER TO SECURE A STABLE SURFACE, AND APPROVED BY THE CONSTRUCTION ENGINEER. ALL SURFACES OUTSIDE LOT LINE SHALL BE RESTORED AS REQUIRED BY THE LOCAL AUTHORITIES.

1030. WROUGHT IRON, STEEL OR THREADED CAST IRON SOIL, WASTE, DRAIN AND VENT PIPE.--ALL INTERIOR DOWNSPOUTS AND INTERIOR ROOF DRAINAGE PIPING ABOVE THE BASEMENT FLOOR OR GROUND SHALL BE GALVANIZED WROUGHT IRON IN ACCORDANCE WITH FEDERAL SPECIFICATION No. WW-P-441. ALL OTHER SOIL, WASTE AND DRAIN PIPES ABOVE THE BASEMENT FLOOR OR GROUND (EXCEPT THE PORTIONS HEREINAFTER SPECIFIED TO BE BRASS) SHALL BE GALVANIZED STEEL IN ACCORDANCE WITH FEDERAL SPECIFICATION No. WW-P-403. ALL VENT PIPES SHALL BE THREADED CAST IRON PIPE.

1031. CAST IRON THREADED PIPE SHALL HAVE THE SAME OUTSIDE DIAMETER AS WROUGHT STEEL PIPE, AND MINIMUM WALL THICKNESS AS SCHEDULED BELOW:

PIPE DIAMETER	WALL THICKNESS	PIPE DIAMETER	WALL THICKNESS
1-1/2 INCHES	.200 INCHES	5 INCHES	.344 INCHES
2 "	.218 "	6 "	.401 "
2-1/2 "	.245 "	8 "	.450 "
3 "	.269 "	10 "	.450 "
4 "	.306 "		

1032. THREADS SHALL BE THE AMERICAN STANDARD TAPER PIPE THREADS DESIGNATED AS ASA B-2. MAKE-UP OF 1-1/2 INCHES AMD 2 INCHES DIAMETERS TO PERMIT EXPOSURE OF NOT MORE THAN FOUR AND A HALF (4-1/2) THREADS; 2-1/2 INCHES, 3 AND 4 INCH DIAMETERS, 4 THREADS EXPOSED; 5 AND 6 INCH DIAMETERS, 5 THREADS EXPOSED; 8 AND 10 INCH DIAMETERS, 6 THREADS EXPOSED.

1033. ALL PIPE MUST BE MADE UP SO THAT EIGHT FULL THREADS OF THE PIPE ARE IN MESH WITH THE SAME NUMBER OF THREADS IN THE FITTING. ALL THREADS SHALL BE IN ACCORDANCE WITH STANDARD THREAD FOR PIPE AS GIVEN IN THE FEDERAL SPECIFICATION FOR PIPE THREADS GGG-P-351.

1034. THE IRON SHALL BE MELTED BY THE CUPOLA PROCESS -- BY AIR FURNACE, ELECTRIC FURNACE OR OTHER APPROVED METHOD, UNDER REGULAR CHEMICAL AND PHYSICAL CONTROL. IT SHALLBE HIGH TEST CAST IRON WITHOUT ANY SAND IN THE SURFACE AND SHALL BE DENSE AND CLOSE GRAINED, AND SHALL NOT BE HARD, BRITTLE, OR DIFFICULT TO CUT, THREAD OR MACHINE. AS PROVEN BY TEST SPECIMENS, THE IRON SHALL HAVE A TRANSVERSE STRENGTH OF NOT LESS THAN 2000 POUNDS PER SQUARE INCH.

1035. CAST IRON THREADED PIPE SHALL BE OF SUCH STRUCTURE AS TO BE CUT AND THREADED AT ANY POINT WITHIN THE LENGTH OF THE UNIT BY STANDARD HAND OR POWER TOOLS, AND ALL THREAD SHALL BE SHARP WITH SMOOTH STRAIGHT SIDES.

1036. CAST IRON THREADED PIPE MAY BE FURNISHED IN 5 FOOT OR 6 FOOT UNITS, OR IN MULTIPLES THEREOF, WITH THREADED ENDS FOR SCREWED FITTINGS. ALL UNITS SHALL BE TESTED AT THE MANUFACTURERS' WORKS TO A HYDROSTATIC PRESSURE OF 300 POUNDS PER SQUARE INCH.

1037. FITTINGS, ETC., FOR THREADED SOIL, WASTE AND DRAIN PIPING.--FITTINGS, INCLUDING COUPLINGS, FOR SOIL, WASTE AND ROOF DRAINAGE PIPING ABOVE THE BASEMENT FLOOR OR GROUND SHALL BE CAST IRON, RECESSED AND BANDED, SCREW-JOINTED DRAINAGE FITTINGS, FREE FROM FINS AND BURRS. LONG TURN FITTINGS SHALL BE USED WHERE SPACE AND OTHER CONDITIONS PERMIT, AND THE CONSENT OF THE GOVERNMENT REPRESENTATIVE SHALL BE OBTAINED BEFORE ANY SHORT RADIUS FITTINGS ARE INSTALLED. FITTINGS ON SOIL, WASTE, AND ROOF DRAINAGE PIPING MAY BE GALVANIZED OR PLAIN, UNCOATED. WROUGHT IRON OR STEEL COUPLINGS WILL NOT BE PERMITTED.

1038. FITTINGS AND COUPLINGS, ON VENT PIPES MAY BE AS ABOVE SPECIFIED FOR SOIL AND WASTE PIPING OR MAY BE CAST IRON OR MALLEABLE IRON AS DESIRED BY CONTRACTOR. CAST IRON FITTINGS, IF USED, SHALL BE TYPE A IN ACCORDANCE WITH FEDERAL SPECIFICATION NO. WW-P-501, EITHER BLACK OR GALVANIZED. MALLEABLE IRON FITTINGS, IF USED, SHALL BE IN ACCORDANCE WITH FEDERAL SPECIFICATION NO. WW-P-521 AND MUST BE GALVANIZED.

1039. WHERE VENT PIPES CONNECT TOGETHER IN CHASES OR OTHER RESTRICTED LOCATIONS, SPECIAL UPRIGHT "Y" BRANCHES MAY BE USED.

1040. CHANGES IN SIZES OF SOIL, WASTE AND DRAIN PIPE SHALL BE MADE WITH REDUCING FITTINGS OR TAPERED INCREASES NOT LESS THAN 9 INCHES LONG.

1041. CHANGES IN PIPE SIZES ON VENT PIPES SHALL BE MADE WITH REDUCING FITTINGS OR FITTINGS BUSHED IN THE SAND.

1042. JOINTS BETWEEN BRASS PIPES AND WROUGHT IRON, STEEL OR CAST IRON THREADED PIPES SHALL BE SCREW JOINTS. ENDS OF ALL PIPE SHALL BE REAMED OUT BEFORE BEING MADE UP INTO FITTINGS.

1043. SCREW JOINTS SHALL BE MADE WITH A LUBRICANT APPLIED ON THE MALE THREAD ONLY; THREADS SHALL BE FULL CUT AND NOT MORE THAN THREE THREADS ON THE PIPE SHALL REMAIN EXPOSED. SCREW JOINTS SHALL BE MADE METAL TO METAL AND THE CAULKING OF SCREW JOINTS TO STOP OR PREVENT LEAKS WILL NOT BE PERMITTED.

1044. THE USE OF LONG SCREWS AND BUSHINGS (EXCEPT BUSHINGS CAST IN THE SAND FOR VENT PIPES) IS PROHIBITED.

1045. WHERE A UNION CONNECTION IS SHOWN OR SPECIFIED ON ANY PIPE 2 INCHES IN DIAMETER OR SMALLER, SAME SHALL BE HEAVY PATTERN ALL BRASS, WITH GROUND JOINT AND BOTH SCREW ENDS HEXAGONAL OR OCTAGONAL. WHERE NOT SHOWN NOR SPECIFIED, BUT REQUIRED FOR ERECTION PURPOSES, RIGHT AND LEFT COUPLINGS MAY BE USED.

1046. WHERE A UNION CONNECTION IS USED ON SOIL, WASTE, VENT, OR DRAIN PIPING 2-1/2 INCHES IN DIAMETER OR LARGER, A TUCKER CONNECTION OR FLANGE UNION SHALL BE USED. GASKETS ON FLANGE UNIONS SHALL BE BEST QUALITY RUBBER GASKET 1/16 INCH THICK.

1047. SOIL, WASTE, VENT AND DRAIN PIPING.--SOIL, WASTE, VENT AND DRAIN PIPING MUST BE OF THE SIZE NOTED AND RUN AS INDICATED ON THE DRAWINGS. PIPES BELOW BASEMENT FLOOR AND GROUND SHALL BE RUN AT GRADES NOTED. SOIL AND WASTE PIPES ABOVE BASEMENT FLOOR OR GROUND SHALL BE GIVEN A GRADE OF 1/4 INCH PER FOOT WHERE POSSIBLE, EXCEPT WHERE PIPE WOULD REDUCE HEAD ROOM MATERIALLY. IN SUCH CASES THE GRADE SHALL BE REDUCED TO NOT LESS THAN 1/10 INCH PER FOOT IF SO DIRECTED BY THE CONSTRUCTION ENGINEER. THE SOIL AND WASTE PIPES SO SHOWN AND NOTED ON THE DRAWINGS SHALL BE EXTENDED AS VENT PIPES TO ABOVE THE ROOF LINE AND PROJECT ABOVE ROOF LINE NOT LESS THAN 12 INCHES NOR MORE THAN 18 INCHES. WHERE SO NOTED OR INDICATED ON THE DRAWINGS TWO OR MORE VENT PIPES SHALL BE CONNECTED TOGETHER AND EXTENDED AS ONE PIPE. CONNECTIONS OF VENT PIPES SHALL BE MADE IN ROOF SPACE OR AT LEAST 4 FEET ABOVE FLOOR ON WHICH THE FIXTURE VENTED IS LOCATED SO AS TO PREVENT THE USE OF ANY VENT LINE AS A WASTE.

1048. IN ROOF OR ATTIC SPACES WHERE WALKS OR PASSAGEWAYS ARE PROVIDED, VENT PIPES SHALL BE RUN AS CLOSE AS POSSIBLE TO UNDER SIDE OF ROOF WITH A GRADE DOWN TO THE VERTICAL STACKS. NECESSARY FITTINGS MUST BE USED TO ACCOMPLISH THIS RESULT IN ORDER TO PRESERVE HEADROOM.

1049. THE DRAIN PIPES FROM OUTLET OF CATCH BASIN IN DRIVEWAY IS INCLUDED IN THIS SECTION OF THE SPECIFICATION AND SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS. THE CATCH BASIN AND THE IMMEDIATE PIPE CONNECTION TO OUTSIDE OF SAME IS NOT INCLUDED IN THIS SECTION OF THE SPECIFICATIONS.

1050. THE DRAIN PIPES FROM BASE OF DOWNSPOUTS, ETC., ARE INCLUDED IN THIS SECTION OF THE SPECIFICATION AND SHALL BE INSTALLED AS SHOWN. FURNISH AND INSTALL DOWNSPOUT BOOTS WITH CLEANOUTS AS SHOWN IN DETAIL ON SCALE DRAWINGS FOR ALL SHEET METAL DOWNSPOUTS.

1051. OPEN SEWER MANHOLES (SEE DETAIL NO. 12 MISCELLANEOUS DRAWING NO. 305-1).--OPEN SEWER MANHOLES SHALL BE INSTALLED ON SEWERS OUTSIDE OF BUILDING WHERE INDICATED OR NOTED ON SCALE DRAWINGS. THEY SHALL BE PROVIDED WITH A HEAVY CAST IRON CURB AND SOLID COVER AS SHOWN IN DETAIL.

1052. BRICKWORK, CONCRETE, ETC., FOR MANHOLES.--MANHOLES SHALL BE CONSTRUCTED OF EITHER BRICK OR CONCRETE AS DESIRED BY CONTRACTOR. ALL BRICK, CEMENT, SAND, AGGREGATE, CONCRETE, ETC., SHALL BE AS HEREINBEFORE SPECIFIED UNDER THE CONSTRUCTION SECTION OF THIS SPECIFICATION.

1053. BRICK SHALL BE CLASS H LAID IN CLASS B MORTAR WITH A BOND EVERY SIXTH COURSE OR ALL HEADER COURSES AS DESIRED BY THE CONTRACTOR. ALL JOINTS SHALL BE STRUCK FLUSH.

1054. CONCRETE SHALL BE CLASS A WITH 3/4 INCH AGGREGATE. MANHOLES MUST BE FINISHED SMOOTH INSIDE.

1055. BOTTOMS OF MANHOLES SHALL BE FINISHED WITH CEMENT MORTAR AND OPEN SEWER MANHOLES MUST HAVE AN OPEN GUTTER CAREFULLY FORMED IN THE BOTTOM BETWEEN INLET AND OUTLET.

1056. ALL MANHOLES OVER 4 FEET DEEP MUST HAVE LADDERS AS INDICATED IN DETAIL.

1057. CLEANOUTS ON CAST-IRON PIPE.--RODDING HOLES SHALL BE INSTALLED ON CAST-IRON PIPE BELOW BASEMENT FLOOR OR GROUND WHERE SHOWN ON DRAWINGS. SEE DETAIL NO. 10, MISCELLANEOUS DRAWING NO. 305-1.

1058. WHEN SOIL, WASTE, OR ROOF DRAINAGE LINES CONNECTING TO AN UNDERGROUND SEWER OR DRAIN PASS OUT OF BUILDING ABOVE THE BASEMENT FLOOR THE FITTING AT THE BASE OF THE DROP SHALL BE A HUB-AND-SPIGOT SANITARY T BRANCH WITH A BRASS CAULKING FERRULE AND A CAST BRASS TRAP SCREW IN HUB ON RUN OF THE FITTING.

1059. WHEN CLEANOUTS OCCUR ON CONCEALED PIPES IN FINISHED ROOMS PROVIDE A POLISHED NICKEL PLATED BRASS COVER (SEE PARAGRAPH E-10, E-10N AND FIG. 71).

1060. CLEANOUT PLUGS ON SCREW JOINTED PIPING (SEE PARAGRAPH E-10N AND FIG. 71) SHALL BE FITTED IN EACH VERTICAL SOIL, VENT AND WASTE PIPE (EXCEPT SUCH PIPES AS OCCUR IN SHOWER-BATH INCLOSURE OR BEHIND URINAL) JUST ABOVE BASEMENT FLOOR OR FLOOR OF LOOKOUT, SIMILAR CLEANOUT PLUGS SHALL BE PLACED AT BASE OF ALL INTERIOR DOWNSPOUTS (EXCEPT SUCH AS OCCUR IN SHOWER-BATH INCLOSURE OR BEHIND A URINAL) WHICH CONNECT TO A DRAINAGE SYSTEM BELOW GROUND OR UNDER BASEMENT FLOOR. WHEN CLEANOUTS OCCUR ON CONCEALED PIPES IN FINISHED ROOMS PROVIDE A NICKEL PLATED BRASS COVER AS SHOWN.

1061. SCREWED CAST-BRASS PLUGS SAME SIZE AS PIPE SHALL BE FITTED FOR CLEANOUTS ON PIPES ABOVE GROUND OR ABOVE BASEMENT FLOOR WHERE SHOWN OR NOTED ON DRAWINGS.

1062. TRAPS.--RUNNING TRAPS, S TRAPS OR P TRAPS, AS INDICATED OR NOTED, SHALL BE PLACED ON WASTES FROM DRINKING FOUNTAINS, ON WASTES FROM SHOWER-BATHS, ON WASTES FROM URINALS, AND AT OTHER POINTS INDICATED ON DRAWINGS. TRAPS SHALL BE EXTRA HEAVY CAST-IRON HUB-AND-SPIGOT PATTERN WHEN CONNECTED TO CAST-IRON PIPING, AND RECESSED, SCREW JOINTED, WHEN CONNECTED TO WROUGHT-IRON OR STEEL PIPING.

1063. RUNNING TRAPS SHALL HAVE CLEANOUT ON EACH SIDE AND WHEN BELOW FLOOR OR GRADE CLEANOUTS SHALL BE EXTENDED UP TO FLOOR LEVEL OR GRADE AND SHALL BE PROVIDED WITH BRASS CAULKING FERRULES AND BRASS TRAP SCREWS WITH COUNTERSUNK HEADS. (SEE MISCELLANEOUS DRAWING 305-1, DETAIL NO. 10 FOR FERRULE AND TRAP SCREW.) P AND S TRAPS ABOVE BASEMENT FLOOR SHALL HAVE BRASS-SCREW CLEANOUT PLUGS IN BOTTOM OF SAME.

1064. AREA CESSPOOLS (SEE PARAGRAPH E-10p AND FIGS. 76 AND 77).--THE BASEMENT ENTRANCE AREA SHALL BE PROVIDED WITH SIDE OUTLET CESSPOOL.

1065. CAST IRON ROOF DRAINS.--CAST IRON ROOF DRAINS SHALL BE INSTALLED AT ROOF OUTLETS WHERE INDICATED. ROOF DRAINS SHALL BE HEAVY PATTERN CAST IRON WITH INTEGRAL CAST-IRON CUP PATTERN FITTING HAVING AN INTEGRAL FLANGE NOT LESS THAN 12 INCHES IN DIAMETER, AND A SATISFACTORY DEVICE FOR CLAMPING OR OTHERWISE SECURING THE ROOF COVERING SO AS TO MAKE A WATER-TIGHT CONNECTION; OR, IN LIEU OF THE INTEGRAL FLANGE, SHALL HAVE A 16 OUNCE (0.0216 INCH) SOFT ROLLED COPPER OR A 4-POUND SHEET LEAD FLASHING FLANGE WITH NOT LESS THAN 4-INCH LAP ON ALL SIDES EXTENDING INTO THE ROOFING.

1066. FOR GRAVEL OR SLAG ROOFING THE DRAIN SHALL BE PROVIDED WITH A SUITABLE GRAVEL STOP.

1067. SHALL HAVE A CAST-IRON BEEHIVE OR DOME-SHAPED STRAINER, EXCEPT ON PROMENADE ROOFS WHERE STRAINER SHALL BE FLAT. OPENINGS IN STRAINER SHALL HAVE A COMBINED AREA EQUAL TO TWICE THE AREA OF DRAIN OUTLET.

1068. OUTLET SHALL BE EQUIPPED WITH NECESSARY PARTS TO MAKE PROPER CONNECTION TO SCREW PIPE OR CAST-IRON PIPE AS REQUIRED OF SAME SIZE AS DOWN SPOUT. WHERE NOTED ON SCALE DRAWINGS PIPE FROM ROOF OUTLET SHALL DISCHARGE INTO SHEET METAL LEADER HEAD AS SHOWN IN DETAIL.

1069. EACH ROOF DRAIN SHALL BE PROVIDED WITH A HEAVY PATTERN, CAST BRASS OR COPPER SLEEVE EXPANSION JOINT OF THICKNESS NOT LIGHTER THAN NO. 10 STUBBS GAUGE (0.134 INCH) CONSTRUCTED SO AS TO FORM A WATER AND AIR TIGHT FLEXIBLE JOINT. GASKETS AND PACKING SHALL BE OF ASBESTOS FIBER, SOFT LEAD, OR OTHER SUITABLE DURABLE MATERIAL AND SHALL NOT BE LOCATED IN THE FLOW LINE OF THE DRAINAGE. MEANS OF ADJUSTMENT SHALL BE PROVIDED FOR TIGHTENING OR REPLACING PACKING. EXPANSION JOINTS SHALL BE PROPERLY SUPPORTED TO RELIEVE STRAIN. EXPANSION JOINTS MUST BE CAREFULLY ADJUSTED BEFORE SAME ARE CONCEALED.

1070. ON COMPOSITION ROOFS OR MEMBRANE WATERPROOFING FURNISH AND INSTALL FOR ROOF DRAINS A SHEET METAL FLASHING CONNECTION OF EITHER 16 OUNCE COPPER OR 4 POUND SHEET LEAD EXTENDING AT LEAST 4 INCHES INTO THE ROOFING OR WATERPROOFING.

1071. FLASHING CONNECTION.--OPENINGS IN ROOF FOR VENT PIPES SHALL BE FLASHED AND SOLDERED WATER-TIGHT. (SEE DETAIL NO. 14, MISCELLANEOUS DRAWING NO. 305-1). FLASHINGS SHALL BE NOT LIGHTER THAN 4 POUND SHEET LEAD, FLANGED AND MADE WATER TIGHT AT ROOF AND EXTENDED UP AROUND VENT PIPES AS SHOWN.

1072. WHEN SCREW-JOINTED PIPE IS USED AT TOP LINE OF THE LEAD FLASHING A DRILLED AND THREADED STANDARD CAST-IRON OR MALLEABLE IRON CAP, GALVANIZED, ONE SIZE LARGER THAN VENT PIPE, SHALL BE SCREWED TO VENT PIPE TO FORM COUNTERFLASHING OR RAIN GUARD, PIPE SHALL EXTEND THROUGH CAP AND SHALL BE PROVIDED WITH COUPLING AS SHOWN.

1073. A SPECIAL CAST-IRON FITTING TO TAKE THE PLACE OF CAP AND COUPLING MAY BE USED, PROVIDING SAME IS A ONE-PIECE FITTING THAT WILL COVER LEAD FLASHING, HAVING DOUBLE HUB WITH SCREW THREADS TO ALLOW PIPE TO BE EXTENDED IF DESIRED.

1074. WHEN CAST-IRON PIPE IS USED LEAD FLASHING SHALL BE TURNED OVER AND DOWN INTO THE HUB OF THE PIPE AT LEAST 1 INCH.

1075. BRASS OR COPPER WATER SUPPLY PIPES, FITTINGS AND CONNECTIONS.--ALL COLD WATER, HOT WATER, AND HOT WATER CIRCULATING AND DRINKING WATER PIPES IN THE BUILDING, INCLUDING CONNECTIONS BETWEEN THE WATER HEATERS AND HOT WATER STORAGE TANK AND CONNECTIONS TO LAWN FAUCETS SHALL BE GRADE A, STANDARD WEIGHT BRASS PIPE IN ACCORDANCE WITH FEDERAL SPECIFICATION WW-P-351 OR COPPER PIPE (IRON PIPE SIZE AND THICKNESS) IN ACCORDANCE WITH FEDERAL SPECIFICATION NO. WW-P-377. EXCEPT WHERE REQUIRED TO BE NICKEL PLATED, BRASS AND COPPER PIPING SHALL BE UNFINISHED.

1076. ESPECIAL ATTENTION IS CALLED TO THE FACT THAT TO AVOID CONFUSION AND DELAY CONTRACTOR MUST, IN PLACING HIS ORDER FOR BRASS PIPE, PLAINLY STATE THEREIN THAT IT MUST BE GRADE "A" IN STRICT ACCORDANCE WITH FEDERAL SPECIFICATION NO. WW-P-351, AND THAT ALL PIPE MUST BE MARKED WITH THE TRADE-MARK OF THE MANUFACTURER AND WITH GRADE LETTER "A". COPPER PIPE MUST BE PROPERLY MARKED.

1077. BEFORE ANY PORTION OF THE PIPE HAS BEEN INSTALLED THE CONSTRUCTION ENGINEER WILL SELECT TWO SAMPLES OF THE PIPE EACH APPROXIMATELY 12 INCHES LONG, WITH THE NAME OR TRADE MARK OF THE MANUFACTURER AND, IF BRASS PIPE, THE GRADE LETTER STAMPED THEREON, AND FORWARD SAME TO THE ASSISTANT DIRECTOR OF PROCUREMENT, PUBLIC WORKS BRANCH, FOR APPROVAL.

1078. NIPPLES SHALL BE OF THE SAME MATERIAL AND COMPOSITION AS THE PIPE USED.

1079. FITTINGS AND COUPLINGS FOR BRASS OR COPPER WATER PIPE SHALL BE IN ACCORDANCE WITH FEDERAL SPECIFICATION NO. WW-P-448. EITHER COMPOSITION A OR B WILL BE ACCEPTABLE FOR FITTINGS.

1080. IN ERECTING PIPE, FRICTION WRENCHES AND FRICTION VISES MUST BE USED EXCLUSIVELY EXCEPT ON PIPES LARGER THAN 3 INCHES IN DIAMETER. ANY PIPE CUT, DENTED, OR OTHERWISE DAMAGED MUST BE REPLACED BY THE CONTRACTOR WITH NEW PIPE.

1081. UNIONS ON WATER PIPES 2 INCHES AND SMALLER IN DIAMETER SHALL BE EXTRA HEAVY PATTERN, ALL BRASS, GROUND JOINT UNIONS WITH BOTH SCREW ENDS HEXAGONAL OR OCTAGONAL; OPENINGS THROUGH UNIONS SHALL BE FULL AREA OF THE PIPE ON WHICH THEY ARE PLACED.

1082. UNIONS ON WATER PIPES 2-1/2 INCHES AND LARGER IN DIAMETER SHALL BE CAST-BRASS FLANGED UNIONS, WITH BRASS BOLTS AND BRASS NUTS.

1083. ALL PIPES SHALL BE REAMED OUT BEFORE BEING SCREWED INTO FITTINGS. THE SCREW JOINTS BETWEEN PIPE AND FITTINGS SHALL BE MADE UP, METAL TO METAL, WITH A COMPOUND OF RED LEAD AND LINSEED OIL AS A LUBRICANT APPLIED ON THE MALE THREAD ONLY. NOT MORE THAN THREE EXPOSED THREADS WILL BE PERMITTED BEYOND FITTINGS, NOR WILL THE USE OF LAMPWICK OR OTHER MATERIAL FOR PACKING THREADS IN MAKING UP PIPE AND FITTINGS BE PERMITTED. CAULKING TO CORRECT LEAKS OR DEFECTS WILL NOT BE PERMITTED.

1084. HORIZONTAL RUNS OF PIPE OVER 50 FEET IN LENGTH SHALL BE ANCHORED ABOUT MIDWAY OF THE RUN, TO WALLS OR TO THE FIRST FLOOR CONSTRUCTION, SO AS TO FORCE THE EXPANSION EQUALLY TO THE ENDS. SWING JOINTS SHALL BE USED OFF ALL BRANCH CONNECTIONS OFF OF MAINS WHETHER SO SHOWN ON DRAWINGS, OR NOT. RISERS SHALL BE ANCHORED AS DIRECTED SO AS TO FORCE THE EXPANSION IN THE PROPER DIRECTION AND AVOID EXCESSIVE STRAIN BEING CONCENTRATED AT ONE POINT.

1085. ADDITIONAL SWING JOINTS, OFFSETS, ETC., SHALL BE USED WHERE NECESSARY TO PROPERLY PROVIDE FOR EXPANSION OF THE PIPES, WHICH WILL BE ABOUT 2-1/2 INCHES IN 100 FEET OF RUN IN THE HOT WATER SUPPLIES.

1086. ALL EXPOSED BRANCH WATER SUPPLY PIPING (INCLUDING VALVES AND FITTINGS) IN TOILET ROOMS FROM FLOOR TO A POINT 6 FEET ABOVE FLOOR AND ALL EXPOSED WATER SUPPLY BRANCHES BELOW LAVATORIES IN ALL OTHER PARTS OF THE BUILDING SHALL BE FINISHED AND NICKEL-PLATED.

1087. VALVES.--VALVES SHALL BE INSTALLED WHERE SPECIFIED OR INDICATED ON DRAWINGS. ALL VALVES SHALL BE GATE VALVES UNLESS OTHERWISE SPECIFIED OR NOTED.

1088. ALL GATE AND CHECK VALVES SHALL BE DESIGNED FOR A STEAM WORKING PRESSURE OF 125 POUNDS PER SQUARE INCH, ALL GLOBE AND ANGLE VALVES FOR A STEAM WORKING PRESSURE OF 150 POUNDS PER SQUARE INCH, AND SHALL HAVE THE NAME OR TRADE-MARK OF THE MANUFACTURER AND THE GUARANTEED WORKING PRESSURE CAST OR STAMPED ON THE BODY.

1089. EXCEPT AS NOTED, VALVES 3 INCHES AND SMALLER IN DIAMETER SHALL BE ALL BRASS, SCREW ENDS WITH ROUGH BODY AND FINISHED TRIMMINGS, EXCEPT THAT THOSE ON NICKEL-PLATED BRASS PIPE SHALL BE FINISHED AND NICKEL PLATED. VALVES 4 INCHES AND LARGER IN DIAMETER SHALL HAVE IRON BODY, BRASS MOUNTED, AND SHALL HAVE EITHER SCREW OR FLANGE ENDS.

1090. BRASS FOR VALVES SHALL HAVE A MINIMUM COPPER CONTENT OF 80 PER CENT AND A MAXIMUM LEAD CONTENT OF 5-1/2 PER CENT.

1091. GATE VALVES SHALL BE OF THE SOLID OR SPLIT WEDGE PATTERN, DOUBLE SEAT RISING OR NONRISING STEMS WITH GLAND STUFFING BOXES, AND IRON WHEELS. SHALL WEIGH NOT LESS THAN THE FOLLOWING: 1/2 INCH, 0.93 POUND; 3/4 INCH, 1.56 POUNDS; 1-INCH, 2.18 POUNDS; 1-1/4 INCH, 3.50 POUNDS; 1-1/2 INCH, 5 POUNDS; 2-INCH, 7.19 POUNDS; 2-1/2 INCH, 11.5 POUNDS; 3-INCH, 16.5 POUNDS; 4-INCH, (SCREWED), 65 POUNDS, AND (FLANGED), 85 POUNDS. LARGER VALVES SHALL BE OF CORRESPONDING WEIGHTS.

1092. GLOBE AND ANGLE VALVES SHALL HAVE RENEWABLE ELASTIC DISK, RAISED FLAT SEATS AND GLAND STUFFING BOXES, IRON WHEEL, AMPLE LIFT AND PULL SIZE OPENINGS. THE GLOBE VALVES SHALL WEIGH NOT LESS THAN THE FOLLOWING: 1/2 INCH, 1.25 POUNDS; 3/4, 2 POUNDS; 1-INCH, 2.75 POUNDS; 1-1/4 INCH, 4 POUNDS; 1-1/2 INCH, 5.5 POUNDS; 2-INCH, 9 POUNDS. UNLESS OTHERWISE SPECIFIED, BRASS GLOBE AND ANGLE VALVES OF THE UNION BONNET TYPE WITH MALLEABLE IRON UNION RING AND MALLEABLE IRON STUFFING NUT WILL BE ACCEPTABLE IF THE MALLEABLE IRON PARTS DO NOT COME IN CONTACT WITH WATER.

1093. CHECK VALVES SHALL BE HORIZONTAL SWING CHECK VALVES WITH COMPOSITION RUBBER, LEATHER, OR BRASS DISKS. VALVES WITH BRASS DISKS SHALL BE OF REGRINDING TYPE.

1094. LAWN FAUCETS.--(SEE PAR. E-10M AND FIG. 70) SHALL BE FURNISHED AND INSTALLED WHERE INDICATED OR NOTED.

1095. WATER-SUPPLY SYSTEM.-- THE WATER MAIN IN STREET SO NOTED ON THE DRAWINGS SHALL BE TAPPED AT THE POINT DIRECTED BY THE CONSTRUCTION ENGINEER AND APPROVED BY THE WATER AUTHORITIES, AND A WATER-SUPPLY PIPE OF SIZE SHOWN ON DRAWINGS SHALL BE BROUGHT INTO THE BUILDING. A GATE VALVE WITH T HANDLE AND WITH A CAST-IRON EXTENSION BOX AND COVER SHALL BE PLACED ON THE WATER-SUPPLY PIPE NEAR THE CURB LINE. THE MANNER OF MAKING CONNECTIONS WITH THE STREET MAIN, AND THE MANNER OF LAYING PIPE FROM STREET MAIN TO INSIDE OF BUILDING WALL MUST BE IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE WATER WORKS AUTHORITIES. FROM THE WATER MAIN TO INSIDE OF BUILDING WALL THE PIPE SHALL BE BRASS OR COPPER PIPE OR LEAD PIPE AS DIRECTED BY THE LOCAL WATER AUTHORITIES. THE SIZE OF THE PIPE MUST BE AS SHOWN ON DRAWINGS, AND IF THE WATER WORKS AUTHORITIES OBJECT TO THE SIZE OF PIPE SHOWN THE MATTER MUST BE REFERRED TO THE CONSTRUCTION ENGINEER, WHO WILL REFER IT TO THE ASSISTANT DIRECTOR OF PROCUREMENT, PUBLIC WORKS BRANCH, FOR DECISION.

1096. JUST INSIDE BUILDING WALL, OUTLETS OF SAME SIZE AS SERVICE MAIN SHALL BE LEFT IN HORIZONTAL PIPE FOR THE WATER METER. THESE OUTLETS SHALL BE EQUIPPED WITH GATE VALVES, THE VALVE ON THE STREET SIDE OF METER BEING USED AS A MAIN GATE VALVE TO SHUT OFF THE WATER SUPPLY INSIDE BUILDING. A 3/4 INCH DRAIN CONNECTION WITH GLOBE VALVE AND HOSE NIPPLE FOR 3/4 INCH DIAMETER HOSE SHALL BE PROVIDED ON THE HOUSE SIDE OF METER CONNECTIONS. CONTRACTOR SHALL CONFER WITH THE LOCAL AUTHORITIES AND ARRANGE HIS METER CONNECTIONS IN STRICT ACCORDANCE WITH THE LOCAL REGULATIONS.

1097. WHERE THE LOCAL REGULATIONS REQUIRE THE WATER METER TO BE LOCATED AT CURB LINE, THE CONTRACTOR MUST PROVIDE METER PIT, COVER, CONNECTIONS, ETC., ALL AS REQUIRED AND A MAIN GATE VALVE AND DRAIN MUST BE INSTALLED INSIDE BUILDING.

1098. THE FURNISHING OF THE WATER METER IS NOT INCLUDED IN THIS SPECIFICATION.

1099. AFTER LEAVING THE METER CONNECTIONS OR MAIN GATE VALVE, THE MAIN WATER SUPPLY PIPE SHALL BE RUN UP TO BASEMENT CEILING AND ALONG SAME WITH BRANCHES OF THE SIZES NOTED. A CONNECTION OF SIZE NOTED ON DRAWINGS SHALL BE TAKEN OFF AND RUN TO THE WATER SOFTNER HEREINAFTER SPECIFIED.

1100. A SUITABLE BRASS PRESSURE-REDUCING VALVE AS HEREINAFTER SPECIFIED FITTED WITH A REMOVABLE BRASS STRAINER SHALL BE PLACED WHERE SHOWN ON PLANS OF THE MAIN WATER PIPE IN BASEMENT THAT SUPPLIES THE PLUMBING FIXTURES; GATE VALVES SHALL BE PLACED ON EACH SIDE OF REDUCING VALVES, AND A BY-PASS CONNECTION (PROVIDED WITH A GATE VALVE) SHALL BE INSTALLED AROUND REDUCING VALVE. A 3-1/2 INCH DIAL, JAPANNED-IRON CASE, PRESSURE GAUGE, GRADUATED TO 200 POUNDS, SHALL BE PROVIDED ON THE WATER MAIN ON EACH SIDE OF THE PRESSURE-REDUCING VALVE.

1101. PRESSURE REDUCING VALVE SHALL BE SET TO A FINAL PRESSURE OF 40 POUNDS WITH AN INITIAL PRESSURE OF 50 POUNDS PER SQUARE INCH.

1102. PRESSURE REDUCING VALVES SHALL BE EXTRA HEAVY BRASS, OPERATED BY MEANS OF A SPECIAL COMPOSITION DIAPHRAGM AND A SPRING. IF THE VALVE HAS A SEPARATE DIAPHRAGM CHAMBER CONNECTED TO THE BODY OF THE VALVE BY MEANS OF A YOKE, CAST IRON OR OTHER SUITABLE MATERIAL WILL BE ACCEPTABLE FOR THE YOKE, BUT THE COVER OF THE DIAPHRAGM CHAMBER AND ALL PARTS IN CONTACT WITH THE WATER MUST BE BRASS. BRASS BOLTS MUST BE USED FOR ASSEMBLING THE DIAPHRAGM CHAMBER AND FOR ATTACHING SAME TO THE YOKE. DIAPHRAGM AND SPRING MUST BE ARRANGED TO ACT DIRECTLY ON THE VALVE STEM AND THE ARRANGEMENT MUST BE SUCH THAT THE DELIVERED PRESSURE WILL NOT VARY MORE THAN 1 POUND FOR EACH 10 POUNDS VARIATION OF THE INLET PRESSURE. ALL PARTS SUBJECT TO WEAR MUST BE READILY RENEWABLE. EACH PRESSURE REDUCING VALVE MUST BE PROVIDED WITH A SEPARATE, EASILY CLEANABLE STRAINER ON THE INLET SIDE. STRAINER MUST HAVE AN EXTRA HEAVY BRASS BODY WITH A STRAINER ELEMENT OF BRASS OR OTHER NONCORROSIVE METAL, REMOVABLE WITHOUT DISCONNECTING THE PIPES. IRON BODY STRAINER OR PRESSURE REDUCING VALVES WITH INTEGRAL STRAINER WILL NOT BE ACCEPTED.

1103. IN THE EVENT SIZES OF PIPING ARE NOT NOTED ON DRAWINGS, THE SPECIFICATION IS TO GOVERN, AND COLD WATER SUPPLY PIPES TO FIXTURES SHALL BE AS FOLLOWS:

1-1/4 INCH DIAMETER TO ROOMS HAVING NOT MORE THAN TWO WATER CLOSETS;
1-1/2 INCH DIAMETER TO ROOMS HAVING THREE TO EIGHT WATER CLOSETS;
2-INCH DIAMETER TO ROOMS HAVING NINE TO SIXTEEN WATER CLOSETS.
2-1/2 INCH DIAMETER TO ROOMS HAVING MORE THAN SIXTEEN WATER CLOSETS.

1104. HOT-WATER SUPPLY PIPES SHALL BE 3/4 INCH DIAMETER TO TOILET ROOMS CONTAINING TWO OR MORE FIXTURES, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.

1105. COLD WATER SUPPLY SHALL BE RUN TO EACH PLUMBING FIXTURE IN THE BUILDING AND SHALL BE 1-1/4 INCH TO EACH WATER CLOSET, 3/4 INCH TO EACH URINAL AND EACH SERVICE SINK AND 1/2 INCH TO EACH OTHER FIXTURE. HOT WATER SUPPLY SHALL BE RUN TO EACH LAVATORY, SHOWER BATH AND SINK AND SHALL BE THE SAME SIZE AS THE COLD WATER SUPPLY.

1106. THE ABOVE SIZES APPLY TO THE ROUGHING BELOW FLOOR OR IN PARTITIONS; A REDUCING FITTING IS TO BE USED TO SUIT THE SIZE OF FIXTURE CONNECTION WHICH IS TO BE IN ACCORDANCE WITH FEDERAL SPECIFICATION NO. WW-P-541.

1107. NO WATER PIPE IN TOILET ROOMS WILL BE PERMITTED TO BE BURIED IN THE FLOOR CONSTRUCTION.

1108. UNLESS OTHERWISE INDICATED OR NOTED ON DRAWINGS, WATER SUPPLIES TO FIXTURES SHALL BE RUN AS FOLLOWS:

1109. FOR BASEMENT FIXTURE.--THE MAIN SUPPLIES SHALL BE RUN NEAR BASEMENT CEILING; BRANCHES TO SINK SHALL DROP NEAR END OF FIXTURE TO BELOW STOPS. ALL PIPING SHALL BE EXPOSED UNLESS OTHERWISE SPECIFIED.

1110. FOR TOILET ROOMS AND FIXTURES ABOVE BASEMENT.--THE MAIN SUPPLIES FOR FIRST FLOOR TOILET ROOMS AND FOR TOILET ROOMS ABOVE FIRST FLOOR WHERE SOIL OR WASTE PIPES ARE RUN EXPOSED OR IN FURRED CEILING SPACE BELOW THE TOILET ROOM THE WATER SUPPLIES FOR WATER CLOSET OUTFITS, LAVATORIES, URINALS, AND SERVICE SINKS SHALL BE RUN IN CORRESPONDING LOCATION TO THE SOIL OR WASTE PIPE AND RISE THROUGH FLOOR TO THE INDIVIDUAL FIXTURES. BRANCHES TO LAVATORIES FITTED WITH P TRAP ON WASTE SHALL RISE IN PARTITIONS.

1111. BRANCHES TO URINALS SHALL BE RUN UP IN PARTITION AT ONE SIDE OF URINAL. BRANCHES TO SHOWER BATHS SHALL BE RUN UP IN A PARTITION TO CEILING AND ACROSS SAME WITH DROPS TO THE SHOWER FIXTURE.

1112. RISERS OR DROPS SUPPLYING TOILET ROOMS SHALL BE RUN IN CHASES, FURRED SPACES, OR IN VENT SHAFT, AS SHOWN ON DRAWINGS. A BRANCH FOR BOILER SUPPLY SHALL BE PROVIDED WHERE INDICATED ON BASEMENT PLAN.

1113. THE WATER-SUPPLY PIPES AT POINTS INDICATED ON DRAWINGS SHALL BE FITTED WITH GATE VALVES, PLACED IN ACCESSIBLE POSITIONS. STOP COCKS WILL NOT BE PERMITTED. NO VALVES OF ANY KIND SHALL BE PLACED IN ANY LOOKOUT SPACE OR IN ANY FURRED OR INACCESSIBLE SPACE.

1114. EACH HOT AND COLD WATER SUPPLY TO EACH SERVICE SINK, KITCHEN SINK, SHALL BE FITTED WITH A GATE VALVE, ANGLE VALVE OR COMPRESSION STOP PLACED IN AN ACCESSIBLE LOCATION CLOSE TO THE FIXTURE. A GATE VALVE SHALL BE INSTALLED ON CONNECTION TO EACH LAWN FAUCET.

1115. LAWN SPRINKLER SYSTEM SHALL BE FURNISHED AND INSTALLED AS INDICATED ON DRAWINGS.

1116. MAIN SUPPLY PIPE SHALL BE TAKEN FROM POINT INDICATED ON COLD WATER LINE IN BASEMENT, AND RUN AT CEILING TO EXTERIOR WALLS AS SHOWN ON DRAWING, DROPPED DOWN AND RUN THROUGH

WALLS TO UNDERGROUND DISTRIBUTING PIPES. INSTALL CONTROL VALVE AND DRAIN VALVE ON EACH CIRCUIT, INSIDE OF BUILDING, OR BELOW GROUND, AS INDICATED ON DRAWINGS.

1117. CAST IRON PIPE.--ALL PIPE SO INDICATED ON THE DRAWING, AND ALL PIPE 4 INCHES IN DIAMETER SHALL BE CLASS 150 CAST IRON PIPE (BELL AND SPIGOT) IN ACCORDANCE WITH FEDERAL SPECIFICATION NO. WW-P-421. CAST IRON PIPE TO HAVE OAKUM AND LEAD JOINTS CAULKED FLUSH.

1118. BRASS PIPE.--ALL PIPING OUTSIDE OF BUILDING LESS THAN 4 INCHES IN DIAMETER SHALL BE GRADE B, UNFINISHED BRASS PIPE, IN ACCORDANCE WITH FEDERAL SPECIFICATION NO. WW-P-351 OR COPPER PIPE (IRON PIPE SIZE AND THICKNESS) IN ACCORDANCE WITH FEDERAL SPECIFICATION NO. WW-P-378 AND AS HEREINBEFORE SPECIFIED EXCEPT THAT PIPING FROM 2 INCH TO AND INCLUDING 3 INCH MAY BE CAST IRON PIPE.

1119. IF CONTRACTOR ELECTS TO USE CAST IRON PIPE IN LIEU OF BRASS PIPE FOR PIPING 2 TO 3 INCHES IN DIAMETER, HE SHALL FURNISH EITHER THREADED PIPE OR BELL AND SPIGOT PIPE. THIS PIPE SHALL BE DESIGNED FOR 150 POUNDS PER SQUARE INCH WORKING PRESSURE AND SHALL BE OF WEIGHTS CORRESPONDING TO CAST IRON PIPE SPECIFIED IN FEDERAL SPECIFICATION NO. WW-P-421. IF THREADED PIPE IS USED, THREADS SHALL BE CUT AT THE FACTORY, AND METAL AT ENDS OF PIPE SHALL BE INCREASED AND AN OVERSIZE PIPE THREAD CUT ON SAME. IF BELL AND SPIGOT PIPE IS USED, JOINTS SHALL BE CAULKED WITH OAKUM AND LEAD. WHERE NECESSARY TO USE STANDARD LENGTHS OF CAST IRON PIPE, MINOR CHANGES MAY BE MADE IN RUNS OF PIPING, BUT PIPE SIZE SHALL NOT BE LESS THAN THAT SHOWN ON DRAWING AND LOCATION OF SPRINKLER HEADS MUST NOT BE CHANGED.

1120. ALL UNDERGROUND PIPING TO BE LAID NOT LESS THAN 18 INCHES (8 INCHES WHERE THERE IS NO DANGER FROM FREEZING) BELOW FINISHED GRADE AND SHALL BE PITCHED DOWN NOT LESS THAN 1/2 INCH IN 10 FEET IN DIRECTION OF DRAIN PIPES.

1121. VALVES.--VALVES ON 4 INCH CAST IRON PIPE SHALL BE STANDARD WEIGHT, DOUBLE HUB GATE VALVES, WITH NON-RISING STEM, IRON BODY, NON-CORROSIVE SEAT AND DISC. THESE VALVES SHALL BE SET IN HEAVY CONCRETE BOXES WITH CAST IRON CURB AND COVERS.

1122. DRAIN VALVES (FOR BRASS PIPES) SHALL BE ALL BRASS GLOBE VALVES. ALL OTHER VALVES SHALL BE GATE VALVES AS HEREINDEFORE SPECIFIED, EXCEPT THAT CONTROL VALVES IN GROUND MAY BE GLOBE VALVES, WITH RENEWABLE DISCS, SPECIALLY DESIGNED FOR LAWN SPRINKLER INSTALLATIONS.

1123. CONTROL VALVES IN GROUND SHALL BE OPERATED BY MEANS OF TEE-HANDLED KEYS, AND SHALL BE PROVIDED WITH SUITABLE CAST IRON OR BRASS EXTENSION BOXES, WITH TOPS SET FLUSH WITH FINSIHED GRADE. FURNISH CONSTRUCTION ENGINEER SIX TEE HANDLED KEYS, DESIGNED TO OPERATE VALVES.

1124. DRAIN VALVES INSIDE BUILDING SHALL HAVE WHEEL HANDLE AND BASE CONNECTION.

1125. SPRINKLER HEADS.--SPRINKLER HEADS SHALL BE APPROVED, HEAVY BRASS, ADJUSTABLE HEADS, DESIGNED TO GIVE A UNIFORM DISCHARGE OVER THE ENTIRE SURFACE WITHIN THE CIRCUMFERENCE OF THE SPRAY. THE AMOUNT OF WATER DISCHARGED PER HEAD SHALL BE AS NOTED ON DRAWING. THE TOTAL NUMBER OF HEADS SHALL NOT BE LESS THAN THAT NOTED ON DRAWING; BUT ESPECIAL ATTENTION IS CALLED TO THE FACT THAT THE CONTRACTOR MUST VERIFY THE WATER PRESSURE AVAILABLE AT THE SITE, AND IN THE EVENT THE HEADS WHICH HE PROPOSES TO USE WILL NOT GIVE COMPLETE COVERAGE WITH THE PRESSURE AVAILABLE, AND WITH THE SPACING INDICATED, HE MUST FURNISH AND INSTALL WITHOUT ADDITIONAL COST TO THE GOVERNMENT, THE PROPER NUMBER OF ADDITIONAL HEADS, TO SECURE COMPLETE COVERAGE OF ALL AREAS THAT ARE TO BE SPRINKLED.

1126. GRASS CUTTERS.--FURNISH AND LEAVE WITH THE CONSTRUCTION ENGINEER, SIX (6) CIRCULAR GRASS CUTTERS, WITH SUITABLE HANDLES, DESIGNED AND SHAPED TO TRIM GRASS AROUND SPRINKLER HEADS.

1127. DRAINS OUTSIDE BUILDING (NOT REQUIRED WHERE THERE IS NO DANGER FROM FREEZING).--AT EACH LOW POINT OF UNDERGROUND PIPING EXCAVATE AND PROVIDE BROKEN STONE AS NOTED ON DRAWING. TOP OF STONE TO BE BELOW PIPE AT DRAIN POINT.

1128. PIPE SLEEVES, HANGERS, VALVES, COVERINGS, ETC., SHALL BE AS HEREINBEFORE SPECIFIED FOR WATER SUPPLY LINES.

1129. TESTS AND INSPECTION.--DURING THE COURSE OF INSTALLATION OF THIS WORK, ALL WATER PIPING AND VALVES MUST BE TESTED, IN THE PRESENCE OF THE CONSTRUCTION ENGINEER, OR OTHER REPRESENTATIVE OF THE SUPERVISING ARCHITECT, TO A HYDROSTATIC PRESSURE OF 100 POUNDS PER SQUARE INCH, BEFORE PIPING IS COVERED WITH EARTH, AND PIPING MUST BE TIGHT AT THIS PRESSURE. PIPING MAY BE TESTED IN SECTIONS, TO EXPEDITE THE WORK.

1130. AT TIME OF FINAL INSPECTION ALL HYDROSTATIC TESTS MUST HAVE BEEN SATSIFACTORILY COMPLETED. THE ENTIRE SYSTEM MUST THEN BE TESTED IN THE PRESENCE OF A REPRESENTATIVE OF THE SUPERVISING ARCHITECT, AND THE ENTIRE SYSTEM MUST OPERATE IN A SATISFACTORY MANNER, WITH COMPLETE AND UNIFORM COVERAGE OF ALL AREAS WHICH ARE INDICATED TO BE SPRINKLED.

1131. FINAL ADJUSTMENT.--NINE MONTHS AFTER THE COMPLETION OF THE CONTRACT, THE CONTRACTOR SHALL RETURN TO THE PREMISES, AND ADJUST ALL SPRINKLER HEADS, SO THAT THE TOPS OF HEADS ARE FLUSH WITH THE FINISHED GRADE. THIS ADJUSTMENT SHALL BE MADE BY REMOVING NIPPLES IN PLACE, AND INSTALLING NEW NIPPLES OF THE PROPER LENGTHS, OR BY THE USE, ORIGINALLY, OF A SPRINKLER HEAD HAVING AN APPROVED DEVICE INTEGRAL WITH THE HEAD, WHICH WILL PERMIT ADJUSTMENT OF HEIGHT OF HEAD.

1132. IN THE EVENT THE CONTRACTOR FAILS TO MAKE THE FINAL ADJUSTMENT OF HEADS ABOVE SPECIFIED, THE GOVERNMENT WILL MAKE SUCH ADJUSTMENT AND WILL CHARGE THE COST OF MAKING THIS ADJUSTMENT AGAINST THE CONTRACTOR, UNDER THE PROVISION OF THE ONE YEAR GUARANTEE ON MECHANICAL EQUIPMENT.

1133. PLUMBING FIXTURES, ETC., GENERALLY.--ATTENTION IS DIRECTED TO SECTION D, PARAGRAPHS D-1 TO D-3L, INCLUSIVE, AND PARAGRAPHS E-10 TO E-10J, INCLUSIVE, IN ADDITION TO THE SPECIFIC REFERENCES HEREINAFTER NOTED.

1134. THE CONTRACTOR WILL BE HELD STRICTLY RESPONSIBLE FOR THE ACTUAL NUMBER OF FIXTURES TO BE FURNISHED AND INSTALLED, OR ROUGHED IN FOR, AS SHOWN ON THE DRAWINGS. FOR MODIFICATION OF FIXTURES, SEE SPECIFICATION HEREINAFTER FOR THE FIXTURE IN QUESTION. FUTURE FIXTURES SHOWN OR NOTED ON THE DRAWINGS SHALL BE ROUGHED IN AND CONNECTIONS PLUGGED GAS AND WATER-TIGHT.

1135. FIXTURE CONNECTIONS.--CONNECTION BETWEEN EACH WATER CLOSET AND EACH FLOOR CONNECTED SERVICE SINK AND THE CAST IRON, STEEL OR WROUGHT IRON SOIL PIPE SHALL BE MADE WITH A HEAVY CAST IRON FLOOR FLANGE AS SHOWN IN FIG. 82. FLOOR FLANGE SHALL SLIP OVER THE PIPE AND BE CAULKED INTO POSITION. WHERE SPACE CONDITIONS WILL NOT PERMIT THE USE OF STANDARD FITTING IN CONJUNCTION WITH THE CAST-IRON FLOOR FLANGE, SPECIAL SHORT RADIUS FITTING SHALL BE PROVIDED.

1136. CONNECTION BETWEEN ANY FIXTURE AND FLANGES ON SOIL PIPE SHALL BE MADE ABSOLUTELY GAS AND WATER TIGHT WITH A ONE-PIECE SPECIAL MOLDED ASBESTOS GASKET, PROPERLY SATURATED TO PREVENT ROTTING OR DRYING. RUBBER GASKETS WILL NOT BE PERMITTED FOR THIS CONNECTION NOR WILL PUTTY BE ALLOWED.

1137. SETTING OF FLANGES.--PARTICULAR ATTENTION IS CALLED TO THE FACT THAT THE OUTLET FLANGES FOR CLOSETS AND SERVICE SINKS MUST BE SET WITH FACE THE PROPER DISTANCE FROM FLOOR TO MAKE A FIRST-CLASS JOINT WITH THE GASKET AND FIXTURE USED. NO FIXTURE SHALL BE SET IN PLACE UNTIL THE CONSTRUCTION ENGINEER HAS EXAMINED AND APPROVED SUCH FLANGE.

1138. FLOOR AND WALL PLATES.--SECTION E, PARAGRAPH E-10H APPLIES TO ALL FIXTURE OUTFITS. ALL PLATES FOR FIXTURE OUTFITS MUST BE ONE-PIECE.

1138A. TRIMMINGS, ETC.,--ALL TRIMMINGS, FITTINGS, AND ACCESSORIES LISTED IN PARAGRAPH E-10, AND REQUIRED IN THE WORK SHALL BE BRASS CHROMIUM PLATED.

1139. WATER-CLOSETS.--FURNISH AND INSTALL IN TOILET ROOMS WHERE INDICATED WATER-CLOSET OUTFITS NO. E46F. (SEE PP. 10 AND 11 AND FIG. 2).

1140. SERVICE SINKS.--FURNISH AND INSTALL IN TOILET ROOMS WHERE INDICATED SERVICE SINKS, OUTFITS NO. V 22 G. (SEE PP. 16 AND 17 AND FIG. 27). HOT AND COLD WATER SUPPLIES MUST EACH BE PROVIDED WITH A STOP.

1141. FURNISH AND INSTALL OUTSIDE OF TOILET ROOMS WHERE INDICATED, SERVICE SINKS, OUTFITS NO. I 24 G. (SEE PP. 16 AND 17 AND FIG. 28).

1142. SUPPLIES FOR SERVICE SINKS IN TOILET ROOMS SHALL BE FINISHED AND NICKEL-PLATED. SUPPLIES FOR SINKS OUTSIDE TOILET ROOMS ARE TO BE ROUGH BRASS. SUPPLIES ARE TO BE TO WALL OR FLOOR AS REQUIRED AND ARE TO BE PROVIDED WITH STOPS. WHERE VALVES ARE SHOWN ON THE INDIVIDUAL BRANCH WATER PIPES TO SERVICE SINKS ADDITIONAL STOPS AT FIXTURE WILL NOT BE REQUIRED.

1143. WASTES TO BE TO WALL OR FLOOR AS INDICATED ON DRAWINGS.

URINALS.--FURNISH AND INSTALL WHERE SHOWN ON DRAWINGS URINAL OUTFITS NO. V-18 F. (SEE PP. 11 AND 12 AND FIG. 4). FLUSH PIPE MAY BE 3/4 INCH IN LIEU OF 1 INCH AS SPECIFIED.

1144. WHERE MARBLE WAINSCOT IS PROVIDED THE URINALS SHALL BE SET WITH THE GROUND BACKS AGAINST THE MARBLE WAINSCOT.

1145. EACH URINAL WASTE SHALL BE FITTED WITH A 3-INCH DIAMETER CAST-IRON P TRAP HAVING A WATER SEAL NOT LESS THAN 2-1/2 INCHES IN DEPTH. TRAPS FOR URINALS SHALL HAVE RECESSED SCREW-JOINTED CONNECTIONS.

1146. THE WASTE PIPE FROM URINAL TO TRAP IS TO BE 2-INCH IRON PIPE SIZE AND THICKNESS BRASS PIPE. TRAPS FOR URINALS ARE TO HAVE INLETS PROVIDED WITH A HEAVY BRASS BUSHING WITH TAPPED OPENING TO RECEIVE THE 2-INCH PIPE.

1147. LAVATORIES.--IN TOILET ROOMS PROVIDED WITH MARBLE WAINSCOT, FURNISH AND INSTALL WHERE INDICATED RECTANGULAR LAVATORY OUTFITS NO. V20. (SEE PP. 12 AND 13 AND FIG. 7).

1148. IN TOILET ROOMS THAT ARE NOT PROVIDED WITH MARBLE WAINSCOT, AND IN OFFICE ROOMS, FURNISH AND INSTALL WHERE INDICATED, RECTANGULAR LAVATORY OUTFITS NO. VB20. (SEE PP. 12 AND 13 AND FIG. 8).

1149. UNLESS SO SPECIFIED OR NOTED TWO OR MORE LAVATORIES SHOWN ADJACENT TO EACH OTHER SHALL HAVE SEPARATE WASTES AND SUPPLIES. SUPPLIES SHALL BE FINISHED AND NICKEL PLATED AND SHALL HAVE NICKEL PLATED STOPS.

1150. SUPPLIES AND WASTE FOR LAVATORIES SHALL BE MADE TO WALL AS INDICATED ON DRAWINGS. WALL CONNECTED LAVATORIES SHALL HAVE "P" TRAPS FIG. 61 ON WASTE. (SEE P. 28 AND FIG. 61).

1151. ON ALL LAVATORIES EXCEPT THOSE IN TOILET ROOMS NOTED "PUBLIC" ON SCALE DRAWINGS, THE CHAIN STAY SPECIFIED ON PAGE 13 SHALL BE OMITTED AND SOAP DISH WITH CHAIN STAY (SEE P. 31 AND FIG. 85) SHALL BE INSTALLED. CHAIN STAY SHALL HAVE ONE BRASS WASHER AND ONE RUBBER OR LEATHER WASHER.

1152. KITCHEN SINK.--FURNISH AND INSTALL IN BOILER ROOM WHERE INDICATED SINK OUTFIT NO. R36. (SEE P. 15 AND FIG. 17). SINK SHALL HAVE "P" TRAPS FIG. 61 ON WASTE. (SEE P. 28 AND FIG. 61.) SUPPLIES SHALL BE ROUGH BRASS AND SHALL BE PROVIDED WITH STOPS OR GATE VALVES. WHERE VALVES ARE SHOWN ON THE INDIVIDUAL BRANCH WATER PIPES TO KITCHEN SINKS, ADDITIONAL STOPS AT FIXTURE WILL NOT BE REQUIRED.

1153. SHOWER FIXTURE.--FURNISH AND INSTALL IN SHOWER ENCLOSURE WHERE INDICATED SHOWER FIXTURE WITH MIXING VALVE AND SUPPLY COLUMNS, OUTFIT NO. 2M. (SEE PP. 19 AND 20 AND FIG. 35).

1154. EACH SHOWER SHALL BE PROVIDED WITH A DRAIN AND "P" TRAP.

1155. DRAIN FOR SHOWER SHALL BE FIG. 74. DRAIN SHALL BE ALL BRASS AND SHALL BE SOLDERED TO LEAD PAN. (SEE P. 31 AND FIG. 74).

1156. SHOWER ENCLOSURES AND LEAD PANS WILL BE FURNISHED UNDER ANOTHER SECTION OF THIS SPECIFICATION.

1157. SHOWER FIXTURE SHALL BE LOCATED WHERE SHOWN IN DETAIL OF SHOWER ENCLOSURE.

1158. ACCESSORIES.--FURNISH AND INSTALL THE FOLLOWING ACCESSORIES (SEE PP. 31 AND 32 AND FIGS. 86, 90, 92 AND 93).

NEAR EACH WATER-CLOSET INSTALL A PAPER HOLDER FIG. 93 AND A COAT HOOK FIG. 92. NEAR EACH LAVATORY INSTALL A TOWEL RACK FIG. 90. INSTALL IN THE SHOWER-BATH ENCLOSURE A SOAP CUP FIG. 86 AND IN THE DRESSING ROOM TWO COAT HOOKS FIG. 92 AND A TOWEL RACK FIG. 90. ACCESSORIES IN SHOWER BATH INCLOSURE SHALL BE LOCATED WHERE SHOWN IN DETAIL OF ENCLOSURE. INSTALL NEAR RECEPTOR SHOWER A SOAP CUP FIG. 86, A TOWEL RACK FIG. 90 AND TWO COAT HOOKS, FIG. 92.

1159. EXTRA WASHERS, ETC.--FURNISH AND DELIVER TO THE CONSTRUCTION ENGINEER ONE DOZEN COMPLETE SETS OF WASHERS. EACH SET SHALL CONSIST OF ONE WASHER OF EACH SIZE USED IN FAUCETS, BIBBS, BALL COCKS, CLOSET TANKS, FLUSHING VALVES, MIXING VALVES, WALL HYDRANTS, ETC. THIS EXTRA EQUIPMENT IS TO BE ENCLOSED IN A WOOD OR METAL BOX WITH HINGED COVER. BOX TO HAVE COMPARTMENT OF AMPLE SIZE FOR THE DIFFERENT SIZES AND KINDS OF WASHERS.

1160. COAL BURNING WATER HEATER, COIL HEATER AND STORAGE TANK.--FURNISH AND INSTALL IN BASEMENT WHERE INDICATED ON FLOOR PLANS, ONE COAL BURNING WATER HEATER, ONE COPPER COIL WATER HEATER AND ONE HOT WATER STORAGE TANK.

1161. THE COAL BURNING WATER HEATER SHALL BE OUTFIT No. I12 (SEE PP. 21 AND 23 AND FIG. 40).

1162. PROVIDE SMOKE PIPE OF REQUIRED SIZE CONSTRUCTED OF No. 20 UNITED STATES STANDARD GAUGE GALVANIZED IRON AND CONNECT SAME TO CHIMNEY AS INDICATED. SMOKE PIPE SHALL BE PROVIDED WITH A WING DAMPER AND A CLEAN-OUT. DAMPER TO BE IN VERTICAL PIPE NOT OVER 6 FEET ABOVE FLOOR OR IF IN HORIZONTAL PIPE MUST HAVE OPERATING CHAINS EXTENDING TO 6 FEET ABOVE FLOOR.

1163. THE COPPER COIL WATER HEATER SHALL CONSIST OF A COPPER HEATING COIL SUBMERGED IN A CAST-IRON HOUSING, THE WATER IN THE COIL BEING HEATED FROM WATER IN THE CAST-IRON HOUSING. THE FLOW AND RETURN CIRCULATING TAPPINGS OF THE JACKET SHALL BE CONNECTED TO THE STEAM HEATING BOILER BELOW THE WATER LINE AND THE COPPER COIL BEING CONNECTED TO THE HOT WATER STORAGE TANK.

1164. THE COPPER COIL WATER HEATER SHALL HAVE THE MANUFACTURER'S GUARANTEED CAPACITY TO RAISE THE TEMPERATURE OF NOT LESS THAN 120 GALLONS OF WATER 100 DEGREES F. IN THREE HOURS.

1165. IN LIEU OF THE HEATER CONTAINING A COPPER COIL THE HEATER MAY BE OF ALL CAST-IRON CONSTRUCTION SUITABLE FOR HEATING WATER BY THE SAME METHOD AS DESCRIBED FOR THE COPPER COIL HEATER AND OF EQUAL CAPACITY.

1166. THE HOT WATER STORAGE TANK SHALL BE A VERTICAL TANK 24 INCHES DIAMETER BY 60 INCHES LONG MEASURED FROM EDGE OF SHEET. TANK SHALL BE CONSTRUCTED OF BEST QUALITY FLANGE STEEL OF A TENSILE STRENGTH NOT LESS THAN 45,000 POUNDS PER SQUARE INCH, AND OF THICKNESSES NOT LESS THAN 3/16 INCH FOR SHELL, 5/16 INCH FOR CONVEX HEAD AND 3/8 INCH FOR CONCAVE HEAD. TANK SHALL BE RIVETED AND/OR WELDED FOR A WORKING PRESSURE OF 100 POUNDS PER SQUARE INCH AND SHALL BE TESTED AT SHOP TO A HYDROSTATIC PRESSURE OF 150 POUNDS PER SQUARE INCH. HEADS SHALL BE BUMPED TO A RADIUS EQUAL TO THE DIAMETER OF THE TANK ONE HEAD BEING CONVEX AND ONE CONCAVE. THE NAME OF MANUFACTURER AND THE WORKING PRESSURE SHALL BE STENCILED ON THE TANK OR MARKED ON A BRASS PLATE SECURED TO TANK.

1167. TANK SHALL BE PROVIDED WITH SIX 1-1/2 INCH REINFORCED TAPPINGS AS FOLLOWS: ONE IN THE CENTER OF THE CONVEX HEAD; TWO IN THE SHELL, IN LINE (PARALLEL WITH AXIS OF TANK) EACH CENTERED 12 INCHES FROM EDGE OF THE SHEET; THREE IN THE SHELL, IN LINE, SAID LINE TO BE DIAMETRICALLY OPPOSITE FROM THE LINE OF THE TWO JUST MENTIONED. OF THESE THREE, ONE IS TO BE CENTERED 12 INCHES FROM THE CONVEX END; ANOTHER 24 INCHES FROM THE CONVEX END, AND THE THIRD 12 INCHES FROM THE CONCAVE END.

1168. IN ADDITION TO THE ABOVE TAPPINGS, THE TANK SHALL BE PROVIDED WITH ONE 4 INCH X 6 INCH HANDHOLE, FITTED WITH PLATE, YOKE AND GASKET, AND LOCATED ABOUT 6 INCHES FROM THE CONCAVE END. HANDHOLE MUST BE ACCESSIBLE AFTER THE TANK IS SET.

1169. ALL MEASUREMENTS SHALL BE TAKEN FROM THE EDGE OF THE SHEET. THE NAME OF THE MANUFACTURER AND THE WORKING PRESSURE SHALL BE MARKED ON A BRASS PLATE SECURED TO THE TANK OR BE STENCILED ON THE TANK.

1170. THE WATER HEATERS AND STORAGE TANK SHALL BE CONNECTED AS INDICATED BY DETAIL No. 8, MISCELLANEOUS DRAWING No. 3054 WITH SUCH MODIFICATIONS AS ARE NECESSARY ON ACCOUNT OF THE LOCATIONS OF THE UNITS WHICH SHALL BE SET WHERE INDICATED ON THE FLOOR PLANS.

1171. TEMPERATURE REGULATOR, THERMOMETER, CONTROL AND RELIEF VALVES AND UNIONS SHALL BE INSTALLED AS INDICATED ON DETAIL.

1172. THE TEMPERATURE REGULATOR AND THERMOMETER SHALL BE SPECIFIED IN P. 23. THERMOMETER SHALL BE ANGLE TYPE INSERTED IN SIDE OF TANK AS SHOWN.

1173. IN LIEU OF THE RELIEF VALVE SPECIFIED IN THE FEDERAL SPECIFICATION WW-P-541 THE RELIEF VALVE SHALL BE A 3/4 INCH DIAMETER DIAPHRAGM ACTUATED, SELF-CONTAINED, SINGLE SEAT, STRAIGHTWAY PATTERN RELIEF VALVE OF APPROVED MAKE.

1174. THE VALVE SHALL BE SPECIALLY DESIGNED FOR RELIEVING WATER PRESSURE AND SHALL BE CONSTRUCTED SO THAT THE LIFTING FORCE WILL BE EXERTED UNDER THE DIAPHRAGM.

1175. THE DIAPHRAGM SHALL BE OF SPECIAL CORROSION-RESISTING METAL OR OF DOUBLE DUCK INSERTED RUBBER; SEAT SHALL BE OF SUITABLE ALLOY WHICH CLOSES AGAINST A DISK OF SPECIAL COMPOSITION, THAT IS NOT ADVERSELY EFFECTED BY CHANGES IN TEMPERATURE. ALL OTHER PARTS OF THE VALVE THAT IS IN CONTACT WITH THE WATER MUST BE OF BRONZE.

1176. THE RELIEF VALVE SHALL BE SET TO RELIEVE THE PRESSURE WHEN IT REACHES 100 POUNDS PER SQUARE INCH. THE DISCHARGE FROM THE VALVE SHALL BE EXTENDED, WITH 3/4 INCH GALVANIZED PIPE TO DISCHARGE INTO THE ENGINEERS SINK.

1177. A 3-1/2 INCH DIAL, JAPANNED-IRON CASE, PRESSURE GAUGE, GRADUATED TO 200 POUNDS SHALL BE FURNISHED AND INSTALLED ON THE COLD WATER CONNECTION TO THE HOT WATER TANK, BETWEEN THE CHECK VALVE AND THE TANK. GAUGE CONNECTION SHALL BE FITTED WITH A FINISHED BRASS T-HANDLE STOP.

1178. THE DRAW-OFF FROM HEATER AND TANK SHALL BE PROVIDED AND FITTED WITH A 3/4 INCH HOSE BIBB.

1179. ELECTRIC WATER COOLERS.--FURNISH AND INSTALL, WHERE NOTED ON THE DRAWINGS SELF CONTAINED, AUTOMATIC, ELECTRIC WATER COOLERS AS HEREINAFTER SPECIFIED, WITH ALL FITTINGS, TRIMMINGS AND CONNECTIONS, COMPLETE.

1180. EACH WATER COOLER SHALL BE OF THE PRESSURE TYPE, SUITABLE FOR DIRECT CONNECTING TO THE WATER SUPPLY PIPING OF THE BUILDING. THE WATER PRESSURE OF THE BUILDING AT THE PRESSURE REDUCING VALVE MUST BE OBTAINED BY THE CONTRACTOR. NO EXCUSE WILL BE ACCEPTED DUE TO FAILURE OF THE CONTRACTOR TO ASCERTAIN ALL OF THE NECESSARY DATA FOR SUCCESSFUL OPERATION OF THE WATER COOLERS.

1181. THE EQUIPMENT SHALL BE INSTALLED IN A SUBSTANTIAL STEEL CABINET CONSTRUCTED WITH REMOVABLE SECTIONS, ARRANGED SO THAT ALL EQUIPMENT SHALL BE ACCESSIBLE FOR INSPECTION AND ADJUSTMENT. THE CABINET SHALL BE NEATLY FINISHED IN COLOR ADOPTED AS STANDARD BY THE MANUFACTURER OF THE WATER COOLER. THE TOP OF THE CABINET SHALL BE OF GLAZED VITREOUS CHINA, PORCELAIN ENAMELWARE OR STAINLESS STEEL DESIGNED WITH AN INTEGRAL BOWL AND EQUIPPED WITH AN ANGLE JET DRINKING FOUNTAIN, AND A DRAIN. THE DRAIN SHALL BE FITTED WITH A STRAINER AND SHALL BE PIPED, WITHOUT A TRAP, TO THE OUTSIDE OF THE CABINET. THE BOWL SHALL BE FREE FROM CORNERS WHICH WOULD BE DIFFICULT TO CLEAN AND SHALL BE DESIGNED TO PREVENT UNNECESSARY SPLASHING AT POINT WHERE WATER FALLS FROM THE JET.

1182. THE JET SHALL ISSUE FROM A NOZZLE AT AN ANGLE FROM THE VERTICAL SUCH AS TO PREVENT THE RETURN OF WATER IN THE JET TO THE ORIFICE OR ORIFICES FROM WHENCE THE JET ISSUES. THE JET MUST BE SUITABLE FOR DIRECT DRINKING OR FOR FILLING A GLASS.

1183. THE NOZZLE AND EVERY OTHER OPENING IN THE SUPPLY TO THE NOZZLE SHALL BE ABOVE THE EDGE OF THE BOWL, SO THAT SUCH NOZZLE OR OPENING WILL NOT BE FLOODED IN CASE OF A STOPPAGE IN THE WASTE.

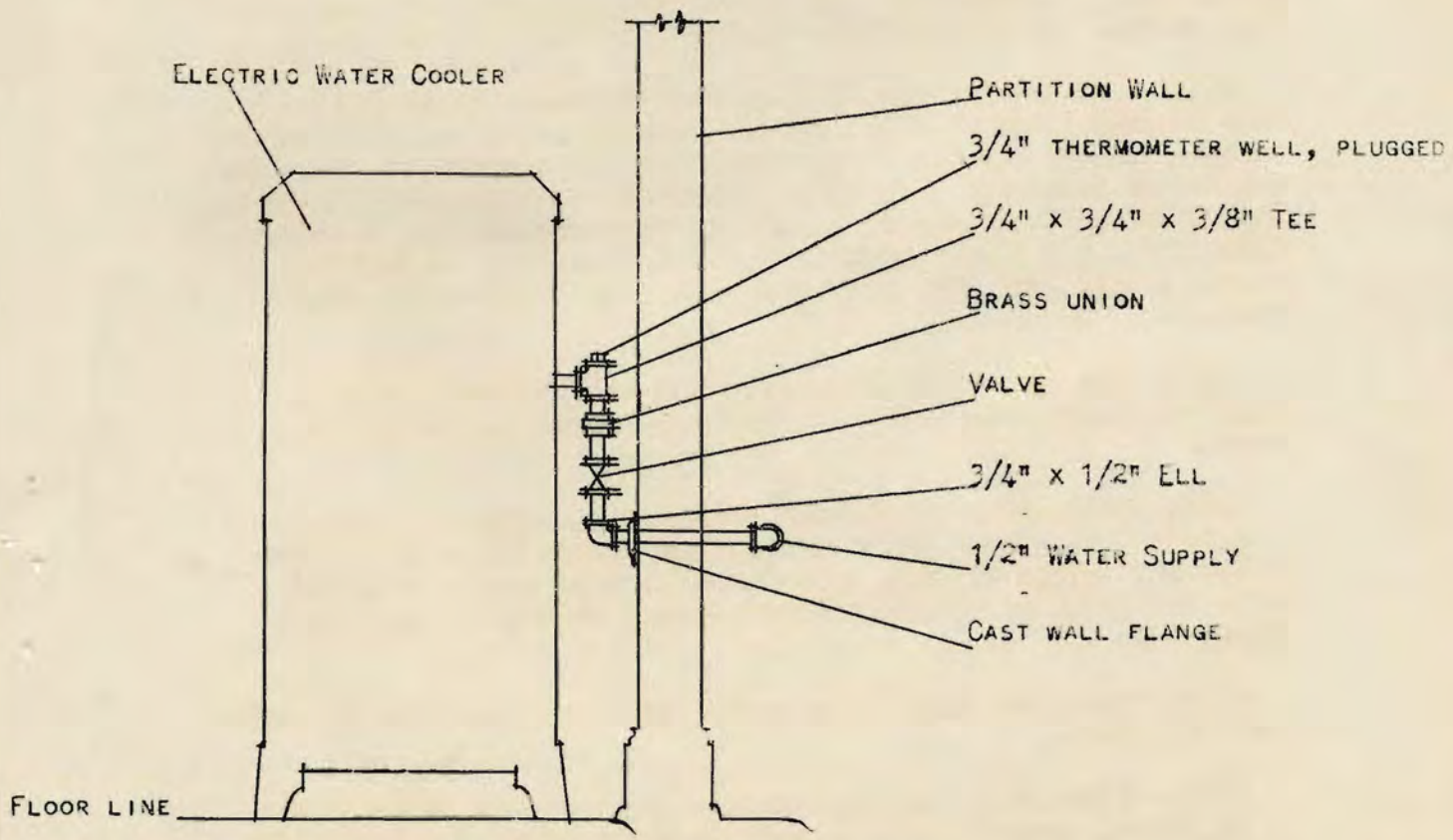
1184. THE NOZZLE SHALL BE PROTECTED BY GUARDS WHICH WILL PREVENT PERSONS DRINKING FROM FOUNTAIN FROM COMING IN CONTACT WITH THE NOZZLE. GUARDS SHALL BE SO DESIGNED THAT THE POSSIBILITY OF TRANSMISSION OF INFECTION BY TOUCHING THE GUARDS IS REDUCED TO A MINIMUM. THE JET OF WATER FROM NOZZLE SHALL NOT TOUCH THE GUARD. A VOLUME REGULATOR AND A SELF-CLOSING NON-LEAKING STOP SHALL BE PROVIDED ON SUPPLY TO THE JET. THE WASTE FROM BOWL SHALL BE PROVIDED WITH A STRAINER.

1185. ALL EXPOSED HARDWARE, FITTINGS AND TRIMMINGS SHALL BE HEAVY AND SUBSTANTIAL PATTERN, FINISHED IN CHROMIUM PLATING OVER NICKEL.

1186. THE WATER COOLING COMPARTMENT OF EACH COOLER SHALL HAVE A STORAGE CAPACITY OF NOT LESS THAN FOUR QUARTS AND SHALL BE CONSTRUCTED OF BRASS OR OTHER APPROVED EQUALLY CORROSION RESISTING METAL AND SHALL BE INSULATED WITH 2 INCHES OF CORK OR EQUIVALENT INSULATION.

1187. PROVISION SHALL BE MADE FOR COMPLETELY DRAINING THE COOLING COMPARTMENT.

1188. A PRECOOLER WILL NOT BE REQUIRED, BUT WILL BE PERMITTED. NO ALLOWANCE, HOWEVER, WILL BE MADE IN THE CAPACITY FOR PRECOOLING WATER.



WATER CONNECTIONS FOR ELECTRIC WATER COOLER

1189. EACH WATER COOLER SHALL HAVE A CAPACITY TO COOL NOT LESS THAN 5.0 GALLONS OF WATER PER HOUR FROM AN INLET TEMPERATURE OF 85 DEGREES F. TO 50 DEGREES F. WITH A CONDENSING MEDIUM OF WATER AT 85 DEGREES F. WITHOUT THE USE OF PRECOOLING WATER. THIS CAPACITY MUST BE BASED ON A TEMPERATURE OF THE REFRIGERANT IN THE EVAPORATOR OF NOT LESS THAN 34 DEGREES F.

1190. THE COMPRESSOR SHALL BE OPERATED BY AN ELECTRIC MOTOR OF THE 40 DEGREES C RISE TYPE, DESIGNED FOR THE CURRENT AVAILABLE AT THE BUILDING. ALL NECESSARY CONTROL DEVICES SHALL BE PROVIDED AND SHALL INSURE THE MAINTENANCE OF DRINKING WATER TEMPERATURES NOT TO EXCEED 50 DEGREES F.

1191. THE POWER CONSUMPTION MUST NOT EXCEED 70 WATTS PER GALLON OF WATER COOLED WITHOUT THE USE OF PRECOOLING WATER.

1192. AN EXCESS PRESSURE SWITCH ACTUATED BY THE CONDENSER PRESSURE SHALL BE PROVIDED AND SET TO BREAK THE MOTOR CIRCUIT AT A PRESSURE CORRESPONDING TO THE VAPOR PRESSURE OF THE REFRIGERANT, AT 122 DEGREES F.

1193. WATER SUPPLY TO THE CONDENSER, SHALL HAVE A GATE VALVE AND A STRAINER WITH BRASS BODY AND BRASS SCREEN, AND AN AUTOMATIC WATER REGULATING VALVE OPERATED BY CONDENSING PRESSURE OR THERMOSTATICALLY IN ACCORDANCE WITH THE TEMPERATURE OF THE CONDENSER.

1194. ALL REFRIGERANT CONTAINING PARTS SHALL HAVE BEEN TESTED BY THE MANUFACTURER TO NOT LESS THAN 1-1/2 TIMES THE VAPOR PRESSURE OF THE REFRIGERANT, AT 122 DEGREES F.

1195. A SERVICE AND REPAIR MANUAL SHALL BE FURNISHED WITH EACH WATER COOLER.

1196. EACH ASSEMBLED WATER COOLER SHALL BE TESTED AT THE MANUFACTURER'S SHOP, BY THE MANUFACTURER, FOR CAPACITY AND CONTROLS, BEFORE SHIPMENT.

1197. THE SHOP TEST OF EACH UNIT, FOR CAPACITY SHALL CONSIST OF A CONTINUOUS RUN OF 24 HOURS AT THE SPECIFIED CAPACITY. THE UNIT SHALL THEN BE RUN IN SUCH A WAY AS TO CAUSE THE AUTOMATIC CONTROLS TO START AND STOP THE MOTOR 100 TIMES. THE UNIT SHALL ALSO BE TESTED TO DETERMINE THAT THE EXCESSIVE PRESSURE SWITCH OPERATES AS SPECIFIED.

1198. BEFORE SHIPMENT OF ANY WATER COOLER, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A NOTARIZED TEST SHEET GIVING THE DATA OBTAINED IN THE OPERATION OF EACH UNIT.

1199. FOR THE CAPACITY RUN, THE TEST SHEET SHALL SHOW THE KIND OF REFRIGERANT USED THE NUMBER OF GALLONS OF WATER COOLED FROM 85 DEGREES TO 50 DEGREES F.; THE PRESSURE AND TEMPERATURE ON BOTH INLET AND OUTLET SIDE OF THE COMPRESSOR; THE SIZE OF THE MOTOR; THE POWER CONSUMPTION IN WATT HOURS PER GALLON OF WATER COOLED; THE TEMPERATURE OF THE SURROUNDING AIR AND THE TEMPERATURE OF THE INCOMING CONDENSING WATER AND THE TOTAL NUMBER OF GALLONS OF CONDENSING WATER USED.

1200. FOR THE TEST OF CONTROLS THE TEST SHEET SHALL SHOW THE FREQUENCY OF THE STARTING AND STOPPING OF THE MOTOR; THE POWER CONSUMPTION IN WATT HOURS PER GALLON OF WATER COOLED THE TEMPERATURE OF THE SURROUNDING AIR, AND THE TEMPERATURE OF THE INCOMING CONDENSING WATER AND THE TOTAL NUMBER OF GALLONS OF CONDENSING WATER USED.

1201. No consideration will be given to a water cooler which is not in strict accordance with the foregoing specification.

1202. Especial attention is called to the fact that no Government employee is not to be used as the agent of the contractor in any manner. The contractor must make his own contacts with the agency he selects to install the apparatus and must be responsible for the proper installation and operation of the equipment.

1203. All necessary electrical, water, waste connections, etc., to the water coolers shall be provided as directed. Electrical work shall conform to the requirements of the National Electrical Code. Each water cooler shall be provided with an approved cord and/plug. ELECTRIC Water supply to each water cooler shall have a gate valve, and a thermometer well for use in testing the cooling capacity of the equipment shall be installed as shown in sketch below. Waste from each cooler shall be fitted with a 1-1/4 inch cast "P" trap with cleanout. Water supply pipe shall be red brass or copper, iron pipe size, with cast brass screw fittings. All water pipes and fittings shall be covered as hereinafter specified. All exposed waste connections shall be painted two coats lead and oil paint of color directed. All pipe connections shall have cast brass flange at wall and floor.

1204. After completion of the installation an operating test will be made to determine compliance with contract requirements.

1205. SUMP PUMP.--FURNISH AND INSTALL IN BOILER ROOM WHERE INDICATED AN AUTOMATIC ELECTRIC MOTOR DRIVEN SUMP PUMP, COMPLETE WITH CONTROL APPARATUS, CAST IRON FLOOR PLATE, ETC. THE PUMP SHALL HAVE A CAPACITY OF NOT LESS THAN 25 GALLONS PER MINUTE AGAINST A STATIC HEAD OF 15 FEET.

1206. THE PUMP IS TO BE FITTED WITH A HIGH GRADE THRUST BEARING MOUNTED ABOVE THE FLOOR AND THE SHAFT MUST HAVE SUITABLE GUIDE BEARINGS AT THE TOP AND BOTTOM. THE SUCTION OF THE PUMP IS TO HAVE A STRAINER OF AMPLE SIZE.

1207. THE PUMP IS TO BE DIRECT CONNECTED BY MEANS OF A FLEXIBLE CONNECTION TO A VERTICAL TYPE ELECTRIC MOTOR OF AMPLE SIZE MOUNTED ON A SUITABLE SUPPORT. THE MOTOR IS TO BE WOUND FOR 115 VOLTS, 60 CYCLES, SINGLE PHASE ALTERNATING CURRENT. THE MOTOR MUST BE OF A DESIGN ADAPTED TO THE SERVICE, BE SELF-STARTING, AND THE BEARINGS SHALL HAVE CONTINUOUS OILING DEVICES.

1208. THE PUMP MUST HAVE A SUITABLE ENCLOSED FUSED SWITCH MOUNTED ON THE PUMP OR ON A STAND ADJACENT TO THE PUMP. ALL ELECTRICAL CONNECTIONS FROM MOTOR TO THE JUNCTION BOX ON WALL WHICH WILL BE INSTALLED UNDER THE "CONDUIT AND WIRING" SECTION OF THIS SPECIFICATION SHALL BE MADE COMPLETE. A FLOAT SWITCH OPERATED BY MEANS OF A COPPER FLOAT WITH SUITABLE GUIDES MUST BE PROVIDED.

1209. A CONCRETE SUMP PIT OF SIZE AND DEPTH NOTED ON THE DRAWINGS WILL BE PROVIDED UNDER ANOTHER SECTION OF THIS SPECIFICATION. THIS PIT WILL BE PROVIDED WITH A CONCRETE TOP WITH 20 INCHES DIAMETER OPENING FOR THE SUMP PUMP. THIS CONTRACTOR MUST FURNISH AND INSTALL IN THE OPENING A HEAVY CAST IRON FLOOR RING AND COVER FLUSH WITH BASEMENT FLOOR. RING IS TO BE GROUTED IN PLACE AND COVER IS TO HAVE ALL NECESSARY PADS, OPENINGS, ETC., FOR THE PUMP AND CONTROL APPARATUS.

1210. MAIN DISCHARGE PIPE IS TO BE CONNECTED INTO THE TOP OF A WASTE OR DRAIN PIPE NEAR THE BASEMENT CEILING AND IS TO HAVE A GATE VALVE, A CHECK VALVE AND A UNION.

1211. IN LIEU OF THE SUBMERGED TYPE OF PUMP, THE CONTRACTOR MAY, IF HE ELECTS, FURNISH AND INSTALL A SUCTION TYPE PUMP OF THE SAME CAPACITY. THE MOTOR, CONTROL APPARATUS, FLOOR RING AND COVER, ETC., TO BE INSTALLED COMPLETE AS SPECIFIED FOR SUBMERGED PUMP.

1212. WATER SOFTENER.--FURNISH AND INSTALL ONE WATER SOFTENER IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:

1213. THE WATER SOFTENER SHALL HAVE A CAPACITY OF NOT LESS THAN 1000 GALLONS ON 18 GRAIN WATER PER REGENERATION. TANK TO BE OF CAST IRON OR BOILER STEEL WELDED CONSTRUCTION DESIGNED FOR 100 POUNDS PER SQUARE INCH WORKING PRESSURE.

1214. THE APPARATUS MAY BE OF THE DIRECT INTERNAL SALTING TYPE, OR MAY HAVE AN INDEPENDENT SALT TANK, AS CONTRACTOR ELECTS.

1215. ALL PIPE AND FITTINGS SHALL BE OF STANDARD MAKE, AND PIPING SHALL BE NOT LESS THAN 1/2 INCH IN SIZE. THERE SHALL BE INSTALLED ON THE HARD WATER INLET PIPE A WATER METER, NOT LESS THAN 5/8 INCH DIAMETER, READING IN GALLONS.

1216. GRADUATED LAYERS OF GRAVEL SHALL SUPPORT THE ACTIVE MATERIAL, AND SHALL BE PLACED SO THAT THE ACTIVE MATERIAL RESTS DIRECTLY UPON THE FINEST SIZE GRAVEL, AND THE COARSEST SIZE SHALL BE AT THE BOTTOM AROUND STRAINER SYSTEM.

1217. THE SOFTENED WATER SHALL BE ZERO HARDNESS AS DETERMINED BY THE STANDARD (A. P. H. A.) BOUTRON AND BOUDET SOAP TEST, USING FIVE DROPS OF THIS STANDARD SOAP SOLUTION WHEN TESTING 40 CC OF THE SOFTENED WATER FOR PERMANENT SUDS (LASTING FIVE MINUTES).

1218. THE CONTRACTOR SHALL PROVIDE IN CONNECTION WITH HIS APPARATUS DEVICES OR STRAINERS WHICH WILL PREVENT THE LOSS OF THE ACTIVE MATERIAL. HE MUST GUARANTEE THAT, UNDER ACTUAL OPERATING CONDITIONS, THE MINERAL WILL NOT FLOW OUT WITH THE SOFT WATER DURING ANY SOFTENING RUN, WHEN THE MOMENTARY RATE OF FLOW THROUGH THE APPARATUS DOES NOT EXCEED 10 GALLONS PER MINUTE. THERE SHALL BE NO INCREASE IN THE TURBIDITY OF THE WATER PASSING THROUGH SOFTENER NOR SHALL ANY SLUGS OF DIRT COME THROUGH WITH THE SOFTENED WATER WITH MOMENTARY FLOW OF 10 GALLONS PER MINUTE OR BELOW.

1219. WATER SOFTENER TO BE CONNECTED TO THE COLD WATER SUPPLY TO THE HOT WATER AND TO FEED LINE OF HEATING BOILER. SOFTENER TO BE LOCATED ADJACENT TO ENGINEER'S SINK IN BASEMENT, OR AS DIRECTED. THE WASH FROM SOFTENER TO DISCHARGE INTO SINK.

1220. WATER SOFTENER TANK BEFORE SHIPMENT SHALL RECEIVE A SHOP COAT OF RUST-RESISTING PAINT.

1221. CONTRACTOR MUST INSTRUCT THE GOVERNMENT EMPLOYEE FULLY AS TO THE OPERATION OF THE WATER SOFTENER, HOW AND WHEN TO RESTORE THE MATERIAL WITH SALT, KIND OF SALT, WHERE TO BE PROCURED, ETC. HE MUST ALSO FURNISH CUSTODIAN WITH A TYPEWRITTEN OR PRINTED SET OF INSTRUCTIONS AS TO THE OPERATION OF THE APPARATUS.

1222. HANGERS AND SUPPORTS, FASTENINGS, ETC.--ALL PIPING ABOVE BASEMENT FLOOR OR GROUND SHALL BE HUNG WITH HANGERS CONSTRUCTED IN ACCORDANCE WITH MISCELLANEOUS DRAWING NO. 305-1, SPACED NOT OVER 10 FEET APART. IN LIEU OF THE RIGHT AND LEFT THREADED TURNBUCKLE INDICATED, CONTRACTOR MAY USE A TURNBUCKLE THREADED ON ONE END ONLY, THE HANGER ROD AT THE OTHER END TO SLIP THROUGH THE BORE OF THE TURNBUCKLE, AND HEADED OVER BORE OR OTHERWISE SECURED.

1223. IN CASE OF SOIL AND WASTE PIPES FROM INDIVIDUAL TOILET ROOMS TO THE MAIN STACKS AND OTHER PIPING TO CEILING WHICH ARE NOT OF NECESSITY LOW ENOUGH TO PERMIT HANGERS NO. 2 TO BE USED WITH TURNBUCKLE, THE TURNBUCKLE MAY BE OMITTED.

1224. IN LIEU OF HANGERS INDICATED ON DRAWING NO. 305-1, CONTRACTOR MAY, IF HE ELECTS, USE COMMERCIAL INDIVIDUAL TYPE OF PIPE HANGER WITH BANDS, RODS, ETC. NOT LIGHTER THAN INDICATED ON DRAWING NO. 305-1 PROVIDING SAMPLE IS SUBMITTED TO THIS OFFICE AND APPROVED. BAND OR CLEVIS TYPE HANGERS MAY BE USED. HANGERS MUST BE OF A DESIGN WHICH WILL PERMIT REMOVAL AND REPLACEMENT OF BAND AND HANGER WITHOUT REMOVING THE PIPE.

1225. BRASS NICKEL PLATED PIPE SHALL BE SUPPORTED BY SUITABLE CAST-BRASS FINISHED NICKEL-PLATED SUPPORTS. ALL BOLTS, SCREWS, ETC., FOR SECURING SUCH SUPPORTS SHALL HAVE ALL EXPOSED HEADS, ETC., FINISHED NICKEL PLATED. PIPES RUN ON FACE OF WALL SHALL HAVE NOT LESS THAN 3/4 INCH AND NOT OVER 1 INCH CLEARANCE BETWEEN PIPE AND FACE OF WALL.

1226. WHERE TRIMMINGS ARE SECURED TO FREE STANDING MARBLE, SLATE, SOAP STONE, OR GLASS THEY SHALL BE FASTENED WITH 1/4-INCH BRASS THROUGH BOLTS. WHERE TRIMMINGS, TANKS, FIXTURE BRACKETS, OR OTHER WORK ARE SECURED TO MASONRY WALLS THEY SHALL BE FASTENED WITH 1/4-INCH BRASS EXPANSION BOLTS NOT LESS THAN 4 INCHES LONG; TO TERRA COTTA WALLS OR

PARTITIONS WITH 1/4-INCH BRASS TOGGLE OR THROUGH BOLTS; TO WOOD PARTITIONS WITH HEAVY, ROUND HEAD BRASS WOOD SCREWS; TO GYPSUM WITH 1/4-INCH BRASS THROUGH BOLTS. IN CASES WHERE TANKS OR FIXTURES ARE SUPPORTED BY GYPSUM WALLS, IRON, OR STEEL PLATES 1/8 INCH THICK, 6 INCHES WIDE, AND NOT LESS THAN 24 INCHES LONG SHALL BE USED AT BACK OF THROUGH BOLTS. THE PLATES SHALL BE DRILLED TO RECEIVE AT LEAST TWO BOLTS.

1227. WHERE WOOD SCREWS ARE USED, SCREWS SHALL GO INTO SOLID WOOD, SUCH AS FLOOR JOISTS, STUDS, OR SOLID PIECES SET BETWEEN STUDS. WHERE THROUGH BOLTS ARE USED, THEY SHALL BE PROVIDED WITH PLATES OR WASHERS AT BACK SET SO THAT HEADS, NUTS, AND WASHERS WILL BE CONCEALED BY PLASTER. EXPOSED HEADS OF BOLTS AND NUTS SHALL BE HEXAGON WITH ROUNDED TOPS FINISHED AND NICKEL PLATED, WITH NICKEL-PLATED HEXAGON NUTS TO CONCEAL END OF BOLTS WHERE EXPOSED. WHERE NECESSARY, EXPOSED NUTS AND HEADS OF SCREWS SHALL BE PROVIDED WITH NICKEL-PLATED BRASS WASHERS.

1228. EXPANSION BOLTS SHALL BE 1/4-INCH BRASS BOLTS WITH 20 THREADS TO THE INCH AND OF SUFFICIENT LENGTH TO EXTEND AT LEAST 3 INCHES INTO SOLID CONCRETE OR BRICKWORK, FITTED WITH LOOSE TUBING OR SLEEVES OF PROPER LENGTH TO BRING EXPANSION SLEEVES IN THE SOLID CONCRETE OR BRICK WALL. THIS CLAUSE APPLIES WHEREVER EXPANSION BOLTS ARE SPECIFIED.

1229. PIPE SLEEVES.--ALL PIPE SLEEVES MUST BE BUILT IN PLACE AS THE WALLS, FOOTINGS, ETC., ARE LAID UP. ALL PIPES PASSING THROUGH THE FOOTINGS, FLOORS, WALLS, ETC. (EXCEPT FOR PIPES PASSING THROUGH MEMBRANE WATERPROOFED WALLS, PIPES THROUGH EXTERIOR WALLS FOR WALL HYDRANT AND PIPES THROUGH EXTERIOR WALLS TO DISCHARGE NOZZLES OF INTERIOR DOWNSPOUTS DISCHARGING AT GRADE) SHALL BE PROVIDED WITH PIPE SLEEVES UNDER THIS SECTION OF THE SPECIFICATION. PIPE SLEEVES THROUGH BASEMENT WALLS SHALL BE CAST IRON, STANDARD WROUGHT IRON, OR STEEL PIPE SLEEVES, PROPERLY SECURED IN PLACE, WITH APPROXIMATELY 1/4-INCH SPACE ALL ROUND BETWEEN SLEEVE AND PIPE PASSING THROUGH SAME. WHERE WALLS ARE PLASTERED THE SLEEVES MUST BE OF SUFFICIENT LENGTH TO EXTEND TO FACE OF PLASTER. PIPE SLEEVES THROUGH FOOTINGS ARE TO BE SAME AS ABOVE BUT MUST BE OF PROPER SIZE TO PASS THE HUBS OF THE CAST IRON SOIL PIPE. SLEEVES OF No. 26 UNITED STATES STANDARD GAUGE (0.019 INCH) GALVANIZED IRON SHALL BE INSTALLED WITH APPROXIMATELY 1/4-INCH SPACE ALL ROUND FOR ALL PIPES PASSING THROUGH WALLS, PARTITIONS, AND FLOORS ABOVE BASEMENT. IN CASES WHERE CORK COVERING IS USED THE ABOVE SLEEVES SHALL BE OF SUFFICIENT SIZE TO PERMIT INSTALLATION OF THE COVERING THROUGH THE SLEEVE WITH THE USUAL CLEARANCE.

1230. SLEEVES THROUGH FLOORS AND EXTERIOR WALLS WHICH ARE WATERPROOFED WITH A MEMBRANE WATERPROOFING WILL BE FURNISHED AND INSTALLED UNDER ANOTHER SECTION OF THIS SPECIFICATION.

1231. FLOOR, WALL AND CEILING PLATES.--WHERE UNCOVERED EXPOSED PIPES PASS THROUGH FLOORS, FINISHED WALLS, OR FINISHED CEILINGS, THEY SHALL BE FITTED WITH FLOOR AND CEILING PLATES NOT LESS THAN 3/32 INCH THICK. PLATES ON NICKEL-PLATED PIPE SHALL BE FINISHED CAST BRASS, NICKEL PLATED; PLATES ON IRON PIPE SHALL BE CAST IRON OR STEEL. WALL AND CEILING PLATES SHALL HAVE ROUND-HEAD SET SCREWS. ONE PIECE PLATES ARE PREFERRED, BUT FLAT PATTERN, HINGED PLATES WITH SET SCREWS ON THOSE FOR WALL AND CEILING, WILL BE ACCEPTED EXCEPT FOR FIXTURE OUTFITS.

1232. WHERE NECESSARY TO COVER HEADS OF FITTINGS SPECIAL CAST IRON OR CAST BRASS DEEP ESCUTCHEONS SHALL BE PROVIDED.

1233. NONCONDUCTING COVERING.--ALL COLD WATER AND ALL HOT WATER PIPES IN THE BUILDING, AFTER BEING TESTED SHALL BE CLEANED AND COVERED. THIS INCLUDES THE BOILER FEED PIPING ALL RISERS IN VENT SHAFT, AND IN WALL CHASES, AND PIPING IN TOILET ROOMS, EXCEPT THE FINISHED BRASS PIPE. NO UNIONS OF ANY KIND ARE TO BE COVERED, AND COVERING SHALL BE NEATLY TERMINATED ON EACH END OF SUCH UNIONS WITH PLASTIC MATERIAL.

1234. COVERING FOR PIPES SHALL BE:

(A) FIRST-CLASS, SECTIONAL REMOVABLE, SOLID WOOL FELT COVERING NOT LESS THAN 3/4-INCH THICK LINED WITH A FIRE RETARDENT AND WATERPROOFED MATERIAL SUITABLE FOR BOTH HOT AND COLD WATER, OR

(B) FIRST-CLASS, SECTIONAL REMOVABLE, MINERAL FELT OR ROCK WOOL MOLDED PIPE COVERING IN ACCORDANCE WITH FEDERAL SPECIFICATION NO. HH-P-386.

1235. ALL PIPE COVERING SHALL BE JACKETED WITH COMMERCIAL WEIGHT COTTON CLOTH OR CANVAS PUT ON IN A WORKMANLIKE MANNER, USING BRASS LACQUERED TIN-PLATED BANDS NOT OVER 18 INCHES APART OF THICKNESS NOT LESS THAN NO. 36 BROWN & SHARPE GAUGE (0.005 INCH) AND NOT LESS THAN 3/4 INCH IN WIDTH. AT EACH ELBOW THERE SHALL BE TWO AND AT EACH TEE THERE SHALL BE THREE BANDS. COVERING SHALL BE NEATLY FINISHED WHERE PIPE HANGERS OCCUR. FITTINGS AND VALVES SHALL BE COVERED WITH PLASTIC MATERIAL CONTAINING NOT LESS THAN 35 PER CENT MAGNESIA OR ASBESTOS, OR WITH SUITABLE ROCK WOOL PLASTIC MATERIAL. COVERING ON FITTINGS AND VALVES MUST BE FINISHED WITH A HARD SMOOTH SURFACE FLUSH WITH PIPE COVERING OR MAY HAVE A CANVAS JACKET NEATLY FITTED AND SEWED ON.

1236. WHERE SPACE DOES NOT PERMIT THE INSTALLATION OF SECTIONAL COVERING, THE PIPES IN WALL CHASES MAY HAVE THE COVERING OMITTED, PROVIDED THE CHASES ARE PACKED FULL OF MINERAL OR ROCK WOOL, 35 PER CENT MAGNESIA, OR ASBESTOS.

1237. IN TOILET AND OFFICE ROOMS WHERE THE FIXTURE SUPPLIES DROP FROM MAINS OR BRANCHES OVERHEAD, THE PIPE COVERING SHALL STOP ON VERTICAL PIPES 6 FEET ABOVE THE FLOOR AND SUPPLIES FROM THIS POINT TO FLOOR SHALL BE NICKEL PLATED AND NOT COVERED. DROPS TO BASEMENT SINKS AND SUPPLIES ABOVE FLOOR TO SINKS IN JANITORS' CLOSETS WHICH ARE NOT NICKEL PLATED SHALL NOT BE COVERED. A NICKEL PLATED BRASS CEILING PLATE SHALL BE INSTALLED AT POINT WHERE COVERING STOPS TO PROTECT THE COVERING.

1238. WASTES FROM WATER COOLERS, ABOVE FLOOR, SHALL BE COVERED SAME AS COLD WATER PIPES.

1239. BOTH WATER HEATERS AND HOT WATER STORAGE TANK SHALL BE CLEANED AND COVERED, AFTER BEING TESTED, WITH PLASTIC MATERIAL CONTAINING NOT LESS THAN 85 PER CENT MAGNESIA NOT LESS THAN 1-1/4 INCHES THICK. THE FINAL COAT SHALL BE MIXED HALF AND HALF WITH PORTLAND CEMENT AND FINISHED SMOOTH. IN LIEU OF PLASTIC MATERIAL, 85 PER CENT MAGNESIA BLOCKS, NOT LESS THAN 1-1/4 INCHES THICK, OR ROCK WOOL BLOCKS, NOT LESS THAN 1-1/4 INCHES THICK, MAY BE USED. BLOCKS MUST BE TIED ON WITH COPPER OR BRASS WIRE, SPACED NOT OVER 4 INCHES ON CENTERS. FINISH SHALL BE SAME AS REQUIRED FOR PLASTIC MATERIAL.

1240. ALL PLASTIC ASBESTOS MUST BE NOT LESS THAN 35 PER CENT PURE LONG FIBRE ASBESTOS.

1241. No samples of covering are to be submitted unless called for by a letter from the Assistant Director of Procurement, Public Works Branch. Such samples when called for must bear the label of the manufacturer. The label of the jobber or contractor will not fulfill this requirement.

1242. PAINTING.--All piping run in or through concrete, floor fill or tile floors shall be given one coat of acid resisting paint having a bitumastic base. This includes brass pipe in floor fill. All exposed threads on galvanized pipe throughout the building shall be given one coat of same acid resisting paint.

1243. After specified tests (except smoke test) have been made all exposed iron work including outside of cast iron sinks, lavatory stands, and all exposed piping (except that to be covered) shall be given two coats of lead and oil paint. Galvanized pipe shall be varnished before being painted. Unfinished exposed brass pipe is to be painted same as iron work. Galvanized smoke pipe from water heater is not to be painted same as iron work. Galvanized smoke pipe from water heater is not to be painted but must be cleaned.

1244. All exposed nonconducting covering shall be given two coats of cold water paint, white or light colored. Pipe covering bands shall be placed after paint is dry.

1245. Finishing tints shall be as directed by Construction Engineer, but various colors to designate the different services (hot, cold, circulating, etc.), will not be required.

1246. TESTS OF PLUMBING AND DRAINAGE SYSTEM.--The entire system of soil, waste, drain, and vent piping, including the interior downspouts, and rain-water drainage system, must be tested with water or air, as hereinafter described, and proved tight to the satisfaction of the Construction Engineer before the immediate connection is made to city sewer, trenches backfilled, piping covered, or fixtures connected. Testing instruments must be furnished by the contractor.

1247. Tests must be made with water, except when there is danger from freezing, when the test must be made with air. Wooden plugs are not to be used in making tests. The connections between the building and the city sewer and the drainage system below the basement floor are to be tested separately.

1248. Clay pipe is not to be tested but, as hereindefore specified, trenches must not be backfilled until the piping is inspected and approved by the Construction Engineer.

1249. WATER TESTS.--The connection from building to the city sewer and the drainage system below basement floor are each to be filled with water to top of a vertical section of pipe 10 feet high (except for clay pipe) temporarily connected to the highest point on the lines to be tested, and the water allowed to stand at least 30 minutes for inspection, after which, if the lines prove tight, the water is to be drawn off, immediate connection made with city sewer, and trenches backfilled.

1250. The soil, waste, drain, and vent piping, the interior downspouts, and rain-water drainage system above the basement floor line must have the opening plugged where necessary and the piping system above basement floor filled with water to the level of the main roof gutters on top of vent pipes and allowed to stand at least 30 minutes for inspection, after which, if the lines prove tight, the water is to be drawn off and the

FIXTURES CONNECTED. EACH VERTICAL STACK ABOVE BASEMENT FLOOR WITH ITS BRANCH WASTE AND VENT PIPES MAY BE TESTED SEPARATELY BY INSERTING PLUGS IN THE CLEANOUTS AT BASE OF VERTICALS IN LIEU OF FILLING ENTIRE SYSTEM IN BUILDING WITH WATER.

1251. AIR TESTS.--A PRESSURE OF NOT LESS THAN 10 POUNDS PER SQUARE INCH, EQUAL TO 20 INCHES OF MERCURY, MUST BE SUPPLIED WITH A FORCE PUMP AND SAID PRESSURE MAINTAINED AT LEAST 15 MINUTES WITHOUT LEAKAGE. A MERCURY COLUMN GAUGE MUST BE USED IN MAKING AIR TESTS.

1252. SMOKE TESTS.--AFTER ALL FIXTURES HAVE BEEN PERMANENTLY CONNECTED, A SMOKE TEST MUST BE APPLIED TO THE SANITARY SYSTEM, AND THE ENTIRE SYSTEM PROVED TIGHT, TO THE SATISFACTION OF THE CONSTRUCTION ENGINEER, WHEN FILLED WITH SMOKE UNDER PRESSURE EQUAL TO 1 INCH OF WATER. THE SMOKE MUST NOT BE PRODUCED BY CHEMICAL MIXTURES.

1253. TEST OF WATER SUPPLY SYSTEM.--AT THE COMPLETION OF THE WORK, EXCEPT APPLICATION OF THE NONCONDUCTING COVERINGS, THE WATER SUPPLY SYSTEM MUST BE TESTED TO A HYDROSTATIC PRESSURE OF 100 POUNDS TO THE SQUARE INCH.

1254. ANY WATER PIPING RUN IN CHASES IN WALLS OR IN ANY WAY CONCEALED BY STRUCTURAL WORK MUST BE TESTED TO ABOVE PRESSURE AND PROVED TIGHT BEFORE THE PIPES ARE CONCEALED.

1255. COST OF TESTS AND CERTIFICATE.--COST OF TESTS TO BE BORNE BY THE CONTRACTOR, WHO MUST FURNISH THIS OFFICE, THROUGH THE CONSTRUCTION ENGINEER, WITH A CERTIFICATE THAT THE REQUIRED TESTS HAVE BEEN SATISFACTORILY MADE.

1256. CERTIFICATE MUST BE COUNTERSIGNED BY THE CONSTRUCTION ENGINEER, WHO WILL FORWARD SAME TO THE ASSISTANT DIRECTOR OF PROCUREMENT, PUBLIC WORKS BRANCH.

1257. SUMP PUMP MUST OPERATE SATISFACTORILY AND MUST DEVELOP THE CAPACITIES SPECIFIED.

HEATING AND VENTILATING APPARATUS

1258. SCOPE OF WORK.--THIS PORTION OF THE SPECIFICATION INCLUDES ALL LABOR AND MATERIALS REQUIRED FOR THE INSTALLATION COMPLETE OF A TWO PIPE VACUUM HEATING SYSTEM AND THE VENTILATING APPARATUS FOR THE BUILDING AS DESCRIBED HEREIN AND INDICATED ON THE DRAWINGS.

1259. REFERENCES IN THIS PORTION OF THE SPECIFICATION TO PAGES AND PARAGRAPHS MEAN PAGES AND PARAGRAPHS IN THE SPECIFICATION FOR STANDARD HEATING MATERIALS, ETC., FOR BUILDINGS UNDER THE TREASURY DEPARTMENT, OFFICE OF THE ASSISTANT DIRECTOR OF THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH, MAY 1, 1931, WHICH REFERENCES FORM A PART OF THIS SPECIFICATION AND A COPY OF WHICH MAY BE SECURED ON APPLICATION TO THE ASSISTANT DIRECTOR OF THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH.

1260. BOILERS.--FURNISH AND INSTALL WHERE SHOWN ON PLANS ONE SINGLE PASS, PORTABLE, SMOKELESS, STEEL BOILERS. SEE PAGE 1 AND 2, PARAGRAGHS 4 TO 21, INCLUSIVE.

1261. THE BOILER SHALL HAVE A MANUFACTURERS' PUBLISHED RATING OF NOT LESS THAN 3433 SQUARE FEET OF DIRECT CAST-IRON STEAM RADIATION WHEN BURNING AN AVERAGE GRADE OF BITUMINOUS RUN-OF-MINE COAL CONTAINING

14,000 B.T.U. PER POUND AND 8 PER CENT ASH. THE RATING ABOVE NOTED MUST BE IN ACCORDANCE WITH THE STEEL HEATING BOILER INSTITUTE CODE.

1262. BOILER FOUNDATION.--BOILERS TO BE SET DIRECTLY ON BASEMENT FLOOR AND MUST NOT BE SET IN PLACE UNTIL THE FLOOR UNDER SAME IS FINISHED.

1263. BOILERS TRIMMINGS.--THE BOILERS ARE TO BE PROVIDED WITH TRIMMINGS AS SPECIFIED ON PAGE 7, PARAGRAPH 104. SAFETY VALVES TO BE NOT LESS THAN TWO INCHES DIAMETER AND THE BOILER IS TO HAVE ONE SAFETY VALVE. THE PRESSURE GAUGE MUST BE COMPOUND TYPE GRADUATED FOR 30 POUNDS PRESSURE AND 30 INCHES VACUUM, IN LIEU OF STRAIGHT PRESSURE TYPE. THE GAUGE COLUMN MUST BE CONNECTED WITH A CROSS AT BOTTOM. CROSS TO HAVE A SOLID BRASS PLUG IN ONE OPENING TO SERVE AS A CLEAN-OUT AND BOTTOM OPENING TO BE PROVIDED WITH A BLOW-OFF PIPE FITTED WITH A GLOBE VALVE AND TERMINATING 12 INCHES ABOVE FLOOR.

1264. BOILER FEED AND DRAIN.--FURNISH AND INSTALL BOILER FEED AND BOILER DRAIN FOR EACH BOILER AS SHOWN ON DRAWING. SEE PAGE 7, PARAGRAPHS 108 AND 109. BOILER FEEDS TO BE 1 INCH DIAMETER AND DRAINS 3/4 INCHES.

1265. FIRING TOOLS.--FURNISH FIRING TOOLS AS SPECIFIED ON PAGE 8, PARAGRAPH 110.

1266. SMOKE BREECHING.--FURNISH AND INSTALL SMOKE BREECHING, SEE PAGE 8, PARAGRAPH 111. THE COLLAR FOR CAST-IRON WATER HEATER IS TO BE OMITTED AS SAME WILL BE CONNECTED DIRECTLY TO THE SMOKE FLUE.

1267. PIPES, FITTINGS, ETC.--FURNISH AND INSTALL ALL MAINS, BRANCHES, ETC., AS SHOWN ON DRAWINGS, OR REQUIRED FOR A COMPLETE SYSTEM. SEE PAGES 8 AND 9, PARAGRAPHS 118 AND 124. ALL STEAM RETURN PIPING IS TO BE STEEL IN ACCORDANCE WITH FEDERAL SPECIFICATION No. WWP-403. IN LIEU OF SCREWED FITTINGS, CONTRACTOR MAY, IF HE SO DESIRES, WELD ALL BLACK STEAM AND RETURN PIPE 2-1/2 INCHES AND LARGER USING WELDING ROD OF THE SAME MATERIAL AS THE PIPE. TEES MAY BE FORMED BY WELDING NOZZLES ONTO THE MAINS BUT FACTORY MADE WELDING FITTINGS MUST BE USED FOR ELBOWS. MITRED JOINTS IN LIEU OF FACTORY MADE WELDING FITTINGS WILL NOT BE PERMITTED.

1268. WHERE COUPLINGS ARE USED THEY ARE TO BE EXTRA HEAVY LINE PIPE COUPLINGS IN LIEU OF STANDARD WEIGHT COUPLINGS.

1269. STEAM MAINS ARE TO PITCH DOWN FROM BOILERS TO ENDS OF RUNS WITH A UNIFORM GRADE OF NOT LESS THAN 1/2 INCH IN 10 FEET.

1270. RETURN MAINS ARE TO PITCH DOWN IN DIRECTION OF FLOW WITH A UNIFORM GRADE OF NOT LESS THAN 1/2 INCH IN 10 FEET.

1271. BRANCH CONNECTIONS FROM MAINS TO RADIATORS AND RISERS ARE TO PITCH UP FROM MAINS NOT LESS THAN 2-1/2 INCHES IN 10 FEET IF POSSIBLE. BRANCH CONNECTIONS FROM RISERS TO RADIATORS ARE TO PITCH UP FROM RISERS TO RADIATORS NOT LESS THAN 1 INCH IN 10 FEET IF POSSIBLE.

1272. STEAM CONNECTIONS FOR RADIATORS AND RISERS ARE TO BE TAKEN OUT OF TOPS OF MAINS OR AT AN ANGLE OF 45 DEGREES ABOVE CENTER LINE OF MAINS. RETURN CONNECTIONS MAY BE MADE INTO TOP OR SIDE OF MAINS OR AT AN ANGLE OF 45 DEGREES ABOVE CENTER LINE OF MAINS.

1273. INSTALL ECCENTRIC FITTINGS WHERE NOTED ON DRAWINGS. ALL PIPES ARE TO BE INSTALLED SO AS TO ALLOW FOR EXPANSION, USING OFF-SETS, SWING JOINTS, EXPANSION JOINTS, ETC., AS SHOWN OR AS MAY BE NECESSARY TO PREVENT UNDUE STRAIN ON PIPING. ALL PIPES MUST BE REAMED OUT BEFORE BEING SCREWED INTO FITTINGS.

1274. AN EQUALIZING PIPE IS TO BE INSTALLED FROM BOTTOM OF MAIN STEAM PIPE AT BOILER INTO MAIN RETURN. THIS PIPE MUST HAVE A UNION. INSTALL DRIP CONNECTIONS FROM MAINS AND RISERS AS SHOWN.

1275. INSTALL ALL BY-PASSES, VENTS, RELIEFS, ETC., COMPLETE AS SHOWN OR SPECIFIED OR NECESSARY FOR A COMPLETE SYSTEM.

1276. HANGERS AND SUPPORTS.--ALL PIPES TO HAVE HANGERS AS SPECIFIED ON PAGE 9, PARAGRAPHS 125 AND 126. A HANGER MUST BE INSTALLED NOT OVER 24 INCHES FROM EACH CHANGE IN DIRECTION OF MAINS. IF DESIRED BY CONTRACTOR, COMMERCIAL INDIVIDUAL TYPE HANGERS MAY BE USED IN LIEU OF HANGERS SHOWN ON MISCELLANEOUS DRAWING PROVIDED NAME OF MANUFACTURER OF HANGERS IS SUBMITTED TO THE ASSISTANT DIRECTOR OF THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH AND APPROVED BEFORE HANGERS ARE INSTALLED. EITHER BAND OR CLEVIS TYPE HANGERS WILL BE ACCEPTABLE.

1277. PIPE SLEEVES, PLATES, ETC.--FURNISH AND INSTALL PIPE SLEEVES, PLATES, ETC., AS SPECIFIED ON PAGE 9, PARAGRAPHS 127 TO 132, INCLUSIVE.

1278. STEAM AND RETURN MAINS ARE TO BE SECURELY ANCHORED WHERE SHOWN AND NOTED. VERTICAL PIPES ARE TO BE ANCHORED BY MEANS OF HEAVY CLAMPS BOLTED AROUND PIPES AND SECURED TO FLOOR CONSTRUCTION AS DIRECTED.

1279. A FITTING OR COUPLING MUST BE PROVIDED ABOVE OR BELOW EACH ANCHOR ON VERTICAL PIPES OR THE PIPE CLAMPS MAY BE WELDED TO PIPES. AT LEAST 2 BOLTS MUST BE USED ON EACH SIDE OF PIPE ON EACH CLAMP ON PIPES LARGER THAN 2-1/2 INCHES.

1280. MECHANICAL TRAPS.--FURNISH AND INSTALL MECHANICAL TRAPS AT DRIP POINTS ON STEAM MAINS WHERE SHOWN, AND WHERE INDICATED OR NOTED ON DRAWINGS. COMBINATION TRAPS ARE TO BE USED AT DRIP POINTS OF STEAM MAINS WHERE SHOWN. THE THERMOSTATIC AIR BY-PASSES MUST BE OF THE SAME MANUFACTURE AS THE THERMOSTATIC TRAP FOR RADIATORS.

1281. TRAPS SHALL BE DESIGNED FOR THE PROPER PRESSURE AND SHALL BE OF THE CLOSED FLOAT TYPE DESIGNED SO THAT SEATS WILL BE WATER SEALED AT ALL TIMES TO PREVENT ESCAPE OF LIVE STEAM. IN LIEU OF CLOSED FLOAT TRAPS, INVERTED BUCKET TYPE TRAPS OR OTHER APPROVED DESIGN WILL BE ACCEPTABLE.

1282. EACH TRAP SHALL HAVE A STRAINER, AND AN AIR VENT COCK. THE AIR VENT COCK MAY BE OMITTED ON INVERTED BUCKET TRAPS AND WHERE A THERMOSTATIC AIR BY-PASS IS SPECIFIED.

1283. ALL WORKING PARTS OF TRAPS ARE TO BE OF NON-CORROSIVE METAL, ARRANGED TO BE READILY REMOVABLE WITHOUT DISCONNECTING PIPING.

1284. TRAPS AT DRIP POINTS ARE TO HAVE UNIONS ON BOTH INLET AND OUTLET AND A GATE VALVE ON INLET SIDE.

1285. THE CAPACITIES OF TRAPS SHALL BE NOT LESS THAN THE FOLLOWING IN POUNDS OF CONDENSATION DISCHARGED PER HOUR BASED ON A 5 POUND DIFFERENTIAL STEAM PRESSURE:

1286. 1/2 INCH TRAPS, 1000 POUNDS; 3/4 INCH TRAPS, 2000 POUNDS; 1 INCH TRAPS, 3000 POUNDS; 1-1/4 INCH TRAPS, 4000 POUNDS; 1-1/2 INCH TRAPS, 6000 POUNDS.

1287. TRAPS SHALL BE SET SO AS TO PERMIT GRAVITY FLOW TO SAME. TRAPS NEAR FLOORS TO BE SET ON CONCRETE PIERS OR ON FLOOR AS INDICATED OR NOTED. OTHER TRAPS ARE TO BE SET ON HEAVY STEEL OR CAST-IRON SHELVES PROPERLY SECURED TO WALLS WITH EXPANSION BOLTS. IF DESIRED BY CONTRACTOR, INVERTED BUCKET TRAPS, IF USED, MAY BE SUPPORTED BY SUITABLE PIPE HANGERS.

1288. VALVES.--VALVES ARE TO BE INSTALLED WHERE SHOWN ON DRAWINGS. SEE PAGE 10, PARAGRAPHS 136 TO 140, INCLUSIVE.

1289. HAND CONTROL RADIATOR VALVES.--DIRECT RADIATORS ARE EACH TO HAVE A HAND CONTROL RADIATOR VALVE ON THE STEAM CONNECTION. SEE PAGES 10 AND 11, PARAGRAPHS 143 TO 145 INCLUSIVE. STEMS OF ALL HAND CONTROL RADIATOR VALVES, EXCEPT ON THE CONCEALED RADIATORS ARE TO BE SET VERTICAL.

1290. THERMOSTATIC TRAPS.--THERMOSTATIC TRAPS ARE TO BE INSTALLED ON RETURN END OF EACH RADIATOR, WHERE NOTED ON DRAWINGS AND WHEREVER NECESSARY TO DRAIN THE SYSTEM. SEE PAGE 12, PARAGRAPHS 160 TO 164, INCLUSIVE. UNLESS OTHERWISE NOTED ON DRAWINGS, TRAPS ON RADIATORS ARE TO BE 1/2 INCH.

1291. THE THERMOSTATIC ELEMENTS MUST NOT BE PLACED IN TRAPS UNTIL THE SYSTEM HAS BEEN OPERATED AND ALL SEDIMENT POCKETS, ETC., CLEARED OF DIRT, SCALE, ETC. TEMPORARY COVES, ETC., MUST BE PROVIDED BY CONTRACTOR FOR USE PRIOR TO THIS TIME.

1292. EXPOSED RADIATORS.--FURNISH AND INSTALL EXPOSED RADIATORS AS NOTED ON DRAWINGS. SEE PAGE 12, PARAGRAPHS 165 TO 172, INCLUSIVE.

1293. CONCEALED RADIATORS.--CONCEALED RADIATORS ARE TO BE INSTALLED WHERE SHOWN ON DRAWINGS. THE RADIATORS IN THE LOBBY IN THE ADDITION SHALL BE FERROUS OR NONFERROUS CONVECTOR TYPE, AS DIRECTED BY THE CONTRACTOR. THE RADIATORS IN THE LOBBY IN THE OLD PORTION OF THE BUILDING MAY BE FERROUS OR NONFERROUS CONVECTOR TYPE, OR CAST IRON TUBE TYPE AS DIRECTED BY THE CONTRACTOR. RADIATORS MUST BE SUITABLE FOR THE SPACES AVAILABLE AND ALL NECESSARY SHEET METAL ENCLOSURES AND INSULATION REQUIRED FOR PROPER INSTALLATION MUST BE FURNISHED AND INSTALLED COMPLETE. THE DESIGN OF RADIATORS AND ENCLOSURE MUST BE SUCH THAT THE RADIATORS MAY BE EASILY REPAIRED OR REPLACED AFTER COMPLETION OF THE BUILDING. ALL SHEET METAL ENCLOSURES MUST BE HEAVILY GALVANIZED AND VISIBLE PORTIONS OF SAME MUST BE PAINTED AS DIRECTED.

1294. THE CAPACITY OF THE RADIATORS MUST BE NOT LESS THAN NOTED ON DRAWINGS AND, IF CONSIDERED NECESSARY, THE RELIABILITY OF CATALOGUE RATINGS WILL BE DETERMINED EITHER BY THE BUREAU OF STANDARDS, OR BY THE SUBMISSION OF CERTIFIED TEST SHEETS FROM A QUALIFIED TESTING LABORATORY BEFORE APPROVAL.

1295. NONCONDUCTING COVERINGS.--AFTER THE APPARATUS HAS BEEN TESTED AND APPROVED, THIS CONTRACTOR MUST COVER THE BOILERS, THE SMOKE BREECHING AND ALL STEAM AND RETURN PIPES, BOILER FEED PIPING, FITTINGS, AND VALVES IN THE BUILDING (EXCEPT EXPOSED VACUUM RETURN PIPES AND EXPOSED STEAM RUN-OUTS FROM RISERS TO RADIATORS ABOVE FIRST FLOOR) WITH NONCONDUCTING FIREPROOF COVERING PUT ON IN FIRST-CLASS AND APPROVED MANNER. SEE PAGE 13, PARAGRAPHS 174 TO 183, INCLUSIVE. SCRAP PIECES MUST NOT BE USED WHERE A FULL LENGTH SECTION WOULD FIT. AFTER CONCEALED RUN-OUTS AND

THE STEAM AND RETURN RISERS IN CHASES AND IN FURRING HAVE BEEN TESTED AND PROVED TIGHT, AS HEREINAFTER SPECIFIED, THEY MUST BE COVERED.

1296. WHERE SPACE DOES NOT PERMIT SECTIONAL COVERING TO BE USED ON PIPES IN CHASES, THE CHASES CONTAINING RISERS MAY BE PACKED FULL OF ASBESTOS OR PLASTIC MATERIAL. BOILER-FEED PIPING TO BE COVERED SAME AS OTHER COLD-WATER PIPE IN "PLUMBING".

1297. PLASTIC COVERING FOR VALVES AND FITTINGS TO BE FINISHED FLUSH WITH PIPE COVERING WHERE POSSIBLE.

1298. NO FLANGES OR UNIONS TO BE COVERED, BUT THE COVERING MUST BE NEATLY TERMINATED ON EACH END OF SAME WITH PLASTIC MATERIAL TROWELED ON A BEVEL.

1299. THE BREECHING TO BE COVERED WITH PLASTIC MATERIAL, NOT LESS THAN 1-1/2 INCHES THICK, REINFORCED WITH WIRE NETTING, AND FINISHED WITH A HARD, SMOOTH SURFACE. A WORKMANLIKE FINISH WILL BE REQUIRED AROUND DAMPERS AND CLEAN-OUT DOORS. A 1-INCH AIR SPACE MUST BE MAINTAINED BETWEEN THE BREECHING AND THE COVERING BY THE USE OF STEEL SPACERS PROPERLY INSTALLED (NOT OVER 3 INCHES ON CENTERS) AND ATTACHED TO WIRE NETTING.

1300. BOILERS SHALL BE COVERED SAME AS BREECHING, EXCEPT THAT COVERING IS TO BE 2 INCHES THICK, AND LAST 1/4 INCH SHALL BE ONE-HALF PORTLAND CEMENT. THE AIR SPACE WILL NOT BE REQUIRED ON BOILERS.

1301. IN LIEU OF THE ABOVE COVERING FOR BREECHING, CONTRACTOR MAY, IF HE ELECTS, USE 2-INCH THICK, 85 PER CENT MAGNESIA BLOCKS OR ROCK WOOL BLOCKS APPLIED OVER 1-INCH V-RIB EXPANDED METAL, TO FORM A 1-INCH AIR SPACE, AND FINISHED WITH 1/2 INCH OF INSULATING AND FINISHING CEMENT TROWELED TO A SMOOTH FINISH OVER GALVANIZED WIRE. THE ALTERNATE COVERING DOES NOT APPLY TO BOILER COVERING.

1302. FURNISH AND COMPLETELY INSTALL WHERE INDICATED ON THE DRAWINGS TWO VACUUM HEATING PUMPS (SEE PAGE 13).

EACH PUMP SHALL BE OF A SIZE SUITABLE FOR 2500 SQUARE FEET OF EQUIVALENT DIRECT RADIATION. EACH PUMP SHALL HAVE A SIMULTANEOUS CAPACITY, AT 160 DEGREES F., OF 1.3 GPM FROM 5-1/2 INCHES AGAINST A SPECIFIED DISCHARGE PRESSURE, AND 1.3 CFM, SATURATED AIR AT 5-1/2 INCHES; EACH PUMP SHALL HAVE A CAPACITY FOR WATER ONLY, AT 160 DEGREES F., OF 3.8 GPM FROM 5-1/2 INCH AGAINST THE SPECIFIED DISCHARGE PRESSURE.

1303. BEFORE SHIPMENT THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A TEST REPORT GIVING THE AIR AND WATER CAPACITIES FOR EACH PUMP, POWER IMPUT TO THE DRIVING UNITS AND THE NUMBERS OR OTHER PERMANENT MARKING BY WHICH THE EQUIPMENT MAY BE IDENTIFIED. THE TEST REPORT IS TO BE CERTIFIED BY THE PUMP MANUFACTURER AS TO ITS CORRECTNESS IN ALL PARTICULARS. EACH PUMP FURNISHED SHALL BE TESTED AT THE PLANT OF THE MANUFACTURER. THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH MAY, AT THEIR DISCRETION, DETAIL A REPRESENTATIVE TO WITNESS THE TEST.

1304. THE CONDENSATE SHALL BE DISCHARGED AGAINST A PRESSURE OF 20 POUNDS PER SQUARE INCH AT THE PUMP.

1305. THE VACUUM HEATING PUMP IS TO BE ASSEMBLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SHOP DRAWINGS WHICH MUST BE APPROVED BY THE CONSTRUCTION ENGINEER BEFORE INSTALLATION.

1306. EQUIPMENT MUST INCLUDE SUITABLE RECEIVER. MOTORS ARE TO BE WOUND FOR 230 VOLTS, 3 PHASE, 60 CYCLES, ALTERNATING CURRENT AND TO BE AS HEREINABOVE SPECIFIED UNDER MOTORS AND CONNECTIONS, GENERALLY. MAKE ALL ELECTRICAL AND PIPING CONNECTIONS COMPLETE. PIPE CONNECTIONS SHALL HAVE UNIONS.

1307. PAINTING.--PAINT ALL WORK AS SPECIFIED ON PAGE 15, PARAGRAPHS 202 TO 206, INCLUSIVE. ONE COAT OF PAINT FOR THE BREECHING SHALL BE APPLIED AT THE SHOP. PAINTING INCLUDES PIPES (COVERED OR UNCOVERED) MOTORS, TANKS, AND MACHINERY IN BASEMENT AND IN FINISHED ROOMS THROUGHOUT THE BUILDING.

1308. RADIATORS LOCATED BEHIND GRILLES AND INSIDE MUST ALSO BE PAINTED.

1309. COLD-WATER PAINT MAY BE USED ON PIPE COVERING IN LIEU OF ASBESTOS PAINT IF DESIRED BY CONTRACTOR.

1310. CLEANING OF HEATING AND VENTILATING APPARATUS.--RADIATORS, BOILERS, AND PIPING MUST BE THOROUGHLY CLEANED OF ALL GREASE, IRON CUTTINGS AND OTHER REFUSE AND SHOULD ANY PIPE, ETC., BE STOPPED UP BY SUCH REFUSE, OR SHOULD THE BOILERS FOAM OR PRIME DUE TO OIL OR GREASE IN THE SYSTEM AFTER THE APPARATUS HAS BEEN ACCEPTED, THE CONTRACTOR WILL BE REQUIRED TO PAY FOR DISCONNECTING CLEANING AND RECONNECTING SUCH PIPE AND FOR WASHING OUT BOILERS WITH WATER CONTAINING SODA TO REMOVE OIL AND GREASE.

1311. IMMEDIATELY BEFORE FINAL TEST OF THE SYSTEM, THE BOILERS MUST BE WASHED OUT WITH WATER CONTAINING SODA TO FREE BOILERS FROM OIL. AFTER THE WASHING IS COMPLETED, THE SODA WATER SHALL BE REMOVED THROUGH A TEMPORARY CONNECTION IN SAFETY VALVE OPENING WHILE THE BOILERS ARE HOT BY FEEDING COLD WATER THROUGH THE FEED LINE INTO BOTTOM OF BOILERS.

1312. TESTING OF APPARATUS.--TESTS TO DEMONSTRATE THE CAPACITY SPECIFIED AND GENERAL OPERATING CHARACTERISTICS OF ALL APPARATUS, ETC., ARE TO BE MADE UNDER DIRECTION OF GOVERNMENT REPRESENTATIVE AT TIME OF FINAL INSPECTION, UNDER CONDITIONS IMPOSED BY HIM.

1313. ALL PIPES RUN IN FURRED SPACES, CHASES OR PARTITIONS MUST BE TESTED, IN THE PRESENCE OF THE CONSTRUCTION ENGINEER, TO A HYDROSTATIC PRESSURE OF 50 POUNDS PER SQUARE INCH AND PROVED TIGHT UNDER THIS PRESSURE BEFORE SAME ARE CONCEALED.

1314. BEFORE MAKING FOLLOWING WORKING TEST, SET BOILER SAFETY VALVES TO LIFT AT 10 POUNDS PER SQUARE INCH. THE CONTRACTOR IS TO FURNISH SUFFICIENT FUEL, OIL, ETC., TO MAKE A WORKING TEST OF THE ENTIRE APPARATUS WITH STEAM PRESSURE OF 10 POUNDS PER SQUARE INCH IN THE PRESENCE OF A REPRESENTATIVE OF THE ASSISTANT DIRECTOR OF THE PROCUREMENT DIVISION, PUBLIC WORKS BRANCH. FROM THE TIME OF STARTING FIRES UNTIL A STEAM PRESSURE OF 10 POUNDS PER SQUARE INCH IS MAINTAINED, THERE MUST BE NO CRACKING OR SNAPPING NOISES IN PIPING OR RADIATORS, AND THE WATER LEVEL IN THE BOILER MUST NOT FLUCTUATE VIOLENTLY OR EXCESSIVELY, AND BOILER AND PIPING MUST BE FREE FROM LEAKS.

1315. VACUUM PUMPS, AND OTHER MACHINERY MUST OPERATE SATISFACTORILY AND DEVELOP THE CAPACITIES SPECIFIED.

1316. ANY ALTERATIONS, ADDITIONS, ETC., NECESSARY TO CAUSE THE EQUIPMENT TO FULFILL THE REQUIREMENTS OF THIS SPECIFICATION SHALL BE MADE BY THE CONTRACTOR WITHOUT FURTHER REMUNERATION FROM THE GOVERNMENT.

CONDUIT AND WIRING SYSTEM

1317. SCOPE OF WORK.--THIS PORTION OF THE SPECIFICATION INCLUDES THE FURNISHING OF ALL LABOR AND MATERIAL NECESSARY TO INSTALL A COMPLETE CONDUIT AND WIRING SYSTEM FOR ELECTRIC LIGHTING, CLOCKS AND FANS, AND POWER, CONDUIT SYSTEM FOR VAULT PROTECTION, AND A CONDUIT SYSTEM FOR TELEPHONE SERVICE, ALL AS DESCRIBED HEREIN AND INDICATED ON THE DRAWINGS.

1318. REFERENCES IN THIS PORTION OF THE SPECIFICATION TO PAGES AND PARAGRAPHS MEANS PAGES AND PARAGRAPHS IN THE STANDARD SPECIFICATION FOR ELECTRICAL MATERIALS AND INSTALLATION FOR BUILDINGS UNDER THE TREASURY DEPARTMENT, PROCUREMENT DIVISION, PUBLIC WORKS BRANCH AUGUST 8, 1935, WHICH REFERENCES FORM A PART OF THIS SPECIFICATION AND A COPY OF SAME MAY BE PROCURED ON APPLICATION TO THE ASSISTANT DIRECTOR OF PROCUREMENT.

1319. DESCRIPTION OF SYSTEMS--FOR ELECTRIC LIGHTING: FANS AND POWER.--FROM A POINT 25 FEET UP ON FLORIDA POWER AND LIGHT CO.'S POLE ON THE SOUTH SIDE OF KING STREET, APPROXIMATELY 75 FEET FROM BUILDING LINE AT POINT OF ENTRY, CONDUIT SHALL BE RUN DOWN POLE AND UNDER GROUND TO THE LIGHTING SERVICE ENTRANCE CABINET, AND THENCE TO THE FEEDER CABINET. FROM THIS CABINET, FEEDER CONDUITS SHALL BE RUN TO THE VARIOUS MOTOR LOCATIONS AND DISTRIBUTION CABINETS, FROM WHICH BRANCH CONDUITS SHALL BE RUN TO ALL OUTLETS SHOWN ON DRAWINGS.

1320. THE SYSTEM SHALL BE A 3 PHASE, FOUR WIRE 120-208 VOLT AND CONNECTED WITH NEUTRAL GROUNDED. THREE WIRE BRANCHES TO ALL MOTOR LOCATIONS WILL PROVIDE 3 PHASE 208 VOLT CURRENT. FOUR WIRE FEEDERS TO LIGHTING DISTRIBUTION PANELS WILL PROVIDE 120 VOLTS FROM NEUTRAL TO ANY PHASE. BRANCHES SHALL BE 2 WIRE SINGLE PHASE. THE BRANCH CIRCUITS SHALL BE EVENLY BALANCED ON THE THREE PHASES.

1321. FOR TELEPHONE SERVICE.--FROM A POINT NEAR TOP OF THE TELEPHONE COMPANY'S POLE, LOCATED WHERE NOTED ON THE DRAWINGS, A MAIN SERVICE CONDUIT SHALL BE RUN DOWN POLE AND UNDER-GROUND TO JUST INSIDE BASEMENT WALL, AND TERMINATED WITH BUSHING FLUSH WITH INSIDE FACE OF WALL. FROM A POINT 3 FEET ABOVE ENTRANCE CONDUIT, A CONDUIT OF SIZE NOTED SHALL BE RUN EXPOSED NEAR CEILING TO THE MAIN TERMINAL CABINET. FROM THIS CABINET 1-INCH CONDUITS ARE TO BE RUN TO THE VARIOUS FLOOR AND WALL OUTLETS IN THE POST OFFICE DEPARTMENT PORTION OF THE BUILDING AS SHOWN. FROM THE MAIN TERMINAL CABINET CONDUIT OF SIZE NOTED SHALL BE RUN TO THE JUNCTION CABINET ON SECOND FLOOR. FROM THIS CABINET CONDUITS OF SIZES SHOWN SHALL BE RUN TO THE VARIOUS WALL AND FLOOR BOXES AS SHOWN ON THE PLANS. NO. 14 GALVANIZED FISH WIRE SHALL BE PULLED IN ALL CONDUITS OF THIS SYSTEM.

1322. CONDUITS.--EACH CONDUIT SYSTEM MUST BE INSTALLED COMPLETE FROM END OF SERVICE CONDUIT AT POLE OR OTHER POINT OF ORIGIN TO ALL OUTLETS SHOWN ON DRAWING OR HEREIN SPECIFIED. SEE PAGES 2, 3, 4, PARAGRAPHS 4 TO 14 INCLUSIVE.

1323. CEILING AND WALL OUTLET BOXES.--EACH FIXTURE, CLOCK, FAN, EXTENSION, SWITCH AND RECEPTACLE OUTLET AND EACH TELEPHONE, AND VAULT PROTECTION OUTLET SHOWN ON DRAWINGS OR SPECIFIED SHALL BE PROVIDED WITH AN OUTLET BOX. SEE PAGES 4, 5, AND 6, PARAGRAPHS 15 TO 33 INCLUSIVE. PARAGRAPH NO. 26.-WALL SWITCH OUTLETS SHALL BE SET 4 FEET 6 INCHES ABOVE FLOOR.

1324. WEATHERPROOF ENTRANCE FITTINGS.--EACH SERVICE CONDUIT ON POLE SHALL BE EQUIPPED WITH A WEATHERPROOF ENTRANCE FITTING. SEE PAGE 6, PARAGRAPH 34.

1325. JUNCTION AND PULL BOXES.--SEE PAGE 6, PARAGRAPHS 35 AND 36.

1326. FLOOR BOXES.--FURNISH AND INSTALL FLOOR BOXES AT ALL LIGHT, TELEPHONE FLOOR OUTLETS. SEE PAGE 7, PARAGRAPHS 37 AND 38.

1327. FLUSH SWITCHES.--FURNISH AND INSTALL FLUSH SWITCHES AT ALL POINTS SHOWN OR NOTED ON THE DRAWINGS. SEE PAGES 7 AND 8, PARAGRAPHS 39 AND 40.

1328. PLUG RECEPTACLES.--FURNISH AND INSTALL PLUG RECEPTACLES AT ALL WALL AND FLOOR OUTLETS SHOWN ON THE PLANS. SEE PAGES 8 AND 9, PARAGRAPHS 41 TO 43 INCLUSIVE.

1329. ELECTRIC WATER COOLER.--AT LOCATIONS INDICATED ON PLANS, PROVIDE STANDARD 10 AMPERE, 250-VOLT, PLUG RECEPTACLE ABOUT 18 INCHES ABOVE FLOOR FOR ELECTRIC WATER COOLER, WHICH WILL BE FURNISHED UNDER ANOTHER SECTION OF THIS SPECIFICATION.

1330. COMBINATION FAN HANGER AND RECEPTACLE.--PROVIDE A RECEPTACLE AND HANGER SEE PAGE 9, PARAGRAPH 44.

1331. LAMP RECEPTACLES.--FURNISH AND INSTALL LAMP RECEPTACLES AT ALL LAMP RECEPTACLE OUTLETS, SHOWN ON DRAWINGS. SEE PAGE 9, PARAGRAPH 45.

1332. WIRELESS CLUSTERS.--FURNISH AND INSTALL WIRELESS CLUSTERS AT ALL WIRELESS CLUSTER OUTLETS SHOWN ON DRAWINGS. SEE PAGE 9, PARAGRAPH 46.

1333. CABINETS.--FURNISH AND INSTALL ELECTRIC AND TELEPHONE CABINETS AT ALL LOCATIONS SHOWN ON THE DRAWINGS. SEE PAGE 4, PARAGRAPHS 41 TO 49 INCLUSIVE. TELEPHONE TERMINAL CABINETS SHALL BE OF SIZES AS SHOWN ON DRAWINGS. SEE PAGES 9 AND 10, PARAGRAPHS 47 TO 56 INCLUSIVE.

1334. SERVICE ENTRANCE SWITCH.--FURNISH AND INSTALL IN THE CABINETS SPECIFIED FUSED SERVICE SWITCHES AT LIGHTING AND POWER ENTRANCES. SEE PAGES 10 AND 11, PARAGRAPHS 57 TO 60 INCLUSIVE. PARAGRAPH 59-SWITCH SHALL BE 4 POLE, 3 BLADE SOLID NEUTRAL, 250 VOLTS.

1335. FEEDER PANEL.--FURNISH AND INSTALL IN THE CABINETS SPECIFIED LIGHTING AND POWER FEEDER PANELS. SEE PAGES 11 AND 12, PARAGRAPHS 61 TO 68, INCLUSIVE.

1336. LIGHTING DISTRIBUTION PANEL BOARDS.--FURNISH AND INSTALL IN THE CABINETS SPECIFIED LIGHTING DISTRIBUTION PANEL BOARDS, EACH HAVING THE NUMBER OF BRANCHES NOTED ON DRAWINGS. DISTRIBUTION PANEL BOARD SHALL BE ARRANGED FOR 3 PHASE, 4 WIRE-STRIP NEUTRAL MAINS WITH 2-WIRE BRANCHES. SEE PAGE 12, PARAGRAPH 69.

1337. DIRECTORIES OF CIRCUITS.--FURNISH DIRECTORIES OF CIRCUITS. SEE PAGE 13, PARAGRAPH 70.

1338. FUSES.--FURNISH TWO COMPLETE SETS OF FUSES FOR ALL SWITCHES REQUIRING FUSES. FUSES FOR DISTRIBUTION PANEL BOARDS ARE TO BE 15 AMPERES AND FOR OTHER SWITCHES ARE TO BE OF SIZES NOTED ON DRAWINGS. FURNISH 4 EXTRA 25 AMPERE FUSES FOR USE ON CANCELING-MACHINE BRANCH CIRCUIT. ONE SET OF FUSES IS TO BE INSTALLED COMPLETE AND THE OTHER SET IS TO BE DELIVERED IN THE ORIGINAL BOXES TO THE CONSTRUCTION ENGINEER. SEE PAGE 13, PARAGRAPH 71. FURNISH CIRCUIT BREAKER ON CANCELLING MACHINE BRANCH CIRCUIT WITH 25 AMPERE THERMAL TRIP UNIT.

1339. METER BOARD.--FURNISH AND INSTALL METER BOARD. SEE PAGE 15, PARAGRAPH 79.

1340. WIRING.--FURNISH AND INSTALL WIRES AND CABLES. SEE PAGES 15 AND 16, PARAGRAPHS 80 TO 85 INCLUSIVE.

1341. GROUND CONNECTIONS.--PROVIDE GROUND CONNECTIONS, SEE PAGES 16 AND 17, PARAGRAPH 87.

1342. REAR EXTERIOR BRACKET FIXTURE.--FURNISH AND INSTALL BRACKET FIXTURES. SEE PAGE 16, PARAGRAPH 86.

1343. FURNISH CABLE SUPPORTS AND BOXES. SEE PAGE 17, PARAGRAPH 90.

1344. FURNISH AND INSTALL VAULT PROTECTION CONDUIT SYSTEM. SEE PAGES 17 AND 18, PARAGRAPH 91.

1345. INSPECTION AND TEST.--SEE PAGE 18, PARAGRAPH 92.

CLOCK SYSTEM

1346. THIS SPECIFICATION INCLUDES THE FURNISHING AND INSTALLING OF A COMPLETE SYSTEM OF CLOCKS INCLUDING CONDUIT AND WIRING IN ACCORDANCE WITH FEDERAL SPECIFICATION NO. W-C-471 AS SUPPLEMENTED BY THIS MEMORANDUM.

THE NAME OF MANUFACTURER OF CLOCK SYSTEM MUST BE SUBMITTED FOR APPROVAL.

1347. TYPE OF SYSTEM.--TYPE B OR D SYSTEM MAY BE FURNISHED UNDER THIS SPECIFICATION. TYPE A AND C SYSTEMS ARE NOT DESIRED FOR THIS PROJECT.

FOR TYPE B SYSTEM

PARAGRAPH E-2c. UNINTERRUPTED SERVICE AS DESCRIBED IN THIS PARAGRAPH IS NOT REQUIRED.

PARAGRAPH E-2D (4). MANUAL DUAL MOTOR RESETTING WILL BE REQUIRED.

THE MANUAL CONTROLLED SWITCHES AND INTERRUPTION INDICATOR SHALL BE LOCATED IN POST MASTER'S OFFICE UNLESS OTHERWISE NOTED ON PLAN.

THE SYSTEM TO BE OPERATED FROM THE LIGHTING CURRENT IN BUILDING. POWER IS TO BE TAKEN FROM MAIN FEEDER PANEL AND CIRCUIT EXTENDED DIRECT TO RESETTING DEVICE AND THENCE TO ALL CLOCK OUTLETS.

PARAGRAPH E-4. TYPE D SYSTEM IS TO BE OPERATED FROM THE LIGHTING CURRENT IN THE BUILDING THROUGH SUITABLE TRANSFORMERS AND RECTIFIERS AND MANUALLY CONTROLLED SWITCHES AS NECESSARY. POWER IS TO BE TAKEN FROM THE MAIN FEEDER PANEL. THE CONTROL AND AUXILIARY APPARATUS IS TO BE INCLOSED IN A STEEL CABINET.

PARAGRAPH E-4c. UNINTERRUPTED SERVICE NOT REQUIRED.

PARAGRAPH E-1B (1). THE CASES OF SECONDARY CLOCKS LISTED BELOW, ARE TO BE FINISHED IN DARK BROWN WITHOUT LUSTRE.

ALL SECONDARY CLOCKS SHALL HAVE CONVEX DIAL COVER GLASSES.

PARAGRAPH E-1B (2). THE FOLLOWING SCHEDULE LISTS ALL SECONDARY CLOCKS INCLUDED IN THE CONTRACT:

FLOOR	10 INCH
FIRST----------	6
SECOND----------	11
TOTAL INSTALLED	17
SPARES (NOT INSTALLED)	1
TOTAL	18

1348. THE EQUIPMENT FOR EITHER SYSTEM MUST BE THE PRODUCT OF MANUFACTURERS OF AN ESTABLISHED REPUTATION AND MUST BE SIMILAR TO APPARATUS WHICH HAS BEEN IN SUCCESSFUL OPERATION FOR AT LEAST TWO YEARS.

1349. THE CLOCK SYSTEM CONDUITS, WIRING, CABINETS, ETC., SHALL BE OF THE NECESSARY SIZE TO ACCOMMODATE THE PARTICULAR SYSTEM INSTALLED.

1350. THE FURNISHING AND INSTALLATION OF INTERIOR LIGHTING FIXTURES, EXCEPT THE SPECIAL LIGHTING FIXTURES HEREINBEFORE SPECIFIED WILL BE COVERED UNDER A SEPARATE CONTRACT AND WILL HAVE NO CONNECTION WITH THIS CONTRACT.

W. E. REYNOLDS,
ASSISTANT DIRECTOR OF PROCUREMENT,
PUBLIC WORKS BRANCH.

80 gallons 60°–160°

$8\frac{1}{3}$ #/gal 8.33

80

66.6 # × 100° = 666,000 BTU

110°

160°

BH 20 – p21–24 WWR-94

70¢ 5 kt = 80 gal

CERTIFIED COPY

CONTRACT
of

James I. Barnes

Of Springfield, Ohio

For extension and remodeling

For U.S. POST OFFICE AND CUSTOM HOUSE

At ST. AUGUSTINE, FLORIDA

Dated December 9,1935

Amount, $ 164,400.00

(Following for Procurement Division
Public Works Branch Use Only)

CC O CK CON SUR DE ARCHT

Final Settlement Authorized....., 19

Last Guaranty Expires....., 19

Form 8651-a
TREASURY DEPARTMENT
Procurement Division

TREASURY DEPARTMENT
Procurement Division

December 24,1935

Respectfully referred to the Commissioner of Accounts and Deposits, Section of Surety Bonds, for examination and indorsement.

Wm. K. Laws

NR Chief of Legal Section.

TREASURY DEPARTMENT
Procurement Division

January 2,1936

I have examined the within instruments as to form and execution, and in these respects they are approved.

Wm. K. Laws

PRC Chief of Legal Section.

TREASURY DEPARTMENT
Procurement Division

January 22,1936

I hereby certify that the within papers are true and correct copies of the originals on file in this department.

Wm K Laws

Chief of Legal Section.