The accompanying plans are designs for the New Custom House, proposed to be erected in this City; and they are herewith submitted for the consideration of the commissioners appointed to superintend the structure.

The Building is to be [crossed out: of some] 140 feet x 75 feet exterior dimensions, to be built of some suitable granite such as may be hereafter decided on. The cross partitions, vaulting etc. to be of good hard bricks. The whole edifice may be rendered fire proof by substituting iron where wood is generally used. The Roof and upper story floors may be made with iron beams, rafters etc., and the roof covered with copper. The floors of the two upper stories to have iron beams, arched between with bricks, or flagged with mica slate, which can be obtained from 5 to 10 feet in length, and makes a light as well as a strong flooring. The Cellar, Basement and Principal floors to be [crossed out: supported on] brick vaults of a spheroidal form. This form of arches has recently been introduced and is found to require less abutment from the lateral thrust being less than that of arches of a different [crossed out: form] construction. The Powder Magazine for the Navy at Chelsea, which was completed last season, is of this construction -- likewise two fire proof rooms for the county records, in the New Court House, which answer well the purposes for which they were intended. The floors over the Steam Engine and Boiler rooms of the Ropewalk at the Navy Yard, are constructed with iron beams and brick arches between them, and are likewise satisfactory. This latter mode however is rather more expensive than vaulting, but does not require

a greater thickness of walls than when wood is employed for the floors, and consequently is well calculated for upper rooms, where there is but little weight upon the walls.

The doors may be made of iron -- The Entrance Doors to be of bronze, [crossed out: in imitation of] after the manner of those of the Pantheon at Rome. The sashes, frames etc., may be of the finest cast iron, annealed (as is now done by improvements in cast iron work) so as to render it nearly, if not quite as [crossed out: strong] tough as wrought iron. The sashes may be made folding, or hung with weight lines, in the usual manner.
The whole foundation to be laid as low, and the cellar as deep as can be well drained and to be piled with good, substantial piling, driven with a ram weighing not less than one ton and falling through a space of at least 25 feet.

The space [crossed out: around the building] between the walls now erecting, and the exterior walls of the building, is left undivided, (on the plan of the cellar) and the partition walls may be put up at such places as required. Openings at proper distances [crossed out: are] to be left in the pavement for getting down coal, or any other article.

A furnace to be placed in the centre of the cellar, of sufficient capacity to heat the whole building, with the aid of flues, so constructed as to pass under the pavement or floors of the principal rooms, as practiced in some of the London Fire Offices. “This method of heating building is equally excelling in the purity of the heated air; in the beneficial way in which it is delivered, (thro’ the floor); in safety from fire, in preservation from smoke, dust and dirt and in economy of fuel; it cannot fail to be generally adopted, when it can be applied. If it be desired to make the apartments comfortably warm, the only way is, to have a body of heat issuing from the pavement of the hall; and when the room doors open, instead of having to shrink from a cutting rush of cold air, there will be a new accession of warm air. Every one must be sensible of the severe colds which are caught by persons who, whilst heated by a large fire, or crowded room, have a cold draught of air thrown upon them from the opening of the door, or who have to leave a warm room and walk up or down staircases where the air is cold as in the street and more piercing from the draught.”

The East and West Elevations, are composed of three parts, a center, and two wings -- The Center, is a Portico of six fluted columns, of the Doric Order, from a Temple on the Ilisus at Athens – This is considered [crossed out: by commissions] a very fine example, uniting elegance with simplicity. The members or parts being few, their effect is clear and distinct, calculated for effect at a distance – it is also admirably adapted to be worked in the granite of this neighborhood. The wings have Antae, the whole elevated upon a rustic basement with solid piers, one of which stands under each column, leaving a footway for passengers between them. The Columns support an entablature and pediment, the tympanum of which may decorated with some emblematical figures, but it is left without ornament in this drawing, for want of time to make a suitable design. The Entablature is to extend around the whole building, surmounted by a blocking course, in which are shewn small windows for lighting the upper rooms, but these windows may be dispensed with, if thought unsightly, and plate glass or ships deck lights substituted, in the roof. Both of these have been successfully employed in buildings lately erected at the Navy Yard.
The Elevation North, \textit{crossed out:} is composed of two columns and antae of the same style as just described. The South Elevation is wholly in antae.

There is shown upon the North Elevation, a Dome which may be omitted, or one of a different form may be adopted. I intended to have made two or 3 sketches \textit{crossed out:} of two or \textit{crossed out:} different forms of Cupolas and Domes in order to place on the elevations, but time will not allow. Should it be desired, they can be furnished, but exterior cupolas and Domes are going out of use in Public buildings of the present age.

The Basement story, is entered as shown on the Plan, from the four fronts – the Principal Entrances however, are from East and West. The staircase, leading to the principal floor, has an easy ascent, and is intended to be made of marble. The other staircases are calculated to be of granite. The central and principal staircase, which lands upon a gallery communicating \textit{crossed out:} with the] to all parts of the principal story, will require nicer workmanship, than can be executed in granite.

On the principal floor is the grand business room, the form and style of which are shewn on the plan and section. It is proposed to make the columns of Italian Marble, of a light dove-color, except the capitals, which are to be white -- The proportions and character of the order of this room, to be that of the Choragic Monument of Lysicrates, at Athens -- the Columns to be 2 feet 3 inches diameter. The Antae to be of Marble, same as the columns.

The ceiling to be arched with bricks, and handsomely finished with coffers etc. in stucco.

Time will not allow me to go into the details of describing the materials and work of the Edifice, but should the Board of Commissioners think favorably enough of the designs herewith presented, to adopt them, I will immediately

\textit{written in left margin}

Perham’s