



Design Requirements

General – Section 1.0

1.1 Contract Requirements

1.1.1 Drawings

1.1.1.1 Border Sheets

Description/Design Approach:

All Drawings prepared for the New York City School Construction Authority shall be on the Authority's Standard Border Sheets. The Designer shall use the appropriate sheet size and border format that will facilitate the project at an adequate scale.

A. Sheet Size:

- The preferred sheet size is 24" x 36". A **30" x 42"** size sheet may be used when 1/8" scale floor plans would require a "match line" on the sheet due to the size of building footprint. The Authority's Design Manager must approve the use of a different size sheet.

B. Border Format:

- The preferred Border Format has one title block vertically aligned at the right side of the sheet.
- The alternative Border Format has one title block horizontally aligned along the bottom of the sheet. The Authority's Design Manager must approve the use of this sheet.

C. Drawing Key Notes:

Each of the above Border Sheets is annotated so that the Designer/User may provide the information required to be included on each of the Sheets.

1. Authority's Logo, President and Board of Trustees Names:

- No editing required.

2. Authority's Vice President's & Director's Names for Architecture & Engineering:

- No editing required.

3. Consultant Name(s) (If Applicable):

- The name of the Consulting Architectural or Engineering Firms responsible for the design and drawing of the sheet shall be inserted in this area.

Note: The "Title Sheet" shall be the only sheet used for listing and identifying all participating Architectural and Engineering Firms

4. Typical Drawing Note(s):

- Two typical Drawing note boxes are shown, Box #1, "Preliminary not for Construction" and Box #2, "Note: Drawing may be printed at reduce scale."

Requirement Applies to:	✓	New Construction	✓	Major Modernizations	✓	Capital Improvement Projects



- a. Box #1 remains on the drawing for all submission prior to issuance of the actual bid set documents. This box shall be removed from the Bid Set prior to Bid and the final set for filing.
- b. Box #2 remains on all drawings at all submissions including the Bid Set.

5. Drawing Revision Number(s), Date and Description:

- This box is reserved for Drawing revisions and changes after the issuance of the Bid Set. All revisions and changes to the drawings are bubbled and or clouded on the drawing. The revision is to be identified with a 1/4" triangle symbol and revision number depicted in the center of the triangle. The revision number, the date of the revision, and a short description of the revision is to be listed in this revision box.

Subsequent revisions and changes shall be numbered in consecutive order as indicated above.

6. Key Plan Box:

- A Key Plan of the building and site shall be provided in this location on all Drawings.

7. Project Contacts and Names:

- This area identifies the Authority's Project Contact and the Project Architect / Engineer of Record, as well as the Discipline Lead, Designer, Drafter and Checker of the Drawings. Responsible individuals shall be listed by their first name, full surname and licensing, if applicable. It also identifies the project number (Design or LLW No.), Facility Code and document date. The required contact /project names are as follows:
 - a. SCA Design Manager: Provide the Authority's Design Manager's name.
 - b. Project Architect/Engineer: Provide the name of the Discipline Design Lead (or) Partner In-charge, who is responsible for the design and development of the Drawing(s). This individual shall be a licensed professional, Architect or Engineer.
 - c. Discipline Lead: Provide the name of the Discipline Lead who is responsible for the design and development of the Drawing(s) for each discipline.
 - d. Designer: Provide the name of the Designer. The Designer shall be the individual(s) responsible for 51% or more of the design details on the Drawing.



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- e. Drawn by: Provide the name of the Drafter. The Drafter shall be the individual(s) responsible for 51% or more of the drawn details on the Drawing(s).
- f. Checked by: Provide the name of the individual that checked the Drawing(s).
- g. Design No. or LLW No.: All Capital Improvement Projects are assigned a Design Number by the Authority. All Capacity Projects are assigned a Low Level Work (LLW) Number by the Authority. Project Leads shall contact the Authority's Design Manager for this number. Edit the box and leave either *Design No.* or *LLW No.*
- h. Facility Code: Each School has an alphanumeric Facility Code identifier; a letter for the borough and three numbers. Project Leads shall contact the Authority's Program Design Manager for this code.
- i. Date: Insert the date of the drawing issue for Bid. This date and the date on the Project Specifications should be identical.
8. Project Name and Address:
Provide the School Name, Project Name and School Address.
9. Drawing Title:
Provide the name of the Drawing that highlights the main subject of the Drawing.
10. Seal:
The Architect or Engineer of Record (Project Lead) shall affix their licensing seal on all Drawings for filing.
11. Drawing Number:
Provide the Drawing Number in accordance with the Department of Building's Drawing Numbering System. Refer to DR 1.1.1.2.
12. Sheet Number in Contract Set:
Provide the number for the Drawing that represents the sheet it is assigned in the Drawing Set and the total number of sheets in the Contract Set.



13. Sheet Number in DOB Filing Set:

Provide the number for the Drawing that represents the sheet it is assigned in the Drawing Set and the total number of sheets in the Department of Building Filing Set.
(This requirement will not be applicable to projects that are not required to be filed)

14. NYC DOB **Now** Job Number sticker:

Provide the DOB Now Job number. Each work type for the project will have a different number.



TYPES OF BORDER SHEETS:
1. Vertical Alignment (Preferred)

The diagram illustrates a vertical alignment border sheet layout. A large rectangular area represents the drawing space. To its right is a vertical border containing various sections. Numbered callouts (1-14) point to specific parts of the border:

- 1: SCA logo and project information at the top right.
- 2: Project information section below the logo.
- 3: A large rectangular area for project details.
- 4: A section labeled "Preliminary Not For Construction".
- 5: A section with a note: "NOTE: Drawing may be printed at reduced scale. If reduced, the drawing shall be clearly legible and shall not be used for construction purposes." Below this is a table with columns for "No.", "Date", and "Description".
- 6: A large rectangular area for project details.
- 7: A section with a table for "Drawing History" with columns for "No.", "Date", and "Description".
- 8: A section with a table for "Project Information" with columns for "No.", "Date", and "Description".
- 9: A section with a table for "Project Information" with columns for "No.", "Date", and "Description".
- 10: A section with a table for "Project Information" with columns for "No.", "Date", and "Description".
- 11: A section with a table for "Project Information" with columns for "No.", "Date", and "Description".
- 12: A section with a table for "Project Information" with columns for "No.", "Date", and "Description".
- 13: A section with a table for "Project Information" with columns for "No.", "Date", and "Description".
- 14: A section with a table for "Project Information" with columns for "No.", "Date", and "Description".

2. Horizontal Alignment (Alternate)

[illegible]



1.1 Contract Requirements

1.1.1 Drawings

1.1.1.2 Drawing Number and Work Type Convention

- A. This “group numbering” system is intended to assign numbered sheets within the specific disciplines. The Department of Buildings has standardized requirements for the drawing title block including discipline designation and drawing numbering and thus the numbering is to follow the Department of Buildings Drawing Identification Number system. Only those drawings that are not filed with the DOB may deviate from the DOB Discipline Designator and are indicated in the table below.
- B. A Drawing Number starts with a letter or letters indicating the discipline designator of the drawing (e.g., “A” for Architectural, “S” for Structural, etc.) followed by a three-digit drawing number. The sequential numbering sets of 3-digit numbers indicate standard grouping of drawings within the discipline. The first set starting at “001” is used for general notes, symbols and legends, and general clarification drawings. Subsequent sets are grouped in hundred series, i.e., 101, 201, 301 series, which correspond to types of drawings such as 101 series for floor plans, 201 series for elevations, 301 series for wall sections, 401 series for details, 901 series for schedules, etc. Numbering Sets vary for each discipline.
- C. Following the three-digit drawing number is a revision decimal that starts with “.00.” Each time there is a change to the approved document that is filed, the revision decimal is to be revised to .01, .02, etc. This revision decimal is also to be used in tracking the revisions with the date and description. However, the decimals will not be able to fit in the reference symbol bubble and may be omitted.
- D. With the implementation of the Department of Buildings submittal portal, DOB NOW, documents are required to be filed by work type (GC, ST, MS, Existing BE, New BE, EN, etc.). The Initial Application (I1) is considered the main application and is typically the GC Work Type, though for a CIP project that may be mostly an HVAC project such as a Ventilation Upgrade or Boiler project, other work types can be the I1, such as MS or Existing BE. Other applications are then filed as subsequent work types (i.e., S1, S2, S3, etc.). Drawings can refer to other applications where reasonable to avoid duplication of information. There are cases where minor work that is generally GC work type but requires an inspection that is only available for the ST work type can be filed as a GC/ST work type as allowed by DOB NOW. Also, for ease of filing Designers may combine work types that are permitted by the DOB NOW system to be combined.
- E. Sheet numbering conventions and numbering sets are shown in the following table. Those not shown but are required for a specific project shall follow DOB guidelines. The T series drawings apply to the entire project and include the cover sheet and are filed with the Initial Application (I1). For the list of drawings to be filed under the other Work Types, the T drawing shall refer to the other trade drawings for the list. Each work type is to have the first drawings of the trade (e.g., S001, M001, etc.) to have the list of drawings for that work type as well as the list of special and progress inspections for that work type except for those to be filed under a separate application by the Contractor’s Engineer, followed by the Building Department and Notes for the trade. While the samples show the items required to be on the first sheets for each work type, based on the size of the project items may need to move to another sheet or can be combined if there is space. The Initial Application (I1) will also list the work to be filed under separate application by the Contractor. It is understood that there are inspections that are required for multiple work types,



- but this will be for the Special Inspection Agency to track and sign off the inspection item for each work type individually when completed.
- F. An acceptable DOB designation used on many projects but not shown below is “C” for Civil drawings. The R and FF series do not typically require information that is to be filed and thus may use the indicated designators. For Landscape drawings, use either ‘L’ series drawings or include in the ‘A’ series. There needs to be two boxes for sheet numbering. One box will be for “Sheets in Work Type Contract Set”, while the other is “Sheets in Work Type DOB Filing Set”. The numbering within each work type must be sequential for each and are to be included with the list of drawings in order to keep track of the numbering. Samples of both the title block and the List of Drawings sheet are included for reference.
- G. Each work type must have its own set of EN drawings, with its associated information and progress inspections that will be attached to each application as a separate pdf. For capacity projects (or the odd CIP project that will be doing energy modeling) that will have a single applicant for the EN drawings with the energy modeling, the EN drawings for each separate work type will be the same exact drawings, including the list of Energy Code Progress Inspections. For CIP projects, each EN work type will have only those applicable energy code calculations/tables that apply to that work type as well as only those Progress Inspections that apply to that Work Type. Electrical Drawings related to energy code compliance are required to be filed. In order to simplify that process, the Electrical Drawings shall be indicated as GC (elec) Work Type.
- H. As an aid to the Contractor, a sheet is to be created called “Compiled List of Drawings, Special Inspections and Progress Inspections for Contract”. This Drawing(s) will be placed in the Contract set immediately after the Cover Sheet with a designation T001A, T001B as needed. This drawing is NOT to be filed and should be created/updated when the project is ready to be uploaded into TOBSS and included as part of the bid set. The designer is to copy the tables of the list of drawings, special inspections and progress inspections from the first sheet of each Work Type/Application without revising the numbering in the tables, except where indicated below. There is to be a box entitled ‘Total Number of Drawings in Contract Set (including compiled list of drawings sheet(s))’ where the Designer is to include the total number of the drawings in the Contract set, inclusive of the compiled list drawing(s). The T001A drawing is not to have numbering in the Number of Sheets in Contract/Work Type boxes. In the List of Drawings of this compiled list drawing, the drawing title is to be added into the Table after the Cover Sheet and have a ‘-’ in the sheet number boxes. Refer to the Sample Drawing at the end of this DR.
- I. Note that the following different tables may not match exactly with each other but are intended to provide intended guidance for sequencing.

Sample Title Block

Reserved For DOB NOW Job#	
	Drawing No.: XXX000.00
	Sheets in XX Work Type Contract Set: 000 of XXX
	Sheets in XX Work Type DOB Filing Set: 000 of XXX

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



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Sample List of Drawings Sheet showing Contract Set and DOB Set Numbering

DRAWING NO.	DRAWING TITLE	GC WORK TYPE CONTRACT SET SHEET NO.	GC WORK TYPE DOB SET SHEET NO.
T001.00	COVER SHEET	1	1
T001A.00	COMPILED LIST OF DRAWINGS, SPECIAL INSEPTIONS AND PROGRESS INSPECTIONS FOR CONTRACT	-	-
T002.00	LIST OF DRAWINGS, SPECIAL & PROGRESS INSPECTIONS	2	2
T003.00	GENERAL NOTES, BUILDING DEPT. NOTES & ALLOWANCES	3	3
T004.00	ABBREVIATIONS, SYMBOLS & LEGENDS	4	4
Z101.00	ZONING DATA & CALCULATIONS	5	5
G101.00	SITE SURVEY	6	6
A001.00	ACCESSIBLE PLUMBING FIXTURES & ACCESSORIES MOUNTING HEIGHTS AND LOCATIONS	7	7
A020.00	FIRE PROTECTION DRAWING - CELLAR	8	8
A030.00	SITE DEMOLITION PLAN	9	9
A035.00	SITE PLAN	10	10
A040.00	SITE GRADING & DRAINAGE PLAN	11	11
A050.00	SITE DETAILS	12	12
A100.00	CELLAR FLOOR PLAN	13	13
A201.00	BUILDING ELEVATIONS	14	14
A203.00	BUILDING SECTIONS	15	15
A301.00	EXTERIOR WALL SECTIONS	16	16
A310.00	EXTERIOR WALL DETAILS	17	17
A401.00	LOBBY & ENTRANCE LAYOUTS & ELEVATIONS	18	
A420.00	CORRIDOR LAYOUTS & ELEVATIONS	19	
A430.00	ROOF DETAILS	20	18
A450.00	MISC. DETAILS	21	19
A501.00	STAIR PLAN & SECTIONS	22	20
A520.00	ELEVATOR PLAN & DETAILS	23	21
A601.00	TOILET LAYOUTS & ELEVATIONS	24	22
A630.00	TOILET, SHOWER & DRINKING FOUNTAIN DETAILS	25	23
A701.00	INTERIOR PARTITION TYPES	26	24
A710.00	MILLWORK DETAILS	27	
A720.00	SPECIALTIES & EQUIPMENT DETAILS	28	
A800.00	REFLECETD CEILING PLAN - CELLAR	29	25
A810.00	CEILING DETAILS	30	26
A901.00	ROOM FINISH SCHEDULES	31	27
A910.00	DOOR SCHEDULES	32	28
A920.00	WINDOW SCHEDULES	33	29
A925.00	WINDOW GUARD DETAILS	34	30
A930.00	SIGNAGE SCHEDULE AND DETAILS	35	31
A940.00	FOOD SERVICE LAYOUT, SCHEDULE & DETAILS	36	32
FF100.00	FURNITURE KEY PLAN - CELLAR	37	
FF201.00	TYPICAL CLASSROOMS	38	
H201.00	SUB-SLAB DEPRESSURIZATION SYSTEM AND PLAN	39	33
R001.00	ZONE OF PUBLIC PROTECTION PLAN & NOTES (REFERENCE ONLY)	40	
R002.00	ADA REF. DWG. FOR FIXTURES & BLDG. ELEMENTS' CLR REQ	41	
EN001.00	NYCECC COMPLIANCE	42	34

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Discipline Code and Numbering Convention

Code	Description	Drawing Number	Description	Sample Drawing Number
GC Work Type				
T	Cover & General Notes Drawings	001	Project Title, School Name	T001.00
		001A	Compiled List of Drawings, Special Inspections & Progress Inspections for Contract	T001A.00
		002	List of Drawings, Special and Progress Inspections (<i>Drawing is to refer to other trade drawings for the list of drawings for the other work types that are part of the Contract set and indicate which subsequent filing number that set is.</i>)	T002.00
		003	Location Map, General Notes, Building Dept. Notes, etc.	T003.00
		011	PAPS Notes, Location Plan, and Images (<i>CIP Only</i>)	T011.00
Z	Zoning Drawings	001	Zoning Data & Diagrams	Z001.00
G	Site Surveys	101	Site Survey	G101.00
DM	Demolition Drawings	001	General Notes	DM001.00
		101	Demolition Plan & Details	DM101.00
C	Civil Drawings (<i>If work not included in P series or other drawing series. If site connection is part of C series, include on a separate sheet and file as a separate PL (Exterior) in DOB NOW.</i>)	101	Notes, symbols	C101.00
L	Landscape Drawings (<i>may be part of A series</i>)	101	Notes, symbols, Planting Plan, Planting Schedules, planting details	L101.00
A	Architectural	001	List of Drawings and List of Special and Progress Inspections, Location Map, etc., General Notes, Building Dept. Notes (<i>For CIP projects if GC Work Type is not the I1 application. If Capacity project, list of drawings will be part of T Drawings</i>)	A001.00
		002	General (symbols, abbreviations, notes, etc.)	A002.00

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Code	Description	Drawing Number	Description	Sample Drawing Number
A	Architectural	003	Accessible Plumbing Fixtures and Accessories Mounting Heights and Locations	A003
		010	3D Views (isometrics, perspectives, photographs)	A010.00
		020	Fire Protection Drawings	A020.00
		030	Site Demolition Plan & Notes (<i>May be part of DM series depending on project</i>)	A030.00
		035	Site Plan & Notes	A035.00
		040	Grading Plan	A040.00
		045	Planting plan, Schedules (may be part of L series)	A045.00
		050	Site Sections & Details	A050.00
		061	Selective Removal Plans	A061.00
		100	Cellar Floor Plan	A100.00
		101	First, Second, Third, Fourth Floor Plans (Horizontal Views)	A101.00
		201	Elevations & Building Sections (Vertical views)	A201.00
		301	Wall Sections (Sectional views)	A301.00
		401	Enlarged Partial Plans & Sections, Roofing Details	A401.00
		501	Stairs, Elevators and Escalators Plans & Details	A501.00
		601	Toilets Room Layouts, Elevations & Details.	A601.00
		701	Interior Partition Details	A701.00
		710	Millwork and Cabinetry	A710.00
		720	Casework Metal	A720.00
		730	Metal lockers, Chalk, and Tack Boards	A730.00
		800	Cellar Reflected Ceiling Plan	A800.00
		801	First, Second, Third, Fourth Floor Reflected Ceiling Plans, Ceiling & Soffit Details	A801.00
		901	Finish schedule	A901.00
		910	Door Elevations, Door Schedules	A910.00
		920	Window Type & Window Schedule, Window Details	A920.00

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Code	Description	Drawing Number	Description	Sample Drawing Number
		930	Signage	A930.00
		940	Kitchen Equipment	A940.00
FF	Furniture & Furnishings and Room Layouts (<i>Drawings not filed</i>)	100	Cellar Furniture Plans	FF101.00
		101	First, Second, Third, Fourth Floor – Furniture Plans	FF101.00
		201	Typical Classroom Part Furniture Plans and Schedules	FF201.00
		301	Specific Room Furniture Plan: Science Labs; Science Demo/Prep Rooms; Music Suite & Choral Rooms; Wireless Language & Staff Computer Training Rooms; Reading & Speech research Rooms; etc.	FF301.00
H	Environmental Remediation/Asbestos Drawings (<i>Depending on item, some Drawing filed such as sub-slab depressurization but others may not be required</i>)	001	Symbols & Legends, General Notes, Abbreviations	H001.00
		101	Asbestos Plans	H101.00
		110	Asbestos Details	H110.00
		201	Environmental Plans	H201.00
		210	Environmental Details	H210.00
R	Reference Drawings (<i>Drawings not to be filed</i>)	001	Zone of Public Protection Plan & Notes	R001.00
		002	ADA reference Drawing for Fixtures and Building Elements' Clearance Requirements	R002.00
		003	Drawings of existing buildings, etc., photographs, etc.	R003.00
EN	Energy Code Compliance Drawings	001	For Capacity, computer printouts from energy modeling and other energy code information, NYCECC Progress Inspection List.	EN001.00
		002	For Capacity, computer printouts from energy modeling and other energy code information	EN002.00
		003	For Capacity, computer printouts from energy modeling and other energy code information	EN003.00
		001	For CIP, GC Energy Code Compliance Information and NYCECC Progress Inspection List	EN001.00
OTHER Work Type				
BPP	Builders Pavement Plan Drawings	101	Builder Pavement Plans, General Notes, Waivers, etc. – Other	BPP101.00

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PA Work Type				
PA	Place of Assembly Drawings	101	Place of Assembly for Auditorium, Cafeteria, Multi-purpose room, Gymnasium, & Gymnasium. Floor Plans and Travel Distances, Door Capacity, Occupancy Loads, Etc.	PA101.00
FO Work Type				
FO	Foundation Drawings <i>(Sitework plan and sections – Retaining Walls, etc. - may be put on Civil Drawings or if site is small on the building foundation plan)</i>	001	List of Foundation Drawings and List of Special and Progress Inspections	FO001.00
		002	Foundation Symbols, Abbreviations & Notes	FO002.00
		010	Sitework Plan	FO010.00
		020	Sitework Sections, Details	FO020.00
		061	Selective Removal Plan	FO061.00
		100	Foundation Plan	FO100.00
		201	Specific Foundation Sections and Details	FO201.00
		301	Pier and Footing Schedule,	FO301.00
		401	Typical Foundation Sections and Details	FO401.00
B	Soil Borings Drawings	101	Soil Boring Logs, General Notes, Symbols & Legends, Ground Water Tables, etc.	B101.00
EN	Energy Code Compliance Drawings	001	For Capacity, computer printouts from energy modeling and other energy code information, NYCECC Progress Inspection List.	EN001.00
		002	Computer printouts from energy modeling and other energy code information	EN002.00
		003	Computer printouts from energy modeling and other energy code information	EN003.00
		011	For CIP, Foundation Energy Code Compliance Information and NYCECC Progress Inspection List	EN011.00
ST Work Type				
S	Structural Drawings	001	List of Structural Drawings and List of Special and Progress Inspections	S001.00
		002	Structural Symbols, Abbreviations, Notes, Table of Loads, and Seismic Coefficients	S002.00
		061	Selective Removal Plans	S061.00

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		101	Superstructure Framing Plans	S101.00
		201	Specific Superstructure Sections and Details by Floor.	S201.00
		301	Column Schedule, Base Plate Details, Lateral Load-Resistant Frame, Sections and Details.	S301.00
		401	Typical Superstructure Sections and Details	S401.00
MS Work Type (Existing BE and New BE Work Types must be separated)				
M	HVAC (Mechanical) Drawings	001	List of Mechanical Drawings and List of Special and Progress Inspections	M001.00
		002	HVAC Symbols, Abbreviations, and Notes	M002.00
		003	HVAC Schedules	M003.00
		061	HVAC Selective Removal Plans	M061.00
		100	Cellar HVAC floor plan (full & part plans)	M100.00
		101	First, Second, Third, Fourth HVAC floor plans (full & part plans)	M101.00
		200	Cellar HVAC Floor Piping Plan (if not a heat pump project)	M200.00
		201	First, Second, Third, Fourth HVAC Floor Piping Plans (if not a heat pump project)	M201.00
		301	Boiler & Chiller Room Part Plans & Sections; & HVAC Sections Sheets.	M301.00
		401	HVAC Chilled Water, Steam & Condensate Return, Air, and Control Risers' Diagrams	M401.00
		501	HVAC Standard Details	M501.00
EN	Energy Code Compliance Drawings	001	For Capacity, computer printouts from energy modeling and other energy code information, NYCECC Progress Inspection List	EN001.00
		002	Computer printouts from energy modeling and other energy code information	EN002.00
		003	Computer printouts from energy modeling and other energy code information	EN003.00
		021	Mechanical Energy Code Compliance and NYCECC Progress Inspection List	EN021.00

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SP & SD Work Type				
SP/SD	Sprinkler and Standpipe Systems Drawings <i>(If project has only sprinkler system, use SP. If standpipe system only, use SD. Ansul systems are Fire Suppression Systems and would use F designation, but are typically filed by Contractor)</i>	001	List of Fire Protection Drawings and List of Special and Progress Inspections	SP/SD001.00
		002	Fire Suppression Symbols, Abbreviations, and Notes	SP/SD002.00
		061	Fire Suppression System Selective Removal Plans	SP/SD061.00
		100	Cellar Sprinkler & Standpipe Floor Plan	SP/SD100.00
		101	First, Second, Third, Fourth Sprinkler & Standpipe Floor Plans	SP/SD101.00
		201	Sprinkler & Standpipe Riser Diagrams	SP/SD201.00
		301	Sprinkler & Standpipe Details	SP/SD301.00
PL (exterior) Work Type				
P	Plumbing Drawings – Site Connection <i>(filed separately in DOB NOW from sitework (exterior) plumbing drawings and interior plumbing work drawings)</i>	011	Site Connections	P011.00
PL (exterior) Work Type				
P	Plumbing Drawings – Sitework <i>(filed separately in DOB NOW from site connection plumbing drawings and interior plumbing work drawings – May also be C drawings)</i>	021	Site Removals	P021.00
		031	Site Plans	P010.00
PL (interior) Work Type				
P	Plumbing Drawings <i>(both site connection and other site (exterior) plumbing work to each be filed as separate PL (exterior) Work Type applications in DOB NOW)</i>	001	List of Plumbing Drawings and List of Special and Progress Inspections	P001.00
		002	P&D Symbols, Abbreviations, Notes,	P002.00
		003	Plumbing Schedules, i.e. (pumps, heaters)	P003.00
		061	Plumbing Selective Removal Plans	P061.00
		100	Cellar Floor Plan (Full & Part Plans)	P100.00
		101	First, Second, Third, Fourth Floor Plans (Full & Part Plans)	P101.00

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		201	1/4" Part Plans	P201.00
		301	Sanitary, Water, Gas, Vacuum/ Compressed Air Riser Diagrams	P301.00
		401	Details Sheets	P401.00
EN	Energy Code Compliance Drawings	001	For Capacity, computer printouts from energy modeling and other energy code information, NYCECC Progress Inspection List	EN001.00
		002	Computer printouts from energy modeling and other energy code information	EN002.00
		003	Computer printouts from energy modeling and other energy code information	EN003.00
		031	Plumbing Energy Code Compliance and NYCECC Progress Inspection List	EN031.00
GC (elec) Work Type				
E	Electrical Drawings (<i>drawings not typically filed- Applicable portions required to show Energy Code Compliance are also to be included in the EN series drawings</i>)	001	List of Electrical Drawings	E001.00
		002	Electrical Symbols, Abbreviations, Notes	E002.00
		003	Site and Service Plan	E003.00
		004	Lightning Protection System	E004.00
		005	Grounding System	E005.00
		061	Electrical Selective Removal Plans	E061.00
		100	Cellar Floor Plan - Lighting (Full & Part Plans)	E100.00
		101	First, Second, Third, Fourth Floor Plans - Lighting (Full & Part Plans)	E101.00
		200	Cellar Floor Plan – Power Systems (Full & Part Plans)	E200.00
		201	First, Second, Third, Fourth Floor Plans – Power Systems (Full & Part Plans)	E201.00
		300	Cellar Floor Plan – Low Voltage Systems (Full & Part Plans)	E300.00
		301	First, Second, Third, Fourth Floor Plans – Low Voltage Systems (Full & Part Plans)	E301.00
		401	1/4" Part Plans – Specialty Rooms (Kitchen, Telecom Room, Electrical Room, Boiler Room, Science Laboratories, Custodian's Office)	E401.00

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



Design Requirements

General - Section 1.0

		501	One-Line Diagram, Power and Lighting Riser, Telephone Cabling System Riser, Data Cabling System Riser, Sound/Clock System Riser, Emergency Lighting and Exit Light Riser, Television Cabling System Riser, Intrusion Alarm System Riser, Rescue Room Intercom System Riser, Auxiliary Signal System Riser, IPDVS System Riser.	E501.00
		601	Lighting Fixture Schedules, Panel Schedules	E601.00
		701	Details	E701.00
EN	Energy Code Compliance Drawings	041	Electrical Energy Code Compliance and NYCECC Progress Inspection List	EN041.00
		042	Distribution Transformers and Electric motor information (for reference only)	EN042.00
		043	Floor Plans - Lighting controls (for reference only)	EN043.00
		044	Floor Plans - Power systems (for reference only)	EN044.00
FA Work Type				
FA	Fire Alarm Drawings	001	List of FA Drawings, Fire Alarm System Symbols, Abbreviations, Notes	FA001.00
		010	Site and Service Plan	FA010.00
		061	Fire Alarm System Removal Plans	FA061.00
		100	Fire Alarm System Cellar Floor Plan	FA100.00
		101	Fire Alarm System First, Second, Third, Fourth Floor Plans	FA101.00
		201	Fire Alarm System Riser Diagram	FA201.00
		301	Schedules	FA301.00
		401	Details	FA401.00

FPP	Fire Protection Plan Drawings (<i>These are a separate set of documents filed with FDNY. Plans showing wall ratings, etc. are to be included in the A series drawings as "Fire Protection Drawings"</i>)	001	Floor Plans, Areas, and Schedules, and Occupant Egress Calculations	FPP001.00

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



Drawing Number Convention

Sample Listing of Drawings Typical of a Capacity Project, but to be similar for a CIP

<u>Dwg. No.</u>	<u>Sheet Description</u>

TITLE DRAWINGS AND OTHERS (GC Work Type)

T001.00	COVER SHEET
T001A.00	COMPILED LIST OF DRAWINGS, SPECIAL INSPECTIONS & PROGRESS INSPECTIONS FOR CONTRACT
T002.00	LIST OF DRAWINGS, LIST OF SPECIAL AND PROGRESS INSPECTIONS
T003.00	LOCATION PLAN, BUILDING DEPARTMENT NOTES
T004.00	BUILDING DEPARTMENT NOTES, GENERAL NOTES
T011.00	PAPS NOTES, LOCATION PLAN AND IMAGE(S)
Z001.00	ZONING DATA
B101.00	SOIL BORINGS – GENERAL NOTES
B102.00	SOIL BORINGS – SHEET 1
B103.00	SOIL BORINGS – SHEET 2
G101.00	SITE SURVEY EXISTING CONDITIONS
G102.00	SITE SURVEY WITH PROPOSED BUILDING CONFIGURATION
DM001.00	DEMOLITION GENERAL NOTES
DM101.00	DEMOLITION PLANS & DETAILS
L101.00	NOTES, SYMBOLS, PLANTING PLAN, PLANTING SCHEDULES, PLANTING DETAILS

ARCHITECTURAL DRAWINGS

A001.00	SYMBOLS, ABBREVIATIONS & NOTES
A002.00	ACCESSIBLE PLUMBING FIXTURES & ACCESSORIES MOUNTING HEIGHTS AND LOCATIONS
A010.00	3D VIEWS (ISOMETRIC, PERSPECTIVES, PHOTOGRAPHS)
A020.00	FIRE PROTECTION DRAWINGS – FIRST & SECOND FLOORS
A021.00	FIRE PROTECTION DRAWINGS – THIRD & FOURTH FLOORS
A030.00	SITE DEMOLITION PLAN & NOTES
A035.00	SITE PLAN & NOTES
A040.00	GRADING & DRAINAGE PLAN
A045.00	PLANTING PLAN AND SCHEDULE
A050.00	SITE DETAILS
A051.00	DRAINAGE DETAILS

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



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Design Requirements

General - Section 1.0

<u>Dwg. No.</u>	<u>Sheet Description</u>
A060.00	CELLAR SELECTIVE REMOVALS PLAN
A061.00	FIRST FLOOR SELECTIVE REMOVALS PLAN
A062.00	SECOND FLOOR SELECTIVE REMOVALS PLAN
A063.00	THIRD FLOOR SELECTIVE REMOVALS PLAN
A064.00	FOURTH FLOOR SELECTIVE REMOVALS PLAN
A065.00	FIFTH FLOOR SELECTIVE REMOVALS PLAN
A066.00	ROOF SELECTIVE REMOVALS PLAN
A100.00	CELLAR PLAN
A101.00	FIRST FLOOR PLAN
A102.00	SECOND FLOOR PLAN
A103.00	THIRD FLOOR PLAN
A104.00	FOURTH FLOOR PLAN
A105.00	FIFTH FLOOR PLAN
A106.00	ROOF PLAN
A201.00	NORTH/SOUTH ELEVATIONS
A202.00	EAST/WEST ELEVATIONS
A203.00	EAST BUILDING SECTIONS
A204.00	WEST BUILDING SECTIONS
A205.00	NORTH BUILDING SECTIONS
A206.00	SOUTH BUILDING SECTIONS
A301.00	EXTERIOR WALL SECTIONS
A302.00	EXTERIOR WALL SECTIONS
A303.00	EXTERIOR WALL SECTIONS
A304.00	EXTERIOR WALL SECTIONS
A305.00	EXTERIOR WALL SECTIONS
A306.00	EXTERIOR WALL SECTIONS
A307.00	EXTERIOR WALL PLAN DETAILS
A308.00	EXTERIOR COLUMN PLAN DETAILS
A309.00	EXTERIOR WALL DETAILS –1
A310.00	EXTERIOR WALL DETAILS –2
A401.00	WEST WING LAYOUT PLAN & INTERIOR ELEVATIONS
A402.00	EAST WING LAYOUT PLAN & INTERIOR ELEVATIONS
A403.00	CENTER LAYOUT PLAN & INTERIOR ELEVATIONS
A404.00	LOBBY & ENTRANCE LAYOUTS & INTERIOR ELEVATIONS
A405.00	INTERIOR COLUMN PLAN DETAILS
A406.00	INTERIOR EXPANSION JOINT PLAN DETAILS
A407.00	DETAIL ELEVATIONS & MASONRY COURSING
A410.00	DETAIL ELEVATIONS – 1
A411.00	DETAIL ELEVATIONS –2
A420.00	ROOF DETAILS – SHEET 1
A421.00	ROOF DETAILS – SHEET 2

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



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Design Requirements

General - Section 1.0

<u>Dwg. No.</u>	<u>Sheet Description</u>
A431.00	COLUMN PLANS & SECTIONS DETAILS – SHEET 1
A441.00	MISC. DETAILS – SHEET 1
A501.00	STAIR 'A' PLAN & SECTIONS
A502.00	STAIR 'B' PLAN & SECTIONS
A503.00	STAIR 'C' PLAN & SECTIONS
A504.00	STAIR 'D' PLAN & SECTIONS & BULKHEAD PLANS AND SECTIONS
A505.00	STAIR 'E' PLAN & SECTIONS & BULKHEAD PLANS AND SECTIONS
A506.00	ELEVATOR #1 PLANS & SECTIONS
A507.00	ELEVATOR #2 PLANS & SECTIONS
A508.00	ESCALATOR #1 PLANS & SECTIONS
A509.00	ESCALATOR #2 PLANS & SECTIONS
A601.00	TOILET ROOMS LAYOUTS
A602.00	TOILET ROOMS ELEVATIONS
A603.00	TOILET COMPARTMENT DETAILS & FIXTURE MOUNTING HEIGHTS
A604.00	DRINKING FOUNTAIN LAYOUTS & DETAILS
A701.00	INTERIOR PARTITION TYPES
A702.00	CORRIDOR TYPE DETAILS
A703.00	INTERIOR DETAILS – SHEET 1
A704.00	INTERIOR DETAILS – SHEET 2
A710.00	MILLWORK – SHEET 1
A711.00	MILLWORK – SHEET 2
A712.00	SHELVING DETAILS
A713.00	DISPLAY CASE LAYOUTS & DETAILS
A714.00	CABINETRY DETAILS
A715.00	SCIENCE ROOM CASEWORK DETAILS
A716.00	KITCHENETTE & MEDICAL SUITE CABINET DETAILS
A717.00	CORRIDOR DETAILS, FIRE ALARM, FIRE EXTINGUISHER & RECESSED TELEPHONE DETAILS
A720.00	CASEWORK LAYOUT PLANS AND DETAILS
A730.00	METAL LOCKERS, CHALK BOARD & TACK BOARDS DETAILS
A800.00	REFLECTED CEILING PLAN-BASEMENT
A801.00	REFLECTED CEILING PLAN-FIRST FLOOR
A802.00	REFLECTED CEILING PLAN-SECOND FLOOR
A803.00	REFLECTED CEILING PLAN-THIRD FLOOR
A810.00	CEILING & SOFFIT DETAILS & CEILING SCHEDULE
A811.00	CEILING DETAILS & SEISMIC BRACING DETAILS
A901.00	ROOM FINISH SCHEDULE – SHEET 1
A902.00	ROOM FINISH SCHEDULE – SHEET 2
A910.00	DOOR SCHEDULE

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



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<u>Dwg. No.</u>	<u>Sheet Description</u>
A911.00	DOOR ELEVATIONS
A912.00	DOOR DETAILS
A913.00	DOOR DETAILS
A920.00	WINDOW SCHEDULE – 1
A921.00	WINDOW SCHEDULE – 2
A922.00	WINDOW ELEVATIONS – 1
A923.00	WINDOW ELEVATIONS – 2
A924.00	WINDOW DETAILS – 1
A925.00	WINDOW DETAILS – 2
A926.00	WINDOW GUARDS SCHEDULE & DETAILS
A930.00	SIGNAGE SCHEDULE & DETAILS
A931.00	FLOOR PATTERN SCHEDULE – FIRST FLOOR PLAN
A932.00	COLOR PATTERN SCHEDULES & DETAILS
A933.00	SECURITY BARRIER LAYOUTS & DETAILS
A940.00	KITCHEN EQUIPMENT LAYOUT, SCHEDULE OF EQUIPMENT
A941.00	KITCHEN, SPECIAL CONDITIONS PLAN
A942.00	KITCHEN, SECTIONS, DETAILS & ELEVATIONS

FURNITURE & FURNISHINGS DRAWINGS

FF100.00	CELLAR, FIRST & SECOND FLOOR FURNITURE PLANS
FF101.00	THIRD, FOURTH & FIFTH FLOOR FURNITURE PLANS
FF201.00	TYPICAL CLASSROOM PART FURNITURE PLAN AND SCHEDULE - 1
FF202.00	TYPICAL CLASSROOM PART FURNITURE PLAN AND SCHEDULE - 2
FF301.00	SCIENCE DEMO / PREP ROOM FURNITURE PLANS & SCHEDULES - 1
FF302.00	SCIENCE DEMO / PREP ROOM FURNITURE PLANS & SCHEDULES - 2
FF303.00	SCIENCE LABS FURNITURE PLAN & SCHEDULE
FF304.00	TYPICAL SPECIAL EDUCATION FURNITURE PART PLAN & SCHEDULE
FF305.00	MUSIC SUITE & CHORAL ROOM FURNITURE PART PLANS & SCHEDULES
FF306.00	COMPUTER LABS FURNITURE PART PLANS & SCHEDULES
FF307.00	WIRELESS LANGUAGE & STAFF COMPUTER TRAINING FURNITURE PART PLANS & SCHEDULES
FF308.00	ART CLASSROOM / STOREROOM FURNITURE PART PLANS & SCHEDULES
FF309.00	READING & SPEECH RESEARCH ROOM, SPECIAL EDUCATION FURNITURE PART PLANS & SCHEDULES
FF310.00	RECEIVING / SUPPLY ROOMS, BOOK STOREROOM, FURNITURE STOREROOM PART PLANS & SCHEDULES
FF311.00	CAFETERIA FURNITURE PLAN & SCHEDULE
FF312.00	KITCHEN LAYOUT
FF313.00	MEDICAL SUITE, PARENT'S COMMUNITY, AUDIO VISUAL, SCHOOL AIDES PART FURNITURE PLANS & SCHEDULES
FF314.00	SUPERVISORY OFFICE/STORAGE OFFICE FURNITURE PLAN & SCHEDULE
FF315.00	CUSTODIAN'S OFFICE/WORKSHOP/ LOCKER ROOM/STAFF WORK ROOM/PART FURNITURE PLANS & SCHEDULES

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



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General - Section 1.0

Dwg. No. Sheet Description

H001.00 ENVIRONMENTAL REMEDIATION – SYMBOLS & LEGENDS
H101.00 ASBESTOS PLANS
H110.00 ASBESTOS DETAILS
H201.00 ENVIRONMENTAL PLANS

EN001.00 ENERGY ANALYSIS, **NYCECC PROGRESS INSPECTIONS**
EN002.00 ENERGY ANALYSIS
EN003.00 ENERGY ANALYSIS

OTHER Work Type

BPP101.00 BUILDERS PAVEMENT PLANS, GENERAL NOTES & WAIVERS- SHEET 1
BPP102.00 BUILDERS PAVEMENT PLANS, GENERAL NOTES & WAIVERS- SHEET 2

PA Work Type

PA101.00 PLACE OF ASSEMBLY PLAN – AUDITORIUM
PA102.00 PLACE OF ASSEMBLY PLAN – CAFETERIA
PA103.00 PLACE OF ASSEMBLY PLAN – GYMNASIUM

SUPPRT OF EXCAVATION DRAWINGS (SOE Work Type)

SOE001.00 TRANSIT AUTHORITY GENERAL NOTES
SOE010.00 WORK ADJACENT TO NYCT STRUCTURES SECTIONS & DETAILS SHEET NO. 1
SOE011.00 WORK ADJACENT TO NYCT STRUCTURES SECTIONS & DETAILS SHEET NO. 2
SOE101.00 SCHEMATIC UNDERPINNING/SHORING PLAN AND DETAILS

FOUNDATION DRAWINGS (FO Work Type)

FO001.00 LIST OF FOUNDATION DRAWINGS AND LIST OF SPECIAL AND PROGRESS INSPECTIONS

FO002.00 FOUNDATION SYMBOLS, ABBREVIATIONS & NOTES

FO100.00 FOUNDATION PLAN - PART "A"
FO101.00 FOUNDATION PLAN - PART "B" AND SCHEDULES
FO201.00 FOUNDATION SECTIONS & DETAILS – SHEET NO. 1
FO202.00 FOUNDATION SECTIONS & DETAILS – SHEET NO. 2
FO203.00 FOUNDATION SECTIONS & DETAILS – SHEET NO. 3
FO204.00 FOUNDATION SECTIONS & DETAILS – SHEET NO. 4
FO301.00 PIER AND FOOTING SCHEDULE
FO401.00 FOUNDATION TYPICAL DETAILS – SHEET N0.1
FO402.00 FOUNDATION TYPICAL DETAILS – SHEET N0.2

B101.00 SOIL BORINGS – GENERAL NOTES
B102.00 SOIL BORINGS – SHEET 1
B103.00 SOIL BORINGS – SHEET 2

EN001.00 ENERGY ANALYSIS, NYCECC PROGRESS INSPECTIONS
EN002.00 ENERGY ANALYSIS
EN003.00 ENERGY ANALYSIS
EN011.00 FOUNDATION ENERGY CODE COMPLIANCE AND NYCECC PROGRESS INSPECTION

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



Dwg. No. **Sheet Description**

LIST (For CIP)

STRUCTURALDRAWINGS (ST Work Type)

S001.00	LIST OF STRUCTURAL DRAWINGS AND LIST OF SPECIAL AND PROGRESS INSPECTIONS
S002.00	STRUCTURAL NOTES, ABBREVIATIONS, TABLE OF LOADS, SEISMIC COEFFICIENTS
S060.00	CELLAR SELECTIVE REMOVALS PLAN
S061.00	FIRST FLOOR SELECTIVE REMOVALS PLAN
S062.00	SECOND FLOOR SELECTIVE REMOVALS PLAN
S063.00	THIRD FLOOR SELECTIVE REMOVALS PLAN
S064.00	FOURTH FLOOR SELECTIVE REMOVALS PLAN
S065.00	FIFTH FLOOR SELECTIVE REMOVALS PLAN
S101.00	FIRST FLOOR FRAMING PLANS
S102.00	SECOND FLOOR FRAMING PLANS
S103.00	THIRD FLOOR FRAMING PLANS
S104.00	FOURTH FLOOR FRAMING PLANS
S105.00	FIFTH FLOOR FRAMING PLANS
S106.00	ROOF FRAMING PLANS
S201.00	FLOOR SECTIONS & DETAILS – SHEET NO. 1
S202.00	FLOOR SECTIONS & DETAILS – SHEET NO. 2
S203.00	FLOOR SECTIONS & DETAILS – SHEET NO. 3
S204.00	FLOOR SECTIONS & DETAILS – SHEET NO. 4
S205.00	FLOOR SECTIONS & DETAILS – SHEET NO. 5
S206.00	FLOOR SECTIONS & DETAILS – SHEET NO. 6
S207.00	FLOOR SECTIONS & DETAILS – SHEET NO. 7
S208.00	ROOF SECTIONS & DETAILS
S209.00	ROOF AND BULKHEAD SECTIONS & DETAILS
S301.00	COLUMN SCHEDULE
S302.00	COLUMN SECTIONS & DETAILS
S303.00	COLUMN CONNECTIONS AND TYPICAL DETAILS SHEET NO. 1
S304.00	COLUMN CONNECTIONS AND TYPICAL DETAILS - SHEET NO. 2
S305.00	SEISMIC BRACING FRAMES
S306.00	SEISMIC CONNECTION DETAILS
S401.00	SUPERSTRUCTURE TYPICAL DETAILS - SHEET NO. 1
S402.00	SUPERSTRUCTURE TYPICAL DETAILS - SHEET NO. 2
S403.00	MASONRY REINFORCEMENT DETAILS

MECHANICAL (HVAC) DRAWINGS (MS Work Type)

M001.00	LIST OF MECHANICAL DRAWINGS AND LIST OF SPECIAL AND PROGRESS INSPECTIONS
M002.00	HVAC SYMBOLS, ABBREVIATIONS, AND NOTES
M003.00	HVAC SCHEDULES SHEET NO. 1

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



Design Requirements**General - Section 1.0**

<u>Dwg. No.</u>	<u>Sheet Description</u>
M004.00	HVAC SCHEDULES SHEET NO.2
M060.00	CELLAR REMOVALS PLAN
M061.00	FIRST FLOOR REMOVALS PLAN
M062.00	SECOND FLOOR REMOVALS PLAN
M063.00	THIRD FLOOR REMOVALS PLAN
M064.00	FOURTH FLOOR REMOVALS PLAN
M065.00	FIFTH FLOOR REMOVALS PLAN
M066.00	ROOF REMOVALS PLAN
M100.00	CELLAR FLOOR PLAN
M101.00	HVAC FIRST FLOOR PLAN
M102.00	HVAC SECOND FLOOR PLAN
M103.00	HVAC THIRD FLOOR PLAN
M104.00	HVAC FOURTH FLOOR PLAN
M105.00	HVAC FIFTH FLOOR PLAN
M106.00	HVAC ROOF PLAN
M200.00	HVAC PIPING CELLAR FLOOR PLAN
M201.00	HVAC PIPING FIRST FLOOR PLAN
M202.00	HVAC PIPING SECOND FLOOR PLAN
M203.00	HVAC PIPING THIRD FLOOR PLAN
M204.00	HVAC PIPING FOURTH FLOOR PLAN
M205.00	HVAC PIPING FIFTH FLOOR PLAN
M206.00	HVAC PIPING ROOF PLAN
M301.00	BOILER & CHILLER ROOM PART PLANS & SECTIONS
M302.00	HVAC SECTIONS SHEETS
M401.00	HVAC CHILLED WATER, STEAM & CONDENSATE RETURN DIAGRAMS
M402.00	AIR AND CONTROL RISER DIAGRAMS
M501.00	HVAC TYPICAL DETAILS
EN001.00	ENERGY ANALYSIS, NYCECC PROGRESS INSPECTIONS
EN002.00	ENERGY ANALYSIS
EN003.00	ENERGY ANALYSIS
EN021.00	MECHANICAL ENERGY CODE COMPLIANCE AND NYCECC PROGRESS INSPECTION LIST (For CIP)

SPRINKLER/STANDPIPE SYSTEM DRAWINGS (SP/SD Work Type)

SP/SD001.00	FIRE SUPPRESSION SYSTEM SYMBOLS, ABBREVIATIONS, AND NOTES
SP/SD060.00	CELLAR REMOVALS PLAN
SP/SD061.00	FIRST FLOOR REMOVALS PLAN
SP/SD062.00	SECOND FLOOR REMOVALS PLAN
SP/SD063.00	THIRD FLOOR REMOVALS PLAN
SP/SD064.00	FOURTH FLOOR REMOVALS PLAN

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



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<u>Dwg. No.</u>	<u>Sheet Description</u>
SP/SD065.00	FIFTH FLOOR REMOVALS PLAN
SP/SD100.00	FIRE SUPPRESSION SYSTEM CELLAR FLOOR PLAN
SP/SD101.00	FIRE SUPPRESSION SYSTEM FIRST FLOOR PLAN
SP/SD102.00	FIRE SUPPRESSION SYSTEM SECOND FLOOR PLAN
SP/SD103.00	FIRE SUPPRESSION SYSTEM THIRD PLAN
SP/SD104.00	FIRE SUPPRESSION SYSTEM FOURTH PLAN
SP/SD105.00	FIRE SUPPRESSION SYSTEM FIFTH PLAN
SP/SD201.00	SPRINKLER/STANDPIPE RISER DIAGRAMS
SP/SD301.00	FIRE SUPPRESSION SYSTEM TYPICAL DETAILS

PLUMBING DRAWINGS (PL Work Type)

P001.00	LIST OF PLUMBING DRAWINGS AND LIST OF SPECIAL AND PROGRESS INSPECTIONS
P002.00	P&D SYMBOLS, ABBREVIATIONS, AND NOTES
P003.00	PLUMBING SCHEDULES
P011.00	SITE CONNECTIONS
P021.00	SITE REMOVALS
P031.00	SITE PLANS
P060.00	CELLAR REMOVALS PLAN – BELOW GRADE PIPING
P061.00	CELLAR REMOVALS PLAN – ABOVE GRADE PIPING
P062.00	FIRST FLOOR REMOVALS PLAN
P063.00	SECOND FLOOR REMOVALS PLAN
P064.00	THIRD FLOOR REMOVALS PLAN
P065.00	FOURTH FLOOR REMOVALS PLAN
P066.00	FIFTH FLOOR REMOVALS PLAN
P067.00	ROOF REMOVALS PLAN
P100.00	CELLAR FLOOR PLAN – BELOW GRADE PIPING
P101.00	CELLAR FLOOR PLAN – ABOVE GRADE PIPING
P102.00	FIRST FLOOR PLAN
P103.00	SECOND FLOOR PLAN
P104.00	THIRD FLOOR PLAN
P105.00	FOURTH FLOOR PLAN
P106.00	FIFTH FLOOR PLAN
P107.00	ROOF PLAN
P201.00	1/4" PART PLANS SHEET NO.1
P202.00	1/4" PART PLANS SHEET NO. 2
P301.00	SANITARY, WATER, GAS, VACUUM / COMPRESSED AIR RISER DIAGRAMS
P401.00	P&D TYPICAL DETAILS

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



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<u>Dwg. No.</u>	<u>Sheet Description</u>
EN001.00	ENERGY ANALYSIS, NYCECC PROGRESS INSPECTIONS
EN002.00	ENERGY ANALYSIS
EN003.00	ENERGY ANALYSIS
EN031.00	PLUMBING ENERGY CODE COMPLIANCE AND NYCECC PROGRESS INSPECTION LIST (For CIP)

ELECTRICAL DRAWINGS (GC (elec) Work Type)

E001.00	LIST OF ELECTRICAL DRAWINGS
E002.00	ELECTRICAL SYMBOLS, ABBREVIATIONS, AND NOTES
E003.00	SITE AND SERVICE PLAN
E004.00	LIGHTNING PROTECTION SYSTEM
E005.00	GROUNDING SYSTEM
E060.00	CELLAR REMOVALS PLAN
E061.00	FIRST FLOOR REMOVALS PLAN
E063.00	SECOND FLOOR REMOVALS PLAN
E064.00	THIRD FLOOR REMOVALS PLAN
E065.00	FOURTH FLOOR REMOVALS PLAN
E066.00	FIFTH FLOOR REMOVALS PLAN
E100.00	CELLAR LIGHTING PLAN
E101.00	FIRST FLOOR LIGHTING PLAN
E102.00	SECOND FLOOR LIGHTING PLAN
E103.00	THIRD FLOOR LIGHTING PLAN
E104.00	FOURTH FLOOR LIGHTING PLAN
E105.00	FIFTH FLOOR LIGHTING PLAN
E106.00	ROOF LIGHTING PLAN
E200.00	CELLAR PLAN - POWER SYSTEMS
E201.00	FIRST FLOOR PLAN - POWER SYSTEMS
E202.00	SECOND FLOOR PLAN - POWER SYSTEMS
E203.00	THIRD FLOOR PLAN - POWER SYSTEMS
E204.00	FOURTH FLOOR PLAN - POWER SYSTEMS
E205.00	FIFTH FLOOR PLAN - POWER SYSTEMS
E206.00	ROOF PLAN - POWER SYSTEMS
E300.00	CELLAR PLAN - LOW VOLTAGE SYSTEMS
E301.00	FIRST FLOOR PLAN - LOW VOLTAGE SYSTEMS
E302.00	SECOND FLOOR PLAN - LOW VOLTAGE SYSTEMS
E303.00	THIRD FLOOR PLAN - LOW VOLTAGE SYSTEMS
E304.00	FOURTH FLOOR PLAN - LOW VOLTAGE SYSTEMS
E305.00	FIFTH FLOOR PLAN - LOW VOLTAGE SYSTEMS
E306.00	ROOF PLAN - LOW VOLTAGE SYSTEMS
E401.00	KITCHEN PLAN
E402.00	COMPUTER LABORATORIES PLAN
E403.00	SCIENCE LABORATORIES PLAN
E404.00	T. V. STUDIO PLAN

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



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<u>Dwg. No.</u>	<u>Sheet Description</u>
E501.00	ONE LINE DIAGRAMS
E502.00	POWER AND LIGHTING RISER
E503.00	TELEPHONE INTERCOM RISER
E504.00	LAN CABLING SYSTEM RISER
E505.00	SOUND/CLOCK SYSTEM RISER
E506.00	EMERGENCY LIGHTING AND EXIT LIGHT RISER
E507.00	TELEVISION DISTRIBUTION SYSTEM & INTRUSION ALARM SYSTEM RISERS
E508.00	ELEVATOR & RESCUE ROOM INTERCOM SYSTEMS RISERS
E509.00	AUXILIARY SIGNAL SYSTEM RISERS
E510.00	INTERNET PROTOCOL VIDEO SURVEILLANCE RISER
E601.00	LIGHT FIXTURE SCHEDULES
E602.00	LIGHTING PANEL SCHEDULES
E603.00	RECEPTACLES PANEL SCHEDULES
E604.00	POWER PANEL SCHEDULES
E605.00	DISTRIBUTION PANEL SCHEDULES
E701.00	TYPICAL DETAILS
EN001.00	ENERGY ANALYSIS, NYCECC PROGRESS INSPECTIONS
EN002.00	ENERGY ANALYSIS
EN003.00	ENERGY ANALYSIS
EN041.00	ELECTRICAL ENERGY CODE COMPLIANCE AND NYCECC PROGRESS INSPECTION LIST (For CIP)
EN042.00	DISTRIBUTION TRANSFORMERS AND ELECTRIC MOTOR INFORMATION (FOR REFERENCE ONLY) (For CIP)
EN043.00	FLOOR PLANS - LIGHTING CONTROLS (FOR REFERENCE ONLY) (For CIP)
EN044.00	FLOOR PLANS - POWER SYSTEMS (FOR REFERENCE ONLY) (For CIP)
FIRE ALARM DRAWINGS (FA Work Type)	
FA001.00	LIST OF FA DRAWINGS , FIRE ALARM SYMBOLS & LEGENDS, ABBREVIATIONS, AND NOTES
FA060.00	CELLAR REMOVALS PLAN
FA061.00	FIRST FLOOR REMOVALS PLAN
FA062.00	SECOND FLOOR REMOVALS PLAN
FA063.00	THIRD FLOOR REMOVALS PLAN
FA064.00	FOURTH FLOOR REMOVALS PLAN
FA065.00	FIFTH FLOOR REMOVALS PLAN
FA100.00	CELLAR FLOOR PLAN
FA101.00	FIRST FLOOR PLAN
FA102.00	SECOND FLOOR PLAN
FA103.00	THIRD FLOOR PLAN
FA104.00	FOURTH FLOOR PLAN
FA105.00	FIFTH FLOOR PLAN

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



School Construction Authority

Architecture & Engineering

Design Requirements

General - Section 1.0

<u>Dwg. No.</u>	<u>Sheet Description</u>
FA201.00	FIRE ALARM RISER DIAGRAM
FA301.00	SCHEDULES
FA401.00	FA TYPICAL DETAILS

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



The following are sample drawings of the first several T00 drawings for the initial application of a Capacity Project to show the intended cover sheet, sheet with list of drawings, special inspections, progress inspection and first EN sheet.

ADDRESS

LLW: 123456
LLW: 123456
LLW: 123456
LLW: 123456
LLW: 123456
LLW: 123456

IMAGE

SCA

COVER SHEET

DOB NOW # xxxxxxxx-11
Drawing No. T001.00
Sheets in Contract Set: 1 of 23
Sheets in DOB Filing Set: 1 of 23

Requirement Applies to: ☒ New Construction

☒ Major Modernizations

☒ Capital Improvement Projects



School Construction Authority

Architecture & Engineering

Design Requirements

General - Section 1.0

LIST OF DRAWINGS - GC WORK TYPE			
DWG	TITLE	JX WORK TYPE CONTRACT SET SHEET NO.	JX WORK TYPE DOB SET SHEET NO.
T001	COVER SHEET	1	1
T002	DRAWING LIST, SPECIAL INSPECTIONS, GENERAL NOTES	2	2
T003	TITLE	3	3
A001	TITLE	4	4
A002	TITLE	5	5
A100	TITLE	6	6
A201	TITLE	7	7
H001	TITLE	8	
R001	TITLE	9	
EN001	TITLE	10	8
EN002	TITLE	11	9
EN003	TITLE	12	10
EN004	TITLE	13	11
EN005	TITLE	14	12

LIST OF SUBSEQUENT APPLICATIONS	
SOE	For Support of Excavation Work Type List of Drawings & Special/Progress Inspections, refer to Drawing SOE001.0
FO	For Foundation Work Type List of Drawings & Special/Progress Inspections, refer to Drawing FO001.00
ST	For Structural Work Type List of Drawings & Special/Progress Inspections, refer to Drawing S001.00
MS	For Mechanical Work Type List of Drawings & Special/Progress Inspections, refer to Drawing M001.00
PL	For Plumbing Work Type List of Drawings & Special/Progress Inspections, refer to Drawing P001.00
GC (el)	For GC-Electrical Work Type List of Drawings & Special/Progress Inspections, refer to Drawing E001.00
SP/SD	For Sprinkler/Standpipe Work Type List of Drawings & Special/Progress Inspections, refer to Drawing F001.00
BE	For Boiler Equipment Work Type List of Drawings & Special/Progress Inspections, refer to Drawing M300.00
MS	For Mechanical (ME) Work Type List of Drawings & Special/Progress Inspections, refer to Drawing M001.00
BPP	BPP001 For Builders Pavement Plan Work Type List of Drawings & Special/Progress Inspections, refer to Drawing BPP001.00.

SPECIAL INSPECTIONS - GC WORK TYPE	
NAME	BC SECTION
INSPECTION 1	BC 1234.5.6
INSPECTION 2	BC 1234.5.6
INSPECTION 3	BC 1234.5.6
INSPECTION 4	BC 1234.5.6
INSPECTION 5	BC 1234.5.6
INSPECTION 6	BC 1234.5.6
INSPECTION 7	BC 1234.5.6
INSPECTION 8	BC 1234.5.6
INSPECTION 9	BC 1234.5.6
INSPECTION 10	BC 1234.5.6
INSPECTION 11	BC 1234.5.6

PROGRESS INSPECTIONS - GC WORK TYPE	
NAME	BC SECTION
INSPECTION 1	BC 1234.5.6
INSPECTION 2	BC 1234.5.6
INSPECTION 3	BC 1234.5.6
INSPECTION 4	BC 1234.5.6
INSPECTION 5	BC 1234.5.6
INSPECTION 6	BC 1234.5.6
INSPECTION 7	BC 1234.5.6
INSPECTION 8	BC 1234.5.6
INSPECTION 9	BC 1234.5.6
INSPECTION 10	BC 1234.5.6
INSPECTION 11	BC 1234.5.6

Note: GC work type to be used as initial work type. Fill subsequent work types from DOBNOW list and remove those not applicable to the project.

Drawing List, Special & Progress Inspections, General Notes

DOBNOW # xxxxxxxx-11

Drawing No. **T002.00**

Sheets in JX Work Type Contract Set: 1 of 1

Sheets in JX Work Type DOB Filing Set: 1 of 1

Requirement Applies to: ☒ New Construction

☒ Major Modernizations

☒ Capital Improvement Projects



The following are sample drawings of the first several T00 drawings for a subsequent application of a Capacity Project to show the intended sheet with list of drawings, special inspections, progress inspection and first EN sheet.

LIST OF DRAWINGS - XX WORK TYPE			
DWG	TITLE	XX WORK TYPE CONTRACT SET SHEET NO.	XX WORK TYPE DOB SET SHEET NO.
X001	DRAWING LIST, SPECIAL INSPECTIONS, GENERAL NOTES	1	1
X002	TITLE	2	2
X003	TITLE	3	3
X001	TITLE	4	4
X002	TITLE	5	5
X100	TITLE	6	6
X201	TITLE	7	7
EN001	TITLE	8	8
EN002	TITLE	9	9
EN003	TITLE	10	10
EN004	TITLE	11	11
EN005	TITLE	12	12

SPECIAL INSPECTIONS - XX WORK TYPE	
NAME	BC SECTION
INSPECTION 1	BC 1234.5.6
INSPECTION 2	BC 1234.5.6
INSPECTION 3	BC 1234.5.6
INSPECTION 4	BC 1234.5.6
INSPECTION 5	BC 1234.5.6
INSPECTION 6	BC 1234.5.6
INSPECTION 7	BC 1234.5.6
INSPECTION 8	BC 1234.5.6
INSPECTION 9	BC 1234.5.6
INSPECTION 10	BC 1234.5.6
INSPECTION 11	BC 1234.5.6

PROGRESS INSPECTIONS - XX WORK TYPE	
NAME	BC SECTION
INSPECTION 1	BC 1234.5.6
INSPECTION 2	BC 1234.5.6

Note: Fill in work type from DOB NOW list.
EN Drawings same as II Work type.

Drawing List, Special & Progress Inspections, General Notes

DOB NOW # xxxxxxxx-Sx

Drawing No.
X001.00

Sheets in XX Work Type
Contract Set:
1 of 1

Sheets in XX Work Type
DOB Filing Set:
1 of 1

Requirement Applies to: ☒ New Construction

☒ Major Modernizations

☒ Capital Improvement Projects



The following are sample drawings of the first several T00 drawings for the initial application of a CIP Project to show the intended cover sheet, sheet with list of drawings, special inspections, progress inspection and first EN sheet.

ADDRESS

LLW: 123456
LLW: 123456
LLW: 123456
LLW: 123456
LLW: 123456
LLW: 123456

IMAGE

SCA

CIP - INITIAL APPLICATION

REFERENCE THE DR 1-1-1-02 FOR COMPLETE REQUIREMENTS

COVER SHEET

DOB NOW # xxxxxxxx-11

Drawing No:
T001.00

Sheets in Contract Set:
1 of 25

Sheets in DOB Filing Set:
1 of 25

Requirement Applies to: ☒ New Construction

☒ Major Modernizations

☒ Capital Improvement Projects



School Construction Authority

Architecture & Engineering

Design Requirements

General - Section 1.0

LIST OF DRAWINGS - XX WORK TYPE			
DWG	TITLE	XX WORK TYPE CONTRACT SET SHEET NO.	XX WORK TYPE DOB SET SHEET NO.
T001	COVER SHEET	1	1
T002	DRAWING LIST, SPECIAL INSPECTIONS, GENERAL NOTES	2	2
T003	TITLE	3	3
X001	TITLE	4	4
X002	TITLE	5	5
X100	TITLE	6	6
X201	TITLE	7	7
H001	TITLE	8	
R001	TITLE	9	
EN001	TITLE	10	8
EN002	TITLE	11	9

SPECIAL INSPECTIONS - XX WORK TYPE	
NAME	BC SECTION
INSPECTION 1	BC 1234.5.6
INSPECTION 2	BC 1234.5.6
INSPECTION 3	BC 1234.5.6
INSPECTION 4	BC 1234.5.6
INSPECTION 5	BC 1234.5.6
INSPECTION 6	BC 1234.5.6
INSPECTION 7	BC 1234.5.6
INSPECTION 8	BC 1234.5.6
INSPECTION 9	BC 1234.5.6
INSPECTION 10	BC 1234.5.6
INSPECTION 11	BC 1234.5.6

LIST OF SUBSEQUENT APPLICATIONS	
GC	For General Construction Work Type List of Drawings & Special/Progress Inspections, refer to Drawing A001.00
SOE	For Support of Excavation Work Type List of Drawings & Special/Progress Inspections, refer to Drawing SOE001.00
FO	For Foundation Work Type List of Drawings & Special/Progress Inspections, refer to Drawing FO001.00
ST	For Structural Work Type List of Drawings & Special/Progress Inspections, refer to Drawing S001.00
MS	For Mechanical Work Type List of Drawings & Special/Progress Inspections, refer to Drawing M001.00
PL	For Plumbing Work Type List of Drawings & Special/Progress Inspections, refer to Drawing P001.00
GC (el)	For GC-Electrical Work Type List of Drawings & Special/Progress Inspections, refer to Drawing E001.00
SP/SD	For Sprinkler/Standpipe Work Type List of Drawings & Special/Progress Inspections, refer to Drawing F001.00
BE	For Boiler Equipment Work Type List of Drawings & Special/Progress Inspections, refer to Drawing M300.00
MS	For Mechanical (BE) Work Type List of Drawings & Special/Progress Inspections, refer to Drawing M001.00

PROGRESS INSPECTIONS - XX WORK TYPE	
NAME	BC SECTION
INSPECTION 1	BC 1234.5.6
INSPECTION 2	BC 1234.5.6
INSPECTION 3	BC 1234.5.6
INSPECTION 4	BC 1234.5.6
INSPECTION 5	BC 1234.5.6
INSPECTION 6	BC 1234.5.6
INSPECTION 7	BC 1234.5.6
INSPECTION 8	BC 1234.5.6
INSPECTION 9	BC 1234.5.6
INSPECTION 10	BC 1234.5.6
INSPECTION 11	BC 1234.5.6

Note: Fill work type from DOBNOW list that is the initial work type and remove from those listed in the subsequent applications list, as well as those not applicable to the project.

Drawing List, Special & Progress Inspections, General Notes

DOBNOW # xxxxxxxx-11

Drawing No.: T002.00

Sheets in XX Work Type Contract Set: 1 of 11

Sheets in XX Work Type DOB Filing Set: 1 of 11

Requirement Applies to: ☒ New Construction

☒ Major Modernizations

☒ Capital Improvement Projects



School Construction Authority

Architecture & Engineering

Design Requirements

General - Section 1.0

The following are sample drawings of the first several T00 drawings for a subsequent application of a CIP Project to show the intended sheet with list of drawings, special inspections, progress inspection and first EN sheet.

LIST OF DRAWINGS - XX WORK TYPE			
DWG	TITLE	XX WORK TYPE CONTRACT SET SHEET NO.	XX WORK TYPE DOB SET SHEET NO.
X001	DRAWING LIST, SPECIAL INSPECTIONS, GENERAL NOTES	1	1
X002	TITLE	2	2
X003	TITLE	3	3
X101	TITLE	4	4
X102	TITLE	5	5
X103	TITLE	6	6
X201	TITLE	7	7
X401	TITLE	8	8
EN0X1	TITLE	9	9
EN0X2	TITLE	10	10
EN0X3	TITLE	11	11

SPECIAL INSPECTIONS - XX WORK TYPE	
NAME	BC SECTION
INSPECTION 1	BC 1234.5.6
INSPECTION 2	BC 1234.5.6
INSPECTION 3	BC 1234.5.6
INSPECTION 4	BC 1234.5.6
INSPECTION 5	BC 1234.5.6
INSPECTION 6	BC 1234.5.6
INSPECTION 7	BC 1234.5.6
INSPECTION 8	BC 1234.5.6
INSPECTION 9	BC 1234.5.6
INSPECTION 10	BC 1234.5.6
INSPECTION 11	BC 1234.5.6

PROGRESS INSPECTIONS - XX WORK TYPE	
NAME	BC SECTION
INSPECTION 1	BC 1234.5.6
INSPECTION 2	BC 1234.5.6

Note: Fill in work type from DOBNOW list.

Drawing List, Special & Progress Inspections, General Notes

DOBNOW # xxxxxxxx-Sx

Drawing No: **X001.00**

Sheets in XX Work Type Contract Set: 1 of 100

Sheets in XX Work Type DOB Filing Set: 1 of 100

Requirement Applies to: ☒ New Construction

☒ Major Modernizations

☒ Capital Improvement Projects



ENERGY CODE PROGRESS INSPECTIONS - XX WORK TYPE	
NAME	BC SECTION
INSPECTION 1	BC 1234.5.6
INSPECTION 2	BC 1234.5.6
INSPECTION 3	BC 1234.5.6
INSPECTION 4	BC 1234.5.6
INSPECTION 5	BC 1234.5.6
INSPECTION 6	BC 1234.5.6
INSPECTION 7	BC 1234.5.6
INSPECTION 8	BC 1234.5.6
INSPECTION 9	BC 1234.5.6
INSPECTION 10	BC 1234.5.6
INSPECTION 11	BC 1234.5.6

CIP - SUBSEQUENT APPLICATION
REFERENCE THE DR 1-1-1-02 FOR COMPLETE REQUIREMENTS

Note: Put energy code tables, information specific to subsequent work type.

Energy Code
Tables/Information,
Progress Inspections.

DOB NOW # xxxxxxxx-Sx

	Drawing No.:
	EN0X1.00
	Sheets in IXX Work Type
	Contract Set:
	1 of 100
	Sheets in IXX Work Type
	DOB Filing Set:
	1 of 100

Requirement Applies to: ✓ New Construction

 ✓ Major Modernizations

 ✓ Capital Improvement Projects



School Construction Authority

Architecture & Engineering

Design Requirements

General - Section 1.0

Sample 'Compiled List of Drawings, Special Inspections & Progress Inspections for Contract'

LIST OF DRAWINGS - GC/ST WORK TYPE			
DWGNO	DESCRIPTION	DATE SUBMITTAL REVISION	DATE REVISION SUBMITTAL
COVER & GENERAL NOTES			
001.00	COVER SHEET	01	01
0101.00	COMPILED LIST OF DRAWINGS, SPECIAL INSPECTIONS AND PROGRESS INSPECTIONS FOR CONTRACT	01	---
0102.00	LIST OF DRAWINGS, SPECIAL AND PROGRESS INSPECTIONS, COMPILED ALPHABETICALLY FROM NAME AND LOCATION MAP	02	02
0103.00	SITE PLAN	03	03
0104.00	SUMMARY OF WORK, GENERAL NOTES, DOB NOTES, & CONSTRUCTION NOTES	04	04
0105.00	CONSTRUCTION NOVEL, ARCHITECTURAL MATERIAL DRAWING, SYMBOLS, & DIMENSIONS OF DRAWINGS	05	05
0106.00	LIST OF DRAWINGS	06	06
0107.00	THE PROGRESS PLAN	07	---
TEMPORARY ERECTION PLAN			
0201.00	TEMPORARY ERECTION PLAN 1 - FRAME 1, LEVEL 0 AND NOTES	08	07
0202.00	TEMPORARY ERECTION PLAN 2 - FRAME A	09	08
0203.00	TEMPORARY ERECTION PLAN 3 - FRAME B	10	09
0204.00	TEMPORARY ERECTION PLAN 4 - FRAME C	11	10
ARCHITECTURAL			
A001.00	CONSTRUCTION KEY NOTES-1	12	11
A002.00	CONSTRUCTION KEY NOTES-2	13	12
A003.00	SITE WORK -1	14	13
A004.00	SITE WORK -2	15	14
A005.00	SITE WORK -3	16	15
A006.00	SITE WORK -4	17	16
A007.00	PRELIM FLOOR AND PARTIAL CELLAR PLAN	18	17
A008.00	SECOND FLOOR PLAN	19	18
A009.00	THIRD FLOOR PLAN	20	19
A010.00	ROOF PLAN -1	21	20
A011.00	ROOF PLAN -2	22	21
A012.00	FACE ELEVATIONS -1	23	22
A013.00	FACE ELEVATIONS -2	24	23
A014.00	FACE ELEVATIONS -3	25	24
A015.00	FACE ELEVATIONS -4	26	25
A016.00	MASSING DETAILS -1	27	26
A017.00	MASSING DETAILS -2	28	27
A018.00	MASSING DETAILS -3	29	28
A019.00	MASSING DETAILS -4	30	29
A020.00	MASSING DETAILS -5	31	30
A021.00	MASSING DETAILS -6	32	31
A022.00	MASSING DETAILS -7	33	32
A023.00	MASSING DETAILS -8	34	33
A024.00	FRAMED DETAILS -1	35	34
A025.00	FRAMED DETAILS -2	36	35
A026.00	FRAMED DETAILS -3	37	36
A027.00	FRAMED DETAILS -4	38	37
A028.00	FRAMED DETAILS -5	39	38
A029.00	FRAMED DETAILS -6	40	39
A030.00	FRAMED DETAILS -7	41	40
A031.00	ROOF DETAILS -1	42	41
A032.00	ROOF DETAILS -2	43	42
A033.00	ROOF DETAILS -3	44	43
A034.00	ROOF DETAILS -4	45	44
A035.00	ROOF DETAILS -5	46	45
A036.00	ROOF DETAILS -6	47	46
A037.00	ROOF DETAILS -7	48	47
A038.00	ROOF DETAILS -8	49	48
A039.00	ROOF DETAILS -9	50	49
A040.00	ROOF DETAILS -10	51	50
A041.00	INTERIOR DETAILS -1	52	51
A042.00	DOOR DETAILS -1	53	52
A043.00	DOOR DETAILS -2	54	53
A044.00	WINDOW DETAILS -1	55	54
A045.00	WINDOW DETAILS -2	56	55
A046.00	WINDOW DETAILS -3	57	56
A047.00	WINDOW DETAILS -4	58	57
A048.00	WINDOW DETAILS -5	59	58
A049.00	WINDOW DETAILS -6	60	59
A050.00	WINDOW DETAILS -7	61	60
A051.00	WINDOW DETAILS -8	62	61
A052.00	WINDOW DETAILS -9	63	62
A053.00	WINDOW DETAILS -10	64	63
A054.00	WINDOW DETAILS -11	65	64
A055.00	WINDOW DETAILS -12	66	65
A056.00	WINDOW DETAILS -13	67	66
A057.00	WINDOW DETAILS -14	68	67
A058.00	WINDOW DETAILS -15	69	68
A059.00	WINDOW DETAILS -16	70	69
A060.00	WINDOW DETAILS -17	71	70
A061.00	WINDOW DETAILS -18	72	71
A062.00	WINDOW DETAILS -19	73	72
A063.00	WINDOW DETAILS -20	74	73
A064.00	WINDOW DETAILS -21	75	74
A065.00	WINDOW GUARD DETAIL -1	76	75
A066.00	WINDOW GUARD DETAIL -2	77	76
A067.00	WINDOW GUARD DETAIL -3	78	77
A068.00	WINDOW AC BRACKET DETAILS	79	78

REFERENCE DRAWINGS			
DWGNO	DESCRIPTION	DATE	REVISION
R001.00	ZONE OF PUBLIC PROTECTION PLAN (FOR INTERVIEW ONLY)	80	---
R002.00	FIRE DEPARTMENT ROOF ACCESS PLAN (FOR INTERVIEW USE ONLY)	81	79
HAZARDOUS MATERIALS			
ENERGY ANALYSIS			
E001.00	ENERGY ANALYSIS - ARCHITECTURAL	82	80

SPECIAL INSPECTIONS - GC/ST WORK TYPE			
SPECIAL INSPECTIONS REQUIRED IN ACCORDANCE WITH CHAPTER 17 AND THE APPLICABLE SECTIONS OF THE NYC CONSTRUCTION CODE ARE LISTED IN THE FOLLOWING TABLE. SPECIAL INSPECTIONS FOR PORTALS OF THE WORK THAT ARE ONLY UNDER EXISTING STRUCTURES ARE NOT LISTED HERE AND ARE TO BE LISTED ON THE ALPHABETICALLY THE CONTRACTOR'S APPLICANT OF RECORD.			
THE CONTRACTOR MUST NOTIFY THE RELEVANT SPECIAL INSPECTOR OF SPECIAL INSPECTION AGENCY IN WRITING FOR SPECIAL INSPECTIONS AT LEAST 72 HOURS BEFORE THE SPECIAL WORK COMMENCES.			
THE "AUTHORITY" SHALL BE RESPONSIBLE FOR THE FOLLOWING SPECIAL INSPECTIONS:			
FIRE-RESISTANT PENETRATIONS AND JOINTS		BC 1704.27	
POST-INSTALLED ANCHORS (804 2022-018, 2022-019)		BC 1705.33	

PROGRESS INSPECTIONS - GC/ST WORK TYPE			
PROGRESS INSPECTIONS REQUIRED IN ACCORDANCE WITH CHAPTER 17 OF THE NYC CONSTRUCTION CODE AND THE APPLICABLE SECTIONS OF THE NYC CONSTRUCTION CODE ARE LISTED IN THE FOLLOWING TABLE.			
THE CONTRACTOR MUST NOTIFY THE RELEVANT SPECIAL INSPECTOR OF SPECIAL INSPECTION AGENCY IN WRITING FOR PROGRESS INSPECTIONS AT LEAST 72 HOURS BEFORE THE SPECIAL WORK COMMENCES OF REQUIRED INSPECTION. SPECIAL INSPECTIONS REQUIREMENTS FOR ENERGY CODE COMPLIANCE ARE INDICATED ON THE DOB ISSUED DRAWINGS.			
THE "AUTHORITY" SHALL BE RESPONSIBLE FOR THE FOLLOWING PROGRESS INSPECTIONS:			
ENERGY CODE COMPLIANCE INSPECTIONS		BC 1103.4	
FIRE-RESISTANT PENETRATIONS		BC 1103.4.2 AND BC 1105.3	

LIST OF DRAWINGS - MS WORK TYPE			
DWGNO	DESCRIPTION	DATE SUBMITTAL REVISION	DATE REVISION SUBMITTAL
M002.00	MECHANICAL ENERGY ANALYSIS SHEET	01	01
M001.00	MECHANICAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS	02	02
M002.00	MECHANICAL SYMBOLS	03	03
M003.00	MECHANICAL ROOF PLAN - DEVELOPMENT	04	04
M004.00	MECHANICAL ROOF PLAN - NEW WORK	05	05
M005.00	MECHANICAL DETAIL 1	06	06
M006.00	MECHANICAL DETAIL 2	07	07

SPECIAL INSPECTIONS - MS WORK TYPE			
SPECIAL INSPECTIONS REQUIRED IN ACCORDANCE WITH CHAPTER 17 AND THE APPLICABLE SECTIONS OF THE NYC CONSTRUCTION CODE ARE LISTED IN THE FOLLOWING TABLE.			
THE CONTRACTOR MUST NOTIFY THE RELEVANT SPECIAL INSPECTOR OF SPECIAL INSPECTION AGENCY IN WRITING FOR SPECIAL INSPECTIONS AT LEAST 72 HOURS BEFORE THE SPECIAL WORK COMMENCES.			
THE "AUTHORITY" SHALL BE RESPONSIBLE FOR THE FOLLOWING SPECIAL INSPECTIONS:			
MECHANICAL SYSTEMS		BC 1705.21	

PROGRESS INSPECTIONS - MS WORK TYPE			
PROGRESS INSPECTIONS REQUIRED IN ACCORDANCE WITH CHAPTER 17 OF THE NYC CONSTRUCTION CODE AND THE APPLICABLE SECTIONS OF THE NYC CONSTRUCTION CODE ARE LISTED IN THE FOLLOWING TABLE.			
THE CONTRACTOR MUST NOTIFY THE RELEVANT SPECIAL INSPECTOR OF SPECIAL INSPECTION AGENCY IN WRITING FOR PROGRESS INSPECTIONS AT LEAST 72 HOURS BEFORE THE SPECIAL WORK COMMENCES OF REQUIRED INSPECTION. SPECIAL INSPECTIONS REQUIREMENTS FOR ENERGY CODE COMPLIANCE ARE INDICATED ON THE DOB ISSUED DRAWINGS.			
THE "AUTHORITY" SHALL BE RESPONSIBLE FOR THE FOLLOWING PROGRESS INSPECTIONS:			
FIRE RESISTANCE-RATED CONSTRUCTION		BC 1103.4	
ENERGY CODE COMPLIANCE INSPECTIONS		BC 1103.5	
FINAL INSPECTION (804 2018-008)		AC 28-114 & 1 RONT 101-07	

LIST OF DRAWINGS - PL WORK TYPE			
DWGNO	DESCRIPTION	DATE SUBMITTAL REVISION	DATE REVISION SUBMITTAL
P001.00	PAVING AND CURBAGE - SYMBOLS, ABBREVIATIONS, NOTES, REMOVALS AND DETAILS	01	01
P101.00	PAVING AND CURBAGE - ROOF PLAN WITH SITE CURBAGE AND STREET DIMENSIONS	02	02
SPECIAL INSPECTIONS - PL WORK TYPE			
SPECIAL INSPECTIONS REQUIRED IN ACCORDANCE WITH CHAPTER 17 AND THE APPLICABLE SECTIONS OF THE NYC CONSTRUCTION CODE ARE LISTED IN THE FOLLOWING TABLE.			
THE CONTRACTOR MUST NOTIFY THE RELEVANT SPECIAL INSPECTOR OF SPECIAL INSPECTION AGENCY IN WRITING FOR SPECIAL INSPECTIONS AT LEAST 72 HOURS BEFORE THE SPECIAL WORK COMMENCES.			
THE "AUTHORITY" SHALL BE RESPONSIBLE FOR THE FOLLOWING SPECIAL INSPECTIONS:			
FIRE-RESISTANT PENETRATIONS AND JOINTS		BC 1704.27	
POST-INSTALLED ANCHORS (804 2022-018, 2022-019)		BC 1705.33	

LIST OF DRAWINGS - ELECTRICAL			
DWGNO	DESCRIPTION	DATE SUBMITTAL REVISION	DATE REVISION SUBMITTAL
E001.00	SYMBOLS, LIST, SYMBOLS, GENERAL NOTES AND ABBREVIATIONS	01	---
E002.00	PRELIM PLAN - NEW WORK	02	---
E003.00	ROOF PLAN - NEW WORK	03	---

TOTAL NUMBER OF DRAWINGS IN CONTRACT SET (including compiled list of drawing sheet(s))		95

President & CEO
A. Nina Kubota

Board of Trustees
Charles David C. Niles, Chairman
Lynette D. Niles
Tom Niles

Architecture & Engineering
Nina A. Kubota, P.E. LEED AP, FAS, ASCE, ASHRAE
Senior Director & Vice President
Nina A. Kubota, P.E. LEED AP, FAS, ASCE, ASHRAE

NOTE: Drawing may be printed at reduced scale

It is a condition of the contract that the drawings are to be printed at the scale indicated on the drawings. If the drawings are printed at a scale other than that indicated, the user assumes all responsibility for any errors or omissions that may result.

Rev. 1/28/23



Project: 000000000, NY 11206

Owner: THE SCHOOL CONSTRUCTION AUTHORITY

Design: []

Check by: []

Scale: 1/8" = 1'-0"

Building: []

Date: []

Project: 000000000, NY 11206

Owner: THE SCHOOL CONSTRUCTION AUTHORITY

Design: []

Check by: []

Scale: 1/8" = 1'-0"

Building: []

Date: []

DOB #

000000000



1.1 Contract Requirements

1.1.2 Specifications

1.1.2.1 Specification Format and Instructions

A. Format

1. The Authority's Specifications generally follow the Construction Specifications Institute format: Divisions, Sections, Articles, Paragraphs, and Subparagraphs.
2. Each Section, except for Division 1, is divided into three (3) parts: Part 1 – General, Part 2 – Products, and Part 3 – Execution. Some Sections may contain a "Part 4 - Schedules".

B. Language

1. The Specifications language uses both indicative and imperative mood. Where the imperative mood is used, the language is directed to the Contractor, unless specifically indicated otherwise.
2. Where a colon (:) is used after a subject, the phrase "shall be" (or variations thereof) is to be inferred.
3. Instruction Terms: Wherever reference is made in the Contract to the Work or its performance, the terms "directed", "required", "permitted", "ordered", "designated", "prescribed", and words of similar import shall imply the direction, requirement, permission, order, designation or prescription of the Authority.
4. Approval and Acceptance Terms: "Approved", "acceptable" "satisfactory" and words of similar import shall mean and intend: approved by, acceptable to, or satisfactory to, the Authority.
5. Where the word "provide" is used, the meaning shall be that the item or product shall be furnished, delivered, and installed/erected/applied/connected for its intended use and as required for the completed Work.

C. Editing / Revising Specification Sections

The Specifications make reference and cross-reference to other Specification Divisions, Sections, Articles, Paragraphs, and Subparagraphs. Therefore a change in the numbering of a Section, Article, Paragraph, or Subparagraph may cause incorrect cross-referencing and coordination elsewhere in the Specifications.

In order to prevent such incorrect cross-referencing and coordination the Specifier shall revise and edit as follows:

- The Specifier may delete the Text Body of existing Articles, Paragraphs and subparagraphs by inserting the phrase "Not Used" after the number or alphanumerical identifier. At no time shall the Specifier actually "delete" the number or alphanumerical identifier.



- When the Specifier adds Articles, Paragraphs and subparagraphs it shall be at the end of the respective Article, Paragraph and subparagraph.

D. Notes to Specifier

The Note to Specifier may be found at the end of most Specification Sections, immediately after the last subparagraph of Articles 3 or 4.

1. Bookmarks

- a. Bookmarks can be found typically in the left-hand margin of a page. See Example:



Upon seeing such Bookmark the Specifier shall make immediate reference to the “Notes to Specifier” and read the printed instructions as to what needs to be revised within the Specification Section.

2. Notes

The actual “Notes to Specifier” provides printed instructions that may include but are not limited to the following:

- Deletion of Articles, Paragraphs, Subparagraphs and other references within the Section
- Revisions to be made to specific Articles, Paragraphs, Subparagraphs to accommodate specific products, materials and conditions
- Verification of intended use with Architect/Engineer
- When to use specific products and or materials

The Specifier shall after completing their revisions, edits and coordination of the Specification Section shall DELETE the “Notes to Specifier” and all related instruction from the Specification Section.



1.1 Contract Requirements

1.1.3 Report Format

1.1.3.1 Feasibility Study - New Buildings, Additions and Conversions of Existing Buildings

Instructions to Users:

The format of the Feasibility Study required by the Authority for New Buildings, Additions, and Existing Building Conversions is described herein. The Cover, Table of Contents, Sections, Paragraphs, Appendices and Format shall be strictly adhered to unless specific instructions are provided otherwise by the Authority's Representative. Please note that the various examples cited herein are not project specific.

A Project Cost Estimate in a format required by the Authority shall be provided under separate cover.

FORMAT

Binder:

The Feasibility Study shall be bound in a ½" to 1" thick clear view three-ring binder with inside pockets front and back, Dividers shall be provided to separate the individual Sections within the Study, and three hole-punched 8.5" x 11" paper shall be used throughout the Study.

Cover Format:

The cover of the Feasibility Study shall provide the following information:

- NYCSCA Logo
- Name and Address of the NYCSCA
- Type of Study
- Date of Study
- Name and address of the Project
- Block and Lot Number for the Property
- The name and title for the following positions held within the NYCSCA;
 - o President and CEO
 - o Vice-President of Architecture & Engineering
 - o Studio Director
- Graphics (optional)

Example: (See next page)



**PS/IS - Brooklyn
New Building
Unadjusted Capacity - 822**

701 Caton Avenue
Brooklyn, N.Y. 11218
Block – 5321 / Lot – 64
LLW #051360

April 15, 2008

Sharon Greenberger, MCP
President and CEO

E. Bruce Barrett, RA
Vice President, Architecture & Engineering

Maria Gomez, PE
Director, Architecture & Engineering
Studio 3



Feasibility Study

New York City School Construction Authority / 30 - 30 Thomson Avenue, L.I.C., NY 11101

Requirement Applies to: ✓ New Construction

Major Modernizations

Capital Improvement Projects



Cover Page Format:

The cover page, which shall be the first page within the Study, shall provide the following information:

- Type of Study
- Name and address of the Project
- Block and Lot Number for the Site / Property
- Name of Firm that Prepared the Study

Example: (See next page)



FEASIBILITY STUDY

**PS/IS - Brooklyn
New Building
Unadjusted Capacity - 822
District 15**

**701 Caton Avenue
Brooklyn, N.Y. 11218
Block – 5321
Lot –64**

Prepared By:
NYC School Construction Authority
30-30 Thomson Avenue, L.I.C., NY 11101-3045



Table of Contents

The Table of Contents shall be divided into eight (8) typical Sections that shall be preceded by the required Executive Summary.

Example: (See next page)



TABLE OF CONTENTS:

EXECUTIVE SUMMARY	Page 01
01. INTRODUCTION	Page 02
02. OVERVIEW OF THE EDUCATIONAL PROGRAM OF REQUIREMENTS.....	Page 03
03. EXISTING SITE CHARACTERISTICS, PHOTOGRAPHS AND DESIGN INFLUENCES	Page 04
04. ZONING REGULATIONS.....	Page 10
05. NYC BUILDING CODE	Page 11
06. PROPOSED PROGRAM OF REQUIREMENTS)	Page 17
07. DESIGN APPROACH AND (MODEL) SCHEME)	Page 21
➤ Site / First Floor Plan.....	Page 21
➤ Second Floor Plan.....	Page 22
➤ Third Floor Plan.....	Page 23
➤ Fourth Floor Plan	Page 24
➤ Cellar Plan.....	Page 35
08. APPENDICES	Page 26
➤ APPENDIX A	Original Request for Feasibility Study
➤ APPENDIX B	Sanborn / Tax map
➤ APPENDIX C.....	Community Connectivity / Half-Mile Radius Map
➤ APPENDIX D	Environmental Hazards Map
➤ APPENDIX E	Draft Program of Requirements

Footnotes:

* - If the Phase I Environmental Site Assessment is not available do not include in the Appendix.



Page Format:

The page format for the Study shall provide a Standard Header and Footer on each page. Each page shall provide the following information:

➤ Header:

- o SCA Logo
- o School / Project Name
- o Address
- o LLW#

➤ Footer:

- o Date
- o Feasibility Study
- o Page Number

Executive Summary

The “Executive Summary” shall be a concise narrative that provides the reason for the Study, the location of the Site, a description of the Site, other pertinent information essential to the understanding of the project, and shall summarize significant issues and concerns that may adversely impact the development of a project and/or present significant challenges to the development of the project.

In addition, a conclusion shall be provided that states whether or not a project is feasible and it shall state that the final determination of the project’s practicality remains with the Authority’s “Feasibility Committee” and the Department of Education (DOE).

Example: (See next page)



PS/IS – New Building
Unadjusted Capacity - 822
701 Caton Avenue, Brooklyn, N.Y. 11218
LLW #051360

EXECUTIVE SUMMARY

The objective of this "Feasibility Study" is to identify existing site characteristics, local environmental conditions, and zoning regulations as well as other design influences to determine the feasibility of providing a new Primary / Intermediate School with an Unadjusted Capacity of 822, and to identify those issues and concerns that are related to its practicality and constructability at the subject Site, which is located at 701 Caton Avenue, Brooklyn, New York 11218.

In general, the subject Site is part of a larger urban environment (Brooklyn, N.Y.), and is comprised of one (1) developed Tax Lot (#64) that is located within a Residential (**R6**) Zoning District that is within a Special Purpose District (**OP**) known as "**The Special Ocean Parkway District**". Schools are permitted as-of-right.

The Site is relatively rectangular, relatively flat, approximately 29,210 square feet in area and is presently vacant previously developed land.

The design scheme for the subject school building, as presented herein, can be simply described as being "I"-shaped, 4-Stories with a cellar, has a total gross floor area of approximately 93,000 square feet. Available open area for rest and recreation is limited to approximately 9,900sf, which is approximately 10,000sf less (-50%) than the desired amount of open space.

***Note:** If the adjacent properties that lie to the north of the subject property, on Kermit Place, which are either presently occupied by wood frame residential dwellings or vacant previously developed land, were acquired with the subject property, it would provide additional area for the planning and layout of the proposed school and for the much needed outdoor play area. (See Appendix B)*

In order to fully understand the existing conditions and design influences, this Feasibility Study develops a theoretical scheme for the development of the subject school site and identifies the issues and concerns related to the site and the design scheme. Although the design scheme provided herein addresses various Site influences such as, but not limited to, area, dimensions, geometry, topography, and the surrounding developed environment, the following **issues** and **concerns** related to the site and the proposed design are those that should receive due consideration:

- In order to prevent the building from exceeding 75-feet in height, the Auditorium is designed as a 1-story space rather than as a typical 2-story space.
- Available open area for recreation is significantly limited. (See Section 07.)
- The development of the proposed school on the subject Site will require "**Zoning Waivers**" for non-compliance with "bulk" regulations as outlined in Section 04. Zoning Regulations.
- The building height of the proposed school and its proximity to adjacent residential homes and commercial structures may have an adverse impact on existing chimneys.

Conclusion:

Notwithstanding the aforementioned issues and concerns, if the "Feasibility Committee" determines that the subject Site and its proposed use is practical, the DOE accepts the location and the proposed design approach for the school, and there is nothing found in the "Phase I and Phase II Environmental Site Assessment" and "State Environmental Quality Review (SEQRA) Assessment" that would preempt the development of the site, the site is feasible for a stand-alone building.

Please note that at this time neither a "Phase I and II Environmental Site Assessment", which would provide information relevant to hazardous materials as well as topographical and geological soil conditions, nor a "State Environmental Quality Review (SEQRA) Assessment", which would provide information relevant to the impact on Traffic, Utilities, Water, Open Space/Recreation, etc..., are available. These reports are necessary to determine if the development of the Site will negatively impact the community or if the community will negatively impact the school and if there are extenuating conditions that may prevent the proposed development of the Site.



01. INTRODUCTION

The “Introduction” shall be a concise description of the Study’s purpose, depth of analysis, and criteria used for the development of the Study.

Example: (See next page)



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01. INTRODUCTION

The objective of this "Feasibility Study" is to identify existing conditions, zoning regulations, as well as other design influences and determine if the Educational Program of Requirements for the subject school is possible and practical for the Site.

The Study provides information that will influence the development of the Site, such as:

- Site characteristics
- Site utilization
- Topography
- Zoning Regulations
- Utilities and Services
- Historical significance
- Transportation
- Hazardous Environmental Conditions

In addition to identifying and analyzing the design influences, the Study provides a "theoretical" design scheme for the subject school. The Study facilitates an evaluation of the Site in terms of sustaining the building's bulk (size and mass), meeting the Educational Program of Requirements, allowing for a functional design, and for providing for the safety, health and comfort of the school children, administration and community with or without accommodations and/or compromise.



02. Overview of the Educational Program of Requirements

This section of the Study shall provide the schools capacity and a general outline of the Educational Program of Requirements as well as any other Guidelines provided by the Authority for the planning and development of the proposed educational facility. Detailed requirements shall be provided in Section 06.

Example: (See next page)



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02. OVERVIEW OF THE EDUCATIONAL PROGRAM OF REQUIREMENTS*

The following Program of Requirements provided is for a typical new PS/IS with an Unadjusted Capacity of 822 seats.

Instruction	➤ Pre-Kindergarten, Kindergartens, Classrooms, Resource Rooms, CSD Sp. Ed. Classrooms, and City-Wide Special Education
Specialized Instruction	➤ Art Classroom, Music Suite
Science	➤ Science Resource Room, Science Lab/Demo Room and Prep/Storage Rooms
Physical Education	➤ Gymnasium with M/F Locker-Changing Rooms, Early Childhood Playground and General Playground
Assembly	➤ Auditorium
Library	➤ Library Complex
Student Support	➤ Guidance Suites, School Based Support Team, Medical Suite
Storage	➤ Book Storage, General Storage and Furniture Storage
Administration	➤ Administrative Suite, Support Offices and Spaces, Staff Areas and Parent / Community Room
Kitchen / Cafeteria / Staff Lunch	➤ Student Dining and Kitchen
Custodial	➤ Custodial Areas, Storage and Equipment Rooms

** - See Section 06 for a detailed listing of the educational program for this Study and any changes that may be proposed as a result of this Study.*



03. Existing Site Characteristics, Photographs and Design Influences

This section of the Study shall describe in detail existing site characteristics and both positive and negative design influences that exist within the site's property lines and the surrounding community. This section shall be subdivided into the following paragraphs with narratives, which shall be accompanied by color photographs, maps, diagrams and other graphics as may be necessary so to present a clear understanding to the reader of the Study;

a. Site Description / Local Environment and Surroundings:

The narrative within this paragraph shall provide the site's area, shape, location, and Zoning District(s) as well as a description of the site, all adjacent streets and properties as well as the surrounding community's infrastructure.

b. Utilization

The narrative within this paragraph shall describe in detail the existing or previous use(s) of the Site. The description shall include the type of buildings (residential, commercial, manufacturing....), height and construction of buildings, type of commercial or manufacturing use of the Site and condition of the physical improvements on the Site. The paragraph should also state specifically if the site is public parkland.

c. Topography / Geology / Soils

The narrative within this paragraph shall describe the topography, geology and soil conditions to the greatest extent possible. If available, borings and the geology report, as well as the "Phase I Environmental Site Assessment" for the Site, should be utilized. However, if borings, geology reports or the "Phase I Environmental Site Assessment" for the Site are not available, records of adjacent properties should be researched (NYC Building Department) and if no such records are available, then an assumption based on visual inspection of surrounding properties should be provided.

The narrative shall also address the need to comply with submission of a Stormwater Pollution Prevention Plan with the New York State Department of Environmental Conservation (DEC).

Provide sustainable site information and indicate if the site is:

- Previously undeveloped land whose elevation is lower than 5 feet above the elevation of the 100-year flood as defined by the Federal Emergency Management Agency.
- Within 100 feet of any wetlands as defined by United States Code of Federal Regulations 40 CFR, Parts 2130-233 and Part 22, and isolated wetlands or areas of special concern identified by state or local rule, OR within setback distances from wetlands prescribed in state or local regulations, as defined by local or state rule or law, whichever is more stringent.
- Previously undeveloped land that is within 50 feet of a water body, defined as seas, lakes, rivers, streams and tributaries which support or could support fish, recreation or industrial use, consistent with the terminology of the Clean Water Act.

Indicate specifically whether the site is identified as habitat for any species on Federal or State threatened or endangered lists. Provide confirmation letter from US Fish and Wildlife Service 500 Saint Marks Lane Islip NY 11751. If the feasibility is completed prior to obtaining this information, state so and indicate it will be provided during the pre-schematic report.



Sustainable system opportunities – Indicate if site has special site has factors that would make alternative systems effective. Factors affecting viability of permeable asphalt pavement and geothermal systems should be described.

d. Zoning

The narrative within this paragraph shall provide a general overview of the applicable Zoning District(s) and the General Provisions of such Districts as provided by the NYC Zoning Resolutions.

e. Utilities

The narrative within this paragraph shall identify the location and availability of local utilities and services in relation to the Site. This information is typically provided on an “architectural survey”. If a survey is not available, information should be researched and obtained from local governing public agencies (NYC Building Department, NYC Department of Environmental Protection, NYC Department of Transportation, etc...) and local utility companies (Con Edison, KeySpan, Time Warner, Verizon, etc...) if possible.

f. Sanitation / Refuse Removal

The narrative within this paragraph shall identify the type of removal provided and the frequency of pick-up/removal of refuse by the NYC Department of Sanitation. This information can be obtained by contacting the NYC Department of Sanitation. Provide information on re-cycling pick-up as well as regular pick-up.

g. NYS Office of Parks, Recreation, and Historic Preservation (OPRHP)-State Historical Preservation Office (SHPO) / NYC Parks Department

The narrative within this paragraph shall identify any historical significance of physical improvements on the Site (buildings, monuments, etc...), any property owned and operated by the NYC Parks Department as well as the existence of street trees in the sidewalk, which fall under the jurisdiction of the NYC Parks Department. The historical significance of physical improvements on the Site should be researched with the New York State Office of Parks, Recreation and Historic Preservation.

h. Public and Private Transportation

The narrative within this paragraph shall identify the availability of local public transportation for the site and vehicular access to the Site. This information shall be obtained by visual observations of the Site’s surroundings as well as researching information with the Metropolitan Transportation Authority, Department of Transportation and Street Maps. Indicate on a plan whether there are existing (or planned and funded) commuter, rail, light rail or subway station within ½ mile pedestrian route to the site, and bus line stops within ¼ mile pedestrian route to the site. Provide distance to these stations/stops in miles.

i. Site Specific Environmental Hazards and Conditions

The “Phase I Environmental Site Assessment” (ESA), which would provide Site Specific Environmental Hazards and Conditions, is typically requested when a Feasibility Study is initiated. If the “Phase I Environmental Site Assessment” is available prior to the completion of the Feasibility Study, the information contained therein should be incorporated within applicable Sections within the Study. The narrative within this paragraph shall state why an ESA was performed and the Executive Summary of



the ESA shall be included in the Appendices of the Study.

The following information is typically provided in the “Phase I Environmental Site Assessment”:

- 1) Description of Adjacent Properties
- 2) Site Historical Use
- 3) Regulatory Agency Records
- 4) Hazardous Materials and Petroleum Product Storage and Handling
- 5) Solid Waste Generation, Storage and Disposal
- 6) Underground and Aboveground Storage Tanks (USTS and ASTS)
- 7) Polychlorinated Biphenyls (PCBS)
- 8) Asbestos-Containing Materials, Radon
- 9) Topography, Geology, Soils and Hydrology

j. Sustainable Site Community Connectivity and Development Density Information

Provide community connectivity and development density information as per site credit S1.4 as described in the NYC Green School Guide and LEED-NC Version 2.2 Sustainable Sites Credit 2. Confirm that the project site meets the desired level of community connectivity and development density using one of the following two options. Provide documentation for the option used and provide a summary of the results:

Option 1: Submit a sketch plan locating any residential development of 10 units per acre or greater within ½ mile of proposed building entrance, and ten basic services within ½ mile of the building entrance and with pedestrian access from the building. ([Example – See page 21 and Appendix C](#))

Option 2: Determine if the proposed project and its community area have a development density of 60,000sf/acre. Development density for the building (sqft/acre) = projected gross building square footage/project site area (acres).

To determine area considered community for this calculation, determine density radius as follows:
Density radius (LF) = 3 x square root of (Property area [acres] x 43,560[sqft/acre])

Determine the development density for each lot within that radius distance of the building and find an average development density to determine if the development density for this area is **at least** 60,000/acre.



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03. EXISTING SITE CHARACTERISTICS, PHOTOGRAPHS AND DESIGN INFLUENCES

This section of the Study describes existing site characteristics as well as positive and negative design influences that exist within the site's property lines and the surrounding community.

a. Site Description / Local Environment and Surroundings:

The property presently lies within an (R6) Residential Zoning District that is situated within a Special Purpose District (OP) known as "The Special Ocean Parkway District".

The Site, Tax Lot #64, is approximately 29,210 square feet in area that is presently vacant land that was previously developed commercial property. See Paragraph b. Utilization, below.

The Site is bounded by three (3) streets and residential buildings.

The general surroundings and conditions that surround the Site can be seen in the following photographs that accompany the description of the Sites boundaries.

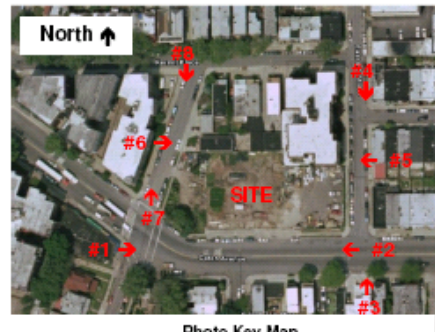


Photo Key Map

Caton Avenue / South Property Line: The southern property line, which is parallel to Caton Avenue, is approximately 248-feet long. The following photos (#1 and #2) look east and west, respectively, along Caton Avenue.

- The Site is relatively flat along this property line.
- Caton Avenue is a wide (90-feet) two-way street with moderate to heavy traffic that consists of commercial, public, and private transportation. Traffic flow is from east and west.
- The street curb to property/street line depth in front of the site/property is approximately 15-feet.
- Although the street is in good condition, the sidewalk and street curb are in poor condition.
- There are no sidewalk street trees or overhead utility lines for the entire length of the Site.
- There is a MTA Bus Stop (B16) in front of the Site.
- There is a traffic light at the intersection formed by Caton Avenue and East 7th Street.



Photo #1



Photo #2



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East 8th Street / East Property Line: The eastern property line, which is parallel to East 8th Street, is approximately 100-feet long. The following photos (#3 and #4) look north and south, respectively, along East 8th Street.

- The Site is relatively flat along this property line.
- East 8th Street is a narrow (50-feet) two-way street, with light traffic that consists of commercial and private transportation. Traffic flow is from west to east.
- The street curb to property/street line depth in front of the site/property is approximately 10-feet.
- Although the street is in fair condition, the sidewalk/street curb is in poor condition.
- There are no sidewalk street trees or overhead utility lines for the entire length of the Site.
- Street parking is regulated on Wednesdays and Thursdays between 11:30AM and 1:00PM.
- There is no traffic light at the intersection formed by East 8th Street and Caton Avenue.



Photo #3



Photo #4

North Property Line: The eastern property line, which is perpendicular to both East 7th and East 8th Streets, is approximately 248-feet long, and separates the Site from an adjacent 7-story apartment building and residential 2-story dwellings. The following photos (#5 and #6) look east and west at the east property line.

- A 7-story apartment building on East 8th Street is on the property line with windows facing the subject property.
- The property line on East 7th Street is presently improved by a temporary construction fence. (Note: Lots #44 and #73, are now vacant lots. It appears that the previously existing residential dwellings were demolished.)
- The Site is relatively flat along this property line.



Photo #5



Photo #6



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LLW #051360

East 7th Street / West Property Line: The west property line, which is parallel to East 7th Street, is approximately 101-feet long. The following photos (#7 and #8) look north and south, respectively.

- The Site is relatively flat along this property line.
- East 7th Street is a narrow (60-feet) two-way street, with light traffic that consists of commercial and private transportation. Traffic flow is from south to north.
- The street curb to property/street line depth in front of the site/property is approximately 10-feet.
- Although the street is in fair condition, the sidewalk/street curb is in poor condition.
- There are no sidewalk street trees or overhead utility lines for the entire length of the Site.
- Street parking is regulated on Wednesdays and Thursdays between 11:30AM and 1:00PM.



Photo #7



Photo #8

b. Utilization

The proposed Site is comprised of (1) Tax Lot (#64). The existing property is utilized as follows:

- Lot 64 701Caton Avenue : This property lies within a R6 Residential Zoning District and is vacant land.

c. Topography / Geology / Soils

The Site is relatively flat and is not within a 100-year flood plane as defined by the Federal Emergency Management Agency, is not within 100 feet of any wetlands as defined by United States Code of Federal Regulations 40 CFR, Parts 2130-233 and Part 22, and isolated wetlands or areas of special concern identified by state or local rule, OR within setback distances from wetlands prescribed in state or local regulations, as defined by local or state rule or law, whichever is more stringent, nor is it previously undeveloped land that is within 50 feet of a water body, defined as seas, lakes, rivers, streams and tributaries which support/could support fish, recreation or industrial use, consistent with the terminology of the Clean Water Act. The Site is 1.74-miles from a designated 100-year flood and is located in Zone Type "X", which is an area determined to be outside the 0.2% annual chance floodplain.

The area of the Site is approximately (29,210sf), which is less than 1-acre (43,560sf) in area and thus is **not** subject to NYS Department of Environmental Conservation Rules & Regulations for "Stormwater Discharges from Construction Activity".

Not Available

FEMA Flood Map



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The Site and surrounding vicinities comprise part of a larger urban environment (Brooklyn, New York) that has been fully developed and is not believed to provide a habitat for any species on a Federal or State threatened or endangered lists.

The geology and soil conditions that would be provided by "Borings" or in the "Phase I Environmental Site Assessment" are not available at this time.

d. Zoning

The property presently lies within a Residential Zoning District (R6) and is bounded by an (R5) Residential Zoning District on Caton Avenue. The general purposes of Residential Districts are to;

- (a) provide for sufficient space in appropriate locations for residential development,
- (b) protect residential areas against fire, explosions, toxic and noxious matter, radiation, and other hazards, and against offensive noise, vibration, smoke and other particulate matter, odorous matter, heat, humidity, glare, and other objectionable influences,
- (c) protect residential areas, as far as possible, against heavy traffic and through traffic of all kinds,
- (d) protect residential areas against congestion, as far as possible, by regulating density of population and the bulk of buildings in relation to the land around them and to one another..... and provide a more desirable environment for urban living in a congested metropolitan area,
- (e) protect the character of certain designated areas of historical and architectural interest,
- (f) provide access of light and air to windows and for privacy, as far as possible, by controls, over the spacing and height of buildings and other structures,
- (g) provide appropriate space for those educational, religious, recreational, health, and similar facilities which serve the needs of the nearby residents, which generally perform their own activities more effectively in a residential environment, and which do not create objectionable influences,
- (h) provide freedom of architectural design, in order to encourage the development of more attractive and economic building forms, and to
- (i) promote the most desirable use of land and direction of building development in accord with a well-considered plan, to promote stability of residential development, to protect the character of the district and its peculiar suitability for particular use, to conserve the value of land and buildings, and to protect the City's tax revenues.



Zoning Map (22c)

The purposes of the various districts that the Site lies within are as follows:

- General Residential Districts such as an R3-2, R4, R5, **R6**, R-7, R-8, R-9 and R-10 is to provide for all types of residential buildings, in order to permit a broad range of housing types, with appropriate standards for density, open space, and spacing of buildings. The various districts are mapped in relation to a desirable future residential density pattern, with emphasis on accessibility to transportation facilities and to various community facilities, and upon the character of existing development. These districts also include community facilities and open uses which serve the residents of these districts or are benefited by a residential environment.



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The Site is also designated as being within "**The Special Ocean Parkway District**" (**OP**), which is designed to promote and strengthen the scenic landmark designation of Ocean Parkway by requiring landscaping along Ocean Parkway to; maintain the existing scale and character of the community by limiting the bulk of permitted community facilities; protect the environmental quality of and improve circulation within the District; and to promote the most desirable use of land in this area and thus to conserve the value of land and thereby protect the City's tax revenue.

Zoning Regulations pertaining to the "Special Purpose District" (**OP**) supersedes the applicable provisions that may apply to both residential and commercial portions of the Site.

e. Utilities

The subject Site is bounded by (3) streets and residential properties; East 7th and east 8th Streets are fully developed residential buildings while Caton Avenue is occupied and fully develop with residential / commercial buildings. Utilities and services are available to the Site from its adjacent street(s) as follows:

East 7th Street:

Sanitary / Storm	> <u>12" Combined</u>	Cable	> <u>TBD⁽¹⁾</u>	Telephone	> <u>TBD⁽¹⁾</u>
Water	> <u>8-Inch Main</u>	Electric	> <u>TBD⁽¹⁾</u>	Gas	> <u>TBD⁽¹⁾</u>

Caton Avenue:

Sanitary / Storm	> <u>18" Combined</u>	Cable	> <u>TBD⁽¹⁾</u>	Telephone	> <u>TBD⁽¹⁾</u>
Water	> <u>8-Inch Main</u>	Electric	> <u>TBD⁽¹⁾</u>	Gas	> <u>TBD⁽¹⁾</u>

East 8th Street:

Sanitary / Storm	> <u>15" Combined</u>	Cable	> <u>TBD⁽¹⁾</u>	Telephone	> <u>TBD⁽¹⁾</u>
Water	> <u>8-Inch Main</u>	Electric	> <u>TBD⁽¹⁾</u>	Gas	> <u>TBD⁽¹⁾</u>

(1) – To Be Determined (TBD)

f. Sanitation / Refuse Removal

General refuse removal for the proposed design will be on a daily basis and will be provided at curbside. Removal of recyclables will be provided as per the NYC Department of Sanitation's schedule for such removals. (Note: Containerization is not required for the subject school.)

g. State Historical Preservation Office (SHPO) / Parks Department

NY State Historical Preservation Office

Neither the vacant lot nor any other physical improvements on the Site (commercial parking lot) has been determined as of yet to have any historical significance with the New York State Office of Parks, Recreation and Historic Preservation. If the project is approved, a filing will be required with New York State Office of Parks, Recreation and Historic Preservation for a final determination in regard to any historical significance.

h. Public and Private Transportation

Public transportation is available within a **1/4-Mile** of the Site and is located and provided as follows:

Public Bus Service

Local bus service is provided by MTA Bus Line 16, 35, 68, and 103 Lines and all stops are within a **1/4-Mile** of the Site along pedestrian routes.



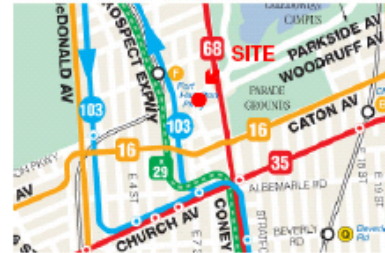
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Public Subway / Train Service

Local train service is provided by MTA "F" Subway Line and stops are within 1/2 Mile of the Site along pedestrian routes.

Private Vehicular Transportation

See street descriptions above in Section 02.-Existing Site Characteristics, Photographs and Design Influences, Paragraph a. - Local Environment and Surroundings.



MTA Subway/BUS Map

i. Site Specific Environmental Hazards and Conditions

The "Phase I Environmental Site Assessment" (ESA), which typically provides Site Specific Environmental Hazards and Conditions, is typically requested when a Feasibility Study is initiated. The following information is typically provided in the "Phase I Environmental Site Assessment": Description of Adjacent Properties, Site Historical Use, Regulatory Agency Records, Hazardous Materials and Petroleum Product Storage and Handling, Solid Waste Generation, Storage and Disposal, Underground and Aboveground Storage Tanks (USTS and ASTS), Polychlorinated Biphenyls (PCBS), Asbestos-Containing Materials, Radon, Topography, Geology, Soils and Hydrology

Please note that a Phase I Environmental Site Assessment (ESA) was not available during the preparation of this Study. However, a search of available public records indicates that a tank test failure and tank test failures have occurred in the local area and that an "air Discharge Facility" (Gas Station) is adjacent to the Site. (See Appendix D – Environmental Hazards).

j. Sustainable Site Community Connectivity and Development Density Information

Consistent with the Authority's New York City Green Schools Guide Section S1.4 Sustainable Sites Option 1 – Community Connectivity or Development Density, the Site satisfies Options 1 requirements as follows:

1. Involves the construction of a building on a previously developed Site, and
2. At least ten (10) Basic Services, which meets the minimum requirement of ten (10), are located within a 1/2 mile radius of the Site. (See Appendix C – Community Connectivity Map), and
3. Pedestrian access is possible between the Site and required Basic Services.
4. The Site lies within residential and commercial districts and the average density of the neighborhood exceeds 10 dwellings per acre, and



New York City Census / 2000 Census Profile
Census Tracts/Queens: 504, 524, 502.01, 522, 502.02,
506, 498, 496, 512, 500

*Number of households has been obtained from the New York City Census / 2000 Census Profiles for New York City for tracts of land that are within a 1/2 mile buffer of the Site.

- o Area within a 1/2 mile radius 502.4 Acres
- o The number of total dwellings within a 1/2 mile radius of the Site is.....15,509 Households*

$$15,509 / 502.4 = 30.86 \text{ dwellings per acre} > 10 \text{ dwellings per acre}$$



04. ZONING REGULATIONS, TABLES, REMARKS, CALCULATIONS AND DIAGRAMS

The Zoning Analysis can be both extensive and complex. The Analysis shall consider all Zoning Regulations applicable to the District(s) in which the Site is located. The purpose of a comprehensive review of all Zoning Regulations is to ensure that the necessary due diligence is performed in this regard. Zoning Regulations that are overlooked can lead to future consequences and Zoning Waivers, which are to be avoided and if not to be avoided, addressed as early as possible.

Although all applicable Zoning Regulations should be explored, it is not necessary to identify each Zoning Regulation. However, the narrative shall identify applicable Zoning District(s), Special Purpose Districts and other special considerations as defined by NYC Zoning Regulations. In addition Zoning Regulations that may have an adverse affect on the development of a project, as per the theoretical design provided within a Study, shall be identified.

The narrative shall be accompanied by a “Zoning Lot / Site Plan” that locates the “theoretical design” on the Site for illustrative purposes and provides critical dimension as well as the building’s proposed height.

Example: (See next page)



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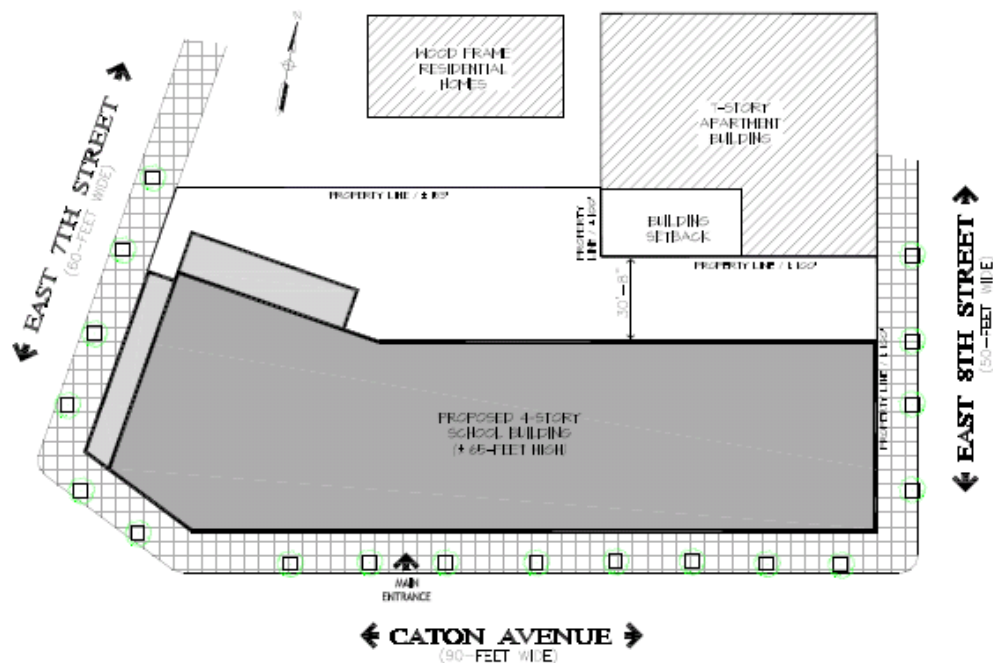
04. ZONING REGULATIONS

As previously indicated, the subject Site is located partially in a **R6** Residential Zoning District that is bounded by an **(R5)** Residential Zoning District on Caton Avenue, and is situated within a Special Purpose District (**OP**) known as “**The Special Ocean Parkway District**”.

At this time, it is anticipated that compliance would not be possible for the development of the subject school on the subject Site with required Zoning Regulations such as, but not limited to:

- ZR24-522 Maximum Height of Front Wall (60-feet)
- ZR113-51 Maximum Permitted Floor Area (1.50)

In addition to the above, certification [ZR113-11(d)] by the City Planning Commission for Community Facility Uses on Certain Corner Lots, may be necessary so that bulk regulations as per Article II, Chapter 4 may be made applicable for the proposed development of the Site. If certification were to be granted the Maximum Permitted Floor Area may be increased to 4.80 as permitted by ZR24-11.



ZONING LOT / SITE PLAN

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05. NYC BUILDING CODE

A Building Code Analysis can be both extensive and complex. This Analysis shall be limited to illustrating that egress has been provided and fire-ratings required for the proposed construction class of the building have been considered in the design of the “theoretical scheme”.

Egress

Corridor and stair locations shall be illustrated in the “theoretical scheme”.

Construction Class

Construction Class of the building, the building’s location on the Site and its proximity to adjacent structures raise unique design issues that will need to be addressed in the design at additional costs. Therefore, the following needs to be considered in the planning and location of the school on any Site.

Remarks shall be provided for each Code regulation. Remarks shall indicate whether or not the regulation is applicable to the building and if so the result of its applicability.

Example: (See next page)



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05. NYC BUILDING CODE

This Analysis is typically limited to evaluating fire-ratings required for the proposed construction class of a new building and to ensure that egress has been properly addressed in the design of the "theoretical scheme".

Construction Class

The following Table (Table -4) analyzes the fire rating requirements for specific conditions in regard to a building with a Construction Class of "I-C" / Non-Combustible. Specific Codes regulate the type fire-ratings associated with certain types of construction and where and how they are used. Therefore, the building's design, construction, location on the Site and its proximity to adjacent structures may raise unique design issues that will need to be addressed in the design.

Building Code Construction Class Analysis				
Table – 4				
Code Section	Description	Remarks		
§27-78 - Construction Class: 1-C	Includes buildings and spaces in which the bearing walls and other major structural elements are generally one-hour fire rated.	See below.		
Table 3-4 – Construction Classification		Rating in Hours	Allowable Exterior Openings (1)	
Construction Element				
Exterior Walls with an Exterior Separation of 3-Feet or less	Non-Bearing Exterior Walls	2	Not Permitted	No such condition.
Exterior Walls with an Exterior Separation more than 3-Feet but less than 15-Feet		2	3.33% Protected	No such condition.
Exterior Walls with an Exterior Separation 15-Feet or more but less than 30-Feet		1	3.33% Protected	East 8 th Street is a narrow 50-foot wide street. Hence, the distance from the building to the street centerline will be 25-feet. (3)
Exterior Walls with an Exterior Separation 30-Feet or more		0	No Limit	Has no bearing on the design of the building envelope or location on the site.
Interior Bearing Walls and Bearing Partitions		2		No such condition.
Enclosure of Vertical Exits, Exit Passageways, Hoists and Shafts		2		Has no bearing on the design of the building envelope or location on the site.
Fire Divisions and Fire Separations		See Article 5		Has no bearing on the design of the building envelope or location on the site.
Columns, Girders, Trusses (other than Roof Trusses), and Framing	Supporting One Floor	1.5		Has no bearing on the design of the building envelope or location on the site.
	Supporting more than One Floor	2		Has no bearing on the design of the building envelope or location on the site.
Structural Members Supporting a Wall		Same as required fire resistance of wall supported, but not less than rating required for member by the class of construction		Has no bearing on the design of the building envelope or location on the site.



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Code Section	Description		Remarks
Floor Construction including Beams		1.5	Has no bearing on the design of the building envelope or location on the site.
Roof Construction including Beams, Trusses, and Framing, including Arches, Domes, Shells, Cable Supported Roofs and Roof Decks	15-Feet or less in Height above floor to lowest member	1	Has no bearing on the design of the building envelope or location on the site.
	15 to 20 Feet in Height above floor to lowest member	1	Has no bearing on the design of the building envelope or location on the site.
	20-Feet or more in Height above floor to lowest member	1 or 0	Has no bearing on the design of the building envelope or location on the site.
Notes: (1) The area of openings permitted in exterior walls at any story shall be obtained by multiplying the percentage shown in the table by the exterior separation distance in feet, and then multiplying that product by the square-foot area of the facade of that story. (2) See NYC Building Code for applicable "footnotes" and referenced "Articles". (3) Exterior Separation – Definition: The shortest distance across an unobstructed outdoor space measured from the furthest projection of the exterior wall of a building to an interior lot line or to a line halfway between the wall and that of any other building on the same lot, or to the centerline of an adjacent street or other public space.			
§27-2058(e) – Openings on Lot Lines	Every window and its assembly in a wall situated on a lot line, except a street line, shall be fireproof; the assembly shall have a fire resistive rating of at least three-quarters of an hour; and the window shall be glazed with wire glass at least one-quarter of an inch thick. Every such window shall be of automatic self-closing construction whenever it is less than fifty feet above the non-fireproof roof of another structure located thirty feet or less from the lot line.		No such condition.
§27-860	Responsibility of owner of taller building. Whenever a building is erected, enlarged, or increased in height so that any portion of such building, except chimneys or vents, extends higher than the top of any previously constructed chimneys within one hundred feet, the owner of such new or altered building shall have the responsibility of altering such chimneys to make them conform with the requirements of section 27-859 of this article.		The building height of the proposed school and its proximity to adjacent commercial structures may have an adverse impact.

Egress

Stairs, corridors, exit passageways, street floor lobbies and safe areas, for egress, shall comply with the requirements of the NYC Building Code, Subchapter 6 – Means of Egress.

For the purposes of this study, egress requirements are achieved through a combination of the following, which are illustrated in the "theoretical scheme" provided within this Study:

- Corridors
- Stairs



06. PROPOSED EDUCATIONAL PROGRAM OF REQUIREMENTS

The Proposed Educational Program of Requirements shall be presented within the Study in the format that follows so to provide a table that clearly identifies the Educational Program of Requirements, as per the Design Scheme provided within a Study, and identifies where the Design Scheme does not conform to the Proposed Program of Requirements.

Example: (See next page)



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06. PROPOSED EDUCATIONAL PROGRAM OF REQUIREMENTS

The following Table provides the required square footages for the Program of Requirements and the proposed total square footage for each Group as provided by the "theoretical scheme".

Please note that "Proposed" square footages for each "Group" are approximate and that the "Total Gross Area" (provided at the end of this Table) for the "theoretical scheme" may increase in area as mechanical chases, equipment, rooms, etc... are incorporated into any future design development of this Program.

PROGRAM OF REQUIREMENTS / PROPOSED AND AS PER DESIGN SCHEME											
ROOM LAYOUT AND ROOM TYPE		PROPOSED PROGRAM					PROGRAM PER DESIGN SCHEME				
		UNITS	UNIT CAPACITY	TOTAL CAPACITY	UNIT AREA	TOTAL NET AREA	UNITS	UNIT CAPACITY	TOTAL CAPACITY	UNIT AREA	TOTAL NET AREA
GROUP 1 - INSTRUCTION											
1-10	Pre-Kindergarten (w/ toilets) (if appropriate for District)	3	18	54	1,000	3,000	3	18	54	1015	3045
1-11	Kindergarten (w/ toilets) (@ first fl. If possible)	2	25	50	1,000	2,000	2	25	50	1015	2030
1-12	Typical Classrooms - Grade 1 (w/ toilets)	2	25	50	750	1,500	2	25	50	764	1528
1-12	Typical Classrooms - Grade 2 (w/ toilets)	2	25	50	750	1,500	2	25	50	764	1528
1-14	Typical Classrooms - Grade 3	2	25	50	750	1,500	2	25	50	764	1528
1-15	Typical Classrooms - Grade 4	2	31	62	750	1,500	2	31	62	764	1528
1-15	Typical Classrooms - Grade 5	2	31	62	750	1,500	2	31	62	764	1528
1-16	Typical Classrooms - Grade 6	2	30	60	750	1,500	2	30	60	764	1528
1-16	Typical Classrooms - Grade 7	2	30	60	750	1,500	2	30	60	764	1528
1-16	Typical Classrooms - Grade 8	2	30	60	750	1,500	2	30	60	764	1528
1-30	CSD Special Education Classrooms (w/ toilets)	2	12	24	500	1,000	2	12	24	500	1000
1-31	Reading Resource Room	1	---	---	375	375	1	---	---	374	374
1-32	Speech Resource Room	1	---	---	375	375	1	---	---	373	373
1-34	Small Group Instruction / Resource room (w/folding partition)	1	---	---	750	750	1	---	---	874	874
GROUP CW – CITY WIDE SPECIAL EDUCATION											
CW 10-10	Special Education Classroom (w/o toilets)	3	12	36	500	1,500	3	12	36	500	1500
CW 10-11	Special Education Classroom (with toilets)	2	12	24	750	1,500	2	12	24	764	1528
CW 16-30	Activities for Daily Living (with toilet)	1	---	---	750	750	1	---	---	764	764
CW 17-12	Special Education Speech Room (with storage)	1	---	---	200	200	1	---	---	200	200
CW 30-00	Guidance Office	1	---	---	100	100	1	---	---	100	100
CW 34-00	Occupational/Physical Therapy Room	1	---	---	500	500	1	---	---	500	500
CW 40-70	Supervisory Office (with storage)	1	---	---	250	250	1	---	---	250	250
CW 80-00	Storage Room	1	---	---	375	375	1	---	---	270	270
	Nurse's Office (with shower and changing room)	1	---	---	375	375	1	---	---	410	410



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ROOM LAYOUT AND ROOM TYPE		PROPOSED PROGRAM					PROGRAM PER DESIGN SCHEME								
		UNITS	UNIT CAPACITY	TOTAL CAPACITY	UNIT AREA	TOTAL NET AREA	UNITS	UNIT CAPACITY	TOTAL CAPACITY	UNIT AREA	TOTAL NET AREA				
GROUP 2 – SPECIALIZED GROUP INSTRUCTION															
2-10	Art Classroom	1	30	30	1,150	1,150	1	30	30	1700	1700				
2-11	Art Storage	1	---	---	250	250	1	---	---						
2-30	Music Suite	1	30	30	---	1,000	1	30	30	1300	1300				
2-30.1	Music Classroom	1	---	---	725	725	1	---	---	795	795				
2-30.2	Small Practice Cubicle	---	---	---	55	55	---	---	---	90	90				
2-30.3	Large Practice Cubicle	---	---	---	120	120	---	---	---	120	120				
2-30.4	Music Instrument Storage Room	1	---	---	100	100	1	---	---	115	115				
GROUP 3 – SCIENCE															
3-10	Science Resource Room	1	30	30	750	750	1	30	30	754	754				
3-11	Science Resource Prep and Storage	1	---	---	250	250	1	---	---	300	300				
3-14	Science Lab/Demo	1	30	30	875	875	1	30	30	900	900				
3-15	Science Project/Prep Room	1	---	---	375	375	1	---	---	382	382				
GROUP 4 – PHYSICAL EDUCATION															
4-12	Gymnasium	1	60	60	5,400	5,400	1	60	60	6000	6000				
4-30	Locker / Changing Room (boys and girls)	2	---	---	375	750	2	---	---	550	1100				
4-50	Health Instructor's Office (w / shower & wc)	1	---	---	250	250	1	---	---	340	340				
4-53	Gymnasium Storage Room	1	---	---	150	150	1	---	---	380	380				
PLAYGROUND: 3,000sf ECC Playground separate from larger yard; Hard-surface General Playground @ 30 sf / student if possible (exclude Pre-K & K count)							PLAYGROUND: Total open area for play and recreation = +/- 9,900 sf								
GROUP 5 – ASSEMBLY															
5-10 & 5-11	Assembly Area	1	---	---	---	4,800	1	---	---	---	6050				
	Seating Area	1	300	300	3,000	---	1	(TBD)	(TBD)	(TBD)	---				
	Platform	1	---	---	900	---	1	---	---	(TBD)	---				
	Orchestra Area	1	---	---	375	---	1	---	---	(TBD)	---				
	Projection Room	1	---	---	150	---	1	---	---	(TBD)	---				
	Storage Room	1	---	---	125	---	1	---	---	(TBD)	---				
Utility Room (M/F Dressing Rooms)											1	---	---	(TBD)	---
GROUP 6 - LIBRARY															
6-12	Library Complex	1	---	---	2,700	2,700	1	---	---		3260				
GROUP 7 - LOBBY															
7-10	Lobby	1	---	---	750	750	1	---	---		1470				



School Construction Authority

Architecture & Engineering

Design Requirements

General – Section 1.0



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ROOM LAYOUT AND ROOM TYPE		PROPOSED PROGRAM					PROGRAM PER DESIGN SCHEME				
		UNITS	UNIT CAPACITY	TOTAL CAPACITY	UNIT AREA	TOTAL NET AREA	UNITS	UNIT CAPACITY	TOTAL CAPACITY	UNIT AREA	TOTAL NET AREA
GROUP 8 – STUDENT SUPPORT											
8-10	Guidance Suite	1	---	---	---	500	1	---	---	---	615
8-10.1	Guidance Office	2	---	---	100	---	2	---	---	(TBD)	---
8-10.2	Interview / Conference Room	1	---	---	150	---	1	---	---	(TBD)	---
8-10.3	Guidance Storeroom	1	---	---	50	---	1	---	---	(TBD)	---
8-10.4	Waiting Room	1	---	---	100	---	1	---	---	(TBD)	---
8-30	SBST Suite	1	---	---	---	325	1	---	---	---	434
8-30.1	Office	1	---	---	100	---	1	---	---	(TBD)	---
8-30.2	Interview/Conference Room	1	---	---	150	---	1	---	---	(TBD)	---
8-30.3	Waiting Room	1	---	---	75	---	1	---	---	(TBD)	---
8-50	Medical Suite	1	---	---	---	425	1	---	---	---	415
8-50.1	Medical Suite Toilet	1	---	---	50	---	1	---	---	(TBD)	---
8-50.2	Nurse's Office - (1 Nurse) / Resting Area	1	---	---	200	---	1	---	---	(TBD)	---
8-50.3	Examination Room	1	---	---	100	---	1	---	---	(TBD)	---
8-50.4	Waiting Area	1	---	---	75	---	1	---	---	(TBD)	---
GROUP 9 – STORAGE											
9-11	Book Storeroom (1 @ 1,000 or 2 @ 500)	1/2	---	---	1,000	1,000	1	---	---	777	777
9-14	Furniture Storeroom	1	---	---	500	500	1	---	---	505	505
9-16	General Supply	1	---	---	500	500	1	---	---	540	540
9-19	Grounds Equipment Room	1	---	---	125	125		---	---	192	192
9-24	Refuse and Recycling Room w/ 70 SF trash refrigerator (w/ floor drain and hose bib) (on 1st floor if possible)	1	---	---	175	175	1	---	---	Included in Kitchen Area	
9-25	Computer / Av Storeroom (50sf each)	(1 per floor)					(1 per floor)				
GROUP 10 - ADMINISTRATION											
	Administrative Suite	1	---	---	1,325	1,325	1	---	---	---	1750
10-11	General Office	1	---	---	500	---	1	---	---	(TBD)	---
10-13	Principal's Office / Conference	1	---	---	375	---	1	---	---	(TBD)	---
10-14	Records Room	1	---	---	150	---	1	---	---	(TBD)	---
10-16	Duplicating Area	1	---	---	200	---	1	---	---	(TBD)	---
10-22	Teacher's Mail Time Room	1	---	---	100	---	1	---	---	(TBD)	---
	Supervisory Office w/o storage	2	---	---	250	500	2	---	---	325	650
10-24	Teacher's Aides Work Room	1	---	---	500	500	1	---	---	530	530
10-25	Parents / Community Room	1	---	---	375	375	1	---	---	400	400
GROUP 11 – CAFETERIA / STAFF LUNCH											
11-10	Students' Cafeteria (110% capacity)	1	244	---	3,656	3,656	1	(TBD)	---	3900	3900
11-11	Staff Lunch / Conference Room	1	---	---	500	500	1	---	---	544	544

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Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



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ROOM LAYOUT AND ROOM TYPE		PROPOSED PROGRAM					PROGRAM PER DESIGN SCHEME				
		UNITS	UNIT CAPACITY	TOTAL CAPACITY	UNIT AREA	TOTAL NET AREA	UNITS	UNIT CAPACITY	TOTAL CAPACITY	UNIT AREA	TOTAL NET AREA
Group 12 - CUSTODIAL											
12-10	Custodial Locker Room - M/F (w/ toilet & shower)	2	---	---	200	400	2	---	---	434	434
12-11	Custodian's Office	1	---	---	250	250	1	---	---	290	290
12-14	Custodian's Storage	1	---	---	475	475	1	---	---	893	893
12-16	Custodian's Workshop	1	---	---	375	375	1	---	---	---	---
12-17	Janitor's Sink Closet	(1 per floor)					(1 per floor)				
12-25	Telecommunications Room	1	---	---	200	200	1	---	---	297	297
12-26	Telecommunication Closets	(1 per floor @60sf)					(1 per floor @60sf)				
12-28	School Safety Office / Locker Rooms	1	---	---	400	400	1	---	---	110	110
GROUP K - KITCHEN											
K1	Kitchen Complex	1	---	---	2,700	2,700	---	---	---	2988	2988
K2	Kitchen	---	---	---	---	---	---	---	---	---	---
K6	Dietitian's Office	---	---	---	---	---	---	---	---	---	---
K7	Help Locker Room - M/F (w/ toilet)	---	---	---	---	---	---	---	---	---	---
	Food Storage (75% may be remote from kitchen)	---	---	---	---	---	---	---	---	---	---
PROGRAM OF REQUIREMENTS / PROPOSED AND AS PER DESIGN SCHEME											
		PROPOSED PROGRAM					PROGRAM PER DESIGN SCHEME				
TOTAL PROGRAMMED AREA		60,061sf (65%)					66,764sf (70%)				
TOTAL CORE AREA		32,341sf (35%)					27,010sf (30%)				
TOTAL GROSS AREA		92,402sf (100%)					93,774sf (100%)				
TOTAL UNADJUSTED CAPACITY:		822					822				

000

- Denotes programmed spaces that are more than 5% below the desired programmed area.

000

- Denotes programmed spaces that are more than 5% above the desired programmed area.

The above "Program per Design Scheme" demonstrates that the "Proposed Program" can be accommodated within the constraints of the subject Site and that there would not be any subsequent negative impact resulting from the noted spaces that fall below or above the desired program area.



07. DESIGN SCHEME

This Section shall provide a narrative that identifies the design influences/issues and describe a “feasible” design approach to address all design influences/issues as presented within the Study. In addition to identifying and analyzing the design influences/issues, the Study shall provide a “theoretical” design scheme for the subject school type. It is by doing so that the Study permits the Authority to evaluate if the Site can sustain the building’s bulk (size and mass), meet the Educational Program of Requirements, and allow for a functional and efficient design, which provides for the safety, health and comfort of the school children with or without accommodations and/or compromises.

The following design considerations shall be taken into account in the required narrative and illustrated, when practical, in the design of the “theoretical” scheme.

- Location of the school on the Site, and its relationship to it neighboring surroundings.
- Use of surrounding land and buildings shall be considered, since adjacent land use in regard, but not limited to, parks, undeveloped land, vacant buildings, residential building types; commercial and manufacturing facilities will affect the proposed school facility and visa versa.
- Local environmental conditions such as accessibility, traffic and noise.
- NYC Zoning Regulations.
- Accessibility to the site for both pedestrian and vehicular traffic.
- Access to the site and a safe path of travel for Students, parents and faculty within the community. In addition to planning paths of travel that are easily observed from the adjacent streets and sidewalks, the design of the school facility should discourage vandalism and illegal entry.
- Location and direction of travel from local points of mass transportation (bus and subway).
- Changes in grade elevation. It is important that entrances and exits be planned and designed for handicapped accessibility and that level areas are provided for outdoor activities (play yards, athletic fields and service delivery points.
- Location of available utilities. The cost of bringing utilities to the building can become excessive if proper attention is not given to the location of gas, water, sewer and electric services. If the local utility companies have to extend to the site, the cost may have to be absorbed in the construction cost of the school.
- Ideal building orientation in the Northern Hemisphere is basically southeast. As such, the south side of the building will receive more solar radiation in the winter than in the summer and consequently both east and west will receive more radiation in the summer. Unfortunately, the urban environment will not always permit the design to adapt and follow the influences of the environment due to its urban streetscape. There fore, the objective is to address the issues above and provide the best orientation possible to provide opportunities for natural daylighting and take advantage of natural environmental conditions.
- The first priority for non-built area is student recreation. On sites with potential open space beyond this use, consider minimizing developed footprint to conserve or restore vegetated areas. On more constrained sites in low-rise residential zones, building footprint and massing must take into account the impact on light and air for adjacent buildings.

Example: (See next page)





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07. DESIGN APPROACH AND THEORETICAL SCHEME

Compliance with zoning regulations and building codes are not the only factors for determining if a site is adequate for a school. The safety and welfare of the students, as well as the needs of the Educational Program and day to day operations of the school facility, must be accommodated.

In order to understand and appropriately address issues and concerns related to the development of the subject site, existing local environmental conditions, site characteristics, zoning regulations, building codes as well as other design influences need to be identified so that a design approach for a theoretical design scheme can be developed. The following issues and concerns have been identified within previous Sections of this Study.

1. Issues and Concerns

a. Site Characteristics:

- No apparent issues at this time.

b. Educational Program of Requirements (POR):

- The total gross area of the property is only 29,210 square feet and the remaining available open area for outdoor rest, recreation and play after the proposed school is sited on the property will be limited. Hence, since educational space takes precedence over open area, it is more than likely that the available open play area for rest, recreation and play will be compromised.

<u>"Adjusted Capacity"</u>		<u>Square foot per Student for General Play</u>		<u>Total Open Play Area per POR</u>
665*	x	30	=	19,950 square feet

- Available open area for rest and recreation is limited to approximately 9,900sf, which is approximately 10,050sf less (-50%) than the desired amount of open space.

(* - See Appendix E – Draft Program of Requirements)

Footnotes:

New York City Rules & Regulations - Title 24 - Health Code: states the following:

§45.11(h) - "Indoor and outdoor play areas shall be available for the use of the children. Such play areas shall be safe, clean, easily accessible, adequate in size and suitable for the needs of the children. A shady area shall be available in outdoor play areas used during the summer months."

§45.12(c) - "In the indoor and outdoor play areas, sufficient play equipment shall be provided which is appropriate to the stage of development of the children and which is designed to foster physical and motor development. The equipment shall be easily accessible to the children, readily washable, clean, in good repair and free from hazards.", and

§45.13 - "Children kept on the school premises for more than five hours a day shall not be required to devote more than five hours a day to classroom work and study, except for religious training. They shall be permitted to spend the excess time in play, rest or recreation. Except during inclement weather, the outdoor play space shall be used for this purpose whenever possible."

NY CLS Educ. 2556(S): states the following:

"It shall be unlawful for a schoolhouse to be constructed in the City of New York without an open-air playground attached to or used in connection with the same."

c. Site Utilization:

- No apparent issues at this time.

d. Topography / Geology:

- No apparent issues at this time.



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e. Zoning:

- The development of the proposed school on the subject Site will require "Zoning Waivers" for non-compliance with "bulk" regulations.
 - See Section 04. Zoning Regulations

f. Building Codes:

- The building height of the proposed school and its proximity to adjacent commercial structures may have an adverse impact on existing chimneys.

g. Utilities and Services:

- No apparent issues at this time.

h. Historical Significance:

- No apparent issues at this time.

i. Transportation:

- No apparent issues at this time.

j. Hazardous Environmental Conditions:

- No apparent issues at this time.

k. Constructability:

- No apparent issues at this time.

2. Design Approach

The layout of the design provided herein has been provided to demonstrate what may be accomplished within the dimensional constraints of the existing Site as well as other design influences as indicated below:

a. Building Location and Orientation:

As indicated in Section 03, the existing site is presently located in a part of a larger urban environment (Brooklyn, N.Y.) that is comprised of one (1) Tax Lot (#64) that lies within an (R6) Residential Zoning District that is situated within a Special Purpose District (OP) known as "The Special Ocean Parkway District". The following addresses the issues and concerns described above.

- 1) Since the property's geometry is relatively rectangular and its longest street-front, 240-feet, is along Caton Avenue, the only practical orientation for the building is along the length of Caton Avenue, which establishes an east/west axis for a building. Hence, the building's major fenestrations would have a north and south orientation, which is not the preferred direction for sustainable design.
- 2) In order to accommodate the gross floor area of the proposed school (+/-93,000sf) within the subject property's limited area and provide the smallest foot print possible so to accommodate open area, the proposed building would have to achieve vertically what it could not accomplish horizontally. Hence, a building design (4-Stories / +/- 65-feet) that exceeds the maximum height (60-feet) permitted by present NYC Zoning Regulations would be necessary.

In order to prevent the building from going well above 75-feet in height, the Auditorium is designed as a 1-story space rather than as a typical 2-story space. (*Note: The proposed building may become and need to be a "high-rise" building as classified by NYC Building Code if a 2-story Auditorium were to be provided.*)



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- 3) The Site is accessible from both all three (3) street fronts and traffic patterns are conducive to student bus-drop off. (*Note: Caton Avenue is the widest street with the deepest sidewalks and is the more suitable of the three street fronts for student drop-off and pick-up by school buses.*)
- b. Topography and Geology: The Site appears to be level and accept for the possibility of groundwater; there are no apparent obstacles to providing a full cellar for the school.
- c. Building Organization / Layout: In order to maximize limited site area for the proposed school, the design scheme is organized in an I-configuration that utilizes double loaded corridors on each floor. The scheme's I-configuration provides all instructional spaces access to natural light, the stacking of common spaces, and allows for efficient supervision of corridors from one vantage point by one individual.

Due to the limited site area, the opportunity to locate spaces that would typically be provided on the first floor is severely limited. Therefore, the auditorium, which would be more frequently used by the public than a gymnasium, is located at grade/first floor and the first floor of the proposed building would be elevated so to provide sufficient height within the auditorium. Hence, the gymnasium is located on the second floor directly above the auditorium. In terms of acoustics, this adjacency is the least desirable scenario and noise mitigation between these spaces, if possible, will require bear significant costs.

- 1) Entrances and Exits: The Main Entrance is located on Caton Avenue, which is the widest adjacent street that also provides the deepest sidewalk depth to facilitate the drop-off and pick-up of children by school buses.

The Main Entrance leads to a Lobby that provides direct access to the Administrative Suite, Auditorium, Pre-Kindergartens, Kindergartens, Nurse's Suite, and Staff Lunch/Conference Room as well as the Custodian's Office. The main double-stair and elevator within the immediate area of the Lobby, which also provides a centralized security desk, provides indirect access to instructional spaces, places of assembly, and other administrative areas throughout the building.

- 2) Planning: As indicated above, the school is organized (stacked) vertically utilizing a "Bar" plan with a double-loaded corridor.
- a) Open Play Area: Open play area, although limited, is situated at the rear of the proposed building and would be accessible from both East 7th and 8th Streets. This would allow two (2) points of entry to the open yard area so that an ECC play area and a general play area may also be separated for the arrival and dismissal of children.
- b) Cellar Floor: This floor is comprised of the following spaces; Student Cafeteria, Kitchen Complex, Locker Rooms, Custodial and Storage Areas as well as Mechanical Equipment Rooms.

The mechanical equipment rooms are located at the southwest corner of the building/site at the intersection formed by Caton Avenue and East 7th Street. This provides two possible service entry points from these adjacent streets.

The area beneath the Auditorium, which is on the first floor, would be partially unexcavated. Excavation would be limited to foundation walls and an on-grade slab that would be sloped down from the first floor so to achieve the height required at the stage/platform.

- c) First Floor: This floor is comprised of the following spaces; Main Entrance Lobby, Administrative Suite, Auditorium, Pre-Kindergartens, Kindergartens, Nurse's Suite, and Staff Lunch/Conference Room as well as the Custodian's Office.
- d) Second Floor: This floor is comprised of the following spaces; Gymnasium and Locker Rooms, Health Instructor's Office, City-Wide Special Education, SBST, Toilets and other ancillary spaces.
- e) Third Floor: This floor is comprised of the following spaces; Upper-Gymnasium, CSD Special Education, Music Suite, Science Resource and Preparation Room, 2nd, 3rd and 4th Grade Classrooms, Resource Room, Toilets and other ancillary spaces.



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- f) **Fourth Floor:** This floor is comprised of the following spaces; Library, Science Lab/Demo Room and preparation Room, 5th, 6th, 7th, and 8th Grade Classrooms, Small Group Instruction, Resource Room, Toilets and other ancillary spaces.
- g) **Roof:** The roof provides area for the Air handling Units (AHU) for Classrooms, Corridors and Offices. In addition to the mechanical equipment, the Boiler Room, and Pump Room that would be located on the roof. Additional height from the Second Floor to roof structure has been planned (approximately two feet) to address the concentration of Air-Handling Units and associated ductwork. Attention to acoustical treatment is required to address transmission of noise and vibration from mechanical equipment to the floor below. Due to the limited area for open play and assembly it may be necessary to locate the required emergency generator in the cellar or on the roof of the building.

The Plans that follow are provided to illustrate site conditions and the building's ability to accommodate the Proposed Program of Requirements so to provide a basis for open discussion and direction for the possible development of a project.

The scheme provided herein is not a final design solution.



Diagrammatic Plans:

The Diagrammatic Plans shall be single line drawings and shall be provided as follows:

- Site Plan / First Floor Plan
The Site Plan shall illustrate the Site, location of the theoretical building, play yards, entrances and exits, adjacent streets, street names, street directions and street widths, Zoning Regulation Yards and Setbacks, adjacent properties and structures...
- Floor Plans
The Plans for each floor, in addition to being appropriately labeled, shall illustrate the major categories of the Educational Program of Requirements through the use of a color schedule for each Programmed Space, corridor, stair, elevator, toilet room and mechanical space.

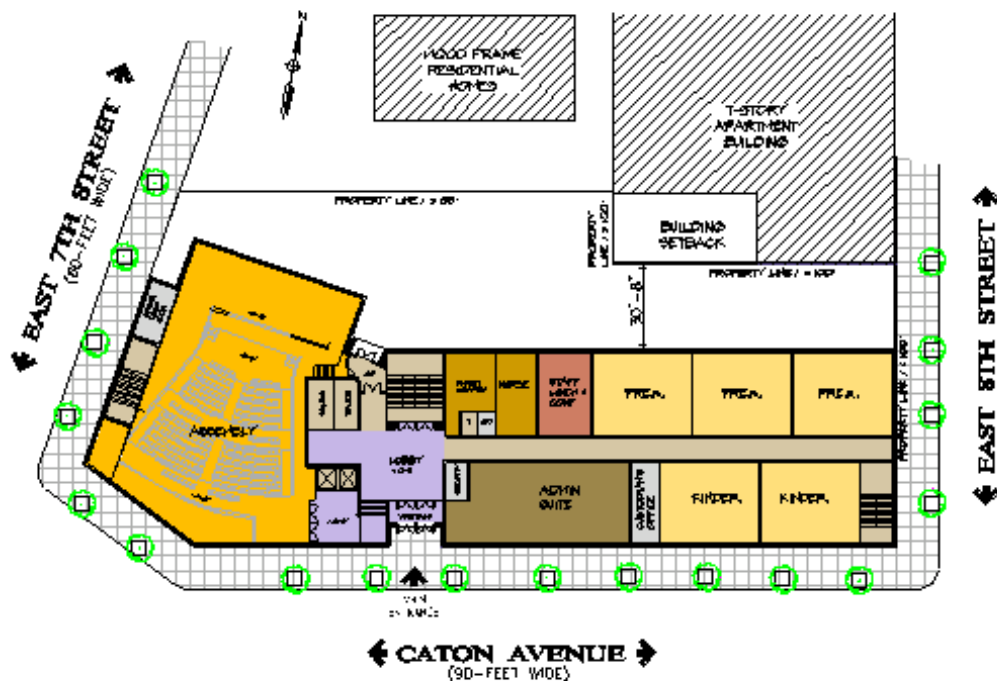
[For Example: \(See next page\)](#)





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2. Diagrammatic Plans:



LEGEND:

- GROUP 1 - INSTRUCTIONAL
- GROUP 2 - CITY WIDE SP, EO - 070
- GROUP 3 - SPECIALIZED INSTRUCTION
- GROUP 4 - SCIENCE
- GROUP 5 - PHYSICAL EDUCATION
- GROUP 6 - ASSEMBLY
- GROUP 7 - LOBBY

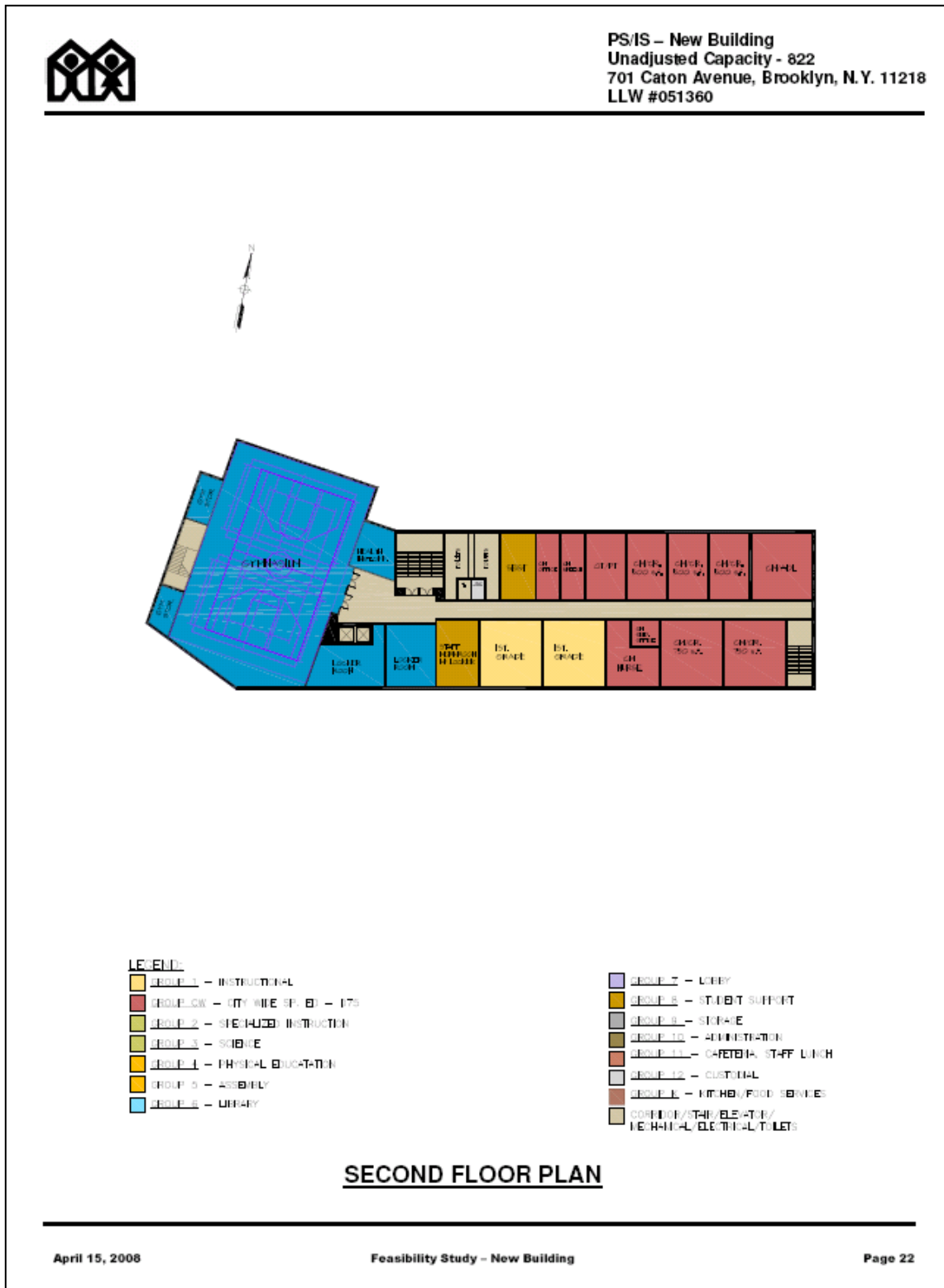
- GROUP 8 - STUDENT SUPPORT
- GROUP 9 - STORAGE
- GROUP 10 - ADMINISTRATION
- GROUP 11 - CAFETERIA, STAFF LUNCH
- GROUP 12 - CLASSROOM
- GROUP 13 - KITCHEN/FOOD SERVICES
- CORRIDOR/STAIR/ELEVATOR/
MECHANICAL/ELECTRICAL/TOILETS

SITE / FIRST FLOOR PLAN

April 15, 2008

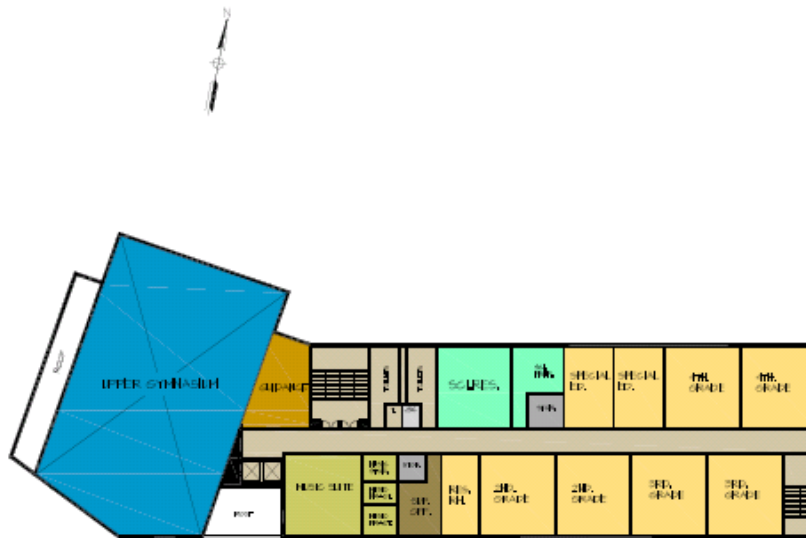
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LEGEND:

- GROUP 1 – INSTRUCTIONAL
- GROUP 2 – CITY WIDE SP. ED – 175
- GROUP 3 – SPECIALIZED INSTRUCTION
- GROUP 4 – SCIENCE
- GROUP 5 – PHYSICAL EDUCATION
- GROUP 6 – ASSEMBLY
- GROUP 7 – LIBRARY

- GROUP 8 – LOBBY
- GROUP 9 – STUDENT SUPPORT
- GROUP 10 – STORAGE
- GROUP 11 – ADMINISTRATION
- GROUP 12 – CAFETERIA/STAFF LUNCH
- GROUP 13 – CUSTODIAL
- GROUP 14 – KITCHEN/FOOD SERVICE
- GROUP 15 – CORRIDOR/STAIR/ELEVATOR/MECHANICAL/ELECTRICAL/TOILETS

THIRD FLOOR PLAN

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LEGEND:

- GROUP 1 - INSTRUCTIONAL
- GROUP 2 - CITY MILE SP. 81 - 175
- GROUP 3 - SPECIALIZED INSTRUCTION
- GROUP 4 - SCIENCE
- GROUP 5 - PHYSICAL EDUCATION
- GROUP 6 - ASSEMBLY
- GROUP 7 - LIBRARY

- GROUP 8 - LUNCH
- GROUP 9 - STUDENT SUPPORT
- GROUP 10 - STORAGE
- GROUP 11 - ADMINISTRATION
- GROUP 12 - CARETENA, STAFF LUNCH
- GROUP 13 - CUSTODIAL
- GROUP 14 - HITCHED/FOOD SERVICE
- CORRIDOR/STAIR/ELEVATOR/MECHANICAL/ELECTRICAL TOILETS

FOURTH FLOOR PLAN

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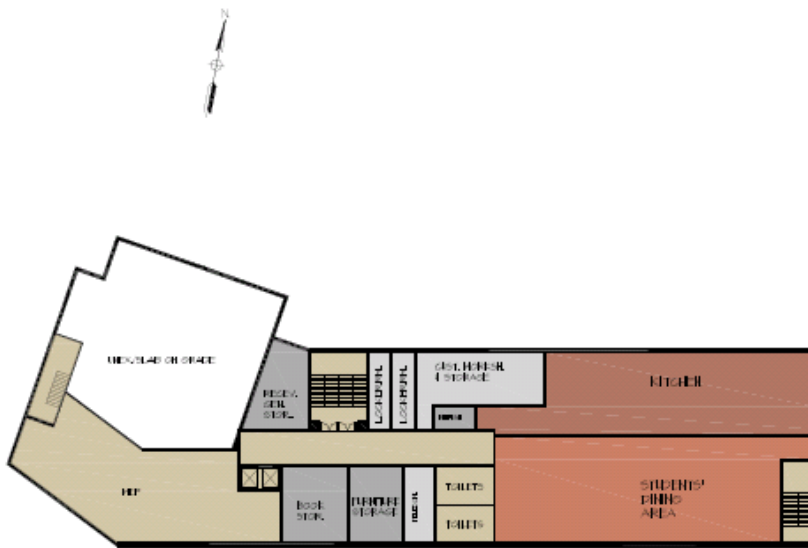
Requirement Applies to: ☒ New Construction

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LEGEND:

- GROUP 1 - INSTRUCTIONAL
- GROUP 2 - CITY WIDE SP. ED - ITS
- GROUP 3 - SPECIALIZED INSTRUCTION
- GROUP 4 - SCIENCE
- GROUP 5 - PHYSICAL EDUCATION
- GROUP 6 - ASSEMBLY
- GROUP 7 - URINARY

- GROUP 8 - LOBBY
- GROUP 9 - STUDENT SUPPORT
- GROUP 10 - STORAGE
- GROUP 11 - ADMINISTRATION
- GROUP 12 - CAFETERIA, STAFF LUNCH
- GROUP 13 - CUSTODIAL
- GROUP 14 - KITCHEN/FOOD SERVICE
- GROUP 15 - CORRIDOR/STAIR/ELEVATOR/MECHANICAL/ELECTRICAL/TOILETS

CELLAR FLOOR PLAN

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08. APPENDICES



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08. APPENDICES

- APPENDIX A - Original Request for Feasibility Study
- APPENDIX B - Sanborn / Tax Map
- APPENDIX C - Community Connectivity / Half-Mile Radius Map
- APPENDIX D - Environmental Hazards Map
- APPENDIX E - Draft Educational Program of Requirements



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From: RACHELSON, TAMI
Sent: Tuesday, February 12, 2008 12:40 PM
To: BERGIN, ELIZABETH; GUTERMAN, DEBORAH LEE; BARRETT, E BRUCE
Cc: CASTANO, BEATRIZ; OU, KENRICK; KHAJEKIAN, VAHAK; KUBOTA, NINA; PERCUDANI, PETER; FALCONE, CARLO; ROUSSEY, GEORGE; EITINGON, MICHAEL; 'Bert Schayegh'
Subject: Request for Due Diligence and Feasibility Study - Potential District 15 Site - 701 Caton Avenue

Community Board 7 has recommended a potential site for a new school in District 15. The site is vacant land and is available for purchase. The lot is approx. 29,000 sf and is fairly rectangular in shape.

Property information is as follows:

CSD: 15
Address: 701 Caton Avenue (between E. 7th and E. 8th Street)
Block/Lot: 5321/64
Description: 29,000 sf (approx.) unimproved lot.
Zoning: R6 - Ocean Parkway District
Access: Bert Schayegh - Cornerstone - 212-768-1435

Request:

1. Capital Planning is requested to create a LLW#.
2. A & E is requested to undertake a feasibility study for a PS/IS.
3. IEH is requested to prepare a Phase I ESA.

Thank you.

Tami

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REQUEST FOR STUDY

APPENDIX – A

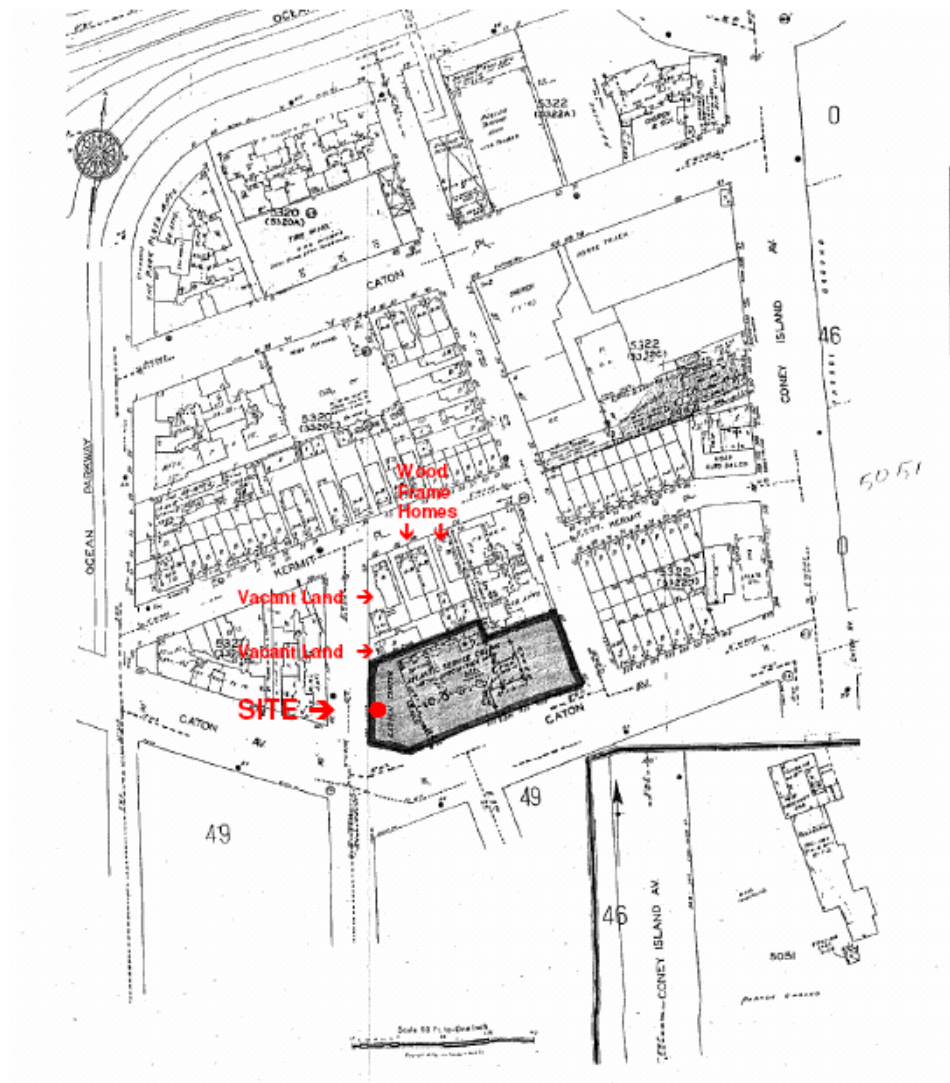
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SANBORN / TAX MAP

APPENDIX – B

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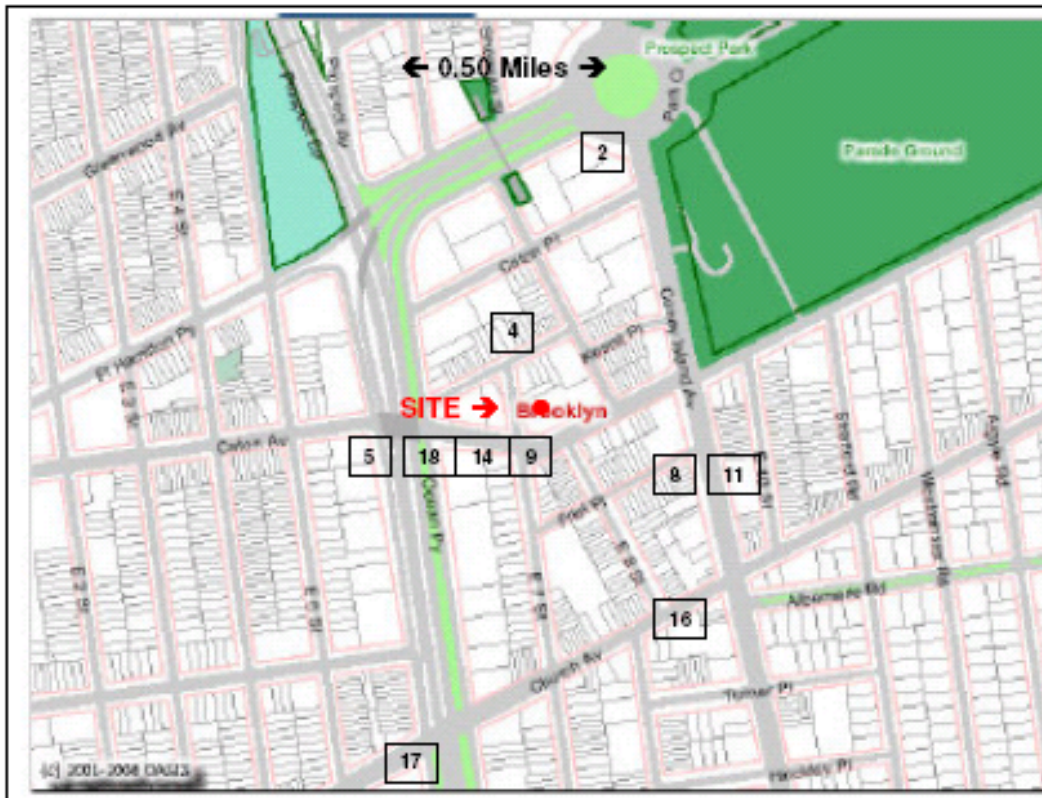
Requirement Applies to: ☒ New Construction

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1. Bank	12. Senior Care Facility
2. Place of Worship	13. Park
3. Convenience Store	14. Pharmacy
4. Day Care	15. Post Office
5. Cleaners	16. Restaurant
6. Fire Station	17. Another School or University
7. Beauty Salon	18. Supermarket
8. Hardware Store	19. Theater
9. Laundry	20. Community Center
10. Library	21. Fitness Center
11. Medical / Dental	22. Museum

COMMUNITY CONNECTIVITY / HALF-MILE RADIUS MAP

APPENDIX – C

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(date)

(School Name)
Region XX / District XX FMS#
Program of Requirements for a New Primary / Intermediate School Building PS/IS 665
Capital Budget Line E-2362

DETAILED PROGRAM OF REQUIREMENTS

ROOM LAYOUT	ROOM TYPE	NO. OF UNITS	CAPACITY PER UNIT	TOTAL	UNIT AREA [sq]	TOTAL NET AREA
GROUP 1- INSTRUCTION						
1-10	Pre-Kindergarten (w/ toilets) (if appropriate for District)	3	18	54	1,000	3,000
1-11	Kindergarten (w/ toilets) (if first fl. if possible)	2	25	50	1,000	2,000
1-12	Typical Classrooms - Grade 1 (toilets optional)	2	25	50	750	1,500
1-12	Typical Classrooms - Grade 2 (toilets optional)	2	25	50	750	1,500
1-14	Typical Classrooms - Grade 3	2	25	50	750	1,500
1-15	Typical Classrooms - Grade 4	2	31	62	750	1,500
1-15	Typical Classrooms - Grade 5	2	31	62	750	1,500
1-16	Typical Classrooms - Grade 6	2	30	60	750	1,500
1-16	Typical Classrooms - Grade 7	2	30	60	750	1,500
1-16	Typical Classrooms - Grade 8	2	30	60	750	1,500
1-30	CSD Special Education Classrooms	2	12	24	500	1,000
1-31	Reading Resource Room	1	---	---	375	375
1-32	Speech Resource Room	1	---	---	375	375
1-34	Small Group Instruction/Resource Room (w/ folding ptn)	1	---	---	750	750

GROUP CW - CITY-WIDE SPECIAL ED - DISTRICT 75 (clustered at first floor or stacked on 1 & 2)

CW10-10	Special Education Classrooms(w/o toilets) - District 75 (provide toilets in vicinity of classrooms)	3	12	36	500	1,500
CW10-11	Special Education Classrooms (w/ toilets) - District 75	2	12	24	750	1,500
CW16-30	Activities for Daily Living Rm (w/ toilet)(enlarge toilet rm w/ changing table if D 75 is on 2 floors)	1	---	---	750	750
CW17-12	Citywide Special Ed Speech Rm (w/ storage) - Dist. 75	1	---	---	200	200
CW30-00	Guidance Office - District 75	1	---	---	100	100
CW34-00	Occupational/Physical Therapy Room - Dist. 75	1	---	---	500	500
CW40-70	Supervisory Office (w/ storage) - District 75	1	---	---	250	250
CW80-00	Storage Room - District 75	1	---	---	150	150
	Nurse's Office - D 75 - with shower/changing room	1	---	---	375	375

GROUP 2- SPECIALIZED INSTRUCTION

2-10	Art Classroom	1	30	30	1,150	1,150
2-11	Art Storage (w/ doors to art room & corridor)	1	---	---	250	250
2-30	Music Suite	1	30	30	---	1,000
2-30.1	Music Classroom	1	---	---	725	
2-30.2	Small Practice Cubicle				55	
2-30.3	Large Practice Cubicle				120	
2-30.4	Music Instrument Storeroom	1	---	---	100	

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6:44 AM 5/22/2007

DRAFT PROGRAM OF REQUIREMENTS

APPENDIX – E

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(School Name) (date)
Region XX / District XX PS/IS
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DETAILED PROGRAM OF REQUIREMENTS

ROOM LAYOUT	ROOM TYPE	NO. OF UNITS	CAPACITY PER UNIT	TOTAL	UNIT AREA sq ft	TOTAL NET AREA
<u>GROUP 3 - SCIENCE</u>						
3-10	Science Resource Room	1	30	30	750	750
3-11	Science Resource Prep and Storage	1	---	---	250	250
3-14	Science Labs/Dems	1	30	30	875	875
3-15	Science Project/Prep Rm (w/ doors to Lab/Demo R combine)	1	---	---	375	375
<u>GROUP 4 - PHYSICAL EDUCATION</u>						
4-12	Gymnasium	1	60	60	5,400	5,400
4-30	Locker/Changing Rooms (boys and girls)	2	---	---	375	750
4-60	Health Instructor's Office (w/ storage & lab) (w/ to gym)	1	---	---	200	200
4-63	Gymnasium Storeroom	1	---	---	150	150
PLAYGROUND: 3,000 sf ECC Playground separate from larger yard. Hard-surface General Playground @ 30 sf/student if possible (exclude Pre-K & K count)						
<u>GROUP 5 - ASSEMBLY</u>						
5-10, 5-11	ASSEMBLY AREA	1	---	---	---	4,800
	Seating Area	1	300 seats	---	3,000	---
	Platform	1	---	---	500	---
	Orchestra Area	1	---	---	375	---
	Projection room	1	---	---	150	---
	Storage Room	1	---	---	125	---
	Utility Room (w/ MEP dressing rooms if appropriate for district)	1	---	---	200	---
<u>GROUP 6 - LIBRARY</u>						
6-12	Library Complex	1	---	---	2,700	2,700
<u>GROUP 7 - LOBBY</u>						
7-10	Lobby	1	---	---	750	750
<u>GROUP 8 - STUDENT SUPPORT</u>						
8-10	Guidance Suite	1	---	---	---	500
8-10.1	Guidance Office	2	---	---	100	---
8-10.2	Guidance Office / Conference Room	1	---	---	100	---
8-10.3	Guidance Store Room	1	---	---	50	---
8-10.4	Guidance Waiting Room	1	---	---	100	---

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DRAFT PROGRAM OF REQUIREMENTS

APPENDIX – E

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APPENDIX – E

(School Name) (date)
Region XX / District XX FMS#
Program of Requirements for a New Primary / Intermediate School Building PS/IS 665
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DETAILED PROGRAM OF REQUIREMENTS

ROOM LAYOUT	ROOM TYPE	NO. OF UNITS	CAPACITY PER UNIT	TOTAL	UNIT AREA (sq ft)	TOTAL NET AREA
B-30	SBST Suite	1	---	---	---	325
B-30.1	SBST Office	1	---	---	100	---
B-30.2	SBST Interview/Conference Room	1	---	---	150	---
B-30.3	SBST Waiting Room	1	---	---	75	---
B-60	Medical Suite	1	---	---	---	425
B-60.1	Medical Suite Toilet (for students)	1	---	---	50	---
B-60.2	Nurse's Office - (1 Nurses) / Resting area	1	---	---	200	---
B-60.3	Examination Room	1	---	---	100	---
B-60.4	Waiting area	1	---	---	75	---

GROUP 9 - STORAGE

9-11	Book Storeroom	1 at 1000 or 2 at 500	---	---	1,000	1,000
9-14	Furniture Storeroom	1	---	---	500	500
9-16	General Supply w/ 100 SF receiving area	1	---	---	500	500
9-19	Grounds Equipment Storeroom	1	---	---	125	125
9-21	Audio-Visual /Secure Storeroom	1	---	---	250	250
9-24	Refuse and Recycling room w/ 70 SF trash refrigerator (w/ floor drain and hose bib) (on 1st floor if possible)	1	---	---	175	175
9-25	Computer/AV Storeroom (1 ea. Instr. floor)	3	---	---	50	150

GROUP 10 - ADMINISTRATION

10-11	Administration Suite	1	---	---	---	1,325
10-11	General Office/Waiting Room	1	---	---	500	---
10-13	Principal's Office /Conference	1	---	---	375	---
10-14	Records Room	1	---	---	150	---
10-16	Duplicating Room	1	---	---	200	---
10-22	Teachers' Mail & Time area	1	---	---	100	---
10-24	Supervisory office w/o storage	2	---	---	250	500
10-24	Teachers' & Aides Work Rm/Lounge (w/ lockers & toilet)	1	---	---	500	500
10-25	Parents / Community Room	1	---	---	375	375

SH PS-IS 665 - 051807

3

6:44 AM 5/22/2007

DRAFT PROGRAM OF REQUIREMENTS

APPENDIX – E

April 15, 2008

Feasibility Study – New Building

Page 33

Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



1.1 Contract Requirements

1.1.3 Report Format

1.1.3.2 Test Fit / Sketch Studies - New Buildings, Additions and Conversions of Existing Buildings

Instructions to Users:

The format of the “Test Fit / Sketch Study” required by the Authority for New Buildings, Additions, and Existing Building Conversions is described herein. Unless specific instructions are otherwise provided by the Authority’s Representative, the following Format shall be followed. Please note that the various examples cited herein are not project specific.

A Project Cost Estimate **not** required.

Format

Memorandum:

The “Test Fit / Sketch Study” shall be in the form of a “Memorandum”.

Objective

The principal objective of a “*Test Fit / Sketch Study*” is to assess, as quickly as possible, if a school facility may physically be provided at a subject Site and identify those issues and concerns that should be noted and given due consideration in a narrative, with plans that illustrate site conditions and the ability to accommodate a school building per a given Program of Requirements (POR), so as to provide a basis for open discussion and direction for the possible development of a project.

Issues and concerns that are typically of interest to the Authority include, but are not limited to, those that relate to a site or building’s ability to accommodate a proposed Educational Program of Requirements, a building layout and organization (orientation and circulation), zoning, construction, existing physical characteristics of the proposed site and adjacent properties, and the impact of a project to adjacent properties and visa versa.

For example:

- Would there be negative design issues related to the day to day administration of the proposed school? (circuitous corridors, blind stairs, hidden areas, lack of windows, single loaded corridors, etc...)
- Would space adjacencies require special construction that increases cost? (noise transmission)
- Would there be sufficient useable outdoor area for the rest and recreation of the children as well as for the gathering of the children during arrival and dismissal times.
- Are adjacent streets conducive to the drop-off and pick-up of children that would arrive by vehicular transportation? (street direction, street width, sidewalk depth, etc...)
- Would the height of a school building classify it as a “*high-rise*” building as per NYC Building Code? (emergency generator, standpipe, temporary elevator for NYC Fire Department, etc...)
- Would an “*emergency generator*” be required and, if so, where would it be located and would there be any adverse impact from its location? (noise, zoning, etc...)
- Would a design that best accommodates the proposed Program of Requirements comply with NYC Zoning Regulations? If not, identify those zoning regulations for which the proposed design would not be compliant.

Requirement Applies to: ✓ New Construction

Major Modernizations

Capital Improvement Projects



- Would existing “tax lots” need to be consolidated or subdivided?
- Would adjacent properties be adversely affected by the height of the proposed building?
- Would adjacent properties be adversely affected by noise from the proposed building’s mechanical equipment? (Roof-top air-handling units, generator, etc...)
- Would the conversion of an existing structure require modifications to meet NYC Building Code (seismic, floor live loads, etc...) requirements and/or the Authority’s Design Requirements?
- Are there obvious site specific subsurface conditions that will impact the development of the site? (Bedrock, water, subway system, detention systems, soil contamination, etc....)
- Would windows and/or party walls of adjacent properties be adversely affected? (blocking windows, shoring and repairing walls)
- Is the proposed site a NYC Park or designated as a Jointly Operated Playground (JOP)?
- Is the site located in the flight path of aircraft traveling to and from local airports?
- Is the site located adjacent to an at-grade, below grade or elevated rail-line or structure?
- Is an existing building, to be renovated or demolished, a designated “landmark”?
- Is the site within a designated “flood plane”?
- Will existing physical improvements adjacent to the site adversely affect construction activities? (adjacent buildings, retaining walls, overhead power lines, trees, etc...)
- Would underpinning and shoring of adjacent properties be required?
- Would protection of adjacent properties be necessary due to the proximity of construction of the school building? (roofs, skylights, etc...)
- Would the school building’s roof(s) be accessible from adjacent properties? (roofs, fire-escapes, etc...)
- Would existing physical improvement require removal and relocation? (Temporary Classroom Units)
- Would portions of an existing building require conversion, renovation and/or demolition?
- Would swing-space be required for the relocation of occupants during construction activities?
- Would existing spaces, such as the kitchen and cafeteria, need to be enlarged to accommodate additional capacity due to an addition to an existing school?
- Are the floor to floor heights within an existing building sufficient in height to accommodate mechanical system and maintain the Authority’s required ceiling heights?
- Would the present use of site area at an existing school be adversely affected due to a building addition?
- Would a building addition reduce the capacity of the existing school?
- Etc...

In addition to identifying issues and concerns, providing plans, providing a copy of the request for the “Test Fit / Sketch Study” and a copy of the provided draft Program of Requirements, the “Test Fit / Sketch Study” should include various attachments that provide additional insight into the subject Site.

Example “Test Fit / Sketch Study”: (See next page)



NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY
ARCHITECTURE & ENGINEERING

Memorandum

To : Liz Bergin – Sr. Director – Capital Planning
Through : George Roussey, PE - Director, Technical Standards Studio – A&E
From : Peter J. Percudani, RA – Design Manager, Technical Standards Studio – A&E
Site / Address : Northwest corner of Ashland Place and Dekalb Avenue, Bklyn., N.Y. 11201 (Block 2081 / Lot 1)
District : 13
Subject : New 2-Organization High School – Unadjusted Capacity 1,299
"Test Fit - Sketch Study"
Date : May 21, 2008 LLW#: 052597

As discussed with Real Estate Services, a "Test Fit" was performed in lieu of a Feasibility Study to determine whether or not the subject Site, with its given geometry and dimensions, could accommodate a new PS/IS School Building.

Please note that this "Sketch Study" is not as informative as a typical Feasibility Study, which would typically provide an overview of an Educational Program of Requirements (POR), describe existing positive and negative site characteristics, topography and geology, zoning, utilities, transportation and sustainable site development density information as well as a design approach for the school; nor does it include either a "Phase I or II Environmental Site Assessment", or a "State Environmental Quality Review (SEQRA) Assessment".

Although various regulatory codes, rules and regulations may be noted herein, the principal objective of this "Test Fit / Sketch Study" is to assess what may physically be provided at the subject Site and identify those issues and concerns that should be noted and given due consideration if such a project were to move forward.

Please note that although the proposed Site may accommodate a new 2-Organization High School with an Unadjusted Capacity of approximately 1,299 students, the following are those issues and concerns that should be noted and given due consideration if such a project were to move forward:

- There would be absolutely no usable outdoor area in front or behind the school building as a building would occupy the entire area of the property.
- The school building would be 6-stories with a full cellar and school would be a "high-rise" building.
- In order to minimize the height of the building a "stadium seating" type Auditorium has been provided that allows a 2-story Auditorium to be provided within the cellar/ first floor. This space layout allows the cellar area beneath the Auditorium to be utilized by the Kitchen/Cafeteria. Hence, the gymnasium is located on the second floor above the Auditorium and additional acoustical design/construction will be required between the auditorium and gymnasium.
- An "emergency generator" would be required (in the cellar or on the roof).
- Roof-top Air-Handling Units, on low-roofs, would be visible to occupants within rooms of instruction and noise from such equipment would have to be attenuated for the school occupants as well as occupants of adjacent buildings.
- At this time, it is anticipated that compliance would not be possible for the development of the subject school on the subject Site with required Zoning Regulations (R6) such as, but not limited to:
 - ZR24-11 Maximum Floor Area Ratio and Lot Coverage
 - ZR24-36 Minimum Required Rear Yards
 - ZR24-522 Front Setbacks (Height and Sky-Exposure)

If it is determined that the subject Building Addition at the subject Site warrants further analysis, it is recommended that, at a minimum, a Feasibility Study that conforms to the Authority's Design Requirements be performed.

The Plans that follow are provided to illustrate site conditions and the building's ability to accommodate the Draft Program of Requirements (POR) so to provide a basis for open discussion and direction for the possible development of a project.

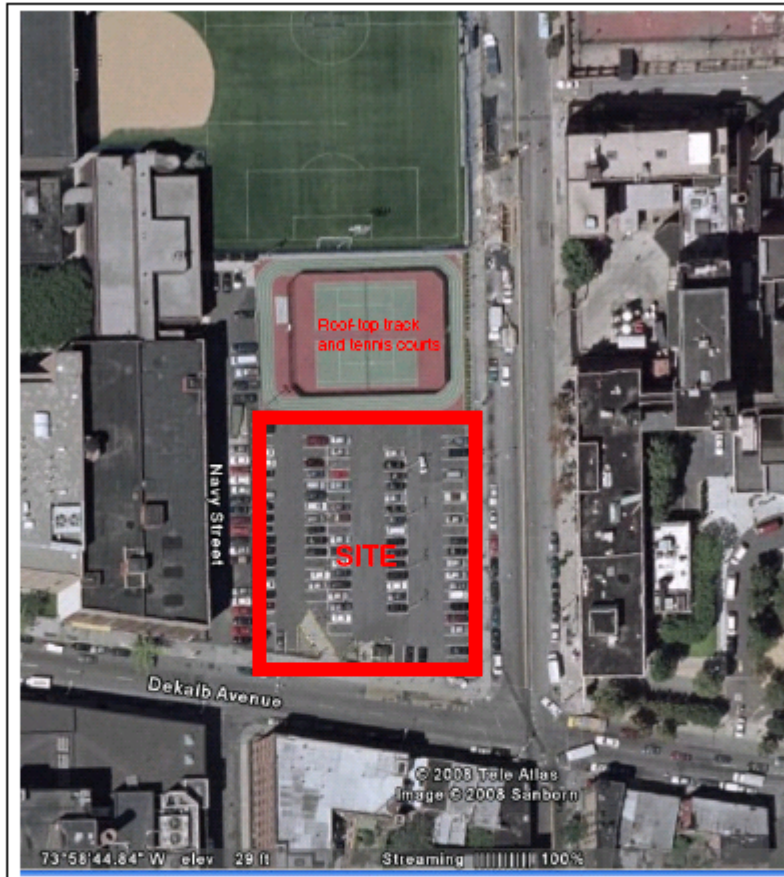
Please note that the POR is not an approved Program of Educational Requirements and that the Scheme provided herein is not a final design solution.

cc: S. Greenberger L. Grillo B. Barrett K. Ou N. Kuboa Project File (3)

1 of 14



New 2- Organization High School
Unadjusted Capacity 1,299
Ashland Place & Dekalb Avenue Bklyn., N.Y.11201



Notes:

- The adjacent track and tennis courts are on the roof of the adjacent building.
- Navy Street is being used for vehicle parking.
- Navy Street is a "de-mapped" street.

SITE / LOCATION PLAN

2 of 14

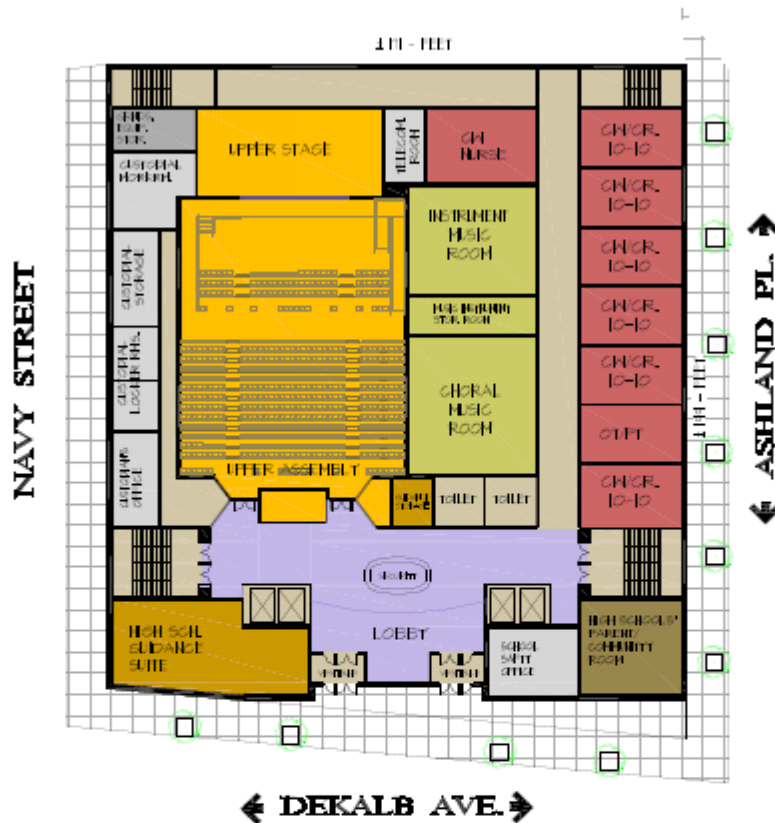
Requirement Applies to: ✓ New Construction

Major Modernizations

Capital Improvement Projects



New 2- Organization High School
Unadjusted Capacity 1,299
Ashland Place & Dekalb Avenue Bklyn., N.Y.11201



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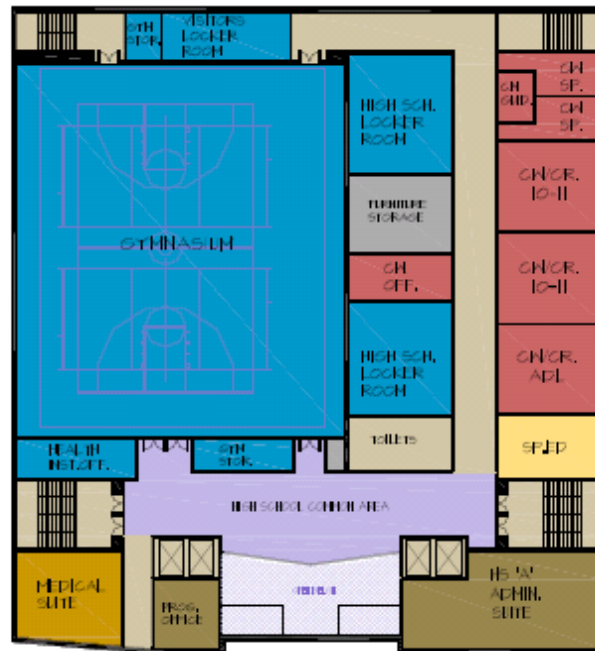
GROUP 1 - INSTRUCTIONAL	GROUP 8 - STUDENT SUPPORT
GROUP CW - CITY WIDE SP. ED - D70	GROUP 9 - STORAGE
GROUP 2 - SPECIALIZED INSTRUCTION	GROUP 10 - ADMINISTRATION
GROUP 3 - SCIENCE	GROUP 11 - CAFETERIA, STAFF LUNCH
GROUP 4 - PHYSICAL EDUCATION	GROUP 12 - CUSTODIAL
GROUP 5 - ASSEMBLY	GROUP 13 - KITCHEN/FOOD SERVICES
GROUP 6 - LIBRARY	CORRIDOR/STAIR/ELEVATOR/MECHANICAL/ELECTRICAL/TOILETS
GROUP 7 - LOBBY	

SITE PLAN / FIRST FLOOR PLAN

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New 2- Organization High School
Unadjusted Capacity 1,299
Ashland Place & Dekalb Avenue Bklyn., N.Y.11201



LEGEND:

 GROUP 1 – INSTRUCTIONAL	 GROUP 8 – STUDENT SUPPORT
 GROUP CW – CITY WIDE SP. ED – D75	 GROUP 9 – STORAGE
 GROUP 2 – SPECIALIZED INSTRUCTION	 GROUP 10 – ADMINISTRATION
 GROUP 3 – SCIENCE	 GROUP 11 – CAFETERIA, STAFF LUNCH
 GROUP 4 – PHYSICAL EDUCATION	 GROUP 12 – CUSTODIAL
 GROUP 5 – ASSEMBLY	 GROUP 13 – KITCHEN/FOOD SERVICES
 GROUP 6 – LIBRARY	 CORRIDOR/STAIR/ELEVATOR/ MECHANICAL/ELECTRICAL/TOILETS
 GROUP 7 – LOBBY	

SECOND FLOOR PLAN

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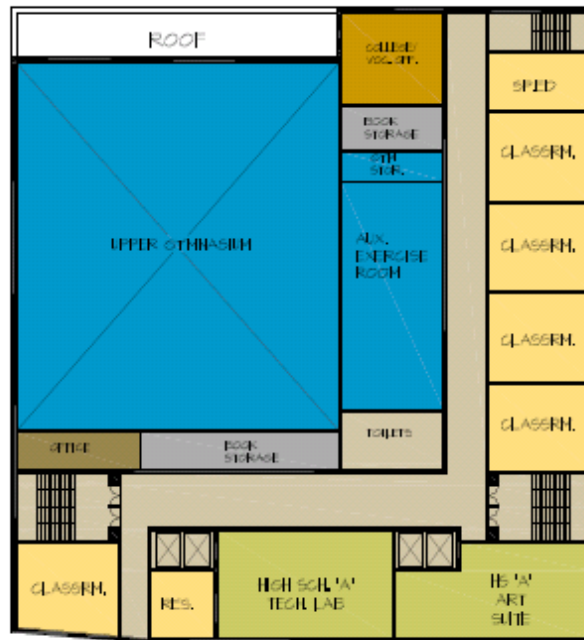
Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



New 2- Organization High School
Unadjusted Capacity 1,299
Ashland Place & Dekalb Avenue Bklyn., N.Y.11201



LEGEND:

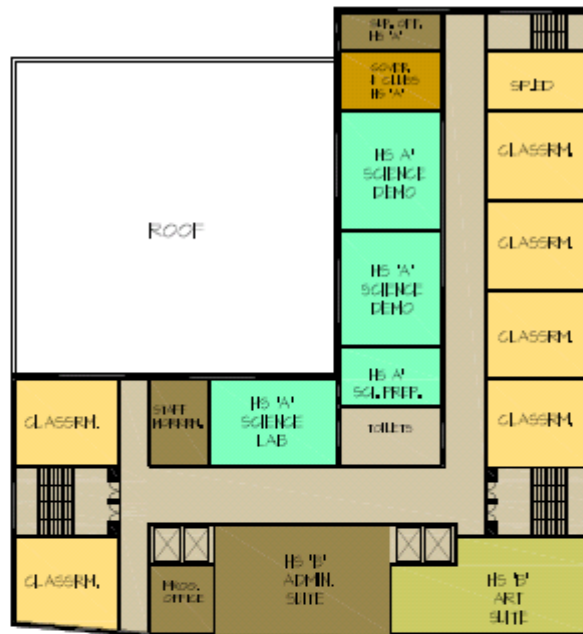
 GROUP 1 – INSTRUCTIONAL	 GROUP 8 – STUDENT SUPPORT
 GROUP 10 – CITY WIDE SP. ED – D75	 GROUP 9 – STORAGE
 GROUP 2 – SPECIALIZED INSTRUCTION	 GROUP 10 – ADMINISTRATION
 GROUP 3 – SCIENCE	 GROUP 11 – CAFETERIA, STAFF LUNCH
 GROUP 4 – PHYSICAL EDUCATION	 GROUP 12 – CUSTODIAL
 GROUP 5 – ASSEMBLY	 GROUP 13 – KITCHEN/FOOD SERVICES
 GROUP 6 – LIBRARY	 CORRIDOR/STAIR/ELEVATOR/ MECHANICAL/ELECTRICAL/TOILETS
 GROUP 7 – LOBBY	

THIRD FLOOR PLAN

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New 2- Organization High School
Unadjusted Capacity 1,299
Ashland Place & Dekalb Avenue Bklyn., N.Y.11201



LEGEND:

 GROUP 1 - INSTRUCTIONAL	 GROUP 8 - STUDENT SUPPORT
 GROUP 5 - ASSEMBLY	 GROUP 9 - STORAGE
 GROUP 2 - SPECIALIZED INSTRUCTION	 GROUP 10 - ADMINISTRATION
 GROUP 3 - SCIENCE	 GROUP 11 - CAFETERIA/STAFF LUNCH
 GROUP 4 - PHYSICAL EDUCATION	 GROUP 12 - CUSTODIAL
 GROUP 6 - LIBRARY	 GROUP 7 - LOBBY
 GROUP 7 - LOBBY	 CORRIDOR/STAIR/ELEVATOR/MECHANICAL/ELECTRICAL/TOILETS

E

FOURTH FLOOR PLAN

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New 2- Organization High School
Unadjusted Capacity 1,299
Ashland Place & Dekalb Avenue Bklyn., N.Y.11201



LEGEND:

 GROUP 1 – INSTRUCTIONAL	 GROUP 8 – STUDENT SUPPORT
 GROUP 9 – CITY WIDE SP. ED – U75	 GROUP 9 – STORAGE
 GROUP 2 – SPECIALIZED INSTRUCTION	 GROUP 10 – ADMINISTRATION
 GROUP 3 – SCIENCE	 GROUP 11 – CAFETERIA, STAFF LUNCH
 GROUP 4 – PHYSICAL EDUCATION	 GROUP 12 – CUSTODIAL
 GROUP 5 – ASSEMBLY	 GROUP 13 – KITCHEN/FOOD SERVICES
 GROUP 6 – LIBRARY	 CORRIDOR/STAIR/ELEVATOR/ MECHANICAL/ELECTRICAL/TOILETS
 GROUP 7 – LOBBY	

FIFTH FLOOR PLAN

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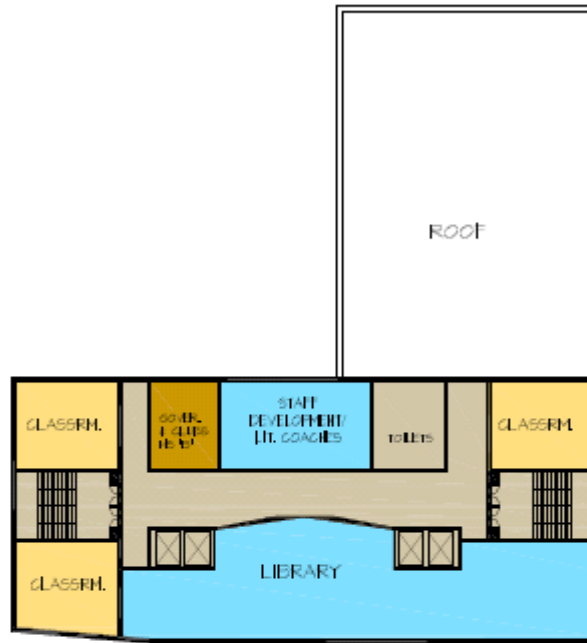
Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



New 2- Organization High School
Unadjusted Capacity 1,299
Ashland Place & Dekalb Avenue Bklyn., N.Y.11201



LEGEND:

 GROUP 1 – INSTRUCTIONAL	 GROUP 8 – STUDENT SUPPORT
 GROUP 9 – CITY WIDE SP. ED – D75	 GROUP 9 – STORAGE
 GROUP 2 – SPECIALIZED INSTRUCTION	 GROUP 10 – ADMINISTRATION
 GROUP 3 – SCIENCE	 GROUP 11 – CAFETERIA, STAFF LUNCH
 GROUP 4 – PHYSICAL EDUCATION	 GROUP 12 – CUSTODIAL
 GROUP 5 – ASSEMBLY	 GROUP 13 – KITCHEN/FOOD SERVICES
 GROUP 6 – LIBRARY	 CORRIDOR/STAIR/ELEVATOR/ MECHANICAL/ELECTRICAL/TOILETS
 GROUP 7 – LOBBY	

SIXTH FLOOR PLAN

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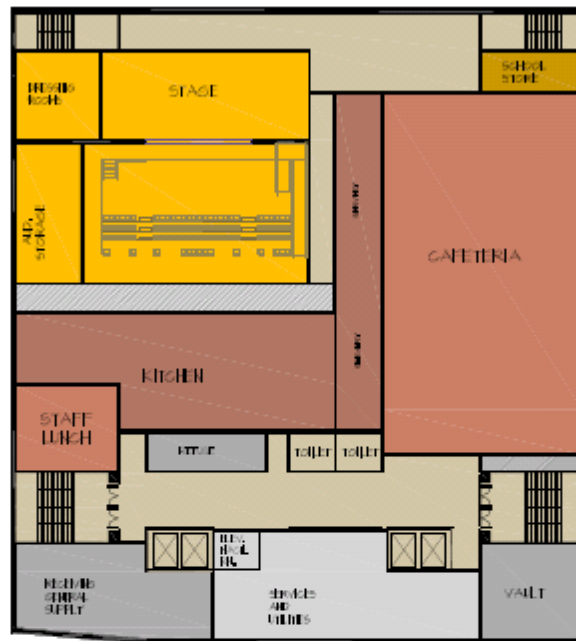
Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



New 2- Organization High School
Unadjusted Capacity 1,299
Ashland Place & Dekalb Avenue Bklyn., N.Y.11201



LEGEND:

GROUP 1 – INSTRUCTIONAL	GROUP 8 – STUDENT SUPPORT
GROUP 9 – CITY WIDE SPED – D75	GROUP 9 – STORAGE
GROUP 2 – SPECIALIZED INSTRUCTION	GROUP 10 – ADMINISTRATION
GROUP 3 – SCIENCE	GROUP 11 – CAFETERIA, STAFF LUNCH
GROUP 4 – PHYSICAL EDUCATION	GROUP 12 – CUSTODIAL
GROUP 5 – ASSEMBLY	GROUP 13 – KITCHEN/FOOD SERVICES
GROUP 6 – LIBRARY	CORRIDOR/STAIR/ELEVATOR/ MECHANICAL/ELECTRICAL/TOILETS
GROUP 7 – LOBBY	

CELLAR FLOOR PLAN

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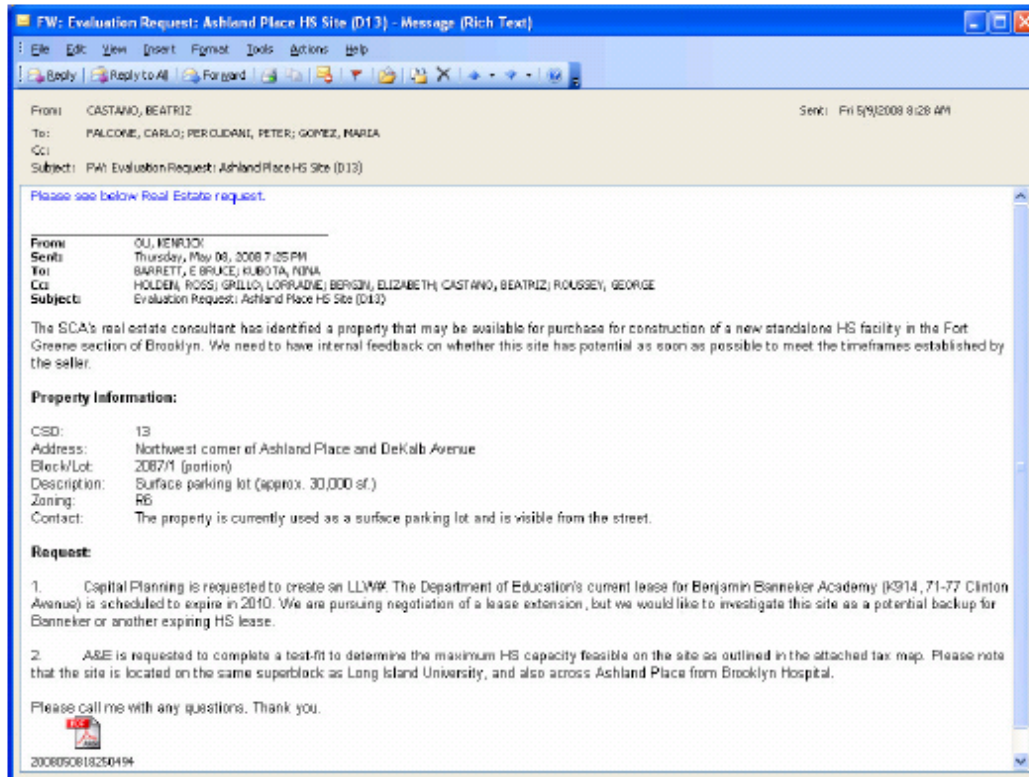
Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



New 2- Organization High School
Unadjusted Capacity 1,299
Ashland Place & Dekalb Avenue Bklyn., N.Y.11201



REQUEST FOR SKETCH STUDY

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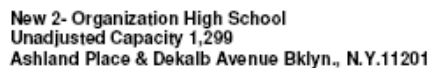
Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



General – Section 1.0



[School Name]																			
Region ID : DISTRICT ID : RMS #																			
Program of Requirements for a New High School Building		Each	640	84000														Total with Sports Shared	
Capital Budget Line # 2562																		2 Small Schools	
DETAILED PROGRAM OF REQUIREMENTS FOR NEW HIGH SCHOOL																			
ROOM LAYOUT	ROOM TYPE	NO. OF UNITS	CAPACITY UNIT	TOTAL	UNIT AREA SQ. FT.	TOTAL AREA	NO. OF UNITS	CAPACITY UNIT	TOTAL	UNIT AREA SQ. FT.	TOTAL AREA	NO. OF UNITS	CAPACITY UNIT	TOTAL	UNIT AREA SQ. FT.	TOTAL AREA	NO. OF UNITS	CAPACITY UNIT	TOTAL
GROUP 1 - INSTRUCTION																			
1-20	Typical Classrooms - Grade 9 - 12	11	54	594	750	9,250						32	34	742	750	15,650			
1-30	HS District Special Ed. Classrooms	2	18	36	500	1,000						4	18	80	500	2,000			
1-41	Resource Room - Small group instruction	1	5	5	375	375						2	5	10	375	750			
GROUP 20 CITY-WIDE SPECIAL ED - DISTRICT 75 (space allocated in this line is provided, provided to all in money etc.)																			
GM10-1-0	Special Education Classroom (per state) - District 75						5	12	72	500	3,000	6	12	72	600	3,000			
GM10-1-1	Special Education Classroom (per state) - District 75						2	12	24	750	1,000	2	12	24	750	1,000			
GM15-3-0	Activities for Daily Living (ADL) or self-empowerment (average room 675 sq ft) - District 75						1	---	---	750	750	1	---	---	750	750			
GM17-2-2	Citywide Special Ed Speech Room (average) - Dist. 75						2	---	---	200	400	3	---	---	200	600			
GM30-0-0	Special Special Ed Support Office - Dist. 75						1	---	---	100	100	1	---	---	100	100			
GM34-0-0	Counselor/Physical Therapy Room - Dist. 75						1	---	---	500	500	1	---	---	500	500			
GM40-7-0	Supervisory Office (average) - District 75						1	---	---	250	250	1	---	---	250	250			
GM50-0-0	Storage Rooms - District 75						1	---	---	100	100	1	---	---	100	100			
	Nurse's Office - 675 - with shower/changing room						1	---	---	375	375	1	---	---	375	375			
GROUP 2 - SPECIALIZED INSTRUCTION																			
2-20	Art Classroom (w/ 160 sq ft of storage)	1	54	54	1,250	1,250						2	34	68	1,250	2,500			
2-40	HS Instrumental Music (20 w/ practice rooms) (shared)						1	34	34	1,000	1,000	1	34	34	1,000	1,000			
2-44	HS Music Instrument Storage Room (shared)						1	---	---	375	375	1	---	---	375	375			
	Technology Lab (Distance Learning CADD, Desktop Publishing, V.S. etc.)	1	34	34	1,800	1,800						3	34	68	1,800	3,000			
GROUP 3 - SCIENCE																			
3-00	Science Lab - Inboard	1	---	---	1,250	1,250						2	---	---	1,250	2,500			
3-24	Science Demo Room	2	34	68	1,000	2,000						4	34	136	1,000	4,000			
3-42	Science Preparation Room (w/ 600 L.B. REAGENTS & CHEMICALS)	1	---	---	500	500						2	---	---	500	1,000			

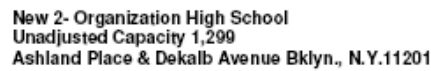
DRAFT PROGRAM OF REQUIREMENTS

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Capital Improvement Projects



General – Section 1.0



2:45 PM 1/5/2008

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New 2- Organization High School
Unadjusted Capacity 1,299
Ashland Place & Dekalb Avenue Bklyn., N.Y.11201

Project Name		Est	Est	School	Space Group	Total within Space Group									
Project Name		Est	Est	School	Space Group	Total within Space Group									
Project Name		Est	Est	School	Space Group	Total within Space Group									
DETAILED PROGRAM OF REQUIREMENTS FOR HIGH SCHOOL															
ROOM	SPACE	EST	EST	SCHOOL	SPACE	EST	EST	SCHOOL	SPACE	EST	EST	SCHOOL	SPACE	EST	EST
0-10	Large Book Room	1	---	500	500	1	---	500	500	1	---	500	500	1	---
0-11	Library	1	---	500	500	1	---	500	500	1	---	500	500	1	---
0-12	Reading and General Supply (153 SF for reading rm)	1	---	500	500	1	---	500	500	1	---	500	500	1	---
0-20	General Equipment Room	1	---	500	500	1	---	500	500	1	---	500	500	1	---
0-21	General Equipment Room	1	---	500	500	1	---	500	500	1	---	500	500	1	---
0-22	Refrigerator and Recycling Room/ 50 SF fresh refrigerator for food service will be in food service	1	---	500	500	1	---	500	500	1	---	500	500	1	---
0-23	Computer Room (1 is in main floor)	1	---	500	500	1	---	500	500	1	---	500	500	1	---
GROUP 10 - ADMINISTRATION															
10-10	Administration Suite	1	---	1,000	1,000	1	---	1,000	1,000	1	---	1,000	1,000	1	---
10-11	General Office (includes waiting room, reception area)	1	---	500	500	1	---	500	500	1	---	500	500	1	---
10-12	Principal's office and conference area	1	---	500	500	1	---	500	500	1	---	500	500	1	---
10-13	Director's Office	1	---	500	500	1	---	500	500	1	---	500	500	1	---
10-14	Director's Office	1	---	500	500	1	---	500	500	1	---	500	500	1	---
10-15	Program Office (1 is in main floor)	1	---	500	500	1	---	500	500	1	---	500	500	1	---
10-16	Program Office (1 is in main floor)	1	---	500	500	1	---	500	500	1	---	500	500	1	---
10-17	Program Office (1 is in main floor)	1	---	500	500	1	---	500	500	1	---	500	500	1	---
10-18	Program Office (1 is in main floor)	1	---	500	500	1	---	500	500	1	---	500	500	1	---
10-19	Program Office (1 is in main floor)	1	---	500	500	1	---	500	500	1	---	500	500	1	---
10-20	Program Office (1 is in main floor)	1	---	500	500	1	---	500	500	1	---	500	500	1	---
GROUP 11 - GYMNASIUM / STAFF LUNCH															
11-10	Staff Lunch in Gymnasium	1	---	500	500	1	---	500	500	1	---	500	500	1	---
11-11	Staff Lunch in Gymnasium - including 100 sq ft reception area (space for 100 sq ft)	1	---	500	500	1	---	500	500	1	---	500	500	1	---
GROUP 12 - KITCHEN															
12-10	Kitchen Complex (includes 1 is in main floor)	1	---	5,000	5,000	1	---	5,000	5,000	1	---	5,000	5,000	1	---
12-11	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-12	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-13	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-14	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-15	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-16	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-17	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-18	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-19	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-20	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-21	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-22	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-23	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-24	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-25	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-26	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-27	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-28	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-29	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-30	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-31	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-32	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-33	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
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12-91	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-92	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
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12-94	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---
12-95	Kitchen	1	---	500	500	1	---	500	500	1	---	500	500	1	---

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3

246 EUR 14,000

DRAFT PROGRAM OF REQUIREMENTS

12 of 14

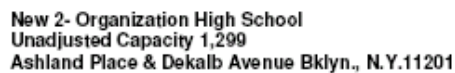
Requirement Applies to: ☒ **New Construction**

Major Modernizations

Capital Improvement Projects



General – Section 1.0

4 weeks. Rejected (2001)

1

2:16 PM 11/14/2004

14 of 14

Capital Improvement Projects



1.1 Contract Requirements

1.1.3 Report Format

1.1.3.3 Desk Review – New Buildings, Additions, Conversions of Existing Buildings

Instructions to Users:

The format of a *Desk Review* required by the Authority for New Buildings, Additions, Existing Building Conversions, and other initiatives is described herein. Unless the Authority otherwise provides specific instructions, the following format shall be followed. Please note that the various examples cited herein are not project-specific.

A Project Cost Estimate is **not** required for a *Desk Review*.

Format

The *Desk Review* shall be in the form of a memorandum.

Objective

The objective of a *Desk Review* is to assess, as quickly as possible, if a school facility may physically be provided at a subject site and identify issues and concerns that should be noted and given due consideration. The Executive Office, Capital Plan Management (CPM), Real Estate, or other division will submit a request for a site to be given a *Desk Review*.

The *Desk Review* shall be a narrative along with plans that illustrate site conditions and the ability to accommodate a school building per a given Program of Requirements (POR), enabling open discussion and providing direction for the development of a project. A *Desk Review* will be utilized in certain cases when time or site access is limited, preventing a more detailed investigation (Feasibility Study).

Issues of interest to the Authority include, but are not limited to, a site or building's ability to accommodate a proposed Program of Requirements, the building layout and organization (orientation and circulation), zoning, construction, existing physical characteristics of the proposed site and adjacent properties, condition of the building, and the impact of a project to adjacent properties and vice versa.

The completed memorandum shall be submitted to CPM or other initiating Department. A Committee meeting may or may not be set up to review the memorandum. If the initiating department deems the project viable, a *Feasibility Study* or *Test Fit* may be requested for a full review process. The memorandum may utilize:

- The criteria of the *Test Fit/Sketch Studies* from DR 1.1.3.2, edited down for key issues for an executive summary.
- Plans in CADD format provided by the Developers/Consultant Architects for review of developer projects, i.e. mixed use buildings.
- EDOCS (historical school plans) system to evaluate existing design, structural or mechanical conditions.
- The Program Tracking system (PTS) to reference past or current projects related to existing schools.



Design Requirements

General – Section 1.0

- The “OASIS” system for access to digital maps, zoning information, and other reference systems available.
- Satellite mapping such as, but not limited to, “Google” maps, “Google Earth”, “Bing” maps, or other images (e.g. drone photography).
- Etc.

In addition to identifying issues, providing a copy of the request for the “Desk Review” and a copy of the draft Program of Requirements, if issued, the Desk Review should include various attachments that provide additional insight into the subject Site/Project.

Example “Desk Review”: (See next page)



School Construction Authority

Architecture & Engineering

Design Requirements

General – Section 1.0



NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY ARCHITECTURE & ENGINEERING

Test Fit / Sketch Study

To : Nina Kubota – Vice President, Capital Planning
Through : Stan Dahir, RA – Sr. Director, Design and Construction Services
From : Allyson Mantello - Senior Construction Assessment Specialist
Requested Facility : New Construction – Replacement - Additional Capacity
Subject : Test Fit / Sketch Study
Site / Address : PS47 - Queens
9 Power Road
Queens, N.Y. 11693 [Block: 15313 / Lot(s): 485]
District : 27
Adjusted Capacity : 424 (without D75) LLW#: 000000
Date : September 25, 2019 Estimated Cost¹: Not Available

As requested, a "Test Fit / Sketch Study" was initiated to determine whether or not the subject School property that is approximately 46,000 square feet in area and presently improved with a 2-story school facility (PS47Q) without a cellar, and open play yard, could accommodate new construction, which would provide an additional Adjusted Capacity of 424.

Note: This Study was done without the benefit of a site visit.

This "Test Fit / Sketch Study" typically provides a Draft Educational Program of Requirements (POR), describes existing site characteristics, topography and geology, zoning, utilities, transportation, and traffic; as well as a design approach for a proposed school facility. Although the "Test Fit / Sketch Study" does not include either a "Phase I or II Environmental Site Assessment", a "Geotechnical Report", or a "State Environmental Quality Review (SEQRA) Assessment", it may include when available through a search of public records, amongst other things, boring logs, surveys, plans, and various other applicable public records.

Although various codes, rules and regulations may be noted herein, the principal objective of this Study is to assess what may physically be provided at the subject Site and identify issues and concerns that should be given due consideration so that an informed decision may be made by the Feasibility Committee as to whether or not a project should move forward, or if additional research and development is warranted prior to such a decision.

00:	L. Grillo	S. Lawlits	D. DeAngelis	G. Tung	G. Mandaro	K. Murphy	N. Kaminski	C. Columbo	J. Scallsi
	L. Guterman	E. Abneri	C. Liu	M. Gomez	G. Roussey	M. Mirisola	N. Hamoudeh	C. Panktatz	R. Sanft

¹ "Estimated Cost", if needed, will be provided upon request under separate cover to Capital Plan Management.



Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
9 Power Road, Queens, NY 11693

1. Overview of Issues and Concerns²

- Gross Floor Area, as per the Conceptual Plans provided herein: +/-80,700 GSF.
 - The Conceptual Plan area is greater than the programed area of 31,800 GSF due to the fact the building needs to be elevated out of a Flood Zone.
 - Additional vehicular traffic brought to this location by the proposed school may cause congestion and adversely affect the day to day activities on this street.
 - The existing school building is not SHPO Eligible (*USN Number: 08101.011851*)
 - The existing one and two story school, PS 47 Q, would need to be demolished in its entirety before the construction of the proposed new school facility.
 - The subject Site/Property is located within a (R3A) Residential Zoning District.
 - The site is in a Special Costal Risk District.
 - At this time, compliance with NYC Zoning Regulations for "Bulk" is not anticipated (E.G.: Yard Regulations and Building Height and Setback).
 - Ground water depth is approximately -2' as per 1989 borings.
 - The site is within an "AE Flood Zone"; Flood Elevation is at 9'.
 - The subject site is within a designated "Hurricane Evacuation Zone" (Zone-1).
 - The Site is within a designated "Flight Approach Path" of J.F.K. Airport.
 - Filing with the Federal Aviation Authority (FAA) would be required as the FAA requires notice of Construction or Alteration of structures per Title 14, Part 77, and Subpart B - Section 77.9.
 - "License Agreements" with adjacent Residential property owners may be required.
- Due to the height of the proposed school building and its proximity to adjacent structures the proposed school building may have an adverse impact on the existing chimneys³ of adjacent structures.
- As per the Conceptual Plans provided herein, the remaining outdoor area for the rest and recreation of the children would be +/-6% greater than targeted. (See Exhibit-3)
 - As per the Conceptual Plans provided herein, new construction is 4-Stories with no cellar⁴.
 - A State Pollutant Discharge Elimination System ("SPDES") Permit may be necessary because construction activities including clearing, grading, and excavating.

² If internet Hyperlinks (Web-Links) that are provided throughout this document do not work, copy the Hyperlink and paste into the dialogue box for "Google Chrome" Browser.

³ §28.2-2113.1.8.1 Responsibility of owner of taller building. Whenever a building is erected, enlarged, or increased in height so that any portion of such building, except chimneys or vents, extends higher than the top of any previously constructed chimneys or vents within 100 feet, the owner of such new or altered building shall have the responsibility of altering such chimneys or vents to make them conform with the requirements of this chapter.

⁴ NYC 2014 Building Code - BASEMENT. A story partly below the grade plane and having less than one-half its clear height (measured from finished floor to finished ceiling) below the grade plane (see definitions of "Story" in Section 28.2-202 and "Story above grade plane" in Section 28.2-502.1).



Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
9 Power Road, Queens, NY 11693

2. Volume and Type of Local Vehicular Traffic, and Traffic Patterns

The proposed Site is bounded by two (2) street front. The following is a general description of these streets, the type of vehicular traffic and observed traffic patterns:

- **Power Road:** This is a very narrow⁶ two-way street that appears to be lightly trafficked by private and public vehicles. This street would be challenging for the drop-off and pick-up of children during arrival and dismissal times due to the following:
 - Additional vehicular traffic brought to this location by the proposed school may cause congestion and adversely affect the day to day activities on this street.
- **Shad Creek Road:** This is a very narrow two-way street that appears to be lightly trafficked by private vehicles. This street would be challenging for the drop-off and pick-up of children during arrival and dismissal times due to the following:
 - Additional vehicular traffic brought to this location by the proposed school may cause congestion and adversely affect the day to day activities on this street.

The aforementioned existing traffic and additional traffic brought-on by school buses⁷ as well as cars and vans used by parents to drop-off and pick-up their children; and the existing traffic patterns in the immediate vicinity of the subject Site may present an undesirable and possibly hazardous condition to young school age children who typically lack the experience and sophistication to deal with complex traffic patterns. Hence, a "Traffic Study" is recommended.⁷

⁶ Streets whose width are 75-feet or greater are wide streets; and streets whose width is less than 75-feet are narrow streets. (Street widths are measured from property/street line to property/street line. The actual roadbed (curb to curb) is the remaining street width after sidewalk depths are deducted from the "street width".)

⁸ Although, as indicated above, the adjacent streets are conducive to the drop-off and pick-up of children, the DTS component of the given ROR may bring additional school buses to the local streets that would take a significant amount of time to pick-up and discharge the children and further hamper existing traffic patterns.

⁷ NYC Health Code - §45.11 Physical Facilities: (a) School or children's institution shall not be conducted in a factory, mercantile or business building, unless the premises are approved by the Department. Such approval shall not be granted unless the premises and the area surrounding the premises are free from fire, traffic or other safety hazards.



Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
9 Power Road, Queens N.Y. 11420

3. Site and Site Adjacencies (Local Environs)

The subject property is approximately 46,000 s.f. in area and is located in the neighborhood known as "Broad Channel", the Queens.

The Site is presently improved with a 2-story school facility (PS47Q) and open play area.



Site Location Map
<http://plis.nyc.gov/taxmap/map.htm>

- **Residential Properties - North Property Line:** This property line is approximately 175-feet in length with seven (7) adjacent residential properties: Lot(s) #3, #4, # 5, #6, #7, #8, & #9.
 - Signal family homes several feet from property line.
 - Several properties have sheds and or garages close or on the property line
 - This property is separated from the subject site/property by a 6-foot high chain link fence.
- **Power Street - East Property/Street Line:** This property/street line provides +/- 130-feet of street frontage.
 - Narrow sidewalks with no trees.
 - Overhead utilities.
 - No street curbs on the opposite side of Power Road.
 - The street is encumbered by a future *NYC/DOT Street Widening* approximately 12' wide.
 - This street is predominantly comprised residential structures.
- **Residential Properties - South Property Line:** This property/street line provides approximately 350-feet with fourteen (14) adjacent residential properties: See tax map for individual Lot numbers.
 - Signal family homes several feet from property line.
 - Several properties have sheds and or garages close or on the property line
 - This property is separated from the subject site/property by a home owner fences of varying heights.
- **Shad Creek Road - West Property/Street Line:** This property/street line is +/- 325-feet in length of street frontage.
 - Narrow sidewalks and no street trees along the majority of the street length and a portion of wider sidewalk at the north end of the street.
 - No overhead utilities.
 - A retaining wall and 6 foot iron fence are set back several feet from the street line to provide a narrow side walk.
 - This street is predominantly comprised residential structures and water's edge (Jamaica Bay).

4 of 30



Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
9 Power Road, Queens N.Y. 11420

4. NYC Zoning Regulations⁸

The subject Site/Property is located within a (R3A)⁹ Residential Zoning District and a Special Costal Risk District.

A "Zoning Analysis" should be performed to determine if any proposed new construction would require "Zoning Waivers" for non-compliance with existing NYC Zoning Regulations for "Bulk". It is anticipated that zoning waivers will be required for Yard Regulations and Building Height and Setback.

Schools¹⁰ are permitted as-of-right in both of the aforementioned "Zoning Districts" and a "Zoning Waiver" would not be required for "Use".

The subject Site/Property is composed one (1) NYC Tax Lot (Lots #485) is approximately 46,000 square feet in area.



NYC Zoning Map – 24d
<http://www.oasisnyc.net/map.aspx>

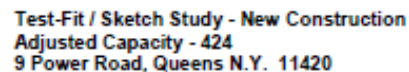


NYC Tax Map
<http://tax.nyc.gov/taxmap/map.htm>

- ⁸ The following analysis is not an analysis of compliance with all relevant NYC Zoning Regulations. The actual type and need for "Zoning Waivers" would be determined by the proposed project's final design.
- ⁹ ZR21-16 – R3-2, R4, R4B, R5, R6, R7, R8, R9 and R10 - General Residence Districts: These districts are designed to provide for all types of residential buildings, in order to permit a broad range of housing types, with appropriate standards for each district on density, open space, and spacing of buildings. However, R4B Districts are limited to single- or two-family dwellings, and zero lot line buildings are not permitted in R3-2, R4 (except R4-1 and R4B), and R5 (except R5B) Districts. The various districts are mapped in relation to a desirable future residential density pattern, with emphasis on accessibility to transportation facilities and to various community facilities, and upon the character of existing development. These districts also include community facilities and open uses which serve the residents of these districts or benefit from a residential environment.
- ¹⁰ NYC Zoning Regulations – Appendix A: "Schools (Use Group – 3) are not permitted, as-of-right, within a C-8 Commercial District or any Manufacturing District. Hence a "Zoning Waiver" would be necessary for a school to be in such Districts.



General – Section 1.0



Tax Lot Subdivision and/or Merger http://gis.nyc.gov/taxmap/map.htm	No
(The Site is (1) tax lot that needs to be subdivided, or more than one (1) tax lot that would need to be merged)	
City Environmental Quality (CEQR) http://www1.nyc.gov/site/planning/zoning/access-text.page	No
(The Site is encumbered by environmental conditions - NYC Zoning Regulations Appendix 4D)	
Environmental Restrictive Declarations http://www1.nyc.gov/site/planning/zoning/access-text.page	No
(The Site is subject to an environmental review - NYC Zoning Regulations Appendix 4D)	
Adverse Possession http://www.lawschoolcasebriefs.net/2016/03/walling-v-grzybylo-case-brief-new-york.html	TBD
(A portion(s) of the Site is openly used by others for their benefit)	
Easements and Restrictive Declarations (right-of-ways, utilities, etc.) https://a036-acris.nyc.gov/DS/DocumentSearch/BBL	TBD
(The Site is encumbered by easements for access by other private or public entities)	
NYC Parks Department (Parks).....	No
(The Site is a "NYC Public Park" or a "Jointly Operated Playground")	
NYC Parks Department (Landmarks) http://www1.nyc.gov/site/lpc/designations/maps.page and https://cris.parks.ny.gov/	No
(The Building or Site has landmark status)	
NYC Parks Department (SHPO) http://pts.nycsca.org/pts/#/Project%20Search/MainSearch and https://cris.parks.ny.gov/	No
(The Building or Site is SHPO Eligible)	
NYC Department of Buildings (Technical Notice #10/88) https://www1.nyc.gov/assets/buildings/downloads/pdf/1088.pdf	No
(Historic Structure or Place is contiguous to or within 90-feet of a lot under development or alteration)	
MTA Structures (subway, elevated rail line, open rail cut, etc.).....	No
(The Site is within 200-feet of an "MTA Structure")	
NYC Department of Transportation http://gis.nyc.gov/taxmap/map.htm	YES
(The Site is encumbered by a future NYC/DOT street widening)	
NYC Department of Transportation http://www.nyc.gov/html/ocd/downloads/pdf/2015-06-05-truck-map-combined.pdf	No
(The Site is located on a NYC designated Truck Route)	
NYC Arterial Highways https://www1.nyc.gov/assets/planning/download/pdf/zoning/zoning-text/appendixh.pdf	No
(The Site is located on a NYC designated Arterial Highway - NYC Zoning Regulations Appendix 4H)	
NYC Local Law 31 / 2016 https://legistar.council.nyc.gov/legislationDetail.aspx?ID=2240452&GUID=0A9A546C-E3D9-4057-AFAC-4200A033F8F8&Options=ID%7cText%7c&Search=Net-Zero	TBD
(The proposed school building would be 3-stories or less and a "net zero energy building" may be feasible)	

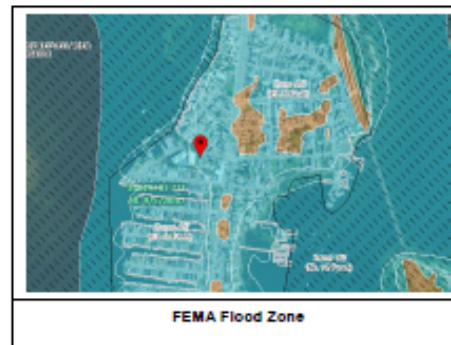
¹⁹ Local Law 31 of 2016 - The term "net zero energy building" means a building that has been designed and constructed to produce energy on-site from renewable energy sources in an amount equal to or greater than such building's total energy needs...Capital Projects with an estimated height of no more than 3-stories above grade shall consider the feasibility of designing and constructing such project as a net zero energy building...Local law 31 only applies to Capital Projects which are added to the Capital Plan on or after July 1, 2017.



Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
9 Power Road, Queens N.Y. 11420

Table – 1 / Other Land and Use Regulations or Property Encumbrances (continued)

NYC Local Law 6 / 2016 https://www1.nyc.gov/assets/ddc/geothermal/index.html	Geothermal ²⁰	TBD
(A "Geothermal System" may be both feasible and cost effective for the subject Site)		
State Pollutant Discharge Elimination System (SPDES) https://www.law.cornell.edu/section/90/122.26	²¹	TBD
(Storm wastewater discharges into surface waters or ground waters of the state - not connected to NYC Sewer System)		
Wetlands http://www.dec.ny.gov/nis/decn/	²²	No
(The Site is within a designated "Wetland")		
Flood Zone (FEMA) http://www.region2coastal.com/view-flood-maps-data/what-is-my-address-lookup-tool/	²³	YES
(The Site is within a designated "Flood Zone" - Type "AE" EL 9 Feet)		
Groundwater https://my.water.usgs.gov/maps/tl-dtw10/ (Maps Not Available for Manhattan, Bronx, and Staten Island).....	²⁴	TBD
(The development of the Site may be affected by high ground water - Groundwater indicated to be 4.5'x below grade)		
NYC Hurricane Evacuation Zone http://maps.nyc.gov/hurricane/	²⁵	YES
(The Site is within a designated "Hurricane Evacuation Zone" - Zone-1)		
Topographic Maps http://en-us.topographic-map.com/		Info
(To determine approximate grade elevation use this tool...info only.)		



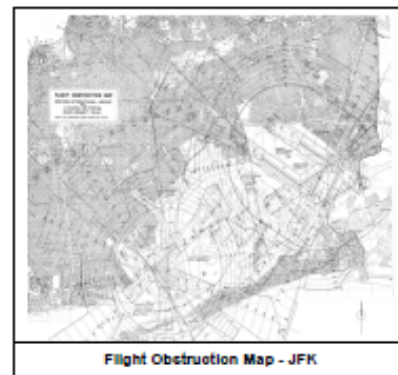
- ²⁰ Local Law 6 / 2016 - Where the use of NYC Department of Design and Construction's (DDC's) "Geothermal/ Pre-feasibility Tool" indicates that the installation of a geothermal system may be cost-effective, an engineering and multi-criteria analysis of the use of a geothermal system, including, where appropriate, an analysis of the option of utilizing a photovoltaic system coupled with a geothermal system, shall be conducted.
- ²¹ 60 CFR 122.28(b)(15)(i): Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than 1- acre and less than 5-acres. Small construction activity also includes the disturbance of less than 1-acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than 1 and less than 5-acres.
- ²² The "check zone" is an area around the mapped wetland in which the actual wetland may occur. Projects that may encroach into this area, you should check with your regional DEC office to make sure where the actual wetland boundary is. If necessary, they may have a biologist come out and perform a field delineation for you to help you avoid impacts in the wetland or the regulated 100-foot buffer zone.
- ²³ **FEMA Flood Zones (Zone VIVE):** An area of high flood risk subject to inundation by the 1% annual-chance flood event with additional hazards due to storm-induced velocity wave action (a 3-foot or higher breaking wave). (Zone A/AE): An area of high flood risk subject to inundation by the 1% annual-chance flood event. (Zone AO): An area of high flood risk subject to inundation by 1% annual-chance shallow flooding where average depths are between one and three feet. (Shaded Zone X): Areas of moderate flood risk within the 0.2% annual chance floodplain; or areas of 1% annual chance flooding where average depths are less than 1 foot, where the drainage area is less than 1 square mile, or areas protected from this flood level by a levee. (Unshaded Zone X): Areas of low flood risk outside the 1%- and 0.2%-annual chance floodplains. (Zone D): Areas where flood hazards are undetermined but flooding is possible.
- ²⁴ U.S. Geological Survey (USGS) Maps presently only provides approximate depths of groundwater for the Boroughs of Brooklyn and Queens.
- ²⁵ NYC Hurricane Zones: **Zone-1 (Most Likely to Evacuate)**..... (Least likely to Evacuate) **Zone-5**



Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
9 Power Road, Queens N.Y. 11420

Table – 1 / Other Land and Use Regulations or Property Encumbrances (continued)

Industrial Business Zone https://www.nyc.gov/industry/industrial/nyc-industrial-business-zones	26	No
(The Site is within a designated "Industrial Business Zone")		
Fed. Aviation Admin. https://www.faa.gov/looseningexternal/aisTools/aisAction.jsp?action=showNoNoticeRequiredToolForm	27	YES
(FAA requires notice of Construction or Alteration of structures per Title 14, Part 77, Subpart B - Section 77.9)		
NYC Zoning Special Regulations (Airports) https://www1.nyc.gov/assets/buildings/bldgs_bulletins/bb_2009-006.pdf	28	YES
(The Site is within a designated "Flight Approach Path" of a Major Airport)		



NYS Liquor Authority [See Exhibit - 1].....	29	No
(The proposed school entrance is within 200-feet of an establishment that sells or serves alcohol)		
Adult Establishments [See Exhibit - 2].....	30	No
(The Site is within 500-feet of an adult establishment)		

²⁶ "NYC Economic Development Corporation" (EDC): In early 2006, the City created 16 Industrial Business Zones across the City where expanded business services are available for industrial and manufacturing businesses. This designation fosters high-performing business districts by creating competitive advantages over locating in areas outside of NYC. The IBZs are supported by tax credits for relocating within them, zone-specific planning efforts, and direct business assistance from Industrial Providers of NYC Business Solutions Industrial and Transportation. In light of the purpose of IBZs to foster industrial sector growth by creating real estate certainty, the previous administration stated that it would not support the rezoning of these areas for residential use.

²⁷ Filing with the Federal Aviation Administration (FAA) should be made as soon as practical by the AEOR on behalf of the SCA.

²⁸ NYC Zoning Article VI, Chapter I - Special Regulations Applying Around Major Airports; and noise may be an additional factor <https://webtrak.emshk.com/canynid>

²⁹ NYS Liquor Authority / 200-foot Rule: The statute refers to schools on the same street as the licensed premises. The buildings do not have to be on the same block. With respect to an establishment or school place of worship on a corner lot, the building is considered to be on both streets, whether or not there is an entrance to the building on both streets. (Existing establishments are grandfathered).

While the law ("NYS Liquor Authority / 200-foot Rule") uses the phrase "building used exclusively" as a school, the courts have adopted a test that looks to whether the building is used primarily as a school. The court determined that a building will still be considered a school as long as any use is incidental to, and is not inconsistent with or detracting from the predominant character of the building as a school. Hence, since the proposed "Mixed-use" building would not be exclusively used as a school, establishments that serve and/or sell alcohol, within 200-feet of the school, would not be prohibited. (Note: The "NYSLA" presumes establishments are permitted within a "mixed-use" building. [See Exhibit - 1])

³⁰ Rules of the City of New York: Under 1 RCNY § 9000-1, the Department clarifies criteria for determining the dates of establishment and discontinuance for adult establishments, houses of worship and schools. New adult establishments are not permitted within a 500-foot radius of established adult establishments, houses of worship and schools.

Adult establishments that obtained a new building or alteration permit between 08/08/2001 and 07/09/2010 that has not obtained a Temporary Certificate of Occupancy (TCO), or if applicable a Department sign-off, by July 10, 2011 or started operating within six months of TCO or sign-off, will lose the priority to operate as an adult establishment if a new adult establishment, house of worship or school obtains a permit to be located within a 500-foot radius of the adult establishment. Note: Houses of worship, schools and adult establishments in existence and operating prior to Aug. 8, 2001 that have not discontinued operation for a continuous period of one year or longer are considered established.



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5. Design / Functionality / Other Issues and Concerns

In addition to the aforementioned issues and/or concerns, the following pertain to design and functionality:

- The available area for outdoor play³¹, for rest and recreation by the children, would be as follows:

Target as per the Draft POR	=	12,720	=	(424 * 30sf/pupil)
Conceptual Outdoor Play Area	=	13,550	=	(@ grade)
Difference	=	830sf	/	12,720 sf = +/- 6% Greater than targeted

Note: Existing legislation [See Exhibit - 3], which continues to address required open-air playgrounds for NYC Schools was amended to address the loss of existing outdoor area at existing school facilities. Hence, it is important that suitable and adequate outdoor area always be provided to accommodate the physical and recreational needs of the children for existing and new schools. (Except for Parks that are jointly operated (JOP) between the NYC Parks Department and the Board of Education, existing Public Parks do not typically lend themselves to school use³².)

- Due to the height of the proposed school building and its proximity to adjacent structures; shoring, underpinning and overhead protection of adjacent structures may be required, and the proposed school building may have an adverse impact on the existing chimneys of adjacent structures.
- During what is deemed a conceptual design phase, the area needed for structural systems and mechanical systems (ducts, pipes, closets, etc...) are not typically accounted for at this level of design and due to the limited site area and constrained dimensions they may have an adverse impact on the final design and the POR when these systems are accounted for in the actual design and development of the subject school.
- ~~District 75 Citywide Education³³ often requests to have the flexibility of a secondary school entrance to facilitate their unique needs of the D75 children as they arrive and depart a school.~~
- ~~Noise Pollution: "Aircraft noise disturbs the normal activities of airport neighbors—their conversation, sleep, and relaxation—and degrades their quality of life. Depending on the use of land contiguous to an airport, noise may also affect education, health services, and other public activities."³⁴~~

³¹ Outdoor Space: "NYC Health Department and NYS Law" requires a school to have outdoor area for rest and recreation - New York City Rules & Regulations - Title 24 - Health Code, Sections §45.11(h) and §49.13; and NY CLS Educ. 2556(5).

o When available, open space at grade, is typically utilized for the gathering of children during arrival times and for the organized dismissal of the children at the end of each school day.

o "Research confirms the importance of physical education for health, learning, and social development. In New York City, physical education and sports have also played an integral part in the fabric of civic life and public schools. For countless children, immigrants and native-born, schoolyards and playing fields have provided the forum for friendships made and opportunity forged, the level playing field on which children from disparate backgrounds have met and tested themselves without advantage or benefit accorded privilege." - "Hit or Miss-Fitness & Sports Opportunities in the New York City Public Schools (New York, Educational Frameworks Inc., 2000)".

³² Rules and Regulations of the NYC Parks Department, §1-06 Regulated Uses, paragraph c.; Areas within the parks designated by the Commissioner for exclusive use shall include: 1. Exclusive Children Playgrounds: Adults allowed in playground areas only when accompanied by a child under the age of twelve (12).

When children are brought off a school property there are liability risks regarding the children permission is required from parents/legal guardians.

³³ District 75 provides citywide educational, vocational, and behavior support programs for students who are on the autism spectrum, have significant cognitive delays, are severely emotionally challenged, sensory impaired and/or multiply disabled.
[Source: <http://schools.nyc.gov/Academics/SpecialEducation/D75/Needs/IdentifyingAppropriateLearningEnvironments.htm>]

³⁴ LaGuardia Airport: Can the Airport & Community Coexist, By Congressman Joseph Crowley, page 14 <http://www.us-caw.org/pdf/LaGuardia.pdf> and <https://webtrai.com/learn/>



Test-Fit / Sketch Study - New Construction
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6. Conceptual Plans and Draft Program of Requirements:

Through an expedited singular design approach the following conceptual plans [*Test Fit / Sketch Study*] attempt to accommodate a given Program of Requirements (POR) in the most straight forward viable approach possible while keeping in mind, amongst other things, functionality, layout, circulation, impact to local environs, impact to existing site conditions, impact to existing buildings, costs, codes, zoning, phasing and constructability issues.

The goal of the following conceptual plans is to successfully address all issues and concerns that can be resolved through design, and if not, at a minimum, expose those issues and concerns that may present significant challenges for both the design and construction of a proposed project.

In the end, it is hoped that if a project is assigned to a Design Team that the following conceptual plans [*Test Fit / Sketch Study*] assists that Design Team in their efforts to develop and provide a design that best addresses the multiple complex and sometimes competing and/or contradictory needs of a project.



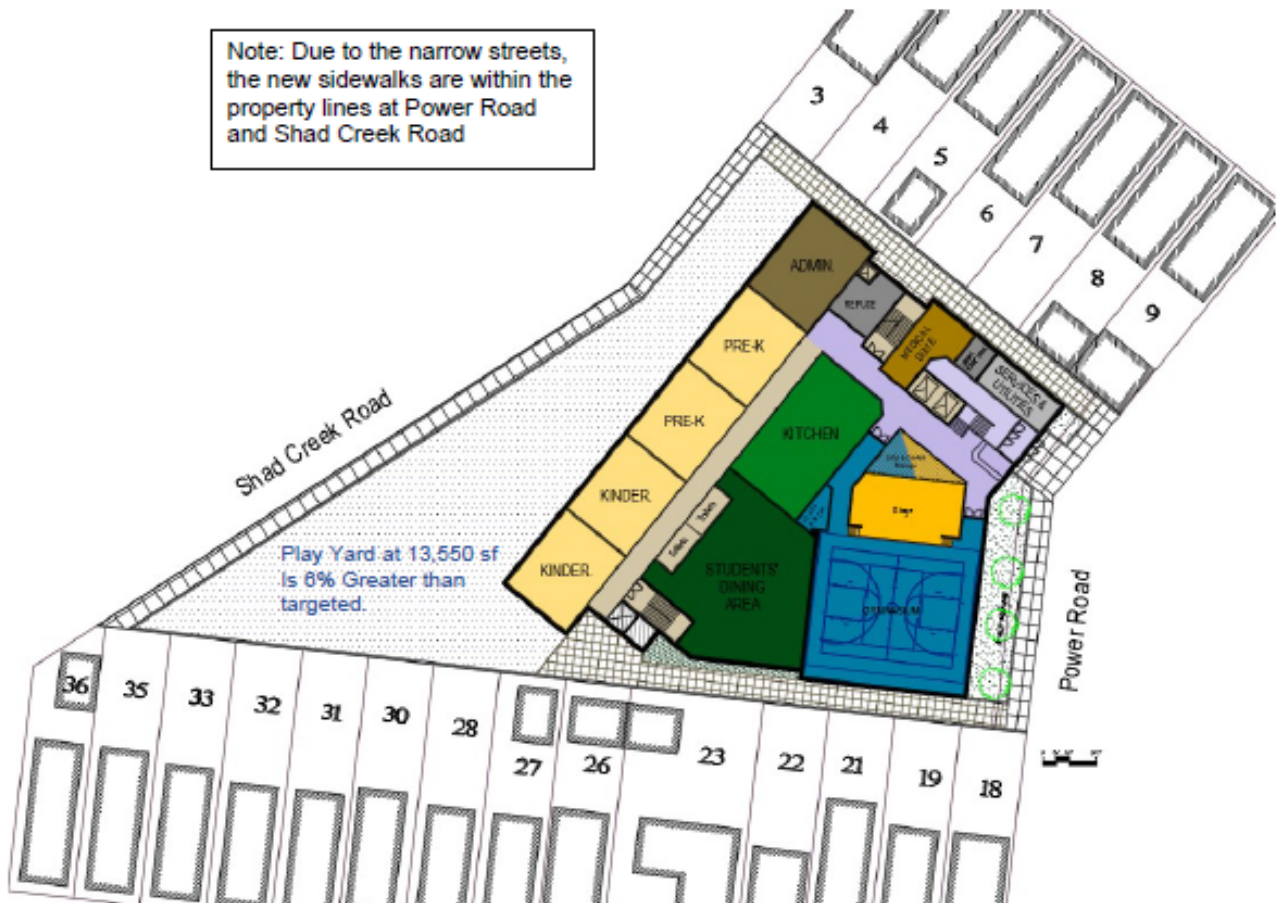
PS 47 Q

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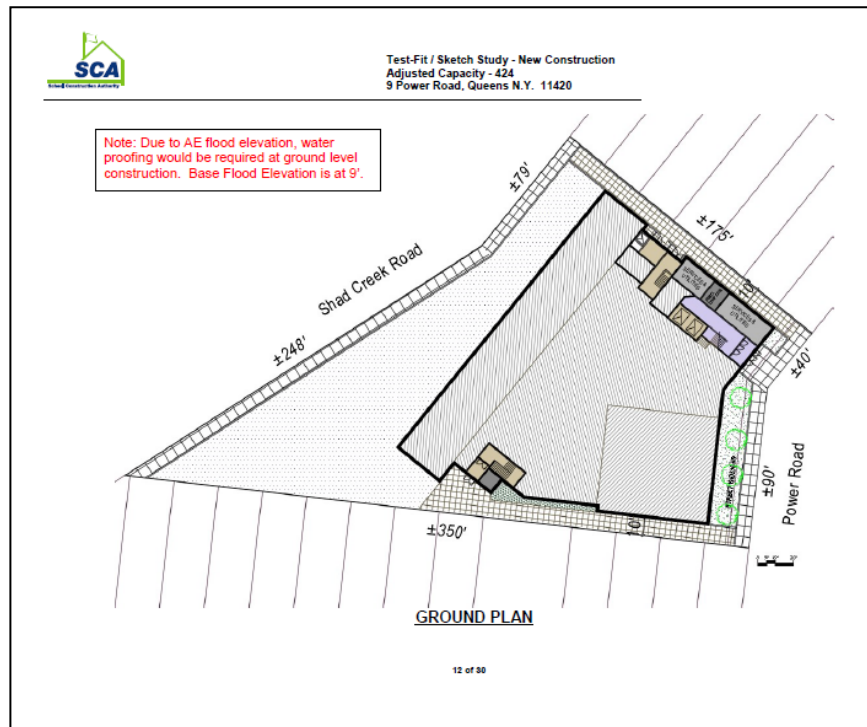
Test-Fit / Sketch Study - New Construction
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Note: Due to the narrow streets,
the new sidewalks are within
the property lines at Power Road
and Shad Creek Road



FIRST FLOOR/ SITE PLAN

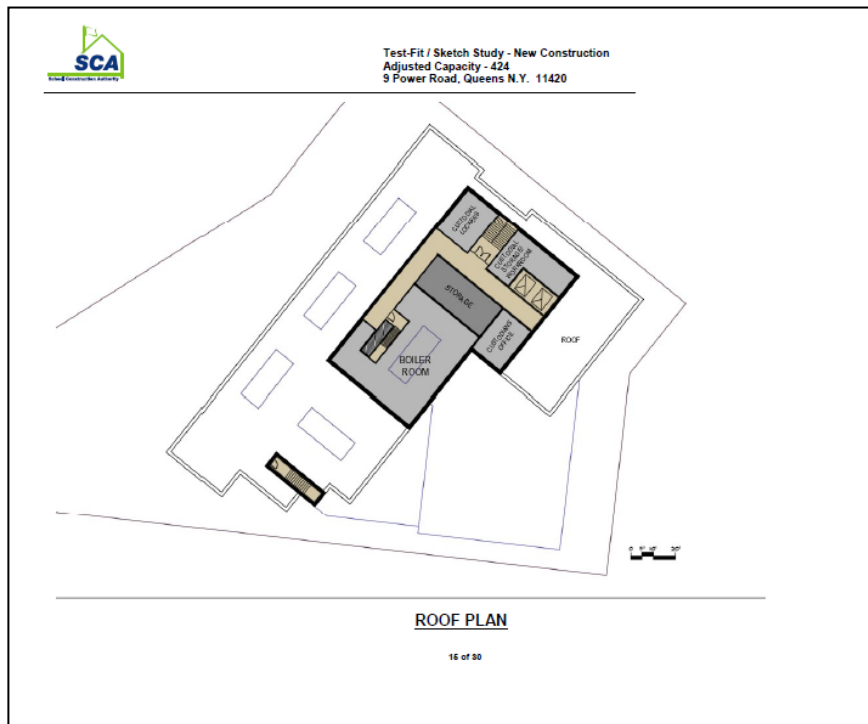
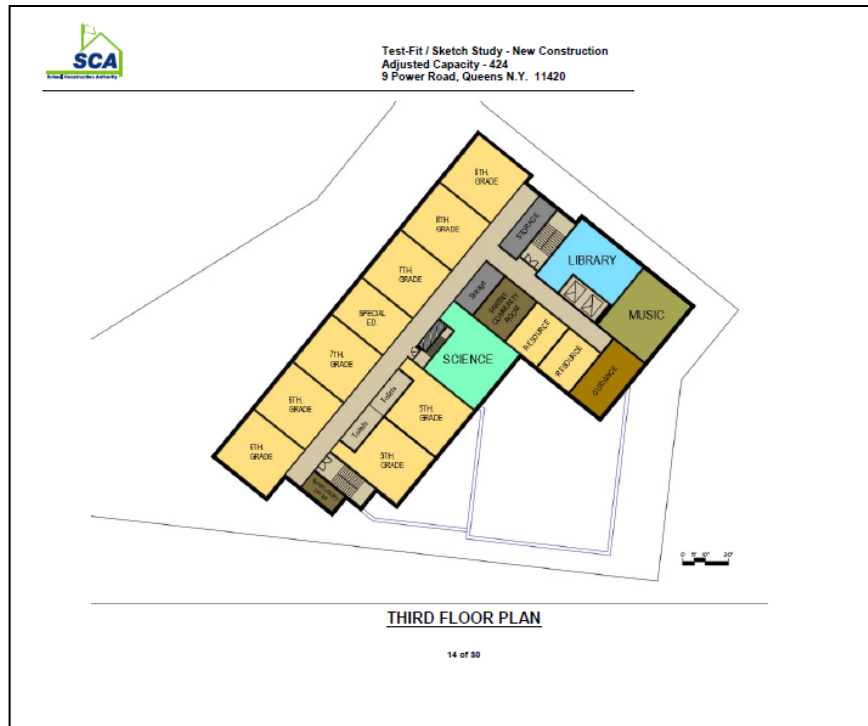
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Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects





Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
9 Power Road, Queens N.Y. 11420

Replacement for PS 47
Program of Requirements

PS 424

DETAILED PROGRAM OF REQUIREMENTS

ROOM LAYOUT	MODIFIER	NO. OF UNITS	CAPACITY PER UNIT	TOTAL	UNIT AREA SQ FT	TOTAL NET AREA
<u>GROUP 1- INSTRUCTION</u>						
	Pre-Kindergarten	2	18	36	1,000	2,000
1-11	Kindergarten (w/ toilet) (g) 100 ft. x 10 ft (gross)	2	20	40	1,000	2,000
1-35	Typical Classrooms - Grade 1-2	2	20	40	750	1,500
1-14	Typical Classrooms - Grade 3	2	20	40	750	1,500
1-15	Typical Classrooms - Grade 4-5	4	28	112	750	3,000
	Typical Classrooms - Grade 6-8	0	28	168	750	4,500
1-30	OSD Special Education Classrooms - must be min 500 SF.	2	12	24	500	1,000
1-31	Reading Resource Room	1	---	---	375	375
1-32	Speech Resource Room	1	---	---	375	375
<u>GROUP 2- SPECIALIZED INSTRUCTION</u>						
2-25	Art Classroom with storage	1	28	28	1,250	1,250
2-30m	Music CR with instrument storage	1	28	28	750	750
<u>GROUP 3- SCIENCE</u>						
	Science Demo Lab	1	28	28	875	875
<u>GROUP 4- PHYSICAL EDUCATION</u>						
PLAYGROUND: 3,000 of ECC Playground separate from larger yard; Hard-surface General Playground (g) 30' x 30' if student if possible (exclude Pre-K & K count)						

File name: POR for Q047 Replacement

1

Printed on: 6/25/2019

DRAFT PROGRAM OF REQUIREMENTS

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Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
9 Power Road, Queens N.Y. 11420

Replacement for PS 47
Program of Requirements

PS 424

DETAILED PROGRAM OF REQUIREMENTS

ROOM LAYOUT	ROOM TYPE	NO. OF UNITS	CAPACITY PER UNIT	TOTAL	UNIT AREA (sq)	TOTAL NET AREA
<u>GROUP 5 - PHYSICAL EDUCATION/ASSEMBLY</u>						
4-55	Health Instructor's Office (adj. to gymnasium)	1	---	---	150	150
4-60	Gymnasium	1	---	---	---	4,400
	Play/seating area	1	---	---	3,000	---
	Platform	1	---	---	500	---
	Orchestra Area	1	---	---	---	---
	Chair storage	1	---	---	125	125
4-53	Gym eqpt storage room	1	---	---	150	150
	Exercise Room	1	---	---	1,250	1,250
<u>GROUP 6 - LIBRARY</u>						
6-15	Library	1	---	---	545	545
<u>GROUP 7 - LOBBY</u>						
7-10	Lobby with 2 elevators	1	---	---	750	750
<u>GROUP 8 - STUDENT SUPPORT</u>						
8-10	Guidance/SSST Suite	1	---	---	---	500
8-10.1	Guidance Office	1	---	---	100	---
8-10.1	SSST Office	1	---	---	100	---
8-10.2	Interview/Conference Room	1	---	---	150	---
8-10.3	Store Room	1	---	---	50	---
8-10.4	Waiting Room	1	---	---	100	---
8-51	Medical Suite	1	---	---	---	500
	Medical Suite Toilet (for students)	1	---	---	50	---
	Nurse's Office	1	---	---	100	---
	resting area	1	---	---	50	---
	Examination Room	1	---	---	100	---
	Waiting area	1	---	---	75	---
<u>GROUP 9 - STORAGE</u>						
9-10m	Educational storage closet- books etc	1 per floor	---	---	80	200
	General Storage	1	---	---	750	750
9-10	Grounds Equipment Storeroom	1	---	---	125	125
9-24	Refuse and Recycling room (w/ floor drain and heat vent (can 1st floor if possible)	1	---	---	400	400
	Boycycle storage	1	---	---	120	120
	Shared unisex toilet w/ shower and lockers for Bike users	1	---	---	130	130

File name: POR for Q047 Replacement

2

Printed on: 9/25/2019

DRAFT PROGRAM OF REQUIREMENTS

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Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
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Replacement for PS 47
Program of Requirements

PS 424

DETAILED PROGRAM OF REQUIREMENTS

ROOM LAYOUT	ROOM TYPE	NO. OF UNITS	CAPACITY PER UNIT	TOTAL	UNIT AREA (sq ft)	TOTAL NET AREA
<u>GROUP 10 - ADMINISTRATION</u>						
	Administration Suite	1	---	---	---	1,020
10-10	General Office/Waiting Room mail and time duplicating	1	---	---	500	---
10-15	Principal's Office / Conference	1	---	---	375	---
10-14	Records Room	1	---	---	150	---
10-24	Teachers' & Aides' Work Rm/Lounge (w/ lockers & toilet)	1	---	---	800	800
10-25	Parents / Community Room	1	---	---	375	375
<u>GROUP 11 - CAFETERIA/STAFF LUNCH</u>						
11-10	Students' Dining Area (100% Capacity / 5'15 aft)	1	141	---	2,120	2,120
11-11	Staff Lunch / Conference Room	1	---	---	500	500
<u>GROUP 12 - CUSTODIAL</u>						
12-23	Custodial Locker Rm	2	---	---	150	300
12-11	Custodian's Office	1	---	---	200	200
12-14.16	Custodian's Storage/workshop (include hydraulic lift)	1	---	---	500	500
12-17	Janitor's Sink Closet	---	---	---	(1 per floor)	---
12-25	Telecommunications Room	1	---	---	300	300
12-26	Telecommunications Switch Closet (w/ floor to tel. room)	2	---	---	100	200
<u>GROUP K - KITCHEN</u>						
K1	Kitchen Complex (refer to K1 for gross area)	1	---	---	1,500	1,500
K2	Kitchen - with two serving lines	---	---	---	---	---
K3	Director's Office	---	---	---	---	---
K4	Help Locker Room - M/F	2	---	---	---	---
	Food Storage (5% may be remote from kitchen)	2	---	---	---	---
TOTAL PROGRAMMED AREA (62% Gross)						35,140
TOTAL CORE AREA (38% Gross)						21,937
TOTAL GROSS AREA (100%)						56,877
TOTAL ADJUSTED CAPACITY:						424

File name: POR for Q047 Replacement

3

Printed on 8/25/2018

DRAFT PROGRAM OF REQUIREMENTS

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Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
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7. Photographs³⁶, Exhibits and Other Attachments

The Photographs, Plans and other attachments that follow are provided to illustrate the above noted issues and concerns, to provide a basis for open discussion, and direction for the possible development of a project. Please note that neither the Program of Requirements nor the Design Scheme provided herein is final.



View of South Property Line from Power Road



View looking North on Power Road

STREET VIEWS

³⁶ Photographs provided herein are not comprehensive of all site conditions, additional views of the subject site and its surrounding can be viewed through "Google Earth".



Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
9 Power Road, Queens N.Y. 11420



View looking South on Power Road



View looking North Property Line on Power Road

STREET VIEWS

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Test-Fit / Sketch Study - New Construction
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View looking North Property Line on Shad Creek Road



Looking at South on Shad Creek Road

STREET VIEWS

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Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
9 Power Road, Queens N.Y. 11420



View looking North on Shad Creek Road



SITE VIEWS

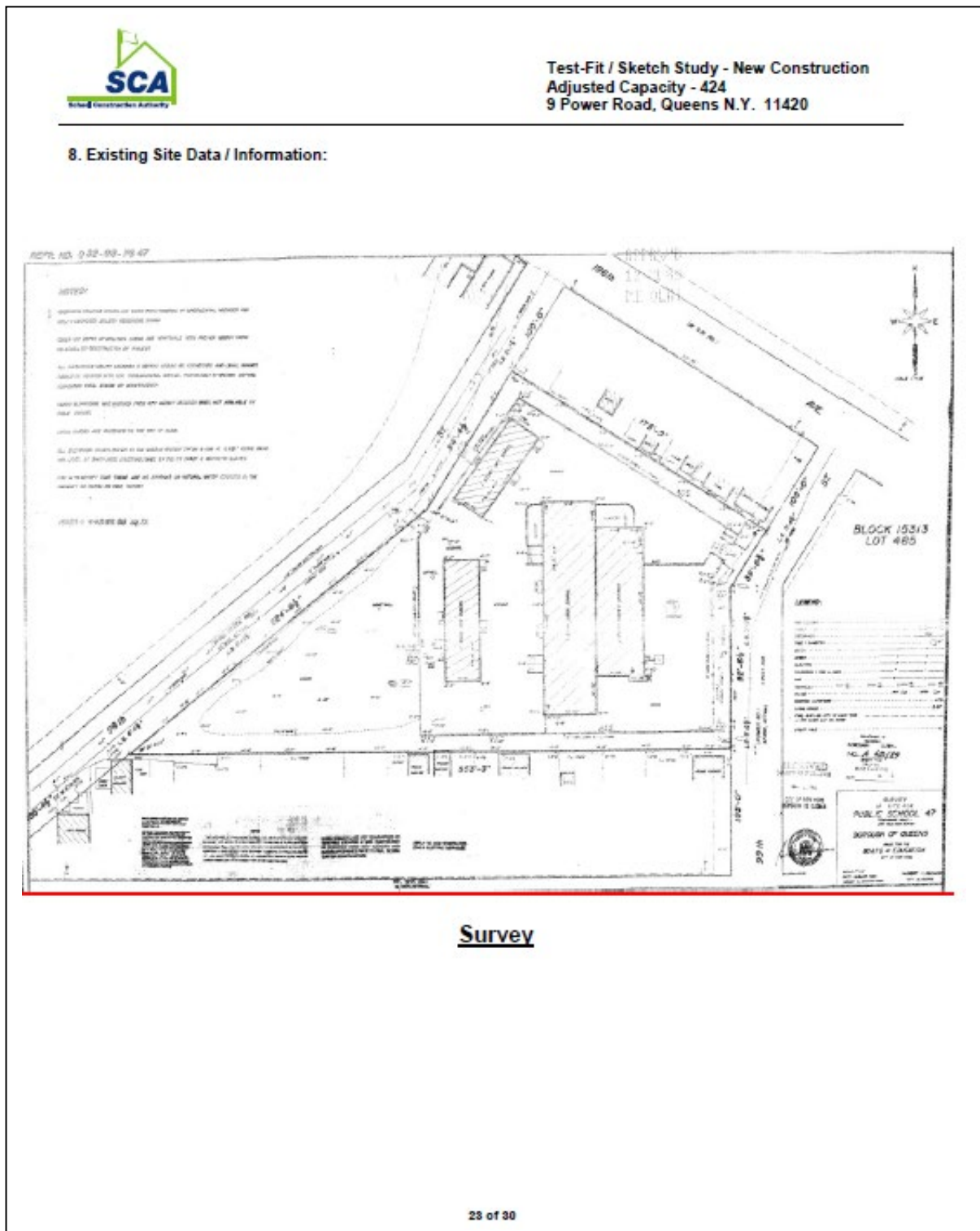
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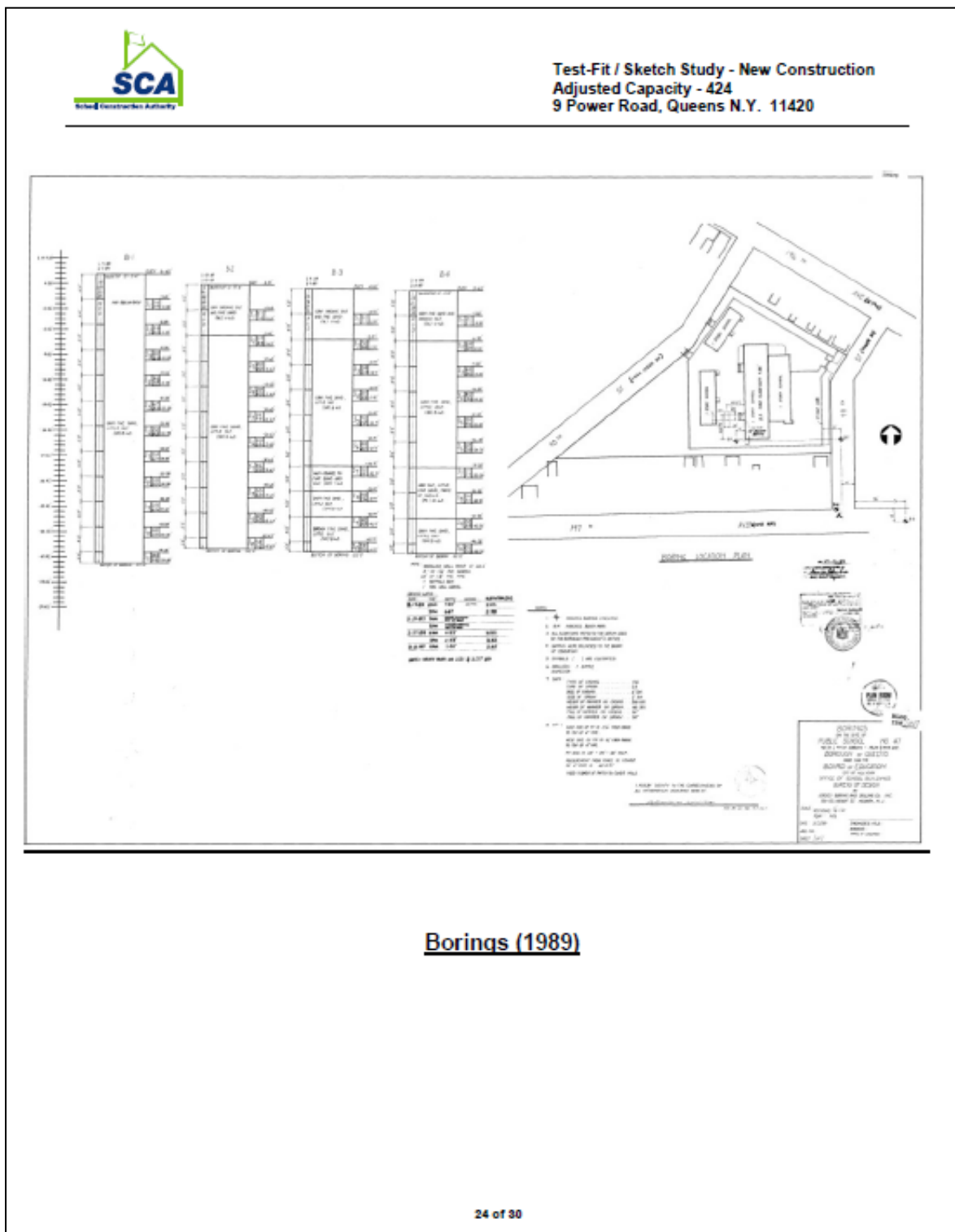
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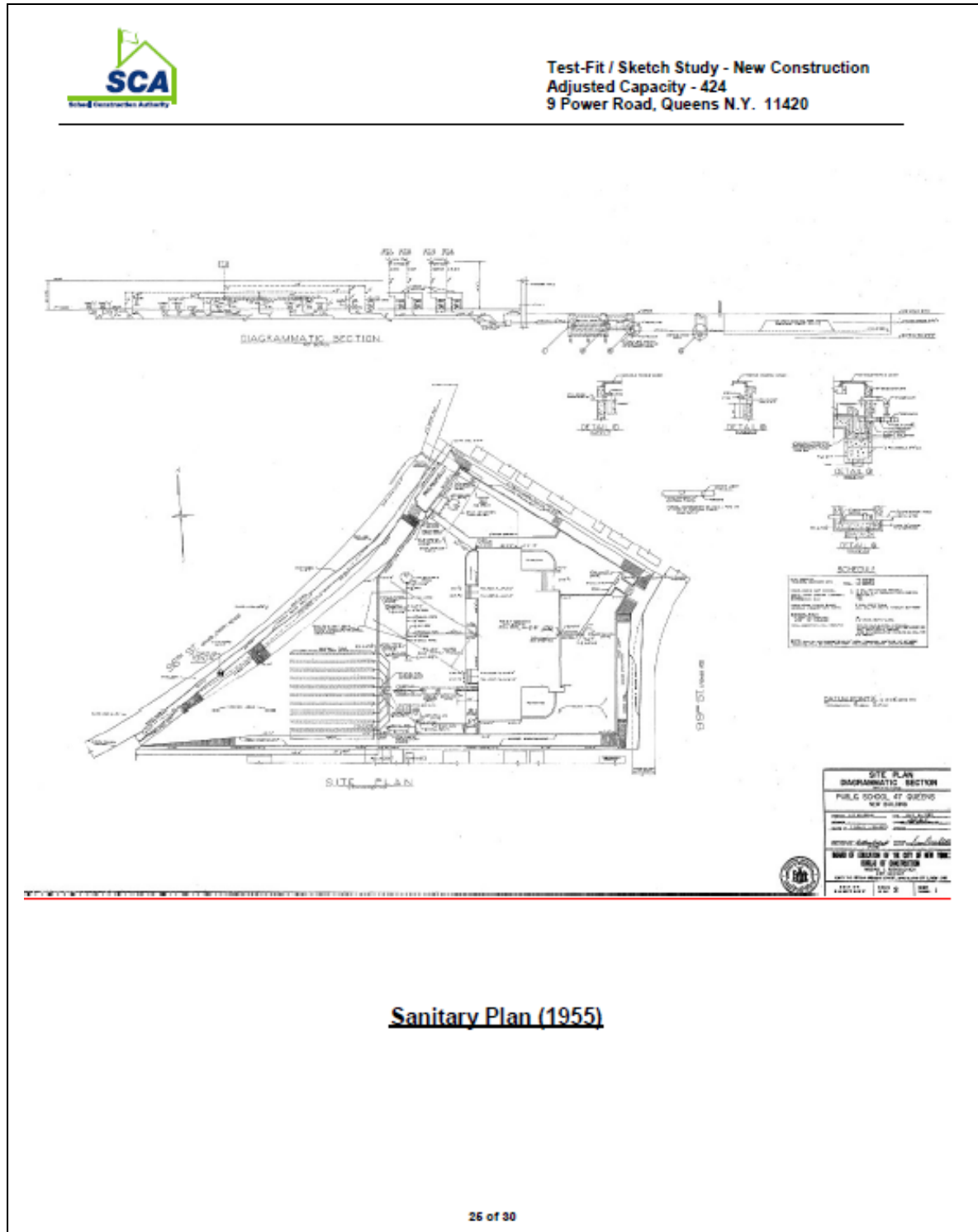
✓ New Construction

Major Modernizations

Capital Improvement Projects









Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
9 Power Road, Queens N.Y. 11420

“Measuring the Distance” The 200 and 500 Foot Rules



NEW YORK STATE
LIQUOR
AUTHORITY
DIVISION OF ALCOHOLIC
BEVERAGE CONTROL

The 200 Foot Rule

The Alcoholic Beverage Control Law prohibits certain licenses from being issued if the location of the establishment is on the same street and within 200 feet of a building that is used exclusively as a school, church, synagogue or other place of worship. This restriction is commonly called the 200 foot rule and applies to any retail establishment where liquor will be sold for on premises consumption and any retail establishment where liquor or wine will be sold for consumption off the premises.



Measurement of distance

The law provides that the measurement be taken in a straight line from the center of the nearest entrance of the school/place of worship to the center of the nearest entrance of the establishment. The distance is determined using only entrances that are regularly used to give ingress to (a) the students of the school, (b) the general public into the place of worship; and (c) patrons into the establishment. Emergency/fire exits, maintenance access, and doors to gain access to non-public areas are not used in the measurement. If the entrance is set back from the sidewalk by a walkway or doorway, the measurement is taken from the center of the line where the walkway/doorway meets the sidewalk. For an establishment in a multi-story building, the building entrance at street level is used.

NYS LIQUOR AUTHORITY / 200-FOOT RULE

Exhibit - 1

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Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
9 Power Road, Queens N.Y. 11420

From: abc.sm.albany.counsel <legal@slany.gov>
Sent: Friday, September 11, 2015 3:03 PM
To: PERCUDANI, PETER
Subject: RE: Mixed-Use Building / School / Alcohol 200-foot Rule

Since the building would not be exclusively used as a school, new establishments within 200 feet would not be prohibited by the 200' law. Presumably, this would be true of a school located within the same mixed use building as well.

From: PERCUDANI, PETER [mailto:PPERCU@NYSCA.ORG]
Sent: Friday, September 11, 2015 12:17 PM
To: abc.sm.albany.counsel
Subject: Mixed-Use Building / School / Alcohol 200-foot Rule

To Whom it may concern,

We are currently evaluating a new project in NYC where a mixed-use building would be part commercial, office, and school (8th to 8th grades).

Would an establishment that sold or served alcohol be permitted within the building itself?

In addition, would any new establishments that sold/served alcohol be permitted within 200-feet of the school's entrance since the building would not be exclusively used as a school?

Thank you for your time and attention to this matter.

Peter Percudani, RA
NYC School Construction Authority
Managing Architect - Design Development
Quality Control & Construction Services Studio / 718-472-8756

RESPONSE FROM NYS LIQUOR AUTHORITY

Exhibit - 1

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1 RCNY §9000-01

CHAPTER 9000

Zoning

§9000-01 Adult establishments.

Dates of establishment and discontinuance of adult establishments, houses of worship, and schools for the purposes of sections 32-01 and 42-01 of the zoning resolution. In determining whether an adult establishment may lawfully be established at a location pursuant to sections 32-01 and 42-01 of the zoning resolution, the department will use the following criteria to determine the dates of establishment and discontinuance for adult establishments, houses of worship and schools located or proposed to be located within 500 feet of each other.

(a) The date of establishment of an adult establishment, house of worship, or school in existence and operating prior to August 8, 2001 shall be the date of issuance of an appropriate department permit or, if no permit was required, the date that it commenced operation, as determined by the department.

(b) Except as otherwise provided in subdivision a of this section, the date of establishment of an adult establishment, house of worship, or school shall be the date of issuance of an appropriate department permit, subject to the following qualifications:

(1) With respect to a new building permit or alteration permit:

(i) significant progress must be shown toward completion of the work under the permit. For the purposes of this paragraph, the term "significant progress" means the issuance of a temporary certificate of occupancy or, if applicable, department signoff of the work within one year of issuance of the permit, except that upon application, the commissioner or his or her designee, may extend the one year period in accordance with subdivision c of this section for a period of time not exceeding one year; and

(ii) the use or operation for which the building is constructed or altered must commence within six months after the issuance of a temporary certificate of occupancy or, if applicable, within six months after a department signoff that the work has been completed, except that upon application, the commissioner or his or her designee, may extend the six month period in accordance with subdivision c of this section for a period of time not exceeding six months.

(2) With respect to applications for permits filed solely to establish priority, where no work requiring a building permit is proposed, the use or operation for which the permit is issued must commence within two months of the issuance of such permit, except that upon application, the commissioner or his or her designee may extend such two month period in accordance with subdivision c of this section for a period of time not exceeding two months.

(c) An extension of time pursuant to subdivision b of this section may be granted where the permittee submits an application no later than 30 days prior to the expiration of the applicable time period together with satisfactory evidence that significant progress or the commencement of use or operations within the applicable time period is impracticable. The commissioner or his or her designee shall make a determination and notify the applicant in writing of his or her determination not later than 30 days after receipt of the application by the department. If the application is denied, the commissioner or his or her designee shall state the reason(s) therefor. If the commissioner or his or her designee fails to act upon the application within such 30-day period, the application shall be deemed to be granted.

(d) An adult establishment, otherwise in compliance with the zoning resolution, may be established within 500 feet of a discontinued adult establishment, house of worship or school. For the purposes of this subdivision, once established, an adult establishment, house of worship, or school shall not be deemed to be discontinued until it has ceased operation for a continuous period of one year or longer.

(e) The time periods set forth in this section for significant progress of work, or for commencement of operations shall commence to run as of the effective date of this section or issuance of the permit, whichever is later.

1 RCNY § 9000-1 / Adult Establishments, Houses of Worship & Schools

Exhibit - 2

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Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
9 Power Road, Queens N.Y. 11420

STATE OF NEW YORK

151--A

2013-2014 Regular Sessions

I N A S S E M B L Y

(PREFILED)

January 9, 2013

Introduced by M. of A. NOLAN, BRENNAN, TITONE -- read once and referred to the Committee on Education -- committee discharged, bill amended, ordered reprinted as amended and recommitted to said committee

AN ACT to amend the education law, in relation to restricting the sale, lease, transfer or authorization of open-air schoolhouse playgrounds for certain uses

THE PEOPLE OF THE STATE OF NEW YORK, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. Subdivision 5 of section 2856 of the education law, such section as renumbered by chapter 762 of the laws of 1950, is amended to read as follows:

§. It shall be unlawful for a schoolhouse to be constructed in the city of New York without an open-air playground attached to or used in connection with the same. EXISTING PLAYGROUNDS SHALL NOT BE SOLD, LEASED OR TRANSFERRED, OR PERMANENTLY AUTHORIZED FOR OTHER USES SUCH AS SCHOOL BUILDING CONSTRUCTION, RENOVATION, PLACEMENT OR STORAGE OF BUILDING MATERIALS FOR SUCH WORK THAT WOULD ELIMINATE THE USE OF SUCH PLAYGROUND SPACE FOR OUTDOOR RECREATIONAL ACTIVITIES UNLESS A PLAN IS ESTABLISHED AND IMPLEMENTED TO PROVIDE SUITABLE AND ADEQUATE PHYSICAL ACTIVITIES OR SPACE TO ACCOMMODATE THE PHYSICAL AND RECREATIONAL NEEDS OF THE PUPILS OF SUCH BUILDING. THE PROVISIONS OF THIS SUBDIVISION SHALL NOT APPLY TO SCHOOL CONSTRUCTION OR RENOVATION ACTIVITIES THAT OCCUR ON OR REQUIRE THE USE OF SUCH PLAYGROUNDS FOR A DURATION OF NO MORE THAN ONE YEAR.

§ 2. This act shall take effect on the one hundred eightieth day after it shall have become a law; provided however, that the commissioner of education is authorized and directed to promulgate any rules or regulations necessary for the timely implementation of this act on or before such date.

EXPLANATION--Matter in ITALICS (underscored) is new; matter in brackets [] is old law to be omitted.

LBD00126-03-3

NYS LEGISLATION / PLAYGROUNDS

Exhibit – 3

28 of 30



Test-Fit / Sketch Study - New Construction
Adjusted Capacity - 424
9 Power Road, Queens N.Y. 11420

From: LIU, CORA
Sent: Wednesday, September 18, 2019 6:29 PM
To: MANTELLO, ALLYSON
Cc: DAHIR, STANLEY; KUBOTA, NINA
Subject: Quick desk review

Importance: High

Allyson,

We need you to do a quick test-fit study/desk review. PS 47 is located at 9 Power Road in Queens. Our plan is to demolished the existing structure and build them a new facility. It is not a large piece of land. I am thinking 476 seats or 572 seats.

We need to move very quickly on this. Can you give us a quick report (one page or two) with a sketch?

Thanks a lot.

Cora Liu
Capital Plan Management Department
NYC School Construction Authority
Phone: (718) 472-8377
Email: cliu@nycsca.org

REQUEST FOR “TEST FIT – SKETCH STUDY”

30 of 30



1.1 Contract Requirements

1.1.3 Report Format

1.1.3.4 Site Assessment Checklists – UPK, 3K, Stand-alone Gym, and Other Initiatives

Instructions to Users:

The format of a *Site Assessment Checklist* required by the Authority for UPKs, 3Ks, stand-alone gyms, and other initiatives is described herein. Unless the Authority otherwise provides specific instructions, the following format shall be followed. Please note that the various examples cited herein are not project-specific.

A Project Cost Estimate is **not** required as part of the submission.

Format

The *Site Assessment Checklist* shall be in the form of a checklist rather than a memorandum.

Objective

The objective of a *Site Assessment Checklist* is to determine if a school facility such as a 3K, UPK, stand-alone gym, or other initiative may be suitable for a given site selected by the Executive Office, Capital Plan Management (CPM), Real Estate, or other division. The checklist may contain charts and other documentation for a quick evaluation of the specified intent and is to identify those issues and concerns that would affect the selection of the site for a school facility. The checklist may or may not include plans that illustrate site conditions and a draft Program of Requirements (POR), which if provided help as a basis for open discussion and direction for the development of a project.

Issues of interest to the Authority include, but are not limited to, those that relate to a site or building's ability to accommodate a proposed Educational Program of Requirements, a building layout and organization (orientation and circulation), zoning, construction, existing physical characteristics of the proposed site and adjacent properties, condition of the building and the impact of a project to adjacent properties and vice versa.

The completed checklist shall be submitted to the initiating department. A committee meeting will be set up for a project review, comprised of senior management including, but not limited to, the departments mentioned in the first paragraph. The checklist shall be presented and explained to the committee members. Upon the recommendation of the committee, further action will be assigned to relevant Departments to expedite the next phase; i.e. scope, design, acquisition etc. The completed checklist shall be filed in the appropriate directories in SCAN for access and retrieval. An administration tracking form will be created to track all subsequent phases ongoing. The *Site Assessment Checklist* may utilize:

- The corresponding checklist for a stand-alone gym, Universal Pre-Kindergarten, or 3K. See examples.
- A new checklist for a Special Program need, e.g. Covid-19 test sites, Storm damage evaluation, etc.
- Plans in CADD format provided by the Developers/Consultant Architects for review of developer projects, i.e. mixed use buildings.
- EDOCS (historical school plans) system to evaluate existing design, structural or mechanical conditions.



Design Requirements**General – Section 1.0**

- The Program Tracking system (PTS) to reference past or current projects related to existing schools.
- The “OASIS” system for access to digital maps, zoning information, and other reference systems available.
- Satellite mapping such as, but not limited to, “Google” maps, “Google Earth”, “Bing” maps, or other images (e.g. drone photography).
- Site photography (interiors and exteriors)
- Input from relevant departments i.e. Real Estate, BCC, IEH, to research and contribute data for their respective portion of Checklist/Report.
- Etc.

In addition to identifying issues, providing a copy of the request for the “Special Report or Review” and a copy of the draft Program of Requirements, if issued, the Special Study should include various attachments that provide additional insight into the subject Site/Project.



School Construction Authority

Architecture & Engineering

Design Requirements

General – Section 1.0

Example - “3K Evaluation Survey and Checklist”

Item	Key Word	Survey Question	Information / Data
3-K EVALUATION SURVEY AND CHECKLIST FOR EXISTING BUILDINGS v1.2			
Building Address: Block: Lot: Date of Site visit: Report by: Borough: Queens ZipCode: Sch. District: Select One Floor Plans Available: Select one Zola Website			
SCA / REALESTATE (1 thru 9)			
1	Building	A Certificate of Occupancy is available.	Select one
2	Building	Provide the gross square footage of the existing building.	
3	Building	Provide the gross square footage that is available for the proposed school. [Provide area on each floor.] [Note: Programs with children above the 3rd Floor require approval of the Department of Mental Health & Hygiene]	Gross: Cellar/Basement: First: Second: Third: Roof:
4	Site/ Property	Provide the lot area of the building site.	Lot:
5	Lease	Is the building roof clear of agreements for cell phone antennas?	Select one
6	Lease	Is the building roof clear of agreements for billboards?	Select one
7	Tenants	Will the 3-K space (school) be the only tenant?	Select one
8	Tenants	Identify other tenant uses that are in the same building as a Pre-K Center (school)? [Note: Buildings that permit industrial, mercantile or business uses within a building must be approved by the Department of Health and Mental Hygiene (MOHMH). Such approval will not be granted by MOHMH unless the premises and the area surrounding the premises are free from fire, traffic or other safety hazards.]	
9	Adjacent Properties	Identify uses within 50-feet of the proposed 3-K (School)? [Note: Identify such uses]	
SCA / Building Code Compliance (10 thru 15)			
10	Violations	Is the building clear of any current ECB Violations?	Select one
11	Violations	Is the building clear of any current DOB Violations?	Select one
12	Filing	Is the building clear of any open Alt-1 Applications?	Select one
13	Filing	Is the building clear of any open Alt-2 Applications?	Select One
14	Filing	Is the building clear of any open NB (New Building) Applications?	Select one
15	Orders	Is the building clear of any "Stop Work Orders"?	Select one

Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



Design Requirements

General – Section 1.0

SCA / Industrial Engineering & Health (16 thru 20)			
16	Space Use	What is current or most recent use of proposed 3K space?	
17	Building Use	What are the current and past uses of building in terms of environmental assessment? <i>[Note: Identify uses of concern that may remain after occupancy, including information from database review.]</i>	
18	Surrounding Properties	Could any of the surrounding properties potentially impact environmental conditions in the proposed 3-K space? <i>[Note: Identify uses of concern, including information from database review.]</i>	Select one
19	Building Materials	Describe the overall condition of building materials in the proposed school space. <i>[Note: Identify condition of paint, plaster, and flooring, note any evidence of water infiltration or mold.]</i>	
20	Other	Note any other potential concerns observed during the site visit; this could include discolored potable water, petroleum staining, odors, stored waste, etc.	Select one

Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



Design Requirements

General – Section 1.0

Architecture & Engineering (21 thru 62)				
21	Egress	Are there two (2) means of egress from every floor (or) can two (2) means of egress be provided? <i>[Note: Fire-escapes or fire balconies are not acceptable]</i> <i>If two (2) legal and acceptable means of egress cannot be provided for each occupied level, STOP Survey.</i>	Select One	
22	Egress	Required vertical means of egress is by interior stairs? <i>[Note: Fire-escapes or fire balconies are not acceptable]</i>	Select one	
23	Egress	Would the Pre-K (school) occupancy have separate fire/exit stairs from the other occupancies/tenants?	Select one	
24	Egress	Existing exit stair width(s) comply with Code for use? <i>[Note: As per Code, 44" minimum width for schools. Distance is measured wall to wall; stringers are permitted to project 2-inches on either side of stair - §27-375(b).]</i> <i>[Note: 48" minimum width between the handrails. Exception: 48-inch minimum width not required in</i>	1-Stair width (inches):	
			2-Stair width (inches):	
			3-Stair width (inches):	
25	Egress	Existing exit stair riser height(s) comply with ADA? <i>[Note: 7" maximum for ADA Compliance.]</i>	1-Riser height (inches):	
			2-Riser height (inches):	
			3-Riser height (inches):	
26	Stairs	Is there a dedicated (not shared with other tenants) set of stairs for internal circulation for the school (or) if not, could a stair be created for internal circulation?	Select one	
27	Zoning	What is the current Zoning District?		
28	Zoning	Can the 3-K (school) use be installed in this building without needing a "Special Permit / Zoning Waiver" for use? <i>[Note: Schools are not permitted as-of-right in Manufacturing Districts, and C-8 Commercial Districts]</i>	Select one	
29	Use	Is the property outside of any "E" designation zone? <i>[Note: See Appendix C & D of NYC Zoning Regulations.]</i>	Select one	
30	Windows	Are there windows for the classrooms (or) can windows be provided for natural light (Min. 50sf glazed area.)? <i>[Note: 3-K classrooms must have windows or skylights. Window openings are not permitted within 3-feet of a property line. For allowable opening area for distances greater than 3-feet, see NYC Building Code. Existing property line windows can be affected, required to be removed, by a change in "use" of a space or building.]</i>	Select one	
31	Windows	If mechanical ventilation is not available, could windows provide adequate classroom ventilation? <i>[Note: Use Code natural ventilation requirement]</i>	Select one	
32	Play space	Is outdoor play area available at grade or roof (no child above 3rd floor) (Min 1,350 sf)? <i>[Note: Provide location, and area in square feet.]</i>	Select One	
		If there is no available outdoor space, is indoor space available (no child above 3rd flr) (Min. 1,350 sf)? <i>[Note: Provide sf area.]</i>	Select one	

Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



Design Requirements

General – Section 1.0

33	Building	Does the building have a valid Certificate of Occupancy (C. of O.) for its current use(s)?	Select one	
34	Building	As per the C. of O. provide the number of stories.	5	
35	Building	As per the C. of O. building height to the roof level.		
36	Building	Is the existing building a low-rise building? (not a high-rise) [Note: High-rise: 1968 Code 75-feet to roof; 2008 Code 75-feet to highest occupied floor]	Select one	
37	Building	Would the building's dominant occupancy remain the same with the inclusion of the proposed Pre-K (school)? [Note: If the 3-K floor area, in non-educational buildings, is the largest tenant floor area in the building, No.] The dominant occupancy is determined by what occupancy group (E.g.: educational, office, retail, etc.) has the most total square footage within the building.	Select one	
38	Occupancy	Cellar/Bsmt. , 1st, 2nd,3rd Floor, Roof: As per the C. of O. what is the allowable Live Load? [Note: Min. Live Loads: Classroom-40psf; storage, corridor and PA Spaces & Play Roof -100psf]	Cellar/Basement:	
			First:	
			Second:	
			Third:	
39	Structure	Provide approximate column bay spacing.		
40	Building	Provide approximate floor to floor height?		
41	Building	Is area available on the 1st floor for an entrance vestibule and lobby? [Note: If yes, provide area.]	Select one	
42	Building	Can the 3-K (school) be built without special arrangements with other tenants to address adverse impacts? [Note: For example: Plumbing work, acoustical separation, structural, etc.] [Explain]	Select One	
43	Building	Are elevators available for school use? [Note: Provide number of elevators.]	Select one	
44	Elevators	Would the school space have an elevator dedicated/exclusive to its use? [Note: Provide capacity Load and dimensions]	Select one	
45	Entrances	How many Entrances / Exits are there to the building?	Entrances:	
			Exit:	
46	Entrances	Could an entrance for the Pre-K (school) be provided that is separate from other tenant entrances?	Select one	
47	Entrances	Would the 3-K (school) entrance be accessible to the physically disabled (or) if not, could it be made accessible?	Select one	
48	Flood Zone	Is the building outside of any FEMA designated high hazard floodplain?	Select one	
49	Noise	Is the building clear of any subway noise/vibration?	Select one	
50	Noise	Is the building clear of any elevated train noise/vibration?	Select one	
51	Noise	Is the building clear of any open rail line noise/vibration?	Select one	
52	Fire Alarm	Does the building have a Fire Alarm system?	Select one	
53	Fire Alarm	Fire Alarm system operational?	Select one	
54	Fire Alarm	Is the Fire Alarm approved by the FDNY?	Select one	
55	Fire Alarm	Can the project be occupied without altering the building's Fire Alarm System?	Select one	

Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



General – Section 1.0

- Provide and attach relevant photographs of building's exterior and interior spaces.
- If available attach floor plans.
- If available attach Certificate of Occupancy.

- **NYC 1968 Code:** §27-396.6(b) Buildings and "Building Sections" classified in occupancy group E or G which do not exceed seventy-five feet in height but have a gross area of over 15,000sf per floor or a total gross area of 100,000sf or more.
- **NYC 2014 Code:** §28.2-2702.2.20 Group E occupancies with occupied floor less than 75 feet above the lowest level of fire department vehicle access having a gross floor area over 15,000sf per floor or a total gross floor area of 100,000sf or more.

Other Comments and Concerns:

Describe any other observations including signs of structural damage, bulging facades, building settlement, fire damage, etc.

Describe general site conditions, traffic, building entry, and other site characteristics, etc.

Capital Improvement Projects



General – Section 1.0

Site Visit Preliminary Recommendation			
Standalone Gymnasium Building	☐ Recommended	☐ Conditionally Recommended	☐ Not Feasible
Renovation of Existing Auditorium to Gymnasium*	☐ Recommended	☐ Conditionally Recommended	☐ Not Feasible
Interior Conversion or Enhancement **	☐ Recommended	☐ Conditionally Recommended	☐ Not Feasible
Play Yard Upgrade***	☐ Recommended	☐ Conditionally Recommended	☐ Not Feasible

If Conditionally Recommended or Not Feasible, state conditions for recommendation or for infeasibility:
(I.e., The play yard has 8 TCUs. However, the standalone gymnasium building is feasible if 4 TCUs are removed)

Vehicular Street Access for Ease of Construction
Describe streets surrounding the site (width, traffic direction, traffic volume)
Site Conditions
Describe site topography (i.e. flat, sloped, retaining walls, etc.):
Gross Area of site available for standalone gymnasium building (based on prototypical site plan excluding areas required for clearances):
Elevation of ground water table relative to ground elevation (if known):

List of External Agency Coordination Required:			List of Testing Required:		
Land Use Regulations or Property Encumbrances					
1	MTA	The site is within 200-feet of an MTA Structure (subway, elevated rail line, open rail cut, etc.)			
2	NYCDEC FEMA	The site is within a designated wetland or flood zone			End of document
3	NYC DPR	The site is a "NYC Public Park" or a "Jointly Operated Playground"			
4	Landmarks	The building or site has landmark status			
5	SHPO	The building or site is SHPO eligible			

End of document



School Construction Authority

Architecture & Engineering

Design Requirements

General – Section 1.0

6	CEQR ULURP	The site is encumbered by environmental conditions/review (Environmental Restrictive Declarations (CEQR or ULURP))			
7	SPDES	Storm water/wastewater discharges into surface waters or ground waters of the state - not connected to NYC Sewer System (State Pollutant Discharge Elimination System (SPDES))			
8	Easements	The site is encumbered by easements for access by other private or public entities (Easements, right-of-ways, utilities, etc.)			
9	DOT	The site is encumbered by a future NYC/DOT street widening			
10	Flight Path	The site is within a designated Flight Approach Path			

NYC Zoning Regulations

11	Zoning	What is the current Zoning District?	X	X	
12	Zoning	Can the gymnasium be constructed at this site without needing a "Special Permit / Zoning Waiver" for use? [Schools are not permitted as-of-right in Manufacturing Districts, and C-8 Commercial Districts]			
13	Zoning	Can the gymnasium be constructed at this site without needing a "Special Permit / Zoning Waiver" for bulk?			

SCA / Industrial Engineering & Health

14	Use	Is the property within an "e" designation zone?			
15	SSDS	Are there any known environmental conditions requiring mitigation/installation of engineering controls?			TBD
16	Hazmat	Identify any potentially hazardous materials present in the proposed Gymnasium Site [ACM, Lead, Other].	X	X	
17	Hazmat	Could any of the surrounding properties potentially impact environmental conditions in the proposed Gymnasium site? [Identify those that are hazardous.]			TBD

Architecture & Engineering (to be considered for standalone gymnasium only)

18	Tax Lot	Would existing "tax lots" need to be consolidated or subdivided?			
19	Subsurface Conditions	Are there obvious site-specific subsurface conditions that will impact the development of the site? (Bedrock, water, subway system, detention systems, soil contamination, etc....)			
20	Adjacent Properties	Would adjacent properties be adversely affected by the height of the proposed building?			
21	Adjacent Properties	Would adjacent properties be adversely affected by noise from the proposed building's mechanical equipment? (Rooftop air-handling units, generator, etc....)			
22	Adjacent Properties	Would windows and/or party walls of adjacent properties be adversely affected? (blocking windows, shoring and repairing walls)			
23	Adjacent Properties	Will existing physical improvements adjacent to the site adversely affect construction activities? (adjacent buildings, retaining walls, overhead power lines, trees, etc....)			

Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



24	Adjacent Properties	Would underpinning and shoring of adjacent properties be required?			
25	Adjacent Properties	Would protection of adjacent properties be necessary due to the proximity of construction of the gymnasium building? (roofs, skylights, etc...)			
26	Adjacent Properties	Would the gymnasium building's roof(s) be accessible from adjacent properties? (roofs, fire escapes, etc...)			
27	TCUs	Would the construction of the gymnasium building require removal and relocation of Temporary Classroom Units?			
28	Swing Space	Would swing-space be required for the relocation of occupants during construction activities?			
29	Licensing Agreement	Will licensing agreement with adjacent property owners be required?			
30	MTA	Is the building clear of any subway noise/vibration?			
31	Public Right of Way	Will the gymnasium be accessible from the public right of way?			

Existing Building Information (to be considered for standalone gym and for interior work)					
32	Structural	Does the existing building have spread footings or piles?			
33	Structural	Would the proximity of the gymnasium building require underpinning of the existing building foundation?			
34	Structural	Would the proximity of the gymnasium building impose a load on the existing building foundation?			
35	Water	Does the existing building have an RPZ?			
36	Electric	Does the existing building have spare capacity for the gymnasium building? (What is the existing building electrical capacity (amps)?)			
37	Fire Alarm	Is the Fire Alarm system operational?			
38	Fire Alarm	Is the Fire Alarm approved by the FDNY?			
39	Fire Alarm	Can the gymnasium building be occupied without altering the building's Fire Alarm System?			
40	Sanitary/ Storm	Can the sanitary sewer line from the gymnasium building be tied into the existing sanitary/storm sewer line?			
41	Site Detention	Does the existing building have a site detention system? If so, identify location.			
42	FDNY	The public street width is 38-feet or greater in width and the building does not need to be protected throughout by a sprinkler system as required by NYC Fire Code Section FC 503.8.2 Substandard width (Measurements are to be taken from curb face to curb face.)			

Interior Renovation Concerns (for all interior work)					
43	C of O	Does the school building have a C of O?			
44	C of O	Will the interior renovation work require a new or amended C of O?			
45	Violations	Does the school building have current ECB violations?			
46	Violations	Does the school building have current DOB violations?			
47	ADA	Is the space(s) recommended for renovation accessible?			

Requirement Applies to: ☒ New Construction

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☐ Capital Improvement Projects



48	Live Loads	Does the floor of the space(s) recommended for renovation have the live load capacity for exercise use?			
49	HVAC	Does the space(s) recommended for renovation have adequate ventilation, natural or mechanical?			
50	Fire Alarm	Will the renovation of the space(s) trigger replacement or legalization of the existing FA system?			
51	Height	Ceiling height of the space(s) to be renovated.	X	X	
52	Acoustics	Will acoustical mitigation be required of the spaces adjacent, above, or below the space(s) recommended for renovation?			
53	Low Voltage	Will the space(s) recommended for renovation trigger upgrades to the existing low voltage systems? If so, list impacted low voltage systems.			

Other Comments and Concerns:

List of Photos:

Proposed Site Plan with Standalone Gymnasium Building

Floor Plans showing Space(s) recommended for Renovation

End of document ■



1.1 Contract Requirements

1.1.4 Design Presentations

1.1.4.1 Renderings and Photographs

Description/Design Approach:

A. Renderings

Number of perspective renderings to be provided shall be as per contract. Refer to the Designer's Requirements Contract to determine maximum dollar allocation.

1. Sketch layouts of proposed views shall be reviewed with the Authority prior to the creating of the rendering.
2. The Designer shall, in an acceptable format to the Authority, provide an electronic file copy of each perspective rendering on a USB drive **or as directed by the Authority**.
3. For manual renderings, the Designer shall provide photographs of all renderings that shall be scalable to 40 inches in height by 48 to 56 inches in width, with a resolution of 200 ppi when image is enlarged to the required size. The preferred file format is TIFF. If the original rendering was created electronically, provide a copy in its native format, and a copy of what was submitted to the print shop for printing (i.e., PDF). Images larger than 5 MB in size must be submitted on a USB drive **or as directed by the Authority**.

B. Photographs of Finished Building

1. 12 presentation quality digital images will be selected from a larger set (number will vary depending on the size of the project) as follows (all images to be reviewed with the Authority prior to submission of **final electronic** and framed images):
 - a. Four exterior images: including, but not limited to; main entrance and entry façade; architectural features, as well as other representative aspects.
 - b. Eight interior images: including, but not limited to; Lobby, Auditorium, Gymnasium, Library, Typical Classroom, Specialty Classrooms, Public Art project (if applicable) as well as other significant aspects.
2. Presentation quality, high-resolution photographs. Images are to be in TIFF file format, at the following resolution: 3912 x 3072, which is the equivalent of an image taken with a 12 Megapixel camera at an aspect ratio of 1.27:1 (14:11). This resolution will produce a 13" x 10.2" print at 300dpi. The final picture size will be 19.5" x 15.3" (approximately 200dpi).
3. The Designer shall, in an acceptable format to the Authority, provide an electronic file copy of the twelve images on a USB drive **or as directed by the Authority**.
4. Two of the images, as selected by the Authority, shall be printed and framed.



1.1 Contract Requirements

1.1.5 Area Analysis

1.1.5.1 Building Areas – Educational Spaces – Custodial Spaces

Description/Design Approach:

A. A breakdown of Educational (includes public spaces) and Custodial (exterior paved spaces) spaces of the school building are required by the DOE. The sample form (attached) will help define “educational” and “custodial” areas for the purpose of the DOE’s Operations and Maintenance contracts. Each capacity design submission starting with the 60% design phase up to and including bid documents are to include a tabulation that includes both programmed and non-programmed spaces, using the instructions that follow:

- To download the form click [HERE](#).
- Naming convention for the form (spreadsheet) – Design or LLW number-School name-Boro-%sub-1151
e.g., D1234-PS123-K-60%-1151.xls
- Fill in the applicable project information, i.e., the School name, Borough, date etc. in the header and footer of the excel spreadsheet.
- Areas should be listed in square feet. Enter whole numbers only.
- Fill in SF areas in the white boxes only.
- Do not fill in areas in the gray boxes.
- Do not enter text in the educational area column.
- If a particular space is not applicable or is not part of the project, enter zero in the corresponding educational/exterior paved area column.
- If space(s) other than those listed in the template is/are part of the project, add a new row and list the space(s). All classrooms, shops, labs, prep rooms are educational spaces.
- Educational spaces exclude all storage, all mechanical spaces/rooms, and all spaces specifically assigned to the custodian (e.g., Custodian’s office, custodian storage, custodian workshop, custodial locker rooms, ground equipment storage room, janitor’s sink closet, slop sinks, etc.)
- Interior spaces specifically assigned to the custodian (e.g., Custodian’s office, custodian storage, custodian workshop, custodial locker rooms, ground equipment storage room etc.) should not be included in the table.
- Kitchen areas including kitchen storage, can wash, walk-in freezer etc should not be included in the table.
- Dietician’s office should be included in the table only if it is not located within the kitchen area.
- Exterior paved areas do not include landscaped or grass areas.
- Athletic fields should be separately noted if surface of the field is other than concrete or asphalt paving.
- Include the total gross area per the POR and actual gross area (i.e., gross area per design documents).

B. In case of an addition, the table should include areas of the addition only. The spaces in the existing building that can now be re-categorized due to its change in use (e.g., custodian office and locker room being converted to a classroom, or a classroom being converted to a storage space) should be noted separately.



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Note that the 'Total Educational area' is the summation of all listed educational areas and the 'Total Custodial area' is the summation of all listed exterior paved areas and paved play roof areas.

Space name	Educational floor area SF	Exterior paved area SF	Comment
All instructional spaces including classrooms, resource rooms, special ed classrooms, D75 classrooms, Government and club publication rooms,	0		
All offices excluding custodian office but including Guidance offices, SBST offices, school safety administration offices	0		
Auditorium dressing rooms	0		
Auditorium including orchestra area. Exclude chair storage rooms, storage rms, coat/ticket room, projection room	0		
Auditorium stage/platform	0		
Aux Gymnasium	0		
Cafeteria - including servery	0		
Corridor- excluding corridor lockers	0		
Dietician's office (include only if it is remote from kitchen)	0		
Exercise room(s)	0		
Exterior paved area including ramps, steps, safety surfacing, ECC play equipment, parking		0	
Exterior playground - athletic field astro-turf or grass (Indicate Yes or No)		Y/N	
Exterior playground-paved athletic field		0	
Exterior-paved courtyards		0	
Exterior-sidewalk area @ property		0	
Field House excluding field house mech and storage space	0		
Gymnasiums, Gymatoriums. Exclude Gym storage, chair storage rooms	0		
Library excluding AV storage	0		
Lobby	0		
Multipurpose room	0		
Roof area- green-landscaped (Indicate Yes or No)		Y/N	
Roof top Play area-paved or with safety surface		0	
Staff lunch room, staff cafeteria (including servery)	0		
Staff work rooms	0		
Stairs	0		
Student locker rooms - excluding locker area	0		
Toilets-excluding toilets in custodial locker rooms	0		
Vestibule	0		
Weight lifting room	0		
Total - Educational areas	0		
Total - Custodial areas		0	
Gross Building area as listed in approved Program of requirements xxx,xxx SF			
Gross Building area - actual xxx,xxx SF			
Note:			
In the comments column, indicate if a special finish e.g. Carpet in Library or Resilient Athletic flooring in Multipurpose room is provided.			

Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



1.3 Planning

1.3.1 Design

1.3.1.1 Building Location and Orientation

Description/Design Approach:

A. General

1. The location of the school and its relationship to its neighboring surroundings is critical to the overall design and function of the building.
2. Planning and design should not only delineate the school and its property from surrounding properties, it should respond to its immediate surrounding and communicate its purpose and function within the community.
3. In addition to local environmental conditions that will influence the overall planning and design of a school facility, the NYC Zoning Regulations and Resolutions have a major influence in regard to the building location size and height for a specific site.
4. The NYC Zoning Resolution as per Section 11-01 regulates the following:
 - Permissible Land Use Districts, such as residential, commercial and manufacturing
 - Height and bulk of buildings and other structures
 - Area of yards, courts and other open areas
 - Density of population
 - Location of trades and industries
 - Location of buildings designed for specific purpose

B. Locating the School Building on the Site:

In order to situate the school facility in conjunction with Zoning, specific attention shall be given to the following:

1. Accessibility to the site for both pedestrian and vehicular traffic

Student, parents and faculty should be provided both ease of access to the site and a safe path of travel.

2. Direction students will be traveling in the local vicinity to attend the school

The direction in which students, parents, within the local community, and faculty will travel to and from the school will influence the location of the main entrance, vehicular drop-off and access to open play areas.



3. Local Mass Transportation

Location and direction of travel from local points of mass transportation (bus and Subway) will have more of an influence on Intermediate Schools and High Schools where students are of an age where travel will be unsupervised. This may influence the location of the main entrance.

4. Types of vehicular traffic and traffic flow of adjoining streets

The frequency and type of traffic on adjoining streets may require additional attention in regard to the safety for students, parents and faculty. In addition, the noise generated by the local vehicular traffic may create significant noise to cause distraction within the school.

5. Topography

- a. If changes in grade elevations exist, effort should be made to utilize it to the proposed school facility's advantage as much as possible.
- b. In addition to cost savings associated with minimum excavation and grading, it is important that entrances and exits be planned and design for handicapped accessibility and that level areas are provided for outdoor activities (play yards, athletic fields and service delivery points).

6. Location of available utilities

The cost of bringing utilities to the building can become excessive if proper location is not given to the location of gas, water, sewer and electric services. If the local utility companies have to extend to the site, the cost may have to be absorbed in the construction cost of the school.

7. Use of surrounding land and buildings

- a. Attention should be given to adjacent land use in regard to parks, undeveloped land, vacant buildings, residential building types, commercial and manufacturing facilities and how the proposed school facilities will interact operationally and physically with such adjacencies and visa versa.
- b. Issues **that** may need to be addressed in regard to their impact on the school facility and visa versa are as follows:
 - Safety - Vehicular traffic by commercial and/or manufacturing facilities
 - Noise
 - Light (shadow) and Air
 - Security – Accessible hidden areas



8. Open space

The first priority for non-built areas is student recreation. On sites with potential open space, consider minimizing developed footprint to conserve or restore vegetated areas. On more constrained sites in low-rise residential zones R1-R5, building footprint and massing must take into account the impact on light and air for adjacent buildings.

9. Safety and Security

- a. Different types of fencing, which is described elsewhere in these Requirements, typically enclose school buildings **that** are not constructed on the property line adjacent to sidewalks. The fencing typically serves to delineate school property as well as providing security for the site.
- b. Although landscaping of school property is encouraged and tree planting within the sidewalk along adjacent streets is typically required by the NYC Parks Department, it shall not be planned in such a way that hidden areas will be created. The streetscape adjacent to the school property leading to and from the building as well as areas within the site should be free of any areas **that** would keep a person hidden from view by a passing individual.
- c. In addition to planning paths of travel **that** are easily observed from the adjacent streets and sidewalks, the school facility should be planned to accommodate security lighting around its perimeter for both buildings, play area and athletic fields so to discourage vandalism and illegal entry.
- d. Again, hidden entrances and exits **of** any type to the building should be avoided. A hidden condition **may** provide an opportunity for an individual to **walk** for a length of time unnoticed so **as** to gain access to the building.

C. Orientation

1. Ideal orientation in the Northern Hemisphere is basically southeast. As such, the south side of the building will receive more solar radiation in the winter than in the summer and consequently, both east and west will receive more radiation in the summer.
2. Unfortunately, the urban environment will not always permit the design to adapt to follow the influences of the environment due to its urban streetscape. Therefore, the objective of good planning and design is to address the issues identified in the above paragraph “Locating the School Building on the Site” and provide the best orientation possible to provide opportunities for natural daylighting and to take advantage of natural environmental conditions.

**1.3 Planning****1.3.1 Design****1.3.1.2 Planning Guidelines for New Schools and Additions****Description/Design Approach:****A. Overview**

School buildings must support the teaching and learning activities of the school community. The design of our new schools is guided by three key values: creating dynamic and vibrant learning environments through the use of natural light, human scale and color; creating facilities that are flexible, adaptable and durable enough to meet the needs of the future; and designing buildings that are cost-effective, through the use of streamlined design standards and new technologies.

These guidelines describe the operation and interrelationship of the spaces listed in the *Program of Requirements* and described in the *Room Planning Standards*. They also consider the important realities of circulation and security in the school building as a whole. While the content herein is based on many design meetings in which district and school personnel have contributed experience and ideas, these guidelines are not meant to replace the give and take of the design process. Their aim is to make known in advance the generally agreed upon qualities of successful schools so that discussion can be freed to further evolve solutions and address concerns specific to the school at hand.

B. General Design Priorities**1. Security**

Respect for security must pervade all stages of design. Security in schools is primarily a matter of visual surveillance. Clear sight lines and elimination of potential for concealment, indoors and outdoors, are critical. Program spaces must never be isolated from other activity.

Stair enclosures can pose a particular security problem since the activity within them may not be readily seen or heard. As far as possible, all stairs should serve routine circulation in order to reduce potential isolation. For the same reason, they should have entrances at every floor level they pass. Stairs should not serve strictly as emergency egress, even with doors outfitted with alarms.

Security desks and administrative offices should be located to best serve visual control so that visitors must walk past security first before being able to access the building in general. There should be an administrative presence (offices or teacher areas) on each instructional floor.

Internet Protocol Digital Video Surveillance (IPDVS) systems are standard in new schools. Cameras are to be focused on circulation paths and other select areas. Ancillary spaces for monitors and video archiving equipment is to be provided.



2. Building Orientation, Entrance and Open Space

Contributing factors in the selection of both building orientation and main school entrance include direction of approach by students, potential drop-off points, adjacent buildings, traffic, views, topography and other environmental considerations. Schools designed to house multiple school organizations should include a “main” building entrance, and should, if possible, allow for individual arrival/dismissal entrances for each organization. Depending on the school size and site, it may prove beneficial to plan for a separate D75 entrance too.

Open space is often at a premium for New York City schools. It is important both in its potential as recreation space and as the outdoor area where students congregate before and after school. An arrival space that helps to bring the students safely off the sidewalks and into the school domain is important for schools of all levels. The recreational schoolyard may serve as this space, particularly when the site area is limited. Safety of the schoolyard, during school hours and after school, is enhanced by clear visibility from the street.

When there is a potential for open space of significant size, planning for a future building addition should be taken into account. This factor will influence the location of the building on the site and will affect the design of the new building itself, in order to create an opportunity for connecting a future addition in a straightforward and workable manner.

3. Organization of the School Building

Order, simplicity and clarity of the school building's diagram will facilitate orientation and destination finding. The design should allow students to readily know the building; they should quickly feel confident in their ability to navigate its halls with ease. The building should feel safe and supportive.

Stacking of similar spaces makes sense from a user point of view as well as from a systems aspect. The designer must understand the Design Requirements regarding mechanical and electrical distribution, as an interdisciplinary approach to the building design will help to ensure an efficient and cost-effective school plan.

Acoustical considerations are critical to the successful resolution of the Program as it becomes a building. Vertical and horizontal isolation of the ‘noisy’ and ‘noise-sensitive’ spaces is important for the learning environment. Early planning in this regard is essential. However, site constraints may require technological means to provide the acoustic isolation in order to create a functional building.

The organization of the school building must also take into account the after-school use of the large common areas. While it may not be possible or practicable for all of these spaces to be accessed from the entry lobby, a clear direct route must be planned.



4. Preferred Building Heights

Stairs are the typical means by which students move through the building. The building height should not be so great as to impact the student's ability to circulate through the building in a timely manner. The building height is impacted by whether a cellar or basement is to be provided. However, the smaller the building footprint, the more open outdoor area is available for recreation.

While constrained sites may dictate otherwise, typical building heights are as follows:

Early Childhood and Primary Schools:	4 stories
Intermediate Schools and High Schools:	5 stories

The intended floor-to-floor height target is 14'-0" for steel-framed buildings and 13'-4" for flat-plate concrete buildings (13'-0" of PS buildings if feasible) at all floors. Ceiling heights should be maintained at the heights indicated in DR 5.4.1. The ceiling to underside of slab "sandwich" incorporating all MEP systems is to be investigated early in the project to verify that the ceiling heights will be met. In order to accommodate larger ductwork with bends coming from the rooftop mechanical equipment, crossovers and headering of the horizontal ductwork to the shafts, the top-most floor can vary up to 2'-0" higher (Refer to DR 6.2.2). Appropriate soffits below the required ceiling height at strategic locations (typically running for limited distances such as at room entrances) can be introduced as required to minimize increases in floor height. The actual floor-to-floor height is to be determined based on brick coursing (if applicable), building configuration, MEP-structural coordination, or other factors that may affect the floor-to-floor height.

5. Structure

Like building organization, the structural system should be rational and logical. Extraordinary structural measures should be avoided as much as possible for design clarity, ease of construction and cost-effectiveness. Cantilevered column systems, using transfer beams or deep trusses to build over large column-free spaces should be considered only under unavoidable constraints.

6. Flexibility

As far as possible, designs should anticipate changes in use. A single building may need to accommodate several organizations one year and consolidate the next. Designs should anticipate rooms other than classrooms being pressed into service as such. Large common spaces should be designed for a variety of purposes so that they may be put to use throughout the school day.

PS/IS schools are designed to comply with IS standards for height and space requirements, and similarly IS/HS to HS standards, all in anticipation of future needs. Any authorized "unassigned spaces" included in a school design must be provided with HVAC and safety components as would be required for occupied spaces to allow flexibility for future use.



As suggested before, any schools with substantial outdoor space should, if possible, anticipate logical connections for a future addition.

7. Natural Light

Instructional rooms should have natural light; possible exceptions include computer-focused rooms and orchestra rooms. Typical classroom windows provide natural light and views to the outside, while clerestory windows will admit daylight deep into the rooms. Corridors should have natural light, if at all possible, as this adds a measure of openness to otherwise closed spaces. Offices that are occupied full-time should have windows if possible. In office suites, central spaces should borrow natural light from perimeter spaces if possible.

Care should be taken to control heat gain and glare. North light should be used to advantage for art classrooms and libraries where possible. Skylights are not a desirable alternate to windows. While direct sunlight is desirable for play areas it is not generally the chief determining factor in locating them.

On sites with restricted exposures, availability of natural light may be the first organizing principle of the school's diagram. For example, on a constrained site consideration may be given to locating classrooms around all or part of a school's open perimeter and placing program spaces that don't require natural light at the building's center.

8. Scale and Color

Human scale is particularly important in school building design as it will impact the feeling of well-being and quality of life of the students. The tile wainscot in corridors and millwork in instructional rooms all offer opportunities to strike a line that students of various ages will relate to comfortably. In all aspects the school must be inviting and welcoming.

The use of color in the school building is important in its ability to excite and enervate. A splash of bright color can announce the school to the community. Designers must bear in mind, however, that the students themselves, along with all the products of their educational experience, will provide color as the school year progresses. Color can be used as a means of way finding.

9. Cost-Effective Design

An interdisciplinary approach from the very start is essential for a cost-effective school design. The more traditional model of the architect designing the school and the engineers having to "fit their work in" is inherently inefficient, and bid prices reflect this. A full team approach, with frequent design meetings comprised of architects, engineers, design managers, construction manager, value engineering experts, technical standards and design review staff, regulatory experts and educational staff (central and local) ensure that everything that should affect the school design is put on the table and discussed, and that correct decisions are made.

Overall planning in response to site conditions, to minimize both excavation and fill, starts the project on a cost-effective path. If the existing site has excavation in the area of the new school building footprint, whether by merit of an existing building with a cellar, or a need to remove unsuitable soil, the school should be planned with a cellar or basement,



unless a high-water table exists. (Cellars and basements shall not be placed within 5'-0" of the measured groundwater table). If soils are such that a pile foundation is required, or if no excavated area exists or is planned, then a school with no cellar or basement can be planned. Similarly, if soils are such that a slab on grade can be planned with no fill, this should be the direction. The simple logic is: if there is a hole, use it; if there is no hole and no need for one, don't create one. Factors that may go against this logic include high water table, other environmental factors, and zoning requirements where an override is unlikely.

Basements place the first floor at a higher elevation that may not facilitate accessible access without the use of an elevator and thus are not commonly provided, except where a sloping site may facilitate such. The types of spaces permitted to be below grade are limited for schools other than high schools. The Cafeteria space is the only space that is permitted to be occupied by students below high school age when placed in a cellar. Thus depending on the size of the building, a full cellar may not be cost effective as it may not be able to be filled with program and thus a partial cellar should be considered.

Cost effectiveness is always an important consideration in the development of the design standards. Initial costs are weighed against useful life, constructability, and maintenance and operations needs to make decisions that are fully reasoned. Following the design standards help produce an efficient and cost-effective school building design. The standards are, however, continually evolving, and are always open to considering new suggestions that might improve the design process and product.

10. Multi-Organization Buildings

School buildings housing multiple small (300-550 students) organizations offer the intimate educational environment of small schools, with the large-scale amenities of big schools. "Multi-org" buildings can act as a campus within a building, with large common spaces shared by all of the schools, and a dedicated instructional floor or area for each. These buildings can bridge the traditional school levels too; PS/IS or IS/HS buildings can, over time, function successfully as one level or another, or both.

The three-organization HS or IS/HS has proven to be an especially efficient design opportunity, as the lower common levels can be topped with three virtually identical instructional floors. Ideally, each school will use mainly one set of stairs for circulating through the building. Placing specialty classrooms near to stairs allow for customization of three like-type specialty rooms (for example three different types of science labs or art studios) with easy access by the three school groups and limited incursion into the small school's instructional zone. This type of building can include a competition Gym and several other exercise rooms, and an Auditorium large enough to fit the population of any of the individual schools.

11. Building Material/System/Component Selection-Longevity

- a. New School buildings, whether an Addition or Stand-Alone structure, are considered a major capital investment, built with the intent to serve the community for many generations to come. As such, the durability and reliability of all major building components/systems needs to be carefully evaluated and designed to ensure they are in alignment with this primary objective. The combination of good materials selection, best design and construction practices along with anticipated maintenance

Requirement Applies to:

✓ New Construction

Major Modernizations

Capital Improvement Projects



will keep these buildings functioning and serving our communities far into the future, with minimal “unexpected” financial burden.

- b. The SCA standards, and future inclusions into the standards, take into account this philosophy. Any proposed alternate building material, component and/or system (non-SCA standard) shall be evaluated and compared to SCA standards regarding quality and characteristics of longevity, as well as warranty period, and anticipated maintenance/inspections, repair and replacement cycles. As part of its deviation review, the SCA will review the alternate and compare with the quality and maintenance aspects of the SCA standard materials for that system. **Refer to Appendix A - Building Material/System/Component Longevity and Maintenance to be used if a substitution is being considered.**

C. Rooms included in the Program of Requirements - Their use, design and relationship within the school building

The Program of Requirements references each of the required rooms by name and number. The designer is responsible for modifying the ‘standard rooms’ in order to fit the configuration of the building as designed.

The Program of Requirements groups rooms into categories as follows:

- Group 1 - Instruction
- Group CW - Citywide Special Ed – District 75
- Group 2 - Specialized Instruction
- Group 3 - Science
- Group 4 – Physical Education
- Group 5 – Assembly Area
- Group 6 – Library
- Group 7 – Lobby/Main Entrance
- Group 8 – Student Support Services
- Group 9 – Storage
- Group 10 – Administration
- Group 11 – Cafeteria/Staff Lunch
- Group 12 – Custodial
- Group K - Kitchen

The efficient functioning of the school is largely dependent on the physical relationships of these areas. Organization and circulation between these types of spaces is the key to the success of the school building.

Instructional Rooms:

Instructional rooms include all of the school’s classrooms – typical, special education, resource rooms, and special purpose classrooms for art, music, technology and science. These rooms are programmed for teaching and learning throughout the school day. They are outfitted accordingly with the latest educational technology and equipment to enhance their purpose. They are predominantly on the upper floors of the building, as the first floor is preferred for access to the large common spaces, the general office and Citywide Special Ed.



Through the 5th grade, all typical classrooms have sinks and bubblers to support their educational program and ease supervision. These elementary rooms are dedicated to one group throughout the day. Generally, from 6th grade up, students travel to different classes for their coursework.

As a rule, doors are to be flush with the corridor, and ideally should open directly into the classroom proper, avoiding an entry passageway between corridor and classroom. This will allow teachers to monitor the corridor from the classroom and vice versa over the course of the day.

Group 1 - Instruction

Regular Education Classrooms:

Pre-Kindergarten and Kindergarten Classrooms:

Use: As their names indicate, these rooms house the pre-kindergarten and kindergarten classes. Both typically have full-day sessions. While these classes may have an opportunity to use the specialty rooms in the school, it is likely that all curriculum topics will be taught in these rooms.

Design: While all elements contained in the *Room Planning Standards* must be included, the proportions of these classrooms may range from square to double-square. (They accommodate separate activity groups as opposed to a block of seating rows.) These classrooms typically contain built-in wardrobes sized appropriately. They also include sinks to facilitate art and science, as well as clean-up activities.

Supplemental/Associated Spaces and Adjacencies: Pre-kindergarten and kindergarten classrooms are required to have access to dedicated toilet rooms. Pre-kindergarten rooms and kindergarten rooms include a single toilet room with a toilet and 1 lavatory (as shown in the *Room Planning Standards*); The required toilet count for the occupants of these rooms is satisfied by their internal toilet rooms.

Location and Access: Classrooms for the youngest children are usually located on the lowest instructional floors of the school. Districts often have a preference for clustering the pre-kindergarten and kindergarten classrooms together on one floor. These classrooms should have easy or direct access to the early childhood playground.

Typical Classrooms - Full-Sized:

Use: These are typical homerooms/classrooms, as opposed to specialized classrooms such as those for science, art, etc. In the primary school, they are homerooms, where most of the day's instruction takes place; in middle schools and high schools, typical classrooms are instructional rooms for curriculum areas that do not require a physically specialized space.

Design: All components in the *Room Planning Standards* must be included. The proportions of these classrooms may range from square to rectangular as long as the room layout works. A double-square configuration is not preferred. Primary schools



have built-in wardrobes inside classrooms. While intermediate schools typically have lockers in corridors, wardrobes inside classrooms may be provided instead at the district's request. High schools have corridor lockers rather than classroom wardrobes.

Supplemental/Associated Spaces and Adjacencies: If requested by the school district, first and second grade classrooms may have individual toilet rooms within the classroom area for ease of supervision. Higher grade classrooms and specialized classrooms do not.

Location and Access: Classrooms are located within the school to place younger students on lower floors.

District Special Education Classrooms:

Use: These are homerooms/classrooms for the Special Education children whose educational program is under the jurisdiction of the school principal and community school district superintendent.

Design: The design of these classrooms follows the *Room Planning Standards*. All components in the *Room Planning Standards* must be included. It may be advantageous to pair these classrooms with a folding partition between so that the rooms may also serve as a single large classroom when the partition is opened. Districts may request that these rooms be likewise paired with a typical classroom to allow creation of an oversized classroom.

Supplemental/Associated Spaces and Adjacencies: Some District Special Education classrooms may have a toilet room as part of the classroom layout. In this respect they should be similar to other classrooms on their floor; on floors where the typical classrooms have individual toilet rooms, these should as well.

Location and Access: District Special Education classrooms may be distributed on several floors to accommodate students of several ages.

Resource Rooms:

Use: These rooms are for single-period special instruction of small groups of students.

Design: The design of these classrooms follows the *Room Planning Standards*.

Supplemental/Associated Spaces and Adjacencies: It is possible to pair these rooms side by side with a folding partition between so that they may be combined for use as a larger classroom. However, this limits the location of building systems components and outlets.

Location and Access: As these rooms are used by students of all ages, they may be located on upper floors. As with offices, advantageous locations include control points along circulation: next to or across from a stair, at the intersection of corridors, etc.



Group CW – Citywide Special Ed - District 75

Citywide/District 75 Special Education Classrooms:

Use: These are homerooms/classrooms for students whose educational program is under the jurisdiction of the Citywide (District 75) Special Education Superintendent. District 75 includes students from the five Boroughs, hence "Citywide". A District 75 supervisor is assigned to each building that houses a Citywide organization. The Citywide classrooms and support spaces are a clustered sub-group, although its students share the school's common spaces.

Design: The design of these classrooms follows the *Room Planning Standards*. All components in the *Room Planning Standard* must be included, with one exception; toilets within the classrooms are to be included only when prescribed by the Program of Requirements.

Supplemental/Associated Spaces and Adjacencies: District 75 classrooms slated for use by lower grades may require internal toilet rooms. If a diaper changing room is required by the POR, it must be a separate room accessible from the corridor. The Program indicates which rooms must be clustered. District 75 has office space in addition to Guidance Suites. The school's medical suite is also used by District 75 and should be easily accessible from the Citywide cluster. The Guidance suite may be on the same floor or an adjacent one.

Location and Access: These classrooms must be clustered and should be on the first floor if possible. If they cannot all be on the first floor, they must be clustered vertically on the first and second floors (or the lowest possible floor or pair of floors) near both stair and elevator.

Auxiliary Citywide/District 75 Special Education Classrooms:

- Activities for Daily Living Room
- Citywide Special Ed Speech Room
- Occupational/Physical Therapy Room

Use: These auxiliary instructional rooms are dedicated to Citywide Special Ed. These rooms include special furnishings and equipment to enable training specific to the Special Ed program. The three rooms listed above are typical; if the specific District 75 population is identified at the outset of a project, they may vary.

Design: The design of these classrooms follows the *Room Planning Standards*. All components in the *Room Planning Standards* must be included.

Supplemental/Associated Spaces and Adjacencies: Citywide auxiliary classrooms should be on the same floor(s) as their typical classrooms. Alternatively, the program may require the Occupational/Physical Therapy Room to be located adjacent to the Gymnasium or the Gymatorium.

The students will, for the most part, be brought individually or in small groups for the sessions in these spaces.



Location and Access: Citywide classrooms must be clustered and should be on the first floor if possible. If they cannot all be on the first floor, they must be clustered vertically on the first and second floors (or the lowest possible floor or pair of floors) near both stair and elevator.

Group 2 – Specialized Instruction (Art, Music, Technology)

Use: These rooms are designed for specific subjects but may serve as typical classrooms when required.

Design: The design of these classrooms follows the *Room Planning Standards*. All components in the *Room Planning Standards* must be included. Consideration should be given to flexibility. As the school's needs change over time, these classrooms may sometimes be used as typical classrooms. It is therefore advantageous to design specialty and small classrooms for possible conversion or combination into typical full-sized classrooms.

Supplemental/Associated Spaces and Adjacencies: Some specialty rooms have associated storage, prep or ancillary rooms. These rooms should have doors into both their associated specialty classrooms and onto the corridor so that:

- if the specialty classrooms are ever used as typical classrooms, the ancillary rooms can then also be generally accessed from the corridor.
- The music storage spaces can be shared by the adjacent music/choral rooms, other music rooms in the building or the auditorium.

Location and Access: Specialty rooms should be located on the same or proximate floors to the classrooms/grades they serve. This is particularly important when the building spans two or three school levels, i.e., PS/IS, IS/HS or PS/IS/HS. When possible, art rooms that require exhaust for kilns should be located on the top floor (or stacked one above the other) to minimize ductwork and chases. At the request of the district, specific adjacencies may be desired, such as clustered arts-related rooms, or the music room proximate to the auditorium.

Note that acoustical considerations must be taken into account early in the planning process. Sound isolation (vertical and horizontal) of the music rooms from the other instruction rooms must be provided.

Group 3 - Science

Use: These rooms are designed for specific subjects but may serve as typical classrooms when required.

Design: The design of these classrooms follows the *Room Planning Standards*. All components in the *Room Planning Standards* must be included. Consideration should be given to flexibility. As the school's needs change over time, these classrooms will sometimes be used as typical classrooms. It is therefore advantageous to design specialty and small classrooms for possible conversion or combination into typical full-sized classrooms.



Supplemental/Associated Spaces and Adjacencies: Science rooms have prep or storage rooms. IS and HS science suites typically sandwich a prep room between a lab and a science demonstration room; in this case the prep room will have the emergency shower for all three. When possible, the science prep or storage rooms should have doors onto both the science rooms and onto the corridor so that:

- if the science classroom or labs ever need to be used as typical classrooms, the prep/storage rooms can be generally accessed from the corridor.
- the prep room can be shared by the adjacent science rooms and other science rooms in the building.

Location and Access: Science rooms should be located on the same or proximate floors to the classrooms/grades they serve. This is particularly important when the building spans two or three school levels, i.e., PS/IS, IS/HS or PS/IS/HS. The primary school “science resource center” should be located on the same floor as the fourth and fifth grade classrooms; the IS “science lab/demo room” should be located on the floors that house grades 6-8; and the high school science suite should be located on the floors that house HS grades. Science rooms that require exhaust for the fume hoods should be located on the topmost floor of the building to avoid running exhaust ducts through other floors. In a multi-org IS/HS, science suites can be stacked to gain the efficiency of a single exhaust duct chase to the roof.

Large Common Spaces

Large common spaces include the gymnasium, gymatorium, large multi-purpose and exercise rooms, auditorium, library, lobby and cafeteria. These spaces should be easily accessible for student use during the school day and community use after hours. When possible, major spaces should be accessed from the first floor – if possible from the main entrance/lobby where they can be monitored from the lobby security desk.

Group 4 – Physical Education

Gymnasium:

Use: The gym is used for physical education classes at all levels, competitive games in intermediate and high school, and may be used for staging large groups of students at arrival and dismissal and for after-school programs or community activities.

Design: The design of the gymnasium and its ancillary spaces follow the *Room Planning Standards*. While there is some flexibility in the location of the doors and adjacent spaces, the court and minimum runoff dimensions must be maintained. All elements contained in the *Room Planning Standards* must be included. Acoustical separation from instructional spaces above and below is critical. Floor, ceiling and walls must be detailed for acoustical isolation. Windows are desirable. If provided, they should include interior window guards as needed and allow for ventilation. Control of glare and solar heat-gain is critical.

In projects where the Gym can be used as a staging area for large groups of students at arrival and dismissal, the exterior door(s) designated to be used during such staging should be provided with a vestibule and walk-off mats.



Providing doors that exit directly into an egress stair is to be avoided.

Supplemental/Associated Spaces and Adjacencies: Gym storage must be directly accessible from the gym. If possible, the gym instructor's office should be located to monitor both the gym and the locker rooms. IS/HS locker rooms to be on the same floor as the gym and should, if possible, have access from both the corridor and the gym. Toilet rooms should be available nearby, either in the locker rooms or on the corridor. Locker rooms and/or changing rooms should be proximate to the spaces that may be programmed for phys ed activities – since this is likely not possible in all cases, the order of priority would be the gym, gymnasium, dance room, auxiliary exercise room and play yard.

Location and Access: The basement, first floor and top floors of a school are locations for the gym that each have specific advantages. Gymnasiums in schools below high school level may not be placed in cellars, even if a double height space.

- A basement location has two: no need for acoustical separation from space below, and an opportune use of basement space, if a basement has been determined cost effective.
- A first-floor location has two advantages: potential direct access to the play yard and good accessibility for community after-school use.
- Locating the double-height gym space at one of the building's highest two floors, with no spaces above, has structural advantages given the long span required to cover the gym. Placing the gym at the top floor may relieve site constraints by pushing the upper volume of the gym above the main school roof, where it may be set back from sky-exposure planes or afford particular opportunities for fenestration.

With their large areas, it may make sense to stack spaces like the gym, cafeteria and auditorium vertically. Locating a gym above a cafeteria requires less attention to acoustical detailing than locating a gym above an auditorium. The latter should be proposed only for compelling reasons.

Both intermediate and high school gyms are large enough to be divided into two small gyms. Access from the corridor to both sides of these gyms is therefore advantageous – strong preference is for the length of the gym to face the corridor.

Auxiliary Exercise Room

Use: The auxiliary exercise room is a dedicated phys ed room. It is typically a single floor height and will have finishes and equipment specific to its function. It may be a dance room, weight room, or general exercise room. It may be used for after-school programs and community activities.

In the PS/IS school, a general exercise room, with padded walls, may often be used by the youngest children and by small groups of District 75 students.

Design: Some varieties of auxiliary exercise rooms are shown in the *Room Planning Standards*. Generally, the room is a clean rectangular shape, with enough room for a class activity. Acoustical separation from surrounding spaces must be considered.



Supplemental/Associated Spaces and Adjacencies: See the gym section above.

Location and Access: This space should be proximate to the locker rooms if it is for IS or HS, or to the classrooms it serves if it is for PS students.

Multi-Purpose Room

Use: The multi-purpose room by definition is capable of serving several functions, among them: exercise, assembly, or other instructional activity.

Design: Flexibility is given by the provision of moveable seating. Acoustical separation from surrounding spaces must be considered.

Supplemental/Associated Spaces and Adjacencies: A storage room for seating and equipment storage is essential.

Location and Access: The multi-purpose room is generally located on one of the lower floors. Useful functions include a green room for an auditorium, or a playroom next to the cafeteria.

Gymnasium

Use: The gymnasium serves a dual function as both gymnasium and auditorium. It is used for physical education and for school assemblies and performances, and may also be used for staging large groups of students at arrival and dismissal, as well as before and after lunch. The platform/performance area (the stage) is large enough to serve as a dance classroom or for music instruction. As is true with other large common spaces, it may be used for after-school programs and community activities.

In a school that would otherwise include both a gym and auditorium, the gymnasium offers an opportunity for double the programmable physical space, while still having an assembly area with stage. In fact, the seating of the gymnasium, while not fixed, outstrips that of the standard PS/IS 300-seat auditorium.

Design: The gymnasium is comprised of a stage/performance area and play/seating area. Flexibility is given by the provision of moveable seating. Raised stage with telescoping seating on a flat floor is one design approach. The Gymnasium layouts in *Room Planning Standards are based on raised stage and moveable seating approach*. A raised stage with telescoping seating is the preferred option. Alternatively, a flat performance area with moveable bleacher seating and/or fixed stadium seating may also be used. As with the gym, minimum runoff dimensions must be maintained. Site lines must be considered for the telescoping and/or moveable seating arrangement. For a large gym that can be divided with a folding partition, the preferred location of the stage is at the short end of the partition section (adjacent to the partition of either of the two partitioned sections). The height of the stage must be adequate to accommodate required lighting and stage rigging. As required by code, two means of exits from the stage must be provided. Acoustical separation from surrounding spaces must be carefully considered – the gymnasium is both a noisy and a noise-sensitive space. Floors and walls must be detailed for acoustical isolation.



Windows are desirable and if provided they should include interior guards as needed, and should allow for ventilation. Control of light/glare can be achieved with the use of window shades instead of the traditional drapes.

Providing doors that exit directly into an egress stair is to be avoided.

Supplemental/Associated Spaces and Adjacencies: See the gym section above, and the Auditorium section below.

Location and Access: See the gym section above, and the Auditorium section below.

Group 5 - Assembly Area

Auditorium:

Use: The auditorium is used for school assemblies and performances as well as for staging large groups of students at arrival and dismissal, and before and after lunch. The auditorium may be used for music instruction, seminars or lectures. After hours, may see community use of this space. The performance area, if large enough, may serve as a dance space.

Design: The auditorium typically includes a raised stage or platform, fixed seating and a raked seating area. When a long space is used, stadium seating may be an option, with a flat or raised performance area. The auditorium's shape may vary provided it is functional and acceptable to its users. For young children proximity to the stage is a positive aspect, so a shallow fan-shaped space offers advantages. All elements contained in the *Room Planning Standards* must be included. A route providing level access from the rear of the auditorium to the platform/stage is preferred as opposed to a mechanical lift. Flexibility is encouraged to accommodate the greatest range of uses. Fenestration is not required but may be desirable if it doesn't present acoustic problems and incorporates adequate light control. Sight lines and acoustics, as well as vertical and horizontal acoustic isolation must be considered. For this reason, placing an auditorium directly under the gymnasium should be avoided. If due to site constraints stacking the Gym above the auditorium is unavoidable, additional acoustic measures must be incorporated into the design. As the auditorium requires long span structural framing, consideration should be given to placing it under its own roof or stacking it under other column-free spaces. Locating the rooftop HVAC equipment directly above the auditorium roof will require special acoustic design consideration.

Providing doors that exit directly into an egress stair should be avoided.

Supplemental/Associated Spaces and Adjacencies: Back stage storage and dressing room/green room space should be appropriate to the level of the school. If the auditorium is to serve as a music room, an instrument storage room should be readily accessible. Toilet rooms for adults, non-ambulatory use and students should be nearby, on the corridor to the auditorium. (These may be minimal if other toilet rooms are provided on the same floor.)

Location and Access: A first-floor location is preferable for the auditorium although basement or second-floor locations are acceptable, particularly if they are linked to



the school's lobby by circulation of a public quality such as an open stair that is part of or clearly visible from the lobby. Auditoriums in schools below high school level may not be placed in cellars, even if a double height space. Consideration may be given to placing the auditorium on the top floor of a school if it is stacked above the gym and can share the volume of the upper gym to create raked seating. It is advantageous for the auditorium to communicate as directly as possible to the lobby, both because of its sometimes public use and because the lobby may serve as a pre-function space. A first floor location allows the best relationship to the lobby and may result in the most efficient satisfaction of egress requirements if exits directly to the exterior are provided. Doors and aisles should allow easy movement of large groups into and out of the auditorium.

Group 6 - Library

Use: The library plays an important role within the school population and the community and should welcome a wide range of functions from quiet individual reading, small lectures, musical performance events and teacher meetings. It may also serve the secondary function of small community meetings and other civic functions. The library is used for both lending of books and research, and supports group activities.

Design: There is flexibility in the geometry of this space. The layout should be flexible so as to allow it to be rearranged into small conference areas, lecture spaces or teaching spaces. A "teaching wall" with adequate data electrical support must be part of the design. However, supervision by one librarian must be accommodated, with clear sight lines throughout the space from the circulation desk. Colors, materials, textures and furniture must all be interwoven, so as to create an inviting very flexible, harmonious and comfortable space. All elements contained in the *Room Planning Standards* must be included. Tables should be small enough to facilitate rearrangement and change in locations. Tall bookshelves should only be placed against walls while shelves in the interior part of the library must be low enough to see over.

Acoustics are of primary importance.

Adequate natural light is required. The Designer is to provide adequate shading devices to maximize natural light while filtering direct sunlight.

The lighting design is to be creative but also functional and must have the required lighting levels for reading.

The library entrance should include graphics, signage, etc. that identifies the library and provides a visual connection between the library and the corridor or lobby immediately outside of the library.

Supplemental/Associated Spaces and Adjacencies: The library's archival and media-related functions make it a suitable space to contain or be adjacent to the audio-visual storage room. The library often serves as audio-visual distribution center for the school. Because the library is used as a meeting space, an adjacency or even a direct connection to the staff workroom may be advantageous.

The Staff development room (if included in the POR) is used for research by staff members. Direct connection to the library or location in the vicinity of the library is desirable.



Location and Access: Typically, the library is located on an upper floor because of the competition for first floor space. To support the after school secondary function of the library and for ease of access by the community, the Library must be located in close proximity to the main stair and elevator. While it is usually provided with two means of egress, only one entrance is active, the other serving as emergency, alarmed egress. Under a certain size, a single means of egress is both code compliant and acceptable.

Group 7 – Lobby/Main Entrance

Use: The lobby is the main and formal entrance to the school and also may serve as a pre-function space for the auditorium or other large spaces. It is the control point for visitors and deliveries (with the exception of kitchen deliveries).

Design: As the school's public entrance, the lobby should be welcoming and a place of importance. It may be the location for Public Art and typically it is a showcase for school accomplishments. The lobby's security desk should be positioned to maximize supervision of circulation. All elements of the *Room Planning Standards* must be included. It is advantageous for the security desk to allow observation of visitors to the general office.

While the creation of lobby atrium might be an exciting design feature, it is discouraged because of architectural, electrical, fire safety, egress and mechanical maintenance issues it poses. The designer must solve the problem of ensuring ready access to lights, smoke detectors, smoke dampers, ductwork, fire sirens, etc. for maintenance purposes. A ladder or scissor-lift may work in some cases, but not all. If such a feature is accepted during design, a maintenance plan must be prepared for the DOE custodial staff.

Supplemental/Associated Spaces and Adjacencies: The main entrance must contain a vestibule. The Lobby should include a built-in security desk, outlets to support the CAAS and POS system, an optional security scanning station, and may include a closet for short-term storage of deliveries.

Location and Access: The location of the building entrance is a primary consideration. Among the factors that must be considered are the following:

- the school's location within the neighborhood it serves
- the direction of approach to the school by its students
- likely bus or car drop-off locations for students
- traffic direction of surrounding streets
- the location of traffic lights that allow pedestrian crossings
- public transportation routes
- relationship to streets with heavy and possibly dangerous vehicle traffic
- availability of site area for students to assemble before school
- site supervision and visual control
- and the character of adjoining properties



Group 8 - Student Services

Guidance/School-Based Support Team (SBST) Suite

Use: These suites support testing, confidential evaluation and counseling, as well as attendance recording and college and vocational counseling.

Design: These office spaces must have visual and acoustical privacy but may have doors with vision panels. Districts may specifically define the use of these suites.

Supplemental/Associated Spaces and Adjacencies: A **records room** (*RPS layout # 8-44*) is provided adjacent to the suite. Arrangement of spaces within suites follows the *Room Planning Standards*. All elements of the *Room Planning Standards* must be provided. Without increasing the overall area of these suites, the distribution of square footages within may be adjusted as agreed by DOE and the district.

Location and Access: The office suites should be located on lower floors to be easily accessible to visiting parents.

Medical Suite

Use: This suite supports the care of students who may have become ill or accidentally injured during the school day or may need some adult comfort or counseling.

Design: Arrangement of spaces within suites may be modified but all elements of the *Room Planning Standards* must be provided. **Per §49.07(d) of the NYC Health Code, the medical room shall be in a dedicated space with no through traffic, wheelchair accessible, on a lower floor and in a central building location. It shall contain the following;**

- (1) a workstation;
- (2) a medical cabinet, a filing cabinet, medication refrigerator, exam table and scale;
- (3) an appropriate waiting area;
- (4) a bathroom internal to or adjacent to the medical room;
- (5) a holding area for a student awaiting transportation or pick-up (80 square feet); and
- (6) a nursing/treatment area that meets the following requirements:
 - (i) minimum of 200 square feet in buildings for up to 800 students and 300 square feet in larger buildings to accommodate more staff.
 - (ii) sink with hot and cold running water.
 - (iii) floor-to-ceiling walls substantial enough to maintain privacy.
 - (iv) easy to clean surfaces (e.g., no carpeting).
 - (v) internet access and adequate electrical power (multiple outlets) for computers and medical equipment.
 - (vi) telephone line able to make direct calls out of building (e.g., 911 calls) and to send and receive faxes.
 - (vii) adequate heating and air conditioning, lighting and ventilation, including a window.
 - (viii) secure lock that cannot be opened by other school keys (excluding master key); and



- (ix) **safety button to enable nurses to have immediate access to security in the event of an emergency.**

Supplemental/Associated Spaces and Adjacencies: The medical suite includes a waiting area, nurse's office, toilet room and examination room(s). Sometimes schools have a partnership with a hospital or clinic to provide more extensive services. In these cases, the suite is customized accordingly.

Location and Access: The medical suite is best located on a lower floor to be easily accessible to parents. For PS/IS schools, proximity to the playground may be advantageous.

School Based Health Clinic

Use: In addition to being used as a medical suite during school hours, the health clinic serves the community after school hours.

Design: Arrangement of spaces within suites may be modified but all elements of the *Room Planning Standards* must be provided.

Supplemental/Associated Spaces and Adjacencies: The school-based health clinic includes a waiting area, intake area, a lab, toilet room and examination room(s).

Location and Access: The school-based health clinic is best located on a lower floor to be easily accessible to parents and the community for after hour use. An independent entrance and ability to isolate the suite from the remainder of the building for the after use may be advantageous.

Government & Clubs/Publication

Use: This room may be included only in high schools for student use during and after school. Its function is for student activities, related meetings and storage.

Design: The design of this room follows the *Room Planning Standards*.

Supplemental/Associated Spaces and Adjacencies: Lockable storage within this room is required.

Location and Access: The Government & Clubs room generally takes a "less desirable" location in the building, since it is not used all day long.

Student Store

Use: This small shop is run by students and may be included only in high schools. Sales include snacks and school-related supplies.

Design: The design of these rooms follows the *Room Planning Standards*. The student store has a "sales window" opening into the cafeteria. If possible, it should be accessed from the corridor; otherwise, a dutch door to the cafeteria is adequate.



Supplemental/Associated Spaces and Adjacencies: Lockable storage within this room is required.

Location and Access: The student store must be adjacent to the cafeteria.

LYFE Center

Use: This space is used to provide Day Care facility for infants and toddlers of the school students and may be included only in high schools.

Design: In addition to the NYC Building Code, the design of this room must follow the NYC Health Code requirements for Day Care Facility. *The Room Planning Standards* may be used as a guide.

Supplemental/Associated Spaces and Adjacencies: Student toilet, laundry, staff areas and storage are required within this room.

Location and Access: The LYFE center should be accessible from the school corridor and **MUST** be located in the building such that it also has a direct access to the outside at grade.

Group 9 – Storage

Separately programmed storage rooms (other than those associated by program with other primary spaces) are provided for books, furniture, general school supplies, grounds equipment, filters for the air handling units, and other custodial supplies, computer and A/V equipment, sensitive materials that require “secure storage”, bicycle storage and finally for trash. These rooms must have shapes that allow for efficient storage. All elements of the room planning standards must be provided.

Small and Large Book Storerooms

Use: These are for storage of books in small rooms on each floor and/or a large room in the **cellar or** basement, depending on efficiency and availability of space.

Design: Book storage rooms must be of a size and shape that is appropriate for shelves of books - i.e., not triangular. The size of individual small book storage rooms may vary with availability of space, but the total book storage area must be provided.

Supplemental/Associated Spaces and Adjacencies: **Cellar or** basement book storage rooms should be located near an elevator.

Location and Access: While it is advantageous for book storage to be dispersed as described in the Program, this requirement is flexible. Under constraint, most or all book storage may be located in the cellar or basement.

Furniture Storeroom Receiving and General Supply

Use: These spaces store furniture (new and old) and general school supplies (paper and other classroom and office supplies).



Design: These rooms must have shapes that allow for efficient storage. The *Room Planning Standards* should be used as a guide, with all elements provided.

Supplemental/Associated Spaces and Adjacencies: These spaces are best located near stairs or elevators. They must be accessible to adults and/or supervised students.

Location and Access: The general and furniture storerooms should be located in the cellar or basement if one is planned.

Grounds Equipment Storeroom

Use: The grounds equipment storeroom is for outdoor maintenance-related equipment (snow blowers, shovels, rakes, hoses, etc.) and should be located at grade level with direct outdoor access and appropriate ventilation.

Design: Follow the requirements in the *Room Planning Standards*.

Supplemental/Associated Spaces and Adjacencies: Since the grounds equipment is likely to be wet or dirty after use, exterior access only is desirable.

Location and Access: Access from outside, at rear or side of the building is desired.

Audio Visual/Secure Storeroom Vault with Anteroom

Use: The audio-visual/secure storeroom (for PS and IS) and the vault (for HS) are used to store valuable equipment or materials such as standardized tests that must be under lock and key.

Design: The secure storeroom is equipped with a three-point lock for vandal resistance. The vault room is the special secure storeroom for high schools. It may include an anteroom. Because it will hold the Regents Exams, the construction of the room must comply with the requirements of the NY State Education Department.

Supplemental/Associated Spaces and Adjacencies: Since these rooms are visited infrequently and only by adults, they should be removed from the student areas of the schools.

Location and Access: They are well suited to a **cellar or** basement location if one is planned.

Refuse & Recycling Room

Use: Trash and Recyclables are compacted by the custodian and stored in these rooms until the day of collection.



Design: The refuse and recycling storage room must have a hose bib, floor drain, and floor be finished for easy wash-down. All elements of the *Room Planning Standards* must be provided.

Supplemental/Associated Spaces and Adjacencies: The compactor is located within the larger recycling and refuse storage room. Although much of the school refuse comes from the lunchroom, this area is NOT part of the office of school food and nutrition— it is under the custodian’s purview.

Location and Access: The route from these spaces to the sidewalk should be as short as possible, should not traverse through the kitchen, and should interfere as little as possible with student circulation. It is advantageous for this room to be located on the first floor. If this is not possible, it may be located in the cellar or basement near an elevator.

Computer/AV Storeroom

Use: This room stores the laptop computer cart and recharging equipment as well as audio/video equipment to be used by the classrooms on that floor.

Design: Follow the *Room Planning Standards*.

Supplemental/Associated Spaces and Adjacencies: Since this room will see frequent use during each school day, it should be proximate to the classrooms it serves.

Location and Access: This room should be centrally located on each instructional floor.

Filter Storage

Use: This storeroom as the name suggests is for the RTU/air handling units’ maintenance-related equipment (filters).

Design: Provide shelving to store the filters.

Supplemental/Associated Spaces and Adjacencies: While it is advantageous for this space to be in the proximity of the RTU/air handling units, this requirement is flexible. However, it should have easy access to the RTU/air handling units.

Location and Access: Location on the floor that houses the boiler and/or the RTU/air handling units allows the best service relationship. If this is not possible, it may be located in the cellar or basement near an elevator.

Bicycle Storage

Use: This space will primarily be used to secure and store bicycles for the staff members who prefer to use bicycles for their commute to and from the school.

Design: The design must satisfy the bicycle parking requirements of the NYC zoning. There is flexibility in the geometry of the space but the space must account for



accessible cycle storage required by Section BC 1109.9.3 of the 2022 NYC Building Code.

Supplemental/Associated Spaces and Adjacencies: The site should include additional bicycle parking located in the front of the building, where possible, to meet Green Schools Guide requirements. If the only space available is the schoolyard, the use and amount of schoolyard area required for bicycle storage needs to be evaluated and balanced with the need for children's play activities. Alternative storage options should be considered. A shower and changing area for staff use is required and provided in the building, which is typically combined with the required custodian shower. Staff should have access to the shower and changing area.

Location and Access: The bicycle storage is best located on first floor to be easily accessible from the street level. If this is not possible, it may be located in the cellar or basement near an elevator. However, the required accessible cycle storage spaces must be located on the floor accessible from the street and not require use of the elevator. The route from this space to the building entrance should be as short as possible. An area or room opening into the building's vestibule is preferred.

Proximity to the shower and changing area may be advantageous.

Group 10 – Administration

Administrative Areas include the administrative suite (general office, waiting area, etc), principal's office, supervisory offices, staff workrooms, school aides room, and the Parent/Community Room.

General Office Suite

Use: The general office suite includes the school office, with waiting area, staff work and support areas (duplicating and file rooms), an area for teachers to punch timecards and collect mail, and the principal's office.

Design: The design should satisfy the office operation as described by the district. The *Room Planning Standards* may be used as a guide. It is advantageous for the teachers' timecard and mail space to be on a one-way circulation loop within the suite but outside the general office work area. This may be achieved by use of two remote doors into the waiting area. The general office staff work area is typically separated from general circulation by a counter and a low height double-swing door.

Supplemental/Associated Spaces and Adjacencies: The *principal's office* typically has one door to the general office and one to the corridor. The office contains a conference area and shall contain a private toilet room.

Location and Access: The general office suite should be located on the first floor, accessible from the main lobby and centrally located so that it contributes to school security and allows visitors direct access. A second-floor location at the head of the stair nearest the lobby may be considered under spatial constraints or at the request of the district.



Supervisory Offices

Use: These are supervisory offices used by assistant principals, curriculum heads, and by those teachers whose instructional space does not include their desk, files, etc. High schools include a program office for assigning students their schedules of coursework, with an ATS station (a centrally networked database for attendance, grades and other detailed student and staff information).

Design: As it is advantageous for these offices to contribute to supervision of the school's circulation spaces, glazing between the offices and corridors should be provided to the maximum degree possible. If an office is used only for occasional deskwork, it may be placed in a location that doesn't allow for an exterior window.

Supplemental/Associated Spaces and Adjacencies: Some offices have associated storage rooms, which should be immediately adjacent.

Location and Access: Supervisory offices should be distributed throughout the building and located at control points along the corridor, next to or across from a stair, at the intersection of corridors, etc.

Teachers'/Aides Work Room

Use: The teachers' workroom is used by teachers during class preparation periods. It may also be used by the school aides to store personnel belongings during the school day.

Design: The teachers' workroom should be a quiet haven for teachers and should have a window if at all possible. All elements contained in the *Room Planning Standards* must be included.

Supplemental/Associated Spaces and Adjacencies: The associated staff toilet may be accessed either from the corridor or directly from the workroom. The district may give direction on this.

Location and Access: The teachers' workroom should be located centrally in the building for easy access by all staff.

Parent/Community Room

Use: The parent/community room provides office space for the parent coordinator and a base for school-related community activities.

Design: The layout of this room follows the *Room Planning Standards*. All elements contained in the *Room Planning Standards* must be included.

Supplemental/Associated Spaces and Adjacencies: Shelving and storage are important to the function of this room since it will be the center of fundraising and other parent organization events.

Location and Access: The parent/community room should preferably be located on the first floor for easy access. The district may give specific direction on this.



Group 11 - Cafeteria/Staff Lunch

Staff Lunch/Conference Room

Use: This room is used as a lunchroom at midday and for staff work or meetings at other times.

Design: The layout of this room follows the *Room Planning Standards*. All elements contained in the room planning standards must be included.

Supplemental/Associated Spaces and Adjacencies: This room and the staff work room can combine their areas if one large staff multi-purpose space is desired.

Location and Access: The staff lunchroom may be near the kitchen but should not open onto the student cafeteria. Time in this room is usually taken as a respite from the flurry of school activity. The district may give specific direction as to its location.

Students' Cafeteria

Use: In the cafeteria, students are served breakfast and lunch. The cafeteria may also be used for morning and afternoon line-up. At other times during the school day, it is used as a play or instructional room. After hours it is used for after-school programs and meetings.

Design: The size of the cafeteria is based on feeding **100%** of the school capacity in three seatings per day. The cafeteria's shape must allow for supervision of its entire area from a single location within it. Circulation through the servery between kitchen and cafeteria must be considered and may establish the general orientation of the kitchen and cafeteria. All elements contained in the *Room Planning Standards* must be included.

Multiple doorways into the cafeteria are critical as the transition between lunch periods entails the flow of one third of the student body into this room and another third out. As this is the noisiest room in the building, acoustical treatment and separation from other spaces must be planned. Natural light, operable windows and a view to the outdoors are desirable, but not required if other priorities prevail.

Supplemental/Associated Spaces and Adjacencies: The cafeteria and kitchen must be on the same floor and directly accessible to each other. The kitchen area should have a visual link to the cafeteria. The wall between the servery and the cafeteria (if one exists) may be glazed.

The student cafeteria may include a small mediation room, where adults can mediate conflicts between students.

Primary and intermediate school cafeterias should have boys' and girls' toilet rooms within them. If this is not possible, the toilet rooms must be immediately adjacent to the cafeteria. High school cafeterias must have adjacent student toilets.



Because primary and intermediate school cafeterias may be used for morning line-up, and serve breakfast, they are well suited to be entry point into the schools - adjacency to both the play yard and school lobby is advantageous. (See Primary and Intermediate School Play Yard below.)

Location and Access: A first floor location is highly preferable. A cellar or basement location is acceptable if a connecting stair to the outside and upper floors is provided. In schools below high school level, the Cafeteria is the only space students are permitted to occupy when placed in a cellar and thus the cellar is an effective location for the cafeteria, especially if soil conditions are such that excavation for a cellar is logical. If site constraints demand, a high school cafeteria may be located on an upper floor. Primary and intermediate school cafeterias should open directly out onto the school play yard, if possible.

Group 12 – Custodial and Plant operations

This group of rooms includes those belonging to the school custodian, the school safety officers and the local telecommunications personnel. With the exception of the custodian's office, it is best if they are not in the main stream of school activity.

Custodian's Office

Use: These spaces are used as indicated by their room designations.

Design: The designs of these spaces follow the Room Planning Standards. The custodian's office contains the control panels for all of the building alarm systems (with the exception of the building fire alarm panel). This should be considered in the building and system design.

Supplemental/Associated Spaces and Adjacencies: The custodial, school safety locker rooms, custodial workshops and the combined school safety administration office/locker room should be located in the cellar or basement.

Location and Access: The custodian's office should be located on the main floor as near as possible to the lobby. (Custodial staff are sometimes the building's only occupants.) The custodian's workshop and storage and locker rooms should be located in the cellar or basement.

Custodian Workshop, Custodial Storage

Use: These spaces are used as indicated by their room designations.

Design: The designs of these spaces follow the Room Planning Standards.

Supplemental/Associated Spaces and Adjacencies: These custodial spaces may be located in the vicinity of the electric/ mechanical service rooms.

Location and Access: The custodial staff are the only users of these spaces, and these spaces should be located away from the educational spaces, in the cellar or basement.



Telecommunication Rooms

Use: These spaces are used as indicated by their room designations.

Design: The designs of these spaces follow the Room Planning Standards and DIIT Standards. Refer to DR 7.3.3.

Supplemental/Associated Spaces and Adjacencies: Telecommunication Rooms do not have other spaces that are associated with them or that they need to be adjacent to. Intermediate Telecommunication Rooms are to be stacked where practical.

Location and Access: Refer to DR 7.3.3. The Main Telecommunications Room is to be centrally located on an upper floor of the building not under a roof (not in the basement or cellar). Intermediate telecommunication closets are to be centrally located and placed on each floor (Other than the floor with the main telecommunications room) or every other floor depending on the size of the school as dictated by the 100m maximum cabling distance.

Toilet Facilities

Student toilet rooms

Use: Dedicated toilet rooms are included in pre-kindergarten and kindergarten and for some projects in first and second grade classrooms and certain special education classrooms. Toilet rooms on corridors, typically designated “Boys” and “Girls”, should accommodate the balance of the student population with fixture counts distributed according to the need on each floor. One single user accessible unisex student toilet, accessible from the corridor, shall be provided in the building. The SCA Design Requirements should be used to calculate the required toilet fixture count.

Design: These rooms follow the *Room Planning Standards* and *SCA Design Requirements*.

Supplemental/Associated Spaces and Adjacencies: While Boys’ and Girls’ toilet rooms may be adjacent to each other, their entrance doors should be as remote as possible. Their doors should not share an entry alcove.

Location and Access: It is advantageous for these rooms to be centrally located. Toilet rooms shall not be placed over electrical/telecommunication rooms, elevator machine rooms, or kitchens.

Adult Toilet Rooms

Use: These rooms, typically designated “Men’s” and “Women’s”, have keyed access and are used by staff and visitors. (Note that for large after school evening or weekend events, the Boys and Girls toilet rooms serve as general male and female toilet rooms).

Design: These rooms follow the *Room Planning Standards* and *SCA Design Standards*.



Supplemental/Associated Spaces and Adjacencies: The SCA Design Requirement must be followed in calculating the number of adult toilet rooms. The Program may also call for toilet rooms in specified spaces/floors. In buildings with a large auditorium, a unisex toilet for non-ambulatory use may also be required.

Location and Access: In large buildings, a minimum of two individual adult toilet rooms, one Men's and one Women's, is required for each floor. Alternatively, for a small building, a unisex toilet may be located on each floor. A bathroom for the principal's office is to be provided. If additional toilet fixtures are required by code, they should be located on the same floor as the General Office and the Auditorium. Toilet rooms shall not be placed over electrical/telecommunication rooms, elevator machine rooms, or kitchens.

Group K - Kitchen

The kitchen complex is under the jurisdiction of the central Office of School Food (OSF). It comprises the kitchen proper, servery, storerooms, dietician's office, walk-in freezers and refrigerators, kitchen help locker rooms and deliveries area. The design and layout of these areas incorporate the OSF requirements.

Kitchen Complex

Use: The kitchen is used by the OSF staff to prepare and serve breakfast and lunch to the school population.

Design: The design must be approved by the OSF representative who will participate in relevant design meetings. Generally, a Food Services consultant is contracted to develop the design. The *Room Planning Standards* can be used as a guide. Note that 75% of the required kitchen storage (for long-term storage of paper and canned goods) can be remote from the kitchen.

Supplemental/Associated Spaces and Adjacencies: The *dietician's office* should be located within the kitchen to facilitate a direct view to the cooking area. The storage areas for long-term storage of paper and canned goods should be as readily accessible to the kitchen staff, but can be removed from the kitchen proper.

Location and Access: The location for the kitchen is to be directly adjacent to the Cafeteria. The servery requires direct access to the kitchen and to the cafeteria. The storage, freezer and refrigerator areas are to be located within the kitchen with easy access to the delivery/receiving area. However, a percentage of the Kitchen's Storage Area may be located on a different level and if so, preferably in the cellar or basement where such space may be most affordably created. Placing this space directly under the kitchen has the advantage of allowing access to kitchen piping. Such storage must be near stairs or elevators.

D. Plant Operation Areas

Plant operations areas include service rooms such as, but not limited to, electric, water, and sprinkler service rooms, boiler rooms etc.



Use: These are the spaces that are required to house the building services and the mechanical equipment.

Design: Design of spaces is based on the building's size, location of utilities in the street and the mechanical system design. System designs must follow the mechanical design requirements. As per Rule §4-6.8 of the NYS Industrial Code, 2 means of egress are required for such boiler room spaces over 300 SF (contrary to the Mechanical Code which indicates 500 SF). The second means of egress may be through a ladder.

Supplemental/Associated Spaces and Adjacencies: The locations for the service rooms are to be coordinated with the utility locations in the street.

Location and Access

These types of spaces are typically located in the cellar or basement along with the custodial work and storage areas. Mechanical equipment such as fans, chillers and condensers are typically located on the building's roof. Since the condensate travels by gravity, boiler room housing the condensing boilers should be located at roof level or on a floor closest to the roof.

E. Horizontal and Vertical Circulation

Corridors

Use: School corridors are high-traffic circulation zones and may appropriately increase in width to serve as waiting areas for elevators and large common spaces. Ends of corridors may accommodate small built-in seating areas.

Design: If at all possible, corridors should have natural light. This may be achieved by extending corridors to exterior walls and glazing corridor-ends, an approach that has the advantage of extending lines of sight outside the building and providing visual relief. As far as possible, corridors should be straight and simple, without opportunities for concealment. Edges of doors opening onto corridors should be flush with corridor walls to maintain unobstructed travel paths in corridor plans.

Stairs

Use: Stairs serve either as code compliant egress or strictly to enhance circulation. The latter type may be used, for example, to create a strong relationship between the building lobby and a large common space that is not on the lobby floor. Such a stair may be unenclosed if it does not connect more than two consecutive levels.

Design: Stairs should not include open areas between runs where objects might be dropped down a flight or more. Simple rectangular stairwells without open vertical shafts between stringers are recommended. The preferred minimal width of a stair is 56". Generally, it is advantageous to provide the fewest stairwells that will allow reasonable circulation through the building. Minimizing the number of stairwells is economical and adds to the security of the stairwells by increasing their traffic. Enclosed stairs that rise through more than one floor without access to an intermediate floor should be avoided as security risks. Whenever possible, stairwells should include windows, as daylighting lends a feeling of safety and wellbeing.



Landings where the “overlook” is a full floor down (at the top floor for example) must have a protective barrier.

Supplemental/Associated Spaces and Adjacencies: It is advantageous to provide Places of Public Assembly with the necessary egress without using a dedicated egress stair.

Location and Access: Adequate and appropriate stair size and location is required for smooth school operation. Stairs should be positioned to the maximum benefit of traffic flow and with consideration for the quiet and manageable movement of groups of students into and out of large common spaces.

Elevators

Use: Elevators are used by adult staff, school visitors and students with disabilities*. They are otherwise used for moving supplies, deliveries, etc.

*Alternatively, where the school occupies only the floors above the 5th floor level in a building (e.g., in a lease building), elevators are the only means of access to the school and will be used by all occupants to enter the building in the morning.

Design: Two elevators are provided in new schools. Additions may have one or two elevators or none, depending on the existing building's elevator service. Where two elevators are provided, it is advantageous to pair them in a single location to reduce wait time, to provide redundancy in the event of repair and for construction economy.

Supplemental/Associated Spaces and Adjacencies: Sufficient space should be provided in lobbies and corridors at elevators to reduce congestion.

Location and Access: Elevators should be located in or immediately adjacent to the Lobby. Elevators must serve the **cellar or** basement and the highest occupied floor. If the building has a rooftop play area, it must be accessible by at least two elevators.

F. Outdoor Play Spaces

Outdoor school space (at grade or on a roof), for play and/or educational purposes, is critical to children's growth, health, education and enjoyment and is an important component for their well-rounded development at Primary, Middle and High School ages. An attempt should be made to create active (structured play) and passive (sitting areas) zones, with the emphasis more toward active play, while taking into account the amount of available open square footage, the specific play yard geometry, stormwater management and egress considerations. Irregularly shaped yards under 5,000 s.f. (not including the ECC yard) may be limited on the selection and amount of play yard amenities. Modest introductions of educational gardening areas, Greenhouse and Art installations may be considered on a case-by-case basis depending on the agreed upon Program of Requirements and available space. All outdoor playground spaces (at grade or rooftop) shall comply with all Design Requirements and Standards to the greatest extent possible, including Design Requirement 7.2 regarding Exterior/Site/Security Lighting.



1. Design of On-grade Open Space

- a. On-grade school open space includes active areas (play areas with age-appropriate equipment) and passive areas (sitting and gardening areas) to encourage structured play as well as informal social interaction and exploration. Separation of age groups is beneficial in the design of on-grade play-spaces. In the early design-phase, a determination if the project will require a SWPPP filing (for demo and/or new construction) needs to be analyzed. The design should attempt to avoid SWPPP filing when possible by limiting the area of disturbance to the greatest extent practical. Playground spaces are broken up into the following categories:

1) Early Childhood Playground: This playground is used primarily by pre-kindergarten and kindergarten students at Primary Schools. This is an age when children enjoy using all of their senses for play and awareness of their surroundings. As much as possible the early childhood play area is to be located proximate to the part of the school building housing the pre-k & kindergarten classrooms.

2) Primary and Intermediate School Play Yard: This play yard is used by students in first grade and up. It may be used for gym classes and may include active equipment and exercise areas; informal open play areas with turf, outdoor quiet spots for writing or reading and outdoor activity areas that encourage structured play (painted games/ basketball/soccer ball) and learning experiences. The yard is also used in fair weather for morning line-up and for afternoon dismissal, requiring direct access from the street and ease of circulation from the main school entrance. This play yard has a hard surface, typically asphalt or concrete. Game lines may be painted at the school's discretion. It may have basketball backboards on the perimeter, sleeves for net games, or a small running track; otherwise, it is a large open space. It should be easily supervised, without places for concealment. It should also be open to visual surveillance from the street to discourage vandalism at night.

3) High Schoolyard: The high schoolyard is typically used for outdoor gym classes in fair weather and may include well equipped athletic space for a wide variety of outdoor active play of moderate to vigorous exercise levels. It is also used as a gathering place and social space before the school day. The district DOE coordinator will give direction as to what types of activities and equipment are appropriate for a given school. The activities may include a small artificial turf area, a small running track, basketball or volleyball court, and/or outdoor exercise equipment. They may also include passive reading areas, small landscape opportunities for shaded green space, and gardening areas on grade at the discretion of school administration.

- b. **Adjacencies:** It is highly advantageous to locate the play yard adjacent to one of the school entry points and/or the cafeteria. In the morning, students congregate in the play yard before lining up. The cafeteria will serve as the morning point of entry for students participating in school breakfast programs. Students also use the play yard immediately after lunch. An effort shall be made to locate the play area with orientation to sunlight and views. When the playground is adjacent to residential properties, visual and sound barriers are required to mitigate noise and to provide screening of the play area. Acoustically treated windows for adjacent properties,



masonry/concrete garden walls and/or green buffer zones with fencing are among the options to be considered at the pre-schematic phase.

- c. **Materials:** Rubber safety surface at play equipment, asphalt and colored painted asphalt and concrete options; paver and permeable paver areas may be used at non-active areas but may be a maintenance/snow removal concern; painted game areas; synthetic turf play or running areas (painted track); and natural planted border areas.
- d. **Equipment:** Provide age-appropriate play equipment for active play. The color of play equipment must be compatible with the building façade colors. Equipment may be provided to outfit a basketball court or tennis court, game tables, benches, flag poles, other age-appropriate play equipment. On non-JOP playground redevelopments, no outdoor drinking fountains are required. Fitness equipment such as Multi bars – Push –Pull- and Stretch; Parallel bars; Sit-up bench; Horizontal Ladder; Pommel Horse; Balance beam; Jump Bars; Pull up Station; etc. may have associated safety surface. Bicycle Rack areas with screening planters and sitting walls; pole or building mounted security lights, may all be included as appropriate. Equipment selected must avoid any exposed sharp edges, splintering or other potentially injurious conditions. The use of any play equipment or site furnishings not specifically identified in the Design Requirements or Standard Specifications shall require approval prior to inclusion in the project.
- e. **Landscape:** Play yard landscaping may include open natural areas, shrubs, small shade trees on the periphery of play areas; benches with table areas and running or walking track areas.
- f. **Planted Garden:** A student garden is typically provided with 12" high raised gardening planter boxes.
- g. **Fence:** Provide 4'-0" high wrought iron or chain link fence at the early childhood play area when located within larger schoolyard; wrought iron fence is typically provided along the street front property lines. Provide 15'-0" high chain link at basketball court and other open areas where ball may be played. See fence requirements in DR 2.2.1. Depending on the playground's proximity to adjacent vehicular traffic and parking areas, the need for reinforced barriers (i.e., bollards, tire-stops or guard-rails) shall be assessed.
- h. **Egress and Access:** Egress per NYC Codes. The schoolyard should be easily accessible from the sidewalk, where feasible, so students naturally gather there before entering the school rather than gathering on adjacent streets and sidewalks. If possible, a direct line of sight from the Lobby to the playground is advantageous for ease of circulation and supervision.
- i. **Greenhouse on Grade (Only when funded by Reso A):** Provide a greenhouse structure to be located proximate to the school building for ease of MEP support; an outside vegetable garden may be located proximate to it. The greenhouse should accommodate a class, and should be constructed of steel or aluminum, with polycarbonate glazing. Provide sealed and painted concrete floor on grade, and storage space as needed. As new construction, the greenhouse must be made accessible. All Code and Zoning requirements must be considered. Note exterior lighting requirements of the Code and GSG.

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- j. **JOP (Jointly Operated Playgrounds):** For playground sites that are jointly operated with the Department of Parks (JOP sites), all proposed work will require review and approval by the NYC Department of Parks and Recreation (Parks). As such, proposed designs shall follow Parks' standard details and specifications including, but not limited to, requirements for trash receptacles and outdoor drinking fountains, type of play equipment, seating area, landscaping, turf fields, fencing, type of trees, lights, etc.

2. Design of Open Space above Grade (Rooftop Play Areas)

- a. If site constraints preclude on-grade play yards, rooftop areas for active, passive play, and a planted roof may be designed as follows:
- b. **Adjacencies-Safety:** The roof terrace should be easily accessible from the main circulation corridor of the school. It should be away from adjoining properties and separated from mechanical equipment; include sound/visual and protective barriers as necessary. Avoid any exposed sharp edges or other potentially injurious conditions and make acoustical provisions for adjoining windows. Mounting height of roof equipment including lights, security cameras, antennas, etc. to be at levels appropriate to ensure safety of students and preclude vandalism and damage of equipment.
- c. **Play Roofs may be designed on a roof terrace;** preferably one that does not abut a high-rise building with operable windows due to concerns of objects falling from above; otherwise, overhead protection measures will need to be introduced.
- 1) If ball playing is allowed, total protection measures (a cage) will be required. The roof terrace shall be within proximity of classrooms in the school building to the greatest extent possible. Age-appropriate removable play equipment shall be provided for ease and flexible use of the space by all age groups. The design of the play roof should attempt, as with the on-grade play yard, to create areas dedicated to "active" and "passive" zones, with an emphasis on "active" play to the greatest extent practical, taking into consideration FDNY access, GSG requirements, circulation and mechanical equipment maintenance and clearances.
- 2) The extent of required protection measures also depends on the grades that will be using the roof terrace. Typically for ECC play areas (Pre-K and K), ball playing is not allowed; therefore a 10 ft. vertical barrier (fence) will suffice, but the need for overhead protection due to proximity of adjacent properties needs to be assessed. For grades 1 and over, the roof play yard allows for ball playing and therefore will require protections on all sides and overhead (full enclosure).
- d. **Materials:** Provide raised pedestal pavers system for non-active roof terraces. A double slab construction with rubber safety surface is preferred when roof terrace is the only active play area. Pavers (where provided) shall be glare free.
- e. **Play Equipment:** Shall be preferably movable and easily assembled for storage and flexibility of utilization of terrace by all age groups; fixed play equipment is generally discouraged due to the potential for water infiltration at the anchor points. Equipment



selected must avoid any exposed sharp edges, splintering or other potentially injurious conditions. The use of any play equipment or site furnishings not specifically identified in the Design Requirements or Standard Specifications shall require approval prior to inclusion in the project.

- f. **Custodial:** A storage room for maintenance is required on the roof or on the same floor of the building, as well as a frost-proof wall hydrant.
- g. **Landscape:** Roof gardening planter boxes, when provided on play roofs, are to be placed on the perimeter to ensure unobstructed and clear play space.
- h. **Padding:** Padding is required on the perimeter surfaces of play roofs including protruding columns and piers, rough inner surfaces of surrounding parapet and adjacent building walls and any other projecting building elements for all early childhood and PS play terraces. For IS/HS roofs designated for PE, especially if run-off areas do not meet minimum clearances, interior gym padding standards to be followed.
- i. **Stainless Steel Cable Mesh Enclosure:** Provide for rooftop playgrounds subject to ball playing (those with open areas). Provide stainless steel netting and cage, enclosed on all sides (12' clear height) to be engineered fully during the design phase of a school project. Provide overhead netting when early childhood play area abuts adjacent taller buildings with windows overlooking play area. The enclosure must be designed with children's safety in mind – no sharp edges, bolt ends, etc. should be exposed to the students.
- j. **Fencing:** Fence must be provided at perimeter of roofs per NYC Building Code, FDNY roof accessing requirements and SCA fencing requirements.
- k. **Planted Roof Terrace:** A variety of gardening systems may be applied, such as sedum/green roof or planting vegetable or flowerbeds typically within planter boxes. The planted roof is generally provided accessory to adjacent educational spaces, such as resource or science classrooms. Be mindful of potential public assembly egress requirements; typically, educational roof can be ancillary to the specialty rooms (science, art, library, etc.) of the school.
- l. **Greenhouse on Roof:** Provide when included in the POR. Greenhouse to be directly accessible from main school corridor/circulation system and be connected to the existing school for structural support. Provide HVAC, water, electric, life and fire safety and egress provisions based on NYC Code. Any setbacks from the parapets should be determined based on the following:
 - 1) Existing conditions (Roof Drains, etc.)
 - 2) Access to and from roof bulkheads and equipment (RTUs, etc.)
 - 3) Compliance with the NYC Code; NY City Zoning & FDNY roof access requirements.
 - 4) Egress lighting to meet code thresholds, and GSG requirements if applicable.
- m. **Egress and Access:** NYC Building Code ingress and egress requirements govern. PA requirements may also be triggered by design. FDNY roof access requirements must be met. Refer to DR 1.3.1.14.

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Appendix A - Building Material/System/Component Longevity and Maintenance

CSI Division/System-Component			Expected Longevity of Building Systems/Components	Expected maintenance/repairs	
CSI Division	Component	System Sub-component (if applicable)		Maintenance	Repair/Replace schedule by *DSF
	Sitework				
Div 2	Sidewalk/Street Paving				
		Concrete pavement/driveways	30+y	regular inspection	*DSF (20y repair)
		Brick pavers	30+y	regular inspection	*DSF (15y repair)
		Asphaltic concrete	20+y	regular inspection	*DSF (3y repair)
		Permeable pavers	20+y	regular inspection	*DSF (3y repair)
Div 2	Resilient Surfaces (exterior)				
		Running Track	20+y	regular inspection	*DSF (10y repair)
		Colored Wearing Surface	10+y	regular inspection	*DSF (10y repair)
Div 2	Synthetic Turf				
		Athletic Field (infill type)	10+y	regular grooming	*DSF (10y repair)
		Playground (non infill type)	10+y		
Div 2	Chain-link fence		25y	regular inspection	*DSF (15y repair)
Div 2	Outdoor game Equipment				
		Basketball	15y	regular inspection	*DSF (8y repair)
		Goals (Football/Soccer)	15y	regular inspection	*DSF (8y repair)
		Volleyball/Tennis	10y	regular inspection	*DSF (3y replacement)
		Baseball backstop	20y	regular inspection	*DSF (10y repair)
		ECC Play Eq.	10y	regular inspection	*DSF (5y repair)
Div 2	Site/Street Furnishings				
		Tree grates/guards	25y	regular inspection	-
		Benches	15+y	regular inspection	*DSF (10y repair)
		Bicycle racks	15y	regular inspection	*DSF (10y repair)
Div 2	Landscaping				
		Trees	40+y	regular inspection	*DSF (2y pruning)
		Shrubs	20+y	regular inspection	Pruning/weeding
		Sod/grass	40+y	regular inspection	Mowing/lawn care
Div 2	Subdrainage System				
		Walls/Foundations	30+y	regular inspection	*DSF (10y repair)
Div 2	SSDS (Sub-slab Depressurization)		100+ y	N/A	
		SSDS-Pumps	5-10y	monthly inspection	*DSF (5y replacement)
		SSDS Controls	10+y	monthly inspection	*DSF (3y repair)
Div 2	Trench Drains		40y	regular inspection	*DSF (10y repair)
Div 2	Precast Tanks/Basins		40y	regular inspection	*DSF (10y repair)
Div 2	Irrigation system		20+y	regular inspection	*DSF (2y hardware)
	Foundation System				
Div 3	Footings		100+y	N/A	N/A
Div 3	Mat Slab		100+y	N/A	N/A
Div 3	Foundation Walls				
		Exposed	75y	regular inspection	*DSF (15y Exp. Joints)
		Concealed	100y	N/A	N/A
Div 3	Retaining walls		50y	regular inspection	*DSF (5y Exp. Joints)
Div 3	Structural Slab				
		On Grade (interior)	75y	regular inspection	*DSF (15y repair)
		Above Crawl Space	60y	regular inspection	*DSF (15y repair)
Div 3	Slab on Grade				
		Exposed	60y	regular inspection	*DSF (5y joints)
		Interior	75y	regular inspection	*DSF (15y repair)
Div 3	Piles/Caps		100+y	N/A	N/A
Div 3	Grade Beams	Exposed	75+y	35y	35y
Div 3	Roof fill		40+y	new roof	N/A

Requirement Applies to: ☒ New Construction

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CSI Division/System-Component			Expected Longevity of Building Systems/Components	Expected maintenance/repairs	
CSI Division	Component	System Sub-component (if applicable)		Maintenance	Repair/Replace schedule by *DSF
Div 3	Ramps	Exterior	40y	regular inspection	*DSF (3y Exp. Joint repair)
		Interior	75y	regular inspection	N/A
Div 3	Stairs/Steps				
		Exterior (stl/conc)	30/40y	regular inspection	*DSF (3y)
		Interior	75y	regular inspection	*DSF (10y repair)
Div 3	Equipment Pads				
		Exposed	40y	regular inspection	*DSF (3y repair)
		Interior	75y	regular inspection	*DSF (3y repair)
Div 3	Precast Wall Panels (insulated)				
		Exterior	35y	regular inspection	*DSF (10y sealant)
	Structural Systems				
Div 3	Steel/Girders/Beams/Joists		75+ y	N/A	
Div 3	Concrete (poured/precast)		75+y	N/A	
Div 4	Exterior Masonry				
		Brick	50-75+y	regular inspection	*DSF (20y pointing)
		Cut Stone	50-75y	regular inspection	*DSF (20y pointing)
		Glass Block	40y	regular inspection	*DSF (10y pointing)
		Parapets	20+y	regular inspection	*DSF (10y pointing)
		Coping	20+y	regular inspection	*DSF (10y sealant)
Div 7	Rainscreen				
		UHPC	25+ y	regular inspection	*DSF (10y sealant)
		Terracotta	25+ y	regular inspection	*DSF (10y sealant)
Div 7	Roof				
		Metal	50-75y	regular inspection	*DSF (10y sealant)
		BUR/SBS	25y	regular inspection	*DSF (10y)
		Slate	50-100y	regular inspection	*DSF (20y)
		Clay Tile	50y	regular inspection	*DSF (20y)
		Protected Membrane (Planted)	20-30y	regular inspection	*DSF (3y)
		Sheet Membrane Waterproofing	15-25y	regular inspection	*DSF (10y)
		Fluid Applied WP	15-25y	regular inspection	*DSF (10y)
		Injection Grout WP	25+ y	N/A	
Div 8	Windows				
		Aluminum/High Performance	40y	regular inspection	*DSF (10y hrdwre, sealant)
		Steel	50y	regular inspection	*DSF (10y hrdwre, sealant)
		Wood	50y	regular inspection	*DSF (10y hrdwre, sealant)
		Skylights	20+y	regular inspection	*DSF (10y hrdwre, sealant)
		Guards	20+y	regular inspection	*DSF (10y hrdwre, sealant)
Div 8	Exterior Doors				
		Aluminum Curtain Wall	30y	regular inspection	*DSF (10y hrdwre, sealant)
		Aluminum Storefront	30y	regular inspection	*DSF (10y hrdwre, sealant)
		Steel	30y	regular inspection	*DSF (10y hrdwre, paint)
		Wood	30y	regular inspection	*DSF (10y hrdwre, paint)
Div 8	Interior Doors				
		Wood	30y	regular inspection	*DSF (10y hrdwre)
		Metal	20y	regular inspection	*DSF (10y hrdwre)
		Grilles/Coiling/Shutters	25y	regular inspection	*DSF (10y hrdwre)
Div 8	Curtain Wall				
		Aluminum Curtain Wall	30y	regular inspection	*DSF (10y hrdwre, sealant)
		Aluminum Storefront	30y	regular inspection	*DSF (10y hrdwre, sealant)

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Design Requirements

General – Section 1.0

CSI Division/System-Component			Expected Longevity of Building Systems/Components	Expected maintenance/repairs	
CSI Division	Component	System Sub-component (if applicable)		Maintenance	Repair/Replace schedule by *DSF
	<u>Interior Finishes</u>				
Div 9	<u>Flooring</u>				
	Terrazzo		30+y	regular inspection	*DSF (10y refinish)
	VCT		20y	regular inspection	*DSF (5y repair)
	Ceramic Tile		20y	regular inspection	*DSF (10y repair)
	Wood/Resilient		25y	regular inspection	*DSF (5y refinish)
	Rubber/Sheet Vinyl		20y	regular inspection	*DSF (5y refinish)
	Carpet		20y	regular inspection	*DSF (5y repair)
Div 9	<u>Walls</u>				
	Sheet Rock		30y	regular inspection	*DSF (10y repair)
	Ceramic Tile		20y	regular inspection	*DSF (10y repair)
	Masonry/Stone		30+ y	regular inspection	*DSF (10y point)
	Toilet Partitions		25y	regular inspection	*DSF (10y hrdwre)
	Paint		20y	regular inspection	*DSF (10y repair)
	Folding Partition (Gym)		20y	regular inspection	*DSF (10y hrdwre)
Div 9	<u>Ceiling</u>				
	ACT		20y	regular inspection	*DSF (10y repair)
	Metal		25y	regular inspection	*DSF (10y repair)
	Sheet Rock		30y	regular inspection	*DSF (10y repair)
	Wood/Slats		30y	regular inspection	*DSF (10y repair)
Div 10/11	<u>Equipment</u>				
	Kitchen/Walk-in Freezer		30+ y	regular inspection	*DSF (5y repair)
	Cabinetry/Casework		30+ y	regular inspection	*DSF (10y hrdwre)
	Metal Shelving		30+ y	regular inspection	*DSF (10y hrdwre)
Div 10	<u>Exterior Signage</u>		40y	regular inspection	*DSF (10y hrdwre)
Div 12	<u>Furnishings</u>				
	Telescoping Seats		20y	regular inspection	*DSF (5y hrdwre)
	Fixed Aud. Seating		30+y	regular inspection	*DSF (10y hrdwre)
	Bleachers		20y	regular inspection	*DSF (5y hrdwre)
Div 14	<u>Elevator</u>				
	Gearless Traction		25y	1-5y (inspection)	*DSF (5y repair)
	Gearless Traction		30y	1-5y (inspection)	*DSF (5y repair)
	In-Ground Hydraulic		20y	1-5y (inspection)	*DSF (5y repair)
	Holeless Hydraulic		20y	1-5y (inspection)	*DSF (5y repair)
	Sidewalk		20y	1-5y (inspection)	*DSF (5y repair)
	Wheelchair Lift		25y	1-2y (inspection)	*DSF (5y repair)
	Inclined Lift		25y	1-2y (inspection)	*DSF (5y repair)
	Escalator		40y	2-4y (inspection)	*DSF (5y repair)
Div 15P	<u>Fire Protection</u>				
	Sprinkler (entire)		25-40y	regular inspection	*DSF (5y hrdwre)
	Standpipe (entire)		25-40y	regular inspection	*DSF (5y hrdwre)
Div 15	<u>Plumbing</u>				
	CW/HW/HWR Distribution		30y	regular inspection	*DSF (10y repair)
	Toilet Fixtures (sink/wc)		30y	regular inspection	*DSF (10y repair)
	Drinking Fountain		20y	regular inspection	*DSF (5y repair)
	Domestic Hot Water				
		Electric	10y	regular inspection	*DSF (5y repair)
		Condensing (Gas)	10y	regular inspection	*DSF (5y repair)
		Heat Pump	10y	regular inspection	*DSF (5y repair)

Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



CSI Division/System-Component			Expected Longevity of Building Systems/ Components	Expected maintenance/repairs	
CSI Division	Component	System Sub-component (if applicable)		Maintenance	Repair/Replace schedule by *DSF
	Storm Drainage		30y	regular inspection	*DSF (5y repair)
	Sanitary Drainage		30y	regular inspection	*DSF (5y repair)
	Gas Distribution		30y	regular inspection	*DSF (5y repair)
	Pumps (various)		10-20y	regular inspection	*DSF (5y replacement)
Div 13	HVAC				
	RTU (Custom DX w/gas heat)		20 y	annual maintenance	*DSF (10y repair)
	Chiller/Heat Pumps		25y	semi-annual maintenance	*DSF (10y repair)
	Fan Coils		20y	annual maintenance	*DSF (10y repair)
	Duct Distribution		30y	regular inspection	*DSF (10y repair)
	Pipe Distribution		30y	regular inspection	*DSF (10y repair)
	Baseboard				
		Electric	10/15y	regular inspection	*DSF (10y repair)
		Hot water	10/15y	regular inspection	*DSF (10y repair)
	Dampers		20y	regular inspection	*DSF (10y repair)
	Pumps (various)		15y	semi-annual maintenance	*DSF (5y repair)
	Valves (various)		20y		
	Fanz (various)		20y	semi-annual maintenance	*DSF (5y repair)
	Boilers			semi-annual maintenance	*DSF (10y repair)
		Fire Tube (steam)	25y		
		Fire Tube (hot water)	25y		
		Cast Iron	35y		
		Condensing	15y		
		Electric	15y		
	Split A/C		15y	annual maintenance	*DSF (5y repair)
	Modular Chillers		20-30y	annual maintenance	*DSF (5y repair)
	Package H/C Units		15y	annual maintenance	*DSF (5y repair)
	Split Heat Pump/VRF		15y	annual maintenance	*DSF (5y repair)
	Custom RTU (VAV system)		20y	annual maintenance	*DSF (5y repair)
	Custom RTU (Constant Volume)		20y	annual maintenance	*DSF (5y repair)
	Commercial RTU		15y	annual maintenance	*DSF (5y repair)
	Custom Heat Pump		20y	annual maintenance	*DSF (5y repair)
	Unit Vent/Split-Vertical Unit		15y	annual maintenance	*DSF (5y repair)
	DOAS (custom heat pump)		20y	annual maintenance	*DSF (5y repair)
	MZVAV (custom heat pump)		20y	annual maintenance	*DSF (5y repair)
	SZVAV (custom heat pump)		20y	annual maintenance	*DSF (5y repair)
	DOAS (commercial heat pump)		20y	annual maintenance	*DSF (5y repair)
	MZVAV (commercial heat pump)		15y	annual maintenance	*DSF (5y repair)
	SZVAV (commercial heat pump)		15y	annual maintenance	*DSF (5y repair)
	Temperature Controls		15y	Annual maintenance	*DSF (5y repair)
	Geothermal Systems				
		Ground Loop (closed)	30y	regular inspection	
		Heat Pumps	15-20y	regular inspection	*DSF (5y repair)

Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



CSI Division/System-Component			Expected Longevity of Building Systems/Components	Expected maintenance/repairs	
CSI Division	Component	System Sub-component (if applicable)		Maintenance	Repair/Replace schedule by *DSF
Div 16	Electrical				
	Lighting				
		Interior	25y	regular inspection	*DSF (if needed repair)
		Exterior	25y	regular inspection	*DSF (if needed repair)
	Fire Alarm		15-25y	regular inspection	*DSF (3y repair)
	PA/Clock		30-40y	regular inspection	*DSF (3y repair)
	Main Service/Distribution		30/30y	regular inspection	*DSF (10y repair)
	Wiring		50y	regular inspection	*DSF (10y repair)
	Aux Signal Systems		20+ y	8y (adjust)	*DSF (5y repair)
	Emergency Generator		20-30y	regular inspection	*DSF (3y repair)
	ATS (transfer switch)		25y	regular inspection	*DSF (3y repair)
	UPS		10y	regular inspection	*DSF (3y batt)
	Detectors (smoke/heat/carbon)		10y	regular inspection	*DSF (5y replacement)
	PV		25y	regular inspection	*DSF (5y repair)
	Surge Protection		15-20y	regular inspection	*DSF (3y replacement)
	Lightning Protection		40y	regular inspection	*DSF (10y repair)
	Security/Telephone		10y	regular inspection	*DSF (5y repair)
	Digital Surveillance Cameras		10y	regular inspection	*DIIT (as needed repair)
	Heat Trace		20y	regular inspection	*DSF (5y repair)
	Motors (various)		20-30y	regular inspection	*DSF (5y repair)
	Valves (various)		20y	regular inspection	*DSF (5y replacement)
	*DSF/Custodial; Regular inspections (daily/monthly/annual/semi-annual). Repairs/Replacements governed under Directive 10				
	SOURCES:				
	BOMA (Bldg Owners/Management)				
	ASHREA				
	CLF (Carbon Leadership Forum)				
	eToolglobal				
	InterNACHI (Home Inspectors)				
	TSS Unit				
	DSF (Division of School Facilities)				
	DIIT (Division of Instructional and Information Technology)				

Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



1.3 Planning

1.3.1 Design

1.3.1.3 Square Footage Calculation - Building Efficiency

Description/Design Approach:

A. Gross Building Area

Gross Building Area is calculated to the outside face of all exterior walls.

1. The Gross Building Area includes the following:

- a. All floors including basements and cellars. Calculation to include area of structure, walls etc.
- b. Enclosed mechanical penthouses, and other interior mechanical spaces.
- c. All shafts, stairs, and elevator enclosures on each floor (including penthouses and bulkheads).

2. The Gross Building Area excludes the following:

- a. Crawl spaces.
- b. Upper portions of double height spaces.
- c. Covered exterior spaces.
- d. Terraces and unenclosed roof top surfaces.
- e. Area under overhangs of the building.

3. For a multi-school complex, the area of shared spaces will be prorated among the individual schools.

4. For Building Additions, the area altered in the existing building shall not be included in the Gross Building Area of the new building addition.

5. Lease Spaces:

- a. For Leased Space Projects, where the lease space is a part of an existing occupied building, the leased space area shall be the square foot area of the occupied space. The occupied area is calculated from outside finish of the exterior building wall to the finished surface of the corridor side of the corridor partition and from the center of the partitions that separate the premises from adjacent adjoining rentable areas.



- b. For Lease Spaced Projects, where the lease space occupies the entire building, follow the basic Gross Building Area calculations.

6. Non-DoE Spaces:

- a. For projects that include non-DoE areas, such as Police Athletic League (PAL) and Agency for Child Development (ACD) spaces, include non-DoE areas in the Gross Building Area, and provide separate sub-totals for DoE and non- DoE spaces.

B. Programmed and Net Areas:

Actual or designed net area is the useable area of the spaces included in the Program of Requirements. Net area is calculated from the inside face of all exterior walls to the inside face of interior walls or partitions.

- 1. Programmed areas are those areas listed in the Program of Requirements. They include the following:
 - a. All room types and room layouts included in the Program of Requirements.
 - b. All toilets within offices, and classrooms.
 - c. Built in furniture and equipment.
- 2. The Programmed area is a design requirement. The designed area for each space must not deviate by more than +/- 5% or a maximum of 150 square feet, whichever is less. **However, design area for a new classroom must be a minimum of 500 SF.** Areas in excess of 5% of the program area should not be counted towards the total net area of the building when calculating the building efficiency.

C. Core Area:

The Core Area includes building support service rooms and spaces, and all horizontal and vertical circulation. The Core Area is defined as those spaces other than the spaces required in the Program of Requirements.

- 1. The Core Area includes:
 - a. All interior and exterior walls of the building.
 - b. Corridors and vestibules.
 - c. Boys and Girls toilets, staff toilets and public toilets accessed from the corridor.
 - d. All shafts, stairs, and elevator enclosures on each floor (including stair bulkheads.)
 - e. All building service rooms including mechanical equipment rooms and closets, electrical switchgear rooms, electrical distribution rooms and closets, data communication rooms and closets not in the POR, fire protection pump rooms, water meter rooms.



2. To calculate the core area, subtract the programmed area from the overall Gross Building Area.

D. Building Efficiency:

1. Every Program of Requirements (POR) for a new building or building addition includes: Total Programmed Area, which is the total of the listed programmed areas; the Total Gross Area, which is calculated based on a required efficiency (e.g. 64:36); and the Total Core Area, which is the resulting difference between the Gross Area and the Programmed Area.
The specified efficiency enables the SCA to target a gross area for the project.

In order to ensure that the design for new construction meets the area requirements, each design submission starting with the Pre-schematic Phase (each scheme) up to and including 100% documents will include the following:

- A tabulation of all programmed spaces indicating: the Program Net Area, the As-Designed Net Area and the percent deviation (+/-). (For each space and for the total of all spaces).
- Calculation of building efficiency percentages:
As-Designed Net Area/As- Designed Gross Area.
- As-Designed Gross Area must not exceed Program Gross Area by more than **0.5%** of the Program Gross Area. **e.g. for a building with 100,000 SF gross area, the design gross cannot exceed 100,500 SF.**
- Spaces not listed in the program must not be credited towards As-Designed Net Area.
- Any deviation from the required program areas and Total Gross Area must include an explanation and must be resolved with the SCA before proceeding to the next phase of design.



1.3 Planning

1.3.1 Design

1.3.1.4 Signage

Description/Design Approach:

Building Signage, exterior and interior, identifies the building as a NYC Public school. It identifies the organizations located within and each room/or space on each floor. The signage will follow a clear organization so that it facilitates way-finding. In “Campus” buildings, special colors and logos as part of the signage will identify the unique organizations that are housed in the building.

A. General Guidelines for Signage

1. The A/E of Record shall provide a signage system for new schools, leases, conversions and building additions.
2. The signage system must take into consideration how the users, staff and visitors navigate the exterior and interior of the building to arrive at their destination. The signage system should be simple, easy to understand, and should have the ability be easily implemented and changed. The font type, size, mounting heights, distances from door frames, placement on door frames and their intended visibility shall be consistently applied throughout the building for each sign type. The signage system shall meet all relevant regulatory requirements including building code, ICC A117.1-2009, 2010 ADA and the New York City Fire Department (FDNY).
3. For signage in an existing building, the A/E of Record shall develop a signage system consistent with and/or compatible with that of the existing building for SCA review and approval.
4. The proposed Interior and Exterior signage system, including room signage designation schedule and numbering of rooms, shall be finalized for the Authority’s approval in the 60% submission. The Signage Designation Schedule shall be included in the 60% submission and submissions thereafter.

The SCA Design Manager shall obtain the concurrence of the Regional Facilities Planner or the designated representative from the district for the room numbering signage system.

5. For capital improvement work involving new and altered spaces in existing buildings or accessibility projects, symbols and directional signage shall be provided as required herein. Such signage shall be included in the 50% submission and submissions thereafter.
6. Signage system shall include:
 - a. Building/Campus signage and signage for individual schools located in the building.
 - b. Regulatory signage
 - c. Room signage
 - d. Miscellaneous Signage

B. Specific Guidelines

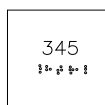
1. Building/Campus signage and signage for individual schools located in the building. Typically includes, but is not limited to, the following:
 - a. Main Entrance –School name or
Main Entrance –Campus name (if building has more than one school organization) and
 - Individual school entrance(s) – School name(s) for each organization/school within the campus
 - b. Secondary entrance(s)
 - c. City of New York Seal
 - d. School Dedication Plaque.
 - e. Other Agency Plaques (If joint agency project)
 - f. NYC Green Schools Certification Plaque
2. Regulatory signage
 - a. Stairway Identification and Floor Level signs
 - b. Elevator Floor Designation sign & Elevator Car Identification sign
 - c. Elevator Emergency sign & Elevator Bank Identification sign
 - d. Place of Assembly signage
 - Place of Assembly Posted Capacity sign
 - Certificate of Operation sign
 - e. Symbols and Directional signage
 - Symbols of Accessibility
 - Directional signage to accessible building elements
 - Symbol of Access for Hearing Loss
 - Symbol for Area with Induction Loop
 - All Gender Toilet signage
 - f. Fire Rescue Area/Area of Rescue Assistance/Holding Area sign
 - g. Certificate of Occupancy sign
 - h. Special Accessibility signs
 - i. Door signs for exit stairs
 - j. Live Load signs
 - k. Elevator “Star of Life” sign
 - l. Elevator signage
 - Equipment, NYC Identification Number and Demarcation signs (by elevator contractor)
 - Elevator Pit sign
 - Elevator Equipment Room sign
 - Elevator Top of Car Enclosure Headroom sign
 - MRL Elevator Hoistway sign
 - m. Standpipe signage
 - Door sign
 - Stairway sign
 - n. Exit signs
 - Raised character and braille Exit sign
 - Emergency Exit sign
 - NO EXIT sign
 - o. Caution/Safety signage
 - Laboratory sign
 - Laboratory Gas Shutoff sign
 - Electrical Room/Closet sign
 - Louver sign
 - Gas Meter Room sign

Requirement Applies to:	✓	New Construction	✓	Major Modernizations	✓	Capital Improvements Projects

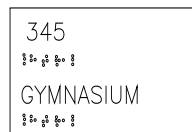
- Gas Shutoff Valve sign
- p. Miscellaneous signage
 - Instruction sign (for Fire Rescue Area/Area of Rescue Assistance/Holding Area)
 - Stair Door Warning sign (for PA Space/Fire Rescue Area/Area of Rescue Assistance)
- 3. Room Signage

Includes:

 - a. Room Number and Room Name/Number signs that include both Tactile and Braille and are affixed to the wall surface adjacent to the door.



Room Number



Room Number

Room Name and Number

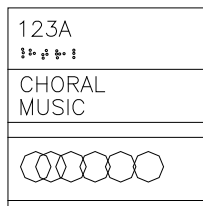
- b. Room number/name/school identification sign

A sign that has the room number in both raised characters and braille; includes printed inserts for room name and school identification - used to identify spaces and schools where multiple schools are located in one building or building complex. Similar to the sign above, this sign will be affixed on the wall surface adjacent to the door. The raised character and braille room number designation on this sign shall match the room number affixed to the doorframe. The font type, size and space of the printed inserts plus their placement on the sign shall be consistent throughout the building.

Room Number

Room Name

School identification



Room Number - a permanently assigned number, unique to each room or space. Room numbering shall be sequential throughout the building including when there are multiple schools within the building.

Room name - Identifies the use of rooms within the school

School identification-Identifies each individual school within the multiple school building/campus.

C. Room Numbering Guidelines

1. For new buildings number all rooms in a pattern to facilitate the systematic and coordinated identification of rooms for building users and building system and maintenance operations.
2. For building additions, the room numbering system shall take into consideration and coordinate with the existing numbering system in the existing building.
3. Finalize numbering all rooms in the 60% submission of the construction documents. To the extent possible, avoid using "Space Numbers" or "Construction Numbers" in the construction documents. Should such designations be unavoidable, devise measures to ensure that the change of such transitional designations would not affect the contract sum or the contract duration of the project.
4. Indicate Room Numbers on floor plans and finish schedule on the construction documents.



5. Numbering System

- a. As viewed from the main entrance to the building or complex, number rooms beginning at the left front corner of the floor and proceed clockwise. Number rooms on one side of corridor with odd numbers and with even numbers on the opposite side.
- b. If possible, rooms which are vertically aligned on various floors shall receive numerical designations which are identical in the last two digits. The key to numbering rooms by floors is generally to start the room numbering with the floor with the greatest number of rooms. Designate the room numbers that are vertically aligned with the identical last two digits. On other floors the room numbers may be skipped in order to maintain vertical alignment of the numbers. Maintain the odd and even room numbers on opposite sides of the corridors.
- c. Assign numbers to all rooms off lobbies, corridors and passageways. Do not number pipe and duct spaces, shafts or riser enclosures.
- d. Multiple Door Entrances to Rooms: Rooms or offices with two or more doors leading into a single function room shall be numbered alike. The door nearest to the teacher's desk into the room is the "Primary room entrance door". The other doors are the "secondary room entrance doors".
 - Rooms with Folding Partition: Rooms with folding partitions and two main entrance doors so that each side can be used as a separate room, shall have the same room number with an alphabetic suffix, e.g., 206A and 206B.
- e. Suites: Rooms within a "Suite" and smaller rooms and closets within major rooms, shall maintain the Suite's (or major room's) number but with an alphabetic suffix. e.g., 101A, 101B.
- f. Starting with the first floor, number rooms with three-digit numbers. The first digit shall correspond to the floor. E.g., 101, 201
 - In buildings with multiple schools within the same building or complex, the room numbering shall be sequential throughout the building including the spaces shared by the individual schools and common areas so that no two room numbers on a floor are the same. Individual schools within the building will not be identified by the numbering. If the school complex is very large and has more than 99 spaces on a floor, the numbers will be four digits instead of the three digits.
- g. Rooms in basement or cellar shall have the alphabetical prefix "B" or "C" followed by a two-digit numerical designation. The starting number shall be B01 or C01.
- h. Should the design include mezzanines or other floor levels not described above, appropriate prefixes shall be used for the designation of rooms on those levels.
- i. For those addition projects where the room numbering follows the sequence of the existing building, but location of the addition is such that it is difficult to maintain the general direction of room numbers, a sign shall be posted at the lobby and/or at location where the new addition connects to the existing building but the room numbers do not follow the adjacencies of the numbering sequence. e.g., a sign with arrow pointing left indicating rooms 101-145 and a sign with arrow pointing right indicating rooms 146-187.

D. Detailed Description

The following are the detailed descriptions and requirements for various types of signage. The designer is to include all locations, conditions and the signage details in their signage drawings.

1. Building/Campus Signage and signage for individual schools located in the building

a. Main Entrance –Campus name/School name

The main entrance campus/school name shall be raised cast bronze individual letters with polished faces and matte sides. The letter style shall be Helvetica Medium, minimum 8¹/₁₆" and maximum 10¹/₁₆" tall.

- 1) If there are multiple schools within the building, provide a weather-resistant vented frame enclosure for placement of a computer printout of the org ID for each individual school housed in the building. The frame is to be placed in proximity to the entrance of each organization.
- 2) Additions are to get the school name signage, if the main entrance is moved to the addition.
- 3) Annexes are to get the school name signage.

b. Secondary Entrance(s)

The secondary entrance(s) name(s) shall be a raised character and braille etched zinc sign affixed to the wall surface adjacent to the door. The letter style shall be Helvetica, minimum 1" tall.

c. City of New York Seal

- 1) The City of New York Seal shall be cast aluminum, minimum of 24" in diameter.
- 2) The main entrance school name and City of New York Seal shall be prominently displayed at the main entrance, located either above the entrance doors, or on either side of the main entrance permanently affixed to the exterior façade of the building. Size and layout are to be approved by the DOE/SCA.
- 3) A suspended sign or seal on wires, chains or an outrigger strut supports shall not be approved.

d. Dedication Plaque

- 1) A dedication plaque shall be provided for stand-alone new buildings and annexes.
- 2) The School's Dedication Plaque shall be cast bronze with raised cast bronze letters and borders with polished faces and sides. The background shall be cast bronze with dark bronze color. The letter style shall be Helvetica Medium. The School's Dedication Plaque shall be prominently displayed at the main entrance hall, lobby or vestibule. Its location should be coordinated with the Regional Facilities Planner or the designated representative from the district. The School's Dedication Plaque shall be a permanent installation.



e. Other Agency Plaques

Other agency plaques shall be raised cast bronze letters with polished faces and matte sides. The background shall be cast bronze with dark bronze color. The letter style shall be Times New Roman, approximate 3/4" tall. The plaque shall be displayed and permanently affixed to the exterior façade of the building. Its location shall be coordinated with the Regional Facilities Planner or the designated representative from the district.

f. NYC Green Schools Certification Plaque

A NYC Green Schools Certification Plaque shall be provided for new buildings and additions that meet the NYC Green Schools certification requirements. The Green Schools Certification Plaque shall be cast bronze with raised cast bronze letters and borders with polished faces and sides. The background shall be cast bronze with dark bronze color. The letter style shall be Helvetica Medium. For projects that include a school dedication plaque, the Green School's Certification Plaque shall be installed directly under the school's dedication plaque. For addition projects that do not include a School Dedication Plaque, the Green School's Certification Plaque shall be mounted such that the top of the certification plaque is 5'-0" above finished floor. The Green School Certification Plaque shall be a permanent installation.

2. Regulatory Signage

a. Stairway Identification and Floor Level signs

- 1) A stair identification sign per Section BC 1023.9.1 of the 2022 NYC Building Code, indicating each stair by alphabetic letter, shall be provided on both sides of each stair door.

Top of sign is to be mounted on both sides (front & back) of each stair door, 5 feet above the finished floor. Refer to Items 2, 5 and 6 of Section BC 1023.9.4 for all requirements. Such sign shall be luminous in high-rise buildings.

- 2) In buildings with an interior exit stairway and ramp connecting more than three stories, a stair floor identification sign per Sections BC 1023.9.2 and BC 1023.9.4 of the 2022 NYC Building Code shall be provided at each floor landing designating:
 - a) Floor level number
 - b) Terminus of the top and bottom of the interior exit stairway
 - c) Identification of the interior exit stairway by a letter
 - d) Story of and direction to the exit discharge and availability of roof access for the Fire Department

Top of sign is to be located 5 feet above the floor landing and visible when the doors are open or closed. Refer to Section BC 1023.9.4 for all requirements. Such sign shall be luminous in high-rise buildings.

- 3) As per BC 1023.9.3, stair accessible floor level identification signs in visual characters, raised characters and braille and complying with ICC A117.1 shall be located at each floor level landing adjacent to the door on the stair side. Top of sign to be 60" above finished floor.



- b. Elevator Floor Designation sign and Elevator Car Identification sign
 - 1) The elevator floor designation sign shall be a raised character and braille sign secured to both jambs of each elevator doorframe as per Section 407.2.3.1 of ICC A117.1. All elevator floors stops shall have elevator floor designation plates. The plate shall be typically centered horizontally on the elevator frame jamb.
 - 2) The elevator car identification sign shall be a raised character and braille sign secured near jamb of each elevator doorframe per Section 2.29.1 of Chapter K1 of Appendix K of the 2022 NYC Building Code.
- c. Elevator Emergency sign and Elevator Bank Identification sign
 - 1) The elevator emergency sign shall be posted and maintained on every floor at the elevator landing as per Section BC 3002.3. The sign shall be an etched zinc sign plate secured to the wall at each elevator landing. On all floors other than the main entrance floor, the sign shall read “IN FIRE EMERGENCY, DO NOT USE ELEVATOR, USE THE EXIT STAIRS”. The lettering shall be properly spaced to provide good legibility. The sign shall contain a diagram showing the location where it is posted and the location and alphabetic letter identification of the stairs and the elevator banks on the floor and meet the requirements of Section BC 3002.3. The sign shall be located adjacent to an elevator call button and the top of sign not be more than 6'-0" above the floor level.
 - 2) Elevator Bank Identification sign

The elevator bank identification sign shall be posted and maintained on every floor at the elevator landing and shall be identified by an alphabetic letter as per Section BC 3002.3.1 and included as part of the elevator emergency sign, with letters 3" high in bold type and contrasting color from the background.
- d. Place of Assembly signage
 - 1) Place of Assembly Posted Capacity sign

The place of assembly posted capacity sign required per section BC 1029.1.3 shall be posted and maintained in a conspicuously prominent location visible from the main entrance doors of the place of assembly space. The sign shall be an etched sign plate secured to the wall. The sign shall read “OCCUPANCY BY MORE THAN XXX PERSONS IS DANGEROUS AND UNLAWFUL” or “OCCUPANCY BY MORE THAN XXX PERSONS AS XXXXX IS DANGEROUS AND UNLAWFUL”. For multiple purposes involving different occupant loads, the sign shall read “OCCUPANCY BY MORE THAN XXX PERSONS AS XXXXX OR YYY PERSONS AS YYYYY OR ZZZ PERSONS AS ZZZZZ IS DANGEROUS AND UNLAWFUL”. Where the place of assembly is occupied for multiple purposes involving different occupant loads, signage must list all occupancies and posted capacities as required by Section BC 1029.1.3.1. The lettering shall be properly spaced to provide good legibility. The top of the sign shall not be more than 72" vertically above finish floor. Signs shall be lighted by artificial illumination of at least 5-foot candles at all times during occupancy in compliance with Section BC 1029.1.4.



- 2) Certificate of Operation sign
A framed copy of the certificate of operation sign shall be located in the public assembly space. The frame shall be sized to suit the NYC Building Department certificate document.

e. Symbols and Directional signage

Signage for the physically challenged, raised character and braille signage and symbol standards that provides emergency information or general circulation directions or identifies rooms and spaces requirements shall comply with the Sections BC 1101.3 and BC 1111.1 and ICC A117.1.

- 1) Symbols of Accessibility
The dynamic accessibility symbol shall be used where appropriate. Typical dynamic accessibility symbol locations shall apply to signage at building entrances, entrance ramps, all toilets and locker room signs, on all accessible toilet stalls, fire rescue area or area of rescue assistance signs and places of assembly signs.
 - For buildings with both accessible and inaccessible entrances/exits, the dynamic accessibility symbol shall be posted at accessible entrances and exits. For landmark and SHPO eligible projects that are accessible, place such accessibility sign on door, for the sign is to be as unobtrusive as reasonable to maintain the historic nature of the building.
- 2) Directional Signage to Accessible Building Elements per Section BC 1111.2
 - a) Directional signage to an accessible entrance shall be posted at all inaccessible entrances and exits.
 - b) Directional signage to an accessible bathroom/toilet shall be posted at bathrooms/toilets in the building that are not accessible.
 - c) Directional signage to an elevator serving an accessible route shall be posted at elevators that serve an inaccessible route.
 - d) All directional signage shall include dynamic accessibility symbol.

f. Fire Rescue Area/Area of Rescue Assistance/Holding Area sign

These identifying devices shall be used when Fire Rescue Areas/Areas of Rescue Assistance/Holding Area are part of the project scope. Each Fire Rescue Area/Area of Rescue Assistance/Holding Area door shall have a sign reading one of the following as applicable:

- 1) "Fire Rescue Area" or "Area of Rescue Assistance" or "Holding Area", with the accessibility logo complying with ICC A117.1. The sign shall be metal or other non-combustible material with red lettering in bold type and red border on white background. Sign shall be externally illuminated with an intensity of not less than 25 foot candles and shall be mounted on the corridor side, top of sign 1'-3" above finish floor on the center of each door.
- 2) A wall-mounted etched zinc sign with 5/8" high raised character and braille that includes the room number, room name and the designation "Fire Rescue Area" or "Area of Rescue Assistance" or "Holding Area", as applicable, shall be provided on the latch side of the door.



- 3) In each Fire Rescue Area/Area of Rescue Assistance/Holding Area, a sign that gives instruction on the use of the area under emergency conditions shall be provided per Section BC 1009.11, which includes instructions on the use of the area's two-way communication system that shall be posted adjacent to the communicating system in accordance with Section BC 1009.8.2. The signage shall comply with ICC A117.1 requirements for visual characters. Refer to Design Requirement 1.3.3.1, paragraph C.2.

g. Certificate of Occupancy sign

A framed copy of the certificate of occupancy sign shall be located in the main entrance hall or lobby leading to the elevator. The frame shall be sized to suit the NYC Building Department certificate document.

h. Special Accessibility signs

For areas where audible communications are integral to use space, provide a sign notifying patrons of the availability of assistive listening systems.

- 1) Symbol of access for hearing loss

Assistive listening systems required by Section BC 1108.2.7 in accordance with ICC A117.1 (706) shall be identified by the "assistive listening system sign". Provide the "international symbol of access for hearing loss sign" as per paragraph 703.6.3.3 of ICC A117.1, top of sign to be mounted 60" above finished floor adjacent to door(s) leading to the space(s) that provide the assistive listening system other than induction loop system.

- 2) Sign for area with audio induction loop system

Provide audio induction loop sign adjacent to the door(s) leading to the space(s) that includes an audio induction loop system. At the security, information or reception area where induction loop is provided in any assembly space, international symbol of access for hearing loss with a "T" in the lower right-hand corner of such symbol shall be provided.

i. Door signs for exit stairs shall be provided as per the following:

- 1) For high-rise buildings:

A sign shall be posted on the stair side of the stair door at every floor. Such sign shall read "RE-ENTRY ON THIS FLOOR".

or

Where stair sides of doors are locked, such sign shall read "NO RE-ENTRY. RE-ENTRY IS PROVIDED DURING FIRE EMERGENCIES. NEAREST TELEPHONE ON THE ... AND ... FLOORS."

- 2) For all buildings where re-entry is not provided from a stair to every floor

- a) On the occupied side - provide a sign that reads, "NO RE-ENTRY FROM THIS STAIR". Such sign shall be posted on the stair door at every floor.

- b) On the stair side - a sign shall be posted on the stair door at every floor.

- o Where re-entry is provided, the sign shall read, "RE-ENTRY ON THIS FLOOR".



- Where re-entry is not provided on that floor, the sign shall read, “NO RE-ENTRY”
- Where re-entry is not provided on any floor, the sign shall read, “NO RE-ENTRY”
- Where re-entry is provided on other floors, the sign shall read, “NO RE-ENTRY, NEAREST RE-ENTRY ON THE AND....FLOORS.

j. Live Load signs

As per §28-118.21 of the 2022 NYC Administrative Code, where live loads for each floor or portion of building are or have been designed to exceed 50 lbs/SF live load, a sign indicating such design live loads shall be conspicuously posted at each story in which they apply.

k. Elevator “Star of Life” sign

Where elevators are provided in buildings five or more stories above, or four or more stories below grade plane, or underground buildings, elevators shall be sized to accommodate ambulance stretcher and shall be identified by the international symbol for emergency medical services (Star of Life). The symbol shall be 3” high and shall be placed on both jambs of the hoist way entrances on each floor per Section BC 3002.4.2.

l. Elevator signage

For buildings that include elevator(s), the following signage shall be provided per Chapter 30 and Appendix K of 2022 NYC Building Code:

- 1) Equipment Identification Number, NYC Identification Number and demarcation signs
Equipment Identification number (except items (i) and (j)), NYC identification number and all required demarcation signage as per Section 2.29.1 of Chapter K1 will be provided by the elevator contractor.
- 2) Elevator pit sign
Where a separate pit door is provided, a warning sign with letters 2” high shall be affixed on the pit door per Section 2.2.4.5(f) of Appendix K. Such sign shall read “DANGER ELEVATOR PIT”.
- 3) Elevator Equipment Room sign
Access doors to machine rooms and overhead machinery spaces shall include a door-mounted sign per Section 2.7.3.4.1(d) of Appendix K. Such sign shall read “ELEVATOR EQUIPMENT” with letters on the sign of not less than 2” high.
- 4) Elevator Top of Car Enclosure Headroom sign
Where refuge space between the top of elevator car and top of shaft is less than 43”, a sign with red and white stripes with the letters “DANGER LOW CLEARANCE” shall be located in the area immediately outside the refuge space per Section 2.4.7.2 of ASME 17.1-2013.
- 5) MRL Elevator Hoistway sign
While not a typical elevator for SCA buildings, access openings in MRL elevator hoistways enclosures where full bodily entry is not necessary for maintenance and inspection of components shall be labeled “DANGER: ELEVATOR HOISTWAY” as per Section 2.7.3.4.7(d).



m. Standpipe signage

For buildings that include a standpipe system, the following signage shall be provided:

- 1) Door sign
Doors to rooms that contain equipment of such nature that the use of water would be ineffective in fighting a fire therein, or would be otherwise hazardous, i.e. electrical rooms, elevator machine room, telecom room, telecom closets etc. shall have a sign "IN CASE OF FIRE, USE NO WATER".
- 2) Stairway sign
The stairs that do not include a hose connection shall have a sign on the door to the stairway stating, "NO STANDPIPE CONNECTIONS IN STAIRWAY".

n. Exit signs

- 1) Raised character exit sign
Per Section BC 1013.4, a raised character and braille sign stating "EXIT" and complying with ICC A117.1 shall be provided adjacent to each door to an egress stairway, an exit passageway, exit ramp, area of rescue assistance and the exit discharge.
- 2) Emergency exit sign
Per Section BC 1025.2.6.1, a luminous sign stating "EXIT", the direction of exit and egress symbol shall be provided on each door to an egress stairway in a high-rise building.
- 3) "No Exit" sign
Per Section BC 1025.2.9, a sign stating "NO EXIT" shall be provided on doors along the egress path that lead to dead ends (mechanical spaces, etc.) in a high-rise building.

o. Caution/Safety signage

- 1) Laboratory sign
Per Title 3 RCNY 2706-01, a sign stating "LABORATORY CAUTION: HAZARDOUS MATERIALS" shall be provided on the corridor side of door to a high school science lab and prep room.
- 2) Laboratory Gas Shutoff sign
Per Section FGC 409.6 of the 2022 NYC Fuel Gas Code, a wall-mounted sign stating "GAS SHUTOFF" shall be provided adjacent to the gas shutoff valve in science rooms and prep rooms.
- 3) Electrical Room/Closet sign
Per Section BC 905.1, a sign stating "IN CASE OF FIRE, USE NO WATER" shall be provided on the corridor side of door to; Electric Closets, Electric Service room and Telecom room.
- 4) Louver sign
Per Section FGC 304.10.2, a sign stating "LOUVERS DAMPERS AND/OR VENTILATION OPENINGS MUST NOT BE BLOCKED OR DISABLED" shall be provided adjacent to the opening(s) within the room containing the equipment.
- 5) Gas Meter Room sign
Per appendix E.3 of the 2022 NYC Fuel Gas Code, a sign stating "GAS METER ROOM – NO STORAGE PERMITTED" shall be provided on the corridor/exterior side of the gas meter room door.



- 6) Gas Shutoff Valve sign
A sign stating “IMPORTANT” GAS SAFETY SHUTOFF VALVES LOCATED INSIDE GAS METER ROOM MUST BE MANUALLY RESET UPON ACTIVATION OF THE GAS LEAK DETECTION SYSTEM OR LOSS OF NORMAL ELECTRICAL POWER” must be provided for each boiler burner/roof top unit control panel door.

p. Miscellaneous signage

- 1) Instruction sign for Fire Rescue Area/Area of Rescue Assistance/ Holding Area:
Sign shall give instructions on the use of the area under emergency conditions per Section BC1009.11, which includes instruction on the use of the area’s two-way communication system.
- 2) Stair door warning sign for PA Space/Fire Rescue Area/Area of Rescue Assistance:
In schools that require lock down drills per NYS Education Law 807, stairway egress doors from occupied sides are permitted to be locked to prevent intruders getting access from the stair side during lockdown drills per exception 5 of Section BC 1010.1.9.11. Warning signs shall be provided on both sides of egress stair doors to unlock these egress doors upon completion of lock down drills and keeping these doors unlocked per Section BC 1010.1.9.11.

3. Room Signage

All rooms, including classrooms, offices, suites, storage rooms, building services rooms, kitchen and servery rooms etc., shall be identified with a room number.

- a. Storage Rooms, Storerooms, Audio/Visual Storage Rooms: Will have room numbers but no room names and shall be provided with raised character and braille etched plate room number signs. The reason for not naming these rooms is so as to not identify the contents of these rooms and invite break-ins.
- b. Public assembly spaces including the auditorium, gymnasium, gymatorium, cafeteria located along the major public corridor shall be identified by an etched plate sign with a room name and number in both raised character and braille.
- c. Classrooms
 - 1) Primary Room Entrance Door: The door which serves as the primary room entrance along major public corridors shall be furnished with an aluminum and etched zinc room number/name/school identification sign.
 - 2) The Secondary Room Entrance Doors shall be furnished with a raised character and braille etched plate room number sign.
- d. Folding Partition Rooms: Rooms along major public corridors with folding partitions and having two main entrance doors that will enable the room to be divided into the two separate rooms. Each door shall have wall-mounted aluminum and etched zinc room number/name/school identification signs.
- e. Suites: The door to the suite and support rooms/offices within the suite shall have an aluminum and etched zinc room number/name/school identification sign.

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- f. Building Services Rooms: Building service rooms, such as, Mechanical Equipment Rooms and Closets, Electrical Rooms & Closets, Electrical Switchgear Rooms, Electrical Distribution Rooms and Closets, Emergency Generator Room, Data Communication Rooms and Closets, Telecommunication Rooms or Closets, Elevator Machine Rooms and Closets, Chiller Equipment Room, RPZ Rooms and Closets, Water Meter Rooms and Closets, and Gas Meter Rooms along major public corridors shall be furnished with a aluminum and etched zinc room-number/name/school identification type sign. Smaller building services rooms accessed from within the main building service's room shall be signed with only the room number sign.
- g. Kitchen & Servery Rooms: Kitchen & Servery rooms shall be furnished with a raised character and braille room name and number sign. Smaller rooms within the kitchen and servery rooms shall also be furnished with raised character and braille room name and number sign.
- h. Locations for wall-mounted room signage: Signs shall be located adjacent to latch side of the door, the top of sign 60" above finish floor and the centerline of the signage shall be at least 9" away from the outside face of the vertical doorframe, except as indicated below:
- 1) For single doors: Where perpendicular (90°) return walls are 10" or less from the outside edge of the latch side of the door frame of the room, the room identification sign shall be located on the perpendicular wall. The top of room sign shall be 60" above finish floor. The sign edge shall be 4" from the corner of the perpendicular wall.
 - 2) For double doors: Wall-mounted signs are to be located on the right side of the door. Where perpendicular (90°) return walls (similar for interior rooms within major spaces) abut double doors into rooms and are 10" or less from the outside edge of the door frame of the room, the sign shall be located on the right side (walls outside the rooms facing the double doors) on the perpendicular wall. The top of this room sign shall be 60" above finish floor. The sign centerline shall be at least 9" away from the corner of the perpendicular wall.

4. Miscellaneous Signage

- a. **Gymnasium Line-Up Designations signs - wall:** Gymnasium line-up designation wall signs shall be 6" painted alphabetic and numeric bold type characters. The numeric designation line up signs shall be equally spaced on 6'-0" centers along the longitudinal side (long side) of the gym and the alphabetic designation signs shall be equally spaced on 6'-0" centers along the transverse side (short side) of the gym. The designation signs shall be 72" above finish floor for primary and intermediate schools and 90" above finish floor for high school.
- b. **Gymnasium Line-Up Designations signs - floor:** Gymnasium line-up designation floor painted signs shall be 6" epoxy painted (black) alphabetic and numeric bold type characters designation. The designation signs shall be centered within a 8" minimum 3/4" thick painted border, corresponding to the gymnasium line-up wall-mounted designation signs, and shall be painted on the gym floor 3'-0" from the gym walls (on all sides of the gym) forming an imaginary grid on the gymnasium floor that will identify specific grid locations in the gym.
- c. **Playground Line-up Designations markers:** Playground line-up designation markers shall be 8" painted (yellow) alphabetic and numeric bold type characters equally spaced and centered on a 12" painted squares borders (yellow); the borders shall be 1" thick. The

Requirement Applies to:	✓	New Construction	✓	Major Modernizations	✓	Capital Improvements Projects



playground line-up designation markers shall be painted directly on the asphalt pavement or shall be inlaid in the color asphalt matting material. The numeric designation line up signs shall be equally spaced on 6'-0" centers along the longitudinal side (long side) of the playground and the alphabetic designation signs shall be equally spaced on 6'-0" centers along the transverse side (short side) of the playground.

The alphabetic and numeric designation signs will form an imaginary grid on the play surface that will identify specific locations for the playground.

- d. Early Childhood Center (ECC) & Primary Schools (PS) Cafeteria Line-up Designation signs: Cafeteria line-up designation signs shall be provided at the discretion of the school administration's Principal. The A/E of Record shall meet with the school administration's Principal to determine if the cafeteria line-up designation signs are required for the Cafeteria or Multipurpose room. If the line-up designation signs are required, follow the requirements for line-up designation signs requirements as described above for Gymnasium Line-Up Designations signs for both wall-mounted & floor painted signs.
- e. Video Surveillance signs: Video surveillance signage shall be provided in schools that are equipped with digital video surveillance system. These wall-mounted signs shall be installed on the interior and exterior of all entrances.
- f. Bicycle Parking Disclaimer sign: Bicycle parking disclaimer sign shall be provided in schools where indoor and/or outdoor bicycle parking is part of the project scope. These wall-mounted sign(s) shall be installed in bicycle storage room/area and in close proximity of exterior bicycle racks.
- g. Take the Stairs! sign: "TAKE THE STAIRS!" sign shall be provided in all new buildings and additions. The sign shall be located such that it is clearly visible from the lobby/corridor and mounted on the wall adjacent to each stair and elevator on every floor.
- h. School Directory: A school directory with tracks for letters shall be provided at the discretion of the school administration's Principal. The A/E of Record shall meet with the school administration's Principal to determine if a school directory is required. If a school directory is required, a free-standing enclosed letter board or a wall-mounted enclosed letter board shall be provided in the vicinity of the general office or at other desired location as directed by the school Principal.
- i. Green Vehicle Parking sign: Green vehicle parking sign shall be provided in schools where parking is part of the project scope and such space is provided.

Where appropriate, additional miscellaneous signage shall be provided in consultation with the school administration's Principal and the SCA.



Design Requirements

General – Section 1.0

1.3 Planning

1.3.1 Design

1.3.1.5 Typical Room Signage

Description/Design Approach

The table below is a brief description of the various types of signs that are to be utilized to identify spaces within the building. The sign type designations refer to the sign types in the SCA standard details. The Room Layout Numbers and Name refer to the ROOM PLANNING STANDARD; and are used throughout the “Table of Typical Spaces and Signage.”

The following signage is typically for new construction or for building wide signage replacement. Design Requirement 1.3.1.4 describes the design and locations.

For existing buildings, new interior non-regulatory signage adjacent to or surrounded by existing signage shall match existing. New regulatory signage shall follow DR 1.3.1.4 and standard details.

Sign Type	Short Description	Remark
B1	Room Number in Raised Character and Braille Sign	Typical for secondary door to room
C1	Room Number and Name in Raised Character and Braille Sign	
D1	Room Identification Sign with Changeable Inserts with Room Number in Raised Character and Braille , slots for room name & school identification inserts, insert for room name	Type D1 and D2 are interchangeable
D2	Room Identification Sign with Changeable Inserts with Room Number in Raised Character and Braille, slots for room name & school identification inserts, inserts for room name & school identification	Type D1 and D2 are interchangeable
E1	Fire Rescue Area – Wall-mounted Sign	For sprinklered buildings and non-sprinklered buildings using Horizontal Exit
E2	Area of Rescue Assistance – Wall-mounted Sign	For non-sprinklered buildings using Area of Rescue Assistance
F1	Male Symbol, Letters - Men (or Boys) and Dynamic Accessibility Symbol	
F2	Female Symbol, Letters - Women (or Girls) and Dynamic Accessibility Symbol	
F3	Male Symbol, Letters- Male (or Boys) Locker Room - and Dynamic Accessibility Symbol	
F4	Female Symbol, Letters- Female (or Girls) Locker Room and Dynamic Accessibility Symbol	
F5	Dynamic Accessibility Symbol, Pictogram (Male or Female) and Letter – Staff Toilet	
F6	All Gender Student Toilet-non ADA w/ Pictogram	Single user student toilet
F7	All Gender Staff Toilet-non ADA w/ Pictogram	Single user staff toilet

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Design Requirements

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Sign Type	Short Description	Remark
F8	All Gender Student Toilet- ADA compliant w/ Dynamic Accessibility Symbol, Pictogram	Single user student toilet
F9	All Gender Staff Toilet- ADA compliant w/ Dynamic Accessibility Symbol, Pictogram	Single user staff toilet
F10	Toilet w/ Dynamic Accessibility Symbol, Pictogram	Principal office toilet
G1	Fire Rescue Area – Door-mounted	For sprinklered buildings and non-sprinklered buildings using Horizontal Exit
G2	Area of Rescue Assistance – Door-mounted	For non-sprinklered buildings using Area of Rescue Assistance
H1	Exterior Ramp Sign	
H2	Dynamic Accessibility Symbol	
J1	Holding Area - F.D. Access Sign	Exterior - window sill mounted
J2	Holding Area – Door-mounted Sign	
K1	F.D. Access Sign	Exterior- window guard mounted
K2	F.D. Access Sign	Interior- window mounted
L1	Laboratory Sign	HS labs and prep rooms
L2	Laboratory Gas Shutoff Sign	Labs and prep rooms
L3	Electric Room Sign	For rooms with elec. eqpt.
L4	Louver Sign	For rooms with intake and exhaust louvers
L5	Gas Meter Room Sign	Gas meter room door
L6	Gas Shutoff Valve Sign	Boiler burner or Roof top equipment control panel
M1	Stair Identification Sign (without raised braille)	On front & back of each stair door
M2	Stair Accessible Floor Level Identification Sign	On stair side wall near stair doors
M3	Take the Stairs! Sign	In lobby/corridor - all floors
M4	Stair Floor Level and Identification Sign	For exit enclosures connecting three stories or more in low rise buildings
M5	Raised Character and Braille Exit Sign	To be mounted adjacent to stairway, exit passageway, exit ramp, Area of Rescue Assistance & exit discharge
N1	Elevator Floor Designation Sign	On both jambs of each elevator doorframe
N1a	Elevator Floor Designation Sign for First Floor	On both jambs of each elevator doorframe
N2	Elevator Car Identification Sign	Near jamb of each elevator doorframe
N3	Elevator Emergency and Elevator Bank Identification Sign	Above elevator call button
N4	International Symbol for Medical Services- Star of Life	On both jambs of each elevator doorframe

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



Design Requirements

General – Section 1.0

Sign Type	Short Description	Remark
N5	Elevator Pit Sign	On elevator pit door
N6	Elevator Equipment Sign	
N7	Danger Low Clearance Sign	
P1	Directional Signage to Accessible Elements Sign	
Q1	Availability of Assistive Listening System SymbolSign	Near sound system rack
Q2	International Symbol of Access for Hearing Loss Symbol Sign	Near entrance to spaces that include local sound system
Q3	Audio Induction Loop Sign	Near entrance to spaces that include Audio Induction Loop
R1	Place of Assembly Sign	Assembly spaces occupied for multiple purposes (e.g. Gymnasium, with occupancy ≥ 75)
R3	Certificate of Occupancy Sign/ Certificate of Operation Sign	On main lobby/ On PA space
S1	Video Surveillance Sign	
T1	Bicycle Parking Disclaimer Sign	At interior and exterior bike parking location
T2	Green Vehicle Parking Sign	At dedicated green vehicle parking location
U1	Instruction Sign for Fire Rescue Area/ Area of Rescue Assistance/ Holding Area	Near two-way communication system
U2	Warning Door Sign for Stairway from PA Space/ Fire Rescue Area/ Area of Rescue Assistance	On front & back of each egress stair door
AA	Luminous Stair Floor Level and Identification Sign	For high-rise buildings
BB	Emergency Exit Sign	For high-rise buildings
CC	No Exit Sign	For high-rise buildings

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



Design Requirements

General – Section 1.0

Table of Typical Spaces and Signage				
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
Group 1	Instruction			
1-10	Typical Pre-Kindergarten	D2, F6 or F8	Pre-Kindergarten	Type F6 or F8 @door to toilet
1-11	Typical Kindergarten	D2, F6 or F8	Kindergarten	Type F6 or F8 @ door to toilet
1-12	Typical Classrooms, Grades 1-2 w/ toilet	D2, F6 or F8	Classroom	Type F6 or F8 @ toilet door
1-13	Learning Classroom, Grades 1-2 w /toilet	D2, F6 or F8	Classroom	Type F6 or F8 @ toilet door
1-14	Typical Classroom, Grade 3	D2	Classroom	
1-15	Typical Classrooms, Grades 4-5	D2	Classroom	
1-16	Typical Classrooms, Grades 6-8	D2	Classroom	
1-17	Typical Classroom, Grades 6-8 Alt 1	D2	Classroom	
1-18	Typical Kindergarten, Alt 1	D2, F6, or F8	Kindergarten	Type F6 or F8 @ each door to toilet Type F2 or F1 in lieu of F6 or F8 depending upon use
1-19	Typical Classroom, Grades 6-8 Alt 2	D2	Classroom	
1-20	Typical Classroom, Grades 9-12	D2	Classroom	
1-22	Classroom w/ Operable Wall	D2	Classroom	Type D2 @ each door to classroom
NA	Speech Classroom and Health Exam	D2	Classroom	
NA	Flexible Classroom Complex	D2	Classroom	Type D2 @ each door to classroom
NA	Double Classroom	D2	Classroom	Type D2 @ each door to classroom
1-23	Small Group Instruction Room	D2	Classroom	
1-35	Typical Classroom Grades 1-2	D2	Classroom	

Requirement Applies to: ✓ New Construction

✓ Major Modernizations

✓ Capital Improvement Projects



Design Requirements

General – Section 1.0

Table of Typical Spaces and Signage				
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
1-30	Special Education Classroom	D2	Classroom	
1-31	Reading Resource Room	D2	Resource Room	
1-32	Speech Resource Room	D2	Resource Room	
1-33	Special Ed. L.D. Resource Room	D2	Resource Room	
1-34	Resource Room with Operable Wall	D2	Resource Room	Type D2 @ each door to room
NA	Word Processing Lab	D2	Word Processing	
1-40	Speech Workshop w/ Operable Wall	D2	Speech Room	Type D2 @ each door to room
1-41	Reading Resource Room	D2	Resource Room	
1-42	Special Ed. Resource Room	D2	Resource Room	
Group 2	Specialized Instruction			
2-10	Art Classroom	D2	Art Room	
2-11	Art Storeroom	B1	-	Type B1 @ corridor door
2-20	Art Classroom w/ Storage	D2	Art Room	
2-21	Art Studio w/ Storage	B1, D2	Art Studio	
2-22	Ceramics Classroom	D2	Ceramics Classroom	
2-23	Project Room	D2	Project Room	
2-24	Project Room	D2	Project Room	
2-25	Art Classroom with Storage	D2	Art Room	

Requirement Applies to: ✓ New Construction

✓ Major Modernizations

✓ Capital Improvement Projects



Design Requirements

General – Section 1.0

Table of Typical Spaces and Signage				
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
2-30	Music Suite	D2	Music Suite	
2-30.1	Music Classroom	-	--	
2-30.2	Small Practice Cubicle	C1	Practice	
2-30.3	Large Practice Cubicle	C1	Practice	
2-30.4	Instrument Storeroom	B1	--	
2-32	Choral Music Classroom	D2	Choral Music Room	
2-40	Instrument Practice Room	C1, D2	Instrument Classroom	Type C1 – 'Practice' for practice cubicles
2-42	Orchestral Room w/ Local Sound System	B1, D2, Q1 and Q2 Q3	Orchestral Room	Verify that electrical design includes assistive listening system. Verify if Audio Induction loop is provided
2-43	Choral Room w/ Music Storage & Local Sound System	B1, D2, Q1 and Q2, Q3	Choral Room	Verify that electrical design includes assistive listening system. Verify if Audio Induction loop is provided
2-44	Music Instrument Storage	B1	--	
2-50	Wireless Language Lab	D2	Language Lab	
2-51	Materials Processing Lab and Storeroom	B1, D2	Materials Lab	
2-52	Electronics Lab	D2	Electronics Lab	Type D2 @ both doors
2-53	Culinary Arts Classroom	D2	Culinary Classroom	
2-54	Culinary Arts Storeroom	B1	--	
NA	Wireless Language Lab	D2	Language Lab	
NA	Special Ed Computer Lab	D2	Computer Lab	

Requirement Applies to: ✓ New Construction

✓ Major Modernizations

✓ Capital Improvement Projects



Design Requirements

General – Section 1.0

Table of Typical Spaces and Signage				
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
NA	Computer Classroom	D2	Computer Classroom	
2-60	Programmed Instruction/ Language Lab	B1, D2	Language Lab	
NA	Perimeter Computer Classroom	D2	Computer Classroom	
NA	Cluster Computer Classroom	D2	Computer Classroom	
2-61	Distance Learning Classroom	D2	Distance Learning	
NA	Adjoining Technology Lecture Room	D2	Lecture Room	Type D2 for corridor door
2-62	Transportation Lab	B1, D2	Transportation Lab	Type B1 @ secondary door to room and storage room
2-63	Communication Technology Lab	B1, D2	Communication Technology Lab	Type B1 @ secondary door to room and storage/ audio/visual
2-64	Material Processing Lab	B1, D2	Material Processing Lab	
2-65	Electronics Lab	B1, D2	Electronics Lab	
2-66	CADD/Drafting Lab	B1, D2	CADD/Drafting Lab	
2-67	CADD/Hand Drafting Lab	B1, D2	CADD/Drafting Lab	
2-68	Mechanical Drafting Lab	B1, D2	Drafting Lab	
2-69	Virtual Enterprise Lab	B1, D2	Virtual Enterprise Lab	Type B1 for conference room Type D2 @ both doors to room
2-80	Stagecraft Lab	D2	Stagecraft Lab	
2-81	Culinary Arts Lab	D2	Culinary Lab	
2-82	Photography Lab	D2	Photography Lab	
2-83	Technology Store Room	B1	--	

Requirement Applies to: ☒ New Construction

☒ Major Modernizations

☒ Capital Improvement Projects



Design Requirements

General – Section 1.0

	Table of Typical Spaces and Signage			
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
Group 3	Science			
3-10	Science Resource Room	D2	Science Resource Room	
3-11	Science Resource Prep Room and Storage	B1, D2	Science Prep Room	
3-12	Science Resource Room with Storage	D2	Science Resource Room	
3-13	Science Resource Room – Alternate 1	D2	Science Resource Room	
3-14	Science Laboratory/Demo	D2	Science Demo Room	Verify if L2 is required
3-15	Science Prep Room	B1	-	Type B1 at door to room and doors to lab, demo room
NA	Standard Perimeter Laboratory	B1, D2, L1, L2	Science Laboratory	L1 on corridor side of door
NA	Standard Perimeter Laboratory - Biology	B1, D2, L1, L2	Science Laboratory	L1 on corridor side of door
NA	Project Room	D2	Project Room	
3-20	Standard Trifacial Laboratory	B1, D2, L1, L2	Science Laboratory	L1 on corridor side of door
3-21	Standard Trifacial Laboratory Biology	B1, D2, L1, L2	Science Laboratory	L1 on corridor side of door
3-22	Biology Project Preparation Room	B1, L1, L2	Science Prep Room	L1 on corridor side of door
3-23	Chemistry/Physics Project Prep Room	B1, L1, L2	Science Prep Room	L1 on corridor side of door
NA	Combined Science Project Preparation	C1, L1, L2	Science Prep Room	Type B1 at door to room and doors to lab, demo room L1 on corridor side of door
3-24	Science Demonstration Room	B1, D2	Science Demonstration Room	Verify if L2 is required
3-25	Science Lecture Room	B1, D2	Science Lecture Room A (or B)	Verify if L2 is required
3-26	Science Lecture Room	B1, D2	Science Lecture Room A (or B)	Verify if L2 is required

Requirement Applies to: ✓ New Construction

✓ Major Modernizations

✓ Capital Improvement Projects



Design Requirements

General – Section 1.0

Table of Typical Spaces and Signage				
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
NA	Science Perimeter Lab. Demonstration	B1, D2, L1	Science Demo Lab	L1 on corridor side of door
3-27	Trifacial Lab Demonstration Room	B1, D2, L1, L2	Science Demo Lab	L1 on corridor side of door
3-28	Standard Physics Laboratory	B1, D2	Physics Laboratory	Verify if L2 is required
3-29	Standard Chemistry Laboratory	B1, D2, L1, L2	Chemistry Laboratory	L1 on corridor side of door
3-40	Double Quad Laboratory	B1, D2, L1, L2	Science Lab	L1 on corridor side of door
3-41	Plant Room	D2	Plant Room	
3-42	Science Project Prep room	B1, L1	Science Prep Room	Type B1 for door to room and doors to lab, demo room L1 on corridor side of door, Verify if L2 is required
NA	Science Storage	B1		
Group 3K	3K			
3K 1-10	3K Typical Classroom	D2, F8	Classroom	F8 @ Toilet door
3K 4-10	3K Exercise Room	D2	Exercise Room	
3K 7-10	3K Lobby	-	-	
3K 8-52	3K Nurse's Office	D2	Nurse's Office	
3K 8-53	3K Medical Office	D2	Medical Office	
3K 9-19	3K Grounds Equipment Storage	C1	Ground Equipment	No signage required @ exterior
3K 10-11	3K General Office/Mail/Time/Duplicating	D2	General Office	
3K 10-13	3K Principal's Office	D2	Principal's Office	

Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



Design Requirements

General – Section 1.0

Table of Typical Spaces and Signage				
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
3K 10-15	3K Principal's Office w/ Conference Area	D2, F9	Principal's Office	Type F9 @ toilet
3K 10-25	3K Parents/Community Room	D2	Community Office	
3K 10-27	3K Staff Room	D2	Staff Room	
3K 12-11	3K Custodian's Office	D2	Custodian Office	
3K 12-25	3K Telecommunications Closet	C1	Telecommunication Closet	
3K K2	3K Warming Pantry	C1, F3/F4	Warming Kitchen	
Group 4	Physical Education			
4-10	Gymnasium (Small)	C1, R2, Q1 Q2,Q3	Gymnasium	Type C1 @ all corridor doors. Verify that electrical design includes assistive listening system. Verify if Induction loop is provided.
4-11	Auxiliary Gym and Storeroom	E, R2	Auxiliary Gymnasium	
4-12	Gymnasium	B1, C1, R2, Q1, Q2,Q3	Gymnasium	Type C1 @ all corridor doors. Verify that electrical design includes assistive listening system. Verify if Induction loop is provided.
4-20	Competition Gymnasium	B1, C1, R2, Q1, Q2,Q3	Gymnasium	Type C1 @ all corridor doors. Verify that electrical design includes assistive listening system. Verify if Induction loop is provided.
4-21	Practice Gymnasium	B1, C1,R2 Q1, Q2,Q3	Gymnasium	Type C1 @ all corridor doors Verify that electrical design includes assistive listening system. Verify if Induction loop is provided.
4-22	Auxiliary Gymnasium	C1, R2, Q1 Q2, Q3	Auxiliary Gymnasium	Type C1 @ all corridor doors. Verify that electrical design includes assistive listening system. Verify if Induction loop is provided.
4-23	Dance Studio	B1, D2, Q1 Q2, Q3	Dance Studio	Verify that electrical design includes assistive listening system. Verify if Induction loop is provided.
4-24	Weight Training	B1, D2	Weight Training	

Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



Design Requirements

General – Section 1.0

Table of Typical Spaces and Signage				
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
4-25	Wrestling Gymnasium	B1, D2	Wrestling Gymnasium	
4-26	Gymnastics Gymnasium	B1, D2, Q1 and Q2, Q3	Gymnastics Gymnasium	Verify that electrical design includes assistive listening system. Verify if Induction loop is provided.
4-27	Competition Pool	B1, C1	Pool	
4-28	Black-Box Theater	B1, D2	Black-Box Theater	
4-30	Locker Room	F3/F4	Locker Room	Sign to read Boys Locker Room or Girls Locker Room as applicable
4-31	Student Locker Room – M/F w/ Toilets	F3/F4, H2	Locker Room	Sign to read Boys Locker Room or Girls Locker Room as applicable
4-40	Student Locker Room w/ Shower, Toilets – M/F	F3/F4, H2	Locker Room	Room designation to be Boys Locker Room or Girls Locker Room as applicable
4-41	Locker Room w/ Showers – Visiting Team	C1, F6 or F8	Visiting Team Locker Room	Type F6 or F8 @ toilet, Shower area
4-42	Pool Locker Rooms	H/I	Locker Room	Room Designation to be Boys Locker Room or Girls Locker Room as applicable
4-43	Shower Room	C1, H2	Shower Room	Room Designation to be Boys Shower Room or Girls Shower Room as applicable
4-50	Health Instructor's Office (Small)	D2, F7 or F9	Office	Type F7 or F9 @ toilet
4-51	Health Instructor's Office w/ Storage	D2, F7 or F9	Office	Type F7 or F9 @ toilet
4-52	Health Instructor's Office	D2, F7 or F9	Office	Type F7 or F9 @ toilet
4-53	Gym Storeroom (Small)	B1	-	
4-54	Gym Storeroom	B1	-	
4-70	Gymnasium	C1, R1, Q1 and Q2, Q3	Gymnasium	Verify that electrical design includes assistive listening system. Verify if Induction Loop is provided.
4-71	Gymnasium	C1, R1, Y, Q1, Q2, Q3	Gymnasium	Verify that electrical design includes assistive listening system. Verify if Induction Loop is provided
4-80	Gymnasium (Small) w/ Telescoping Seating	C1, R1, Q1 and Q2, Q3	Gymnasium	Verify that electrical design includes assistive listening system. Verify if Induction Loop is provided.

Requirement Applies to: ✓ New Construction

✓ Major Modernizations

✓ Capital Improvement Projects



Design Requirements

General – Section 1.0

Table of Typical Spaces and Signage				
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
4-84	Gymnasium (Large) w/ Telescoping Seating	C1, R1, Q1 and Q2, Q3	Gymnasium	Verify that electrical design includes assistive listening system. Verify if Induction Loop is provided.
4-90	Gymnasium (Small)	C1, R1, Q1 and Q2 Q3	Gymnasium	Verify that electrical design includes assistive listening system. Verify if Induction Loop is provided.
Group 5	Assembly			
5-12	Dressing Room	D2, F1, F2	Dressing Room	Type F1, F2 for toilets as applicable
5-13	Assembly Storeroom	B1	-	
5-20	Assembly Area - 300 Seats	C1, R2, Q1 and Q2, Q3	Auditorium	Type C1 at all corridor doors. Verify that electrical design includes assistive listening system. Verify if Induction Loop is Provided.
5-20	Stage	C1	Stage	Type C1 at all doors from corridor to stage
5-20	Assembly Storage	B1	-	
5-20	Projection Room	D2	Projection Room	
5-20	Utility Room	B1	-	
5-30	Assembly Area - 300 Seats	C1, R2, Q1 and Q2, Q3	Auditorium	Type C1 at all corridor doors. Verify that electrical design includes assistive listening system. Verify if Induction Loop is Provided.
5-30	Stage	C1	Stage	Type C1 at all doors from corridor to stage
5-30	Assembly Storage	B1	-	
5-30	Projection Room	D2	Projection Room	
5-30	Utility Room	B1	-	
5-40	Assembly Area - 300 seats)	C1, R2, Q1 and Q2, Q3	Auditorium	Type C1 at all corridor doors. Verify that electrical design includes assistive listening system. Verify if Induction Loop is Provided.

Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



Design Requirements

General – Section 1.0

Table of Typical Spaces and Signage				
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
5-40	Stage	C1	Stage	Type C at all doors from corridor to stage
5-40	Assembly Storage	B1	-	
5-40	Projection Room	D2	Projection Room	
5-40	Boys Dressing Room	D2, H2	Boys Dressing Room	Type D2 @ doors to dressing area Type H2 @ toilet
5-40	Girls Dressing room	D2, H2	Girls Dressing room	Type D2 @ doors to dressing area Type H2 @ toilet
5-40	Coat/Ticket Room	D2	Coat/Ticket Room	
5-50	Assembly Area - 550 Seats	C1, R2, Q1 and Q2, Q3	Auditorium	Type C1 at all corridor doors. Verify that electrical design includes assistive listening system. Verify if Induction Loop is Provided.
5-50	Stage	C1	Stage	Type C1 at all doors from corridor to stage
5-50	Assembly Storage	B1	-	
5-50	Projection Room	D2	Projection Room	
5-60	Assembly Area – Stadium Layout - 550 Seats	C1, R2, Q1 and Q2, Q3	Auditorium	Type C1 at all corridor doors. Verify that electrical design includes assistive listening system. Verify if Induction Loop is Provided.
5-60	Stage	C1	Stage	Type C1 at all doors from corridor to stage
5-60	Assembly Storage	B1	-	
5-60	Projection Room	D2	Projection Room	
5-60	Boys Dressing Room	D2, H2	Boys Dressing Room	Type D2@ doors to Dressing area Type H2 @ toilet
5-60	Girls Dressing room	D2, H2	Girls Dressing room	Type D2 @ doors to Dressing area Type H2 @ toilet
5-60	Coat/Ticket room	D2	Coat/Ticket room	

Requirement Applies to: ☒ New Construction

☒ Major Modernizations

☒ Capital Improvement Projects



Design Requirements

General – Section 1.0

Table of Typical Spaces and Signage				
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
Group 6	Library			
6-10	Early Childhood Library	D2	Library	Sign to read 'ECC library' if more than one library in building
6-13	Library (PS)	D2	Library	
6-14	Library (PS) All Tables/Chair Seating	D2	Library	
6-15	Library- PS, PS/IS	D2	Library	
6-16	Library-PS, PS/IS, IS, IS/HS, HS	D2	Library	
6-17	Library-Large PS, PS/IS	D2	Library	
6-18	Library-Large IS, IS/HS	D2	Library	
6-20	Library/Media Center	B1, D2	Library/Media Center	
6-20	Librarian's Office	D2	Office	
6-20	Storage	B1	-	
6-20	Work Room	D2	Work Room	
6-20	Technology Center	D2	Technology Center	
6-21	Library/Media Center & AV Storage	B1, D2	Library/Media Center	
6-21	Librarian's Office	A1, D2	Office	
6-21	Work Room	B1	-	
6-21	Reserve	B1	-	
6-21	Audio/Visual Storage	B1	-	Verify if L3 is required

Requirement Applies to: ☒ New Construction

☒ Major Modernizations

☒ Capital Improvement Projects



Design Requirements

General – Section 1.0

Table of Typical Spaces and Signage				
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
6-21	Technology Center	D2	Technology Center	
Group 7	Circulation			
NA	Stairs	M1, M2, M3, M4 M5	-	•M4 - For exit enclosures connecting three stories or more in a low rise buildings that must comply with 2022 code
NA	Stairs – High-rise Building	M1, M2, M3, M5, AA, BB	-	Photoluminescent markings must be indicated on drawings.
NA	Corridors – High-rise Buildings	CC	-	Verify if applicable
NA	Elevators	N1 – N4, N8	-	Verify if 'N4' is applicable to project and appropriate elevators are so marked. Verify if N5, N7 are applicable. Indicate locations for 'N8' on drawings.
NA	Lobby Security Room	B1	-	
Group 8	Student Support			
8-10	Guidance Suite (Small)	D2	Guidance Office	
8-10.1	Guidance Offices	D2	Office	
8-10.2	Guidance Conference Room	D2	Conference Room	
8-10.3	Guidance Storeroom	B1	-	
8-10.4	Guidance Waiting Room	-	-	
8-11	Guidance Suite (Medium)	D2	Guidance Office	
8-11.1	Guidance Offices	D2	Office	
8-11.2	Guidance Conference Room	D2	Conference Room	
8-11.3	Guidance Closet	B1	-	

Requirement Applies to: ✓ New Construction

✓ Major Modernizations

✓ Capital Improvement Projects



Design Requirements

General – Section 1.0

Table of Typical Spaces and Signage				
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
8-11.4	Guidance Waiting Room	–	-	
8-12	Guidance Suite (Large)	D2	Guidance Office	
8-12.1	Guidance Offices	D2	Office	
8-12.2	Guidance Conference Room	D2	Conference Room	
8-12.3	Guidance Storeroom	B	-	
8-12.4	Guidance Waiting Room	--	-	
8-13	Guidance Office	D2	Guidance Office	
8-20	Guidance House	D2	Guidance Office	Type D2 for all offices within the suite
8-21	Guidance Suite	D2	Guidance Office	Type D2 for all offices within the suite
8-22	College & Vocational Guidance Office	D2	College Office	Type D2 for all offices within the suite
8-30	School Base Support Team Suite (Small)	D2	College Office	Type D2 for all offices within the suite
8-30.1	School Based Support Team Office	D2	SBST Office	
8-30.2	School Based Support Team Conference Room	D2	Conference Room	
8-30.3	School Based Support Team Waiting Room	-	-	
8-31	School Based Support Team Suite w/o Storage	D2	SBST Office	
8-31.1	School Based Support Team Office	D2	Office	
8-31.2	School Based Support Team Conference Room	D2	Conference Room	
8-31.3	School Based Support Team Waiting Room	-	-	

Requirement Applies to: ✓ New Construction

✓ Major Modernizations

✓ Capital Improvement Projects



Design Requirements

General – Section 1.0

Table of Typical Spaces and Signage				
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
8-32	School Based Support Team Suite with Storage	D2	SBST Office	
8-32.1	School Based Support Team Office	D2	Office	
8-32.2	School Based Support Team Conference Room	D2	Conference Room	
8-32.3	School Based Support Team Storeroom	B	-	
8-32.4	School Based Support Team Waiting Room	-	-	
8-40	School Based Support Team Suite (Medium)	D2	SBST Office	Type D2 for all offices within the suite
8-41	School Based Support Team Suite (Large)	D2	SBST Office	Type D2 for all offices within the suite
8-42	LYFE Center Suite	D2, F7 or F9	LYFE Center	Type F7 or F9 @ toilet
8-43	Government & Club House	D2	Government & Club	
NA	Publications Office	D2	Publications Office	
8-44	Records Room	B	-	
8-45	Student Store	D2	Student Store	Type D2 for all doors
8-46	Student Services Suite	D2	Student Services Suite	Type D2 for all offices within the suite
8-47	Lateness and Attendance Office	D2	Attendance Office	Type D2 for all offices within the suite
8-48	Assistant Principal's Guidance Office	D2	Assistant Principal Guidance	
8-49	A.P. Guidance Secretary	D2	A.P. Guidance Secretary	
8-50	Medical Suite (Small)	D2	Medical Office	
8-50.1	Medical Suite Toilet	F8	Toilet	

Requirement Applies to: ☒ New Construction

☒ Major Modernizations

☒ Capital Improvement Projects



Design Requirements

General – Section 1.0

Table of Typical Spaces and Signage				
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
8-50.2	Medical Suite Nurse's Office	D2	Nurse's Office	
8-50.3	Medical Suite Examination Room	D2	Exam Room	
8-50.4	Medical Suite Waiting Room	-	-	
8-60	Medical Suite (Large)	D2	Medical Office	
NA	Medical Suite Toilet	F8 D2	Toilet	Type F8 for ADA All Gender toilet
NA	Medical Suite Nurse's Office	D2	Nurse's Office	
MA	Medical Suite Examination Room	D2	Exam Room	
8-61	School Based Health Clinic	D2	Health Clinic	
NA	School Based Health Clinic Exam room	D2	Exam Room	
NA	School Based Health Clinic Office	D2	Office	
NA	School Based Health Clinic Toilet	D2, F6 or F8	Toilet	
NA	School Based Health Clinic Laboratory	D2	Laboratory	
Group 9	Storage			
NA	Multipurpose Storeroom	B1	--	
9-10	Book Storeroom (Small)	B1	--	
9-11	Book Storeroom (Large)	B1	--	
9-12	Large Book Storeroom	B1	--	
9-13	Small Book Storeroom	B1	--	

Requirement Applies to: ✓ New Construction

✓ Major Modernizations

✓ Capital Improvement Projects



Design Requirements

General – Section 1.0

Table of Typical Spaces and Signage				
Layout Number	Layout Name	Sign Type	Room Name Designation	Remark
9-14	Furniture Storeroom	B1	--	
9-15	Furniture Storeroom (Large)	B1	--	
9-16	Receiving and General Supply	B1, C1	Receiving Room	Type B1 for door to supply area
9-17	Receiving and General Storage	C1	Receiving Room	
9-18	Year Round Storeroom	B1	--	
9-19	Grounds Equipment Storeroom	C1	Ground Equipment	No signage required @ exterior
9-20	Grounds Equipment Storeroom (Large)	C1	Ground Equipment	No signage required @ exterior
9-21	Audio Visual/Secure Storeroom	B1	--	
9-22	"Vault"	B1	--	
9-23	"Vault" w/ Anteroom	B	--	
9-24	Refuse and Recycling Storage	B1	-	No signage required @ exterior
9-25	Computer/AV Storeroom	B1	-	
NA	Bicycle Storage	T1	-	Provide bicycle parking disclaimer signage @ interior wall
NA	Educational/Book Storage Closet	B1	-	

Requirement Applies to: ☒ New Construction

☒ Major Modernizations

☒ Capital Improvement Projects



Design Requirements

General – Section 1.0

Group 10	Administration			
NA	Administration Suite	D2	General Office	
10-10	General Office/Waiting/Mail/Duplicating	D2	General Office	
10-11	General Office and Waiting Area	D2	General Office	
10-12	Principal's Office	D2 , F7 or F9	Principal's Office	Type F7 or F9 @ toilet
10-13	Principal's Office w/o Toilet	D2	Principal's Office	
10-14	Record's Room	B1	--	
10-15	Principal's Office w/ Toilet	D2, F10	Principal's Office	F10 @ toilet
10-16	Duplicating Room w/ Lockers	B1	--	
NA	Administration Office	D2	Administration Office	
10-17	Duplicating Room	B1 or D2	Copy Room	Type D2 @ door to corridor
10-18	Supervisory Office with Storeroom	D2	Supervisory Office	
NA	Educational Assistant's Room	D2	Educational Assistant's room	
NA	Staff infirmary	D2	Staff Infirmary	
10-19	Administration Office w/ Storage	B1, D2	Administration Office	Type B1 for storage room
NA	Principal's Secretary Office and Waiting Room	D2	Principal's Secretary	
10-20	Supervisor's Office w/ Conference & Storage	B1, D2	Supervisor's Office	Type B1 for conference and storage
10-21	Program Office	D2	Program Office	
10-22	Teachers Mail & Time Room	D2	Staff Mail/Time	Type D2 for corridor door

Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



Design Requirements

General – Section 1.0

NA	Staff Workroom	D2	Staff Workroom	
10-23	Treasurer's Office	D2	Treasurer's Office	Type D2 for corridor door
NA	Payroll Secretary's Office	D2	Payroll Secretary	
NA	A.P. Secretary's Office	D2	A.P. Administration Secretary	
NA	Principal's Conference Room	D2	Conference Room	
NA	Conference room	D2	Conference Room	
NA	Sound Control Room w/ Announcer	B1	--	
NA	Multiple Supervisor's Suite	D2	Supervisory Office	
NA	Department Storeroom	B1	--	
NA	School Aide's Room	D2	School Aide's Room	
10-24	Teacher's Aides Workroom w/ Toilet	D2, F7 or F9	Teacher's/Aide's Workroom	Type F7 or F9 @ toilet
NA	Staff Infirmary w/ Toilet	D2, F7 or F9	Staff Infirmary	Type F7 or F9 @ toilet
NA	Staff Office Complex	B, D2	Staff Office	Type B1 for offices within the suite
10-25	Community Activities/ Parents' Room	D2	Community Room	
10-26	Parent/Community Office	D2	Community Office	
NA	Staff Development/Literacy Coaches	D2	Staff Area	
Group 11	Cafeteria /Staff lunch			
11-10	Students' Cafeteria/ Multipurpose Room	C1, R2,Q1, Q2, Q3	Cafeteria	Type C1 @ all corridor entrances only. Verify that electrical design includes assistive listening system and Induction Loop.
11-11	Staff Lunch/Conference Room (Small)	D2	Staff Lunch Room	

Requirement Applies to: ✓ New Construction

✓ Major Modernizations

✓ Capital Improvement Projects



Design Requirements

General – Section 1.0

11-12	Staff Lunch/Conference Room (Large)	D2	Staff Lunch Room	
11-13	Staff Lunch Room w/o Servery	D2	Staff Lunch Room	
11-20	Staff Dining w/ Servery	D2	Staff Dining	
11-41	Cafeteria w/ Banquet Seating	C1, R2, Q1, Q2, Q3	Cafeteria	Type C1 @ all corridor entrances only. Verify that electrical design includes assistive listening system and Induction Loop.
Group 12	Custodial			
12-11	Custodian's Office	C1	Custodian's Office	
12-12	Custodian's Office w/ Storage	B, C1	Custodian's Office	Type B for storage room
12-13	Custodian's Storeroom (Small)	B1	--	
12-14	Custodian's Storeroom (Medium)	B1	--	
12-15	Custodian's Storeroom (Large)	B1	--	
12-16	Custodian's Workshop	C1	Custodian's Workshop	
12-17	Janitor's Sink Closet	C1	J. S. C.	
NA	MEP Service & Mechanical Room	C1	-	
NA	Elevator Machine Room	C1, N6	Elevator Machine Room	
12-18	Girls' Restroom and Boys' Restroom	F1/F2, H2	Boys (or Girls)	Sign to indicate Boys or Girls as applicable, Type H2 on ADA stall door, include wall tile that reads "Wash your hands before leaving this room"
12-20	Custodian's Locker Room w/ Toilet and Shower	D2	Custodian Staff Locker Room	Sign to indicate Male or Female as applicable
12-21	Security Officers Changing Room M/F	D2	Security Officers' Changing Room	Sign to indicate Male or Female as applicable

Requirement Applies to: ☒ New Construction

☐ Major Modernizations

☐ Capital Improvement Projects



Design Requirements

General – Section 1.0

12-22	Shower and Changing Room with Lockers	D1	Staff Locker Room	
12-23	Custodian's Locker Room	D1	Custodian Staff Locker Room	Sign to indicate Male or Female as applicable
12-25	DIIT Large School Main Telecommunications Room	C1, L3	Telecommunications Room	
12-26	Telecommunications Closet	C1	Telecommunications Closet	Verify if L3 is required
NA	A/V Closet	B1		
12-27	Unisex Toilet for Nonambulatory Use	F9	All Gender Staff Toilet	
12-28	School Safety Administration (SSA) Office and Locker Rooms	D2	School Safety Administration Office	
12-30	Student Unisex Toilet	F8	All Gender Student Toilet	
12-31	DIIT Medium School Main Telecommunication Room	C1, L3	Telecommunications Room	
NA	Staff Toilet with Stalls	F5	Staff Toilet	Indicate Male or Female as applicable
Group CW	City Wide Special Education (D75)			
CW10-10	Special Education Classroom	D2, F6 or F8	Classroom	Type F6 or F8 for toilet
CW10-11	Special Education Classroom (Large)	D2, F6 or F8	Classroom	Type F6 or F8 for toilet
CW10-12	Special Education Classroom	D2	Classroom	
CW10-13	Special Education Classroom w/ Lockers	D2, F6 or F8	Classroom	Type F6 or F8 for toilet
CW10-14	Special Education Classroom w/o Toilet	D2	Classroom	
CW10-15	Special Education Classroom	D2, F6 or F8	Classroom	Type F6 or F8 for toilet
CW12-10	Changing Room	F8	All Gender Student Toilet	
CW16-30	Activities for Daily Living	D2, F6 or F8	Classroom	Type F6 or F8 for toilet

Requirement Applies to: ✓ New Construction

✓ Major Modernizations

✓ Capital Improvement Projects



Design Requirements

General – Section 1.0

CW17-12	Speech Room	D2	Speech Room	
CW30-00	Guidance Office	D2	Guidance Office	
CW30-80	Guidance Storeroom	B1	-	
CW34-00	Occupational Therapy/Physical Therapy	D2	O.T./P.T. Room	
CW40-70	Administration Office & Storage	D2	Office	
CW80-00	Storage Room	B1	-	
Group K	Kitchen / Food Services			
K2	Kitchen	C1	Kitchen	Include wall tile that reads "HAND WASH SINK" over each Kitchen Lavatory (Hand Sink).
K2	Can Wash/Mop Room	C1	Can Wash Room	
K3	Servery	C1	Servery	Include wall tile that reads "HAND WASH SINK" over each Kitchen Lavatory (Hand Sink).
K4	Temporary Kitchen	C1	Kitchen	Include wall tile that reads "HAND WASH SINK" over each Kitchen Lavatory (Hand Sink).
K5	Warming/Therm Hold Kitchen	C1	Warming Kitchen	Include wall tile that reads "HAND WASH SINK" over each Kitchen Lavatory (Hand Sink).
NA	Food Storage	B1/C1	- (OSF Storage)	Remote storage areas away from the kitchen to be labels 'OSF Storage' per DR 1.3.6.2.
NA	Non-food Storage	B1/C1	- (OSF Storage)	Remote storage areas away from the kitchen to be labels 'OSF Storage' per DR 1.3.6.2.
K6	Dieticians/Managers Office	D2	Office	
NA	Compressor Room	B1	-	
K8	Kitchen Staff Locker Room	F3/F4	OSF Male (or Female) Locker Room	
NA	Detergent Storage	B1/C1	- (OSF Storage)	Remote storage areas away from the kitchen to be labels 'OSF Storage' per DR 1.3.6.2.

Requirement Applies to: ✓ New Construction

✓ Major Modernizations

✓ Capital Improvement Projects



Design Requirements

General – Section 1.0

Group UPK	UPK			
UPK 1-10	Typical UPK Classroom	D2, F8	Classroom	F8 @ toilet
UPK 7-10	UPK Lobby Design Criteria	-	-	
UPK 8-53	UPK Medical Office	D2	Medical Office	
UPK 9-16	Receiving and General Supply Room	C1	Receiving Room	
UPK 9-19	UPK Grounds Equipment Closet	C1	Ground Equipment	No signage required @ exterior
UPK 9-24	Refuse and Recycling Storage	B1	-	
UPK 10-11	UPK General Office/Waiting Room	D2	General Office	
NA	Principal's Office	D2	Principal's Office	
UPK 10-25	UPK Community Activities/Parents Room	D2	Community Office	
UPK 10-27	UPK Staff Room	D2	Staff Room	
UPK 12-11/16	Custodian's Office/Workshop	D2	Custodian's Office	
UPK 12-25	UPK Telecommunications Closet	C1	Telecommunications Closet	
UPK K2	UPK Warming Pantry	C1, F3/F4	Warming Kitchen	

Abbreviations NA- Not applicable

Requirement Applies to: ✓ New Construction

✓ Major Modernizations

✓ Capital Improvement Projects



1.3 Planning

1.3.1 Design

1.3.1.6 Plumbing Fixture Count

Description/Design Approach:

An adequate number of toilet room facilities and fixtures shall be provided for students, administrative staff, pedagogical staff, and the public as required by **2022** NYC Building Code and as indicated herein.

A. Establishing the population basis for calculation of the minimum required fixtures

1. The student population to be used shall be calculated based on floor area allowance as per **2022** NYC Building Code (e.g. number of occupants for a classroom having a net area of 675 SF shall be $675/20 = 34$). The spaces to be included for calculating student population are:
 - a. All rooms of instruction i.e. typical classrooms, resource rooms, shops, science rooms, art rooms and library.
 - b. Locker rooms are considered non-simultaneous use spaces. Locker room occupant load shall not contribute towards plumbing fixture count calculation.
2. The adult population shall be calculated as follows:
 - a. 2 adults for each UPK, 3K, Pre-Kindergarten (PK), Kindergarten and D75 classroom.
 - b. 1 adult for every instructional room other than UPK, 3K, PK, Kindergarten and D75 classroom.
 - c. 5 adults for the lobby.
 - d. 1 adult for every 100 Square Feet in each office and parent's room.
 - e. A number of school aides equal to 2.5% of the unadjusted Capacity in the POR.
 - f. Kitchen staff equal to 1.5% of the unadjusted Capacity in the POR
3. School Principal, kitchen and/or gym staff are to be excluded from the adult population calculation for fixture count if they have dedicated toilets per the POR.

B. Establishing the required fixture counts for the building

1. Students
 - a. Provide the number of fixtures for **3K** thru 12th grade as required to meet the **2022** NYC Plumbing Code requirements. For population distribution, provide for 50% boys and 50% girls.

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- b. Fixtures in the dedicated student toilet room within the Medical Suite are to be excluded from the count.
- c. Provide fixtures to serve the Public Assembly Spaces as required by the NYC Plumbing Code.*

Fixtures serving the Public Assembly Spaces are to be located in the vicinity of the Public Assembly spaces.

* Note that the **2022** Plumbing Code requires a greater number of WC's for girls (females) as compared to that required for boys (males) for Auditoriums, Gymatoriums, Gymnasiums, and Cafetorium.

- d. Water Closets (WC): Provide one WC for each 50 boys and one WC for each 50 girls.
- e. Provide fixtures within spaces as dictated by the room layouts or the program of requirements.
- f. Lavatories (sinks): Provide one lavatory for each 50 boys and one lavatory for each 50 girls
- g. Urinals: Urinals are to be provided in Boys toilet rooms in lieu of WCs, but not for more than 50% of the required number of WCs.
- h. Drinking Fountains

- 1) The minimum number of Drinking Fountains to be provided in the building shall be calculated on the basis of one fixture per every 100 persons.
- 2) Refer to DR 6.1.10 for corridor drinking fountains to be provided with a bubbler for drinking and a separate dedicated bottle filler for filling a 10" high container.
- 3) Drinking fountains in corridors shall have the following at each location, **with the spout outlet height measured from the finished floor:**

3K-5th Grade – one at **29"** accessible, wheelchair **for students (parallel approach per Section 602.2 of ICC A117.1, Exception 2, Section 602.2 of ADA, Exception)**
one at 34" accessible, wheelchair **for adults (forward approach per Section 602.4 of ICC A117.1, Section 602.4 of ADA),** and
one at 40" accessible, standing

6th-12th Grade – one at 34" accessible, wheelchair, and
one at 40" accessible, standing

- i. Showers: Provide four (4) showers in High School or Intermediate/High School Gymnasium Locker Rooms, or otherwise as per the project-specific Program of Requirements (POR). All Swimming Pool Locker Rooms are to be provided with showers to meet NYC Building Code requirements.

2. Adults

- a. Provide the number of WC's listed in Table PC 403.1 of the **2022** NYC Plumbing Code under "Business" classification in single occupant or gender specific multi-stall toilet



- rooms. Number of fixtures provided per floor must also satisfy that required by DR 1.3.1.7.
- b. Adult fixture count shall include all single and multi-user adult toilets accessed from the corridor or from within staff rooms (i.e., work, lunch, etc.)
 - c. If dedicated toilets are provided for the principal, kitchen and/or gym staff, exclude these fixtures from the count (along with the staff.)
- C. Total number of fixtures provided in the building must satisfy the **2022** NYC Plumbing Code requirements.



1.3 Planning

1.3.1 Design

1.3.1.7 Toilet Facilities

Description/Design Approach:

An adequate number of toilet room facilities and fixtures shall be provided for students, administrative staff, pedagogical staff, and the public as required by NYC Building Code and as indicated herein. Refer to DR 1.3.1.6, "Toilet Fixture Count", for method of calculation.

A. Student Toilet Rooms

1. Adequate student toilets shall be provided on each floor for the student population residing there. The toilet facilities should be located centrally for easy access from classrooms.
2. Multiple stall ("ganged") student toilets accessed from the corridor should reflect the number of students on that floor that are apt to be using those facilities. For example, a floor with all Pre-K and Kindergarten, which all have toilets within the room, may have ganged toilets with fewer fixtures than other floors. Where six or more stalls are provided in a multiple stall toilet, at least one additional accessible ambulatory stall shall be provided as per Section 604.10 of ICC A117.1, in addition to the standard wheelchair accessible stall complying with Section 604.9.
3. One single user accessible **all-gender** student toilet, accessible from the corridor, shall be provided in the building.
4. Student toilet rooms should be provided relatively nearby the Auditorium/Gymnasium/Cafetorium, accessed from the corridor. These may be minimal if other toilet rooms are provided on the floor. These toilets are to be included in the building's required fixture count.
5. ECC and PS cafeterias must have toilet rooms (with a minimum of 2 WCs per gender) directly accessible from within the space for supervisory reasons. These toilets are to be included in the building's required fixture count.
6. IS cafeterias should have student toilet rooms (with a minimum of 3 WCs each) directly accessible from within the space for supervisory reasons. If this is not possible, they must be immediately adjacent. HS cafeterias must have proximate student toilets. These toilets are to be included in the building's required fixture count.

B. Adult Toilet Rooms

1. Provide a minimum of at least one single user adult toilet on each floor, accessible from the corridor. **If gender specific adult toilets are provided, the total number of male and female toilets in the building must be equal.**
2. **One of the adult single user toilet rooms shall be designed as an "All-Gender Access Toilet", with adequate space to accommodate a future changing table, Hoyer lift and**

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additional storage space as provided by the Department of Education when needed. It is preferred to locate the room on an instructional floor near the elevator. A privacy curtain track is to be provided, which will be used by the DOE when a screen for the privacy of students from the designated assistant staff within toilet is required.

3. Two adult single-user toilet rooms are to be provided in close proximity to the general **and principal's office**.
4. One adult single user toilet room shall be provided proximate to the Auditorium/ Gymnasium/Cafetorium, accessed from a corridor.

C. Additional Requirements

1. Accessible toilet, washing and drinking facilities shall be provided to comply with the requirements of ICC A117.1. When only one fixture of any type is provided, in any room or location, it shall be made accessible. When more than one fixture is provided, in any room or location, of any type at least one shall be accessible. Provide grab bars at water closets as required by ICC A117.1.
2. Provide floor drain for all toilets with more than one occupant. Toilets within City Wide Special Education Classrooms shall be provided with a floor drain and hand-held shower.
3. Provide interior wire mesh guards and translucent glazing at toilet room **exterior** windows.
4. In High School Locker Rooms with showers, provide roll down aluminum shutters to segregate showers from remainder of locker room.
5. Provide privacy screens in multiple stall toilets accessible from corridor or cafeteria, to block line of vision from toilet's door to the stalls and/or urinals.
6. Include an additional 2" of float in width and depth to the minimum dimensions required for all multiple stall toilet rooms. **Per Section PC 405.3.1 of the 2022 NYC Plumbing Code, water closet, urinal or lavatory shall not be set closer than 15 inches from its center to any wall/partition, or closer than 30 inches center to center between adjacent fixture and water closet compartment shall be not less than 30 inches in width and 56 inches in depth for wall hung water closet (or 60 inches in depth for floor mounted water closet). Considering construction tolerances, typical water closet compartments or urinal partitions shall be a minimum of 31 inches wide.**

Typical Furnishings and Equipment

A. Architectural

1. Toilet Partitions

a. Locations

Toilet partitions shall be provided for water closets and urinals in toilet rooms that provide for multiple occupancy.



b. Mounting

- 1) Toilet stall partitions shall be floor mounted, secured to back wall, and overhead braced.
- 2) Pilasters for supporting partition panels shall be supported on the floor and secured to the slab or other structural members above. Where the slab above or other structural members are too high, brace the pilasters with headrails anchored to the back wall.
- 3) Urinal partitions shall be wall mounted.
- 4) Privacy screens near toilet room entrance shall be floor mounted and overhead braced.

c. Materials

- 1) The SCA preference and standard for new toilet, urinal and privacy partitions is for solid polymer resin, or of solid phenolic core construction with integral melamine finish.
- 2) Stainless steel covered partitions may be used only to match existing partitions.
- 3) Enamel finished steel partitions may only be used only to match existing partitions.

2. Lavatory Counters

In toilet rooms where more than one lavatory is provided, a 3/4" thick granite or cultured stone counter 23-inches deep, with a 4-inch high backsplash and sidesplash, with bullnosed edge and 5-inch fascia of same material shall be provided. Refer to DR 6.1.10 for mounting heights.

3. Soap Dispensers

- a. Soap Dispensers for countertop mounted lavatories in ECC, PS and PS/IS shall be **wall** mounted.
- b. Soap Dispensers for countertop mounted lavatories in IS and IS/HS shall be wall mounted.

4. Paper Towel Dispenser & Waste Receptacle

- a. **Surface-mounted roll paper towel dispensers are preferred to the C-fold type for large/multi-stall toilets, kitchen and shower areas. Since a more than 4" projection is expected for a surface-mounted roll paper towel dispenser 27" above the finished floor, a surface-mounted waste receptacle shall be paired underneath to comply with Section 307.2 of ICC A117.1, unless the roll paper towel dispenser is placed above the countertop.**
- b. **Recessed paper towel dispenser waste receptacle unit is limited to single user toilet if there is space constraint.**



1.3 Planning

1.3.5 Design

1.3.1.8 Refuse and Recycling Storage

Description/Design Approach:

A. General

To facilitate the storage of refuse and recyclables until they are removed from the school premises, the designer shall provide for an indoor Refuse and Recycling Storage room, accessible to custodial staff **with direct access to the outside**. A trash compactor shall be included in this refuse and recycling storage room. **‘Tilt Trucks’ with wheels will be used to transfer the bagged/bailed trash to the curbside and thus the room needs sufficient space for the required number of tilt trucks.** If included in the program of requirements, a trash refrigerator is to be provided within this refuse and recycling room.

1. New schools and Lease Facilities

In all schools, refuse generated will be bagged and **placed in ‘tilt trucks’ within** the refuse and recycling storage room and/or the trash refrigerator. The custodian will **bring the ‘tilt trucks’** to the designated curbside pickup area for New York City Department of Sanitation (DSNY) collection.

2. Building additions

In schools currently designated for curb-side pick-up, a refuse and recyclable storage space shall be added if the

- existing building does not have a designated refuse and recyclable storage room
or
- existing refuse and recyclable storage space is inadequate to incorporate the basic requirements described in Section **B** below.

3. Recycling Program

Recycling is mandated for all schools. Recyclable materials such as paper/cardboard and metals/**glass/plastics will be bagged and placed in tilt trucks that are stored in** the refuse and recycling room. The custodian will **bring the tilt trucks** to the designated curbside pick-up area for DSNY collection.

4. Phase-out of the Front Loading Overhead Hoist Containers

The DSNY front-loading overhead hoist containers and their pick-up operations are currently being phased out and shall not be used on any new projects. The DSNY has agreed that in schools where front-loading overhead hoist container pick-up currently exists, service will continue. Additions to these schools should not affect pick-up, except for the additional containers needed for the increased student population. In such cases, DSNY agreed that service will continue but the DSNY Survey Officer should be contacted prior to the design completion to reaffirm the agreement.

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



5. Roll-On-Roll-Off Compactor/Container (ROROC/C)

- For large high schools or campus complexes with more than 3,000 students where curbside pick-up would become more impractical due to the number of tilt trucks required, and where there is room on the site as well as access for the DSNY sanitation trucks, the installation of a Self-contained Horizontal Compactor unit is to be investigated and implemented upon DSNY approval. The ROROC/C is a 30 cubic yard dumpster with an integral self-contained compactor unit, which is picked up, emptied off-site, and returned by the DSNY truck. The ROROC/C is usually planned and provided within school property lines.
- If it is agreed with the SCA that the site meets the guidelines for the use of the ROROC/C, the Design Architect shall immediately request a field survey from the DSNY and plan for the ROROC/C requirements, including dumpster area, clearances, and power unit requirements by manufacturer. The ROROC/C shall be provided in a screened and fenced enclosure.
- For projects where a ROROC/C is used, the refuse and recycling room shall be sized to accommodate the number of tilt trucks required for recycling and organics (in areas where organic pick-up is applicable).

B. Basic Guidelines for Refuse and Recycling Storage Room

1. The refuse and recycling storage room shall be located such that the exterior door from this room will open directly out to the sidewalk area (or to an exterior passageway) where the tilt trucks will be brought for the DSNY pick-up. If the kitchen is on the first floor, proximity to the kitchen is preferred. The door opening directly to the exterior shall be a 44" wide door to facilitate refuse removal to the curbside.
2. The size of refuse and recycling storage room **and number of tilt trucks to be provided shall be based on the 'Tilt Truck and Refuse & Recycling Room Size Calculator', available on the SCA website at <http://www.nycsca.org/Design/Forms>.** The size of the trash refrigerator (if provided) is based on the school capacity and should be used for space planning purposes. The trash compactor unit shall be located within the refuse and recycling storage room with appropriate servicing and maintenance clearances. The capacity of the trash compactor unit shall be determined based on student capacity of the facility
3. In addition to the above, the refuse and recycling storage room shall be provided with a dedicated power source for the compactor unit, a floor drain and a hose bibb. The floor of the refuse and recycling storage room shall be pitched to the floor drain. The floor drain shall be located in the center of the space or just outside of the trash refrigerator (if the refrigerator is provided). The floor of the trash refrigerator shall pitch to the floor drain in the refuse and recycling storage room.
4. **Tilt trucks will be used to store each type of material (trash, recyclables, organics). The Calculator indicated above will determine the number of trucks to be provided based on the school population and number of pick-ups per week of each material, which in turn will determine the room size.**

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



- C. In schools with an existing fenced containerization area; recyclable materials such as paper/cardboard and metals/**glass/plastics** may also be stored in **Tilt Trucks** within the containerization area.

D. Miscellaneous Information

The Department of Sanitation currently uses a basic formula of **5.6 lbs.** of **refuse generated** per student weekly

1. According to DSNY the amount of recyclable material is approximately **35%** of general refuse, broken down into **21%** paper and cardboard and **14%** metal, glass **and plastics**.
2. The following is a typical pick up schedule for a school
 - Refuse/trash – **Three or five days a week, depending if there is a separate organics pick-up**
 - Recyclables - paper and cardboard- three times a week
 - Recyclables - metal, glass **and plastics** – two times a week
 - **Organics – Five times a week, if applicable to that area.**

Please note that these are general guidelines and formulas and that final approval by the Department of Sanitation is required before any collection service can begin. The Architect **MUST** consult with the Department of Sanitation during **the** pre-schematic phase to establish specific requirements for a project.

Department of Sanitation Contact:

The City of New York
Department of Sanitation
Office of Collection/Containerization
125 Worth Street, Room 700
New York, N.Y. 10013
Phone 646-885-4830



1.3 Planning

1.3.1 Design

1.3.1.9 Architectural Acoustic Standards

This design requirement and DR 6.2.25, HVAC Acoustic Standards, were developed to meet requirements of American National Standard: “Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools” (ANSI S12.60-**2010**), as well as requirements for the NYC Green Schools Guide.

A. Reverberation Control

Uncontrolled reverberation interferes with hearing in instructional spaces. Sound absorbent finishes are needed to control reverberation. Reverberation is quantified using the reverberation time.

The reverberation times for unoccupied instructional spaces in the 500, 1,000, and 2,000 Hz octave bands shall not exceed the following:

- 0.6-seconds for room volumes of up to 10,000 ft³
- 0.7-seconds for room volumes of 10,000 to 20,000 ft³

Use of a lay-in sound absorbent (acoustical) ceiling having a minimum NRC/SAA* of 0.70 will go a long way toward meeting the reverberation time goals in classrooms. On occasion, it may be necessary to provide supplemental sound absorption on upper wall areas should the net area of sound absorptive ceiling be limited by flat-lensed light fixtures or gypsum board soffits. The project’s acoustical consultant should evaluate if classroom specific calculations or testing are required.

*Noise Reduction Coefficient (NRC) and Sound Absorption Average (SAA) are defined in ASTM Standard C423.

Uncontrolled reverberation also affects other spaces and is to be addressed by design.

The reverberation times for other spaces shall not exceed the following

- 1.5 seconds for gymnasium spaces and,
- For auditoria, consult a qualified acoustical consultant.

Sound absorption within Cafeterias is to be addressed using lay-in sound absorbent (acoustical) ceiling having a minimum NRC/SAA of 0.90.



B. Sound Isolating Construction

Correctly selected sound-isolating constructions are needed to reduce the transfer of noises from adjacent spaces and from the school's exterior. This is important in minimizing interference with speech communication in learning environments.

1. Sound Isolation - Interior

Between instructional and office spaces and the adjacent spaces listed, provide constructions that, at a minimum, yield the degree of airborne sound isolation listed in the following table:

Adjacent	Airborne Sound Isolation (STC**)
Classroom	50
Corridor	45 (Excluding entry doors, which shall achieve STC-35)
Gang Toilets	53
Music/Dance	60
Mechanical	60
Gym	60
Cafeteria	60

**Sound Transmission Class per ASTM E413 and ASTM E90

There are two different partition types to achieve STC-50 sound isolation for classrooms. Each of these employ gypsum board on 20 gauge steel studs with a blanket in the cavity.

- a. Partitions between classrooms where rear walls of classroom are back to back - The partition composition selected is staggered steel studs in a single track (see standard details) with two layers of gypsum board on each side of the stud and a 2-inch blanket in the cavity. The depth of the studs may be $3\frac{5}{8}$ " or 4" based on depth required for floor-to-floor heights.
- b. Partitions between classrooms and spaces other than toilets, corridors or spaces with a higher STC or ICC requirements – The partition composition selected is a steel stud with a single layer of gypsum board on one side and a double-layer of gypsum board on the other side. The gypsum board at one side must be supported on resilient clips – this face of the partition cannot support shelving and counters. The partition must include 3-inch blanket in the cavity. The depth of the studs may be $3\frac{5}{8}$ ", 4" or 6" based on depth required for floor-to-floor heights. Insulation in stud cavity should correspond to stud width: 3-inch blanket at $3\frac{5}{8}$ " studs, 3-inch blanket at 4" studs, and 5-inch blanket at 6" studs.
- c. Should partitions between classrooms and corridors be designed to include vision panels, these are to be limited to either a sidelite or transom as part of door/frame package (sidelite is indicated in the Room Planning Standards). Glazing at door sidelite/transom shall be provided as minimum 1/4" thick laminated glass, tested to achieve STC-35 minimum. Where borrowed lights in the corridor wall are approved



through the Deviation Process, these must maintain the STC-45 rating of the corridor wall to ensure the GSG credit associated with enhanced acoustics will be achieved. In order to meet this requirement, clerestory size shall be limited to no more than 20% of the overall classroom to corridor wall area (excluding the door/sidelite assembly) and include 1/4" tempered glass, 1/2" air space, 3/8" laminated glass as the minimum glazing assembly tested to achieve STC-40 minimum.

Partition walls between ganged toilets and classrooms should be constructed using $3\frac{5}{8}$ " studs at each side of the chase with a single layer of gypsum board at the classroom face of the chase and a double layer of gypsum board at the toilet face of the chase. Piping should not be mounted on the chase studs closest to the classrooms. Non-chase partitions between ganged toilets and classrooms may be constructed as described in paragraph B.1.a above.

Where partitions intersect with window mullions, closed cell neoprene foam must be used between end stud and mullion, minimum 1/2" thick with double-sided tape on both sides.

Individual toilets and toilets in pre-k and kindergarten classrooms may use the same construction as indicated for STC-45 below.

The partition between corridors and classrooms must achieve STC-45. This partition must be constructed of 20 gauge steel studs of a minimum depth of $3\frac{5}{8}$ ", with a minimum 3-inch blankets in the cavity. The faces should consist of one layer of 5/8-inch gypsum board on one side and two layers on the other, or two layers on both sides as required by fire rating requirements.

STC-60 walls common with high noise spaces such as the music instructional spaces may be achieved with the use of various masonry-based partitions or using 6-inch deep, 25 gauge studs with three layers of 5/8-inch gypsum board on both sides carried full height to structure. A 5-inch thick blanket **is to** be provided in the stud space. Due to structural concerns, there shall be a limit to what can be attached to these 25 gage studs. Consider the need for structural breaks for acoustic isolation in the floor slab.

For ceiling assemblies such as at cafeteria, the STC 60 is to be achieved by using standard concrete and metal deck construction of 3.25" lightweight concrete on 3" metal deck with a ceiling system comprised of ceiling tile with a high NRC (.90) and high CAC (38 or greater) with 3.5" of mineral wool insulation laid across the ceiling. Refer to DR 5.4.1.



Between instructional **and office** spaces and the overhead space listed, provide constructions that, at a minimum, yield the degree of structureborne sound isolation listed:

Adjacent Overhead Space	Impact Sound Isolation (IIC*)	
Classroom/Office	45	
Auditorium	60	
Gymnasium/Gymatorium	60	
Kitchen/Cafeteria/Cafetorium	50	
Mechanical	--	All equipment in mechanical rooms must be provided with external vibration isolators
Music/Dance	60	

Because it is difficult and costly to control the transmission of high-level impact or airborne sound levels from overhead spaces, building planning should avoid placing noisy spaces above instructional areas or offices. Noisy spaces include auditoriums, gymnasiums, and music teaching areas.

To meet IIC-60 for spaces with high noise levels or impact noise, such as music suites or gymnasiums, which are located over instructional rooms and offices, special floated concrete floor construction is needed.

For gymnasiums and gymatoriums, provided supporting laboratory test data is available to substantiate IIC-60 rating, floor shall be comprised of a 4-inch thick normal weight concrete slab on isolators with a 2-inch air space (filled with perlite) to the base slab.

For music suites, provided supporting laboratory test data is available to substantiate IIC-60 rating, floor may be comprised of a 4-inch thick normal weight concrete slab on isolators with a 2-inch air space (filled with perlite) to the base slab or 2" thick recycled rebonded rubber underlayment mat (or two layers of 1" thick) with 4-inch thick normal weight concrete topping (this is the preferable option but it will be the Contractor's decision – Note that 1" is adequate for design but in order to match the 2" design air space/perlite design to be included on drawings 2" or rubber mat is required).

To meet IIC-50, provided supporting laboratory test data is available to substantiate IIC-50 rating, adequate floated floor construction may be comprised of a 4-inch thick normal weight concrete slab on isolators with a 2-inch air space (filled with perlite) to the base slab, or 3/4" thick recycled rebonded rubber underlayment mat with 2-inch thick concrete topping

Impact Insulation Class 45 (IIC-45) for classrooms and office spaces above classrooms (not gymnasiums, music, dance or auditoria) may be met via use of a concrete slab and a well-



sealed suspended lay-in acoustical panel ceiling. The classroom ceiling should achieve CAC-35 or higher when tested per ASTM E1414.

2. Sound Isolation - Exterior

The intent is to provide adequate control of exterior noise penetrating into instructional spaces and offices at sites adjoining objectionable exterior transportation noise sources - highways, railroads and airports. At a minimum, design and select exterior façade constructions to achieve:

- STC-35 (OITC 28) for fenestration, and
- STC-50 for all other façade elements.

The SCA window construction, as outlined in SCA standards, relies on two layers of 1/4-inch laminated glass separated by a minimum 3/8-inch airspace. This glazing is capable of achieving approximately STC-40. If a specific STC/OITC rating for the assembly is required to be documented, specification must be modified to state testing is required and the window constructed such to meet the required STC for the assembly. Higher degrees of sound isolation should be considered for fenestration on a case-by-case basis for schools severely impacted by transportation noise sources such as aircraft or elevated trains and specification must be modified to indicate the required STC/OITC and the required testing.

STC-50 exterior walls can be achieved using CMU and face brick construction, consistent with the SCA standard details.

Lightweight (curtain wall) façade constructions need careful review for sound isolation performance by a qualified acoustical consultant.

Acoustical consultants shall conduct site survey to measure existing ambient noise levels at all project sites to identify site-specific transportation noise sources such as highways, railroads, subways (below grade and elevated) and airports. Where L_{10} statistically averaged noise level exceeds 75 dBA during school hours, acoustic consultant shall identify the recommended glazing configuration to yield classroom noise levels of NC-45 for the L_{10} condition.

C. References

American National Standard: "Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools" (ANSI S12.60-2010)

ASTM C423 "Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method"

ASTM E90 "Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements"

ASTM E413 "Classification for Rating Sound Insulation"

Requirement Applies to:	✓	New Construction	✓	Major Modernizations	✓	Capital Improvement Projects



ASTM E989 “Standard Classification for Determination of Impact Insulation Class (IIC)”

ASTM E1414 “Standard Test Method for Airborne Sound Attenuation between Rooms Sharing a Common Ceiling Plenum”

NY-CHPS Version 1.1 “High Performance Schools Guidelines” sections 5.5.1 and 5.5.2

NYC SCA Design Requirement 6.2.25 “HVAC Acoustical Standards”



1.3 Planning

1.3.1 Design

1.3.1.10 Compliance with NYC Energy Conservation Code (NYCECC), LL 51/23, LEED for Schools and NYC Green Schools Guide, Energy Modeling Studies, and CIP Project Energy Saving Calculations

Description/Design Approach:

A. Applicability

Per LL **51/23**, new buildings and major modification/substantial reconstruction projects over \$2,000,000 shall comply with the LEED v4 for Schools, Certified Rating, or equivalent, which is the Green Schools Guide 2019. The term “substantial reconstruction” is defined in LL **51/23** as “a capital project in which the scope of work includes rehabilitation work in two of the three major systems, electrical, HVAC (heating, ventilating and air conditioning) and plumbing of a building and construction work (GC Work) affects at least fifty percent (50%) of the building’s floor area”. This definition is discussed in greater detail in the Rules and Regulations for the Local Laws issued by the Mayor’s Office of Environmental Coordination (Now Mayor’s Office of Sustainability). While Local Law 86/05 **that created the Green Building Standards for city buildings** also required a 20% energy cost savings over the energy code for projects over \$12,000,000 for new school buildings, Local Law **51/23** does not mandate a percentage of energy cost savings but requires buildings to meet maximum source energy use intensity targets.

B. New Construction (Stand-alone Buildings and Addition Projects) and Major Modification/Substantial Reconstruction Capacity Projects

To meet GSG 2019 compliance for minimum energy performance, projects must demonstrate a total 5% annual energy cost reduction for new buildings and a total 3% annual energy cost reduction for existing building renovations relative to ASHRAE 90.1- 2010 considering both the regulated and process loads (Appendix G). However, they must also meet the source energy use intensity target of LL **51/23**. The baseline for comparative total source energy use to show compliance with LL **51/23** as set by the Mayor’s Office of Sustainability is 70 kBtu/SF/yr utilizing ASHRAE 90.1-2013. This is 50% of the median source energy use intensity (140 kBtu/SF/yr) for buildings designed and constructed for similar uses according to the 2015 benchmarking data for buildings constructed after 1980. Per LL **51/23**, the required source energy use intensity target for 2030 is 38 kBtu/SF/yr for new buildings and 42 for existing buildings, and thus future SCA standards may include provisions that will bring the designs closer to the 2030 target. For an existing building to be required to comply with LL **51/23**, in addition to it being a “substantial reconstruction” as defined above, it must also have “substantial work on the building envelope”, which Section 224.1 of the City Charter defines as “the replacement or alteration of 50 percent or more of the building envelope’s total glazing area, or 50 percent or more of the building envelope’s total area of opaque components,

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



including, but not limited to, recladding, work on the interior side of exterior walls, such as removal of interior wallboard or plaster, and roof replacements”.

To verify that standard SCA school design is compliant with the energy use reduction target requirements of LL **51/23** and to see where the design is in relation to the 2030 requirements, the SCA has conducted several prototypical energy modeling and a detailed Energy Conservation Measure (ECM) studies. In addition to energy savings, carbon reduction is the city’s other major goal. These energy modeling and ECM studies determined which ECMs were to be employed in the SCA Standards to meet the city’s goals. Additionally, the prototypical modeling/study determined which MEP systems were included in the SCA Standards. The Standards now include the accepted ECMs and designers shall conduct project specific energy modeling and based on the studies, the source energy target is 60 kBTU/SF/yr or below, though may vary slightly above based on the project. Projects that modeling demonstrates the EUI is in the high 60’s are to be discussed with the **Sustainable** Design and Resiliency team to determine potential reasons, such as different assumptions made, modeled occupant density and schedules, a high window to opaque wall ratio, or a large kitchen load due to serving more than just the **new building addition**.

C. Energy rates

The energy rates used for calculation are to be the latest DCAS rates that the Mayor’s Office of Sustainability links to.

D. Capital Improvement Program Projects (CIP)

1. Boiler Replacement:

- a. Local Law **32/16** requires that Capital Improvement Projects involving the installation or replacement of a boiler at an estimated construction cost for such installation or replacement of two million dollars (\$2,000,000) or more be designed and constructed to reduce annual energy cost by a minimum of ten percent (10%). Local Law **51/23** has an additional stipulation that the 10% boiler energy cost reduction shall not be required for capital projects solely because the project involves replacement of a boiler, unless the cost of the project equals or exceeds 50 percent of the cost of replacing the heating distribution system of the building. Local Law **51/23** projects are to provide for the steam trap replacement. Note that the current SCA strategy is to convert existing boilers to biofuel or to electrify the HVAC system, so full replacement of boiler systems will not be typical. The 2020 NYCECC with its reference to ASHRAE 90.1-2016 is the most stringent path to compare against. The baseline for comparison are boilers with efficiencies equal to that defined in ASHRAE 90.1-2016 as modified by Appendix CA of the 2020 NYCECC. The annual boiler energy cost savings plus the annual energy cost savings attributable to the new steam traps must accumulate to a total annual energy cost savings of at least 10% compared to the ASHRAE baseline annual energy costs.

Requirement Applies to:	✓	New Construction	✓	Major Modernizations	✓	Capital Improvement Projects



b. Energy Savings Calculations Associated with Steam Trap Replacements:

Step 1: Calculate the steam flow in lbs/hr through the fixed orifice of a trap:

$$Q1 = \{24.24 \times P \text{ (absolute in psia)} \times \text{Trap Orifice Diameter}^2 \text{ (Inches)}\} / 2$$

where 24.24 is a unit conversion factor.

It is assumed that when a trap fails, it fails at a 50% open position (hence the above division by 2) and that any steam that passes through the 50% open trap will be vented out at the condensate return unit or vacuum pump vent. Therefore, this represents an energy loss.

Step 2: Estimate the % of traps that have failed in the building. The Federal Energy Management Program (ref DOE/EE-0193, https://www1.eere.energy.gov/femp/pdfs/FTA_SteamTrap.pdf) states that approximately 20% of the steam leaving a central boiler plant is lost via leaking traps in typical space heating systems without proactive assessment programs. If more accurate data is not available, assume 20% trap failure rate.

Step 3: Determine the total quantity of failed steam traps: % failed X total number of steam traps in the building.

Step 4: Determine the lbs/year lost from all of the failed steam traps:

$$\text{Lbs/year lost} = \text{Step 1 value} \times \text{Step 3 value} \times \text{Annual Heating Hours}$$

Annual Heating Hours may be assumed to be 6,193 hours (refer to ASHRAE Fundamentals Handbook 1992).

Step 5: Convert the Step 4 value to BTUs per year:

$$\text{BTU/yr} = \text{Step 4 value} \times 966 \text{ BTU/lb steam}$$

The above savings associated with the repair of the leaking steam traps shall be added to the savings associated with using new steam boilers/burners with improved efficiencies as determined by using the previous tables in order to verify the required 10% energy cost savings.

2. HVAC Comfort Controls Systems and Repair/Replacement of Central Ventilation Units

- a. LL51/23 requires that installation of such systems at an estimated construction cost for such installation or replacement of two million dollars (\$2,000,000) or more shall be

Requirement Applies to:	✓	New Construction	✓	Major Modernizations	✓	Capital Improvement Projects



designed and constructed to reduce energy cost by a minimum of five percent (5%). The 2020 NYCECC with its reference to ASHRAE 90.1-2016 (for projects filed after 5/12/20) is the more stringent path, but the baseline datum is the annual energy consumption before the replacement of the comfort controls and repair/replacement of the central ventilation units.

- b. Savings associated with steam trap replacements are to be included in calculations of energy savings associated with boiler/burner replacements/renovations (and not HVAC Comfort Controls). The scope of HVAC Comfort Control projects should include thermostat/sensor and control valve replacements for all terminal and central units.
 - c. The energy savings associated with the usage of DCV on the Public Assembly H&V recirculating units are related to the reduction of the tempering requirements with reduced outside airflow. There are no significant electrical savings associated with replacement/renovation of recirculating H&V units since the units maintain constant volume operation. The energy savings associated with the usage of DCV and variable frequency drives on the Public Assembly H&V 100% outside air units are related to reduced outside air tempering requirements plus the reduced electric energy and demand associated with the usage of variable volume units with variable frequency drives. Refer to the Sequences of Operation as defined in Section 15985 for both the recirculating units and the 100% outside air units.
 - d. The baseline building energy consumption should be determined based on modeling from an existing school with constant volume ventilation of assembly spaces. When HVAC controls are added to Public Assembly spaces with recirculating units, the baseline building supply levels are nominally 1 cfm/sf total air and nominally 0.6 cfm/sf of outside ventilation air while the fans are operating. The improved system has CO₂ sensors that modulate the outside air dampers and hence the outside air ventilation based on occupancy. The minimum outside ventilation air is based on the occupancy defined in the Program of Requirements (POR) (reflecting the UFT contract maximum occupancies). If the space does not have an associated POR occupancy, then the Building Code Chapter 10 egress occupancies are to be utilized.
 - e. Before the HVAC control sequence is improved for H&V systems for Public Assembly spaces with 100% outside air, the maximum occupancy baseline building total supply (including ventilation) is nominally 1 cfm/sf while the fans are operating. The improved system has a variable volume, variable temperature air handler with CO₂ modulation of outside air by VFD. The minimum outside ventilation air is based on the occupancy defined in the Program of Requirements (POR) (reflecting the UFT contract maximum occupancies). If the space does not have an associated POR occupancy, then the Building Code Chapter 10 egress occupancies are to be utilized. At all times the minimum ventilation rate is adjusted to maintain fan stability and to avoid motor overheating.
3. Per Title 43 Chapter 10, Capital Projects for the installation of boilers at an estimated construction cost of 2 million dollars or more are not required to also comply with the energy reduction requirements for the installation of HVAC comfort controls.

Requirement Applies to:	✓	New Construction	✓	Major Modernizations	✓	Capital Improvement Projects



4. Lighting Replacement

While LL 32/16 **required** that lighting replacement projects over \$1,000,000 reduce energy costs by a minimum of 10%, **LL 51/23 removed this requirement. With the use of LED lighting and energy code required controls**, lighting is inherently very efficient.

E. Energy Code Compliance

1. The energy codes require minimum equipment performance, minimization of distribution losses, optimization of controls, and the ability to take advantage of “free cooling”, i.e., the usage of an economizer.
2. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in sufficient detail pertinent data and features of the building, equipment and systems as governed by the 2020 NYCECC and ASHRAE 90.1-2016 including, but not limited to, design criteria, exterior envelope component materials, U-factors of the envelope systems, U-factors of fenestration products, R-values of insulating materials, size and type of apparatus and equipment, equipment and systems controls and other pertinent data to indicate conformance with the requirements of the 2020 NYCECC and ASHRAE 90.1-2016.

F. Filing Requirements

1. The EN filing drawing set for each Work Type submitted to Building Code Compliance (BCC) Division shall include a statement by the Registered Design Professional of Record that states; “To the best of my knowledge, belief and professional judgment, these plans and specifications are in compliance with the 2020 Energy Conservation Code of New York City”.
2. For new construction and existing buildings undergoing major modification/substantial reconstruction, Energy Analysis sheets shall be submitted that assemble the energy code compliance documentation for the Envelope, Lighting/Power, Mechanical Systems and Service Water Heating System, each signed and sealed by the Architect or Engineer of Record per Section MC 107.10 of the 2022 NYC Mechanical Code. The designer will need to include the energy model in a form acceptable to the NYC Building Department on the EN drawings to demonstrate NYCECC compliance and the designer shall file form EC-1.

Requirement Applies to:	✓	New Construction	✓	Major Modernizations	✓	Capital Improvement Projects



1.3 Planning

1.3.1 Design

1.3.1.11 Construction Requirements in Flood Hazard Areas

Description/Design Approach:

A. New Construction

1. New School facilities built in **Flood Hazard Areas** shall be designed with particular attention paid to the potential for flood damage to the building structure and finishes, building MEP systems, utility & sewer installations and to site development activities (grading, filling, paving, excavations etc.) The design parameter for flood-resistant construction shall be the 1% (100-year) levels indicated on the “Preliminary Work Map” or “Advisory Base Flood Elevation” (ABFE) (depending on location in the city) last updated by the Federal Emergency Management Agency (FEMA) in June 2013 (and upon official issuance in the future of these elevations as provided in the final flood hazard maps, which are being developed by FEMA) and as required by Appendix G of the **2022 NYC Building Code**.
2. If not revealed in either the “Preliminary Work Map” or ABFE FEMA maps (such as Zone X), FIRMs 360497 or FIS 360497, the designer shall seek the data for the 1% (100 year) flood levels from records maintained by the New York State Department of Environmental Conservation (NYSDEC). In case the NYSDEC’s response to the designer’s request for the BFE indicates that the information is not available, the BFE shall be considered to be the same as the adjacent A-zone elevation.
3. The Design Flood Elevation (DFE) relative to the “Preliminary Work Map” or ABFE (BFE when maps are revised) shall conform to guidelines established in ASCE 24-14, tables 2-1, 4-1, 5-1, 6-1 as amended in Appendix G for **Flood Design Class 3, which is 2’-0”** minimum above the ABFE. Selection of the DFE shall be such that the proposed locations for water supply pipe, sewer lines and other utilities as well as buried or above-ground tanks will prevent flood water from entering or accumulating within components of these building systems and equipment. **In addition to meeting code requirements for the DFE, as part of the IDP process of the Green Schools Guide the use of the mayors’ Office of Resiliency “Climate Resiliency Design Guidelines (Version 4)” are to be reviewed and the DFE recommended by that guide discussed and, if approved by Capital Plan Management, implemented.**
4. Where at-grade entrance lobbies or other such at-grade or below grade areas are required to be below the DFE to provide access into the building, utilize flood-resistant materials for finish materials, devices or protectives and, wherever possible, keep interior mechanical and electrical items above the DFE. Utilize dry floodproofing techniques if feasible. Seeded areas adjacent to the building are to be designed to address the possible affects of scour that may undermine the soil at grade beams and pavements. Designers shall consider means to stabilize such areas; for example through the use of appropriate modular permeable paving systems. Those buildings in an area of moderate of high-velocity wave action (Coastal A-Zone **or V-Zone**) shall have the foundations and other structures designed to resist wave action.

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



School Construction Authority

Architecture & Engineering

Design Requirements

General – Section 1.0

5. The designer must develop plans, details, data and other documentation to demonstrate compliance with the provisions for flood-resistant construction as stipulated in Appendix G and shall provide on the drawings a note stating that the building is within the **Flood Hazard Area**. BCC's approval shall be required and a permit shall be issued for the developed plans which shall be formulated on, among other things, conditions of a special flood hazard in A-zones (flood-prone areas without high velocity wave action), Coastal A-zones (flood prone areas with moderate velocity wave action) or V-zones (flood-prone areas with high velocity wave action).
6. In either A-zones, Coastal A-zones, or V-zones, the designer shall indicate on the construction documents that the relevant certifications for each trade, as required in Section BC **G104.2.3**, are in place.

B. Construction in an Existing Building

1. While compliance with Appendix G is only required by code if the cost of the repair is more than 50% of the market value of the building (refer to RCNY 3606-01 for method of calculation of market value), all Capital Improvement Program projects are to have the location of the building verified against the Preliminary Work Maps" or ABFE maps (depending on location in city). If the building is within the 1% flood zone, the EOR is to utilize the DFE in designing the work and where necessary, utilize dry floodproofing methods to protect the newly installed work. The Design Flood Elevation (DFE) relative to the "Preliminary Work Map" or ABFE (BFE when maps are revised) shall conform to guidelines established in ASCE-24, tables 2-1, 4-1, 5-1, 6-1 as amended in Appendix G or future local laws as required for **Flood Design Classification 3**, which is currently **2'-0"** minimum above the BFE. Included in the dry floodproofing are to be "standby" generators and sump pumps if feasible to install. Follow the requirements of TPPN #01/2007 for loads that must be placed on this voluntary generator (Note that an elevator would need to be included as a load on the standby generator only if under the requirements of the **2022** Building Code an emergency generator would have been required for the building).
2. For areas where new work will be located below the DFE, consider the following for inclusion in the project (work above the DFE need not follow):
 - a. Replacement gym floors and dance floors located below the DFE shall utilize a non-wood option. Refer to DR 5.3.1.
 - b. New and replacement interior walls shall be concrete block if the proximate walls are also concrete block or other flood-resistant material. If the proximate walls are gypsum board, the new or replacement walls can follow the same construction. Selection of flood-resistant wall and floor finishes shall be considered.
 - c. Mechanical and electrical equipment is to be raised as high as possible within the space while still being at a level that allows for normal operation and facilitate maintenance of the items. If the equipment cannot be raised to the DFE, the area in which they are located is to be dry floodproofed, if cost effective.
 - d. Replacement of electrical distribution systems should be above the DFE, with branches feeding down to terminating devices above the DFE as much as possible.

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



- e. Replacement **for** boilers shall be of a type (such as scotch marine **or heat pump systems**) that require minimum head room in order to permit an existing boiler pit to be filled, and a raised concrete pad installed for the boiler, all within existing height limitations. Note that seeded areas that must be excavated to bring the boilers into the building should be designed to mitigate the potential for future scour from floodwaters, such as the utilizing large gravel backfill and a modular paving system.
 - f. Mechanical/gas vents shall be raised above the DFE if practical. Crawl space vents and louvers **below** the DFE shall be considered for dry floodproofing (using flood barriers) or raising intakes/outlets **above the DFE**.
 - g. Backwater Valves shall be installed on sanitary drainage lines leaving the building. This will typically entail separating the storm lines (areaway drains, roof drain system, etc.) from the sanitary lines. The sanitary system shall be further separated so that the cellar/basement fixtures (those below the street level) are drained to a sewage ejector first. The sanitary line from the ejector shall join with the upper floor sanitary lines after the sanitary house trap and an automatic backwater valve installed downstream of that connection. The connection of the sanitary line with the storm line shall be downstream of that backwater valve. The areaway drains are to go to a sump pit first if they do not do so already and a sump pump utilized to feed into the storm line.
 - h. Replacement doors, if practical depending on type and frequency of use, may be of a flood resistant type.
3. Due to the potential cost and operations impact of designing to the DFE, the SCA will review the scope's recommendations to determine which items should move forward. Dry floodproofing and other flood mitigation measures that go beyond simple raising of the equipment within the existing MER shall be listed as an "Additional Recommended Item" in the Scope Report.



Design Requirements

General – Section 1.0

1.3 Planning

1.3.1 Design

1.3.1.12 Interior Bicycle Storage

Description/Design Approach:

- A. Provision for enclosed bicycle parking shall be incorporated in the design of the building in accordance with Sections 25-811 (residential zones) and 36-711 (commercial zones) of the NYC Zoning Regulations. Floor area used in the calculations to determine the amount of bicycle parking is based on the definition of floor area calculated in accordance with Section 12-10 of the NYC Zoning Regulations.**
- 1. New Buildings, including additions filed as new buildings**
 - One bicycle parking space shall be provided for each 10,000 SF of floor area. **Any fraction of a space greater than 50% shall be counted as an additional space.**
 - 2. Additions filed as an Alt 1**
 - **If the area of the addition (enlargement) increases is the existing building footprint by 50% or greater, one bicycle parking space shall be provided for each 10,000 SF of new floor area. Any fraction of a space greater than 50% shall be counted as an additional space. No bicycle parking is required if the addition is less than 50% of the existing building footprint.**
 - 3. Major modernizations where estimated cost of alteration exceeds fifty percent of the cost of replacement of the building:**
 - **If the existing building has enclosed bicycle parking, provide accessible parking spaces per Section BC 1109.9.3 of the 2022 NYC Building Code as indicated in Paragraph D below.**
- B. No bicycle parking spaces are required for buildings less than 35,000 SF of floor area (3 parking spaces or less).**
- C. Enclosed space for bicycle storage shall be provided in the building. A room or space sized to accommodate the required number of storage spaces, based on 15 SF of area per parking space shall be provided on the first floor of the building or in the basement or cellar when space on the first floor is limited. The bicycle storage space/room is to be in the proximity of the building lobby and/or stairs and accessible to the designated users.**
- D. Where cycle storage is provided, accessible cycle storage shall be provided as per Section BC 1109.9.3.**
- 1. Ten (10) percent of cycle storage shall be for accessible cycles, minimum one.**
 - 2. Minimum area for the accessible cycle storage shall be 86" long and 42" wide.**
 - 3. Provide an accessible route to the accessible cycle storage area as per ICC/ANSI A117.1-2009.**
 - 4. Provide turning space as per Section 304 of ICC/ANSI A117.1-2009.**

Requirement Applies to:

✓ New Construction

✓ Major Modernizations

Capital Improvement Projects



5. Provide clear floor space for a loading area on the long side of the accessible cycle storage as per Section 305 of ICC/ANSI A117.1-2009.

In addition to the above requirements, the entrance door with the code required automatic door opener shall be 42" wide in size to accommodate the accessible cycle. If a ramp is required along the route to access the cycle storage, provide sufficient turning space (86"x 60") for accessible cycle at the top, bottom and intermediate landing. While not mandatory, it is preferable for accessible cycle storage space to be located near the school's accessible entrance(s).

- E. Storage may be provided by means of
- An area equipped with bicycle racks **with a minimum 42" wide opening**
or
 - A room **with bicycle racks** with 42" wide HM door and lockable hardware.
- F. Refer to DR 2.2.3 for the required exterior covered bike parking that must make up the remainder of required bike parking (in addition to the zoning mandated enclosed bike parking) to meet Credit L2.2 of the 2019 Green Schools Guide.



1.3 Planning

1.3.1 Design

1.3.1.13 Selection and Use of Color in Schools/Presentation Boards and Review

Description/Design Approach

A. Selection and Use of Color

Color can be a very influential element in the design of an educational facility. It is an important part of the child's development throughout the K-12 years, and is integral to their seeing themselves and their environment as special and unique. It is important that it be given appropriate attention during the design process, and not be pulled together as a result of product availability, color trends, or personal subjective preference. Design professionals are to explain the rationale behind their color choices. If a firm lacks experience or expertise in planning for an appropriate color palette and scheme for a school, an appropriate sub-consultant is to be engaged to enhance this aspect of the work.

To develop a "standard" palette of colors for all schools would not be practical or beneficial; however, the following are the general guidelines concerning color in K-12 environments.

1. General

- a. The influence of Color:** Studies have found that colors can influence student attitudes, behaviors and learning. Warm, bright colors are stimulating and promote movement and activity – lively colors for lively functions. Cooler colors are calming and serene. Color can affect a student's attention span, as well as the students' and teachers' sense of time. Carefully planned color schemes made up of colors that students like, and appropriate alignment of color with the intended function of a space can positively affect student performance. The successful use of color in schools will create an environment that is pleasing, exciting and motivating, and will promote positive feelings about school.
- b. Age-Appropriate Colors:** In general, children of different ages relate well to different color palettes. For the youngest school children, primary and secondary colors as accents are both familiar and distinct. Light, warm colors such as pale salmon or peach, or soft yellows on the walls fit well with the sunny disposition of young children. Students in intermediate and high school grades will appreciate and relate to more complex and sophisticated colors, including variations within the neutral color range, and even more adult colors such as black and gray. For these students, subtle and/or cooler hues on the walls provide an environment conducive to concentration. Pale shades of cooler colors can have a beneficial affect on the educational experience, and would be especially applicable in classrooms and other study spaces.
- c. Color Value:** The value of a color, its lightness or intensity, affects how a color is perceived; deep, dark colors advance, while light colors recede. If a small room is desired to appear larger, painting it a light color will create an expansive appearance. Columns within a space will be less apparent when given a light, cool color; a strong or dark value will make them stand out as solid elements. Interior rooms and corridors



benefit from wall colors that are a very light or white color. Current lighting power density requirements dictate very low watts/sq ft, and limited light will be magnified by the reflection off white or pale surfaces – this is extremely important for corridor walls. “Life Savers” candy colors should not be used for any fields of color in a school building.

- d. **Color and Pattern:** The designer will need to develop an overall color and pattern language with rules and logic. Too much color or pattern can easily overwhelm- when in doubt, minimize. Even as the use of color and pattern vary depending on space and function, the palette and pattern variations should knit together into a meaningful whole giving the building an overall sense of identity. The successful handling of color and pattern will optimize the school experience for everyone in the building. Remember once the building is filled with children and their work, too much additional color and pattern can easily be over the top.
- e. **Accent Colors:** Accent colors, and accent walls within spaces, can be included strategically throughout the school building to provide focus and interest. Splashes of color in a well-planned and limited way are effective in providing a moderate amount of stimulation as well as visual relief. Overuse of deeply saturated, bright hues will be over-stimulating and distracting.
- f. **A System of Order and Wayfinding:** The use of color can offer a system of order in the building, and can help distinguish important elements in the environment from less important ones. The use of color as an aid to wayfinding is particularly important for primary school children whose early school achievements include color matching and identification. Children readily relate color to location. For example, in a school having multiple floors, different principal colors can be used to identify each floor level. Color can also signify a special function, as with stair doors or elevator doors.

2. Interior Colors

a. Specific Spaces

- 1) The different venues within the school building offer opportunities to use a variety of different colors - limited accents of vibrant, stimulating colors, as well as large fields of calming, comforting hues. The designer can bring all of the principal colors together in large shared spaces that will be used by all of the students. The limited inclusion of bright, attention-getting colors or the use of mild, calming colors depends a lot on the function of the space.
- 2) **Corridors:** Corridors can be ideal spaces for accents of bright colors. On the other hand, some designers prefer muted colors in the corridors to allow the colors of the children and their work to stand out. Strategic use of appropriate colors can help visually shorten long hallways and enlarge small ones. In most cases, the entire corridor should not be limited to only one color. Accent colors can be included successfully at significant locations or as part of the tile wainscot design. Whether the accent color lines the drinking fountain alcoves or punctuates the wainscot itself, the accent logic and elements should be used consistently throughout the building to yield a sense of order and well-being. The corridor floor color and pattern can also be used to provide interest and focus. Be careful that color and pattern of floors and walls do not conflict or become too busy.



Be mindful that the corridor design not be so busy or “color-full” that it ends up overwhelming the space and competing with the display of children’s artwork and school experience rather than enhancing it.

- 3) **Classrooms:** In classrooms, students and teachers need to feel stimulated and motivated, but at the same time, the colors shouldn’t discourage concentration. Painting the “teaching wall” a slightly deeper or brighter hue than the sidewalls is an effective technique, or the teaching wall can be painted a pale color while the other walls are white. This will help to focus attention on the front of the classroom, and it gives students a visual break when focus is shifted to the sidewalls. Be aware of the fact that different colors and values of color have different light reflectance and will affect the level of foot candles required for each space. Light hues will add to the feeling of lightness and airiness in the space.
- 4) **Libraries:** The school library should be an inviting and welcoming space for students. Using color to warm and brighten the library space encourages students to read. Walls and stacks lined with books can be energized by the use of color.
- 5) **Auditoriums, Gymnasiums and Cafeterias:** These spaces pose challenges when it comes to both lighting and color. Their large size makes color selection a critical issue - bright colors on large expanses can easily overwhelm the space. Lighter warm tones or neutrals are recommended for the main color; brightly colored accents can invigorate the room. For large spaces that are fully or partially below grade, the right use of light and color can give a feeling of expansiveness and openness.

b. Materials - Color and Pattern

- 1) A multicolor, dark carpet will hide stains and soil.
- 2) Grout color for floor tile should always be a tinted shade, rather than white, to avoid the appearance of staining and discoloration.
- 3) In the classroom, horizontal surfaces with a field of color (such as the sink and computer counters, or maybe even the tops of low built-in shelving) should be designed with the same color and materials, if possible, for a consistent appearance. Selecting a single type and color for all of the wood trim, millwork and wood furniture included in a room will add to the perception of a well-designed whole.

c. Maintenance Considerations

- 1) The intent of the color selection is to make the school colorful and beautiful, but also consider the maintenance crew who will be called upon to paint the school interior periodically and to replace tile as necessary.
- 2) It is important to have a practical limit on the number of different colors in any one corridor or individual classroom, or on any one floor. In general, when the doors and door frames on a corridor get repainted, they will all be painted the same color; when the classrooms on a specific floor get repainted, it will be much easier if their colors are consistent throughout the floor. The custodian will keep a stock of paint colors for touch-ups – be reasonable about the number of different colors.

Requirement Applies to:	✓	New Construction	Major Modernizations	Capital Improvement Projects



The same is true of the ceramic tile in corridor wainscots and bathrooms. If the color palette includes two hues that are very close to the same, select only one of them for ease of upkeep over the years.

- 3) Be realistic about the ability of the maintenance painters to keep with your design intent. Change colors at a change in the architecture – the painter may not tape to keep a crisp line.

3. Exterior Colors

- a. The exterior color palette should be developed in consideration of and relationship to the surrounding environment, both the built environment and the landscape. The design must address the neighborhood context. Consider one material and color palette of significant neighborhood buildings that may be viewed from the School (even from upper floors).
- b. Light colored perforated metal security screens at windows will read as opaque; black or very dark will read as transparent.
- c. Be sure to read and understand the SCA's Design Requirements regarding the use of exterior materials and components, and extent of glazed area. These requirements have been developed in consideration of constructability, life-cycle cost and sustainability, and they will channel the opportunities for the school's exterior design. Consider one material and color palette of significant neighborhood buildings that may be viewed from the School (even from upper floors).

B. Presentation Boards

1. Introductory Boards (for Executive and Community Use)

Introductory Boards shall be prepared on individual foam core boards (24"x36") for Executive and Community Presentation use and shall include:

- a. Area Plan
- b. Site Plan
- c. Exterior Rendering/3d view of School
- d. Name, location, Capacity
- e. Fact Sheet with Year opening, Gross area, Grade level, etc.
- f. Floor Plans and Building Sections

2. Color and Materials Presentation Boards (for selection of color schemes)

- a. Color and Materials Boards Review and Selection: Materials and colors shall be provided on individual space specific boards (24: x 36").
- b. Boards shall show colors, materials and patterns, on floor plans, wall elevations and reflected ceiling plans (showing "unfolded" or otherwise-related planes to give a sense of the whole space). Include colors of doors and door frames. Boards should present the following spaces:
 - 1) Corridors, each floor
 - 2) Assembly Spaces (i.e., cafeteria, auditorium, gym, gymnasium)



- 3) Lobby Area
- 4) Toilet Rooms, student and staff
- 5) Typical Classrooms (include built-ins, sink and computer counters, HVAC enclosures)
- 6) Library (include built-ins, etc.)
- 7) Other significant or unique interior spaces
- 8) Building Exterior with samples of all materials showing color and finish
- 9) Rooftop playground, if included

c. 3D perspective sketches may be provided as necessary for a comprehensive and coordinated review of key school spaces.

d. All colored renderings (including doors and door frames) should match the actual product color as closely as possible.

C. Color and Materials Review Process

1. **Project Review:** At the 60% document phase development, a presentation is to be scheduled for A&E review of the proposed colors. Senior A&E management will provide preliminary approvals before review by the SCA executive office and any outside presentations to principals or school administration.
2. **Executive Review: Following approval by A&E senior management,** there will be an internal SCA presentation to the SCA executive office for review of the color and material boards. The presentation shall include the Introductory (community) Boards for the project along with the Color and Material Boards. Subsequent to that review, modifications may be requested to ensure a consistent level of response to all related issues.
3. **Color Review by School/District Staff:** The design team shall schedule a presentation meeting of the colors approved by the executive office for DOE concurrence by the principal for addition/annex projects or the District Superintendent for new buildings.
4. **Executive Final Review (if needed):** If the DOE requests major deviations from the SCA executive management approved boards, the proposals will be brought back to the executive office for review and final approval.
5. **Updated Boards:** The final set of boards, inclusive of all updated information, shall remain with A&E until one year before school opening, at which time they will be transferred to the SCA's FF&E Department. The Architect of Record shall maintain a second set of the project boards for record purposes.



1.3 Planning

1.3.1 Design

1.3.1.14 New York City Fire Code Requirements Regarding Rooftop Access and Obstructions

Description/Design Approach:

- A.** This Design Requirement was developed specifically to address the NYC Fire Code requirements regarding rooftop access and obstructions. Designers are to verify their designs are compliant with the below requirements. If the design has areas that are not able to be compliant due to site configuration and equipment, the designer is to submit the design to the FDNY Rooftop Access Unit for review and acceptance.
- B.** Per Section MC 304.13 of the **2022** NYC Mechanical Code and Section FGC 306.7 of the **2022** NYC Fuel Gas Code, equipment and appliances installed on rooftops of buildings shall be installed in accordance with the requirements of the New York City Fire Code regarding rooftop access and obstructions, and shall not obstruct or interfere with firefighting operations or the operation of any doors, windows, fire escapes, or other means of egress or other building components requiring operation or access.
- C.** Rooftop access by the FDNY is used for ventilation and for surveillance and rescue operations in rear yards and courtyards. Ventilation involves opening the roof bulkhead door, scuttle, and skylights, and, if necessary, cutting roof openings. Ventilation serves to vent heat and smoke to facilitate interior firefighting by FDNY personnel. Ventilation also serves to prevent explosions and control the horizontal spread of the fire. **The following highlight most of the 2022 New York City Fire Code requirements as they pertain to schools.**

1. Section FC 504.4 - Rooftop Access and Obstructions:

The rooftops of buildings 100 feet or less in height, except rooftops with a slope exceeding 20 degrees from the horizontal, shall be designed, installed, operated and maintained in accordance with **Section FC 504.4** and in a manner that avoids or minimizes obstructions that impede firefighting operations such as vertical ventilation of heat and smoke, surveillance of rear yards and courtyards, and rooftop-aided rescues. For purposes of **Section FC 504.4**, only, “rooftop” shall include rooftops of building setbacks, and “obstruction” shall mean any fixture or other item that is not readily movable by one person without the use of tools or equipment, including air conditioning systems, billboards and other signs, cellular antenna equipment, columns and girders, cooling towers, fuel oil storage tanks, generators, heating systems, planters, solar panels, ventilation system ducts, intakes and exhausts, and window cleaning equipment, but shall not include nonmetallic decking that is readily cut by standard power tools.

2. Section FC 504.4.1 Rooftop Access:

Access to building rooftops shall be provided for fire operations by providing unobstructed access to the rooftop, including unobstructed passage across the building parapet, perimeter fence or other obstructions, and a safe landing. Such rooftop access shall be provided in compliance with the following required clearances:

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



- a. For each 12 linear feet of building perimeter accessible from the frontage space of the building and from any other exposure accessible to fire apparatus, a minimum clearance of 6 feet in width and 6 feet in depth from any obstruction shall be provided at the parapet wall or other perimeter of the rooftop.
- b. Where such building perimeter is 24 linear feet or greater, but less than 36 linear feet, the required clearance openings shall be separated by a distance of not less than 12 linear feet.
- c. Where such building perimeter is 36 linear feet or greater, the required clearance openings may be contiguous, provided, however, that such contiguous openings shall not exceed 12 linear feet and shall be separated from other required clearance openings by a distance of not less than 12 linear feet.
- d. Each exposure accessible by fire apparatus may be treated separately for purposes of locating clearance openings and otherwise complying with the requirements of this provision.
- e. Awnings, sun control devices, solar panels or other structures affixed to an exterior building wall below the roof line shall not obstruct fire apparatus aerial ladder access to the rooftop perimeter access locations.
- f. Scaffolding obstructing rooftop access locations shall be designed to provide secure landings at such locations in an approved manner.

3. Section FC 504.4.2 – Rooftop Access Signs and Markings:

Where required by the fire department, a sign, decal or approved marking shall be provided on the exterior wall of a building, at an approved location on a lower story, directly below the rooftop perimeter access landings, to identify the location of such rooftop access. The fire department may require such signs or markings when rooftop conditions not apparent from the street make rooftop access unsafe at locations other than the approved building perimeter access landings, or do not allow for access to the roof.

4. Section FC 504.4.3 – Rooftop Access Landings:

At each rooftop perimeter access location, there shall be a safe landing area not less than 6 feet in any dimension **and 9 feet in height**, connected to the clear path required by **Section FC 504.4.4**. The landing shall not be obstructed by a fence, except as approved. If approved, such fence shall be provided with a standard 3-foot-wide gate that swings inward. Such gate may be secured by a padlock and chain capable of being cut by standard bolt cutters from either side of the gate, or secured by other approved device.

5. Section FC 504.4.4 – Rooftop Clear Path:

A clear path of not less than 6 feet horizontal width and 9 feet in height shall be provided from the front of the building to the rear of the building and from one side of the building



to the other for each 100 linear feet of rooftop width and depth. Such path shall comply with the following requirements:

- a. Such clear path shall be accessible from each rooftop perimeter access landing required pursuant to **Section FC 504.4.3**.
- b. Such clear path shall afford reasonable access to bulkhead doors, fire escapes, access ladders, cockloft vents, skylights, scuttles and shafts. Such access shall include, to the maximum extent practicable, 3-foot clearance on three sides of the skylight or scuttle.
- c. A conduit or pipe may cross such clear path in accordance with **Section FC 504.4.7** as described below.
- d. Any lawful fence obstructing such clear path shall be provided with a standard 3-foot-wide gate, which may be secured by padlock or chain capable of being cut by standard bolt cutters, or secured by other approved device.
- e. When the main building rooftop has more than one level, a fixed ladder or other approved means shall be provided to afford access along the clear path from one roof level to the next, excluding any height differential between levels exceeding one story or 16 feet, and any level with a rooftop area that is less than 6 feet in any dimension.
- f. On an “H”-shaped building or other building whose irregular configuration renders a single clear path inadequate to provide access to each wing of the building or other rooftop area, the fire commissioner may require one or more additional clear paths to provide adequate access to such rooftop areas.

6. Section FC 504.4.5 – Rooftop Clear Path Protection:

Adequate protection, in the form of a securely affixed protective railing or barrier that is 42 inches above the roof surface in height along the clear path, shall be provided for any shaft, building perimeter or elevation adjoining the clear path or rooftop perimeter access landing (except the rooftop access landing itself).

Exception: Height differentials of 6 feet or less.

7. Section FC 504.4.6 – Required Rooftop Clearances:

A minimum clearance of 6 feet in all directions shall be provided from each door opening onto a rooftop from a dwelling unit, stairway, bulkhead, or other occupied space or means of egress, as measured from the door hinge. A minimum clearance of 3 feet in all directions shall be provided from any fire escape or rooftop access ladder, as measured from each side of the ladder or landing.

8. Section FC 504.4.7 – Rooftop Conduits and Piping:

To the maximum extent practicable, conduits, including cable trays, and piping, shall be installed at rooftop locations where they do not obstruct rooftop access landings, clear



path or required clearances. If it is impracticable to avoid these areas, conduits and piping shall be designed and installed to facilitate access and minimize tripping hazards. Steps or ramps (or platforms with steps, ramps or ladders) shall be provided that are constructed of noncombustible material, equipped with railings, and designed to allow any conduit or piping installations that exceed 1 foot in height above the roof surface, or more than 24 inches in width, to be readily traversed. Steps, ramps, platforms and ladders shall not be placed in areas or in a manner that would obstruct any door or means of egress. All conduits and piping installations shall be color-coded with continuous, durable and weatherproof reflective or luminescent markings as follows, and for conduit and piping installed after July 1, 2014, shall be continuously labeled in an approved manner to indicate its contents:

- a. High voltage wiring – Red
- b. Low voltage wiring – Orange
- c. Natural gas piping – Yellow
- d. Other compressed gas piping – Yellow, labeled at regular intervals with the type of gas
- e. Fuel oil piping – Yellow with black stripes

9. Section 504.4.8 – Rooftop access underneath cantilevered or overhead buildings.

Where a building is constructed directly above another building, including a building cantilevered over another building, a vertical clearance from the rooftop of the building below shall be provided for firefighting operations in accordance with the following requirements. Design and installation documents documenting compliance with this section, including the fire analysis filed with the Department of Buildings, shall be submitted for Fire Department review and approval. Such vertical clearance:

- a. shall be at least 12 feet; and
- b. shall be at least 9 feet above the highest building feature on the rooftop when the building feature is 25 feet or less from the closest exterior surface of the building constructed above; but
- c. shall not apply to rooftop areas above which a noncombustible screen wall or other similar structure has been constructed for purposes of zoning compliance, provided that such structure extends below the cantilever from the side wall of the new building facing a street for a width not to exceed 8 feet (2438 mm) and a depth not to exceed 12 feet.

10. Section FC 504.4.10 – Rooftop Telecommunications Installations:

Telecommunications installations on building rooftops, including cellular antenna installations, shall additionally comply with the following requirements:

- a. Transmitting antennas shall be identified by affixing to the antenna, the antenna mounting, or a conspicuous location near the antenna, continuous, durable and weatherproof reflective or luminescent markings and not less than 3-inch lettering that reads, "TRANSMITTER."



- b. A durable sign shall be conspicuously posted on or near any equipment closet, roof base station or similar telecommunications antenna installation, identifying the owner of the installation, providing a 24-hour/7-day per week telephone number by which such owner can be contacted, and identifying the installation, including antennas and other powered equipment associated with the installation, by number or other unique designation.

11. Section FC 504.4.11 – Rooftop Gardens:

Rooftop gardens and landscaping, including living walls, shall be designed, installed, operated and maintained in compliance with the requirements of the construction codes, including the **2022 NYC Building Code** and **Section FC 504.4**.

a. Section FC 504.4.11.1 – Perimeter and Clear Path Access:

Rooftop gardens and landscaping shall not obstruct any rooftop area access to which is required pursuant to **Section FC 504.4**, including rooftop perimeter access and landings, clear path and clearances.

b. Section FC 504.4.11.2 Landscaped Rooftops:

Rooftop access landings, clear paths and other areas access to which is required pursuant to **Sections FC 504.3** and **FC 504.4** may be landscaped in compliance with the following requirements:

- 1) The earth or other landscaping material in such areas shall be securely contained and compacted in such a manner as to ensure a stable, continuous surface with a slope not exceeding the slope of the rooftop.
- 2) Vegetation in such areas shall be limited to grass or other plants that do not exceed 12 inches in height and do not constitute a tripping hazard or pitfall.

c. Section FC 504.4.9.3 - Maintenance and Water Supply:

Rooftop gardens and landscaping shall be maintained and provided with a water supply in accordance with **Section FC 318**. Equipment used for the maintenance of rooftop gardens and landscaping shall be stored in accordance with **Section FC 318**.

12. Section FC 504.4.12 - Rooftop Solar Installations:

Rooftop solar installations shall be designed, installed, operated and maintained in accordance with **Section FC 512**.



1.3 Planning

1.3.1 Design

1.3.1.15 Miscellaneous Coordination and Drawing Requirements

Description/Design Approach:

A. The following items shall be shown or taken into account on the Drawings:

1. In order to ensure adequate notification of work affecting adjoining properties and their required protection, the fall zone limits are to be indicated on the Drawing(s) that take into account building code and SCA Safety Unit zone of influence for protection and notification of adjacent property owners (typically removal, site or demo plans).
 - a. The Designer will identify at scope completion if adjacent properties will be affected by the proposed work.
 - b. Prior to completion of any project with work that will affect adjoining properties, CM, the Safety Unit, and the AEOR are to convene and determine the fall zone limit of projects affected by the work and require protection.
 - c. The fall zone limits are to be drawn on a plan with the adjoining properties distinctly indicated.
 - d. Historic buildings within the zone of influence required by the code for monitoring are also to be so indicated.
 - e. Such drawings shall be provided to CM in advance of project turnover and do not need to be sealed or filed with DOB.



1.3 Planning

1.3.1 Design

1.3.1.16 Accessibility Design and Construction Tolerances

Description/Design Approach:

A. General

1. Construction tolerances are especially important in regard to compliance with the Americans with Disabilities Act (ADA). Too often, when the reality of tolerances are ignored, the results can include costly field modifications, delays, or even legal disputes. Per ADA 104.1.1, all dimensions are subject to conventional industry tolerances, except where the requirement is stated as a range with specific minimum and maximum end points.
2. To provide some room to allow for construction errors, all new construction shall incorporate the below requirements into the design drawings. For alterations that trigger accessibility compliance, designer shall incorporate the below requirements into the design drawings unless site conditions do not allow these construction tolerances. If the requirements cannot be incorporated, consult with the SCA Accessibility Unit (AU).

B. These dimensions are all “clear” dimensions, measured from finish floor or wall surfaces, and are *not* intended to increase the overall square footage of new school projects. These dimensional tolerances are adapted to allow for full compliance with accessibility requirements, even when field conditions during construction vary from the design.

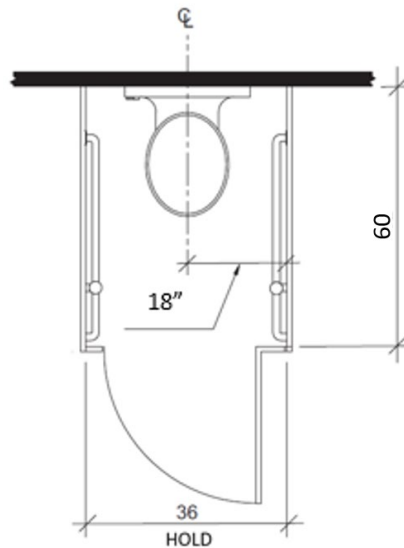
1. When a range is permitted by ADAAG or ICC A117.1, the design shall meet the middle of the range.
2. Where accessibility requirements call for a max. or min. dimension, a dimensional tolerance of 1” less than the required maximum or 1” more than the required minimum shall be shown on the drawings.
3. When neither a minimum, maximum nor range is specified (such as in transfer type shower compartments), absolute dimensions must be provided. Design drawing shall call out “Finish to Finish/HOLD” to direct the Contractor to ensure the required dimension is met.

C. Some common examples of these tolerance guidelines are listed below. However, these guidelines must be applied where applicable to other elements and construction, such as reach ranges, obstructions into the circulation path(s), clear widths, etc.

1. Toilets

- a. Accessible toilets: Add 1” beyond minimum required clear width between plumbing fixtures and obstructions.
- b. Ambulatory accessible compartment:
 - 1) Depth: 60”
 - 2) Width: Finish to Finish/HOLD @ 36”
 - 3) Centerline of toilet fixture to finish partition: 18”

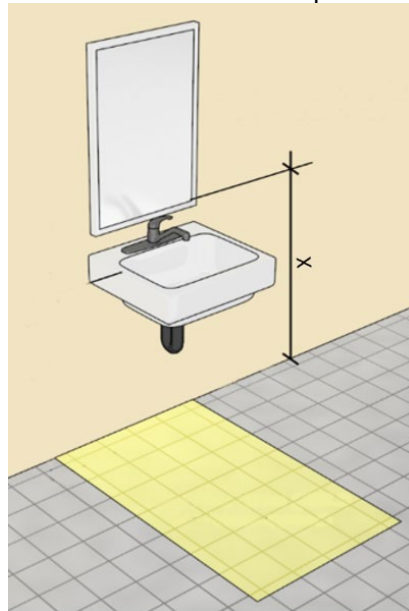
Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



c. Mirror

1) Above lavatories or countertops:

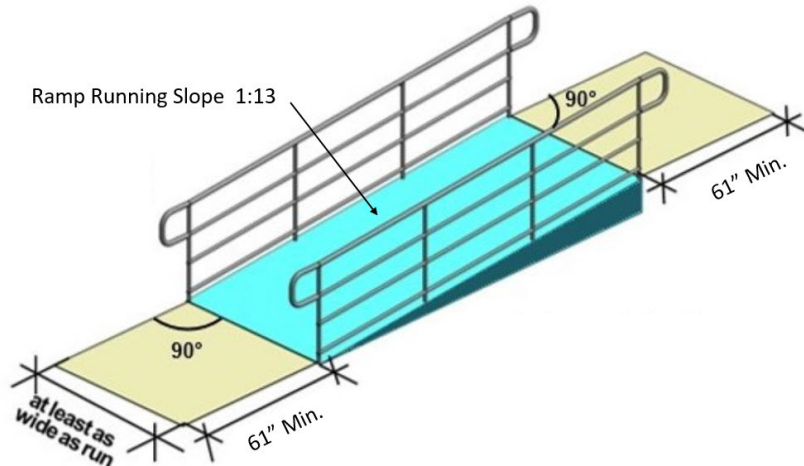
- a) 3K-PreK: the bottom edge of the reflecting surface shall be 33" above Finish Floor (A.F.F.)
- b) K – 5th Grade: the bottom edge of the reflecting surface shall be 39" A.F.F.
- c) 6th – 12th Grade and Staff: the bottom edge of the reflecting surface shall be 40" A.F.F. or 39" depends on type of mirror or lavatory.



- 2) Not located above lavatories or countertops: the bottom edge of the reflecting surface shall be 34" A.F.F.

2. Ramps

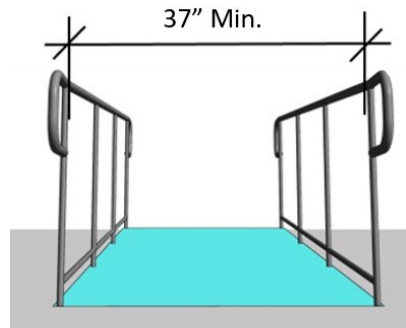
- a. Ramp designs shall have a rise/run ratio of 1:13. This should allow for settling of concrete or construction tolerances that may occur in the field.



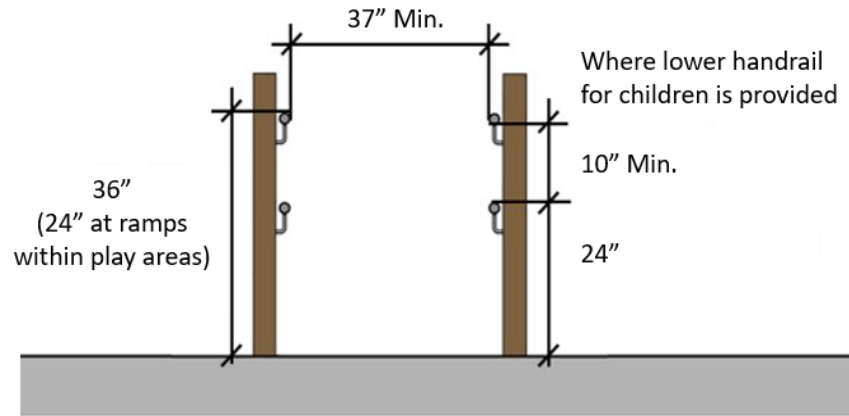
- b. Ramps within play areas connecting ground level play components shall have running slope of 1:17.
- c. The clear width of any ramp run shall be min. 37"
- d. Each individual ramp run shall not exceed 29" rise.
- e. Where ramps change direction, intermediate landing must have 61"x61" clear floor space at the narrowest points. This could be handrail to handrail, curb to curb or curb to handrail.
- f. Curved ramp is not recommended due to complicated compound cross-slope issue.

3. Handrails

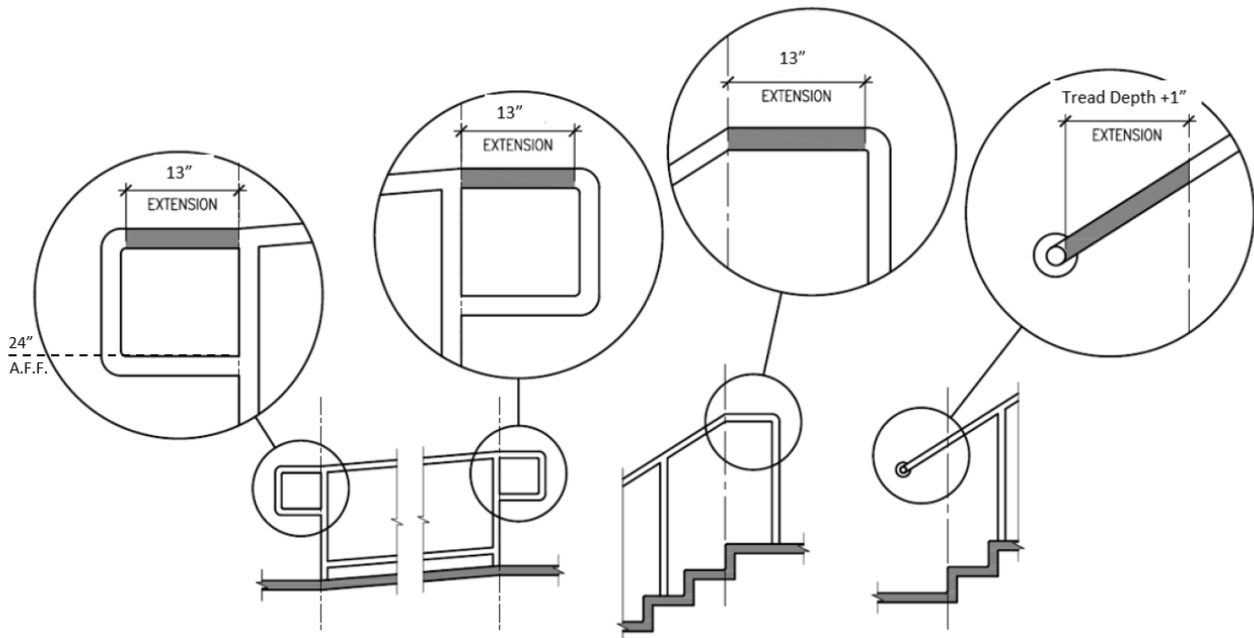
- a. Handrail to handrail clear width shall be min. 37"



- b. Circular cross section shall have an outside diameter of 1 ½" (SCH 40 Pipe – 1 ¼" has an actual outside diameter 1.66", therefore it's acceptable)
- c. Handrail height shall be 36" measured to the top of the handrail *
* Within play areas (for children 12 years and younger), handrail height, if provided, shall be 24" measured to the top of the handrail
- d. Lower handrail height, if provided, shall be 24" measured to the top of the handrail

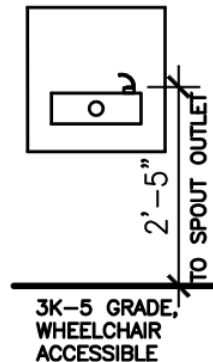


- e. Handrail extension @ top landing shall be 13" for ramp and stairs. Dimension is measured to the start of the return radius.
- f. Handrail extension @ bottom landing shall be 13" for ramp and 1 Tread width + 1" for stairs. Dimension is measured to the start of the return radius.
- g. If upper handrail is returned to guard, the bottom of returned handrail shall be 24" A.F.F.

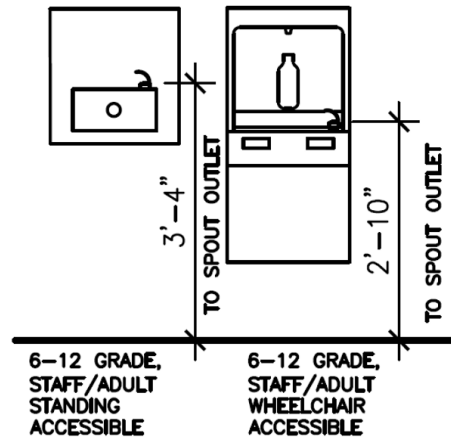


4. Doors: Add 1" to minimum door maneuvering clearances to ensure the pull and push requirements are met.
5. Vision Lights: The bottom of at least one glazed panel shall be located 42" maximum above the finish floor.

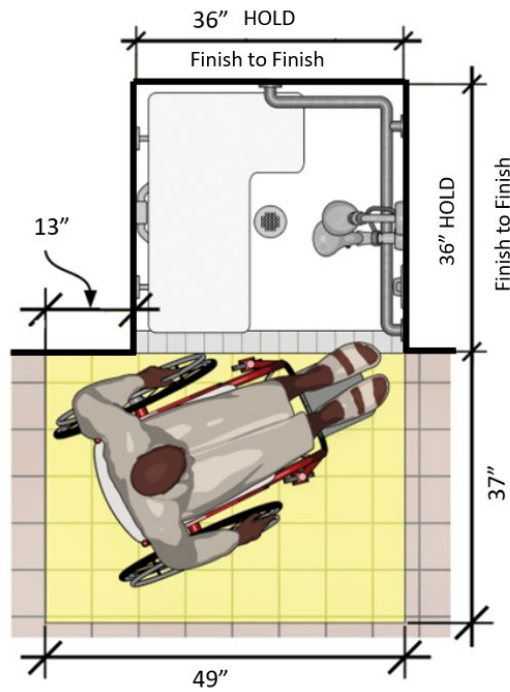
6. Drinking Fountains: In corridors of PS or PS/IS schools, provide three (3) drinking fountains (preferably grouped in one location for plumbing economy and ease of use):
- One children height wheelchair accessible drinking fountain appropriate to the age group of students on each floor (with the spout outlet @ 29" A.F.F. for children under 12 years of age).



- One adult standard standing height drinking fountain (with the spout outlet @ 40" A.F.F.), and,
- One adult wheelchair accessible drinking fountain (with the spout outlet @ 34" A.F.F.).

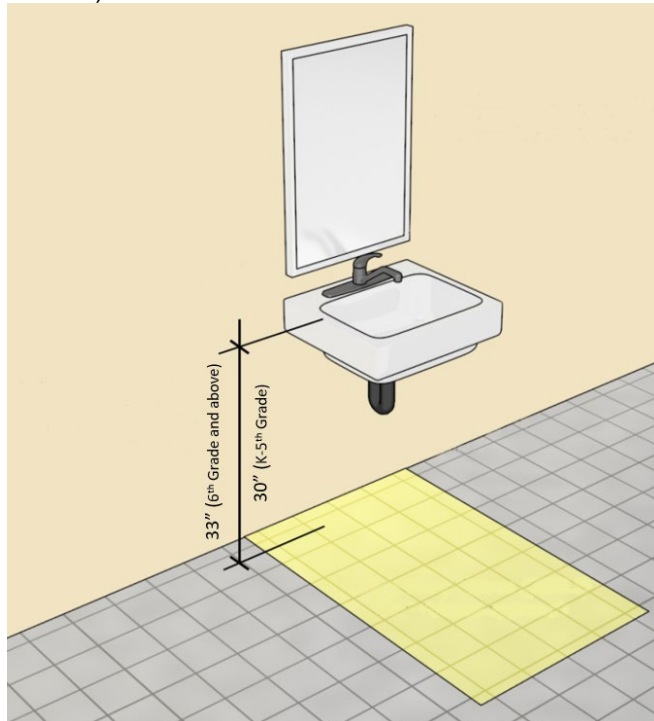


7. Shower Compartment (Transfer Type): The 36"x36" transfer-type shower dimension is finish-to-finish and is absolute. Inside dimensions are measured at the center points of opposing sides.

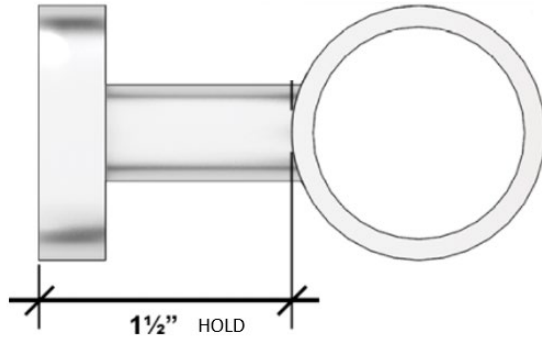


8. Lavatories and Sinks

- The height of the front of the higher of the rim or counter surface
 - 6th Grade and older: 33"
 - K- 5th Grade: 30".



- b. Knee clearance
 - 1) 6th Grade and older: min. 27"
 - 2) K- 5th Grade: min. 24".
- 9. Grab Bars: Grab bars shall have circular cross section with an outside diameter of 1½"; the space between the wall and the grab bar is an absolute 1½".



- C. The Contract Drawings are to utilize the following standard details as they relate to accessibility:
 - 1. Standard details 0100010a and 0100010b are to be edited to remove details that pertain to the age group that is not in the building (i.e. remove either pk-5 or grades 6-12 as appropriate) and included as a drawing in the Contract set. The dimensions of the plan elements shall be utilized in preparation of the room plans to ensure the rooms are sized correctly and the drawings are to refer to this accessibility detail sheet for dimensions.
 - 2. Standard details 0100030a and 0100030b are to be included in the contract set as reference drawings and are for use by the BCC inspector in determining compliance with ANSI 117 and ADA.



1.3 Planning

1.3.1 Design

1.3.1.17 Compliance with NYC Energy Conservation Code (NYCECC) and NYC Green Schools Guide Building System Commissioning Requirements

Description/Design Approach:

A. Applicability

1. The following systems require system commissioning per Section C408 (or Appendix CA Section 6.7.2.3 and Section 9.7.3) of the 2020 NYC Energy Conservation Code (NYCECC):
 - a. Heating, ventilating, and air conditioning, (HVAC) systems and associated controls.
 - b. Plumbing, including domestic hot water systems, insulation of piping and associated valves, domestic and process water pumping, and mixing systems.
 - c. Electrical, including service, distribution, lighting, and lighting and daylighting controls.
 - d. Renewable energy and energy storage systems.
2. In addition to the exemption for historic buildings for required systems commissioning, there are two exemptions to energy code commissioning per Section C408.2, which are also listed in the back of Section S01660 of the SCA specifications.
 - a. Mechanical systems and service water heating systems in new buildings, additions or alterations where the total mechanical equipment capacity being installed or the total mechanical equipment connected load serving the alteration space is less than 480,000 Btu/h (140.7 kW) cooling capacity and 600,000 Btu/h (175.8 kW) combined service water-heating and space-heating capacity.
 - b. Renewable energy systems being installed with a generating capacity of less than 25 kW.
3. All energy code subject projects with lighting controls require commissioning no matter how small, as there is no exemption listed under Section C408.3.
4. The Authority intends to perform building systems commissioning as a Quality Control measure for Historic Buildings that have building and energy systems of a size that would require commissioning per the 2020 NYCECC if they weren't so designated as historic (SHPO eligible).

B. Applicable Specification Sections for use in Project

1. Utilize Section S01660 for projects that must comply with the NYC Green Schools Rating System (generally all capacity projects) and projects that must comply with the system commissioning requirements of Section C408.
2. Utilize Section S01660A for projects that are to be commissioned for quality control of HVAC, domestic hot water, electrical and photovoltaic systems of a size that would require commissioning by Section C408 of the 2020 NYC Energy Code but are exempt due to being historic. For energy code exempt projects, quality control commissioning of the lighting

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



controls is only required where more than ten (10) of any combination of sensor types (Occupant sensor controls, Daylighting sensor controls etc.) will be installed as part of the project.

C. Turnover Requirements

1. For buildings subject to GSG and ECC commissioning requirements as noted above, the designer would use Section S01660 and include Energy Code Compliance System Commissioning Notes (SCA Std Detail 0100006B) in contract drawings (also typically flagged in the BCC system). At turnover, the designer and DPM are to checkoff the following in the turnover checklist and the DCIM Commissioning Manager is to be notified.

☐	☐	If project requires Energy Code Commissioning per Section C408 of the 2020 NYCECC and for projects subject to Green Schools Guide Compliance, Energy Code Compliance System Commissioning Notes (Std Detail 0100006b) have been included in the final turnover set, Section S01660 has been utilized and Design and Construction Innovation Management has been notified by email to assign a commissioning agent.

2. For historic buildings that are NOT subject to energy code commissioning filing but have mechanical and energy systems of type and size required to have energy code commissioning but are exempt due to building being historic, the designer would use Section S01660A, deleting the A in the project spec. At turnover, the designer and DPM are to check off the following in the turnover checklist and the DCIM Commissioning Manager is to be notified.

☐	☐	If project requires Quality Control Commissioning as building is exempt due to historic status (SHPO eligible or NYC Landmark) but with systems of a size that would require commissioning per Section C408 of the 2020 NYCECC if not historic, or with more than 10 of any combination of lighting sensor types, Section S01660A has been utilized and Design and Construction Innovation Management has been notified by email to assign a commissioning agent.

D. FMSI Reviews

1. Any project with HVAC controls requires review by the Authority's Facilities Management Systems Integrator (FMSI) during the design, as well as concurrence by the FMSI that all review comments have been addressed which is to be signed off on the turnover checklist. This controls commissioning is separate from the energy code commissioning, but this commissioning is used by the energy code commissioning agent to sign off on the mechanical controls portion.
 - a. Section 15970 is a full BMS system with Central Station Monitoring – Typical of a Capacity Project, BMS upgrade project, and major HVAC replacement including electrification where all items are being replaced.
 - 1) For projects utilizing 15970 spec section, include FMSI specification section 15973.
 - 2) Design Review by FMSI - Projects utilizing Section 15970 require submission review by FMSI at 60%, 100% & Compliance for Capacity and 50% and 100% for

Requirement Applies to:	✓	New Construction	✓	Major Modernizations	✓	Capital Improvement Projects



General – Section 1.0

- b. Section 15971 is a full BMS network without central station monitoring. Typical of system replacements such boiler conversions, lease space conversions.
 - 1) For projects utilizing 15971 spec section, include specification section 15973A.
 - 2) Design Review by FMSI - Projects utilizing Section 15971 require submission review by FMSI at 100% and concurrence of completeness by FMSI before turnover. Difficult projects such as electrification may also have FMSI review and the scope phase.
- c. Section 15975 is a DDC only system, typically for a single unit replacement or a room conversion.
 - 1) Design review by FMSI - Projects utilizing Section 15975 require submission review by FMSI at 100% and concurrence of completeness by FMSI before turnover.

DR 6.2.20 describes the projects in more detail that utilize the different systems.

All projects must have either of the following checked off in the turnover checklist on any project that has HVAC controls.

☐	☐	Where project contains HVAC controls with a network (using Sections 15970 or 15971), all HVAC/FMSI control review comments have been incorporated into the final turnover set and Section 15973 that describes the FMSI participation in the project has been included, with the concurrence by FMSI of all corrections being made.
☐	☐	Where project contains HVAC controls without a network (using Section 15975), all HVAC/FMSI control review comments have been incorporated into the final turnover set.

All projects are required to do system commissioning when meeting the requirements above. This is separate from the controls commissioning, which is a point-to-point programming review. The Energy Code Commissioning Agent CxA will utilize the FMSI reports as part of its report. Either Section S01660 or S01660A is to be included in the project and at turnover the DCIM Commissioning Manager is to be notified. During the design, the DPM/DM are to notify Project Controls during the weekly CIP meeting that commissioning is required so that it will be checked off in the PTS system, which will be a flag for a commissioning agent to be assigned during construction.



Design Bundle Details | Adjustments | A & E Memo

Design #: D020866 | AE|Design|Active | Mgmt. Tmpl. Type:

Description: FY21 RESO A SUPPLEMENTAL COOLING

Studio: A&E Design Consultant Management Studio | 494 | Design Manager:

Studio Director: ASAAD, EMAD | EASAAD@nycsca.org | Design Project Manager:

PPM WLR Comments: 3/8/23 PKG D020503 Waiting for CPM approval of estimate & addressing BCC objections | Design Consultant:

☐ Commissioning Required | ☐ License Agreement(s) Required | ☐ Alternate Means Not Available | AE ORCMS Contract #

Created On: 05/18/2021 | Created By: SAMANTHA WONG | Last Updated On:

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



Design Requirements

General - Section 1.0**1.3 Planning****1.3.1 Design****1.3.1.18 Miscellaneous Architectural Drawing Requirements****Description/Design Approach:**

- A. The following items shall be shown, coordinated with or taken into account on the Architectural Drawings as well as other trades:
1. Steel Attachments/Splices: Location and depth of walls and chases at steel cross bracing and columns needs to account for the splices/attachments and their bolt lengths with associated fireproofing, as it results in a substantially larger depth than the member measurement itself and is many times not accounted for in chase depths.
 2. Local Sound System (LSS) Closet: The LSS closet (approx. 3'D x 5'W) shall be modeled in actual size to avoid any issue with open position of cabinet box (approx. 2' deep.) If it is wall-mounted within the stage or the room, then it is required to provide fixture/guards for cane detection since it is projecting more than 4".
 3. Smoke hatch and shaft terminations: All shafts are to be located so they can terminate at the roof with a smoke hatch connected to the Fire Alarm system. Use of ducts coming off the shaft have not been acceptable or designed such the shaft is built horizontally and thus must be coordinated with the HVAC engineer.
 4. Chase Walls for Plumbing Pipes: All banks of plumbing pipes to have 6"-8" stud wall. Need 6" clearance typically. Not enough room is accounted for on typical layouts.
 5. Induction Loop & Self-leveling Underlayment: Recommended to install the induction loop system in the cafeteria within a layer of self-leveling concrete instead of within the concrete slab. Requires a minimum ¾" depression for slab.
 6. Science Lab Windowsill: The science lab (6th - 12th) high countertop needs to be coordinated with thin tub installation and windowsill.
 7. Speaker Clock Coordination: Speaker clock locations need to be coordinated if installed back-to-back, as the recessed boxed will interfere with each other and thus must be slightly staggered.
 8. FDNY Roof Access Obstruction: FDNY access paths must be clear of items, such as lightning protection rods impeding on path. Need a clear note and detail how to pass the path to reach the parapets. Ensure FDNY clear path is provided and only permissible obstructions allowed.

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



1.3 Planning

1.3.1 Design

1.3.1.19 Planning Guidelines for Athletic Fieldhouses

Description/Design Approach:

A. Overview

1. Outdoor sporting events, such as Football, Baseball, Soccer, Track & Field to name a few, have a very long and strong history within NYC school communities, and the general public communities as well. It is a point where the students and the public come together for entertainment and to “cheer” as a demonstration of support for their fellow athletes, while also promoting health and exercise as a part of the school’s program.
2. As such, the Athletic Fieldhouse (AFH) has evolved as a specialized building typology, serving the school, the teams and the public with a quality, safe, inviting and cost-effective facility.
3. These guidelines describe the operation and interrelationship of the spaces listed in the Program of Requirements and described in the Room Planning Standards. They also consider the important realities of circulation and security as a whole. While the content herein is based on many design meetings in which district and school personnel (including coaches/athletic directors/sport sanctioning authority-PSAL) have contributed experience and ideas, these guidelines are not meant to replace the give and take of the design process. Their aim is to make known in advance the generally agreed upon qualities of successful fieldhouses so that discussion can be freed to further evolve solutions and address concerns specific to the school at hand. To this point, the Room Planning Standards and SCA Design Standards should be followed to the greatest extent practical, but it is understood that modifications may be necessary on a case-by-case basis to tailor any specific needs.
4. Furthermore, a distinction needs to be identified between what is considered a “new” facility versus a “restoration/rehab” of existing facility. The latter scenario may have already established and predetermined many of the criteria presented in these guidelines. Therefore, a closer analysis/evaluation of the totality of existing conditions is warranted in order to achieve the programmatic goals. These guidelines are approaching the project as a completely “new” facility.

B. General Design Priorities

1. Zoning/Building Code Analysis and Use Classification

Early in the project’s development, the project team shall perform a Zoning, Flood Zone analysis and Building Code analysis to determine the AFH’s zoning compliance, Use Classification, occupant loads and any Public Assemblies (PA) that are part of the new facility. The results of these studies will lay the proper groundwork to help guide strategies centered around required Zoning waivers (whenever possible, avoid the need for zoning waivers or overrides), DOB and other Agency filings (i.e., DEP, MTA, DoT, Parks, etc.), construction classification, MEP/FP and emergency systems requirements

Requirement Applies to: ✓ New Construction Major Modernizations Capital Improvement Projects



(fire alarm, emergency generator) and possible reinforcement of any existing utilities. Equally important, an early determination of the extent of storm drainage requirements and if the project will require a SWPPP filing (for demo and/or new construction) needs to be studied. The design should attempt to avoid SWPPP filing, when possible, by limiting the area of disturbance to the extent practical to below 20,000 sq. ft. and newly created impervious area below 5,000 sq. ft.

2. Building Orientation, Entrance and Open Space

Contributing factors in the selection of AFH building orientation and entrance include direction of approach by students and the general public, potential drop-off points, field orientation, proximity to adjacent buildings and school, topography, utilities and other environmental considerations. The AFH and grandstand siting need to account for regulation field dimensions including any safety run-off and team seating areas (in consultation with coaches and sports sanctioning authorities-PSAL), ADA and FDNY/Emergency services access. While the design of the actual playing field area is not part of this DR Planning Guide, the siting of the AFH, in context with the entire site and existing amenities, shall be studied.

3. Temporary Egress of Existing Building and Phasing of Temporary Egress & Site Work

Depending on the new AFH's proximity to any existing buildings or site amenities, changes to permanent means of egress are usually unavoidable to facilitate construction. However, any temporary egress measures should always be kept to a minimum. Temporary egress plans as well as the school's requirements for temporary facilities (office, storage, toilets, lockers), relocation of any existing field amenities (i.e., storage containers) and temporary power requirements need to be closely coordinated with CM and CPM through regular Phasing meetings.

4. Organization of the Athletic Fieldhouse

Order, simplicity and clarity of the building and grandstand will facilitate orientation and destination finding. The design should allow students and spectators to readily know the building; they should quickly feel confident in their ability to navigate with ease. The building should feel safe and supportive of its function to serve the needs of athletes, coaches and spectators.

5. Structure

Like building organization, the structural system should be rational and logical. Extraordinary structural measures should be avoided as much as possible for design clarity, ease of construction and cost-effectiveness. Cantilevered column systems, using transfer beams or deep trusses to build over large column-free spaces should be considered only under unavoidable constraints. Load bearing masonry construction for a one-story building is typically the most suitable, but will be dependent on the structural selection matrix.

6. Building Height

The AFH building height is typically a single-story facility. However, depending on available space and program requirements (POR), the Grandstand may need to occupy a second level over the locker room areas (coupled arrangement). A 2-story solution is very



rarely necessary and generally to be avoided as this would require providing an elevator. Depending on the field orientation (spectator viewing), the Grandstand may also be a separate, de-coupled, independent area. The building height may also be impacted by whether a cellar or basement is to be provided, usually for mechanical spaces. The need for basement/cellar level may be driven by available site space, the possibility to increase the building footprint, and/or sub-surface conditions.

7. Cost-Effective Design

- a. An interdisciplinary approach from the very start is essential for a cost-effective AFH design. The more traditional model of the architect designing the school and the engineers having to “fit their work in” is inherently inefficient, and bid prices reflect this. A full team approach, with frequent design meetings comprised of architects, engineers, design managers, construction manager, value engineering experts, environmental specialists, technical standards and design review staff, regulatory experts and educational/coaching staff (central and local) ensure that everything that could affect the building design is put on the table and discussed, and that correct decisions are made.
- b. Overall planning in response to site conditions to minimize both excavation and fill starts the project on a cost-effective path. If the existing site has deep excavation in the area of the building footprint, whether by merit of demolishing the existing building with a cellar, or a need to remove unsuitable soil, the building should be planned with a cellar or basement, unless, a high-water table exists (cellars and basements shall not be placed within 5'-0" of the measured groundwater table). If soils are such that a pile foundation is required, or if no excavated area exists or is planned, then an AFH with no cellar or basement is to be utilized. Similarly, if soils are such that a slab on grade can be planned with no fill, this should be the direction. The simple logic is: if there is a hole, use it; if there is no hole and no need for one, do not create one. Factors that may go against this logic include high water table, other environmental factors and zoning requirements where an override is unlikely. If a Cellar or Basement space is necessary and feasible, this area should only be used for MEP systems and/or Custodial/storage uses.
- c. Cost effectiveness is always an important consideration in the development of the design standards. Initial costs are weighed against useful life (longevity), constructability, and maintenance and operations needs to make decisions that are fully reasoned. Following the design standards helps produce an efficient and cost-effective building design. The standards are, however, continually evolving, and are always open to considering new suggestions that might improve the design process and product.

8. Materials and Finishes

- a. The AFH is typically a heavy traffic, “high-energy” facility exposed to the natural elements, comparable to professional outdoor sporting arenas. The choice of materials and finishes must recognize that substantial wear and abuse is to be anticipated and consideration for ease of clean-up (wash-down) and repair shall be the Designer’s objective. The choice of interior materials and finishes should be durable and abuse-resistant, indicative of the facility’s function and follow DR 5.1.1 to the extent practical. The use of exposed concrete and masonry (CMU), steel doors



and lockers, vandal-proof fixtures and hardware, abuse-resistant coatings and impact-resistant surface finishes are necessary to ensure the facility's longevity.

- b. Since the AFH is associated with outdoor sporting events, a great deal of consideration should be given to the slip-resistant qualities of all floor and deck surfaces throughout the facility, as well as ease of regular maintenance.
- c. Typically, storage and mechanical/utility areas do not require a finished ceiling. Designers are to ensure that duct work, MEP lines, light fixtures and other components are designed for exposure and in addition do not provide areas to trap debris and are protected (guards) from damage from balls and other equipment (e.g., use of round ducts might need to be considered). Offices, weight room, locker/shower areas, student toilets, multi-purpose room and other educational spaces will require standard ceiling finishes.
- d. While the AFH might be considered more of a utilitarian-type facility, the exterior cladding system should attempt to convey a welcoming aesthetic. Generally, brick is the exterior cladding material of choice. However, the introduction of stone, rainscreen and curtainwall (limited) can be considered if it makes sense for the site. Close analysis of cost, constructability and other considerations need to be discussed through the Structural/Envelope Matrix Review and Façade Review processes and evaluated for a final determination as indicated in DR 4.1.1 shall be followed to the extent practical.

9. Exterior/Site/Security Lighting

- a. Exterior/site/security lighting shall be provided around the perimeter of the AFH and on playing fields for safe passage of students and staff and to deter theft and vandalism as described in DR 7.2.5. Lighting design shall minimize light trespass from the building and site, reduce sky glow, improve nighttime visibility through glare reduction and reduce development impact on nocturnal environment. Design shall comply with all the requirements of NYC Green Schools Guide Credit for Light Pollution Reduction as applicable.
- b. If the AFH project includes rehabilitation of the entire athletic field complex, field lighting will require a more robust system design as described in DR 7.2.6. This enhanced system shall be discussed/vetted with the school as early as possible to allow for special accommodations in power requirements and proper placement of light fixtures.

10. Scoreboard

Scoreboards, as with night-game lighting requirements, are typically addressed as part of an Athletic Field development project. However, power and controls requirements shall be investigated and provided for any existing or new equipment. The scoreboard should have the capability of wireless control from the Press Box and one ADA spectator position.

11. Sustainability- Green School Guide

New AFH projects are required to follow the SCA's Green School Guide (GSG). Beginning in the scoping and early design phases, project teams shall meet with the



SCA's Sustainability Unit to evaluate the potential for renewable energy as part of the Integrative Design Process (IDP) outlined in the 2019 NYC Green Schools Guide, and study synergistic opportunities for other energy reduction measures with building systems for compliance with Section BC 1512 of the 2022 NYC Building Code (Local Law 94 of 2019). Energy Code and Building Envelope Commissioning will be required. Refer to Section 8 of the Design Requirements for additional guidance. The [SCA website](#) under the NYC Green Schools Guide tab has energy modeling guidelines and templates.

12. MEP/FP

- a. The mechanical/electrical/plumbing/fire protection systems collectively form the essential services backbone necessary to support inhabitants and achieve the intended use of the AFH. These services provide the required comfort, safety and communications for a functioning facility. To assist in producing efficient and cost-effective design, these systems are engineered as part of a collaborative effort with other required disciplines and stakeholders. Each system is governed by various underlying Codes that must be adhered to. Accordingly, points of entry for utilities must be analyzed including the proximity of respective rooms. Ideally, these rooms will be usually placed along a street frontage for a more direct routing of utilities. Analysis of the re-use/reinforcement of any existing utilities shall be investigated as well.
- b. Based on provisions of Building Code and other design considerations, an AFH is to be considered Occupancy Classification E Educational, with the possibility of an accessory occupancy of A-3 where an indoor program space permits occupancy by 75 persons or more. The Storage Rooms in the building are used for storage of furniture, sports equipment and other purposes and would be classified as S-1 or S-2. Utility spaces, custodial rooms and groundskeeping room would be classified as such in accordance with Code and SCA Design Standards. Grandstands (spectator viewing areas) are considered Public Assembly (PA) space of A-5 occupancy.
- c. Refer to Sections 6 and 7 of the Design Requirements for guidance on the SCA's latest equipment and design preferences. Where applicable, follow SCA Room Planning Standards and DIIT Standards to the greatest extent feasible.

13. Horizontal and Vertical Circulation

- a. Corridors and Vestibules
 - 1) The efficient, safe, code compliant layout of interior corridors to access rooms will be worked out in the early phase of design. However, due to their use/function and depending on the layout, some rooms should access directly to the exterior. Generally, outdoor (open) grandstands egress directly outside, and other enclosed rooms such as sports equipment storage, grounds equipment and mechanical/utility spaces should have access directly outside to the field. In order to meet Energy Code requirements, vestibules will need to be provided where applicable.
 - 2) Corridors are usually very high-traffic circulation zones and require adequate width (capacity) to serve the population load being served. As far as possible, corridors should be straight and simple, without opportunities for concealment.



Edges of doors opening onto corridors should be flush with corridor walls to maintain unobstructed travel paths in corridor plans.

c. Stairs

Normally, the AFH is a single-story facility and requirements for stairs and ramps will be relegated to the grandstand or site access. However, if stairs are required in the AFH, code analysis of egress to enhance circulation shall be studied. Stairs are typically made of reinforced concrete. Simple rectangular stairwells without open vertical shafts between stringers are recommended. The preferred minimal width of a stair is 56". Adequate and appropriate stair size and location is required for smooth, safe facility operation. Stairs should be positioned to the maximum benefit of traffic flow and with consideration for the manageable movement of groups of patrons/visitors into and out of large common spaces. Stairs/Ramps integral with the grandstand shall be analyzed and laid out in a similar Code-compliant, efficient manner including required ADA access.

d. Egress and Access:

NYC Building Code ingress and egress requirements govern. PA requirements may also be triggered by design. FDNY access requirements must be adhered to as well (refer to DR 1.3.1.14).

14. Fences

Fences are generally categorized as either Site Security (perimeter) fences or Spectator/Building protection fencing necessary during sporting events. The type and beneficial height of each fence type shall be studied. Refer to DR 2.1.1 for guidance.

15. Accessibility

- a. Ensuring accessibility for all individuals, including those with disabilities, is an essential aspect of designing athletic field projects. Compliance with the Americans with Disabilities Act (ADA) and the New York City (NYC) Building Code is required to create inclusive, functional, and safe environments. Providing school athletics programs with a unique opportunity to improve the quality of learning environment for a challenged and particularly vulnerable segment of our students will also contribute to meeting federal "program access" requirements.
- b. Starting from the site accessible entrance, a 5'-0" wide accessible route is recommended to AFH, grandstand, indoor or outdoor sports activities, and all other accessible elements and spaces. When site constraint, the accessible route shall not be reduced less than 37". When ramps are used along the accessible route, especially to connect to elevated grandstand accessible spectator areas, proper planning shall be given at the early phase with the running slope to be max. 1:13 in mind.
- c. In addition, accessible parking stalls and accessible van parking stalls should be provided when they are required by NYC Zoning Resolutions, Building Codes, ADA, ICC A117.1, or the school program.



- d. Two ramps on both sides of the grandstand are usually required to provide the required accessible ingress and egress. When there are site constraints, an exterior area of rescue assistance may be used as an alternative to the second ramp. Multiple, accessible, unobstructed-view options for wheelchair users shall be provided on the grandstand. Use creative approaches to providing a social experience for disabled students or visitors that is as similar as possible to that enjoyed by other spectators and avoid any design that might tend to isolate those with disabilities. For a grandstand or bleacher that is a Place of Assembly occupancy and equipped with a local sound system, an FM assistive Listening System (ALS) should be provided accordingly. Press boxes that are 500 SF or more should be also made accessible as per BC 1104.3.2.
 - e. Besides accessible toilet rooms and showers, each locker room shall have the proper number of accessible lockers provided near accessible benches. Accessible drinking fountains (both interior and/or exterior) should be provided accordingly. If fitness equipment is provided within the fieldhouse, accessible route and enough clear floor space adjacent to the equipment shall be provided.
 - f. Accessible signages should be also provided as per SCA's DR, ADA, ICC A117.1, and NYC Building Codes.
- C. Typical Rooms included in the AFH Program of Requirements (POR) - Their use, design and relationship within the fieldhouse building and adjoining athletic field(s)
- 1. The Program of Requirements (POR) references each of the required rooms by name and number. A detailed/site-specific POR will be issued at the inception of the AFH project. The designer is responsible for modifying the 'standard rooms' in order to fit the configuration of the building as designed. Refer to the Room Planning Standards for general guidance on Use and Design.

**The school administration should be consulted to determine the necessity of "Special Spaces" such as Concession Stand, Ticket Booth, Grandstand and Press Box. Any proposed changes to the design standards or POR must be submitted in writing to the SCA by the school administrator.
 - 2. The Program of Requirements groups rooms into categories as follows:
 - Group 1 - Instruction (Multi-purpose/ Weight room)
 - Group 4 – Physical Education (locker rooms)
 - Group 5 – Assembly Area (grandstand)
 - Group 7 – Lobby/Main Entrance
 - Group 8 – Student Support Services (medical office)
 - Group 9 – Storage (sports equipment, custodial, concession)
 - Group 10 – Administration (coach's office, press-box, ticket booth)
 - Group 12 – Plant Operations/Custodial (JC, MER-utilities, Toilets/public-students, DIIT)
 - Group K - Kitchen (concession stand)
 - 3. The functional efficiency of the AFH is largely dependent on the physical relationships between these areas and their relationship to the Athletic Field. Organization and circulation between student/athlete drop-off, public access, ticket booth, concession stand, grandstand (spectators), locker rooms, storage, custodial areas, multi-purpose



room, toilets (public/students), press box, coach's/medical office is the key to the success of the facility.

Group 1- Multi-purpose Room (MPR)

As the name implies, this room can facilitate a variety of different uses which the school/coach may require (i.e., exercise, weight-room (Auxiliary Exercise room), instructional/training). These spaces should be easily accessible for student use during practice sessions and, depending on the AFH's proximity to the main school building, the MPR may even serve as an auxiliary instructional space for the school. Flexibility is given by the provision of moveable seating. A storage room for seating and equipment storage is essential. In certain circumstances, the MPR may also include lockers for "Visiting" teams.

Windows are desirable and if provided they should include interior or exterior guards as needed and should allow for ventilation. Control of light/glare can be achieved with the use of window shades instead of the traditional drapes.

Group 4 – Physical Education (locker room)

Locker rooms and/or changing rooms should be proximate to the field. Lockers should be separated and designated as either Home and Visitor or Boys and Girls. The number of sets of lockers is dependent upon the types, frequency and scheduling of sporting events being hosted at the field. One set of Boys and Girls (or Home and Visitor) lockers may be sufficient for schools with smaller sports programs. Schools with larger, more robust sports programs, that may host simultaneous games and practice sessions may require two sets of locker groups. Each locker room should have its own toilet facility. Shower requirements should be discussed with the school/coach.

Group 5 – Assembly Area- PA (grandstand)

Grandstands (spectator viewing area) is considered a Public Assembly (PA) of A-5 occupancy. They may be categorized as either a "Coupled" arrangement, when the grandstand sits above (top) the fieldhouse footprint and may be considered a second level of the building. Circulation for this type of grandstand arrangement shall remain independent of the AFH interior, to which separate egress needs to be analyzed and calculated. Alternatively, a "Decoupled" arrangement, when the grandstand is completely separate, is an independent area not physically connected to the fieldhouse. In either case, spectator and ADA access are primary considerations. The size and capacity of the grandstand is dictated by the available area and the anticipated patronage. Optimal field viewing orientation, solar angles (glare) and access to public toilet facilities and concession stand should be analyzed.

Generally, a "coupled" grandstand will have a raked (saw-tooth) profile of cast-in-place concrete (or other hybrid structural system depending on the Structural Matrix study), with a rise and depth dimensions appropriate for adult seating. The grandstand might also serve as the roof of the AFH. A "decoupled" grandstand will typically have a similar raked profile and may be framed steel with structural aluminum super-structure. In either case, ADA access and viewing areas and egress stairs and ramps will need to be analyzed and incorporated into the design. Storage



areas under the grandstand may require Fire Protection and needs to be discussed early in the project.

Group 7 – Lobby/Main Entrance

The lobby is the main and formal entrance to the AFH and may serve as a hub area. The main entrance must contain a vestibule. The Lobby may include a built-in security desk, outlets to support the CAAS and POS system, an optional security scanning station, and may include a closet for short-term storage of deliveries. The security needs should be discussed with CPM and the school administration.

The location of the building entrance is a primary consideration. Among the factors that must be considered are the following:

- the AFH's proximity to the existing school building and neighborhood it serves
- the direction of approach to the AFH by its students and the public
- likely bus or car drop-off locations
- relationships to traffic direction of surrounding streets
- the location of traffic lights that allow pedestrian crossings
- public transportation routes
- site supervision and visual control
- and the character of adjoining properties

Group 8 – Student Support Services (Medical Office)

This Medical office supports the care of students/athletes who may become ill or injured during a game or practice session. The Medical office should contain an examination area, toilet and lockable storage. The Medical office should be in close proximity to the field and Coach's office. The arrangement of the space may be modified but all essential elements of the *Room Planning Standards* must be provided. The need for a Medical Office should be discussed with CPM for inclusion in the POR.

Group 9 – Storage (sports equipment, custodial, concession):

1. Programmed storage rooms are provided for sports equipment, the coach/medical office, grounds/custodial/mechanical equipment supplies, computer and A/V equipment, trash, concession sales, and MPR. These rooms must have shapes that allow for efficient storage. All elements of the room planning standards must be provided.
2. Sports equipment storage rooms must be of a size and shape that is appropriate for the possible variety of equipment being stored (for baseball, football, soccer, track/field equipment) and provide direct access to the field area.
3. Grounds equipment storeroom is for the storage of outdoor maintenance-related equipment (snow blowers, shovels, rakes, hoses, turf maintenance, etc.) and should be located at grade level with direct outdoor access and appropriate ventilation.
4. Refuse & Recycling Room: Following a sporting event, trash and recyclables are collected by the custodian and stored in these rooms until the day of collection. The refuse and recycling storage room must have a hose bib, floor drain, and the



floor be finished for easy wash-down. All elements of the *Room Planning Standards* must be provided. Trash handling should be discussed with the Custodian and DSNY.

5. Bicycle Parking: This space will primarily be used to secure bicycles for patrons who prefer to use bicycles for their commute to and from the sporting event. The site should include bicycle parking located in the front of the building, where possible, to meet Green Schools Guide and ADA requirements. Refer to DR 2.3.3 for zoning required enclosed bicycle storage and accessible cycle storage space (Racks) per Section BC 1109.9.3.

Group 10 – Administration- (Coach's office, Press-box, Ticket booth)

Administrative Areas include Coach's office, Ticket Booth and Press-box areas. Generally, the Coach's office can be designed as a modified Principal's office including private toilet and conference area (Refer to SCA Design Requirements). The number of Coach's offices is commensurate with the size of the school's sports program. There may be the need for two (2) coach's offices, one for "Home" and one for "Visiting" teams. Refer to the POR for the specific requirements.

The Press-box and Ticket Booth can be designed similar to a modified supervisory office or staff room (without storage) with minimal furnishings. This Press-box is typically at the upper-most level of the grandstand, centrally located with optimal views of the entire field, with total square footage below 500sqf. The Press Box is typically a limited occupancy space that is auxiliary to the spectator grandstand seating (to be considered part of the Grandstand/Bleacher's A-5 occupancy). If the program requires a larger press box, an accessible route to get to the press box must be provided. The Press-box may be designed as an integral component of the bleacher system, which typically is oriented for optimal viewing as well. The Ticket Booth would normally be located in close proximity to the Public (spectator) entrance. Minimal power (convenience outlets), lighting and security are to be provided. The Press box does not require any heating or cooling accommodation. Additionally, the Press box shall have connectivity to the scoreboard and PA system. The Ticket Booth can be arranged as a separate functional space or integrated with the Concession Stand area to provide common indoor/exterior door access. Refer to Sections 6 and 7 of the Design Requirements for additional MEP requirements of these special spaces.

****The school administration should be consulted to determine the necessity of "Special Spaces" such as Concession Stand, Ticket Booth, and Press Box. Any proposed changes to the design standards must be submitted in writing to the SCA by the school administrator.**

Concession Stand

1. The concession stand is an area serving light refreshments to the game patrons and should be located in close proximity to the grandstand for ease of access and convenience. It should be equipped with power, water, heating and light. No gas service is to be provided. There should be a dry-storage room (for paper goods and canned condiments), two (2) residential-type refrigerators and a sink. Power outlets should be provided for grilling (food warming), cooling appliances



and general-purpose outlets. Provide adequate overhead area lighting. Cooking of food is not performed in the Concession Stand.

2. Public access to the concession stand should be directly from outside and kept separate from the main building's entry. The stand will need to be secured when not in use and equipment placement will need to be protected from the elements. The Ticket Booth can be arranged as a separate functional space or integrated with the Concession Stand area to provide common indoor/exterior door access.
3. General outdoor seating immediately adjacent to the stand can be provided if there is adequate area. Otherwise, patrons will normally return to the grandstand area with their purchases. The concession shall be provided with an 8 ft. counter area for staff to prepare, gather and complete sales. A portion of the stand counter shall be accessible for people with disabilities. This area should follow the Room Planning Standards and SCA Design Standards to the greatest extent possible and be modified accordingly on a case-by-case basis. Refer to Sections 6 and 7 for additional MEP requirements of this special space.

****The school administration should be consulted to determine the necessity of "Special Spaces" such as Concession Stand, Ticket Booth, and Press Box. Any proposed changes to the design standards must be submitted in writing to the SCA by the school administrator.**

Group 12 – Custodial and Plant Operations

1. Depending on the proximity of the main school building to the AFH, there may be the need for a separate Custodian's office and workshop. The need is to be analyzed on a case-by-case basis. If the POR calls for a separate Custodian's office/workshop, follow the Room Planning Standards accordingly.
2. Generally, the AFH will require a Janitor's closet/sink and custodial storage. These custodial spaces may be located in the vicinity of the electric/water and other mechanical service rooms.
3. Roof access shall be via an interior ship's ladder (sloped). The roof hatch shall be sufficiently sized to facilitate custodial staff for the regular maintenance of rooftop equipment and appurtenances.

Telecommunication Room

These spaces are used as indicated by their room designations. The designs of these spaces follow the Room Planning Standards and DIIT Standards. Refer to DR 7.3.3. As fieldhouses are typically one-story structures, the Telecommunications Room is to be placed centrally located on the floor at grade. If the fieldhouse is more than one story, room is not to be placed in a cellar or basement, or at the second floor under the roof. A separate telecommunication closet is not typically required due to the building size, but if required is to be centrally located and dictated by the 100m maximum cabling distance. Refer to DR 7.3.5.



Toilet Facilities

1. Student/Athlete Toilet Rooms

Dedicated athlete toilet rooms are to be provided for each locker room. The SCA Design Requirements should be used to calculate the required toilet fixture count based on locker room occupancy. These rooms follow the *Room Planning Standards* and *SCA Design Requirements*. The toilet entrance doors should be from within the locker room areas. In addition, the need for separate student toilets shall also be calculated based on other room assignments listed in the POR. These will include Girls, Boys and Gender-neutral toilets.

2. Adult/Public Toilet Rooms

These rooms, typically designated “Men’s” and “Women’s” gang toilets, are used by visitors/general public. The location of the Public Toilets shall be located for convenient patron access, accessible from outside and usually consolidated at the ground level. In addition, one single-user gender-neutral toilet, accessible from the outside, shall be provided for the building. These rooms follow the *Room Planning Standards* and *SCA Design Standards*. The SCA Design Requirement must be followed in calculating the number of adult toilet rooms. The Program may also call for private toilet rooms in specified spaces (i.e., Coach, Custodian and Medical offices) or a separate Staff toilet facility. Toilet rooms shall not be placed over electrical/telecommunication rooms.

3. The toilet facilities open to spectators/patrons (public) during scheduled athletic events or other outdoor school functions should be designed to meet the applicable requirements of the NYC Building, Mechanical, Electrical and Plumbing Codes.

Plant Operation Areas

Plant operations areas include service rooms such as, but not limited to, electric, water, sprinkler service rooms and mechanical equipment rooms, etc. These are the spaces that are required to house the building utilities/services and the mechanical equipment. Design of these spaces is based on the building’s size, location of utilities in the street and the mechanical system design. These types of spaces are typically located at the lowest level (in the cellar or basement if provided) along with the custodial work and storage areas. Mechanical equipment such as fans, chillers and condensers are typically located on the building’s roof. Refer to Sections 6 and 7 of the Design Requirements for specific MEP/FP system requirements.



1.3 Planning

1.3.2 Construction

1.3.2.1 Construction Classification and Occupancy Classifications

Description/Design Approach:

Building Classification

- A.** New construction (new buildings and additions) shall comply with the **2022** NYC Building Code for Non-combustible Construction, Type IB or Type IIA for Occupancy Group E.

- 1.** All new Schools and Additions shall be fully sprinklered unless otherwise indicated below.

- Temporary Classroom Buildings and Transportable Classroom Units, Type IIB Construction, with an aggregate area of less than 12,000 SF and one story in height are excluded from being sprinklered. Follow requirements of Section §28-111 of the NYC Administrative Code for construction conformance/approvals and requirements of Table BC 602 of the **2022** NYC Building Code for fire-resistance rating.

B. Room and Space Occupancy Classifications

- 1.** As per the NYC Building Code, every room or space shall be classified within an Occupancy Group.
- 2.** Work in existing buildings that requires an occupancy classification is to use this design requirement.
- 3.** Per the Building Code, a designer has the option to comply with the applicable provisions of Sections BC 508.2, BC 508.3 or BC 508.4, or a combination of these sections for buildings with mixed occupancy use. For new buildings and additions **of Type IB construction and sprinklered, the maximum height is 420 feet, while for Type IIA construction the maximum height is 85 feet and 5 stories*. The maximum allowable areas for each type is dependent on the street frontage and utilizes Equation 5-2 of Section BC 506.2.3 for single-occupancy or Equation 5.3 of Section BC 506.2.4 if school is part of a multi-occupancy building.** The designer is to use the provisions of **Section BC 508.3, which is nonseparated occupancies**, as it is the Authority's preferred option because it minimizes or eliminates the requirement for fire separation between the various spaces except as required by **Sections BC 508, 509, BC 903 and BC 1023.**

* Numbers are based on the most restrictive occupancy for the school building, which is either E or S-1 (depending on if per building height or number of stories). Refer to **Tables BC 504.3 and BC 504.4**, and considering a fully sprinklered building. Provide the following note on the Fire Protection Plans, **based on a Type II-A construction class:**

"Building is filed as 'Non-separated Occupancies' as per Section BC 508.3 and follows the most restrictive requirements for xx occupancy. Each portion of building has been individually classified in accordance with Section BC 302.1. The building's maximum area is xx,xxx SF at the xth floor, the building is x stories and is xx feet high and does not exceed the limitations for a sprinklered xx occupancy. The combined maximum area of all

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incidental spaces is x,xxx SF and is less than 10% of the total area (xx,xxx SF) of the building, **exclusive of Assembly Areas that are permitted to occupy more than 10% of the floor area of a story.**"

4. The **following** table is based on the Authority's Room Planning Standards and provides a general guide for the classification of rooms and spaces within school buildings (Occupancy Type E). Unless required or indicated otherwise by NYC Building Code or the use as indicated in the Program of Requirements (POR), the occupancy of the following rooms and spaces should be classified as indicated on the table:

Occupancy Classifications for Rooms and Spaces in School Buildings (a)

<u>Room/Space</u>	<u>Occupancy Classification</u>
<u>Group 1 - Rooms of Instruction</u>	
Pre-Kindergartens, Kindergartens, Classrooms, Resource Rooms, speech workshop and Small Rooms of Instruction,	E
<u>Group 2 – Specialized Instruction/Art/Music and Choral</u>	
Art Classrooms and Art Studios	E
Art Storage	S-1(2) (7) (20)
Music Classrooms, Music Suites, Cubicles, and Practice Rooms	E
Music Storage	S-2(2)
<u>Group 2 – Specialized Instruction/Technology</u>	
Classrooms for Wireless Language, Programmed Language, Distance Learning, Virtual Enterprise, Classrooms for Electronics, Stagecraft, Communication, Materials Processing, Mechanical and CADD Drafting	E
Classrooms for Culinary Arts, Transportation, and Photography	E(11)(3)
<u>Group 3 – Science</u>	
Resource Rooms, Demo Rooms, Project Rooms	E
Science Lecture Rooms- seating capacity less than 75 occupants	E
Science Lecture Rooms - seating capacity 75 or more occupants	A-3(8)
Laboratories, Plant Rooms	E(1)
Preparation Rooms	E(1)
Acid Storage Room – area 60 SF or less	S-1(5)

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Occupancy Classifications for Rooms and Spaces in School Buildings (a)

<u>Room/Space</u>	<u>Occupancy Classification</u>
<u>Group 4 – Physical Education</u>	
Gymnasiums (without bleachers), Multipurpose Rooms, and Pools	A-3(8)
Gymnasiums (with bleachers) and Gymatoriums ⁽¹⁷⁾	A-4(8)
Dance Studio, Weight Training Rooms- capacity less than 75 occupants	E
Dance Studio, Weight Training Rooms- capacity 75 or more occupants	A-3(8)
Exercise Classroom	E
Auxiliary Gym	A-3(8)
Gymnasium Offices, Locker Rooms	B(2)
Showers and Toilets	(12)
Gymnasium Storage	S-1(2) (7) (20)
Athletic Field with bleachers	A-5
<u>Group 5 – Assembly</u>	
Auditoriums (with scenic elements and without full fly stage)	A-3(8)
Auditoriums (without scenic elements and without full fly stage)	A-3(8)
Auditoriums (with scenic elements and with full fly stage)	A-1(8)
Roof or Roof Terrace intended for use by 75 or more occupants	A-3(8)
<u>Group 6 – Library</u>	
Libraries and Media Centers (less than 75 occupants)	E
Libraries and Media Centers (75 or more occupants)	A-3(4)(8)
Office and Server Rooms	B(2)
<u>Group 8 – Student Support</u>	
Suites, Conference Rooms, Offices, Guidance Houses, Waiting Rooms, Medical offices and Health Clinics	B(2)
LYFE Centers with direct access to exterior	E(6)
LYFE Centers without direct access to exterior	I-4
<u>Group 9 – Storage</u>	
Book, Furniture, Receiving and General Supply, Year Round, Record room, Non-food Storage Rooms and Vaults	S-1(2) (7) (20)
Bicycle Storage Room	S-2(2)

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Occupancy Classifications for Rooms and Spaces in School Buildings (a)

<u>Room/Space</u>	<u>Occupancy Classification</u>
Can Wash and Food Storage Room	S-2(2)
Refuse/Recycling Room	E(1)
Audi/Visual and Computer/AV Rooms	S-2(2)
Ground Equipment Rooms	S-1(2) (7)
<u>Group 10 – Administration</u>	
Offices, Mail/Time Rooms, Conference Rooms, Work Rooms, Community/Parent Rooms, and Waiting Areas	B(2)
Duplicating room	S-1(2) (7) (20)
<u>Group 11 – Cafeteria</u>	
Cafeterias, Cafeteriums ⁽¹⁷⁾ , Cafeterias/Multipurpose Rooms and Servery	A-3(8)
Staff Lunch/Conference Rooms	B(2)
<u>Group 12 – Custodial</u>	
Locker Rooms, Offices	B(2)
Toilets, Restrooms, Janitor Sink Closets, and Changing Rooms	_ (12)
Workrooms	F-2(2)
Telecommunication Rooms and Closets	E(19)(21)
Mechanical Room	E(1)(9)(15)
Boiler Room	E(1)(9)(15)
HW heater Room	E(1)(9)(15)
Gas Meter Room	--(13)
Emergency Generator Room	E(1)(14)
Fuel Oil Storage Room	(14)(16)
Fire Pump Room	E(1)(18)
Sprinkler Booster Pump Room	E(2) (23)
Electric Service Room, Electrical Switchgear Room, Electrical Closets	E(19)(21)
<u>Group CW – Citywide Special Education</u>	
Classrooms, Activity Rooms, Therapy Rooms, and Speech Rooms	E
Offices	B(2)

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Group K – Kitchen Food Services

Warming Pantry (not associated with a cafeteria)	E(25)
Kitchen and Therm and Hold Kitchen associated with a Cafeteria	F-2(9)(22)
Dietician's Office	B(2)

Footnotes:

- (a) The Architect/Engineer of Record shall ensure that there are no extenuating circumstances or hazardous conditions within their design that will adversely affect the provided classification of the rooms and spaces indicated above. If the Architect/Engineer of Record's design adversely affects the provided classification of the rooms and spaces indicated above, the Architect/Engineer of Record shall revise the indicated classification accordingly and review with the A&E Department. The NYC Building Code shall be utilized by the Architect/Engineer of Record in conjunction with the Table to ensure that all related Code requirements are provided and are compliant with all aspects of the Code
- (1) Can be classified as Incidental use area if total area of all incidental use spaces are less the 10% of the area of the building. Provide separation as per table 509
- (2) Can be classified as accessory use if aggregate of all accessory use spaces are less the 10% of the area of the story in which they are located. No fire separation is required between an accessory occupancy and its main occupancy.
- (3) Use of space categorized as a vocational space
- (4) See NYC Building Code, Occupancy Group E – Education, BC 305.1 Classification, exception 1
- (5) Refer to BC **427.8** and BC **427.9**. Typical storage will not exceed 5 Gal/SF based on standard shelving design
- (6) See NYC Building Code, Occupancy Group E – Education, BC 305.1 Classification, exception 3
- (7) Provide sprinklers as per BC 903.2.9.1
- (8) Accessory use - refer to BC 508.2.3, exception 1.2
- (9) Calculate Egress and Occupant load in accordance with use of space per table 1004.1.3.
- (10) **Not used.**
- (11) Classified as 'E' unless special directions given in the POR
- (12) Occupancy Classification not required for Toilets, Janitor Sink Closets, restrooms, Changing room and Shower area
- (13) Refer to Appendix E of the NYC Fuel Gas Code. Provide a 3-hr enclosure for all projects- note that this may be more stringent than what the code requires but is the SCA standard.
- (14) Refer to Sections MC 1305.11 and MC 1305.13 of the **2022** NYC Mechanical Code
- (15) Refer to Section BC **505.2.2**. Two means of egress from the roof top mechanical room, boiler room or hot water heater room are satisfied by providing two remote doors from the room. Unobstructed path of egress across the open roof is acceptable.
- (16) Provide minimum 2-hr enclosure. Refer to Section MC 1305.11
- (17) The term 'Gymnasium' and 'Cafetorium' are used in the Program of Requirements but are not recognized in the DOB system. Gymnasiums and Cafeteriums are to be categorized as Assembly space with concentrated (not fixed) seating and should be filed as "Multipurpose room" for SCA BCC, Department of Building, Fire Department, etc. related documents.
- (18) Provide 2-hour enclosure **separated from all other areas of a building as per Section BC 913.2.1. As per exceptions, it can also be a 1-hour enclosure if building is sprinklered per Sections BC 903.3.1.1 or BC 903.3.1.2 or no separation is required for a fire pump where such fire pump is located in a mechanical equipment room with a 2-hour enclosure.**
- (19) Educational use – refer to Section BC 508.1 exception 4.
- (20) Building must be fully sprinklered if an S-1 fire area is located more than 3 stories above grade plane. Refer to Section BC 903.2.9
- (21) Houses equipment classified as dry-type electrical equipment. Provide a 2-hr enclosure per Section BC 903.2, exception 1, with no sprinkler.
- (22) Fire separation from adjacent dining area **is** required per Section BC 508.4.4, **unless requirements of exception 5 of BC 508.1 are met. Projects are to utilize a 1-hr fire separation and not Exception 5. Note** that Servery is considered part of the dining area.
- (23) Sprinkler Booster Pump can be within another room.
- (24) **Not used.**
- (25) Warming pantries only have electric **warming cabinets** for keeping food warm and thus **are** given an E designation since they do not fall into other occupancies listed.

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1.3 Planning

1.3.2 Construction

1.3.2.2 Cellars, Basements, Crawl/Pipe and Duct Spaces, Slab-on-Grade Construction

Description/Design Approach:

- A. The intent of this Requirement is to define when *Cellars, Basements, Crawl/Pipe and Duct Spaces* and *Slab-on-Grade* should be provided. The Designer shall, through the utilization of each type of space, provide the most economical and operational building possible.
- B. Definitions
1. Cellar: A floor level is deemed a *cellar* when the floor to ceiling height is sufficient in height for occupancy and more than 50% of its height is *below* mean curb elevation as per NYC Building Code and NYC Zoning Resolutions.
 2. Basement: A floor level is deemed a basement when the floor to ceiling height is sufficient in height for occupancy and more than 50% of its height is above mean curb elevation as per NYC Building Code and NYC Zoning Resolutions.
 3. Crawl/Pipe and Duct Space: The space between the first-floor level and grade is deemed a *crawl/pipe and duct space* when the height of the space is for occupancy, by NYC Building Code.
 4. Slab-on-Grade: For the intent at purposes of this Design Requirement, Slab-on-Grade shall be defined as a concrete slab that is not above a *Cellar, Basement, or Crawl/Pipe and Duct Spaces*.
- C. The design of structural elements for *Cellars, Basements, Crawl/Pipe and Duct Spaces* and *Slab-on-Grade* shall be based on specific soil conditions encountered at the project site as revealed by borings and a Geo-technical Report. Please note that all floor slabs (cellar, crawl space, basement floors) shall be designed as structural slabs connected to and supported by the building's foundation system.

When planning these spaces, the Designer shall locate spaces with large amounts of plumbing (e.g., kitchens, toilets, etc.) over cellar, basement or crawl/pipe and duct spaces.

Where slab-on-grade construction is permitted only storm water and sanitary drainage piping shall be permitted beneath the concrete slab-on-grade. Storm water and sanitary piping beneath the concrete slab shall be laid with a pitch of 1/4 inch per foot.

D. Locations and Spaces

1. Cellars

Cellars should typically be provided for Mechanical Spaces, Equipment Rooms and Operational Spaces such as, but not limited to, the following:

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- Electrical Service Room, Water and Sprinkler Service Room, Kitchen Storage, Custodial Work Room and Storage, Storage, Kitchen, Locker Rooms.

2. Basements

Basements are typically utilized for the same spaces as indicated above for *cellars*. In addition to being utilized for Equipment Rooms and Operational Spaces, *basements*, since they are 50% above grade, may be additionally utilized for large volume spaces such as:

- Gymnasiums and Auditoriums.

3. Crawl/Pipe and Duct Spaces

In buildings constructed without a cellar or basement where first floor construction is raised above mean curb elevation (grade) and open space is provided, a minimum clear headroom of 4'-0" shall be provided directly under the floor beams, girders or sill of the first-floor construction. Crawl/Pipe and Duct Spaces are typically utilized to raise a building's first floor above grade and to facilitate the installation of mechanical equipment pipe and duct runs.

- Access shall be provided to these spaces as well as heat and lighting.
- These spaces shall be vented as per NYC Building Code.
If insulation is required beneath the first-floor slab to meet NYC Energy Code, high-density rigid insulation board, foil side up, shall be provided of appropriate R-Value. Batt Insulation is NOT permitted.

4. Slab-on-Grade

- Buildings that need only to comply with the 2020 NYCECC:
 - Spaces placed on slab-on-grade should be limited as much as possible to spaces that do not require a warm floor, such as Cafeterias, Gyms, Auditoriums and Operational Spaces.
 - Insulation is to be provided as required by the 2020 NYCECC.
 - In facilities where Pre-Kindergarten and Kindergarten classrooms are situated on a slab-on-grade, the Designer is to provide R-15 rigid insulation under the Pre-Kindergarten and Kindergarten classrooms' floor slab.
- Buildings that must comply with LL **51/23**: Designer is to provide continuous R-15 rigid insulation under all conditioned spaces' floor slab. Conditioned spaces include stairs, corridors and lobbies.

Electrical and plumbing lines servicing areas that are slab-on-grade are to be located above the first-floor ceiling and feed down, with the exception of storm and sanitary drainage lines that must be below the first floor.

- Gymnasiums and Auditoriums. Storm and sanitary drainage lines may be buried below the slab located in pipe tunnels or partial crawl space.
- The drainage lines should be planned to minimize the extent of these access spaces.

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1.3 Planning

1.3.2 Construction

1.3.2.3 Classroom/Office Wardrobe and Material Supply Closet Construction

Classroom and office wardrobe and material supply closets (also known as material and chart closet) are to be made of gypsum board construction rather than the historical wood casework, which is considered furniture. The classroom and office wardrobe and material supply closets are to be designed to the following requirements:

A. Student and teacher wardrobe closet design

1. The closet depth shall be no more than 24".
2. The closet floor area shall be no greater than 20 sq. ft.
3. Sprinkler requirements
 - a. For buildings that comply with the 1968 **NYC** Building Code, the closet floor area is to be considered part of the room area in designing the required number, spacing, and location of sprinkler heads.
 - b. For Buildings designed under the **2022 NYC** Building Code, sprinklers are to be installed in student and teacher wardrobes per NFPA 13-**2016**.
4. The ceiling height is to be below the ceiling or soffit of the space adjacent to the closet. For practical usage, the height of the ceiling of the closet is to be no greater than 8"-0 above the floor.
5. Ceiling material
 - a. For buildings that comply with the 1968 **NYC** Building Code, the ceilings are to be constructed of ceiling tile supported on the perimeter edge trim in order to allow access to the fire/smoke damper in the shaft wall. The ceiling exhaust grille in the ceiling of the student wardrobe, approximately 12"x24" is to be supported on the perimeter edge trim. The ceiling exhaust grille in the ceiling of the teacher's wardrobe, approximately 8"x8" is to be placed in the center of one of the ceiling tiles, with reinforcement on the back of the tile for fastening.
 - b. For buildings that comply with the **2022 NYC** Building Code, the ceilings are to be constructed of ceiling tile supported on the perimeter edge trim in order to allow access to the fire/smoke damper in the shaft wall.

B. Material supply closet design

1. The closet depth shall be no more than 24"
2. The closet floor area shall be no greater than 10 sq. ft.
3. Sprinkler requirements:
 - a. For buildings that comply with the 1968 **NYC** Building Code, the closet floor area is to be considered part of the room area in designing the required number, spacing, and location of sprinkler heads.
 - b. For Buildings designed under the **2022 NYC** Building Code, sprinklers are to be installed in the material supply closets per NFPA 13-**2016**.
4. The ceiling height of the material supply closet is to be below the ceiling or soffit of the space adjacent to the closet. The height of the ceiling of the closet is to be no greater than 8"-0 above the floor.



5. Ceiling Material

- a. For buildings that comply with the 1968 **NYC** Building Code, the ceiling is to be constructed of fire-rated gypsum board.
- b. For Buildings designed under the **2022 NYC** Building Code, the ceilings are to be constructed of ceiling tile supported on the perimeter edge trim in order to allow access to the fire/smoke damper in the shaft wall.

C. Wall construction

1. For buildings that comply with the 1968 **NYC** Building Code, the entire wardrobe/supply closet assembly is to have the sheet rock of the walls extended full height and made airtight along the wall with the room ceiling to close off the ceiling plenum.
2. For Buildings designed under the **2022 NYC** Building Code, the walls of the wardrobe/supply closet assembly is to extend a minimum of 6" above the ceiling of the wardrobe/supply closet.



1.3 Planning

1.3.3 Life Safety

1.3.3.1 Rescue Areas (Areas of Rescue Assistance, Horizontal Exits and Fire Rescue Areas) and Holding Area Rooms - Rescue and Evacuation of Non-Ambulatory Persons

Description/Design Approach:

Rescue Areas (Areas of Rescue Assistance (ARA), Horizontal Exits and Fire Rescue Areas) and Holding Area Rooms and have been/are used to provide for rescue and evacuation of non-ambulatory persons in multi-story buildings where floors not at grade can be accessed by elevators or lifts. Over the last approximately 25 years, New Buildings, Additions, and buildings modified to become Program Accessible have used one of these means. Each has distinct parameters based on the time when they were/are implemented and as they relate to other attributes of the building itself. Besides these measures, there are other administrative Fire Department (FDNY) and Department of Education (DoE) regulations that apply to existing buildings that need to be taken into consideration.

A. Holding Area Rooms (for evacuation through windows by FDNY in non-sprinklered buildings)

1. Pre-1995 Holding Area Rooms

- a. **Background:** In the 1980's and early 1990's, prior to the code requirement or policy to fully sprinkler new school buildings, the DOE entered into an agreement with FDNY that certain accessible buildings and accessible new school buildings would include, on each floor above grade, one Holding Area Room where, in the event of an emergency, non-ambulatory people would gather and wait for evacuation by fire fighters. Since the new buildings at that time were not sprinklered, evacuation through window via a tower ladder truck was to be the method. These rooms were stacked vertically, had a hinged window for evacuation and a red painted sill to identify them from the street. They also had a 2-hour rated enclosure and a dedicated communication system.
- b. **Applicability:** School buildings with FDNY approved Holding Area Rooms are a finite group of non-sprinklered buildings that had the rooms built in the late 1980's and early 1990's. This method was discontinued when FDNY determined at the time that tower ladder resources were at their limit. Following that, all new public school buildings were designed to be fully sprinklered (even before the Code mandate). Existing Approved Holding Area Rooms (list of schools with approved Holding Areas is attached in part D) shall be retained (per Title 3 RCNY Chapter 48) during and after any construction or improvements to the building.

2. Post 2019 Holding Area Rooms

- a. **Background:** In October 2017, the SCA met with FDNY and the NYC Department of Buildings (DOB) to determine if there was an alternative to ARAs in the existing building portion of addition projects when the planned work did not trigger requiring accessible stairs for the existing building. Areas of Rescue Assistance require direct access to the stairs, which problematic due to egress requirements and constructability. If stairs do not have 48" clear width between handrails, access to the stair must be through a horizontal

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exit. The case was presented that if an addition is filed as a new building, the accessible stair/creation of ARAs in the existing building would be voluntary and FDNY agreed in 2018 that they currently have the resources to provide ladder rescue and can accommodate the use of Holding Area Rooms in these new sets of buildings.

b. Applicability

- 1) Addition Projects filed as a new building where the work in the existing building does not require the building to be brought to conformance with Chapter 11 of the 2022 NYC Building Code, and where the fully sprinklered New Addition Building is attached to an existing unsprinklered building and thus provides mechanical access to floors above grade: The existing building is thus made programmatically accessible and Holding Area Rooms can be utilized for rescue and evacuation as per agreement with FDNY. In these cases, the new fully sprinklered construction will typically serve as the Rescue Areas on that side of the existing building. Holding area rooms in the existing unsprinklered building will be required if the new fully sprinklered construction is beyond the maximum travel distance from any accessible space permitted for the occupancy specified in Section BC 1009.6 of the 2022 NYC Building Code. Use of holding area rooms is limited to buildings that are 5 stories or less above grade.
- 2) Existing buildings for addition projects as described in 1 above with existing unapproved Holding Area Rooms designed and built before the determination to discontinue tower ladder evacuation: The use of such rooms are now acceptable if they meet the requirements for a Holding Area Room. Such room shall be upgraded to meet any of requirements that had not been implemented.

c. Requirements

Follow the same requirements as the pre-1995 program meeting Title 3 RCNY Chapter 48. This includes the following:

- 1) Holding Area Rooms are to be within a 2-hour rated enclosure adjacent to a stair with an appropriately rated self-closing door.
- 2) All rooms are to line up and be accessible from the street and be free from physical impediments that would interfere with position of Fire Department Equipment. Windows selected for access on each floor shall line up vertically with each other.
- 3) Access windows shall provide, when opened, an area free of obstructions that is at least 32" wide by 48" high. Windows shall be openable without use of a key. Windowsills shall not be greater than 36" high and shall be painted red on inside and outside. A sign made of metal or other durable non-combustible material shall be attached 6" above the head of the access window and shall read "F.D. Access". Sign shall be white with 4" high red lettering.
- 4) Doors leading to Holding Area Room(s) shall be provided with a "HOLDING AREA" sign. Sign shall be made of metal or other durable non-combustible material with 3" red lettering in bold type on a white background. Signs shall be mounted on the lower half of the door and be properly maintained.
- 5) Any penetrations through the rated construction of the room shall be firestopped. Ductwork passing through the walls are to have fire-smoke dampers.
- 6) The maximum travel distance to a Holding Area Room shall not exceed the travel distance from any accessible space permitted for the occupancy per Section BC 1009.6, which will typically result in two rooms per floor. The sprinklered addition building can be

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considered as a Holding Area Room in relation to this distance requirement as a substitute for one set of rooms.

7) See Section C below.

B. Rescue Areas (for evacuation via exit stairway and/or horizontal exit by FDNY)

1. Background

- a. In multi-story buildings, with elevators or lifts to access floors not at grade, a Rescue Area is the typical rescue and evacuation solution for persons unable to use the stairs during an emergency.
- b. The NYC Building Code requires that, for non-sprinklered buildings, exit stairways include an Area of Rescue Assistance or be accessed from a horizontal exit to qualify as an accessible means of egress. Any such building that the level of alterations requires the building to be in full compliance with Chapter 11 will require compliance with these requirements. For sprinklered buildings, such requirements are not mandated by code.
- c. A Fire Rescue Area is a DOE/SCA designation for a gathering room for non-ambulatory persons that is administrative in nature; they are not intended for window evacuation and are not required by the code. Non-ambulatory persons in fully sprinklered schools with Fire Rescue Areas will be evacuated by FDNY via corridor and exit stairway. In non-sprinklered buildings, non-ambulatory persons will be evacuated from the Fire Rescue Room through a horizontal exit, unless an ARA can be provided meeting code requirements. The SCA will provide accessible means of egress in existing-non-sprinklered buildings even where the level of alterations does not trigger full compliance of accessibility pursuant to Section 28-101.4.3 of the Administrative Code and thus a code required accessible means of egress.
- d. Rescue Areas (ARA, Horizontal Exit, Fire Rescue Area) are to be provided for ALL buildings, except where Holding Area Rooms are being provided as described in A above. Such Rescue Area can be one of the following:
 - A Fire Rescue Area in a fully sprinklered building
 - A Fire Rescue Area within the refuge area of a Horizontal Exit in a non-sprinklered building
 - The refuge area of the Horizontal Exit in a non-sprinklered building. Such area shall also meet requirements for a Fire Rescue
 - An ARA in a non-sprinklered building
- e. Rescue Areas will be used to group together and account for persons having physical disabilities in the event of fire or other emergency.

2. Applicability

- a. In fully sprinklered multi-story new stand-alone or new addition buildings: One Fire Rescue Area per floor (other than floors at grade) shall be provided proximate to an exit stairway.
- b. Program Accessibility Projects: These projects typically add an elevator and an accessible route, and are to include an accessible means of egress as per the SCA mandate and/or NYC Building Code. The maximum travel distance to a Rescue Area shall not exceed the travel distance from any accessible space permitted for the occupancy per Section BC 1009.6, which will typically result in two rooms per floor.
- c. Addition Projects attached to the existing building where the addition is not filed as a new building or work in the existing building requires building to meet Chapter 11 requirements. The new addition provides mechanical access to floors above grade,

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making the existing building accessible and thus Rescue Areas are to be provided for rescue and evacuation. The maximum travel distance to a Rescue Area shall not exceed the travel distance to a Rescue Area from any accessible space permitted for the occupancy per Section BC 1009.6, which will typically result in two rooms per floor. Note that in these cases, the new fully sprinklered construction will typically serve as the Rescue Area for that side of the existing building.

- d. Accessible buildings with Unapproved Holding Area Rooms: These schools had holding area rooms built before the determination to discontinue tower ladder evacuation. Any accessibility project or a new addition project as indicated in c immediately above will require an accessible means of egress and thus a Rescue Area. The existing unapproved Holding Area Room may be incorporated as a Rescue Area if the maximum travel distance to a Rescue Area does not exceed the travel distance from any accessible space permitted for the occupancy per Section BC 1009.6, which will typically result in two rooms per floor.

Refer to the attached diagrams for the most practical alternates/locations.

3. Requirements

- a. When the clearance between the handrails of existing stairs is 48" or greater in non-sprinklered buildings, Areas of Rescue Assistance can be provided. Such areas are to be within a 2-hour rated enclosure and shall have direct access to a stair and can be located in the existing corridor having access to at least two exit stairs. (Refer to Diagrams 1 and 2)
- b. When the clearance between the handrails of existing stairs is less than 48" (typical of most schools) in non-sprinklered buildings, such enclosed exit stairs must be accessed from a horizontal exit. (Refer to Diagrams 3 and 4)
- c. Any penetrations through the rated construction of the room shall be firestopped. Ductwork passing through the walls are to have fire-smoke dampers.
- d. In non-sprinklered buildings, cross-corridor exit doors used as part of the horizontal exit system shall be equipped with magnetic hold opens connected to the fire alarm system.
- e. In non-sprinklered buildings, the maximum travel distance to a Rescue Area (ARA, Fire Rescue Area, or Horizontal Exit) shall not exceed the travel distance from any accessible space permitted for the occupancy (Section BC 1009.6.1).
- f. Each Rescue Area shall accommodate one (1) wheelchair space 30" x 48" for each 200 occupants based upon occupant load on the floor (Section BC 1009.6.3)
- g. See Section C below.

Typically, the Fire Rescue Area shall be a standard size classroom within a 2-hour rated enclosure with movable desks and chairs.

C. Specific Requirements for Areas of Rescue Assistance (ARA), Holding Area Rooms, and Fire Rescue Areas

1. Each room shall be 2-hour rated.
2. Each room shall have a separate, dedicated communication system that shall provide instant two-way voice communications with the Custodian's Office and General Office (Section BC 1009.6.5). Refer to Design Requirement 1.3.1.4, D.2.f for communication system signage.
3. Each room shall have an emergency lighting system, which provides general illumination with an intensity of not less than one (1) foot-candle within the room and not less than 25 foot-candles on

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



Design Requirements

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the outside to externally illuminate the sign posted on the door (Sections BC 1009.9, BC 1013.3 and BC 1013.6.2).

4. Each room/space shall be furnished with a 20 lb. Class ABC Fire extinguisher.
5. Each room shall have movable furniture and allow when moved to provide at least 25 SF of open area per wheelchair.
6. Each room shall have door-mounted identification signage and wall-mounted tactile identification signage provided per DR 1.3.1.4, D.2.f.
7. Instructions on how to use the room during an emergency shall be provided per Section BC 1009.11, regardless of the type of room being provided on the project. Provide note on Drawings indicating to provide instruction signage.
8. **Rated door to each room from corridor shall be hollow metal door with narrow vision panel.**

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



D. List of DOE/FDNY approved Holding Areas (Pre 1995)

List of DOE/Fire Department approved Holding Areas						
Bldg. ID	School and Borough	Holding area room number		Bldg. ID	School and Borough	Holding area room number
MANHATTAN						
M025	I.S. 25-M	209, 309, 409		M146	P.S. 146-M	218, 318
M137	P.S.137-M	202, 303, 402		M079	P.S. 79-M	212, 238, 312
M142	P.S. 142-M	230, 323		M092	P.S. 92-M	203, 303
M033	P.S. 33-M	Room No. to be verified		M195	I.S. 195-M	208, 308
M070	I.S. 70-M	210, 310, 410		M143	JHS 143-M	230, 430
M118	JHS 118-M	Room No. to be verified		M153	P.S. 153-M	Room No. to be verified
M199	P.S. 199-M	228, 328		M520	Murry Bergtraum	203, 303, 403, 504
M117	JHS 117-M	122, 222, 322				
BRONX						
X156	P.S. 156-X	Room No. to be verified		X085	P.S. 85-X	119, 219, 319, 419
X162	I.S. 162-X	Room No. to be verified		X137	I.S. 137-X	324,508,609
X184	I.S. 184-X	Room No. to be verified		X153	P.S. 153-X	258,358
X152	P.S. 152-X	203A, 303A		X180	I.S. 180-X	160, 260
X174	I.S. 174-X	20, 30 ,40		X084	I.S. 84-X	Room No. to be verified
X192	I.S. 192-X	218, 318, 418		X158	I.S. 158-X	Room No. to be verified
X042	P.S. 42-X	Room No. to be verified		X198	I.S. 198-X	Room No. to be verified
X132	P.S. 132-X	Room No. to be verified		X193	I.S. 193-X	203-8,303-8, 403-8
X147	P.S. 147-X	Room No. to be verified		X435	Theodore Roosevelt	216, 246, 316, 337A, 466, CE-2
BROOKLYN						
K009	P.S. 9-K	B3, 103, 203		K227	I.S. 227-K	Room No. to be verified
K093	P.S. 93-K	Room No. to be verified		K247	P.S. 247-K	Under Consideration
K113	I.S. 113-K 300 Adelphi street (J-294)	(J-294) 214, 318, 418		K226	P.S. 226-K	Room No. to be verified

Requirement Applies to: ☒ New Construction ☒ Major Modernizations ☒ Capital Improvement Projects



Design Requirements

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List of DOE/Fire Department approved Holding Areas						
Bldg. ID	School and Borough	Holding area room number		Bldg. ID	School and Borough	Holding area room number
K071	I.S. 71-K	232, 332		K228	JHS 228-K	217, 317, 417
K257	P.S. 257-K	208, 308		K238	P.S. 238-K	Room No. to be verified
K318	P.S. 318-K	Under Consideration		K072	P.S. 72 K	107, 207, 307, 407
K120	P.S. 120-K	Under Consideration		K014	I. S. 14K	126, 226, 326
K010	P.S. 10-K	Under Consideration		K222	P. S. 222-K	217, 317, 417
K088	I.S. 88-K	249, 349		K286	P. S. 286-K	221, 321
K261	P.S. 261-K	Under Consideration		K055	I.S. 55-K	101, 203, 303, 403
K081	P.S. 81-K	Under Consideration		K184	P.S. 184-K	Under Consideration
K308	P.S./I.S. 308-K	Room No. to be verified		K332	P.S. 332-K	209, 309, 409
K324	I.S. 324-K	271, 371		K396	P.S. 396-K	250, 350, 268, 368
K329	P.S. 329-K	234A, 334A		K384	P. S. 384-K	227, 327
K391	I. S. 391-K	166, 266		K377	P. S. 377-K	263A, 363A
K211	JHS 211-K	B3, 211, 311		K383	I. S. 383-K	Room No. to be verified
K242	P.S. 242-K	Under Consideration		K450	Eastern District	320, 420
K279	P.S. 279-K	207, 307		K495	Sheepshead Bay	031, 069, 213, 313, 263
K289	P.S. 289 K	223, 333		K213	Ps 213K	Under Consideration
K302	I.S. 302K	209, 309, 409	K176	P.S. 176K	205, 309, 409	
QUEENS						
Q061	I.S. 61-Q	202, 302, 402		Q040	P.S. 40-Q	Under Consideration
Q153	P.S. 153-Q	Under Consideration		Q080	P.S. 80-Q	Room No. to be verified
Q229	P.S. 229-Q	222, 322		Q217	P/I 217-Q	Room No. to be verified
Q079	P.S. 79-Q	224A, 324A		Q135	P.S. 135-Q	225, 325
Q107	P.S. 107-Q	207, 307, 407, 507		Q147	P.S. 147-Q	Room No. to be verified
Q237	I.S. 237-Q	205A, 305A, 405A		Q835	P.S. 134-Q (P. 233-Q = Org'n)	Under Consideration
Q074	I.S. 74-Q	Room No. to be		Q238	I.S. 238-Q	123, 223, 323

Requirement Applies to: ☒ New Construction ☒ Major Modernizations ☒ Capital Improvement Projects



Design Requirements

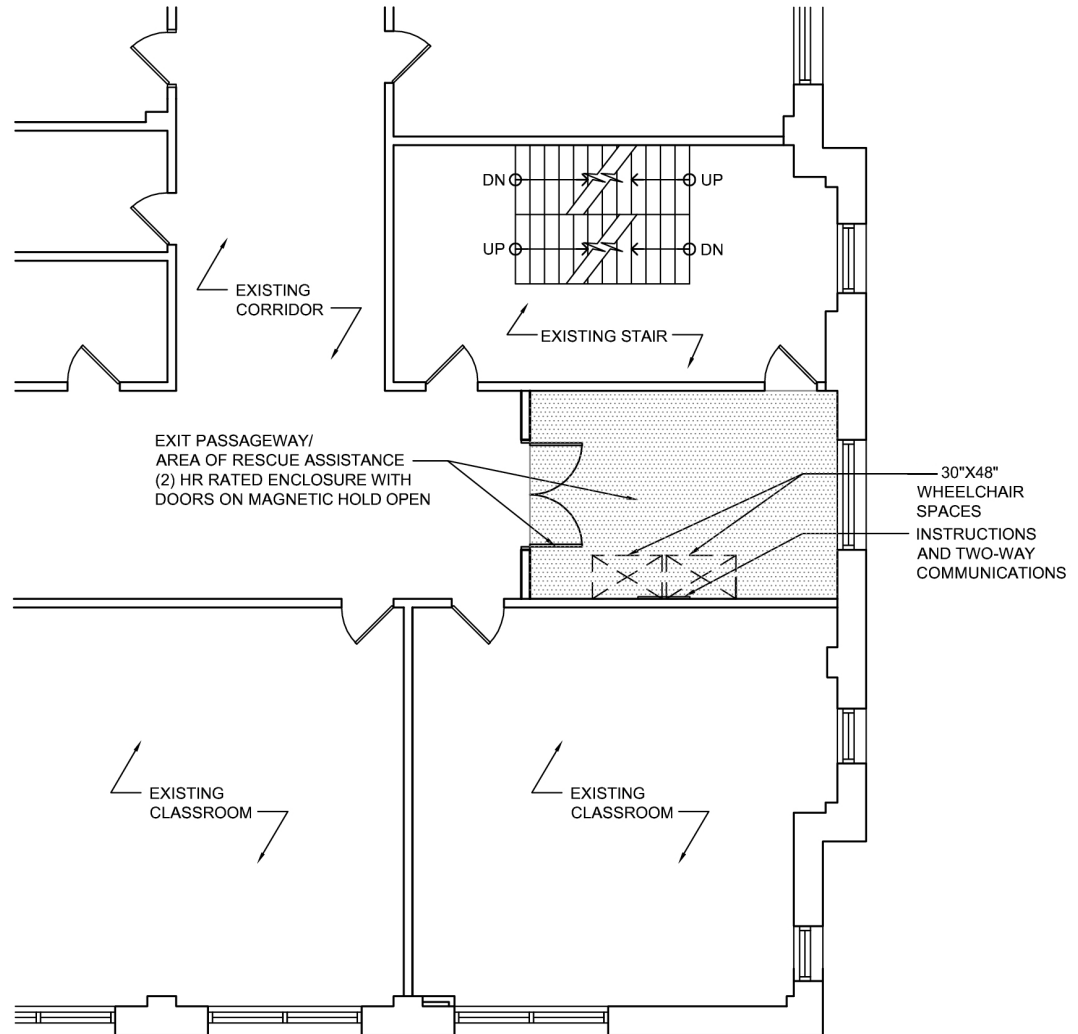
General – Section 1.0

List of DOE/Fire Department approved Holding Areas						
Bldg. ID	School and Borough	Holding area room number		Bldg. ID	School and Borough	Holding area room number
		verified				
Q046	P.S. 46-Q	Room No. to be verified		Q076	P.S. 76-Q	Room No. to be verified
Q811	P.S. 811-Q	Room No. to be verified		Q112	P.S. 112-Q	Room No. to be verified
Q053	I.S. 53-Q	247A, 347A, 447A		Q145	I.S. 145-Q	Room No. to be verified
Q215	P.S. 215-Q	101, 238, 338		Q410	Beach Channel	Room No. to be verified
Q223	P.S 223-Q	202, 303		Q505	Hillcrest	280C, 380C, 350, 480C, 450
Q226	I.S. 226-Q	Room No. to be verified				
STATEN ISLAND						
R024	I.S. 24-R	330,430		R055	P.S. 55R	235
R051	I.S. 51-R	Room No. to be verified		R069	P.S. 69R	215B, 315B
R052	P.S. 52-R	205,305		R072	I.S. 72 R	216H, 316H, 416H
R460	Wagner HS R	156, 257, 356, 456				

Requirement Applies to: ☒ New Construction ☒ Major Modernizations ☒ Capital Improvement Projects

E. Explanatory Diagrams - Existing Schools with added Rescue Areas

**Diagram 1 Clearance between handrails minimum 48".
Part of existing corridor converted to ARA**

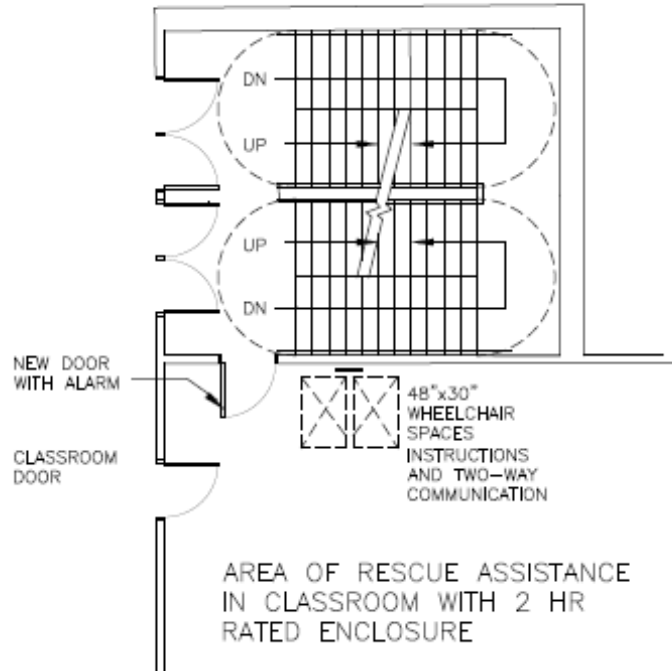


Direct access to stair required

Plan of existing corridor used as Area of Rescue Assistance

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects

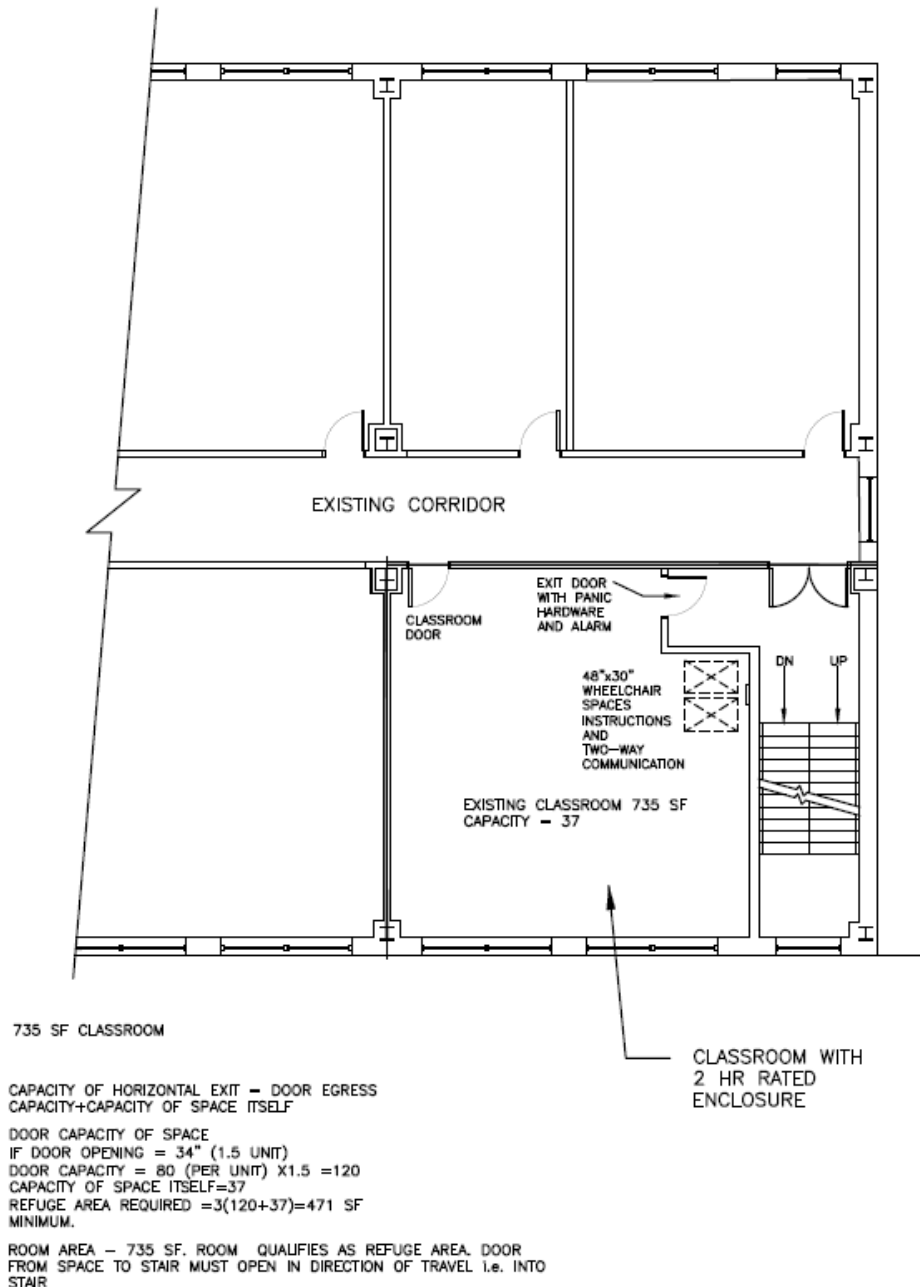
**Diagram 2 Clearance between handrails minimum 48".
Classroom adjacent to stair converted to ARA**



Direct access to stair required
Door from Classroom to stair can swing into classroom or into stair.

Plan of existing classroom used as Area of Rescue Assistance

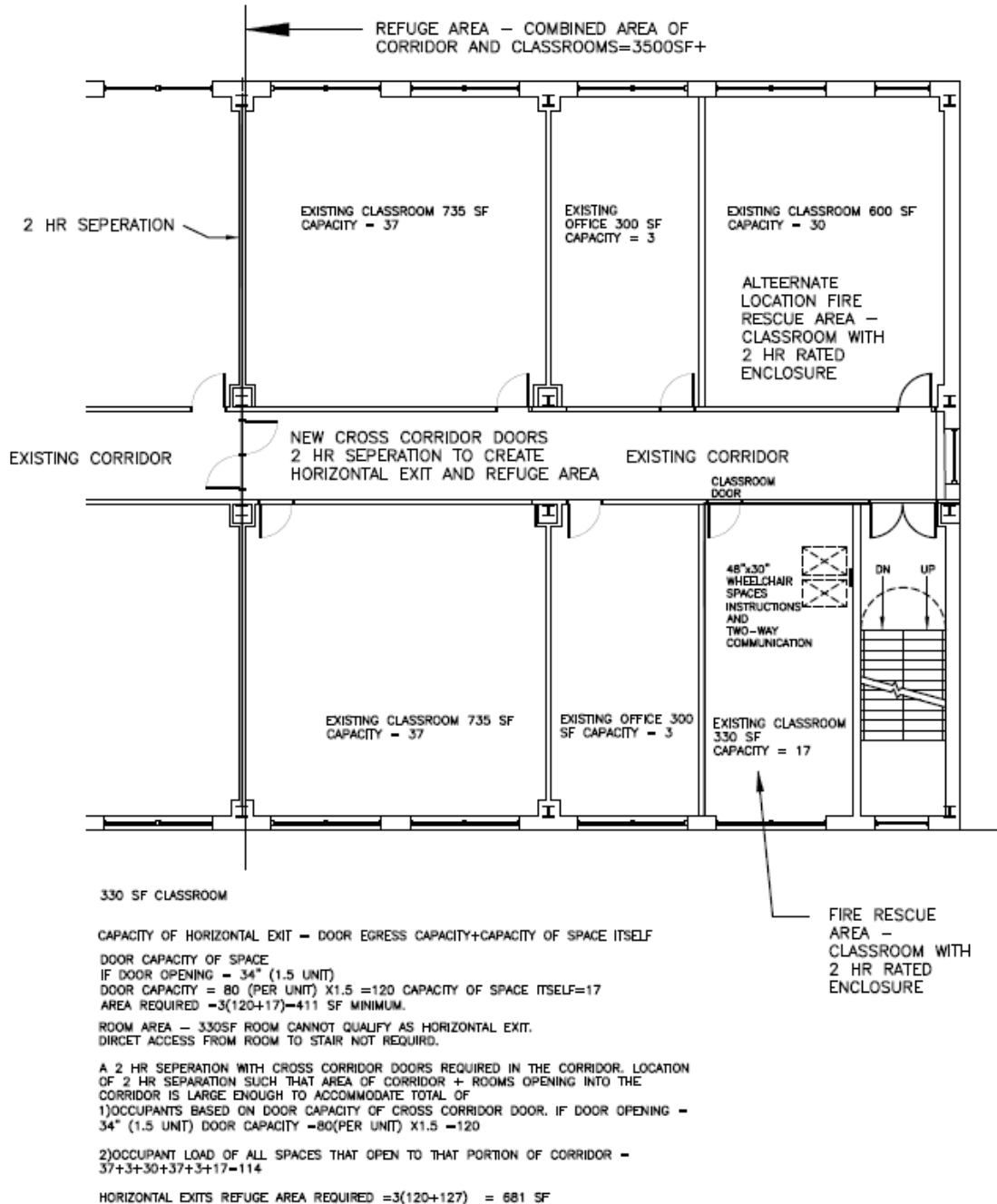
Diagram 3 Clearance between handrails less than 48".
Stair must be accessed thru 'Horizontal exit'.
Existing classroom used as refuge area of Horizontal exit and Fire Rescue Area



Plan of existing classroom used as Fire Rescue Area in conjunction with Refuge area/Horizontal Exit (Calculations included for explanation)

Requirement Applies to: ☒ New Construction ☒ Major Modernizations ☒ Capital Improvement Projects

Diagram 4 Clearance between handrails less than 48".
Stair must be accessed thru 'Horizontal exit'.
2-hour separation and cross-corridor doors used to create refuge area of Horizontal exit. Classroom used as Fire Rescue Area



Plan of existing classroom used as Fire Rescue Area in conjunction with cross-corridor doors/ Horizontal Exit (Calculations included for explanation)

Requirement Applies to: ☒ New Construction ☒ Major Modernizations ☒ Capital Improvement Projects



1.3 Planning

1.3.3 Life Safety

1.3.3.2 Life Safety for Non-Ambulatory Persons – Use of Sprinkler Systems

Description/Design Approach:

- A. In the mid 1990's, the New York City Fire Department (FDNY) determined that it only possessed a sufficient quantity of firefighting equipment for window evacuation of non-ambulatory persons from Holding Areas in a limited number of Public Schools. It was agreed to by the SCA, Board of Education, and FDNY that all schools would be sprinklered as a means to provide fire-safety for non-ambulatory persons in New York City Public Schools and thus avoid the use of holding areas, except for those schools that already had approved holding rooms at the time.
- B. Per Section BC 903.2.3 of the 2022 NYC Building Code, a sprinkler system in schools is mandated when the fire limit area threshold exceeds 12,000 square feet (previously, beginning with the 2008 code, sprinkler system was required when the fire limit area threshold exceeded 20,000 SF). In addition, Section BC 903.2.11.7 requires providing an automatic sprinkler system throughout school buildings that have one or more stories with an occupant load of 30 or more located 55 feet above the lowest level of Fire Department vehicle access, as measured to the finished floor. The Building Code does not require Areas of Rescue Assistance in buildings or facilities that are equipped throughout with an automatic sprinkler system, and thus Areas of Rescue Assistance is not required to be included in the design.
- C. The design criteria to provide for the safety of non-ambulatory persons in the event of fire are as follows:
1. New School Construction:
 - Fully Sprinklered, typically with wet standpipe as required by code
 2. New Additions with Minor Modernizations:

Where the modernization of the existing school building is limited to the minor alteration of individual rooms or spaces and does not include providing accessibility to non-ambulatory persons in the existing school, the new addition shall be fully sprinklered and contain 'Fire Rescue Areas' (refer to design requirement 1.3.3.1). The existing building shall be separated from the addition by a 3-hour rated vertical Fire Wall **if addition is filed as a separate building (NB application) from the existing building (typical of most designs)**. The existing Building shall have Horizontal Exits on each floor to provide access to the new addition through the 3-hour rated Fire Wall. Vertical Fire Walls shall conform to Section BC 706 of the 2022 New York City Building Code.
 3. Minor Modernizations and Accessibility projects
 - a. Where the modernization of the existing non-sprinklered school building is limited to the minor alteration of individual rooms or spaces and/or includes providing accessibility to non-ambulatory persons, a minimum of two areas of rescue assistance conforming to Section BC 1009.6 shall be provided on each floor not accessible to grade.

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



b. The existing building or the areas of rescue assistance are not required to be sprinklered.

4. Major Modernizations

Existing schools whose alterations include providing accessibility to non-ambulatory persons shall be fully sprinklered. However, where full sprinklering of a building is impractical or each fire area in the building is 12,000 SF or less and the top occupied floor of the building is less than 55' above the lowest level of fire department access, a minimum of two areas conforming to Section BC 1009.6 for Areas of Rescue Assistance shall be provided on each floor not accessible to grade. Refer to DR 1.3.3.1 for when a Horizontal Exit can be used.

However

- Below grade floors with occupied spaces must be sprinklered in accordance with Section BC 903.2.3.
- If the top occupied floor of the building (with 30 or more occupants) is more than 55' above the lowest level of fire department access, the building shall be fully sprinklered in accordance with Section BC 903.2.11.7.
- If the top occupied floor of the building is located 75 feet or more above the lowest level of fire department vehicle access, the building shall be fully sprinklered in accordance with Section BC 403.3

5. Existing School Buildings

School Buildings with existing Holding Areas that are approved by the FDNY are not required to be fully sprinklered.



1.3 Planning

1.3.4 Circulation

1.3.4.1 Entrances and Exits

Description/Design Approach:

All entrances shall comply with local, state and federal requirements for handicapped accessibility.

There are typically more than one type of entry point to a school building as well as points of egress/exiting. Both of these types are separated into primary and secondary types as follows:

A. Entrances

1. Primary Entrance (Main)

- a. When determining the location of the main entrance, the following shall be taken into consideration:
 - 1) Location within the neighborhood it will serve
 - 2) Relationship to adjoining properties and residences
 - 3) The general direction of approach to the school by students
 - 4) Bus and car drop-off locations for students
 - 5) Traffic type and traffic direction of surrounding streets
 - 6) Pedestrian crossing and traffic lights
 - 7) Public transportation routes
 - 8) Site and Security Lighting
 - 9) Available area for parents and students to gather during arrival and dismissal times
 - 10) Visual control
- b. Vestibules in general should be provided at all entrances and exits to the building that lead to corridors or occupied spaces.
- c. The main lobby shall be accessed from the main entrance. **For schools with an occupancy of over 300, one set of entrance doors (vestibule door and entrance door into the lobby) shall be a low-energy power operated door as per Section BC 1105.1.8 of the 2022 NYC Building Code.**
- d. If the main lobby is accessible to two street fronts the school may have two primary entrances.
- e. Building entrances shall have permanent entryway systems at least ten (10) feet long in the primary direction of travel to **facilitate installation of the walk-off mats to capture dirt and particulates required for Green Schools Guide compliance.**
- f. Where appropriate, utilize existing building orientation, land formations and vegetation to provide shelter from extreme weather or to deflect automobile exhaust and unwanted noise away from building entry.



2. Secondary Entrance (School Yard Access)

- a. When determining the location of school yard entrances the following shall be taken into consideration:
 - 1) Direct and/or indirect access to the main lobby
 - 2) Direct and/or indirect access to gymnasiums, cafeterias and auditoriums
 - 3) Access to interior stairs
 - 4) Cross circulation as students access or depart the yard during period changes
 - 5) Site and Security Lighting
 - 6) Available area for parents and students to gather during arrival and dismissal times
 - 7) Visual control

B. Exits

1. Primary Exits (Egress)

- a. The location and number of exits are typically dictated by the life safety requirements to allow students to evacuate the building as quickly as possible.
- b. When determining the location of this type of exit the following shall be taken into consideration:
 - 1) Reference shall be made to the **2022** NYC Building Code for number, type, location and capacity.
 - 2) Access to interior stairs
 - 3) Site and Security Lighting
 - 4) Available area for parents and students to gather during evacuation
 - 5) Visual control

2. Secondary Exits (School Yard Access):

See paragraph A.2, above - Secondary Entrance (School Yard Access)

3. Interior Stairs

Provide for at least 50% of the building occupants to exit directly to the exterior without re-entering the building at street floor level as per Section BC **1028.1**. **No more than 50% are to exit through the main lobby as permitted by Exception 1 and/or 2. Note that if the exceptions are not incorporated, which would not be typical of a school, a separate Fire Department access is required per Section BC 1028.1.1.**



1.3 Planning

1.3.4 Circulation

1.3.4.2 Vestibules and Lobbies

Description/Design Approach:

The following applies to Vestibules and Lobbies for all schools.

A. Vestibules

The Vestibule is the transitional space between the buildings exterior and interior environments. Its general purpose is to prevent extreme changes between indoor and outdoor temperatures that will have an adverse effect on the indoor heating and cooling loads as well as comfort levels within the building.

1. Locations

Vestibules in general shall be provided at all entrances and exits to the building that lead to corridors or occupied spaces.

Exceptions:

- a.** Stair shafts that lead directly to the outdoors.
- b.** Entrances to Service Areas.

2. Size

Vestibule shall be minimum seven (7) feet deep. Vestibules at entrances shall be ten (10) feet deep to provide the required walk-off mat for GSG compliance. Vestibule area shall be a maximum 2% of the gross floor area of that level of the building per Section 5.4.3.4 of ASHRAE 90.1-16 as modified by Appendix CA of the 2020 NYCECC.

B. Lobbies

The main and formal entrance to a school is through the school's Lobby that also acts as a reception area to the school. Therefore, since this is the first space to be experienced by children and the public, it should be welcoming and reflect the importance of the school as both an educational and a civic building.

Lobbies shall be planned to facilitate circulation and avoid congestion for the areas they serve.

1. Locations

- a.** Lobbies in general shall be accessible from main entrance(s) and main corridor of the first floor.
- b.** Large Group Spaces such as Gymnasium, Gymatorium, Auditorium and Cafeteria should, if possible, be planned so to have direct access to and from the Lobby.

These spaces may require that the Lobby serve as a gathering area for both school and civic functions.

2. Security

- a. Design and location of doors must take into account that exit stairs must be designed to allow for at least 50% of occupants to exit directly to the exterior as per Section BC 1028.1 Exception 1 and/or 2 of the 2022 NYC Building Code.
- b. A security desk shall be planned so that its location provides a single vantage point for the supervision and security of entrances, lobbies and corridors.

The combination of a main entry with a carefully located, constantly manned administration area can aid visual supervision of school entries, stairs, and hallways.

C. Sample Layout:

The sample diagram below illustrates a central main entrance and vestibule leading to the main lobby area. The Security Desk is situated so that it may visually control the main entrance, lobby corridor and stairs.

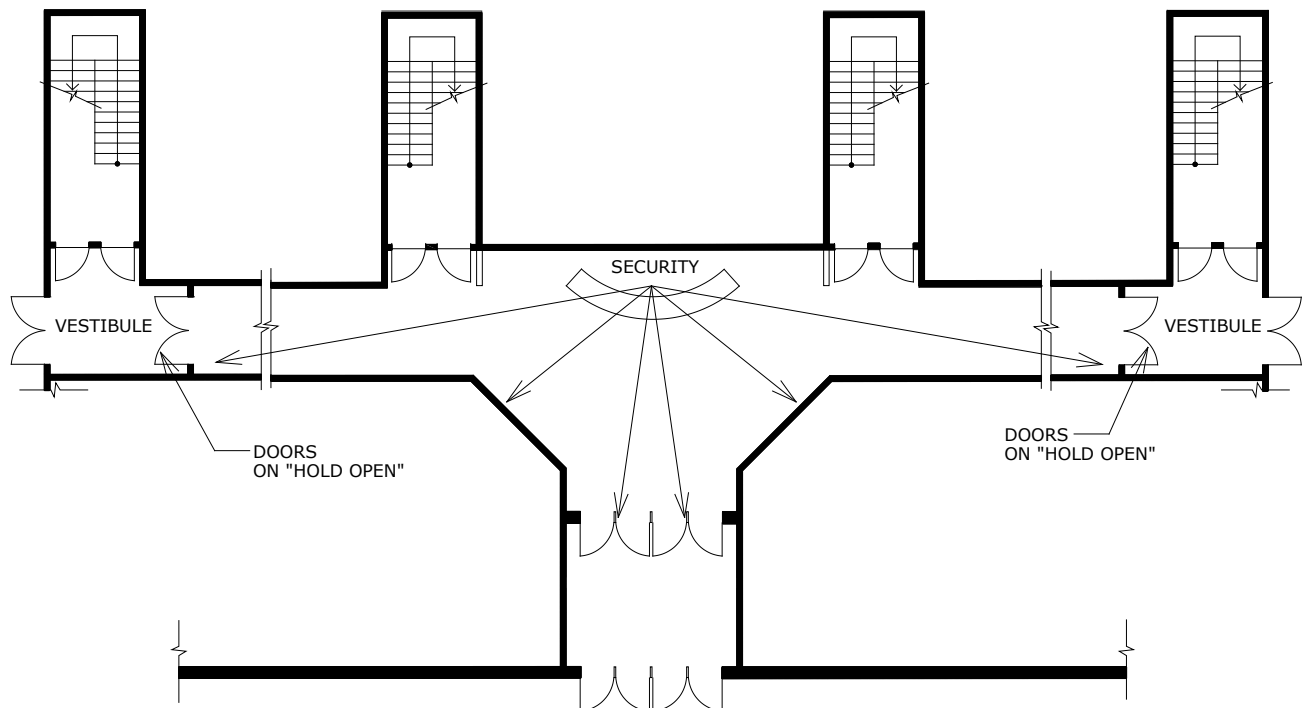


Diagram - Main Entrance



1.3 Planning

1.3.4 Circulation

1.3.4.3 Corridors

Description/Design Approach:

- A.** Much of the design of school corridors is dictated by the life safety requirements to allow students to evacuate the building quickly. As a general rule, passageways should be broad, well lit, and void of projections.
- B.** All corridors shall be designed in order to facilitate supervision from one location, with views of the entire corridor.
- C.** The following applies to the school's circulation corridors. It does not apply to corridors within spaces or suites.

1. Minimum Width:

a. Primary and Intermediate Schools

- All corridors shall have a minimum clear width of 8'-0" if there are no lockers.

b. Intermediate and High Schools

- Corridors that do not have lockers shall have a minimum clear width of 8'-0".
- Corridors that have lockers on one side shall have a minimum clear width of 10'-0" from wall to front surface of lockers.
- Corridors that have lockers on both sides shall have a minimum clear width of 12'-0" from front surface to front surface of lockers.

(NOTE: The additional width is required to maintain 8'-0" clear and allow 1'-0" for the open locker door and 1'-0" for the student using the locker)

2. Acceptable Obstructions

- a.** Columns or other construction elements may reduce the required minimum width of corridors by a maximum of 4 inches.
- b.** Drinking fountains shall be recessed and lockers shall be flush with the wall.

3. Corner protection

A metal corner bead must be provided for external corners at walls with ceramic tile finish to prevent damage to the wall.



4. Security

To reduce hiding places, alcoves, nooks and other small spaces along corridors that compromise supervision of the corridor shall be avoided.

5. Typical Furnishings and Equipment

a. Architectural

Provide glazed display cabinets, glazed display boards and display boards/tackable surface in lobby and corridors and as otherwise noted below as follows:

1) Primary and Intermediate Schools

a) Display Boards/Tackable Surface

- Existing Buildings: Provide a minimum of one display board 4'-0" high x 8'-0" long in corridors per classroom.
- New Construction: Provide tackable surface covering an area not less than 4'-0" high x 8'-0" long in corridors per classroom. The tackable surface is to be an infill area within the field of the glazed tile **with a 'J' trim** and shall be adhered directly to the corridor wall.

The total area of such display boards or tackable surface cannot exceed 20% of the corridor wall area to comply with FDNY requirements.

b) Glazed Display Cabinets

Glazed display cabinets shall be 4', 6', or 8' long depending on space available, located in or near the Main Entrance Hall and library.

2) High Schools:

a) Glazed Display Cabinets

Glazed display cabinets shall be 4', 6', or 8' long depending on space available, located in or near the Main Entrance Hall, Shop Areas, Auditorium and Gym. Glazed display cabinets flanked by 4'-0" glazed display boards shall be located at Art, Science, Library and Conference Rooms. Maximize glazed display board surface near the Art Rooms. However, the definitive number and location shall be at the discretion of the Department of Education, Division of High Schools for specific projects.

b) Glazed Display Boards

- Glazed display boards shall be located at vantage points for optimum exposure and at least every 40 feet on alternate sides of corridors. The size shall be 4'-0" high x 6' to 8' long.



- Glazed display boards of the maximum size possible in corridors shall be located adjacent to Principal's Office and near General Office.
- Provide glazed display boards, 3' to 4' long, outside the cafeteria, custodian staff locker room, teacher's mail and time room (if provided), and kitchen.

b. Fire Extinguishers

Provide the minimum number of fire extinguishers that will satisfy all of the following requirements:

- 1) Provide fire extinguisher in a recessed fire extinguisher cabinet in corridor walls.
- 2) For sprinklered buildings, provide one extinguisher for every 6,000 SF of gross building area (**Section FC 906.3.1.1** and Table FC 906.3.1 of the **2022** NYC Fire Code).
- 3) For non-sprinklered buildings, provide one extinguisher for every 3,000 SF of gross building area (Table FC 906.3.1).
- 4) Fire extinguishers shall be spaced such that 75 feet is the maximum travel distance to a fire extinguisher (Table FC 906.3.1)
- 5) For extinguishers less than 40 lbs., there shall no more than 5 feet from the floor elevation to the top of the fire extinguisher and a 4" minimum clearance from the floor to the bottom of the extinguisher per Section FC 906.9. However, per Section 308 of ICC A117.1-2009, cabinets are to be within the required accessible reach of 48".
- 6) Provide one fire extinguisher in a recess or cabinet within 25' of each stairway.

c. Benches

Built-in benches at ends of corridors or at shallow corridor nooks may be provided when corridor layout and geometry permit locating such features. Built-in benches are to be made of stone or other non-flammable material.



1.3 Planning

1.3.4 Circulation

1.3.4.4 Interior Stairs

Description/Design Approach:

The location, number and capacity of stairs shall be planned to facilitate orderly, efficient and safe, ingress, egress, and circulation within the school, particularly to and from Public Assembly spaces (lunchroom, auditorium, gymnasium and gymnasium). Stair capacity may exceed the minimum required by code in order to meet these functional requirements.

A. Design Criteria

Double stairs (i.e., two 56" wide stairs in tandem) are preferable to wider single stairs because they allow for separate but adjacent up and down use, ensure that each pupil will be next to a handrail and are an efficient use of space. Typically, at least one centrally located double **or** wide single stair is desired to facilitate circulation.

1. Exit stairs that must exit directly outside to comply with Section BC 1028.1 of the 2022 NYC Building Code should also be accessible from the building lobby or corridor at street level.
2. A 48" wide single stair may be used where site constraints do not allow for 56" wide stair.
3. Main stairway landing shall provide enough depth to avoid any conflict with the required stairway clear width per **Section** BC 1010.1.6 and fire hose cabinet bump-out partitions within fire rated stairway enclosure. (See diagrams on the following pages.)
4. Mullion frames to be provided for stair doors (i.e., for heavy-use and fire-rated hardware).

The following Table provides the minimum and maximum stair dimensions for risers, treads and stair widths:

Type of School	Maximum Risers	Minimum Treads	Minimum Width of Stair (between walls, grilles, guards or newel posts)
Primary	7"	11"	56"
Intermediate	7"	11"	56"
High School	7"	11"	56"

B. Construction

1. Typical for enclosed circulation stairs used by students and staff
 - a. Steel-framed buildings
 - Steel channel and metal pan stair. Exposed steel shall be painted.
 - Stair treads shall be 2" pre-cast concrete with abrasive strip inlaid into the tread. Steel riser shall be painted.
 - Intermediate platforms and floor landings shall be poured concrete with ceramic tile, porcelain tile or terrazzo tile finish.



- Gypsum ceilings are to be provided at floor and mid-landings to hide the structure and MEP components.
- b. Concrete-framed buildings
 - Poured-in-place concrete stairs.
 - Stair treads shall be 2" pre-cast concrete with abrasive strip inlaid into the tread. Remainder of stair riser (exposed poured portion) shall be patched with structural repair concrete and be painted.
 - Intermediate platforms and floor landings shall have ceramic tile finish, porcelain tile or terrazzo tile finish.
 - Hung ceilings are not required at landings. Exposed concrete surfaces of poured concrete shall be patched smooth with structural repair concrete and be painted.
 - Steel channel and metal pan stair assembly may be utilized if appropriate and if agreed to by the Authority.
- 2. Typical for open communicating stairs used by students and staff:
 - Construction shall per the building construction listed in 1 above.
 - Stair treads shall be either pre-cast concrete or terrazzo with abrasive strip inlaid into the tread.
 - Intermediate platforms and floor landings shall be poured concrete with ceramic tile, porcelain tile or terrazzo tile.
- 3. Typical for stairs used by custodial staff only, which lead to cellars and roofs (i.e., separate & dedicated stairs from main circulation/egress stairs)
 - Cast concrete. All treads shall have cast-in-place non-slip nosing with sealed concrete finish.
 - Steel channel and metal pan stair with poured concrete treads, with cast-in-place non-slip nosing. Intermediate platforms and floor landings shall be poured concrete with sealed concrete finish.

C. Railings and Guards

1. Provide handrails at both sides of stair with top of gripping surface 3'-0" above nosing for all schools. Provide an additional second handrail at 2'-0" above nosing for Early Childhood, Primary and Primary/Intermediate Schools. Support for railings and handrails can be mounted on the top of stringers or on the side of walls to resist the loads per Sections BC 1014.1 and BC 1607.8.1.
2. Provide a wire mesh for the entire width of the stair that leads to the roof level enclosure with wire mesh gate/door and lock-set (Section BC 1010.1.9.3, Item 6). Since this is not an egress stair, swinging into the path of travel is not prohibited as it will only be used intermittently by maintenance staff. This door shall be located on the main landing of the top floor (i.e., it is not acceptable for the door to be placed on the mid-landing between the top floor and the roof, to discourage unsupervised activity on this area). Thumb turn lockset with key to be provided if the roof is not for any occupancy egress other than maintenance personnel and FDNY access. To prevent unauthorized access to the roof, it is required to provide solid metal plate where needed to shield the opening latch on the roof side of the lock from being reached.
3. When a stair does not continue to the roof, a **full-height** wire mesh barrier shall be provided at the topmost floor where the landing overlooks the stair below.



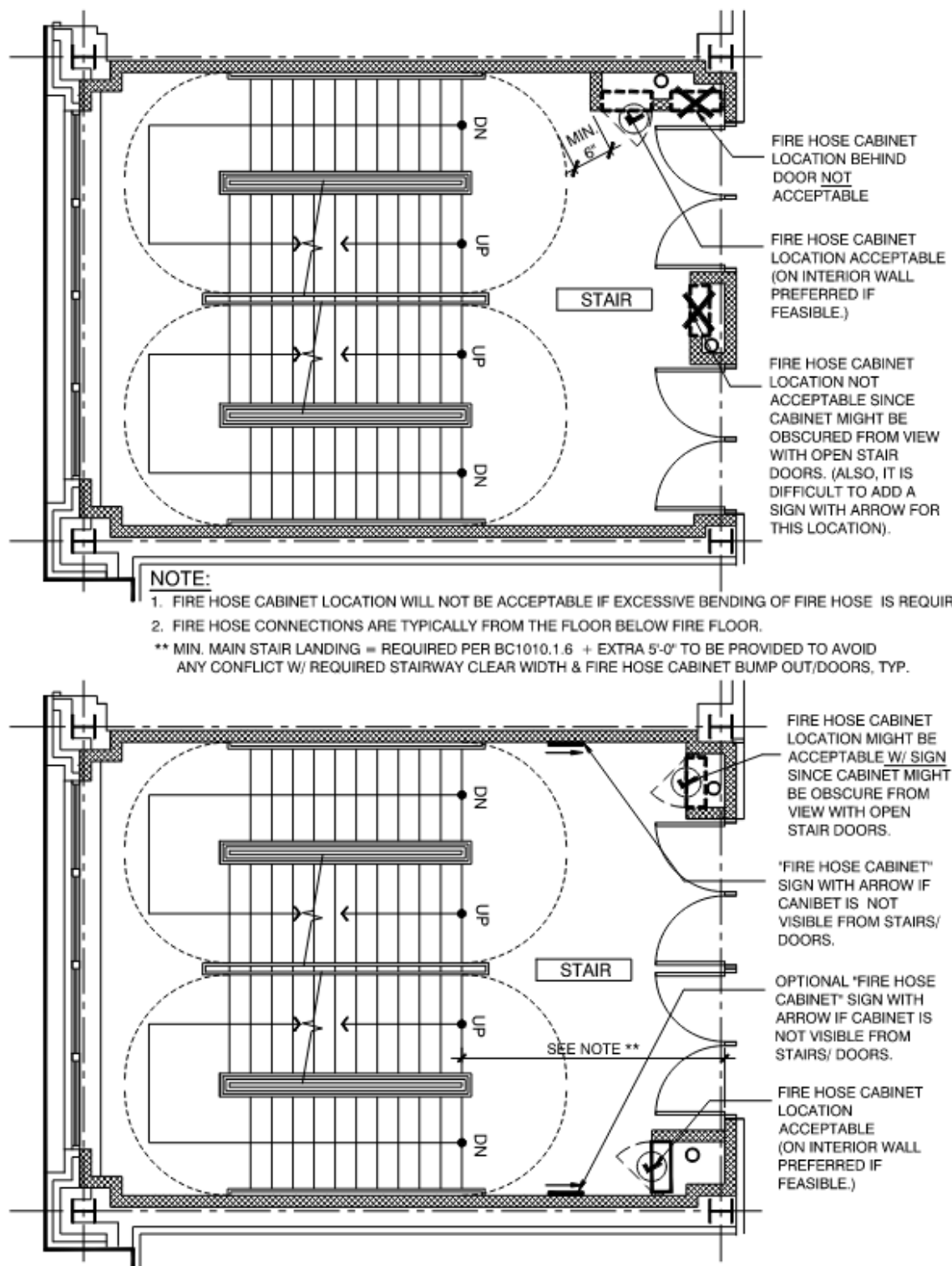
4. Wide stairs shall have intermediate handrails dividing the stairway into widths not less than 44" nor more than 66" so that all portions of the stair are within 30" of a handrail in accordance with Section BC 1014.9 (See attached diagram).
In addition to the required dividing handrails, which shall also comply with paragraph C.1 above, the top rail of the divider shall be at 44" high.
 5. When the open side of a stair landing or a corridor overlooking an atrium is more than 12'-0" above the floor below, provide fall protection to a height of a minimum of 5'-0" above the adjacent landing/floor where the landing or corridor overlooks the floor below.
 6. Where vertical fenestration or fall protection elements include glazing starting at floor level, provide a toe rail at 5" and a barrier rail at 3'-6" AFF to protect such glazing.
- D. Exit stairs that serve floors located more than 75 feet above the street (high-rise building) are to receive:
1. Exit Path Markings: All high-rise buildings are to have luminous exit path markings on exit doors and within exit stairs, horizontal exits and exit passageways in accordance with Sections BC 403.5.5 and BC 1031.11.
 2. Enclosures: Exit stairs are to be constructed in accordance with Section BC 1023.2 (2hr-rated). Pressurize exit stairways in accordance with Section BC 909.20. Access through an open exterior balcony or through a naturally or mechanically ventilated vestibule are not acceptable.
- E. Venting of Exit stairs
1. Exit stairs, including high-rise exit stairs in fully sprinklered buildings designed per the 2022 NYC Building Code, are required to be smoke vented per Section BC 910.2.
 2. Exit stairs in Buildings that can comply with 1968 Building Code are required to be vented per Section 27-344 (d) and (e) of the 1968 building code, the means of which must also comply with the 2020 NYCECC in that shaft cannot be continually vented to the exterior.
- F. Public Assembly Space Interior Exit Stairs and Dedicated Vestibule for Stairs**
1. If interior exit stair enclosures are opened directly into public assembly spaces and they are also serving other floors for egress, then an additional vestibule is to be provided between public assembly spaces and rated exit stair enclosures. These vestibule enclosure walls shall be smoke partitions with no rating in general per Section BC 710. However, if a fire rating for these vestibules is required for the areas of refuge within the vestibule per Section BC 709 or by other code sections, then a smoke barrier with minimum one-hour fire resistance rating will be required, including doors.
 2. While not a code requirement, the objective of this requirement is to minimize the possibility of fire or smoke spreading into an enclosure from public assembly spaces to the rated stair enclosure and endangering the occupants or even preventing the use of the exit stairs at a time when it is most needed.



3. As the vestibule space will separate the egress stairway from the PA space, the stairways doors requirement per Section BC 1010.1.9.11, including exception 5, will no longer be applicable on the PA space doors to vestibule to stairways.

G. Location of Fire Hose Valve Cabinets

Fire hose valve cabinets shall be recessed. Wall must be designed to maintain the required fire-rating at the recess. Coordinate location of cabinet and riser to minimize interference with the seismic bracing, if possible. Fire hose valve cabinets must be located such that there is no interference with the ability to open the cabinet due to obstruction caused by the opening or closing of exit stair doors or other obstructions as per Section 7.3.1.2 of NFPA 14-16 and such that excessive bending of the hose due to the stair doors shall be avoided. Where hose valve cabinets cannot be completely recessed, the design of the stair must take into account that the cabinets must be placed such that they will not interfere with the clear path of travel. Refer to the stair diagrams below for acceptable and unacceptable fire hose valve cabinet locations. Typical fire hose connection will be from the fire hose cabinet below floor with the fire.



Note:

Minimum stair width is 44" (Section BC 1011.2) Maximum stair width to be 66" to comply with maximum reach of 30" to handrail without requiring an intermediate handrail (Section BC 1014.9).

Fire hose connection shall not be obstructed by open or closed stair doors and excessive bending of the hose due to the stair doors shall be avoided.

Per Section BC 905.7, fire hose cabinet shall not be blocked from use or obscured from view. Additional "Fire Hose Cabinet" signs with arrow to be provided if cabinet is not visible from the stair side or door side. The preferred approach is to have the cabinet on the side wall beyond the door and should be met if landing depth requirements indicated in sketches is followed. Any alternate to the side wall mount due to constraints must be specifically discussed during the design.

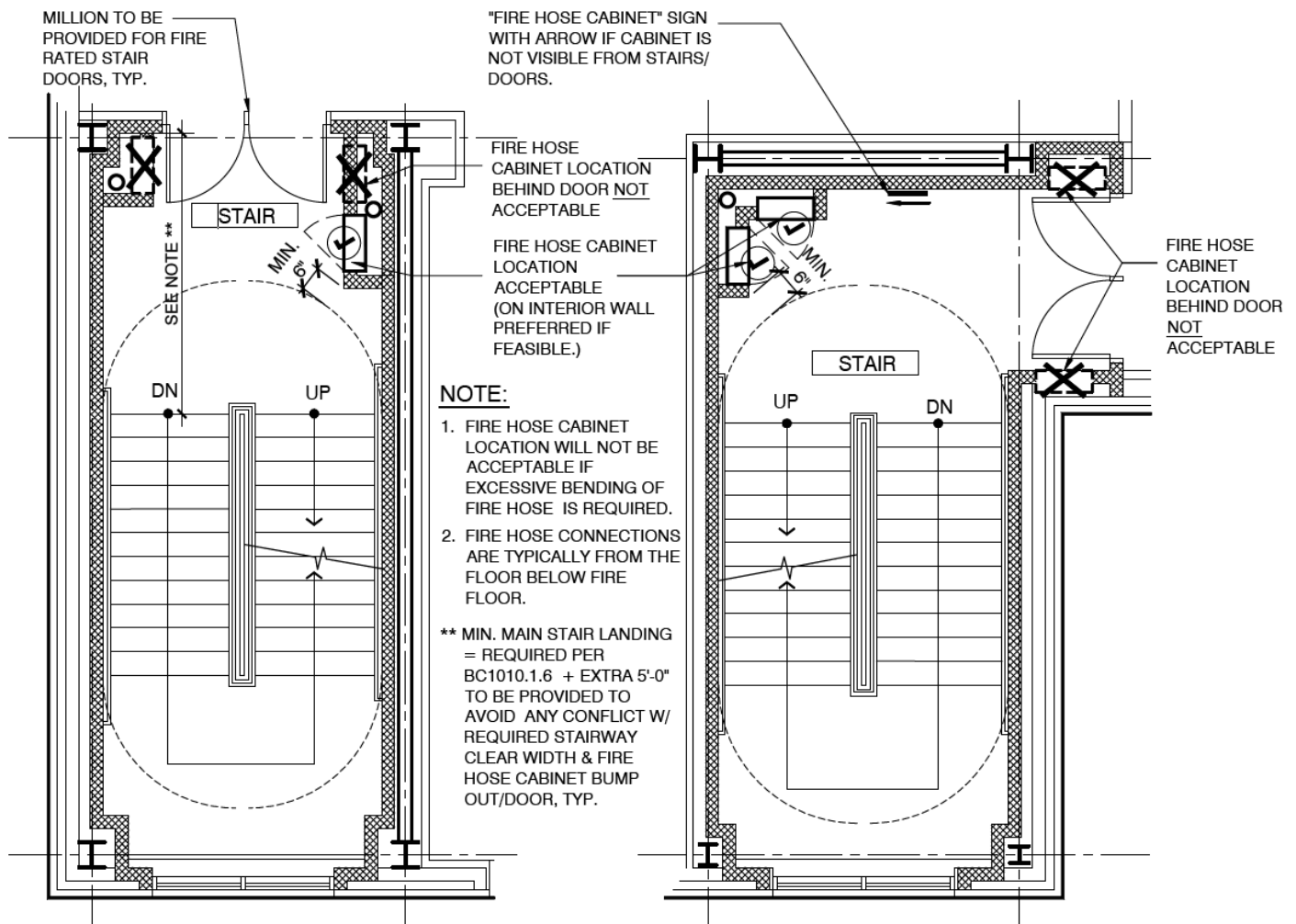


Fig. 2 - Plan of Single Stair with Handrail



1.3 Planning

1.3.4 Circulation

1.3.4.5 Elevators

Description/Design Approach:

A. General

1. Staff, school visitors, and students with disabilities typically use elevators. In addition, at least one elevator may be designated for use by custodial staff for deliveries and equipment.
 2. Two elevators are typically to be provided in new capacity projects. One elevator is typically provided in a Program Accessibility project. If the building design is such that it will require substantial use of vertical transportation to move students (such as schools within a high rise structure) or there is planned to be a large number of students of limited mobility, a written traffic analysis is to be performed by the Architect/Elevator consultant indicating how the population will be moved. This may require several banks of elevators or a modification to the size of the elevators.
 - a. For typical school buildings, all elevators shall be designed to accommodate ambulance type stretcher requirements (84" length) per the following criteria:
 - Size (Clear inside area) - Approx. 6'-8" by 5'-4"
 - Capacity - 3500#
 - Speed - Refer to DR 6.4.1
 - Door - Single-speed (preferred)
 - Door Opening - 3'-6" Side-slide
 - b. For schools with a large amount of limited mobility students or where the elevator is to provide access for the general school population to the upper floors as shown in the traffic analysis, the elevator design criteria may be as follows:
 - Size (Clear inside area) - Approx. 6'-0" by 9'-8" hospital type car
 - Capacity - 6000#
 - Speed - Refer to DR 6.4.1
 - Door - Single-speed (preferred)
 - Door Opening - 4'-0" Center-opening (preferred)
- Depending on existing building conditions, Additions may have one, two or no new elevators.
3. For 3K and Pre-K leased spaces (typically only 2 or 3 stories at most and thus do not meet the height criteria requiring the elevator to be sized to accommodate a stretcher, but still meet ADA requirements), if a new elevator needs to be provided it is to meet the following criteria:
 - Size (Hoistway area) - Approx. 8'-0" by 6'-0"
 - Size (Cab size) - 68"x51"
 - Capacity - 2100#
 - Speed - Refer to DR 6.4.1

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



- Door - single-speed (preferred)
 - Door Opening - 3'-6" Side opening
4. Where the kitchen is located in the basement and a separate elevator is required to provide access for supplies, provide a one-story elevator per the following criteria:
- Size (Clear inside area) - Approx. 6'-8" by 5'-4"
 - Capacity - 3500#
 - Speed - Refer to DR 6.4.1
 - Door - Single-speed (preferred)
 - Door Opening - 4'-0" Center-opening (preferred)

B. Locations

Elevators should be centrally located adjacent to main circulation spaces, i.e. entry lobbies and primary corridors. However, where elevators are not required for movement of a high population of students, they shall be placed to avoid the elevator being readily visible from the entrance in order to encourage the use of stairs, if feasible. General access to elevators should be controlled with limited access to authorized individuals.

1. Elevators shall typically be banked and located within the main lobby near the main entrance. Depending on building configuration, multi-org schools may require additional elevators at other locations as determined by a traffic analysis during design.
2. When practical, elevators shall be banked. When a side-by-side configuration is not practical, elevators shall be within close proximity of one another.
3. Planning should take into account the needs for both the movement of people as well as the need to transport deliveries, supplies and equipment.
4. Sufficient area shall be provided in front of elevators so to avoid congestion within corridors or lobbies.

C. Service access

For roped hydraulic elevators, pit mounted governors are to be used. Pit mounted governors do not require an access panel and fixed ladder at the hoistway overhead as does the standard hoistway mounted governor. The ladder and access panel are difficult to locate where needed as those areas are typically accessible to the student population. Current DOB code no longer allows the use of remote reset governors.



1.3 Planning

1.3.5 Large Group

1.3.5.1 Cafeteria PK-8 and HS

Description/Design Approach:

The school's Cafeteria plays an important role in the development of the children's social interaction. It is a programmed space where the children learn the best ways to solve basic problems and in making social adjustments.

A. Location

The Cafeteria should be as centrally located as possible on the first floor directly off the main lobby. Exceptions may be made if the due to planning constraints whereas the Cafeteria may have to be located to the cellar or an upper floor. If so, it should still be centrally located. In addition stairs and an elevator shall be located for ease of access by both students and staff.

The Cafeteria should be directly accessible from the main corridor or lobby of the building and provide a minimum of two points of entry and exit to meet the NYC Building Code.

The points of entry and egress should be located as such so that access to the entire building can be prevented and can be monitored and properly secured in a manner consistent with the entire building security system.

B. School Activities /Programs

1. In addition to feeding the children the Cafeteria may be used for assembly (line-up) during inclement weather and for large group instruction.
2. The Cafeteria should be directly accessible from the main corridor or lobby of the building, provide a minimum of two points of entry and exit, from the interior of the building, to facilitate the movement of children for changes in feeding periods and other school activities.
3. One means of directly exiting from the Cafeteria to the playground is preferred. However, indirect egress through the main corridor or lobby is also acceptable.
4. The Cafeteria shall have sufficient exits so to comply with the NYC Building Code.
5. The Cafeteria should be provided with natural light.

C. Community and Civic Programs

1. The Department of Education through various programs provided by the City of New York provides breakfast, lunch and other feeding programs for both the children and the community.



2. The Department of Education and the City of New York may utilize school Cafeterias for electoral voting of Federal, State, City as well as other elected offices within the Department of Education and Community.
3. The Department of Education has a longstanding agreement to allow emergency use of school facilities as coordinated by the Office of Emergency Management.

D. Relationship to Kitchen

The Student Cafeteria and Student Serving Area must have a direct connection to the kitchen. Care must be taken to provide line-up space for students waiting to enter the serving area. Cross-traffic patterns must be avoided when entering and leaving serving area. The student serving area shall be secured when meals are not being served.

E. Design Parameters

1. Typically, there are three (3) lunch periods for all grade levels. **This will determine the lunchroom capacity.**
2. **The number of serving lines in the cafeteria is to be based on the lunchroom capacity.**

F. Miscellaneous

1. Trash/Recycling Area

The cafeteria shall include trash/recycling center(s) for trash generated during the lunch periods. One trash/recycling center is required for **every serving line**. Each trash/recycling center shall be **12'-0"L x 2'-0"D**. Such trash/recycling area shall be recessed outside the "clean rectangle" of the cafeteria area and away from the serving line so it does not hamper the flow of serving line traffic. **The trash/recycling area includes space for:**

- **a wall mounted 'milk sink' for liquid waste**
- **a container for paper/cardboard recyclables**
- a container for metal/glass/plastic recyclables
- a container for organic waste
- a container for trash, i.e. landfill waste

2. Display Boards

- 4'-0" High by 8'-0" long mounted 3'-0" above finished floor (Minimum of two in the Cafeteria)



1.3 Planning

1.3.5 Large Group

1.3.5.2 Auditorium PK-8 and HS

Description/Design Approach:

A. General

The Auditorium plays an important role in the development of cultural efficiency and social achievement. It not only serves the school population, but is also a cultural center for the entire community.

In addition to being used for regular school purposes such as group instruction, study hall, assembly programs, dramatic performances, and graduation exercises; consideration in planning of the Auditorium must also address the socio-civic-economic activities of the community.

The principal adult activities may include parent teacher meetings, debates, lectures, forums, musicales, plays, community meetings and other civic functions.

Accessibility, adaptability and space relationships as well as attractiveness of appearance, comforts and conveniences must not be overlooked.

In order to achieve an attractive and well functioning auditorium special attention shall be provided to the seating arrangement so to provide adequate and uninterrupted vision of the stage, lighting, artwork, acoustics and ventilation.

B. Location

- The preferred location of the Auditorium is in a central location on the first floor off of the main lobby or corridor for ease of access by students, faculty and the public. By locating the Auditorium off of the main lobby the lobby will provide an area for the public to gather when the space is in use as well as for students.
- If, due to planning constraints the Auditorium must go to an upper or lower floor it shall be within close proximity to an elevator.
- Planning should also consider locating other Large Group Spaces, such as the Gymnasium and Cafeteria off the same main lobby so that it may serve all Large Group Areas simultaneously for both school and community.
- Access to public toilets in main lobby



C. Platform/Stage

The requires for a platform and stage vary between primary and secondary schools and sometimes may be a variation of the two schools requirements for schools such as Primary / Intermediate schools.

1. Primary Schools:

The facilities required for an elementary school auditorium are of a simple nature and are not used for elaborate, dramatic or theatrical performances. The platform / stage will typically be used by the school for simple performances, group instruction, film presentations or lectures.

2. Intermediate and High Schools

The facilities required for **secondary school** auditoriums is more sophisticated that that of elementary schools. In addition too simple performances, group instruction, film presentations or lectures functions may include dramatic performance and musicals.

D. Auditorium Curtains, Cyclorama Curtains and Border Curtains

Proscenium (Act) Curtains, Cyclorama Curtains and Border curtains shall be provided for Stages and Platforms.

1. Proscenium Curtain and Valance

A Proscenium Curtain, fire safety curtain, shall be provided at the stage / platform opening facing the Audience.

- Number of Suspensions : 5
- Overlap : Proscenium Valance: None
- Act Curtain : 3'-0" at the center
- Width : Proscenium Valance, Act Curtain (two halves)

2. Rear Cyclorama Curtains

- Number of Suspensions : 5
- Overlap : Rear Cyclorama Curtain: 3'-0" at the center
- Width : Rear Cyclorama Curtain (two halves),

3. Side Cyclorama Curtains

- Number of Suspensions : 3
- Overlap : Side Cyclorama Curtains: 2'-0" at the center
- Width : Side Cyclorama Curtains (two halves), and Border #1,2,3,4

4. Border Curtains

- Number of Suspensions : 5
- Overlap : None



D. Seating

Fixed Opera type chairs with plywood seats and backs, floor-mounted, with self-rising seats which raise automatically to a uniform 3/4 fold position and a 24" back shall be provided throughout the seating area of the Auditorium.

Note: For specific detail of type and construction see Specifications.



1.3 Planning

1.3.5 Large Group

1.3.5.3 Gymnasium PK-8 and HS

Description/Design Approach:

- A.** The Gymnasium shall be planned with a two-fold purpose in mind. It must be suitable for both educational and developmental activities, and it must be large enough for informal competitive sport programs developed by health education program. The suitability of the educational program is largely a matter of equipment and its proper placement, whereas the suitability of the informal program is largely a matter of size and shape.
- B.** The placement of equipment, however, must be suitable to accommodate both functions.
- C.** Basketball is the predominating sport of any gymnasium in a school. The gymnasiums shall be planned primarily as such with provisions for folding bleachers for spectators for both Intermediate Schools and High Schools.
- D.** The educational program includes instruction in the following activities: marching, running, tumbling, dancing, calisthenics, games and various combinations. The typical educational program includes climbing, dodging, hurdling, jumping combined with falling and rolling in addition to typical equipment used to develop reflexes, balance and coordination.
- E.** Typical activities and related equipment for Primary, Intermediate and High Schools are as follows:
 - Primary School: Basketball, volleyball, calisthenics, and various other games and floor exercises.
 - Intermediate School: Basketball, volleyball, calisthenics, and various other games and floor exercises.
 - High School: Basketball, volleyball, weight training, gymnastics, calisthenics, and various other games and floor exercises.

F. Typical Furnishings and Equipment

1. Basketball

Two types of backboards are used in Primary, Intermediate and High Schools. These are the Opaque Backboards and the Transparent Backboards. Applications are as follows:

Backboard Types

Application

Opaque Backboards

The opaque backboards are used in P.S., (Wood fiber particleboard) P.S./I.S. and I.S. for full court and half court practice and game play.



Fixed mounted, adjustable in height mounted and swing away mounted frames are used depending on the need and requirements of the school administration.

Backboard Types

Application

Transparent Backboards

The transparent backboards are used solely in I.S./H.S. & H.S. gymnasiums for (Tempered Glass Type - all full court basketball practice, instructional and competition game play. transparent and light transmitting) Opaque backboards will be used for all half court I.S./H.S. and H.S. applications, unless otherwise specified by the school administration.

Fixed mounted and swing away mounted frames are used depending on the need and requirements of the school administration.

Transparent backboards are also used when bleachers are located behind the full court or half court backboards, where the spectators require line of sight to observe the court action or receive instructional directions and demonstrations from instructors/teachers through the transparent backboards.

- G. Minimum Skylight Fenestration Area** (Applicable to projects that follow the 2020 NYCECC or the prescriptive requirements of ASHRAE 90.1-2016 as modified by Appendix CA of the 2020 NYCECC for Energy Code Compliance)

Gymnasiums that are larger than 2500 SF in area, have a ceiling height greater than 15' for greater than 75% of ceiling area and are located directly under a roof the floor area must be daylit such that a minimum of 50% of floor area is daylit:

- by means of skylights amounting to a max of 3% of floor area, or
- by a combination of primary and secondary sidelights and skylights to comply with the requirement of Section 5.5.4.2.3 of ASHRAE 90.1-2016.



1.3 Planning

1.3.5 Large Group

1.3.5.4 Accessibility Guidelines for Auditorium Repair

Description/Design Approach:

Changes to the existing Auditorium space resulting from repairs in the space may trigger Building Code and accessibility issues. However, the comfort, convenience and attractiveness of the auditorium must be maintained.

A. 2022 NYC Building Code and ICC A117.1-2009 compliance

1. Compliance with NYC Building Code and ICC A117.1 is required for the types of work listed below. Extent of compliance is based upon the corresponding relevant work as per Title II regulation 28 CFR part 25 Para 35.151. Any element of a building that is renovated or repaired must be made accessible for the extent of its own renovation.
2. Complete replacement of stage flooring or any enlargement/reduction/structural modification to the stage requires the stage/platform to be compliant with Section 303 of ICC A117.1. *A ramp or lift to access the stage is required. When practical, a ramp is preferred.*
3. The minimum clear width of an accessible ramp is 36" **and**, a handrail in compliance with section 405.5 of ICC A117.1 is to be installed. The drawings must clearly indicate ramp width. **The handrail is permitted to project into the egress width in accordance with Section BC 1014.8 of the 2022 NYC Building Code. However, for accessible routes the minimum width is measured between handrails.**
4. Partial removal/replacement/refurbishment of seat and standards (**stanchions**) requires that seating arrangements incorporate accessibility.
Note that removal and reinstallation of supporting standards is considered 'removal of seats'
 - a) Partial removal and replacement of seat and standards at the front or rear of the auditorium require that seating arrangement for the wheelchair-bound be incorporated, to the extent that it is feasible in the seating layout of the Auditorium in accordance with the guideline in Section 802 of ICC A117.1. Replacement of seat and standards in the middle of a seating area does not require removal of additional seats to create accessible spaces.
 - b) Removal/refurbishment of seat and standards next to an aisle requires that the appropriate number of seats with removable/foldaway armrests be installed. Such designated aisle seats shall be identified by the **Dynamic** Accessibility Symbol.
5. Total removal and reinstallation/replacement of seat and standards requires that the seats/seating arrangement including Aisle and cross Aisle width be ICC A117.1 compliant. A handrail is required at the accessible aisle. Where the ramp run exceeds 30 feet, a mid-landing must be provided, unless it is satisfactorily demonstrated to the plan examiner to be structurally impractical to do so. *Space for wheelchair seating and*

Requirement Applies to: New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



chairs with removable/foldaway armrests are required to comply with Sections BC 1108.2.2 and BC 1108.2.. The allocation of seats for the wheelchair bound should be dispersed throughout the seating area. Each such Space to be large enough to accommodate a wheelchair and an adjoining companion seat or two side-by side wheel chair spaces.

Note that removal and reinstallation of all standards/seats to facilitate repair or refurbishing of floor surface of auditorium is considered 'total removal of seats'.

6. Removal and replacement of door requires that the replaced door and hardware be ICC A117.1 and NYC Building Code compliant.
 7. Removal of door and frame requires that the opening, door and hardware be ICC A117.1 compliant, including relocation to comply with the maneuvering clearances indicated in paragraph 404.2.3 of ICC A117.1.
 8. Removal and Replacement of floor slab or fill requires that the slope of the floor and the seating arrangement be ICC A117.1 compliant.
 9. Partial or full replacement of the local sound system requires that an 'audio amplification system' be installed in each area where the local sound system is installed/replaced as required by Section BC 1108.2.7 in accordance with ICC A117.1 (706). The space shall be identified by the International Symbol of Access for Hearing Loss as per paragraph 703.6.3.3 of ICC A117.1.
 10. For projects with an estimated baseline construction cost of \$950,000, an induction loop assistive listening system must be installed as per Local Law 51/17 if the cost of the system is less than 5% of the project cost. In addition to the system within the Auditorium space, a **microloop** system shall be provided for the security desk with appropriate signage. Provide the required directional signage to the assistive listening assembly areas.
- B. Compliance with ICC A117.1 and **the** NYC Building Code is not required for the following types of work:
1. Painting of the wall or ceiling
 2. Painting/Refurbishing/repair of floor surface. If work requires seat and standards to be removed, comply with ICC A117.1 as indicated in section A above for seating.
 3. Repair/Replacement of stage/platform rigging or lighting.
 4. Repair/Replacement of stage/platform curtains or drapes.
 5. Repair or Replacement of heating and cooling system. If work requires seat and standards to be removed, comply with ICC A117.1 as indicated in Section A above for seating.
 6. Replacement/Refurbishing of the seats and backs without removal of the floor mounted standards.



- 7. Repair/replacement of ceiling
- 8. Minor repairs to stage/platform floor.



1.3 Planning

1.3.6 Food Services

1.3.6.1 Kitchen

Description/Design Approach:

- A.** The Kitchen should be planned and designed with cognizance of the importance of handling and preparing food for students and staff. When planning the kitchen, the following criteria should be addressed:
1. Layout: Size and equipment shall be based on the student capacity of the building. A Therm **and** Hold Kitchen with a Type II kitchen hood system can be used to support a maximum student population of 400. School buildings with a student population of 401 and above must use a full cooking kitchen with a Type I kitchen hood rated for heavy-duty appliance and ansul system.
 2. Servery: Number of serving lines shall be based on number of students served per lunch period.
 3. Kitchens should have easy access to the delivery entrance.
 4. Kitchens located on the first floor and at grade level do not require a loading dock. If the kitchen floor is significantly above or below grade level and creates a delivery problem, a service ramp, lift or elevator must be provided. In the case of a very large school, a loading dock may be considered.
 5. If a loading dock (or any delivery entrance) is contemplated, it should be planned for use by the custodial and educational staff for receipt of regular supplies.
 6. All doorways leading from the outside into the kitchen must be a minimum of 44" wide in order to allow for future equipment replacement. **These doors to be equipped with local door alarm and a door release system. Separate insect screen doors to be provided for all exterior kitchen doors.**
 7. Kitchens with operable windows must be equipped with movable insect screens. Space shall flow as follows: receiving, storage, preparation, cooking, serving, clean-up.
 8. Unobstructed aisles and working spaces shall be provided with a minimum width of 5' to permit employees to perform their duties readily without contamination of food or food-contact surfaces by clothing or personal contact.
 9. Related functions shall be grouped together with easy access to cold storage units and sinks.
 10. Garbage removed from Lunchrooms cannot be taken through the kitchen.
 11. Provide a sign over each Kitchen Lavatory (Hand Sink). Sign shall read "HAND WASH SINK".



12. Provide a liquid soap dispenser and a paper towel dispenser next to each Kitchen Lavatory (Hand Sink).
 13. Provide sufficient space in the kitchen to accommodate three (or four if the school is part of the Organics program) garbage containers for metal/glass/plastic, cardboard/paper and trash (and organics if applicable). The cans are for temporary storage of these materials until they can be removed to the school's refuse & recycling storage room.
 14. Provide Class K rated portable fire extinguishers as required per Section FC 609.9 of the **2022 NYC Fire Code**. Extinguisher must be within 30 feet travel distance of the cooking appliance
 15. For a Therm **and** Hold Kitchen, provide a Type II ducted hood above the therm and hold unit.
 - 16. Any soffits below ceilings are to be tiled in Kitchen and Servery. Refer to DR 5.1.1 for information on other finishes.**
- B.** The overall equipment and space required for this function is based on a Program of Requirements prepared by The New York City Department of Education Office of School Food (OSF), which has been included in the Program of Requirements (POR) for the project.
- C.** Design drawings that detail the kitchen's location in relationship to other building services and equipment placement shall be approved by The New York City Department of Education Office of School Food (OSF).
- D.** As the construction approaches substantial completion, inspections shall begin that insure that the new kitchen meet all required codes.
- E.** Kitchen drawings approvals and construction inspections shall be performed by and questions directed to:

Mr. Paul Quattropani
The New York City Department of Education
Office of School Food
44-36 Vernon Boulevard, Room 409B
Long Island City, New York 11101
Telephone (718) 707-4476
Email: PQuattr@schools.nyc.gov



1.3 Planning

1.3.6 Food Services

1.3.6.2 Storage Space and Kitchen Staff Lockers Rooms

Description/Design Approach:

A. Kitchen Storage Rooms

- There shall be no stairs along the delivery route.
- Delivery entrance and storage rooms shall be located so that deliveries that arrive during peak prep/serving times do not disrupt operation of the kitchen.
- When remote storage is provided, an intercom system supplied and installed by Electrical Contractor shall connect remote locations with the Manager's Office.
- At least 1/4 of the required storage area must be located in the kitchen itself. If space limitations require remote storage, in an area other than the first floor, an elevator must be provided.
- Plans submitted for OSF's consideration must show delivery route. If storage is remote, in the basement for example, a layout for that area must be submitted as well. All remote areas must be clearly labeled for Department of Education Office of School Food (OSF) use.
- The dimensions of all storage rooms must be indicated on all drawings.
- Storage room shelving and/or dunnage layouts must be provided on all 1/4" drawings.
- Food storage areas must be well ventilated and dry.
- **Acceptable temperature range for these areas is 50° - 70° F.**
- All remote storage areas shall be labeled "OSF Storage".

B. Staff Lockers Rooms

- The 1/4" Scale Plans shall show locker layouts for all OSF Locker Rooms.
- One Room must be clearly labeled "OSF Female Locker Room."
- One Room must be clearly labeled "OSF Male Locker Room."
- In the case of a modernization, the OSF Male and Female Locker Rooms may be remote when sufficient space is not available.
- One single occupancy unisex toilet room for male and female staff use shall be located in the Kitchen Area.

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



C. Lockers

1. Provide full size lockers for each employee:
2. Number of lockers in the locker room shall be based on adjusted capacity listed in the Program of Requirements, or for an upgrade in an existing building the actual enrollment.

a. Female Locker Room/toilet to accommodate:

Adjusted Capacity 300 or less:	4 females
Adjusted Capacity 301-500:	6 females
Adjusted Capacity 501-700:	8 females
Adjusted Capacity 701-900:	9 females
Adjusted Capacity over 900:	9 females

b. Male Locker Room/toilet to accommodate:

Adjusted Capacity 300 or less:	2 males
Adjusted Capacity 301-500:	2 males
Adjusted Capacity 501-700:	2 males
Adjusted Capacity 701-900:	3 males
Adjusted Capacity over 900:	3 males

D. Notes

1. Signs shall be posted over each staff lavatory. The wording shall be "EMPLOYEES MUST WASH HANDS BEFORE LEAVING THIS AREA".



1.3 Planning

1.3.6 Food Services

1.3.6.3 Delivery Areas - Kitchens

Description / Design Approach:

A. The following criteria shall be followed for the delivery of goods to Kitchens:

1. If a platform is required, a loading dock shall be provided.
2. If a delivery bay is not provided, a curb cut must be provided adjacent to the delivery entrance that allows only truck loading and unloading during school hours.
3. There shall be no steps along the delivery route.
4. Delivery entrance and storage rooms shall be located so that deliveries that arrive during peak preparation/serving times do not disrupt operation of the kitchen nor the school.
5. **Delivery entrance shall include an insect screen door.**
6. A bell at the delivery entrance that rings in the Kitchen Area and/or Manager's Office shall be provided.
7. Delivery doors shall be equipped with a vision panel and guard.
8. Outside area shall have drain and hose bib for easy cleaning.
9. Inside receiving area shall also be easily cleanable.

B. Food Services Deliveries: Typical deliveries to Kitchens include:

1. Bread/Milk – Daily
2. Produce/Meat – Weekly
3. Disposables – Monthly
4. Other Items as needed



1.3 Planning

1.3.6 Food Services

1.3.6.4 Temporary Kitchens

Description / Design Approach:

Schools must always have a functioning kitchen. Provisions shall be made for a temporary kitchen, serving line and temporary storage if planned work will disrupt the existing kitchen.

Temporary kitchens are to remain operational until Department of Education Office of School Food and Nutrition Services (OSFNS) has formally accepted the new kitchen. After the Department of Education Office of Food and Nutrition Services accepts new kitchen, the temporary serving line and kitchen equipment should be removed as per disposition list from OSFNS supervisor.

A. One of three arrangements shall be provided:

1. Temporary Kitchen mounted on the trailer would be installed.
2. The Office of Food and Nutrition Services would arrange for satellite food preparation.
3. Temporary kitchen will be installed in the school, utilizing available space.

For either of these arrangements a temporary serving line should be established in the cafeteria.

B. The following approaches shall be followed for the above referenced arrangements:

1. Temporary Kitchen mounted on the trailer would be installed.
 - Mobile kitchen unit, mounted on the trailer, is to be utilized, wherever possible. It is equipped as a full service kitchen with walk-in refrigerator and freezer and contains manager's office. Installation of the Mobile Kitchen at the school requires utility connections and building of the ramps, fencing and **an enclosed walkway connecting the Kitchen Trailer and the Cafeteria, i.e. the cooking and the serving areas.** It is not equipped with the grease trap and provisions should be taken to install such. Chemical sanitizing or hot water booster heater should be also provided if the raw food is going to be handled in the kitchen. Mobile kitchen installation must meet Building Code requirements for most installations.

Old kitchen equipment **that** is not being reused **should be disconnected. Equipment to be re-used in conjunction with the temporary kitchen must be approved by the Department of Education's Office of Food and Nutrition Services.** All disconnected equipment must have the disposition from the Department of Education Office of Food and Nutrition Services and has to be moved by the Contractor to the nearby, designated schools. Upon completion of work, the General Contractor should move the Mobile Kitchen and dismantle/move or store all temporary structures as directed by the Department of Education Office of Food and Nutrition Services.



2. The Office of Food and Nutrition Services would arrange for satellite food preparation
 - Where satellite food preparation is to take place, only temporary serving line, utilizing existing equipment, wherever possible, should be established in the Cafeteria.
 -
3. Temporary kitchen will be installed in the school, utilizing available space
 - In situations where there is room and utility connections are available to install temporary kitchen within the school, the existing equipment from old kitchen shall be re-used if possible.

Provide Typical Furnishings and Equipment as per Room Planning Standards.

Office Equipment:

The following Office Equipment shall be relocated from the existing Kitchen:

- Desk
- Chair
- Safe.
- Phone (The telephone line must be transfer from the existing kitchen)
- Calculator.

Miscellaneous:

- A secured storage space must be provided in any case.
- Existing serving line equipment, in good condition, should be reused for the temporary line.
- If the existing serving line cannot be used, a serving line should be provided.



1.3 Planning

1.3.6 Food Services

1.3.6.5 Walk-In Refrigerators and Freezers

Description/Design Approach:

The following criteria shall be applied to Walk-in Refrigerators and Walk-in Freezers:

1. Walk-in Refrigerators and Walk-in Freezers shall be built to specification with prefabricated wall panels. The floor shall have urethane slab insulation and quarry tiles. Lease type or Walk-in replacement projects may be built with diamond tread over a standard metal floor.
2. Walk-ins finishes' floors shall be flush aligned with the kitchen finish floor. If this is not possible, an interior ramp either quarry tile or diamond tread over standard metal floor within the walk-ins shall be provided.
3. Floorless walk-ins shall be installed upon a properly insulated slab.
4. Remote compressor/condensing system may be installed:
 - a. In a ventilated "compressor room" where the ventilation requirement for this room shall be 1100 CFM per each unit horsepower,
 - b. In a ventilated mechanical room that meets the ventilation requirement for horsepower specified, or
 - c. On a roof, in a caged (secured) location with crankcase heater and outdoor control. **Unit shall be supported on rail curbs.** For roof mounted installation, the remote condensing unit must be situated within 75 ft or less of each walk-in evaporator coil.
5. The remote condensing units and evaporator coils are split systems and shall be wired accordingly, along with all the required accessories.
6. Floor drains shall be located at the edge of the walk-ins to receive the evaporator drain line.



1.3 Planning

1.3.6 Food Services

1.3.6.6 Tray Slide, Low Wall, Serving Lines - Typical Height

Description/Design Approach:

Serving line equipment, tray slide and low wall shall conform to the following requirements.

- Primary School: Serving line equipment shall be at 32" AFF. Tray slide shall be at 30" AFF
- Intermediate/Junior High School: Serving line equipment shall be at 34" AFF. Tray slide shall be at 32" AFF.
- High School: Service line equipment shall be at 36" AFF. Tray slide shall be at 34" AFF.
- For new construction and major modernizations serving line equipment shall be provided with fold down tray slide.
- ECC (Early Childhood Center): Serving line equipment shall not be provided with tray slides, except where applicable. Serving line equipment shall be 30" AFF. Tray slide shall be at 28" AFF installed on top of the low wall.
- **For Capital Improvement Program (CIP) projects, serving line equipment without folding tray slides and tray slide fixed on low wall shall be used. Designer is to consult the Office of School Foods (OSF) representative during the Scoping phase.**

When a building is designed to accommodate children from various grade ranges, for example a K to 8 school, use the equipment and tray slide height appropriate for the lowest grade level.



1.3 Planning

1.3.6 Food Services

1.3.6.7 Cash Registers (Kitchens)

Description/Design Approach:

Cash Registers are only required for Intermediate Schools and High Schools and are furnished by the NYC Department of Education, Office of School Food and Nutrition Service (OSFNS).

Receptacles with the electrical requirements outlined below shall be provided for the cash register. Coordinate with the Electrical Engineer on the location and electrical requirements of these receptacles.

- Electrical Requirements: 120V, 1ph, 60HZ, 25 watts.
- Receptacles shall match the cash register's electrical plug.
- Electrical Engineer shall provide separate circuit from the panel.
- The manufacturer and model number of cash register: CASIO Model CE 3415



1.3 Planning

1.3.6 Food Services

1.3.6.8 Time Clock and Card Rack (Kitchens)

Description/Design Approach:

Time Clock (Time Card Recorder) and Card Rack shall be provided for all Kitchens

The Electrical Contractor shall provide Time Clock (Time Card Recorder) and Card Rack. The location of the Time Clock and Card Rack shall be indicated on the Kitchen Drawings and coordinated with and shown on the Electrical Drawings.



1.3 Planning

1.3.6 Food Services

1.3.6.9 Conveyor Belt Removal (Kitchens)

Description/Design Approach:

For Projects which include the removal of a kitchen conveyor belt, the following work shall also be included:

1. Modular, mobile serving line equipment that conforms to New York City School Construction Authority (NYCSCA) requirements:

Elementary Schools:

- 1 - Utility Counter 18"-24" wide
- 1 - Four Well Hot Unit
- 1 - Utility Counter 18"-24" wide
- 1 - Cold Well
- 1 - Milk Unit
- Tray slide and low wall set at 30", equipment at 32". Tray slide shall be secured to the low wall.

Intermediate or Junior High Schools:

- 1 - Utility Counter 18"-24" wide
- 1 - Four Well Hot Unit
- 1 - Cold Well
- 1 - Milk Unit
- 1 - Cashier Stand
- Tray slide and low wall set at 32", equipment at 34". Tray slide shall be secured to the low wall.

2. Provide new opening for service. Opening should be large enough to accommodate all of the equipment. A roll down shutter shall be provided. In those cases where the configuration of the kitchen does not allow for a sufficiently large service opening, the milk chest may be positioned in the Dining Room with a dedicated electrical outlet. The doorway into the Kitchen must allow for the milk chest to be moved inside.

The removal of the 'belt' results in a lack of lay-down space. Provide each Kitchen with tables:

- Two (2) - Kitchen Work Tables, 48" long and 30" wide. Equip each table with a drawer, under-shelf and single deck table mounted shelf. Table should also have convenience outlets.



- Two (2) - Kitchen Work Tables, 36" long and 30" wide. Equip each table with a drawer, under-shelf and single deck table mounted shelf. Table should also have a convenience outlet.
- 3. Remove any existing 'NEVO' warmers and replace them with mobile hot cabinets, electrically heated. This will require an electrical receptacle for each hot cabinet as the 'NEVO' warmers were hard wired.
- 4. Provide electrical and plumbing work as needed to accomplish above items. If there is a floor drain in the area near the serving line, it should not be sealed.



1.3 Planning

1.3.7 Natatoriums

1.3.7.1 Natatorium/Pool Design Criteria and Code Requirements

Description/Design Approach:

A. General

The following is a summary of the existing applicable codes and the design criteria to be used for each discipline (HVAC, Plumbing, Architectural, Electrical) when designing new Natatorium spaces and pools and upgrades to existing installations. Applicable requirements from the following codes are included: NYC Building Code, NYC Mechanical Code, NYC Plumbing Code, NYC Fuel Gas Code, NYC Energy Conservation Code, NYC Electrical Code, NYC Amendments to the National Electric Code and NYC Department of Health Code. The below includes quality control concerns and code mandates (as noted). Designers shall incorporate as many of the below quality control features for existing pool projects where possible (within the limits of funding for the project). All new work must be code compliant. Designers shall consult the full referenced documents for the complete requirements. Since there are no SCA standard specifications for Natatoriums/Pools, this Design Requirement is atypical in that it includes some specification type information. Article 165 Bathing Establishments of the NYC Department of Health (NYCDOH) Code is referred to in this Design Requirement and can be accessed electronically by the following links:

<https://www1.nyc.gov/site/doh/about/about-doh/health-code-and-rules.page>

<https://www1.nyc.gov/assets/doh/downloads/pdf/about/healthcode/health-code-article165.pdf>

The major issues have been highlighted and include (but are not limited to) the following:

B. Mechanical HVAC/Plumbing Design

1. Design Criteria

- a. The Natatorium contains one of the most challenging and dynamic indoor environments that mechanical equipment is asked to effectively condition. The equipment must dehumidify, heat and cool, as well as ventilate while withstanding the corrosiveness that exists due to the chemicals used within the structure. The high temperatures and high humidity levels of the Natatorium demand a system with a low sensible and a high latent cooling capacity in contrast to conventional air conditioning equipment **that** is designed for a high sensible and low latent load in order to be energy efficient. Conventional air-conditioning equipment is therefore not effective as Natatorium dehumidifiers. Specialized HVAC equipment as described herein is required to properly condition the Natatorium environment.
- b. In designing an indoor swimming facility, the most critical component is the protection of the most critical part of the facility, the building structure. The structure will suffer dangerous and expensive deterioration when proper humidity and ventilation are not

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



maintained. The critical issue is to eliminate the possibility of producing condensation on any surfaces. The chloramine-laden condensate is deleterious to many materials. Even stainless steel is not immune.

- c. The second consideration is occupant comfort. The pool water temperature is dictated by the type of activity and the type of individuals who will be using the pool. The selection of the Natatorium design air conditions (i.e. Natatorium space temperature and space relative humidity) is guided by the desire to keep the vapor pressure difference between the human skin and the surrounding air as close as possible to reduce evaporation and increase comfort. In addition, less pool evaporation takes place with higher humidity and less pool evaporation means less required pool heating. However, the humidity must not be so high that the dew point is higher than the temperature of the walls, windows and structure surfaces or destructive condensate will accumulate. Pool water evaporation will remain a continuous 24 hour/day load on the dehumidifier.
- d. The relationship between relative humidity and indoor air quality is well known. High relative humidity levels inside a building are well known for their destructive effects on building components and can pose health concerns. They facilitate the growth of mold and mildew which can attack wall, floor and ceiling coverings and their spores can adversely impact the air quality. Condensation can also degrade many building materials. The consequences of high humidity in indoor Natatoriums can be significant. Besides being detrimental to health, the industry reports there are incidents on record of significant damage including compromising the roof structure as a result of the corrosive effects of water condensing within the building's support structure.
- e. Considering the need to eliminate structural deterioration, to minimize the build-up of chloramine gas and to minimize health concerns, the ventilation system must function 24 hours a day, seven days a week. This is an industry standard.
- f. The specialized Natatorium units shall be manufactured by Nautica, Dectron, Munters (Des Champs) or approved equal. The central units shall be equipped with DX dehumidification coils to dehumidify the Natatorium when the outside air is warm and humid. When the outside air is cold and dry enough to dehumidify the Natatorium, the mechanical DX **cooling**/dehumidification system shall not be utilized, rather the adequately dry outside air shall be brought in and warmed up by the unit's hot water coil **or electric coil**.
- g. Note that the unit's hot water coil for Natatorium space heating shall be heated by a dedicated gas-fired hot water boiler. This dedicated hot water boiler shall also function as the pool heater. The central school boilers shall not be utilized to provide space heating hot water to the Natatorium central unit or to heat the pool, in order to avoid the possibility of the central school boilers being shut off to avoid the school overheating (when a climate control project is required and has not yet been undertaken). Similarly, a DX dehumidification coil shall be provided in lieu of a chilled water dehumidification coil to guard against the possibility that the central chillers might be shut down or not energized on the shoulder seasonal days.
- h. Energy recovery from the DX dehumidification coil waste heat shall be utilized to heat the pool and/or reheat the supply air or liberate moisture from an active desiccant wheel. Other air reheat options consist of a heat exchanger and heat pipe. Energy recovery air

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reheat and pool heating from the DX dehumidification coil waste heat shall be generated by hot gas air reheat coils and hot gas refrigerant pool heat exchanger (when air cooled condensers are utilized) or condenser water air reheat and condenser water pool heat exchanger (when water cooled condensers are utilized). Note that on cool/cold days when the outside air is utilized to perform the dehumidification when the DX coil is inactive, no salvageable waste heat will be available from the DX dehumidification coil, hence the need for a dedicated hot water boiler **or electric coil**.

- j. Energy recovery shall be utilized to pre-condition the outside air intake via an outside air intake/exhaust air total enthalpy energy recovery wheel, heat pipe or heat exchanger.
- k. The separate dedicated gas fired or electric hot water boiler with a high recovery potential shall be sized to provide the initial pool warm up and warm up of the pool water after an extended school break. The dedicated gas-fired or electric boiler shall be sized to be able to heat up the pool within 48 hours and the rate of pool water temperature rise shall not exceed 1°F per hour. The maintenance pool water heating load to cover the heat loss associated with pool water evaporation shall be provided by the energy recovery system off of the DX dehumidification coil when the outside air conditions are warm and humid. When the outside air conditions are cooler and adequately dry and there is no DX dehumidification waste heat to recover, the maintenance pool water heating load shall be provided by the dedicated gas-fired or electric boiler.
- l. In applications with high solar loads (i.e. high glass loads) a conventional dehumidifier may be undersized for cooling. It is not reasonable to expect a single unit designed specifically for dehumidification and water heating to efficiently meet the cooling requirement without compromise. Therefore a properly designed system should treat cooling separately from dehumidification and pool water heating. Provide a separate DX cooling coil for space cooling in addition to the DX dehumidification coil if necessary considering the amount of fenestration.
- m. The Designer shall specify aluminum ductwork, diffusers, registers and grilles for shower rooms, locker rooms, and swimming pool areas. Preferred arrangement is to have exhaust and return air inlets located high to capture hot and humid air with low perimeter supply diffusers. The next best alternate is to have high perimeter diffusers with low exhaust and return inlets. Care shall be taken to avoid supply air short cycling especially considering that windows and metal exit doors that are not provided with 3 to 5 cfm per square foot will experience condensation.
- n. Natatorium central air handling units shall be provided with factory mounted Original Equipment Manufacturer (OEM) controls and shall operate with the OEM's standard sequence of operation. The ventilation rate shall not be reduced during unoccupied periods because the fresh air is needed to protect the Natatorium structure and mechanical equipment from the build-up of chloramine gas. (Chloramine (NH₂Cl) is a corrosive toxic gas formed by the combination of chlorine and the nitrogen in the air).
- o. Ventilation shall be provided for purging of the space in the event of a chemical emergency and for when the pools are "shocked" with high doses of chlorine.
- p. Per Table MC **403.3.1.1** of the **2022** NYC Mechanical Code and industry standards, the minimum ventilation rate delivered to the Natatorium shall be the maximum of (0.48 cfm

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per square foot of pool and wet deck) as compared to (7.5 cfm per spectator plus 0.06 cfm per square foot of spectator area). The exhaust rate shall exceed the outside air intake rate by nominally 10% to maintain negative pressurization of the Natatorium. A negative pressure is needed to prevent Natatorium air from being “pushed” through the wall cavity and condensing on cold surfaces and to minimize the migration of pool odors to adjacent areas. The minimum ventilation rate for Educational sports locker rooms shall be 0.50 cfm per square foot.

- q. Natatorium unit control system shall be designed to limit the maximum relative humidity levels to 60% during active pool usage periods and to 50% for inactive pool usage periods. Air from the Natatorium shall not be recirculated to other spaces. Air may be recirculated within the Natatorium since the relative humidity shall not exceed 60% (refer to Section MC 403.2.1).
- r. Four to six total air changes per hour are recommended for an indoor pool without spectators. A pool with spectators requires six to eight air changes per hour. The primary reason is to achieve good mixing of the dehumidified air and outside air, with room air. Air changes can also be provided with ceiling hung propeller fans and other air recirculation devices. (Note that Article 165.47 of the NYC Department of Health Code only requires a minimum of two air changes per hour for indoor pools. This two air changes per hour however is considered inadequate by industry standards.)
- s. Defogging: The goal of defogging is to raise the interior surface temperature of the window panes above the room dew point temperature. Double pane low E glass is a minimum requirement. Simply moving air across a window pane will facilitate defogging. It is optimum to have the air that is moving across the window pane to be ducted from the dehumidification system. When high diffusers are provided, linear diffusers located over the entire window length are recommended which directs the flow of air downward. The flow of the air across the windows should be 3 to 5 cfm per square foot of glass. Also, direct air over metal exit doors to avoid condensation. If the dehumidification system does not provide the air to blow across the windows and metal exit doors, a localized fan may be used. Ideally the air terminal should be close to the glass and metal exit door to ensure maximum turbulence on the glass and door and optimum effectiveness.
- t. For summer heat rejection, provide outside air cooled condensers or dry coolers for water cooled condensers to reject the heat when it is not needed for air reheat and pool heating.
- u. The calculation of the pool evaporation rate which represents a significant dehumidification load and defines the pool temperature maintenance heat requirements shall be calculated in accordance with industry standards. This calculation involves determining the activity factors, evaporation rate factors at 50% and 60% Natatorium relative humidity, water surface area, pool water capacity, active hours of operation, Natatorium air temperature, pool water temperature, etc.



2. 2022 NYC Building Code

a. Natatorium Design Conditions:

- 1) Per Table BC 1204.1 of the **2022** NYC Building Code, swimming pools, and shower rooms shall be maintained at 75°F minimum. Industry standards for Competitive Swimming pools are as follows:

<u>Air Temperature</u>	<u>Water Temperature</u>	<u>Relative Humidity</u>
78-85°F	76-82°F	50-60%

- 2) NYC school Natatoriums shall be designed for the following average design conditions (consistent with industry standards):

<u>Air Temperature</u>	<u>Water Temperature</u>	<u>Relative Humidity</u>
82°F	80°F	50% inactive pool usage periods 60% active pool usage periods

- 3) Note that the air temperature should be nominally 2°F warmer than the pool water temperature to minimize pool evaporation.

b. Entrapment Avoidance:

Per Section BC 3109.3.1.1, suction outlets shall be designed and installed in accordance with ANSI/APSP-7 for suction entrapment avoidance.

c. Pool Alarms:

Per Section BC 3109.3.2, all swimming pools and spas shall be equipped with an approved pool alarm. Pool alarms shall comply with ASTM F2208 and shall be installed, used and maintained in accordance with the manufacturer's instructions. Note per Exception 2 a swimming pool (other than a hot tub or spa) equipped with an automatic power safety cover that complies with ASTM F1346 need not be provided with a pool alarm.

d. Water supply, circulation, water treatment, and drainage:

Per Section BC 3109.3.3, the supply, circulation, treatment, and drainage of water for swimming pools shall meet the requirements of the **2022** New York City Plumbing Code.

e. Appendix G Flood Resistant Construction:

Refer to Appendix G of the 2022 NYC Building Code and ASCE 24-14.

3. 2022 NYC Mechanical Code – Natatorium Ventilation Rates

See above Design Criteria for the ventilation requirements.



4. 2022 NYC Plumbing Code Backflow Prevention

- a. Water Connections: Section PC 423.1 of the **2022** NYC Plumbing Code for water connections requires that swimming pools be protected against backflow in accordance with Section PC 608.
- b. Indirect/Special Waste: Section PC 802.1.4 for swimming pools requires that wastewater from swimming pools, backwash from filters and water from pool deck drains that discharge to the building drainage system shall have the discharge through an indirect waste pipe by means of an air gap.

5. 2022 New York City Fuel Gas Code

Per Section FGC 617.1 of **2022** NYC Fuel Gas Code, gas-pool heaters shall be tested in accordance with ANSI Z21.56 and shall be installed in accordance with the manufacturer's installation instructions.

6. 2020 New York City Energy Conservation Code

- a. Minimum Performance of Water-Heating Equipment: Per Section C404, Service Water Heating Table C404.2, gas pool heaters of all input sizes shall have a minimum 82% Thermal Efficiency (Et) in accordance with ASHRAE 146 Testing and Rating Pool Heaters.
- b. Energy consumption of pools: The energy consumption of pools shall be controlled by the requirements in Sections C404.9.1 through C404.9.3.
 - 1) C404.9.1 Heaters: The electric power to all heaters shall be controlled by an on-off switch that is an integral part of the heater, mounted on the exterior of the heater, or external to and within 3 feet of the heater in a location with ready access. Operation of such switch shall not change the setting of the heater thermostat. Such switches shall be in addition to a circuit breaker for the power to the heater. Gas-fired heaters shall not be equipped with continuously burning ignition pilots.
 - 2) C404.9.2 Time switches: Time switches or other control methods that can automatically turn off and on heaters and pump motors according to a preset schedule shall be installed for heaters and pump motors. Heaters and pump motors that have built-in time switches shall be in compliance with this section.

Exceptions:

- a) Where public health standards require 24-hour pump operation.
- b) Pumps that operate solar-and waste-heat-recovery pool heating systems.

- 3) C404.9.3 Covers: Outdoor heated pools shall be provided with a vapor-retardant cover or other approved vapor-retardant means.

Exception:

Where more than 75 percent of the energy for heating, computed over an operating season of not fewer than 3 calendar months, is from site-recovered energy such as



from a heat pump or on-site renewable energy system, covers or other vapor-retardant means shall not be required.

7. NYC Department of Health Code

- a. Article 165.47 addresses ventilation and states that all indoor pools shall be adequately ventilated, either by natural or mechanical means. (Note that per the above Design Criteria, mechanical dehumidification is required for the NYC area during the warmer more humid months). Indoor portions of a bathing establishment, including indoor pools, dressing rooms, mechanical equipment rooms, storage areas, bathhouses, shower rooms and lavatories, shall be ventilated pursuant to Article 12 of the Building Code or any successor law or regulation. The ventilation system for indoor pools and dressing rooms shall be designed so the bathers are not subjected to drafts and shall minimize condensation. Article 165.47 requires that a minimum of two air changes per hour be provided for indoor pool. (Note that per the above Design Criteria and in accordance with ASHRAE, designers are to provide 4 to 6 air changes per hour for non-spectator pools and 6 to 8 air changes per hour for spectator facilities). Any heating units shall be kept from contact with swimmers. Fuel burning heating equipment shall be installed and vented to the outdoors in accordance with the Building Code. CO₂ cylinders shall be placed in a ventilated enclosure for facilities using carbon dioxide (CO₂) as the method of pH control (where cylinders are provided in the interior of occupied structures). The CO₂ ventilated enclosure shall be provided with a louvered fresh air intake near the ceiling and mechanical exhaust ventilation shall be provided at the rate of one air change every three minutes and shall take suction near the floor as far as practical from the door and fresh air intake. The exhaust of CO₂ ventilated enclosures shall be ducted to the exterior of the building through a continuous pipe of at least 1 1/2" in diameter with the point of discharge so located as not to contaminate air inlets to any rooms or structures.
- b. Per Article 165.41, deck drains, when used, shall be spaced and arranged so that not more than four hundred square feet (400 ft²) of area is tributary to each drain, and drains shall not be spaced more than twenty-five feet (25 ft) apart. There shall be no direct connection between the pool deck drains and the pool gutter or recirculation system.
- c. Rinse showers shall be provided per Article 165.41. Adjacent recreational areas shall be separated from the bathing area by a suitable fence or barrier. If bathers are permitted free access between the deck and an adjacent recreational area without having to pass through a bathhouse or bather preparation facilities, a rinse shower area shall be installed so that bathers shall pass through the rinse shower area when going from the recreational area to the deck.
- d. Per Article 165.43, drinking fountains shall be of a slanting jet-type with a surrounding guard and nonsubmersible opening. They shall be accessible by patrons at the pool and be supplied with adequate water pressure.
- e. Provide the number of water closets, urinals, wash basins and shower heads in accordance with NYCDOH Article 165.49. Per Article 165.49 (e) showers shall be supplied with water at a temperature of at least 90°F and no more than 110°F and at a minimum rate of 1.5 gpm and maximum rate of 2.5 gpm per shower. (SCA Design Requirement 6.1.05 specifies that 110°F temperature water shall be provided by the showers.

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- f. Per Article 165.45(k), a water heater shall be installed at all indoor pools. Heaters shall be installed in accordance with the standards contained in the Construction Code (Section MC 916 Section FGC 617) and the manufacturer's recommendations. A heating coil or pipe shall not be installed in the pool. Pools equipped with heaters shall have a fixed thermometer in the recirculation line downstream of the heater and another near the outlet of the pool.
- g. Per Article 165.49 (h), hose bibbs shall be provided within the bathhouse to enable the entire area to be flushed with a fifty foot (50') hose. Hose bibbs shall be provided with an anti-siphonage device. Per Article 165.41, at least one hose bibb shall be provided to facilitate flushing of the deck area and each bibb shall be provided with an anti-siphonage device.
- h. Per Article 165.43, the potable water supply shall be protected against inter-connection or cross-connection to any potential source of contamination, including but not limited to backflow and back-siphonage. Water introduced into the pool either directly or to the recirculation system, shall be supplied through an air gap of at least 6 inches or two times the pipe diameter, whichever is greater. In pools where it is not possible to provide an air gap, the pool shall be protected by an approved backflow prevention device. When a fill spout is used to introduce water into the pool, it shall be covered so as not to create a hazard to the patrons. The open end of the fill spout shall have no sharp edges, shall not protrude more than two inches beyond the edge of the pool and shall be at least six inches above the deck level. The fill spout shall be located under the diving board when the pool is equipped with a diving board.
- i. Per Article 165.29 and Article 165.45, the filtration flow rate shall not exceed the maximum filtration design flow rate specified by the filter manufacturers' specifications and in accordance with N.S.F. standards.
 - 1) Sand filters
 - a) The flow rate shall not exceed fifteen gallons per minute per square foot (15 gpm/ft²) of filter area for high-rate sand filters, and shall not exceed three gallons per minute per square foot (3 gpm/ft²) for other sand filters.
 - b) Sand filter shall be backwashed at a flow rate of twelve to fifteen gallons per minute per square foot (12 to 15 gpm/ft²) or at the design rate specified by the manufacturers.
 - c) Influent pressure gauge, effluent pressure gauge, backwash sight glass and air relief valve shall be provided on all sand filters. Where multiple filter tanks are used, a separate gauge panel shall be provided for each filter tank.
 - 2) Diatomaceous earth regenerative filters: (Note that the below is the NYC Department of Health Code requirements for diatomaceous earth (DE) regenerative filters. DE is carcinogenic. Therefore, non-carcinogenic perlite shall be used instead of DE. The usage of regenerative filters offers a lower volume of backwash water to be drained as compared to sand filters plus regenerative filters are physically smaller than equivalent capacity sand filters, which is a benefit when filter space is limited).

Requirement Applies to: ✓ New Construction ✓ Major Modernizations ✓ Capital Improvement Projects



Diatomaceous earth filters shall be properly maintained and operated according to the manufacturers' instructions and at a filter rate not exceeding two gallons per minute per square foot (2 gpm/ft²) with body slurry feed or 1.5 gpm/ft² without body slurry feed. Per Article 165.33(c), diatomaceous earth filter wash or backwash water shall first pass through a separation tank designed for removal of the diatomaceous earth and suspended solids before discharging to an approved sanitary sewer system. The separation tank sludge shall be disposed of or treated as a solid waste material in accordance with applicable law. Regenerative type of filters shall meet the same standards as pressure filters. Pumping by air or manual means shall be provided for and provision for visual inspection of elements shall be provided. Required accessories for pressure-type filters are a backwash sight glass, effluent pressure gauge, influent pressure gauge and air relief valve. Required accessories for vacuum-type filters are a compound gauge which will indicate both positive and negative head and the gauge shall be installed on the suction side of the pump. An adjustable high vacuum switch shall be provided to prevent damage to the pump by cavitation.

- 3) Cartridge filters: Cartridge filters shall be operated at a filter rate not to exceed the design or a maximum of 0.375 gallons per minute per square foot (0.375 gpm/ft²). Influent pressure gauge, effluent pressure gauge and air relief valve shall be provided on all the filters. One complete extra set of filter cartridges shall be on hand at the facility's location.
- j. Per Article 165.41, all equipment used or proposed for use in pools shall be tested and listed by N.S.F. or another testing laboratory under standards promulgated by N.S.F. Equipment that is experimental or not N.S.F. approved shall be submitted to the Department for review.
- k. Article 165.45 addresses the required water treatment system that must attain the water chemistry as defined in Article 165.23 and 165.25. A water treatment system consisting of pumps, piping, filters, water conditioning and disinfection equipment, and other accessory equipment, shall be provided which will clarify, chemically balance and disinfect the pool water. The system shall be designed for a recirculation flow rate that will result in a turnover period in each pool not exceeding 6 hours. Construction shall comply with all other provisions of this Code regarding water and waste water. Each pool shall have a separate water treatment system. Construction of fill and draw pools is prohibited. The components of the pool water recirculation system shall be kept in continuous operation 24 hours a day to provide water quality consistent with Articles 165.23 and 165.25.
- l. Pools constructed prior to March 31, 1973 may have an eight-hour turnover rate.
- m. Waste water disposal is covered in Article 165.43. The sanitary sewer system shall have sufficient capacity to serve the facility, including the bathhouse, locker rooms and related accommodations. The building drains and sewer system shall have adequate capacity to carry filter backwash flows without surcharging or flooding. Sanitary sewage and pool waste water shall be discharged to the municipal sanitary sewer system whenever possible. The establishment shall obtain the waste water discharge permit or approval from the appropriate regulatory agency (for example, the New York City Department of Environmental Protection) prior to discharge. When no such sewer is available, the

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connection shall be made to a suitable private subsurface disposal system or other system approved by the Department and such agencies having jurisdiction. The pool waste water shall be discharged to the sanitary sewer system through an air gap of at least six inches (6") or two times the pipe diameter, whichever is greater, so as to preclude the possibility of backup of sewage or waste water into the pool piping system.

- n. Article 165.45 lists the acceptable piping and fitting materials for the recirculation piping system as well as the required plumbing color coding schedule.
- o. Per Article 165.45, all pipes, fittings and valves of the recirculation system shall be designed to reduce friction losses to a minimum and to carry the required quantity of water at a maximum velocity not to exceed six feet per second (6 ft/s) under suction, ten feet per second (10 ft/s) under pressure and three feet per second (3 ft/s) in gravity flow.
- p. Per Article 165.45, all equipment and piping shall be designed and fabricated to drain completely by use of drain plugs, drain valves or other means. All piping shall be supported continuously or at sufficiently close intervals to prevent sagging. All suction piping shall be sloped in one direction, preferably toward the pump. All supply and return pipelines to the pool shall be provided with valves or other means to allow the piping to be drained to a point below the frost line. Provision shall be made for expansion and contraction of pipes.
- q. Per Article 165.45, the recirculation pump shall have adequate capacity (flow rate and pressure) to meet the design requirements of the pool, including filter backwashing and turnover rate. It shall be of a self-priming type if installed above the hydraulic gradient. A gauge which indicates both pressure and vacuum shall be installed on the pump suction header and a pressure gauge shall be installed on the pump discharge line. Gauges shall be installed as near to the pump inlet as possible.
- r. The recirculation system shall include suitable strainer(s) or screen(s) to prevent hair, lint, and other debris from reaching the pump and filters. See Article 165.45 for details.
- s. Per Article 165.45, each main drain shall be connected to the recirculation system. The branch pipe from each main drain shall be designed to carry at least one hundred percent (100%) of the design recirculation flow rate. The single main suction pipe to the pump shall be equipped with a valve to control total main drain flow. The suction velocity in the pipe shall not exceed six feet per second (6 ft/s). At least thirty percent (30%) of the total recirculation rate should flow through the main drains. A hydrostatic relief valve shall be provided at each main drain for in-ground pools.
- t. Per Article 165.45, a means of continuously measuring rate of flow shall be provided in the recirculation system. For sand filters, the flow-measuring equipment shall be located where the backwash flow rate can also be determined. The indicator shall be capable of measuring at least 1½ times the design flow rate and shall be accurate within ten percent (10%) of true flow. The indicator shall have a range of readings appropriate for the anticipated flow rates, and be installed where it is readily accessible for reading and maintenance, and with straight pipe upstream and downstream of any fitting or restriction in accordance with the manufacturer's recommendation. Where multiple pumps or filters are provided, each unit shall have a flow-regulating device installed.

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- u. Article 165.45 (l) addresses disinfection and chemical feeders. Pools shall be designed to provide for continuous disinfection of the pool with a chemical which is an effective disinfectant and which imparts an easily measured, active residual. The pools shall be equipped with a chlorinator, hypochlorinator, or other disinfectant feeder or feeders. An automatic controller shall be provided for continuous monitoring and adjusting the level of free residual disinfectant. An automatic device shall be provided to deactivate chemical feeders when there is no flow in the recirculation system. The feeder shall be automatic, easily disassembled for cleaning and maintenance, and capable of providing the required chemical residuals which meet the following requirements:
- 1) Design specifications: The feeder shall be of sturdy construction and materials which will withstand wear, corrosion or attack by disinfectant solutions or vapors, and which are not adversely affected by repeated, regular adjustments or other normal use conditions. The feeder shall not allow flow of unintended chemicals or those containing foreign materials into the pool. The feeders shall incorporate anti-siphon safeguards so that the disinfectant cannot continue to feed into the pool, the pool piping system, the pool enclosure, if any type of failure of the equipment occurs.
 - 2) Point of addition of disinfectant: All chemicals shall be fed into the return line after the pump, filter and heater unless the feeder is otherwise designed and specified by the manufacturer, and approved by N.S.F. and the department.
 - 3) Equipment capacity: Feeders shall be capable of supplying disinfectant to the pool in a range of chlorine demand of up to 10 mg/l or equivalent.
 - 4) Disinfection with bromine or solid forms of chlorine: Where bromine or chlorine in stick or pellet form is used as a disinfectant, equipment shall be provided for feeding on continuous feed.
 - 5) Disinfection with ozone: Ozone generating equipment (OGE) is acceptable only as a supplement to chlorine or bromine disinfection system. OGE and its components shall be listed by N.S.F. or other listings that are approved by the department and meet the following design standards:
 - a) The ozone concentration in the pool water shall be less than 0.10 mg/l. Off-gassing of ozone shall not result in ozone levels exceeding 0.10 mg/l in the equipment room or in the pool area. When the OGE is installed and annually thereafter, the air space within six inches (6") of the pool water level and air in the equipment room shall be tested to determine compliance with this requirement.
 - b) All corona discharge OGE systems shall be vacuum systems.
 - c) Backflow of pool water into OGE shall not occur.
 - 6) Hypochlorinators (positive displacement pumps): Where positive displacement pumps are used to inject the disinfectant solution into the recirculation line, the following requirements shall apply:
 - a) Feed: Feed shall be continuous at the proper addition rate under all conditions of pressure in the recirculation system without constriction of the recirculation pump suction.
 - b) Solution tanks: If granular calcium hypochlorite is used, two solution tanks, each with minimum capacity of one-day supply, shall be provided. All chemical

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containers including those used with chemical feeders shall be clearly labeled regarding their contents.

- 7) Gas chlorination. Gas chlorination is prohibited.
 - 8) Copper/silver and copper ion generators. All copper/silver and copper ion generators shall be approved by N.S.F. or equivalent which are approved by the Department and are acceptable only as a supplement to chlorine or bromine disinfection system.
- v. Article 165.45(m) addresses pH control. Mechanical feed equipment for the purpose of adding a chemical for pH adjustment shall be provided for all pools. An automatic controller shall be provided for continuously monitoring and adjusting the level of pH. The method of chemical addition shall protect the bather from contact with concentrated chemicals. Soda ash, caustic soda, sodium bisulfate, carbon dioxide gas, muriatic acid, or other chemicals approved for water supply use by the United States Environmental Protection Agency, as food additives by the United States Food and Drug Administration, or by the Department, shall be used to raise or lower pool water pH. The method shall provide adequate distribution of the chemical throughout the pool and distribution shall be verified by pool water testing prior to bather exposure. Where carbon dioxide (CO₂) is used as a method of pH control, the following features shall be provided:
- 1) CO₂ shall be injected into the recirculation pipe at the same point where pH adjustment solutions (i.e., acid) would normally be added. The recirculation pipe shall be of sufficient size and length to provide a minimum of five seconds contact time prior to bather contact.
 - 2) CO₂ cylinders shall be anchored to prevent damage. Cylinders shall be inaccessible to the general public.
 - 3) The manufacturers' instructions shall be followed for installation and operation of cylinders. The units shall be operated by the pool operator as specified in the pool safety plan.
 - 4) CO₂ cylinders shall be stored in a protective enclosure at the exterior of occupied structures. If CO₂ cylinders are provided in the interior of occupied structures, they shall be placed in a ventilated enclosure.

An automatic device shall be provided to deactivate chemical feeders when there is no flow in the recirculation system.

- w. Article 165.45(o) addresses the pool vacuum system and cleaning system. A cleaning system shall be provided to remove sludge, sediment and other accumulations from the bottom of the pool. When a vacuum system is used as an integral part of the recirculation system, hose connections shall be located in the walls of the pool at least eight inches (8") below the waterline, and at such points that the floor of the pool can be cleaned with not more than fifty feet of suction hose.



C. Architectural Natatorium/Pool Design

1. Design Criteria

- a. Suspended ceilings shall not be used since they create an unconditioned space that is prone to condensation and corrosion problems. Pools with suspended ceilings have experienced corroded hardware (T bars and hangers) and condensation soaked tiles are subject to failure and subsequently falling into the pool.
- b. Skylights can only be used with the approval of the Authority. Skylights are prone to condensation problems in cold weather. The quantity of supply air (3 to 5 cfm per square foot of glass) necessary to blanket the glass with air so as to avoid condensation is difficult to control for the high elevation skylights. Visible ductwork would otherwise be required to supply this air to the skylight and can cause concerns about aesthetics. If skylights are provided, in time their frames will corrode. The frames must then be scraped, re-primed and top coated. The pool would then have to be drained and scaffolding would have to be erected to complete this work. Considering the level of difficulty in maintaining the skylights, they are to be avoided.
- c. It is imperative that the vapor retarder be properly located on the inboard warm side of the insulation to guarantee that no condensation will occur within the exterior envelope which would otherwise destroy the insulation and cause structural corrosion. This is especially important for Natatoriums considering the rate of pool water evaporation. Designer shall verify that the Insulation and Moisture Control/Vapor Retarder Progress Inspections required by Rule 5000 of the NYC Building Code have been properly identified on the bid documents so that inspections will occur during envelope construction, prior to covering the insulation and vapor retarder.
- d. To avoid the deleterious effects of corrosion, all surfaces that could be splashed upon or reach the dew-point shall be made of corrosion-resistant material or covered with a corrosion resistant coat. This applies to stair nosings, signage frames, screw heads, door hinges, lintels, toilet partitions, shower room curtain poles, handicapped grab bars, skylight structural members, pool gutters, etc.

2. 2022 NYC Building Code

a. Natatorium Occupancy Groups

Per Chapter 3 of the **2022** NYC Building Code, Assembly uses intended for recreation without spectator seating shall be classified in Occupancy Group A-3. Assembly uses intended for viewing of indoor sporting events and activities with spectator seating shall be classified in Occupancy group A-4. Most Natatoriums will be classified as A-4 Occupancy Groups.

b. Natatorium Maximum Floor Area Allowances per Occupant (Refer to Table BC 1004.1.3)

Swimming pools	50 gross square foot floor area per occupant
Decks	15 gross square foot floor area per occupant



c. Accessibility

Per Section BC **1109.10.2**, Detectible Warnings at Pools, the edges of pools shall be provided with detectable warnings. **Chapter 2 of the 2022 NYC Building Code** defines a “Detectable Warning” as a standardized surface feature built-in or applied to walking surfaces or other elements to warn visually impaired persons of hazards on a circulation path.

e. Safety Glazing

Per Section BC 2406.4, Hazardous Locations, glazing in walls and fences enclosing indoor swimming pools shall be considered specific hazardous locations requiring safety glazing materials where all of the following conditions are present:

1. The bottom edge of the glazing on the pool side is less than 60 inches above a walking surface on the pool side of the glazing; and
2. The glazing is within 60 inches horizontally of the water's edge of a swimming pool.

f. Swimming Pools, Swimming Pool Enclosures and Safety Devices per **Section BC 3109**

- 1) Per Section BC 3109.3.5, facilities for people with physical disabilities shall be provided where required by Chapter 11 **of the 2022 NYC Building Code**.
- 2) Per Section BC 3109.4, public swimming pools shall comply with the requirements for safety and accessibility as provided in Sections 3109.3 and BC 3109.4. Refer also to NYC DOH Article 165.41.

Exceptions: A swimming pool with a power safety cover complying with ASTM F1346.

- 3) Per Section BC 3109.4.1, barrier height and clearances, public swimming pools shall be completely enclosed by a fence, wall, building, or other solid barrier, or any combination thereof, at least 6 feet in height. Openings in the enclosure shall not permit the passage of a 4-inch-diameter sphere. The enclosure shall be equipped with self-closing and self-latching gates.

Exception: Enclosures shall be at least 4 feet in height when surrounding wading pools with water less than 24 inches in depth.

- 4) Per Section BC 3109.4.3 Other laws: In addition to the requirements of BC 3109, any other, more stringent requirements for the construction and design of swimming pool and barriers that are provided for in Article 165 of the New York City Health Code, as administered by the New York City Department of Health and Mental Hygiene, shall also be applicable.

g. **NYC Building Code: Appendix G Flood Resistant Construction**

Refer to Appendix G of the 2022 NYC Building Code and ASCE 24-14. Section 9.6 of ASCE 24 specifies specific pool requirements.

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3. NYC Department of Health Code

- a. Provide dressing rooms, toilets and showers in accordance with Article 165.49 with floors that slope at least $\frac{1}{4}$ " per foot to drains. Per Article 165.49 (g), pool lockers shall be set either on solid masonry or concrete bases at least four inches above the floor. Lockers shall be vented. For all pools, the bather preparation facility shall be located so that the patrons shall pass through the bather preparation facilities to enter the pool. The layout of the preparation facilities shall be such that the patrons on leaving the dressing room pass the toilets and then the showers in route to the pool.
- b. Per Article 165.41, an emergency exit from the pool room shall be provided. All exits should be clearly marked.
- c. Article 165.41 governs pool design and construction including material finishes, rounded corners, accessibility, minimum water depth, bottom slope, contour of pool walls, safety ledges, decks and walkways, deck capacity, deck covering, deck slope, deck level gutters, pool enclosures, depth markings and safety lines, diving area and diving boards, minimum dimensions for diving portion of the pool, ladders, pool steps, pool stairs, handrails, safety and warning signs.
- d. Pool capacities and patron loading is covered in Article 165.41. The maximum permissible number of bathers allowed in the pool at one time is as follows:
 - 1) Pools: Twenty-five square feet (25 ft²) of water surface area shall be provided for each patron.
 - 2) Diving area: Three hundred square feet (300 ft²) of pool water surface area shall be reserved around each diving board or diving platform, and this area shall not be included in computing the permissible patron use.
- e. Required First Aid rooms are covered in Article 165.41. Pools with a surface area in excess of four thousand square feet (4000 ft²) shall have a readily accessible room or area designated and equipped for emergency care.
- f. Article 165.45 addresses the equipment and storage area. All the pumps, filters, chemical feeders and other mechanical equipment and chemicals shall be secured and protected by an appropriate enclosure or room, separate and apart from the pool. The size of the equipment room shall provide working space to perform routine operations. Clearance shall be provided for all equipment as prescribed by the manufacturers to allow normal maintenance operation and removal without disturbing other piping or equipment. Operating instructions and a schematic drawing for all equipment shall be provided in the equipment enclosure room. Adequate storage area shall be provided for chemicals and supplementary equipment. A dry above ground storage area shall be provided for facilities using calcium hypochlorite as a disinfectant. Equipment rooms shall not be used for storage of chemicals emitting corrosive fumes or for storage of other items to the extent that entrance to the room for inspection or operation of the equipment is impaired.

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- g. Article 165.45 addresses the required quantity and location of the pool inlets. Wall or floor inlets shall be provided for all pools and shall be located and directed to provide distribution of treated water to facilitate the maintenance of a uniform disinfectant residual throughout the entire pool.
- 1) Number: Wall inlets shall be spaced at a distance of no greater than twenty feet (20') apart, with one inlet within five feet (5') of each corner of the pool and one in each recessed step area or other space where water circulation might be impaired.
 - 2) Location: Wall inlets shall be located at least twelve inches (12") below the design water surface. Bottom inlets shall be uniformly spaced with a separation distance of no greater than twenty feet (20') and with rows of inlets within fifteen feet (15') of each side wall. In any pool over sixty feet (60') in width, floor inlets should be provided. These shall be flush with the floor.
 - 3) Type: Inlet fittings shall be of the adjustable rate-of-flow type. Directional flow inlets shall be used with skimmer type pools. Inlets shall not extend from the floor or wall to create a hazard.
 - 4) Testing: Dye testing (crystal violet or equivalent) should be performed to determine and adjust the recirculation pattern.
- h. Article 165.45 addresses the pool main drains. Every pool constructed after July 15, 1998, shall have at least two hydraulically balanced main drains to the pool filter system installed in the pool floor at the deepest point. The minimum distance between the main drains shall be three feet (3') measured from center to center of the drains. The main drains shall be connected to a single main suction pipe by branch lines and the branch lines shall not be valved so as to be capable of operating independently. Pools constructed before July 15, 1998, shall have at least one main drain installed in the pool floor at the deepest point.
- 1) Location: The main drains shall not be spaced at more than twenty feet (20') on centers and fifteen feet (15') from side walls and shall be connected in parallel.
 - 2) Grating: The main drain shall be protected by gratings or other approved covers having an opening sufficient to restrict water velocity to less than 1½ feet per second through the grating. The maximum width of grate opening shall be one-half inch. Gratings or drain covers shall not be removable without the use of tools.
- i. Article 165.45 addresses skimmers and overflow gutters. A surface skimmer system, perimeter overflow system or recessed automatic surface skimmers, shall be provided on all pools and shall be designed and installed to continuously remove all floating material, surface dirt and waste water. A perimeter overflow system shall be required on all pools which have a pool width exceeding thirty feet (30'), or a surface area of over one thousand six hundred square feet (1,600 ft²). Pools having a width of thirty feet (30') or less, or a surface area of one thousand six hundred square feet (1,600 ft²) or less shall be provided either with perimeter overflows or skimmers. A combination of perimeter overflow systems and skimmers may also be used when approved by the Department. All overflow systems and skimmers shall be capable of continuously removing all floating material, surface dirt and waste water.

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- 1) Perimeter overflow systems: All pools shall be designed to provide continuous skimming from the pool's surface at a rate of at least one hundred percent (100%) of recirculation rate. In pools where perimeter overflow systems are provided, the following shall be met:
 - a) Design: The perimeter overflow systems shall extend completely around the pool, except at steps or recessed ladders in the shallow portion and shall be level to a tolerance of one-eighth inch (1/8"). The gutter shall be capable of continuously removing one hundred percent (100%) of the recirculation water and return it to the filter.
 - b) Size and shape: The gutters, drains and return piping to the surge tank shall be designed to rapidly remove overflow water caused by recirculation displacement, wave action or other causes produced from the maximum pool bathing load. Make-up water supply equipment shall be provided to maintain continuous skimming.
 - c) The gutter shall be designed to serve as a handgrip and to prevent entrapment of bather's arms, legs and feet. It shall permit ready inspection, cleaning and repair.
 - d) The overflow gutter outlets shall be provided with outlet pipes at least two inches (2") in diameter. The outlet fittings shall have a clean opening in the grating at least equal to 1.5 times the cross-sectional area of the outlet pipe.
 - e) Drainage shall be sufficient to minimize flooding and prevent backflow of skimmed water into the pool.
 - f) Surge capacity: All overflow systems shall be designed with an effective surge capacity of not less than one gallon for each square foot of pool surface area. Surge shall be provided within a surge tank, in the gutter or filter above the normal flow line, or elsewhere in the system. Surge tanks, gutters and filter tanks should have overflow pipes to convey excess water to waste. Surge tanks shall be provided with means for complete draining.
- 2) Skimmers: Skimmers shall be designed and installed to prevent electrical hazards or short circuiting. Recessed automatic surface skimmers are permitted on pools where the width does not exceed thirty feet (30') and a water surface area is less than one thousand six hundred square feet (1,600 ft²). In pools where skimmers are provided, the following shall be met:
 - a) Number: One skimmer for each four hundred square feet (400 ft²) of water surface area or fraction thereof shall be provided. Additional skimmers may be required to achieve effective skimming.
 - b) Location: Skimmers shall be so located to optimize skimming of the entire water surface with minimum interference and placed so as to prevent short circuiting. The pool outline shall be considered in the selection of skimmer locations and the location of skimmers shall be such that the interference of adjacent inlets and skimmers is minimized.

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- c) Capacity: The piping and other pertinent components of skimmers shall be designed for a total capacity of one hundred percent (100%) of the required filter flow of the recirculation system and no skimmer shall be designed for a flow through rate less than thirty gallons per minute per foot (30 gpm/ft) of weir length.
- d) Control: Skimmers shall have weirs that adjust automatically and operate freely and continuously with variations of at least four inches in water level. All skimmed water shall pass through an easily removable and cleanable basket or screen before encountering control valves or entering the pump suction line. Each skimmer shall be equipped with a device to control flow.
- e) Relief line: Skimmers shall include a device to prevent an air lock in the suction line. If equalizer pipes are used, they shall pass an adequate amount of water to meet pump suction requirements should pool water drop below the weir level. The equalizer pipes shall be located at least one foot below the lowest overflow level of the skimmer. A valve or equivalent device that will remain tightly closed under normal operating conditions, but automatically open when the water level drops below the minimum operating level of the skimmer, shall be provided on each equalizer pipe.
- f) Construction: Skimmers shall be installed in the pool walls, be sturdy and be constructed of corrosion-resistant materials.
- g) Handgrips: Rounded coping not more than two inches (2") thick or other handgrip adjacent to the pool wall shall be provided. The handgrip shall not be more than nine inches above the minimum skimmer operating level. When the handgrip is formed by the pool deck, it shall slope away from the pool with a one-inch (1") drop in a one-foot (1') distance.
- h) Testing: Flotation testing should be performed to determine and adjust the recirculation system for optimum skimming.

D. Electrical Design

1. Design Criteria

- a. To avoid the deleterious effects of corrosion, all surfaces that could reach the dew-point shall be made of corrosion-resistant material or covered with a corrosion resistant coat. This applies to exit signs, light switch cover plates, speaker box covers, recessed lighting fixtures, fire alarm strobe cages, etc.
- b. Electrical outlets should be eliminated or at least minimized on exterior walls since they represent areas that may compromise the integrity of the vapor retarder which can result in insulation deterioration and structural corrosion.

2. 2022 NYC Building Code: Electrical Precautions

Per Section BC 3109.3.4, no overhead electrical conductors shall be installed within 15 feet of any swimming pool. All metal fences, enclosures, or railings that might become electrically

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charged as a result of contact with broken overhead conductors or from any other cause near or adjacent to, a swimming pool shall be grounded in accordance with the provisions of lightning protection in the New York City Electrical Code.

3. 2011 NYC Electrical Code Amendments to the 2008 National Electrical Code (NEC – NFPA 70) per Section 27-3025 of the Administrative Code per Local law 39/11. The following are the NYC Amendments to the 2008 NEC Code, Article 680 in relation to Swimming Pools:
 - a. Section 680.4: - At the end of the paragraph add the following:
All applicable provisions of the New York City Construction Codes shall apply.
 - b. Section 680.9 - At the end of the paragraph add the following:
All such circuits shall be provided with GFPE. Electric water heaters of the immersion or submersible type shall not be permitted.
 - c. Section 680.21, Subsection 680.21(A)(3) - Revise by deleting the words “or liquidtight flexible nonmetallic conduit”.
 - d. Section 680.23, Subsection 680.23(B)(1) - Revise the first sentence to read as follows:
Listed and approved forming shells shall be installed for the mounting of all wet-niche underwater luminaires (fixtures) and shall be equipped with provisions for conduit entries.
 - e. Section 680.23, Subsection 680.23(B)(2) - Revise by deleting the words “liquidtight flexible nonmetallic” throughout.
 - f. Section 680.23, Subsection 680.23 (B)(2)(b) - Revise the first sentence to read as follows:
Where a rigid nonmetallic conduit is used, an 8 AWG insulated solid or stranded copper equipment grounding conductor shall be installed in this conduit unless a listed low-voltage lighting system not requiring grounding is used.
 - g. Section 680.23, Subsection 680.23(D) - Revise to read as follows:
(D) No-Niche Luminaires (Fixtures). A no-niche lighting fixture shall be supplied from a transformer meeting the requirements of 680.23(A)(2) and shall:
 - (1) Have no exposed metal parts
 - (2) Have an impact resistant polymeric lens and body, and
 - (3) Be listed and approved for the purpose
 - h. Section 680.23, Subsection 680.23(F)(1) - Revise to read as follows:
(1) Wiring Methods. Branch-circuit wiring on the supply side of enclosures and junction boxes connected to conduits run to wet-niche and no-niche luminaires (fixtures), and the field wiring compartments of dry-niche luminaires (fixtures), shall be installed using listed and approved rigid metal conduit, intermediate metal conduit, or rigid nonmetallic conduit. Exception: Electrical metallic tubing shall be permitted to be used to protect conductors, when installed within buildings.
 - i. Section 680.33 - Revise to read as follows:
Storable Pool Luminaires (Lighting Fixtures). Luminaires (lighting fixtures) for storable pools shall not be permitted.

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- j. Section 680.41 - Revise section by deleting the last sentence.
 - k. Section 680.42, Subsection 680.42(A)(1) - Revise subsection by deleting the words "liquidtight flexible nonmetallic conduit" throughout.
4. NYC Department of Health Code
- a. Per Article 165.17(c): An emergency telephone shall be immediately accessible within 300 feet unimpeded distance of the pool water (an unlocked door or gate shall not be considered an impediment) for emergency communications in the bathing establishment. The design bid package shall indicate the required emergency telephone.
 - b. Article 165.47 addresses Lighting and Electrical Installation.
 - c. Artificial lighting shall be provided for all bathing establishments which are to be used at night, or which do not have adequate natural lighting. The light and electrical installation shall be provided in accordance with the following:
 - 1) All new electrical wiring shall conform with Chapter 3 of Title 27 of the Administrative Code of the City of New York, entitled the "Electrical Code" and the National Electrical Code of the National Underwriters Laboratory, or any successor regulation or code.
 - 2) Underwater: When underwater lighting is used, not less than 8.35 lumens or 0.5 watt per square foot of pool water area shall be provided. Such lights shall be spaced to provide illumination so that all portions of the pool including the bottom, may be readily seen without glare. Overhead illumination on the water surface shall be a minimum of 30 foot-candles.
 - 3) If underwater lights are not provided, a minimum illumination of 50 foot-candles on the water surface and the deck shall be provided.
 - 4) Decks: A minimum of 50 foot-candles should be provided at deck area.
 - 5) The illumination level in indoor pools shall be so designed to limit glare and excessive reflection.
 - 6) No overhead electrical wiring, except when secured within a ceiling, shall pass within twenty feet (20') of the pool enclosure **and/or spray pad**.
 - 7) Emergency lighting: All indoor pools where night swimming is permitted, and indoor pools where no natural light is present shall be provided with an adequate emergency lighting service.
 - 8) Electrical outlets. Lighting or other electrical outlets in the deck, shower room, and the water treatment areas shall have properly installed ground fault circuit interrupters (GFCI) at the outlet.
 - 9) Each underwater light shall be individually grounded by means of an adequate ground-wire with a screwed or bolted connection to the metal junction box from which

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the branch circuit to the individual light proceeds. Such junction boxes shall not be located in the pool deck within four feet of the pool.

- 10) Equipment room and storage area: All pool equipment and chemical storage rooms shall be provided with artificial lighting sufficient to illuminate all equipment and supplies.

d. Article 165.07 Construction Inspection and Certification

- 1) Certification: All bathing establishments with pools shall file on completion of the construction, modification or addition, and prior to public use of new facilities or equipment, a construction compliance certificate to the Department. This certificate shall be prepared and signed by a professional engineer or architect licensed to practice in New York State. The certificate shall include a written statement that the establishment has been constructed in accordance with the plans and specifications approved by the Department.
- 2) The applicant shall notify the Department of the completion of construction, modification, alteration or addition in order to schedule a compliance inspection. An approval for construction compliance inspection will be granted by the Department when all of the required items are completed to the Department's satisfaction.

e. Article 165.09 Requirements for Permit Approval

- 1) Per Article 165.01(c), schools, do not require a DOH permit; however other provisions of Article 165 do apply to schools, hence Article 165.09 applies as defined in 2) below:
- 2) All establishments shall be designed, constructed and completed in accordance with the requirements of Article 165.09. For all bathing establishments:
 - a) A completed and approved safety plan is required in accordance with Section 165.19.
 - b) Certificate of Occupancy for the bathing establishment, from the New York City Department of Buildings shall be submitted to DOH including an approval letter for underwater lighting construction and certificate of inspection for electrical work and certificate of inspection for the gas fired heating system.
 - c) Waste water or sewer discharge permit from an approved agency shall be submitted to NYCDOH.
 - d) Copies of Aquatic Supervisory Certificates as required by Section 165.15 shall be submitted to NYCDOH.
 - e) Copies of Pool Operator Certificate as required by Section 165.15 shall be submitted to NYCDOH.



f. Article 165.41(b) Structural Stability

The designing architect or engineer shall certify the structural stability and safety of the bathing establishment. All bathing establishments shall be designed and constructed to withstand all anticipated loading for both full and empty conditions, and hydrostatic and earth pressures involved in each case. The strength of the assembled and installed components and accessories to be used in and around the pools should be such that no structural failure of any component part shall cause the failure of any other component part.