CONSTRUCTION OF NEW 4-STORY 10-UNIT CLASS A APARTMENT BUILDING 1. PROPOSED WORK IS TO COMPLY WITH THE NYC BUILDING CODE OF THE CITY OF NEW YORK 2014 AND WITH ARTICLE 7 OF THE MULTIPLE DWELLING LAW (MDL). 2. IN ACCORDANCE WITH SECTION 220 OF THE MDL. THE FOLLOWING ENUMERATED ARTICLES AND SECTIONS SHALL. TO THE EXTENT REQUIRED THEREIN, APPLY TO THIS REGISTRY OF NAMES AND SERVICE OF PAPERS AS PER SECTION 325-329 OF THE MDL AND D2641.01 & 41.03 OF THE HOUSING MAINTENANCE CODE (HMC). PROSTITUTION PENALTY AS PER SECTION 351-360 OF THE MDL. PAINTING OF COURTS AND SHAFTS AS PER SECTION 29 OF THE MDL. SIZE OF ROOMS AS PER SECTION 31 OF THE MDL. ENTRANCE DOORS, LIGHTS AND ARTIFICIAL LIGHTING AS PER SECTIONS 35 AND 37 OF THE MDL. SHAFTS AND ELEVATORS AS PER SECTION 51 OF THE MDL. WAINSCOTING, BELLS AND MAIL RECEPTACLES AS PER SECTIONS 55 AND 57 OF THE MDL. ALL INCOMBUSTIBLE MATERIALS SHALL COMPLY WITH SECTION 58 OF THE MDL. ALL PARAPETS, GUARDRAILS AND WIRES TO COMPLY WITH SECTION 62 OF THE MDL. WATER SUPPLY, WATER CLOSETS AND BATH ACCOMMODATIONS-, PLUMBING AND DRAINAGE TO COMPLY WITH SECTIONS 75, 76 & 77 OF THE MDL. REPAIRS, HEATING AND CLEANLINESS TO BE IN ACCORDANCE WITH SECTIONS 78, 79 & 80 OF THE MDL. 3. ALL APARTMENT ENTRY DOORS SHALL BE PROVIDED WITH APPROVED-TYPE PEEPHOLES AS PER SECTION 31a OF THE MDL 4. BUILDING HEIGHT AND BULK SHALL COMPLY WITH SECTION 211 OF THE MDL. 5. NO ROOM IN THE CELLAR SHALL BE USED FOR LIVING PURPOSES AS PER SECTION 216 OF THE MDL. 6. PUBLIC HALLS AND STAIRS SHALL BE VENTILATED AS PER SECTION 217 OF THE MDL. 7. EGRESS FROM EACH APARTMENT SHALL BE PROVIDED BY AT LEAST TWO MEANS AS PER SECTION 213 OF THE MDL. 8. BULKHEADS, PUBLIC HALL, STAIRS, STAIR CONSTRUCTION, STAIR ENTRANCES AND HALLS SHALL COMPLY WITH SECTIONS 233, 234, 235, 237 AND 238 OF THE MDL. 9. THE ENTIRE CEILING OF THE CELLAR SHALL BE FIREPROOFED AS PER SECTION 240 OF THE MDL. HOUSING MAINTENANCE CODE 1. CELLAR STAIRS, WHERE PROVIDED, SHALL BE ENCLOSED FROM THE LEVEL OF THE ENTRANCE STORY UP TO THE UNDERSIDE OF THE FIRST FLIGHT OF STAIRS AND THE SOFFIT OF SUCH. FIRST FLIGHT OF MAIN STAIRS AND THE PARTITIONS FORMING SUCH ENCLOSURE SHALL BE FIRE-RETARDED AS PER SECTIONS 242 AND 244 OF THE 2. OCCUPANCY SHALL COMPLY WITH SECTION D26-33.03 OF THE HMC 3. OWNER SHALL PROVIDE A SIGN IDENTIFYING OWNER, MANAGER AND SUPERINTENDENT AS PER SECTION D26-41.15 OF THE HMC. 4. PREMISES TO COMPLY WITH SECTIONS D26-17.01 AND 17.07 OF THE HMC FOR HEATING AND HOT WATER SUPPLY. 5. FLOOR SIGNS DESIGNATING FLOOR NUMBERS SHALL BE PROPERLY DISPLAYED AS PER DEPARTMENT RULES AND REGULATIONS D26-21.03. PROPER HOUSE NUMBERS SHALL BE DISPLAYED AS PER SECTION D26-21.05 OF THE HMC. 6. DRAINAGE OF THE ROOF AND REAR YARDS SHALL COMPLY WITH SECTION D26-16.03 OF THE HMC. 7. NIGHT-LIGHTING OF THE PUBLIC HALLS AND STAIR HALL SHALL COMPLY WITH SECTIONS D26-19.03 AND 19.07 OF THE HMC. 8. OBLIGATIONS OF THE OWNER SHALL COMPLY WITH SECTION D26-22.03 OF THE HMC. 9. FACILITIES AND EQUIPMENT SHALL COMPLY WITH SECTION D26-32.0 OF THE HMC. 10. LIGHTING AND VENTILATION SHALL COMPLY WITH SECTION D26-32.03 OF THE HMC. 11. REGISTRATION STATEMENTS, TIME TO FILE AND CONTENTS SHALL COMPLY WITH SECTION D26-41.01 AND 41.03 OF THE HMC. 12. POSTING OF SERIAL NUMBER SHALL BE DONE IN ACCORDANCE WITH SECTION D26-41.15 OF THE HMC. 13. ALL WINDOWS ARE TO BE A MINIMUM OF 10% OF THE FLOOR AREA OF THE ROOM THAT IT SERVES. THE OPERABLE AREA OF SUCH WINDOWS SHALL BE AT LEAST 5% 14. ALL GUARD RAILS, INTERIOR AND EXTERIOR SHALL BE A MINIMUM OF 3'-6" HIGH. 15. BUILDING ENTRANCE DOORS SHALL BE SELF CLOSING AND TO HAVE SELF-LOCKING DEVICE EXCEPT ON ENTRANCE LEADING TO THE MAIN ENTRANCE VESTIBULE AS 16. PROVIDE MAIL SERVICE AS PER SECTION D26-21.01 OF THE HMC WITH APPROVED-TYPE MAIL BOXES AND DIRECTORY. 17. JANITORIAL SERVICES SHALL BE PROVIDED BY OWNER AS PER SECTION D26-22.03 OF THE HMC. 2. THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL VISIT THE SITE PRIOR TO BIDDING ON THE PROJECT AND/OR PRIOR TO BEGINNING CONSTRUCTION. 3. ANY DISCREPANCIES BETWEEN ACTUAL EXISTING CONDITIONS AND THOSE DEPICTED ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT 4. IT IS THE INTENT OF THESE PLANS TO DEPICT COMPLETE SYSTEMS. IN THE EVENT THAT NOT ALL ELEMENTS OF A PARTICULAR SYSTEM ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL NEVERTHELESS BE RESPONSIBLE TO PROVIDE COMPLETE WORKING SYSTEMS IN ACCORDANCE WITH GENERAL PRACTICE. 5. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK. 6. NO WORK BEYOND THE PROPERTY LINE SHALL BE STARTED BEFORE OBTAINING PERMIT FROM THE DEPARTMENT OF HIGHWAYS. 7. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB-SITE BEFORE WORK IS BEGUN AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR 8. ALL MASONRY CONSTRUCTION AS PER SECTIONS 8.4.1 AND 8.4.1.4 OF THE BUILDING CODE AND ALL OTHER APPLICABLE REGULATIONS. SMOKE / CARBON MONOXIDE DETECTOR NOTES 1. SMOKE / CARBON MONOXIDE DETECTORS TO BE PROVIDED IN VICINITY OF BEDROOMS (SLEEPING AREAS) WITHIN APARTMENTS AND IN ALL MECHANICAL EQUIPMENT AND MECHANICAL SWITCHING ROOMS IN ACCORDANCE WITH SECTION 68 OF THE MDL. 2. ALL SMOKE /CARBON MONOXIDE DETECTORS SHALL BE HARDWIRED WITH BATTERY BACK-UP (TO HOUSE WIRING WITHOUT SWITCH) -AS PER ARTICLE VII, SECTION 217, A SKYLIGHT SHALL BE PROVIDED AT THE STAIR BULKHEAD. -SKYLIGHT TO HAVE A MINIMUM GLAZED AREA OF 20 SQUARE FEET. -SKYLIGHT TO HAVE FIXED LOUVER WITH MINIMUM OF 40 SQUARE INCH OPEN AREA. KITCHENETTES WITHOUT WINDOWS ARE TO BE MECHANICALLY VENTED WITH A MINIMUM DUCT SIZE OF 144 SQUARE INCHES AND A MINIMUM SIZE OF 8" - CONSTRUCTED OF 24 GAUGE GALVANIZED METAL. CEILING IN THE KITCHENETTE TO BE FURRED-DOWN WHEN REQUIRED. KITCHENETTE AREA TO HAVE A MINIMUM CLEAR HEIGHT OF 7'-6" PARTITIONS AND CEILINGS ENCLOSING THE KITCHENETTES TO BE FIRE-RETARDED WITH NATIONAL GYPSUM FIRE-SHIELD OR EQUAL BS&A CALENDAR 3439-528-M ON BOTH SIDES OF THE PARTITION AS PER SECTION 33 OF THE MDL. SURFACES DIRECTLY UNDER AND WITHIN 1'-0" OF THE GAS RANGE TO BE FIRE-RETARDED WITH 1" GAS RANGES TO BE OF A TYPE APPROVED BY THE A.G.A. AND TO BE INSTALLED AS PER SECTION 33 OF THE MDL. SEISMIC CODE NOTES: THIS PROPOSED PROJECT CONFORMS TO TPPN 4/99 AND BC 1614 FOR SEISMIC DESIGN SEE STRUCTURAL DRAWINGS FILED AS SUBSEQUENT TO THIS APPLICATION STRUCTURAL NOTES: STRUCTURAL DESIGN, UNDERPINNING (IF REQUIRED), SHORING AND SUPPORT OF EXCAVATION TO BE FILED SEPARATELY 1. UPON COMPLETION OF THE MECHANICAL VENTILATION SYSTEM, A TEST SHALL BE MADE IN THE PRESENCE OF A LICENSED PROFESSIONAL ENGINEER, QUALIFIED TO CONDUCT SUCH TESTS. THE TEST SHALL SHOW COMPLIANCE WITH THE CODE REQUIREMENTS FOR VENTILATION AND PROPER FUNCTION OF ALL OPERATING DEVICES 2. KITCHENETTES SHALL HAVE A MINIMUM 12" DROPPED ARCH FROM THE CEILING. 3. THE LICENSED PROFESSIONAL ENGINEER WHO CONDUCTS THE TEST SHALL FILE FORM TR-1 AS TO WHETHER TEST RESULTS SHOW COMPLIANCE WITH CODE 4. A STATEMENT SHALL BE FILED BY THE OWNER STATING THAT THE VENTILATION SYSTEM WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE ACTU. OCCUPANCY OF THE STRUCTURE AS PROVIDED BY THE APPLICABLE LAWS. 5. INTERIOR BATHROOMS SHALL HAVE ADJUSTABLE REGISTERS AND FUSIBLE LINK DAMPERS. ELECTRICAL EXHAUST FANS ON THE ROOF SHALL BE CAPABLE OF EXHAUSTING A MINIMUM OF 4 AIR CHANGES PER HOUR PER BATHROOM SERVED. 6. ROOF FANS SHALL BE KEPT IN CONTINUOUS OPERATION FROM 6:00 A.M. TO MIDNIGHT. 7. VENTS AND OTHER OUTDOOR AIR INTAKES AND EXHAUST OPENINGS INTEGRAL TO THE BLDG ENVELOPE SHALL BE EQUIPPED WITH NOT LESS THAN A CLASS I MOTORIZED LEAKAGE RATED DAMPER WITH A MAX LEAKAGE RATE OF 4 CFM/SF @ 1.0 IN. WG.

735 LIBERTY AVENUE BLOCK LOT AREA 2500 SF 3328398 ZONING DISTRICT R6A / C2-4 (MAP 17c) REQUIRED/PERMITTED PROPOSED USE GROUPS ZR 22-00 RES 2 COMM FAC 3,4 1 PER 25' 1 TOTAL 1 TREE 3.00/7500 SF 2.38/ 5958.18 SF (SEE Z-002) 65% (1625 SF) 64% (1602.25 SF) (SEE Z-002) <u>DENSITY</u> ZR 23-22 MAXIMUM NUMBER OF APARTMENTS MAXIMUM FLOOR AREA/680 SF YARDS ZR 23-45 FRONT YARD ALIGN WITH ADJOINING 0 ALIGNS WITH ADJOINING ZR 23-462 SIDE YARDS REQUIRED/PROPOSED ZR 23-541 REQUIRED REAR YARD 34'-0 1/2" WITHIN 100' OF CORNER ZR 23-662 HEIGHT
MAXIMUM/PROPOSED BASE HEIGHT MAXIMUM BUILDING HEIGHT 26.6+26.97/2 = 26.78' NOT REQUIRED FOR 10 OR FEWER DWELLING UNITS ZR 25-23 FOR APARTMENTS 1 SPACE FOR 50% OF APTS= 5 SPACES TO 5 UP TO 5 SPACES 0 SPACES 0 SPACE 1 BICYCLE FOR EACH 2 APARTMENT 5 SPACE REQUIRED AREA @ 15 SF/ BICYCLE (15X5)=75 SF PROVIDED AT REAR YARD **QUALITY HOUSING NOTES:** -ZR 28-11 ELEVATED GROUND FLOOR UNITS

2 Zoning Map 7 1" = 10'-0"

PROPOSED N/A NO ELEVATED GROUND FLOOR UNITS

-ZR 28-12 TRASH COLLECTION: PROVIDE REFUSE STORAGE AT 2.9 CF/DU = 29 CF PLUS DISPOSAL ROOM OF PROPOSED STORAGE 560 CF AT CELLAR, 12 SF MINIMUM STORAGE PER FLOOR. NO DEDUCTION

-ZR 28-13 IF LAUNDRY PROVIDED, FLOOR SPACE NOT COUNTED TOWARD FLOOR AREA.

-ZR 28-21 PROVIDE RECREATION SPACE @ 3.3% OF RESIDENTIAL AREA (5958.18X3.3%) =196 SF. PROPOSED RECREATION SPACE = 850 SF AT REAR YARD

-ZR28-23: THE AREA OF THE #ZONING LOT# BETWEEN THE #STREET LINE# AND THE #STREET WALL# OF THE #BUILDING# SHALL BE PLANTED AT GROUND LEVEL. PROPOSED: AREA PLANTED BETWEEN STREET LINE AND STREET WALL

ZONING DISTRICT R-6A/C2 - 4

-ZR-28-31 IF THE NUMBER OF DU'S SERVED BY A VERTICAL CIRCULATION CORE ON EACH STORY DOES NOT EXCEED 11, 50% OF THE AREA MAY BE EXCLUDED FROM FLOOR AREA PROPOSED: NO DEDUCTIONS TAKEN

MAP 17C

-ZR 28-40 PARKING AS PER ARTICLE II CHAPTER 5 PROPOSED: N/A PARKING WAIVED

735 LIBERTY AVENUE

BLOCK 3971

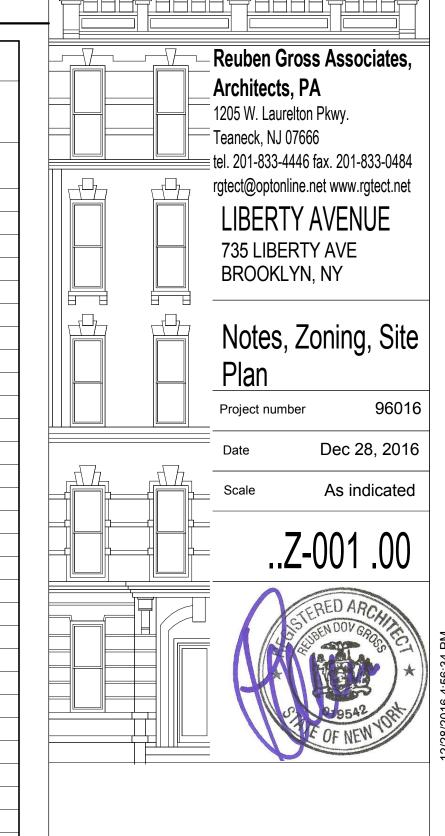
<u>Liberty Avenue</u> 735 Liberty Avenue Brooklyn, NY



NEW WALL. REFER TO WALL SCHEDULE FOR CONCRETE MASONRY UNIT WALL **CONCRETE WALL** NEW DOOR. SEE PLAN FOR LOCATION REFER TO DOOR SCHEDULE FOR TYPE. NEW WINDOW. SEE PLAN FOR LOCATION REFER TO WINDOW SCHEDULE FOR TYPE. DUPLEX CONVENIENCE OUTLET. MOUNTED AT 18" AFF EXCEPT AS INDICATED DUPLEX CONVENIENCE OUTLET WITH GFCI PROTECTION. AT BATHROOM 48" AFF. AT KITCHEN 42" AFF. PROVIDE WP COVER AT EXTERIOR LOCATION SIMPLEX CONVENIENCE OUTLET ON SEPARATE CIRCUIT. LOCATED AT 18" AFF TELEVISION OUTLET LOCATED AT 18" AFF. EMPTY CONDUIT TO ELECTRIC ROOM AT CELLAR. WIRING BY LOCAL CABLE COMPANY SINGLE POLE LIGHT SWITCH. 3 - WAY SWITCH. HARD-WIRED PHOTO-ELECTRIC CARBON MONOXIDE/SMOKE DETECTOR WITH BATTERY BACK-UP. INSTALL ONE PER BEDROOM OR SLEEPING AREA AT OBR PLUS ONE OUTSIDE BEDROOM AREA. INTER-CONNECTED SO WHEN ONE IS ACTIVATED ALL WITHIN UNIT RING. NEW LIGHT. REFER TO REFLECTED CEILING PLAN FOR LOCATION. REFER TO LIGHTING FIXTURE SCHEDULE TO TYPE INT: INTERCOM PANEL. SEE PLAN FOR LOCATION. WIRED TO ELECTRIC STRIKE AT FRONT DOOR A/P APARTMENT ELECTRIC PANEL. SEE PLAN FOR LOCATION. AT 1ST FLOOR. MOUNT SO TOP BREAKER IS LOCATED AT 54" AFF ILLUMINATED EXIT LIGHT WITH BATTERY BACKUP. SEE REFLECTED CEILING PLAN FOR LOCATION. SEE ELECTRICAL ENGINEERS DRAWINGS FOR WIRING AND DETAILS 2-HEAD EMERGENCY LIGHT WITH BATTERY BACKUP. SEE REFLECTED CEILING PLAN FOR LOCATION. SEE ELECTRICAL ENGINEERS DRAWINGS FOR WIRING AND DETAILS

		25.00'	ADJACENT 2-STORY BU	ILDING		
34.03'	AR YARD					
OUTER COURT —	REAR	3 STORIES	DÉ DÉ			
9N-1	6.46	7.34' STAIR BH	TION UNDER	— 1" SEISMIC JOINT		
2-STORY BUILDING	65.97'	LOT 49	LIBERTY AVENUE ARATE APPLICAT	PLANTING AREA BETWEEN FACE C BUILDING AND STREET LINE	ESSEX STRE 50' WIDE	
ADJACENT 2	=	4 STORIES	131 L	CANTILEVER AT	ESSE 50	
		25.00				
26.	60	25.00' #735	26.97	NEW TREE	IM 3" CALIPER AT QUIRED STREET TI	

		Drawing List					
\	#	Sheet Number	Sheet Name	Sheet Issue Date	Current Revision	Current Revision Date	Current Revision Description
	01 Zonin	na					
	1	-	Zoning, Site Plan	12/28/16			
	2	Z-002 Zoning	-	12/28/16			
	02 Gene			1 12:20:10			
	3	A-001 Survey		12/28/16			
	4	A-002 Building	Code Notes	12/28/16			
	03 Ener	gy Calulations		l		I	
	5		Calcs/ ComCheck	12/28/16			
	6	.EN-002 ECCNY	Calcs/ ComCheck	12/28/16			
	7	.EN-003 Energy	Code Inspections	12/28/16			
STREET	04 Archi	tectural	·	<u> </u>		1	
	8	A-101 Cellar a	nd 1st Floor Plans	12/28/16			
	/ 9	A-102 Typical	Floor (2-3), 4th Floor Plans	12/28/16			
STRE	10	A-103 Roof, B	ulkhead Roof Plans	12/28/16			
	11	A-104 Ceiling	Plans Cellar, 1st Floor	12/28/16			
	12	A-105 Ceiling	Plans 2-4, Roof	12/28/16			
SEX 50'	13	A-201 Elevation	ns, Front & Rear	12/28/16			
三 2 2 2 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1	14	A-202 Side Ele	evations	12/28/16			
	15	A-203 Lobby /	Corridror Details	12/28/16			
S Ш	16	A-301 Longitu	dinal Section	12/28/16			
	17	A-302 Cross S	Section	12/28/16			
	18	A-303 Wall Se	ctions	12/28/16			
→ \ <└	7 19	A-304 Stair Se	ection and Details	12/28/16			
	20	A-401 Bathroo	m Details	12/28/16			
	21	A-402 Kitchen	Details	12/28/16			
" CALIPER AT TIME OF	22	A-405 Curtain	wall Details	12/28/16			
RED STREET TREES SHA	LL 23	A-406 Rear Ya	ard, Railing Details	12/28/16			
NED AND REPLACED WH	EN 24	A-501 Door ar	d Window Schedules	12/28/16			
RDANCE WITH THE PARKS DEPARTMENT. TRE	25	A-502 Schedu	les	12/28/16			
RRS DEPARTMENT. TRE OPTION: INSTALL TREE	1105 Shac	ification				· ·	
(S DEPARTMENT DETAI	1100	A-601 Curtain	wall Specification	12/28/16			
	27	A-602 Window	Specifications	12/28/16			



Description

Date

NYC Building Department approval stamp

ENERGY CONSERVATION

GYPSUM PLASTER ON METAL LATHE OR EQUAL..

STAIRS AS PER SECTIONS 52 OF THE MDL.

AND SECTION D26-2001 OF THE HMC.

OF THE FLOOR AREA OF THE ROOM.

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS COMPLY WITH THE ENERGY CONSERVATION CODE OF NEW YORK CITY 2016 FOR CLIMATE ZONE 4A. SEE COMCHECK SHEETS EN-001, EN-002

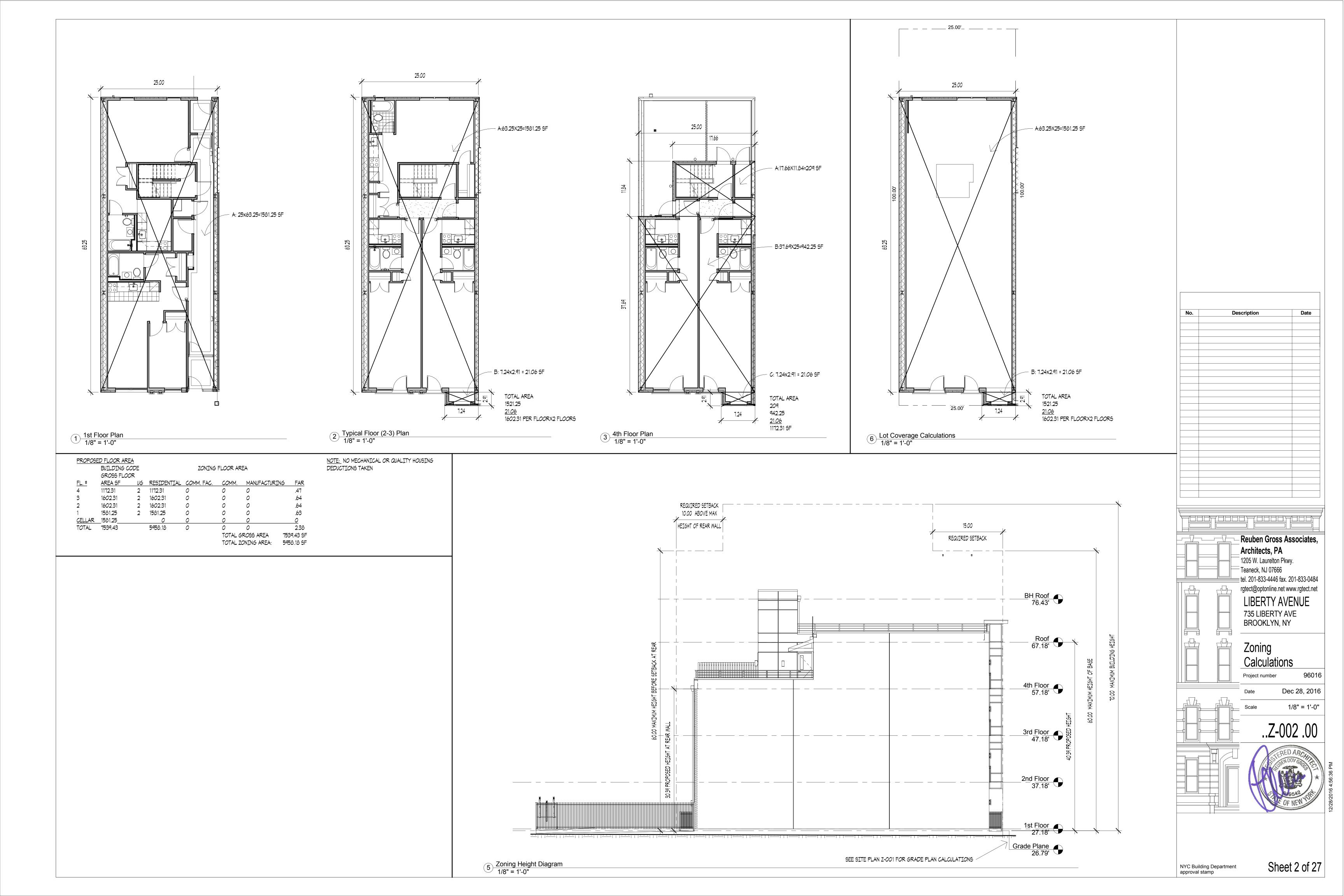
SPECIAL INSPECTIONS FIRE RESITANT PENETRATIONS AND JOINTS BC 1704.27 BC 1704.5 MECHANICAL SYSTEMS BC 1704.15 FIRE STOPS BC 1704.25 FIRE RESISTANCE RATED CONSTRUCTION BC 109.3.4 ENERGY CODE COMPLIANCE BC 109.3.5 PROTECTION OF FOUNDATION INSULATION PLACEMENT AND R VALUE FENESTRATION THERMAL VALUE AND RATINGS FENESTRATION RATINGS FOR AIR LEAKAGE FENESTRATION AREAS AIR SEALING AND INSULATION-VISUAL AIR SEALING AND INSULATION-TESTING VESTIBULES LIGHTING IN DWELLING UNITS INTERIOR LIGHTING POWER

EXTERIOR LIGHTING POWER LIGHTING CONTROLS EXIT SIGN PERMANENT CERTIFICATE

THE ARCHITECT AND P.E.'S OF RECORD HAVE NOT BEEN RETAINED FOR FIELD SUPERVISION OR CONTROLLED INSPECTIONS THE GC SHALL RETAIN A P.E. OR ARCHITEC TO PERFORM ALL REQUIRED CONTROLLED INSPECTIONS. SAID ARCHITECT/PE SHALL FILE A TR-1 TO IDENTIFY RESPONSIBILITY PRIOR TO PERMIT

BUILDING DEMOLITION XXXXXXXXX STRUCTURAL XXXXXXXX MECHANICAL XXXXXXXX PLUMBING XXXXXXXX SPRINKLER XXXXXXXXX

Site Plan 1" = 20'-0"



COM*check* Software Version COMcheckWeb

Project Information

Energy Code: Project Title: Location: Climate Zone: Project Type: **New Construction**

2016 New York City Energy Conservation Code 735 Liberty Avenue New York, New York

Construction Site: 735 Liberty Avenue Brooklyn, New York

Vertical Glazing / Wall Area:

Owner/Agent:

Designer/Contractor: Reuben Gross Reuben Gross Associates, Architects 1205 W Laurelton Pkwy Teaneck, New Jersey 07666 201-833-4446 rgtect@optonline.net

Floor Area
7539

Additional Efficiency Package

High efficiency HVAC. Systems that do not meet the performance requirement will be identified in the mechanical requirements checklist report.

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value		udget U Factor _(a)
Floor: Unheated Slab-On-Grade, Horizontal without vertical 1 ft., [Bldg. Use 1 - Multifamily] (c)	168		10.0	0.710	0.540
Roof: Attic Roof, Steel Joists, [Bldg. Use 1 - Multifamily]	1454	38.0	20.0	0.020	0.027
NORTH E-2 Exterior Wall EIFS Rear Wall See Wall Schedule A-502 and Wall Section 4 A-303: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Multifamily]	1123	15.0	10.0	0.054	0.064
Window: Metal Frame with Thermal Break: Operable, Perf. Specs.: Product ID Andersen, SHGC 0.21, [Bldg. Use 1 - Multifamily] (b)	91			0.400	0.450
Door: , Perf. Specs.: Product ID Andersen, SHGC 0.21, [Bldg. Use 1 - Multifamily] (b)	21			0.270	0.770
EAST E-5 Exterior Wall See Wall Schedule A-502 and Typical Floor plan right side at rear A-102: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Multifamily]	422	15.0	10.0	0.054	0.064
SOUTH Basement: Solid Concrete, 12in. Thickness, Normal Density, Furring: None, Wall Ht 8.0, Depth B.G. 8.0, [Bldg. Use 1 - Multifamily]	1810		10.0	0.086	0.108
E-3 Exterior Wall Thin Brick over stud. See Wall Schedule A-502 and Wall Section 3 A-303: Steel-Framed, 16in. o.c., [Bldg. Use	485	15.0	10.0	0.054	0.064
Project Title: 735 Liberty Avenue Data filename:				Report date Page	e: 11/25/ 1 of

▲ COM*check* Software Version COMcheckWeb

Energy Code: 2016 New York City Energy Conservation Code

Requirements: 0.0% were addressed directly in the COMcheck software Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR1] ¹	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	□Complies □Does Not □Not Observable □Not Applicable	
C103.2 [PR4] ¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	□Complies □Does Not □Not Observable □Not Applicable	
C402.4.1 [PR10] ¹	The vertical fenestration area <= 30 percent of the gross above-grade wall area.	□Complies □Does Not □Not Observable □Not Applicable	
C402.4.1 [PR11] ¹	The skylight area <= 3 percent of the gross roof area.	□Complies □Does Not □Not Observable □Not Applicable	
C402.4.2 [PR14] ¹	In enclosed spaces > 2,500 ft2 directly under a roof with ceiling heights > 15 ft. and used as an office, lobby, atrium, concourse, corridor, storage, gymnasium/exercise center, convention center, automotive service, manufacturing, non-refrigerated warehouse, retail store, distribution/sorting area, transportation, or workshop, the following requirements apply: (a) the daylight zone under skylights is >= half the floor area; (b) the skylight area to daylight zone is >= 3 percent with a skylight VT >= 0.40; or a minimum skylight effective aperture >= 1 percent.	□Complies □Does Not □Not Observable □Not Applicable	

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U- Factor _(a)
1 - Multifamily] Window: Metal Frame with Thermal Break: Operable, Perf. Specs.: Product ID CRYSTAL SERIES 8500, SHGC 0.31, [Bldg. Use 1 - Multifamily] (b)	75			0.510	0.450
Door: , Perf. Specs.: Product ID Andersen, SHGC 0.21, [Bldg. Use 1 - Multifamily] (b)	63			0.270	0.770
CW-1 Curtain Wall See Wall Schedule A-502 and Wall Sections 1 and 2 A-303: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Multifamily]	294	15.0	10.0	0.054	0.064
Window: Metal Frame with Thermal Break: Operable, Perf. Specs.: Product ID Equal to Andersen or Pella, SHGC 0.21, [Bldg. Use 1 - Multifamily] (b)	45			0.400	0.450
WEST E-1 Exterior Wall Brick/Block Cavity wall. See Wall Schedule A-502 and Cross Section A-302: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Multifamily]	2248	15.0	10.0	0.054	0.064
(a) Budget U-factors are used for software baseline calculations ONLY.(b) Fenestration product performance must be certified in accordance v(c) Slab-On-Grade proposed and budget U-factors shown in table are features.	vith NFRC and re			entation.	

nvelope PASSES: Design 20% better than code

Envelope Compliance Statement

Additional Comments/Assumptions:

Project Title: 735 Liberty Avenue

Data filename:

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2016 New York City Energy Conservation Code requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

ame - Title	Signature	Date

Project Title:	735 Liberty Avenue	Report date: 11/25/16
Data filename		Page 2 of 14

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C402.1 [PR17] ¹	PTAC/PTHP penetration through thermal envelope - When penetrations from mechanical equipment listed in Table C403.2.3(3) exceeds 1 percent of the opaque above-grade wall area, the penetration area is represented as an envelope wall assembly of similar type having size equal to penetration area and proposed U-0.5.	□Not Observable □Not Applicable	

	Compiles	Comments/Assumptions
ions in	□Complies □Does Not □Not Observable □Not Applicable	

	maintenance activities.
C402.1.4 [FO1] ²	Below-grade wall insulation

^	COMcheck Software Version COMcheckWeb
77/1	COMcheck Software Version COMcheckWeb Interior Lighting Compliance Certificate

Project Information

2016 New York City Energy Conservation Code Energy Code: Project Title: 735 Liberty Avenue

Project Type: **New Construction**

Designer/Contractor: Construction Site: Owner/Agent: 735 Liberty Avenue Reuben Gross Reuben Gross Associates, Brooklyn, New York **Architects Additional Efficiency Package** 1205 W Laurelton Pkwy Teaneck, New Jersey 07666 201-833-4446

High efficiency HVAC. Systems that do not meet the performance requirement will be identified in the mechanical requirements checklist

rgtect@optonline.net

Allowed

Floor Area

Allowed Interior Lighting Power

,	(ft2)		Watts / ft	2	
1-Multifamily	7539		0 .51		3845
		Tot	al Allowed W	Vatts =	3845
Proposed Interior Lighting Power					
A Fixture ID: Description / Lamp / Wattage Per Lamp / Ballast	E Lam Fixt	ps/	C # of Fixture	D Fixture Watt.	(C X D)
1-Multifamily					
LED: REC-1: RECESSED GENERAL LIGHTING AT AP: LED A Lamp 9W:		1	145	9	1305
LED: SURF-2: SURFACE MOUNTED AT TRASH: LED A Lamp 6W:		1	5	6	30
Compact Fluorescent: SURF-1: DECORATIVE SURFACE MOUNTED FIXT: Spiral 13W: Electronic:		2	10	26	260
Linear Fluorescent: K-1: SURFACE MOUNTED FLUORESCENT AT: 48" T8 25W (Supe Electronic:	r T8):	2	10	50	500
Linear Fluorescent: FL-8: SURFACE MOUNTED FLUORESCENT FIX: 96" T8 75W: Elec	tronic:	2	5	150	750
Linear Fluorescent: FL-4: SURFACE MOUNTED FLUORESCENT FIX: 48" T8 25W (Sup T8): Electronic:	er	2	9	50	450
Linear Fluorescent: WALL-1: WALL MOUNTED FIXTURE AT STAIR: 48" T8 25W (Super	r T8):	1	5	25	125

nterior Lighting PASSES: Design 11% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2016 New York City Energy Conservation Code requirements in COMcheck Version COMcheckWeb and to

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Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C303.2 [FO2] ²	Below-grade wall insulation installed per manufacturer's instructions.	□Complies □Does Not	
		□Not Observable □Not Applicable	
C303.2 [FO4] ²	Slab edge insulation installed per manufacturer's instructions.	□Complies □Does Not	
		□Not Observable □Not Applicable	
C303.2.1 [FO6] ¹	Exterior insulation protected against damage, sunlight, moisture, wind,	□Complies □Does Not	
	landscaping and equipment maintenance activities.	□Not Observable □Not Applicable	
C402.1.4 [FO1] ²	Below-grade wall insulation R-value.	□Complies □Does Not	See the Envelope Assemblies table for values.
		□Not Observable □Not Applicable	
C402.2.5 [FO3] ²	Slab edge insulation R-value.	□Complies □Does Not	See the Envelope Assemblies table for values.
		□Not Observable □Not Applicable	

Additional Comments/Assumptions:

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devices.

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Framing / Rough-In Inspection

[FR13]¹ to performance labels or certificates Does Not

[FR14]² with the building thermal envelope ☐Does Not

C402.5.7 Vestibules are installed on all building \square Complies

C303.1.3 Fenestration products rated in [FR12]² accordance with NFRC.

C402.4.3 Vertical fenestration SHGC value.

C402.4.3, Vertical fenestration U-Factor.

meets requirements.

C402.4.4 U-factor of opaque doors associated

[FR17]³ entrances. Doors have self-closing

provided.

Complies?

 \square Does Not

□Not Observable □Not Applicable

□Not Observable

☐ Complies

□Does Not □Not Observable □Not Applicable

☐Complies

□Does Not □Not Observable □Not Applicable

☐Complies

□Not Observable ☐Not Applicable

□Not Observable □Not Applicable

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& Req.ID

C402.4.3.

comply with any applicable mandatory requirements listed in the Inspection Checklist.

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Comments/Assumptions

See the Envelope Assemblies table for values.

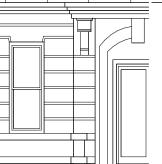
See the Envelope Assemblies table for values.

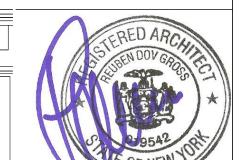
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Dec 28, 2016





1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
The state of the s	Stair and elevator shaft vents have motorized dampers that automatically close.	□Complies □Does Not □Not Observable □Not Applicable	
	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed.		

Additional Comments/Assumptions:

Section #	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
& Req.ID C405.2.1	Lighting controls installed to uniformly	□Complies	
[EL15] ¹	reduce the lighting load by at least	Does Not	
	50%.	□Not Observable	
		□Not Applicable	
C405.2.1		Complies	
[EL18] ¹	required spaces.	□Does Not	
		□Not Observable □Not Applicable	
C405.2.1,	Independent lighting controls installed		
	per approved lighting plans and all	Does Not	
3 [EL23] ²	manual controls readily accessible and visible to occupants.	□Not Observable	
[[[]]	visible to occupants.	□Not Applicable	
C405.2.2.	Automatic controls to shut off all building lighting installed in all	□Complies □Does Not	
[EL22] ²	buildings.	□Not Observable	
		□Not Observable □Not Applicable	
C405.2.3		□Complies	
[EL16] ²		□Does Not	
	lights independent of general area lighting.	□Not Observable	
		□Not Applicable	
C405.2.3, C405.2.3.		□Complies □Does Not	
1,	controls.	□Not Observable	
C405.2.3. 2		□Not Applicable	
[EL20] ¹			
C405.2.3,		□Complies	
C405.2.3. 1,	under skylights and rooftop monitors are equipped with required lighting	□Does Not	
C405.2.3.	controls.	□Not Observable □Not Applicable	
3 [EL21] ¹		Livot Applicable	
C405.2.4 [EL4] ¹	Separate lighting control devices for specific uses installed per approved	□Complies □Does Not	
	lighting plans.	□Not Observable	
		□Not Applicable	
C405.2.4 [EL8] ¹		□Complies □Does Not	
-	approved lighting plans and is	□Not Observable	
	automatically controlled and separated from general lighting.	□Not Applicable	
C405.3 [EL6] ¹		□Complies □Does Not	
		□Not Observable	
		□Not Applicable	

& Req.ID Complies? Comments/Assumptions Insulation Inspection C303.1 Roof insulation installed per [IN3]¹ manufacturer's instructions. Blown or \square_{Does} Not poured loose-fill insulation is installed only where the roof slope is <=3 in Not Observable \(\subseteq \text{Not Applicable} \) C303.1 Building envelope insulation is labeled \square Complies [IN10]² with R-value or insulation certificate \square Does Not providing R-value and other relevant □Not Applicable [IN7]¹ per manufacturer's instructions. \square_{Does} Not □Not Observable □Not Applicable C303.2.1 Exterior insulation is protected from damage with a protective material. C402.2.1 Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended □Not Observable ceiling. Mark this requirement compliant if insulation is installed accordingly. C402.2.3 Above-grade wall insulation R-value. ☐Complies ☐Does Not See the Envelope Assemblies table for values. □Not Observable □Not Applicable C402.2.5 Floor insulation R-value. See the Envelope Assemblies table for values. ☐Complies □Does Not □Not Observable □Not Applicable C402.2.6 Radiant panels and associated [IN18]³ components, designed for heat transfer from the panel surfaces to the occupants or indoor space are insulated with a minimum of R-3.5. C402.4.2. Roof R-value. For some ceiling Systems, verification may need to Does Not See the Envelope Assemblies table for values. [IN2]¹ occur during Framing Inspection. C402.5.1. All sources of air leakage in the building thermal envelope are sealed, [IN1]¹ caulked, gasketed, weather stripped or wrapped with moisture vapor- Not Observable Not Applicable minimize air leakage.

Section # & Req.ID	Insulation Inspection	Complies?	Comments/Assumptions
C402.5.1. 3 [IN20] ¹	Air barrier testing: New buildings comply with following requirements: 1. New buildings 25,000 ft2 and greater, but less than 50,000 ft2, and less than or equal to 75 feet in height show compliance through testing in accordance with ASTM E 779 and department rules. 2. New buildings 50,000 ft2 and greater, will test or inspect each type of unique air barrier joint or seam in the building envelope for continuity and defects, as per an Air Barrier Continuity Plan developed by a registered design professional and department rules. 3. Rules governing air barrier testing promulgated by the department	□Complies □Does Not □Not Observable □Not Applicable	

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Section # & Req.ID Final Inspection Complies? Comments/Assumptions C303.3, Furnished O&M instructions for C408.2.5. systems and equipment to the □Does Not building owner or designated □Not Observable [FI17]³ representative. □Not Applicable tested and deemed to limit air leakage <= 0.40 cfm/ft2. □Not Applicable C402.5.6 Weatherseals installed on all loading \square Complies \square Does Not [FI37]¹ dock cargo doors. ☐Not Observable □Not Applicable C405.4.1 Interior installed lamp and fixture | Complies | See the Interior Lighting fixture schedule for values. | Does Not | is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed | Not Applicable C408.2.5. Furnished as-built drawings for electric power systems within 90 days Does Not of system acceptance. □Not Observable □Not Applicable C408.3 Lighting systems have been tested to Complies [FI33]¹ ensure proper calibration, adjustment, □Does Not programming, and operation. □Not Observable □Not Applicable C402.2.7 | Wood-burning fireplaces have tight | □Complies | □Does Not for combustion. □Not Observable
□Not Applicable Additional Comments/Assumptions:

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		Reuben Gross As Architects, PA 1205 W. Laurelton Pkwy Teaneck, NJ 07666 tel. 201-833-4446 fax. 2 rgtect@optonline.net ww LIBERTY AVE 735 LIBERTY AV BROOKLYN, NY	7. 01-833-0484 vw.rgtect.net ENUE /E	
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Description

Date

TABLE II – PROGRESS INSPECTIONS FOR ENERGY CODE COMPLIANCE – COMMERCIAL

	Inspection/Test	Periodic (minimum)	Reference Standard (See ECC Chapter C5) or	ECC or Other Citation
			Other Criteria	
IIA IIA1	Envelope Inspections Protection of exposed	As required	Approved construction	C303.2.1; ASHRAE
IIAI	foundation insulation: Insulation shall be visually inspected to verify proper protection where applied to the exterior of basement or cellar walls, crawl-space walls and/or	during foundation work and prior to backfill	documents	90.1 – 5.8.1.7
IIA2	the perimeter of slab-on-grade floors. Insulation placement and R-	As required	Approved construction	C303.1, C303.1.1,
	values: Installed insulation for each component of the conditioned space envelope and at junctions between components shall be visually inspected to ensure that the R-values are marked, that such R-values conform to the R-values identified in the construction documents and that the insulation is properly installed. Certifications for unmarked insulation shall be similarly visually inspected.	to verify continuous enclosure while walls, ceilings and floors are open	documents	C303.1.2, C402.1, C402.2; ASHRAE 90.1 –5.5, 5.6 or 11; 5.8.1
IIA3	Fenestration U-factor and	As required	Approved construction	C303.1, C303.1.3,
	product ratings: U-factors, SHGC and VT values of installed fenestration shall be visually inspected for conformance with the U-factors, SHGC and VT values identified in the construction drawings by verifying the manufacturer's NFRC labels or, where not labeled, using the ratings in ECC Tables C303.1.3(1), (2) and (3).	during installation	documents; NFRC 100, NFRC 200	C402.3; ASHRAE 90.1 –5.5; 5.6 or 11; 5.8.2
IIA4	Fenestration air leakage: Windows and sliding or	As required during	NFRC 400, AAMA/WDMA/CSA	C402.4.3; ASHRAE 90.1 –5.4.3.2
	swinging door assemblies, except site-built windows and/or doors, shall be visually inspected to verify that installed assemblies are listed and labeled by the manufacturer to the referenced standard.	installation; prior to final construction inspection	101/I.S.2/A440 ASTM E283; ANSI/DASMA 105	
	For curtain wall, storefront glazing, commercial entrance doors and revolving doors, the testing reports shall be reviewed to verify that the			
	installed assembly complies with the standard cited in the approved plans.			
IIA5	Fenestration areas:	Prior to final	Approved construction	C402.3; ASHRAE 90.
	Dimensions of windows, doors and skylights shall be verified by visual inspection.	construction inspection	documents	- 5.5.4.2, 5.6 or 11
IIA6	Air sealing and insulation – visual inspection: Openings and penetrations in the building envelope, including site-built fenestration and doors, shall be visually inspected to verify that a continuous air barrier around the envelope forms an air-tight enclosure.	As required during construction	Approved construction documents; ASTM E2178, ASTM E2357, ASTM E1677, ASTM E779, ASTM E283.	C402.4; ASHRAE 90. - 5.4.3.1
	The progress inspector shall visually inspect to verify that materials and/or assemblies have been tested and meet the requirements of the respective standards, or that the building is tested and meets the requirements of the standard, in accordance with the standard(s) cited in the approved plans.			
IIA7	Projection factors: Where the energy analysis utilized a projection factor > 0, the projection dimensions of overhangs, eaves or permanently attached shading devices shall be verified for conformance with approved plans by visual inspection.	Prior to final construction inspection	Approved construction documents, including energy analysis	C402.3; ASHRAE 90. - 5.5.4, 5.6 or 11
IIA9	Vestibules: Required entrance vestibules shall be visually inspected for proper operation.	Prior to final construction inspection	Approved construction documents	C402.4.7; ASHRAE 90.1 – 5.4.3.4
IIB	Mechanical and Service V	 Vater Heating	I Inspections	
IIB2	Shutoff dampers: Dampers for stair and elevator shaft vents and other outdoor air intakes and exhaust openings	As required during installation	Approved construction documents; AMCA 500D	C403.2.4.4; ASHRAE 90.1 – 6.4.3.4

	inspected to verify that such dampers, except where permitted to be gravity dampers, comply with approved construction drawings.			
	Manufacturer's literature shall be reviewed to verify that the product has been tested and found to meet the standard.			
IIB3	HVAC and service water heating equipment: Equipment sizing, efficiencies and other performance factors of all major equipment units, as determined by the applicant of record, and no less than 15% of minor equipment units, shall be verified by visual inspection and, where necessary, review of manufacturer's data.	Prior to final plumbing and construction inspection	Approved construction documents	C403.2, C404.2, C404.7, C406.2; ASHRAE 90.1 – 6. 6.4.1, 6.4.2, 6.8; 7.4
	Pool heaters and covers shall be verified by visual inspection.			
IIB4	HVAC and service water heating system controls: No less than 20% of each type of required controls and economizers shall be verified by visual inspection and tested for functionality and proper operation. Such controls shall include, but are not limited to: Thermostatic Set point overlap restriction Off-hour Shutoff damper Snow-melt system Demand control systems Outdoor heating systems Zones Economizers Air systems Variable air volume fan Single Zone Cooling Systems Hydronic systems Heat rejection equipment fan speed Complex mechanical	After installation and prior to final electrical and construction inspection, except that for controls with seasonally dependent functionality, such testing shall be performed before signoff for issuance of a Final Certificate of Occupancy	Approved construction documents, including control system narratives; ASHRAE Guideline 1: The HVAC Commissioning Process where applicable	C403.2.4, C403.2.5 C403.2.11, C403.3, C403.4, C404.3, C404.6, C404.7; ASHRAE 90.1 – 6. 6.4, 6.5, 7.4.4, 7.4.5
	multiple zones Ventilation Energy recovery systems Hot gas bypass limitation Temperature Service water heating Hot water system Pool heater and time switches Exhaust hoods Radiant heating systems. HVAC Control in Group R-1 Sleeping Rooms Controls with seasonally dependent functionality: Controls whose complete operation cannot be demonstrated due to prevailing weather conditions typical of the season during which progress inspections will be performed shall be permitted to be signed off for the purpose of a Temporary Certificate of Occupancy with only a visual inspection, provided, however, that the progress inspector shall perform a supplemental inspection where the controls			
	are visually inspected and tested for functionality and proper operation during the next immediate season thereafter. The owner shall provide full access to the progress inspector within two weeks of the progress inspector's request for such access to perform the progress inspection. For such supplemental inspections, the Department shall be notified by the approved progress inspection agency of any unresolved deficiencies in the installed			

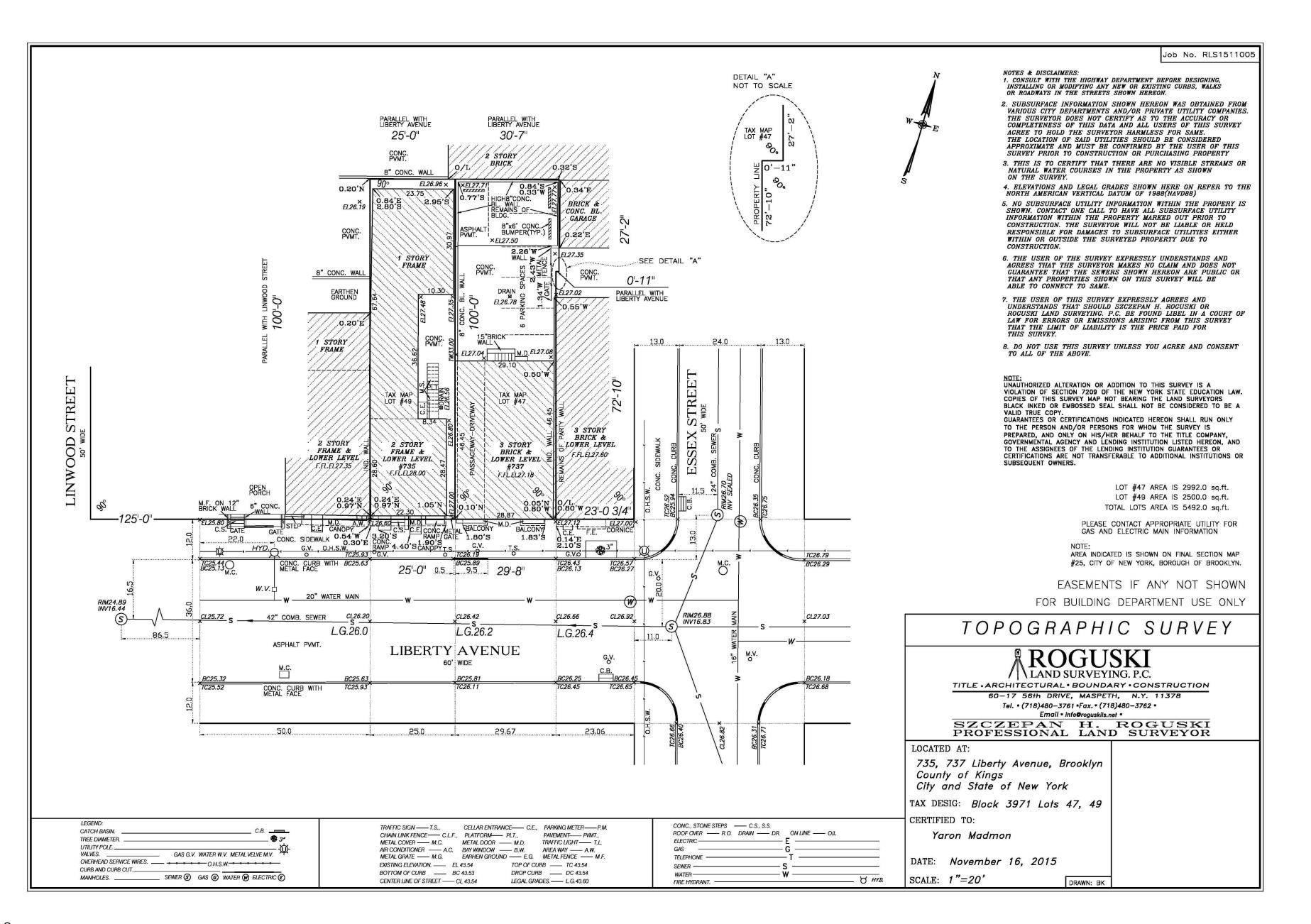
IIB5	HVAC insulation and sealing: Installed duct and piping insulation shall be visually inspected to verify proper insulation placement and values. Joints, longitudinal and transverse seams and	After installation and prior to closing shafts, ceilings and walls	Approved construction documents; SMACNA Duct Construction Standards, Metal and Flexible	C403.2.7, C403.2.8, C404.5, MC 603.9; ASHRAE 90.1 – 6.3, 6.4.4, 6.8.2, 6.8.3; 7.4.3
IIB6	connections in ductwork shall be visually inspected for proper sealing. Duct leakage testing: For duct systems designed to operate at static pressures in excess of 3 inches w.g. (746 Pa), representative sections, as determined by the progress inspector, totaling at least 25% of the duct area, per ECC C403.2.7.1.3, shall be tested to verify that actual air leakage is	After installation and sealing and prior to closing shafts, ceilings and walls	Approved construction documents; SMACNA HVAC Air Duct Leakage Test Manual	C403.2.7.1.3; ASHRAE 90.1 – 6.4.4.2.2
	below allowable amounts.			
IIC IIC1	Electrical Power and Light Electrical energy consumption: The presence and operation of individual meters or other means of monitoring individual apartments shall be verified by visual inspection for all apartments and where required	Prior to final electrical and construction inspection	Approved construction documents	C405.7
IIC2	in a covered tenant space. Lighting in dwelling units: Lamps in permanently installed lighting fixtures shall be visually inspected to verify compliance with high-efficacy requirements.	Prior to final electrical and construction inspection	Approved construction documents	C405.1; ASHRAE 90.1 - 9.1.1
IIC3	Interior lighting power: Installed lighting shall be verified for compliance with the lighting power allowance by visual inspection of fixtures, lamps, ballasts and transformers.	Prior to final electrical and construction inspection	Approved construction documents	C405.5, C406.3; ASHRAE 90.1 –9.1, 9.2, 9.5, 9.6; 1RCNY §101-07(c)(3)(v)(C)4
IIC4	Exterior lighting power: Installed lighting shall be verified for compliance with source efficacy and/or the lighting power allowance by visual inspection of fixtures, lamps, ballasts and relevant transformers.	Prior to final electrical and construction inspection	Approved construction documents	C405.6; ASHRAE 90.1 - 9.4.3; 1RCNY §101- 07(c)(3)(v)(C)4
IIC5	Lighting controls: Each type of required lighting controls, including:	Prior to final electrical and construction inspection	Approved construction documents, including control system narratives	C405.2; ASHRAE 90.1 – 9.4.1 (as modified by section ECC A102)
IIC6		Prior to final electrical and construction inspection	Approved construction documents	C405.4; ASHRAE 90.1 - 9.4.2
IIC7	Electric motors (including but not limited to fan motors): Where required by the construction documents for energy code compliance, motor listing or labels shall be visually inspected to verify that they comply with the respective energy requirements in the construction documents.	Prior to final electrical and construction inspection	Approved construction documents	C403.2.10; ASHRAE 90.1 – 10.4
IID1	Maintenance information: Maintenance manuals for mechanical, service hot water and electrical equipment and systems requiring preventive maintenance shall be reviewed for applicability to installed equipment and systems before such manuals are provided to the owner. Labels required for such equipment or systems shall be inspected for accuracy and completeness.	Prior to sign- off or issuance of Final Certificate of Occupancy	Approved construction documents, including electrical drawings where applicable; ASHRAE Guideline 4: Preparation of Operating and Maintenance Documentation for Building Systems	C303.3, C408.2.5.2; ASHRAE 90.1 – 4.2.2.3, 6.7.2.2, 8.7.2, 9.7.2.2

(i) Energy Analysis of Constructed Conditions. In accordance with Section 28-104.3 of the Administrative Code and section ECC 103.4, if constructed work differs from the last-approved full energy analysis, an asbuilt energy analysis shall be submitted to the Department, listing the actual values used in the building for all applicable Energy Code-regulated items and demonstrating that the building complies with the Energy

No.	Des	scription	Date
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		tel. 201-833-4446 fargtect@optonline.ne	
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Sheet 7 of 2



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		Architects, P.	A	·
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BC 304.1 OCCUPANCY GROUP B (OFFICES AT 1ST FLOOR)

BC 310.1 OCCUPANCY GROUP R-2 APARTMENT HOUSE

BC TABLE 503 CONSTRUCTION CLASS 1 UNLIMITED HEIGHT AND AREA

BC TABLE 508.3.3 REQUIRED SEPARATION BETWEEN OCCUPANCY B AND R-3 2 HOURS

BC TABLE 601 CONSTRUCTION TYPE 1-B

TABLE 001 CONCINCOTION 1111	L 1-D	
ELEMENT	REQUIRED FIRE RATING	PROPOSED
-STRUCTURAL FRAME	2 HOURS	2 HOURS
-BEARING WALLS	2 HOURS	N/A
-NON-BEARING EXTERIOR		
WALLS <5'	1 HOUR	1 HOUR
>5' TO 10'	1 HOUR	1 HOUR
>10' TO 30'	1 HOUR	1 HOUR
>30'	0 HOURS	1 HOUR
	EVTEDIOD WALL ODENINGS	

BC TABLE 704.8 MAXIMUM AREA OF EXTERIOR WALL OPENINGS NOT PERMITTED NONE. ALL WINDOWS AT 0' TO 3' LOT LINE ARE FIXED W/ 1 HOUR FIRE

RATING **NO LIMIT**

feet (1524 mm) from the finished floor.

BC TABLE FIRE RATING FOR FIRE BARRIER 2 HOURS 2 HOURS

BC 707.4 SHAFT ENCLOSURE FIRE RATING 2 HOURS 2 HOURS

BC 707.7 OPENINGS IN SHAFT ENCLOSURES SHALL BE PROTECTED IN ACCORDANCE WITH BC 715. FIRE DAMPERS PROPOSED AT ALL PENETRATIONS

THROUGH-PENETRATION FIRE STOP SYSTEM 714.1 Requirements. The fire-resistance rating of structural members and assemblies shall comply with the requirements for the type of construction and shall not be less than the rating

BC 712.4.1.2 THROUGH PENETRATIONS SHALL BE PROTECTED BY AN APPROVED

required for the fire-resistance-rated assemblies supported. 714.4 Impact protection. Where the fire protective covering of a structural member is subject to impact damage from moving vehicles, the handling of merchandise or other activity, the fire

protective covering shall be protected by corner guards or by a substantial jacket of metal or

other noncombustible material to a height adequate to provide full protection, but not less than 5

714.5 Exterior structural members. Load-bearing structural members located within the exterior walls or exposed to the outdoors shall be provided with the highest fire-resistance rating as determined in accordance with the following:

1. As required by Table 601 for the type of building element based on the type of construction of 2. As required by Table 601 for exterior bearing walls based on the type of construction; and 3. As required by Table 602 for exterior walls based on the fire separation distance.

714.6 Lintel protection. Lintels over openings wider than 4 feet (1219 mm) in masonry walls, other than in walls of masonry veneer on wood frame structures, shall be fire protected as required by Section 714.2 when the full load over the opening is not relieved by a masonry arch

715.3 Fire door and shutter assemblies. Approved fire door and fire shutter assemblies shall be constructed of any material or assembly of component materials that conforms to the test requirements of Section 715.3.1, 715.3.2 or 715.3.3 and the fire protection rating indicated in Table 715.3. Fire door assemblies and shutters shall be installed in accordance with the provisions of this section and NFPA 80.

Exceptions:

of required strength

Labeled protective assemblies that conform to the requirements of this section or UL 10A, UL 14B and UL 14C for tin-clad fire door assemblies 2. Floor fire doors shall comply with Section 712.4.6.

TABLE 715.3 FIRE DOOR AND FIRE SHUTTER FIRE PROTECTION RATINGS

TYPE OF ASSEMBLY REQUIRED ASSEMBLY RATING

MINIMUM FIRE DOOR AND FIRE SHUTTER ASSEMBLY RATING (hours) Fire walls and fire barriers having a required fire-resistance rating greater than 1 hour 2 hour rated assembley 1 1/2 hours

715.3.1 Side-hinged or pivoted swinging doors. Side-hinged and pivoted swinging doors shall be tested in accordance with NFPA 252 or UL 10C. After 5 minutes into the NFPA 252 test, the neutral pressure level in the furnace shall be established at 40 inches (1016 mm) or less above

715.3.3 Door assemblies in corridors and smoke barriers. Fire door assemblies located in corridor walls or smoke barrier walls having a fire-resistance rating in accordance with Table 715.3 shall be tested in accordance with NFPA 252 or UL 10C. Glazing material in any part of the door assembly, including transom lites and sidelites, shall be tested in accordance with NFPA 257 in accordance with Section 715.4. Fire door assemblies shall also meet the requirements for a smoke- and draft-control door assembly tested in accordance with UL 1784 with an artificial bottom seal installed across the full width of the bottom of the door assembly. The air leakage rate of the door assembly shall not exceed 3.0 cfm per square foot (0.01524 m3/slm2) of door opening at 0.10 inch (24.9 Pa) of water for both the ambient temperature and elevated temperature tests. Louvers shall be prohibited.

715.3.4 Doors in vertical exit enclosures and exit passageways. Fire door assemblies in vertical exit enclosures and exit passageways shall have a maximum transmitted temperature end point of not more than 450°F (232°C) above ambient at the end of 30 minutes of standard fire test

715.3.5 Labeled protective assemblies. Fire door assemblies shall be labeled by an approved agency. The labels shall comply with NFPA 80, and shall be permanently affixed to the door or

NYC BUILDING CODE (2008) NOTES

SECTION BC 719 THERMAL- AND SOUND-INSULATING MATERIALS

719.1 General. Insulating materials, including facings such as vapor retarders and vaporpermeable membranes, similar coverings, and all layers of single and multilayer reflective foil insulations, shall comply with the requirements of this section. Where a flame spread index or a smoke-development index is specified in this section, such index shall be determined in accordance with ASTM E 84. Any material that is subject to an increase in flame spread index or smoke-development index beyond the limits herein established through the effects of age, moisture, or other atmospheric conditions shall not be permitted. Fiberboard insulation shall comply with Chapter 23 and the requirements of this section. Foam plastic insulation shall comply with Chapter 26 and the requirements of this section. Duct and pipe coverings and linings in plenums shall comply with the New York City Mechanical Code.

719.1.1 Noncombustible construction. Insulating materials used in noncombustible construction must either: 1. Satisfactorily pass a test for determining noncombustibility of elementary materials, based on the test procedures of ASTM E 136; or

2. Have a flame spread index not greater than 25, a smoke-development index not greater than 50, and be without evidence of continued progressive combustion when tested in accordance

719.2.1 Facings. Where such materials are installed in concealed spaces in buildings of Type III, IV or V construction, the flame spread and smoke-development limits do not apply to facings, coverings, and layers of reflective foil insulation that are installed behind and in substantial contact with the unexposed surface of the ceiling, wall or floor finish.

719.3.2 Toxicity. Upon exposure to fire, insulating materials used in building interiors, including facings, such as vapor retarders and vapor-permeable membranes, similar coverings, and all layers of single and multilayer reflective foil insulation, shall not produce products of decomposition or combustion that are more toxic in point of concentration than those given off by wood or paper when decomposing or burning under comparable conditions in accordance with test standards approved by the department

719.5 Roof insulation. The use of combustible roof insulation not complying with Sections 719.2 and 719.3 shall be permitted in any type construction provided it is applied on top of roof decking or slab and is covered with approved roof coverings directly applied thereto.

719.7 Insulation and covering on pipe and tubing. Insulation and covering on pipe and tubing shall comply with the requirements of the New York City Mechanical Code.

720.1.1 Thickness of protective coverings. The thickness of fire-resistant materials required for protection of structural members shall be not less than set forth in Table 720.1(1), except as modified in this section. The figures shown shall be the net thickness of the protecting materials and shall not include any hollow space in back of the protection.

720.1.2 Unit masonry protection. Where required, metal ties shall be embedded in transverse joints of unit masonry for protection of steel columns. Such ties shall be as set forth in Table 720.1(1) or be equivalent thereto.

720.1.3 Reinforcement for cast-in-place concrete column protection. Cast-in-place concrete protection for steel columns shall be reinforced at the edges of such members with wire ties of not less than 0.18 inch (4.6 mm) in diameter wound spirally around the columns on a pitch of not more than 8 inches (203 mm) or by equivalent reinforcement

721.2.1 Concrete walls. Cast-in-place and precast concrete walls shall comply with Section 721.2.1.1. Multiwythe concrete walls shall comply with Section 721.2.1.2. Joints between precast panels shall comply with Section 721.2.1.3. Concrete walls with gypsum wallboard or plaster finish shall comply with Section 721.2.1.4.

721.2.1.1.2 Core spaces filled. Where all of the core spaces of hollow-core wall panels are filled with loose-fill material, such as expanded shale, clay, or slag, or vermiculite or perlite, the fireresistance rating of the wall is the same as that of a solid wall of the same concrete type and of the same overall thickness

721.2.2 Concrete floor and roof slabs. Reinforced and prestressed floors and roofs shall comply with Section 721.2.2.1. Multicourse floors and roofs shall comply with Sections 721.2.2.2 and 721.2.2.3, respectively

721.2.2.1 Reinforced and prestressed floors and roofs. The minimum thicknesses of reinforced and prestressed concrete floor or roof slabs for fire-resistance ratings of 1 hour to 4 hours are

721.2.2.4 Joints in precast slabs. Joints between adjacent precast concrete slabs need not be considered in calculating the slab thickness provided that a concrete topping at least 1 inch (25 mm) thick is used. Where no concrete topping is used, joints must be grouted to a depth of at least one-third the slab thickness at the joint, but not less than 1 inch (25 mm), or the joints must be made fire resistant by other approved methods.

shown in Table 721.2.2.1.

721.2.3.1 Slab cover. The minimum thickness of concrete cover to the positive moment reinforcement shall comply with Table 721.2.3(1) for reinforced concrete and Table 721.2.3(2) for prestressed concrete. These tables are applicable for solid or hollow-core one-way or twoway slabs with flat undersurfaces. These tables are applicable to slabs that are either cast in place or precast. For precast prestressed concrete not covered elsewhere, the procedures contained in PCI MNL 124 shall be acceptable.

721.2.3.2 Reinforced beam cover. The minimum thickness of concrete cover to the positive moment reinforcement (bottom steel) for reinforced concrete beams is shown in Table 721.2.3 (3) for fire-resistance ratings of 1 hour to 4 hours.

721.2.4.1 Minimum size. The minimum overall dimensions of reinforced concrete columns for fire-resistance ratings of 1 hour to 4 hours shall comply with Table 721.2.4.

721.3 Concrete masonry. The provisions of this section contain procedures by which the fireresistance ratings of concrete masonry are established by calculations.

721.3.1 Equivalent thickness. The equivalent thickness of concrete masonry construction shall

be determined in accordance with the provisions of this section.

721.3.1.4 Airspaces and cells filled with loose-fill material. The equivalent thickness of completely filled hollow concrete masonry is the actual thickness of the unit when loose-fill materials are: sand, pea gravel, crushed stone, or slag that meet ASTM C 33 requirements; pumice, scoria, expanded shale, expanded clay, expanded slate, expanded slag, expanded fly ash, or cinders that comply with ASTM C 331; or perlite or vermiculite meeting the requirements of ASTM C 549 and ASTM C 516, respectively.

721.3.2 Concrete masonry walls. The fire-resistance rating of walls and partitions constructed of concrete masonry units shall be determined from Table 721.3.2. The rating shall be based on the equivalent thickness of the masonry and type of aggregate used.

721.3.2.4 Minimum concrete masonry fire-resistance rating. Where the finish applied to a concrete masonry wall contributes to its fire-resistance rating, the masonry alone shall provide not less than one-half the total required fire-resistance rating.

721.3.2.5 Attachment of finishes. Installation of finishes shall be as follows: 1. Gypsum wallboard and gypsum lath applied to concrete masonry or concrete walls shall be secured to wood or steel furring members spaced not more than 16 inches (406 mm) on center

2. Gypsum wallboard shall be installed with the long dimension parallel to the furring members and shall have all joints finished. 3. Other aspects of the installation of finishes shall comply with the applicable provisions of Chapters 7 and 25.

721.3.3 Multiwythe masonry walls. The fire-resistance rating of wall assemblies constructed of multiple wythes of masonry materials shall be permitted to be based on the fire-resistance rating period of each wythe and the continuous airspace between each wythe in accordance with the following formula:

RA = (R10.59 + R20.59 + ... + Rn0.59 + A1 + A2 + ... + An)1.7 (Equation 7-7)

RA = Fire endurance rating of the assembly (hours).

R1, R2, ..., Rn = Fire endurance rating of wythes for 1, 2, n (hours), respectively.

A1, A2,, An = 0.30, factor for each continuous airspace for 1, 2, ...n, respectively, having a depth of 1/2 inch (12.7 mm) or more between wythes.

721.4.1.1.3 Units with filled cores. The equivalent thickness of the hollow clay masonry units is the actual thickness of the unit when completely filled with loose-fill materials of: sand, pea gravel, crushed stone, or slag that meet ASTM C 33 requirements; pumice, scoria, expanded shale, expanded clay, expanded slate, expanded slag, expanded fly ash, or cinders in compliance with ASTM C 331; or perlite or vermiculite meeting the requirements of ASTM C 549 and ASTM C 516, respectively.

912.3.1 Stair ventilation. The top of all enclosed exit stairs shall be provided with a reversible fan system capable of introducing fresh air or exhausting air at a rate of 6 air changes per hour or 1 cubic foot per minute per square foot (cfm/ft2) [0.00508 m3/(s·m2)], whichever is greater, based on the area of the largest floor. Such system shall be operated by manual controls that are part of the fire command center, as per Section 911, or fire alarm panel when a fire command center <u>is not required. Such control center or panel shall display a graphic indicating the portions of the</u> building served by each post-fire smoke purge system. The operation of such system shall be controlled by Fire Department personnel by manually opening stair doors at the appropriate

912.3.2 Corridor ventilation. The ducts and fans that provide fresh air supply to the public corridors in accordance with the New York City Mechanical Code shall be provided with reversible fans and duct sizes capable of introducing fresh air to or exhausting air from the <u>corridor at a rate of 6 air changes per hour or 1 cubic foot per minute per square foot (cfm/ft2)</u> <u>0.00508 m3/(s⋅m2)], whichever is greater, based on the area of the largest apartment plus the</u> area of the public corridor. Such system shall be operated by manual controls that are part of the fire command center, as per Section 911, or fire alarm panel when a fire command center is not required. Each floor to be ventilated shall be by individual controls. Such control center or panel shall display a graphic indicating the portions of the building served by each postfire

Chapter 10 - Means of Egress

1003.2 Ceiling Height. The means of egress shall have a ceiling height of not less than 7 feet, 6 inches (2286 mm).

Exceptions:

1. Ceilings that are permitted to be less than 7 feet, 6 inches (2286 mm) in accordance with

2. Ceilings of dwelling units and sleeping units within residential occupancies in accordance with

Section 1208.2. 3. Allowable projections in accordance with Section 1003.3. Stair headroom in accordance with Section 1009.2. Door height in accordance with Section 1008.1.1.3.

1003.4 Floor surface. Walking surfaces of the means of egress shall have a slip-resistant surface and be securely attached.

1003.5 Elevation change. Where changes in elevation of less than 12 inches (305 mm) exist in the means of egress, sloped surfaces shall be used. Where the slope is greater than one unit vertical in 20 units horizontal (5-percent slope), ramps complying with Section 1010 shall be used. Where the difference in elevation is 6 inches (152 mm) or less and the ramp is not equipped with handrails, the floor finish materials shall contrast with adjacent floor finish materials.

1003.6 Means of egress continuity. The path of egress travel along a means of egress shall not be interrupted by any building element other than a means of egress component as specified in this chapter. Obstructions shall not be placed in the required width of a means of egress except

projections permitted by this chapter. The required capacity of a means of egress system shall not be diminished along the path of egress travel.

1003.7 Elevators, escalators and moving walks. Elevators, escalators and moving walks shall not be used as a component of a required means of egress from any other part of the building.

Exception: Elevators used as a component of an accessible means of egress in accordance with

SECTION BC 1006 MEANS OF EGRESS ILLUMINATION

1006.1 Illumination required. Exits, exit discharges, and public corridors shall be illuminated at all times by either daylight or electric lighting fixtures. Exit access components shall be illuminated by either daylight or electric lighting fixtures at all times during occupancy that the space served by

the exit access component is occupied.

1. Occupancies in Group U. Aisle accessways in Group A.

Exceptions:

Dwelling units and sleeping units in Groups I-1, R-1, R-2 and R-3. 4. Sleeping units of Group I occupancies.

1006.2 Illumination level. The means of egress illumination level shall not be less than 2 foot candles (22 lux) at the floor level in exits, at exit discharges, and in public corridors, and shall not be less than 1 foot-candle (11 lux) at the floor level in exit access components other than public corridors 1 foot-candle (11 lux) at the walking surface level.

SECTION BC 1007 ACCESSIBLE MEANS OF EGRESS

1007.1 Accessible means of egress required. Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress is required by Section 1014.1 or 1018.1 from any accessible space, at least two accessible means of egress shall be provided to each accessible portion of the space.

1007.2 Continuity and components. Each required accessible means of egress shall be continuous to a public way and shall consist of one or more of the following components:

1. Interior accessible routes complying with Section 1104.

2. Area of rescue assistance complying with Section 1007.6. 3. Stairways within vertical exit enclosures complying with Sections 1007.3 and 1019.1.

4. Exterior exit stairways complying with Sections 1007.3 and 1022. 5. Elevators complying with Section 1007.4.

6. Platform lifts complying with Section 1007.5. 7. Horizontal exits complying with Section 1021.

8. Ramps complying with Section 1010. 9. Exit discharges complying with Section 1023.

10. Exterior accessible routes complying with Section 1104. 11. Exterior areas of assisted rescue complying with Section 1007.8.

1007.3 Exit stairways. To be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of rescue assistance within an enlarged floor-level landing or shall be accessed from either an area of rescue assistance complying with Section 1007.6 or a horizontal

Unenclosed exit stairways as permitted by Section 1019.1 are permitted to be considered part of an accessible means of egress.

1007.4 Elevators. To be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1 and Section 1109.6. Emergency power shall be provided in accordance with Sections 2702 and 3003. The elevator shall be accessed from either an area of rescue assistance complying with Section 1007.6 or a horizontal exit complying with Section 1021.

1007.6 Areas of rescue assistance. Every required area of rescue assistance shall be accessible from the space it serves by one or more accessible means of egress components as listed in Section 1007.2. The maximum travel distance from any accessible space to an area of rescue assistance shall not exceed the travel distance permitted for the occupancy in accordance with Section 1015.1. Every required area of rescue assistance shall have direct access to an enclosed stairway complying with Sections 1007.3 and 1019.1 or an elevator complying with Section 1007.4. Where an elevator lobby is used as an area of rescue assistance, the shaft and lobby shall comply with Section 1019.1.8 for smokeproof enclosures except where the elevators are in an area of rescue assistance, such lobby shall be part of a horizontal exit or protected by smoke barrier.

1007.7 Signage. Signage shall be installed indicating the location of an accessible means of egress at those exits and elevators serving required accessible spaces that are not accessible means of egress.

SECTION BC 1009 STAIRWAYS AND HANDRAILS

1009.1 Stairway width. The width of stairways shall be determined as specified in Section 1005.1, but such width shall not be less than 44 inches (1118 mm). See Section 1007.3 for accessible means of egress stairways.

Exceptions:

1. A width of not less than 36 inches (914 mm) shall be permitted in: 1.1. A stairway that serves an occupant load of 50 or less cumulative for all stories; or 1.2. A stairway that provides egress to the exit discharge solely for the use of Group R-2 occupancies, provided the building it serves is 125 feet (38 100 mm) or less in height, and provided such a stairway serves not more than 30 occupants per floor. Spiral stairways as provided for in Section 1009.9.

3. Aisle stairs complying with Section 1024. 4. Where a stairway lift is installed on stairways serving occupancies in Group R-3, or within dwelling units in occupancies in Group R-2 a clear passage width not less than 20 inches (508 mm) shall be provided. If the seat and platform can be folded when not in use, the distance shall be measured from the folded position.

1009.3 Stair treads and risers. Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. Stair tread depths shall be 11 inches (279 mm) minimum. The riser height shall be measured vertically between the leading edges of adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 0.375 inch (9.5 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 0.375 inch (9.5 mm). Winder treads shall have a minimum tread depth of 11 inches (279 mm) measured at a right angle to the tread's leading edge at a point 12 inches (305 mm) from the side where the treads are narrower and a minimum tread depth of 10 inches (254 mm). The greatest winder tread depth at the 12-inch (305 mm) walk line within any flight of stairs shall not exceed the smallest by more than 0.375 inch (9.5 mm).

Exceptions:

1. Circular stairways in accordance with Section 1009.7. 2. Winders in accordance with Section 1009.8. 3. Spiral stairways in accordance with Section 1009.9.

4. Aisle stairs in assembly seating areas where the stair pitch or slope is set, for sightline reasons, by the slope of the adjacent seating area in accordance with Section 1024.11.2. 5. In Group R-2 occupancies:

5.1. Sum of treads and risers. The sum of two risers plus one tread exclusive of nosing shall be not less than 24 inches (610 mm) nor more than 251/2 inches (648 mm). 5.2. Dimensions of treads and risers. The maximum riser height shall be 73/4 inches (197 mm) and the minimum tread depth shall be 91/2 inches (241 mm) plus nosing. Treads may be undercut a distance equal to the nosing. A nosing not less than 3/4 inch (19 mm) but not more than 11/4 inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).

5.3. Tolerances. The greatest riser height, tread depth, and nosing projection, within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

6. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies not subject to accessibility provisions in Section 1107.2.5, Exception 2; and in Group U occupancies that are accessory to Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies: 6.1. Sum of treads and risers. The sum of two risers plus one tread exclusive of nosing shall be not

less than 24 inches (610 mm) nor more than 251/2 inches (648 mm). 6.2. Dimensions of treads and risers. The maximum riser height shall be 81/4 inches (210 mm) and the minimum tread depth shall be 9 inches (229 mm) plus nosing. Treads may be undercut a distance equal to the nosing. A 11/4-inch (32 mm) nosing shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm). 6.3. Tolerances. The greatest riser height, tread depth, and nosing projection, within any flight of

stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). 7. In Group R-3 occupancies; and within dwelling units in Group R-2 occupancies; winders shall have a minimum tread depth of 10 inches (254 mm) measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge, when measured at a point 12 inches (305 mm) from the side where the treads are narrower Winder treads shall have a minimum tread depth of 6 inches (152 mm) at any point. Within any flight of stairs, the greatest winder tread depth at the 12-inch (305 mm) walk line shall not exceed the smallest by more than 3/8 inch (9.5 mm).

1009.3.1 Dimensional uniformity. Stair treads and risers shall be of uniform size and shape. The tolerance between the largest and smallest riser or between the largest and smallest tread shall not exceed 0.375 inch (9.5 mm) in any flight of stairs.

SECTION BC 1011 EXIT SIGNS

1011.1 Where required. Exits and exit access doors shall be marked by an approved exit sign readily visible from any direction of egress travel. Access to exits shall be marked by readily visible exit signs in cases where the exit or the path of egress travel is not immediately visible to the occupants. Exit sign placement shall be such that no point in an exit access corridor is more than 100 feet (30 480 mm) or the listed viewing distance for the sign, whichever is less, from the nearest visible exit sign.

SECTION BC 1015 EXIT ACCESS TRAVEL DISTANCE

1015.1 Travel distance limitations. Exits shall be so located on each story such that the maximum length of exit access travel, measured from the most remote point within a story to the entrance to an exit along the natural and unobstructed path of egress travel, shall not exceed the distances given in Table 1015.1.

Where the path of exit access includes unenclosed stairways or ramps within the exit access or includes unenclosed exit ramps or stairways as permitted in Section 1019.1, the distance of travel on such means of egress components shall also be included in the travel distance measurement. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway

SECTION BC 1016 CORRIDORS

corridor walls required to be fire-resistance rated shall comply with Section 708 for fire partitions. Public corridor walls shall comply with Section 706 for fire barriers. SECTION BC 1017 EXITS

1016.1 Construction. Corridors shall be constructed in accordance with this section. Interior

requirements of Sections 1003 through 1012. An exit shall not be used for any purpose that

1017.1 General. Exits shall comply with Sections 1017 through 1022 and the applicable

such level of protection shall not be reduced until arrival at the exit discharge. SECTION BC 1019 VERTICAL EXIT ENCLOSURES 1019.1 Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where

connecting four stories or more and not less than 1 hour where connecting less than four stories.

The number of stories connected by the shaft enclosure shall include any basements but not any mezzanines. An exit enclosure shall not be used for any purpose other than means of egress.

interferes with its function as a means of egress. Once a given level of exit protection is achieved,

Enclosures shall be constructed as fire barriers in accordance with Section 706.

for any purpose other than as a means of egress.

SECTION BC 1020 EXIT PASSAGEWAYS

1020.1 Exit passageway. Exit passageways serving as an exit component in a means of egress system shall comply with the requirements of this section. An exit passageway shall not be used

	AND ANGLE AT CENTERLINE	E. EA. E.I.F.S. E.J.	EAST EACH EXT. INSUL. & FINISH SYSTEM EXPANSION JOINT FI FVATION	KIT, KIT'TE L. LAM,
	POUND OR NUMBER PROPERTY LINE	EL. ELEV.	ELEVATION	LAV. LNDRY.
2	AIR CONDITIONING ACCESSORY	ELEC. EMER.	ELECTRIC EMERGENCY	L.P. LTG,
res L	ACOUSTICAL CEILING TILE	ENCL, EQ.	ENCLOSURE EQUAL	M. MAS.
l. F.	ADJUSTABLE ABOVE FINISHED FLOOR	EQPT. E.U.	EQUIPMENT	MAT.
M.	ALUMINUM	E.W.	EXIT UNIT(S) EACH WAY	MAX. MECH.
OW.	ALLOWABLE APPLICATION	E.W.C. EXH.	ELECTRIC WATER COOLER EXHAUST	MED.
PVD. PROX.	APPROVED APPROXIMATE	EXP.	EXPANSION	MEMB, MET,
H,	ARCHITECTURAL	EXPO, EXST.	EXPOSED EXISTING	MFG. MIN.
Ή.	ASPHALT	EXT.	EXTERIOR	MISC.
	BOILER BOTTOM OF CURB	F. FABR.	FLUSH FABRICATOR / FABRICATED	M.O. M.R.
JM,	BOARD BITUMINOUS	F.C.	FURRING CHANNEL	M.S. MTD.
G	BUILDING	F.D. FDN.	FLOOR DRAIN FOUNDATION	MTG.
G.	BLOCK BLOCKING	F.E.	FIRE ESCAPE	MTL. MTL. S.
	BEAM BOTTOM	F/E F.E.C.	FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET	N.
	BOTTOM OF	FIN, FIXT,	FINISH FIXTURE	N. & FS.
i. N.	BEARING BETWEEN	FL,	FLOOR	N.I.C. NO. or #
R,	BUILT-UP ROOFING	FLASH. FLUOR.	FLASHING FLUORESCENT	NOM. N.T.S.
Ē	CERAMIC TILE	F.O.(XX)	FACE OF (XX)	0.A.
3. IT.	CABINET CANTILEVER	F.O.C. F.O.F.	FACE OF CONCRETE FACE OF FINISH	OBS. O.C.
'G	CATCH BASIN CEILING	F.O.M. F.O.S.	FACE OF MASONRY FACE OF STUDS	occ.
_'G .	CEMENT	F.P.S.C.	FIRE PROOF SELF CLOSING	O.D. O.H.
7	CERAMIC COLD FORMED	FR.TR. F.S.	FIRE—RETARDANT TREATED FIBER STRENGTH	OPEN'G
	CORNER GUARD	FT.	FOOT OF FEET	OPP. PLT.
	CAST IRON CONTROL JOINT	FTG. FURR.	FOOTING FURRING	PARTN.
	CLOSET CAULKING	GA.	GAUGE	P.L. PL. LAM.
Ġ.	CLEAR	GALV. G.C.	GALVANIZED GENERAL CONTRACTOR	PLAS.
J IR.	CONCRETE MASONRY UNIT COUNTER	GL. GR.	GLASS GRADE	PLMB. PLYWD.
ex.	CASED OPENING	G.W.B.	GYPSUM WALL BOARD	P.O.C.
ic.	COLUMN CONCRETE	GYP.BD.	GYPSUM BOARD	PP
IN.	CONNECTION CONSTRUCTION	H.B. H.C.	HOSE BIBB HOLLOW CORE	PR. PRCST.
IST. IT.	CONTINUOUS	HD.	HOOD	PR.TR.
R.	CORRIDOR CENTER	H.D. HDR.	HEAVY DUTY HEADER	P.S.F. P.S.I.
К.	COUNTERSUNK	HDWD. HDWE.	HARDWOOD HARDWARE	P/T PT.
	COLD WATER DEPTH	H.M.	HOLLOW METAL	PTD.
_	DOUBLE	HORIZ.	HORIZONTAL HIGH POINT	P.V.C.
т.	DEPARTMENT DRINKING FOUNTAIN	HR. H.S.S.	HOUR HOLLOW STEEL SECTION	Q.T. QTR.
	DETAIL	HT,	HEIGHT	
	DIAMETER DIMENSION	HVAC. H.W.	HEAT'G, VENTILAT'G & AIR COND, HOT WATER	
۶.	DISPENSER DOWN	H.W.H.	HOT WATER HEATER	
	DOWN	LD	INSIDE DIMENSION	

INFO, INSUL, INT,

INV.

INSULATING GLASS

INFORMATION

INSULATION

INVERT

JANITOR

RISER RADIUS ROOF DRAIN RECEPTACLE R. RAD.
R.D. RECEPT.
REF. REFR.
REINF.
REQ'D.
RES.
RET.
RM.
RND.
R.O.
R.T.U. KITCHENETTE LAMINATE REFERENCE LAVATORY REFRIGERATOR LAUNDRY REINFORCED LOW POINT REQUIRED RESILIENT LIGHTING RETAINING MASONRY ROOM MATERIAL MAXIMUM ROUGH OPENING MECHANICAL ROOF TOP HVAC UNITS RAINWATER CONDUCTOR MEMBRANE MANUFACTURER S/C S.C. SELE CLOSING SOLID CORE SCHED. SECT. SF. SHT. SIM. S.J. SPEC. SPECD. S.ST. MISCELLANEOUS SCHEDULE(D) MASONRY OPENING SECTION MOISTURE RESISTANT STOREFRONT MARBLE SADDLE SIMILAR SAWCUT JOINT SPECIFICATION METAL SADDLE SPECIFIED (SECTION) STAINLESS STEEL STANDARD NEAR AND FAR SIDE STEEL NOT IN CONTRACT STR'G STRUCT. SUSP, STORAGE STRUCTURAL SUSPENDED NOT TO SCALE TOP AND BOTTOM T & B TOP OF CURB ELEPHONE ON CENTER T & G TONGUE AND GROOVE OCCUPANT(S) TEMPERED GLASS OUTSIDE DIMENSION OVER HANG THRESHOLD TEMPERED INSULATING GLASS OPPOSITE TOP OF SLAB PARTITION TOP OF PAVEMENT PROPERTY LINE TUBE STEEL TELEVISION PLASTIC LAMINATE PLASTER TOP OF WALL TYPICAL UNF, U.G. U.O.N. UR. VCT, VERT, VEST, V.I.F. V.T.R, VWC UNFINISHED POINT OF CONNECTION 4"x4" POST UNDERGROUND UNLESS OTHERWISE NOTED 4"x6" POST VINYL COMPOSITION TILE PRE-CAST VERTICAL PRESSURE TREATED VESTIBULE POUNDS / SQ. FEET VERIFY IN FIELD POUNDS/ SQ. INCHES VENT THRU ROOF PRESSURE TREATED VINYL WALL COVERING

W/ W.C.

WDT. W.J.C.

W/O WOM, WP, WSCT, WT,

W.W.M.

WATER CLOSET

WOOD SADDLE

WITHOUT WOMEN WATERPROOF

WAINSCOT

WALK IN CLOSET

WELDED WIRE MESH

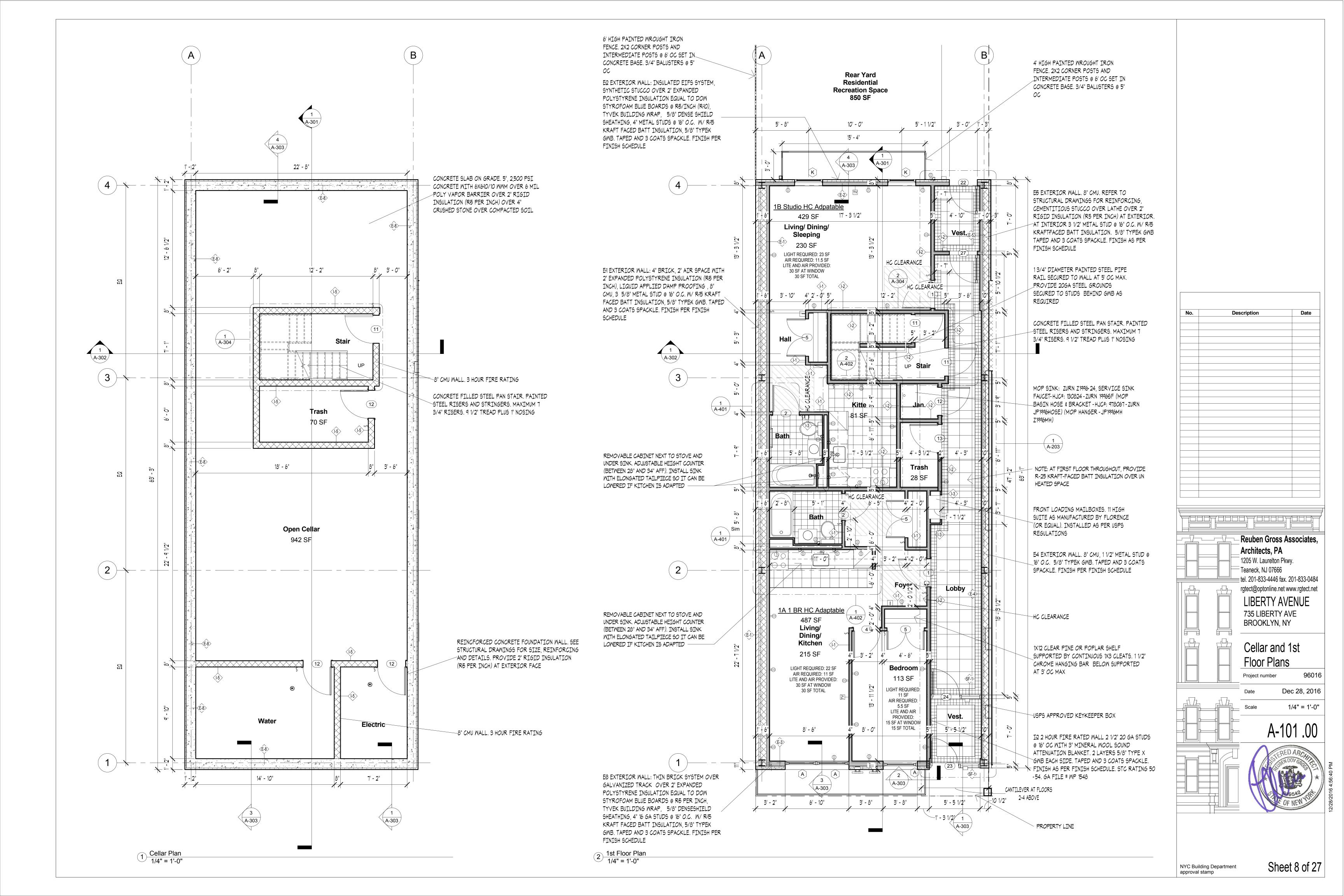
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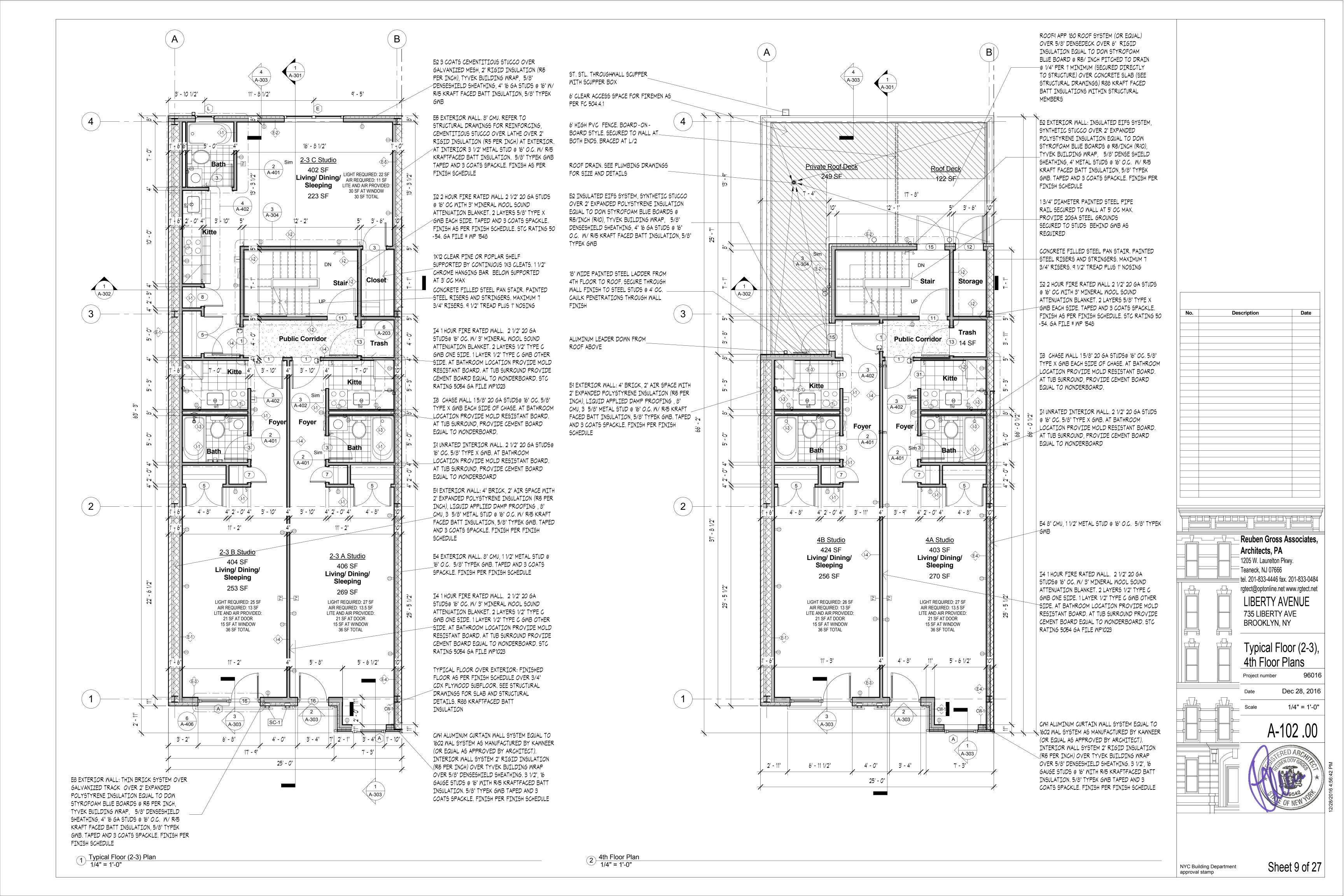
QUARRY TILE QUARTER

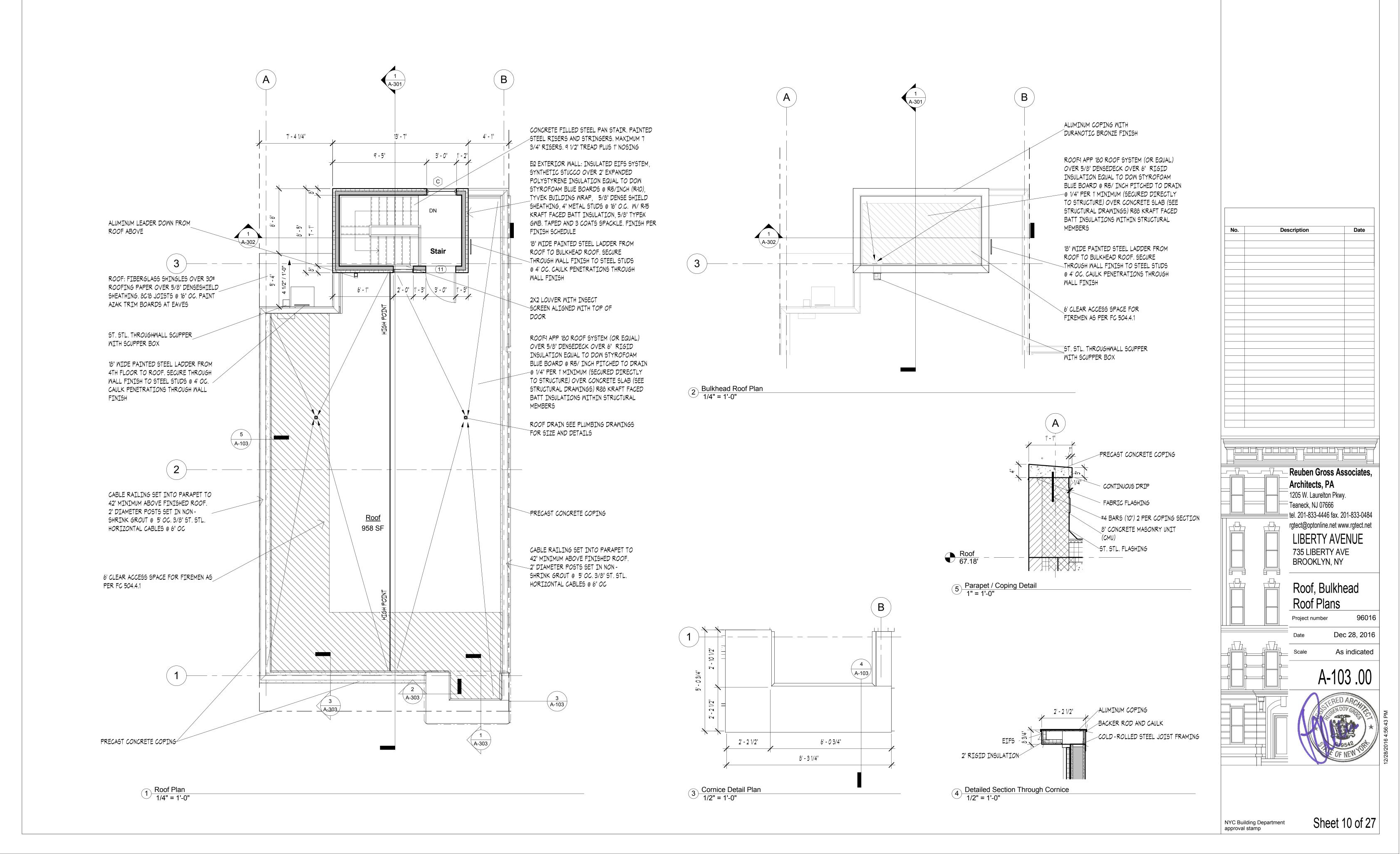
POLYVINYL CHLORIDE

Description Date

Architects, P. 1205 W. Laureltor Teaneck, NJ 0766	n Pkwy.
rgtect@optonline. LIBERTY 735 LIBERT BROOKLYN	Y AVE
Building Notes Project number	96016
 Date	Dec 28, 2016
Scale	1" = 1'-0"
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S. P.	RED ARCHITE SEN DOV GROGO CO. 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

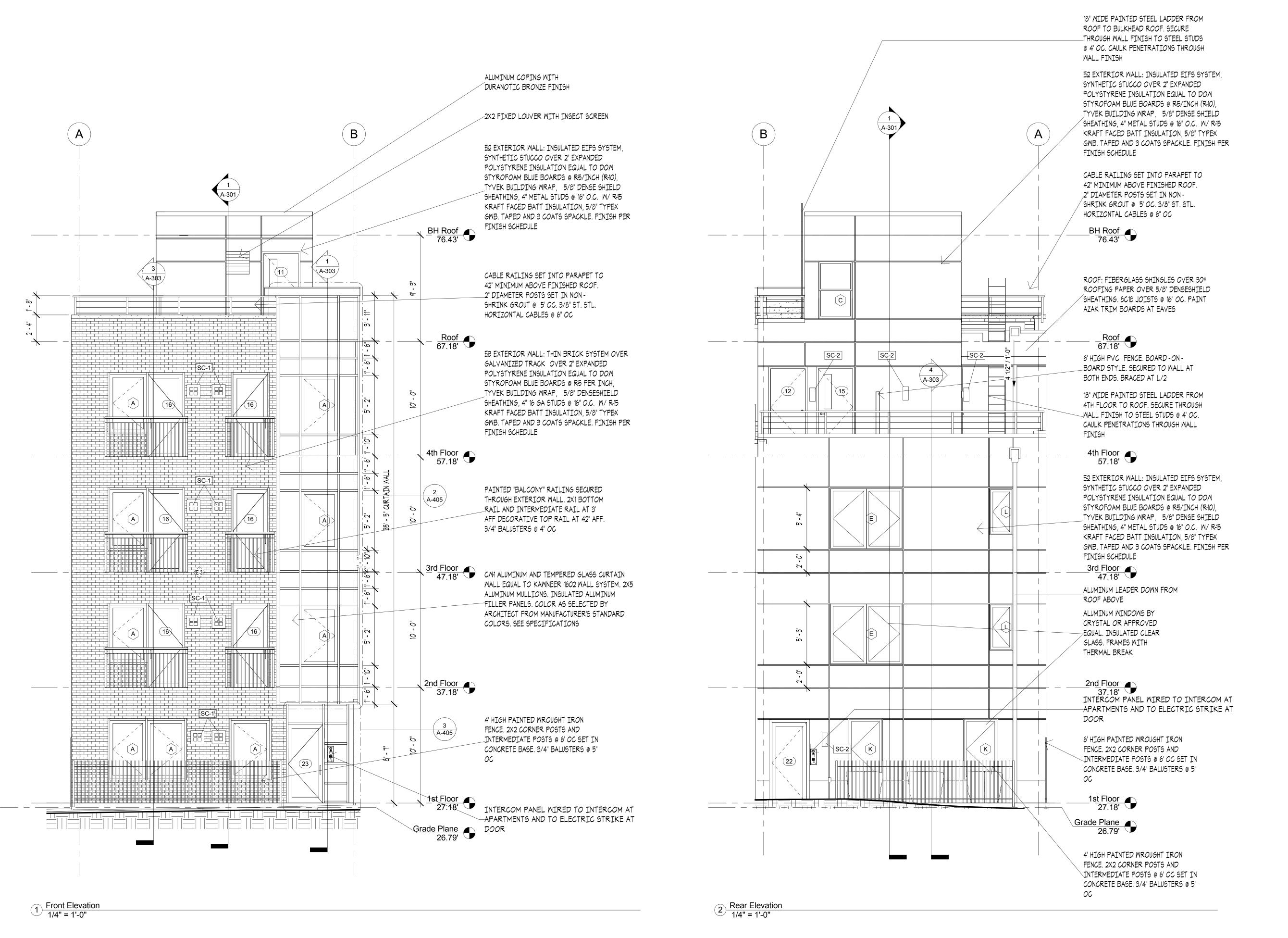












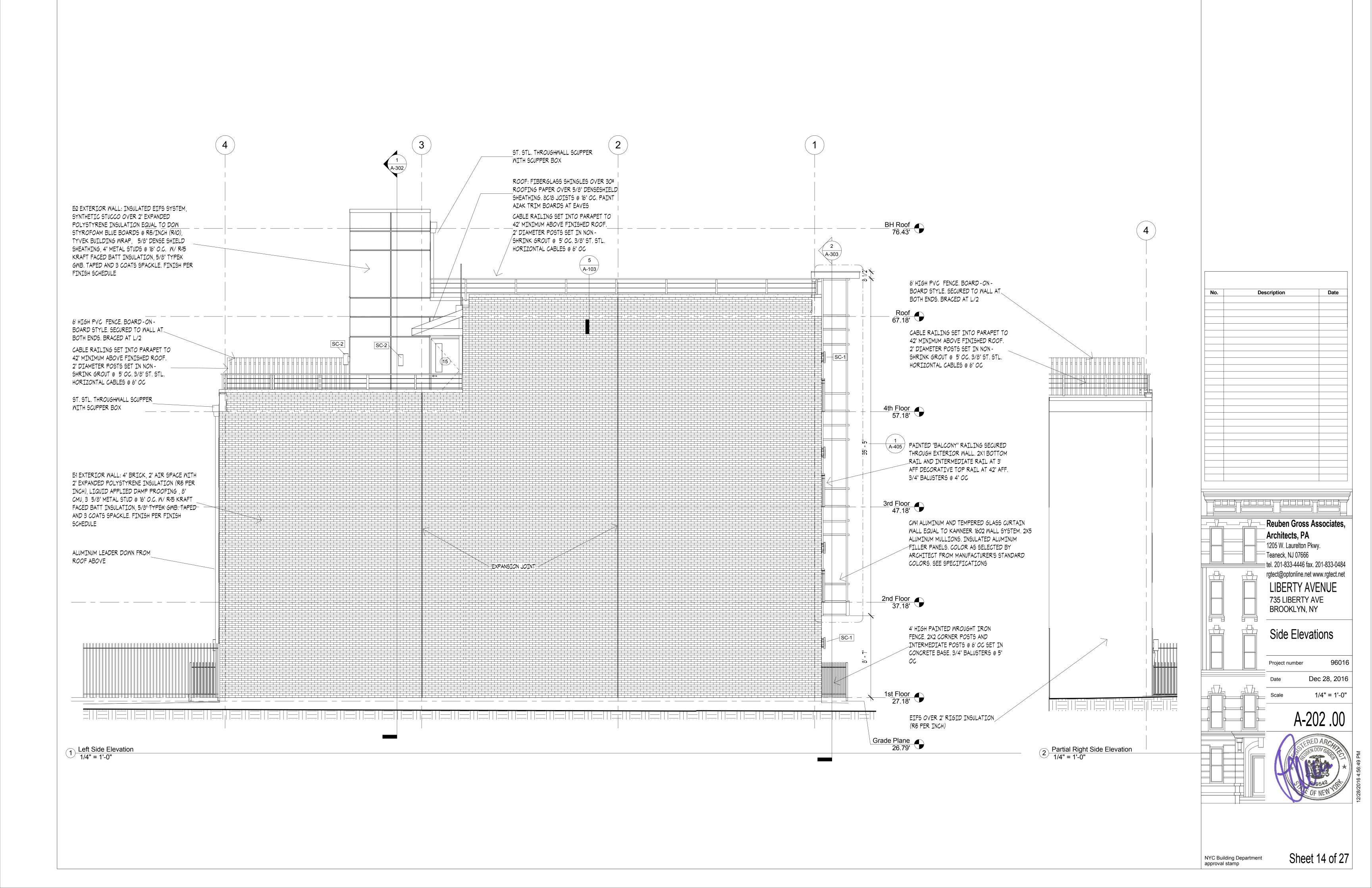
No.	D	escription	Date
7-		Reuben Gross As	enciates
		_ Architects, PA	300iaic3
		1205 W. Laurelton Pkwy	
		[—] Teaneck, NJ 07666 ≡ tel. 201-833-4446 fax. 20	14 022 040
		tei. 201-633-4446 iax. 20 rgtect@optonline.net ww	
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		735 LIBERTY AV	
		BROOKLYN, NY	_
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		Rear	

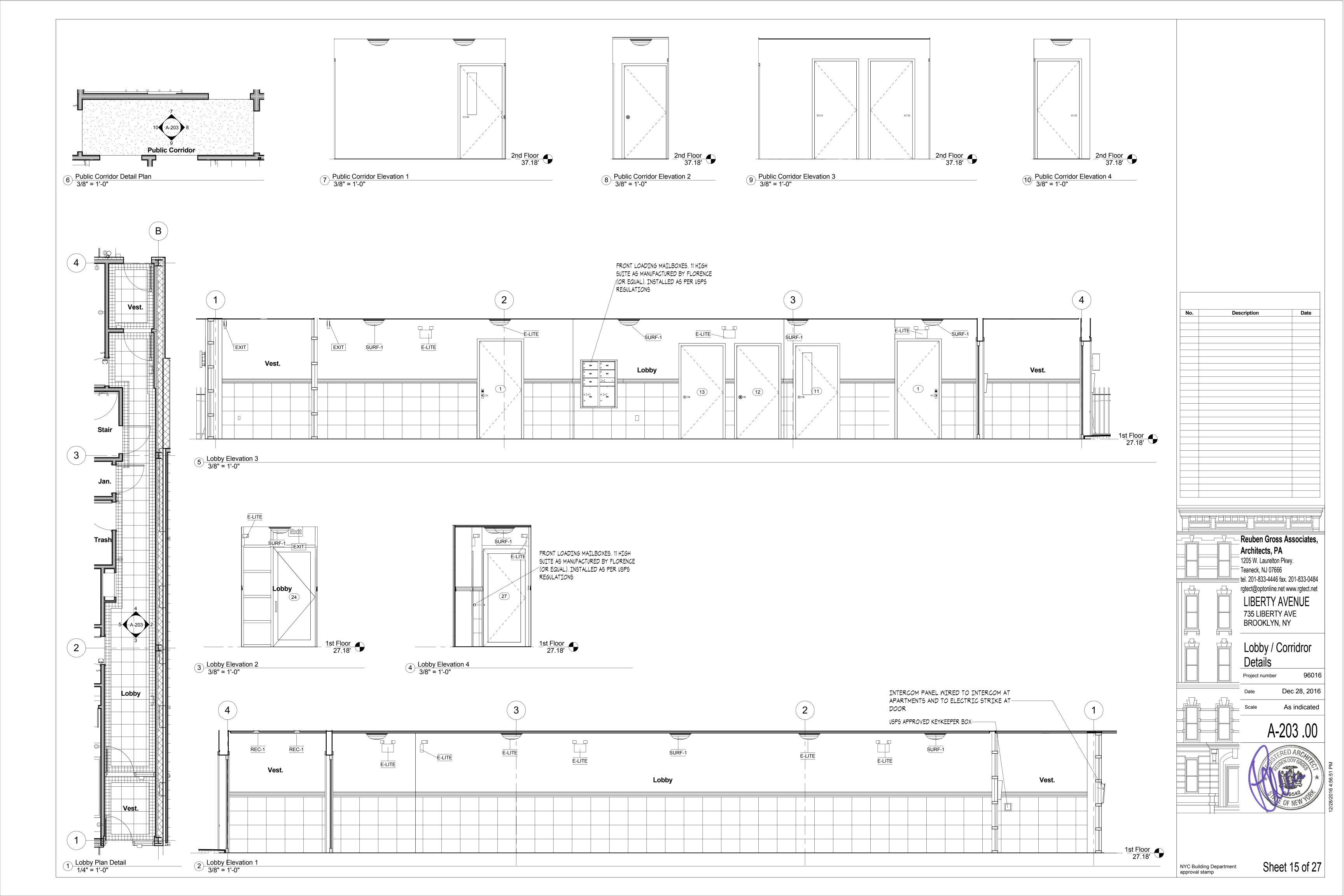
96016

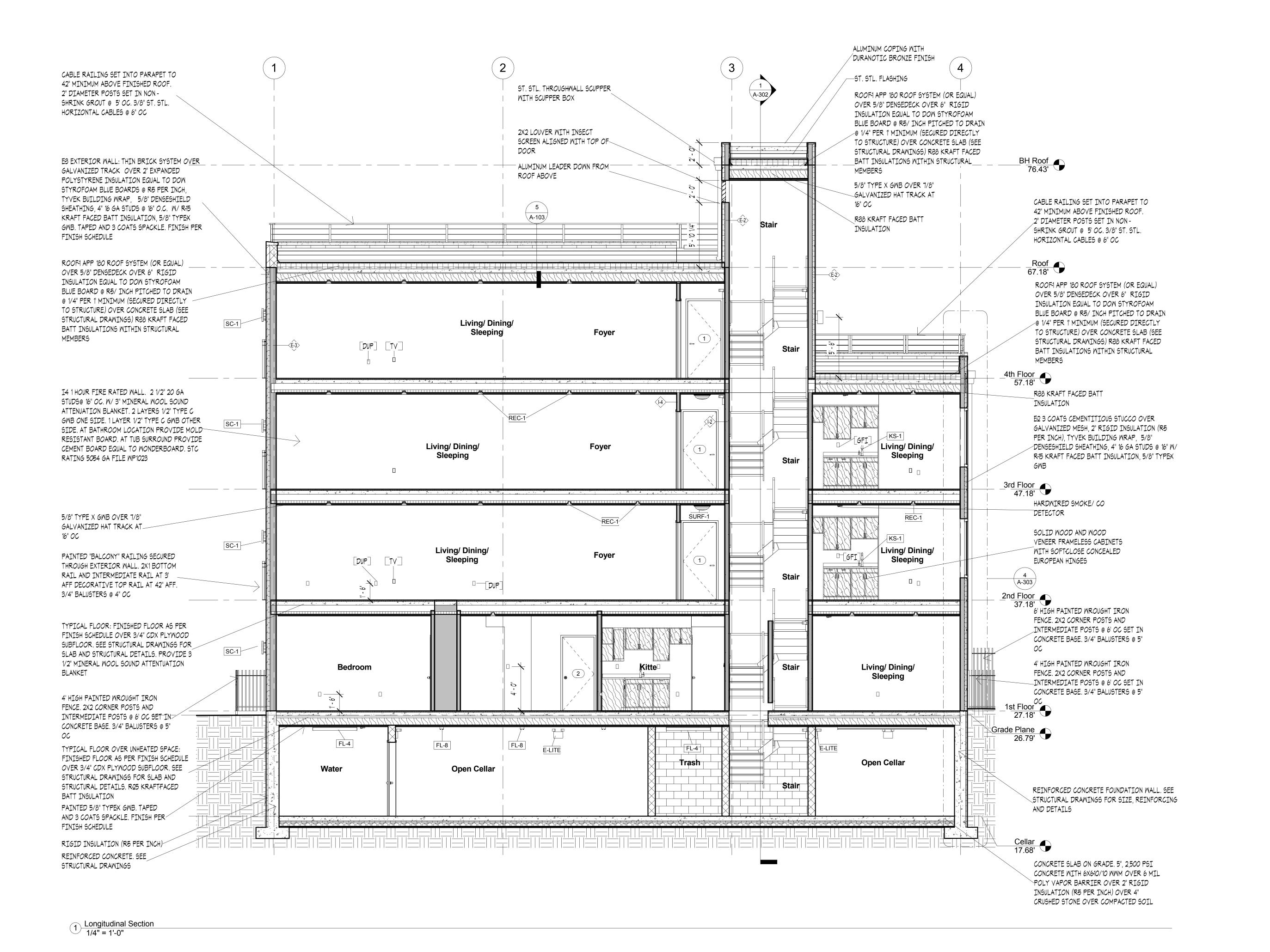
Dec 28, 2016

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Project number





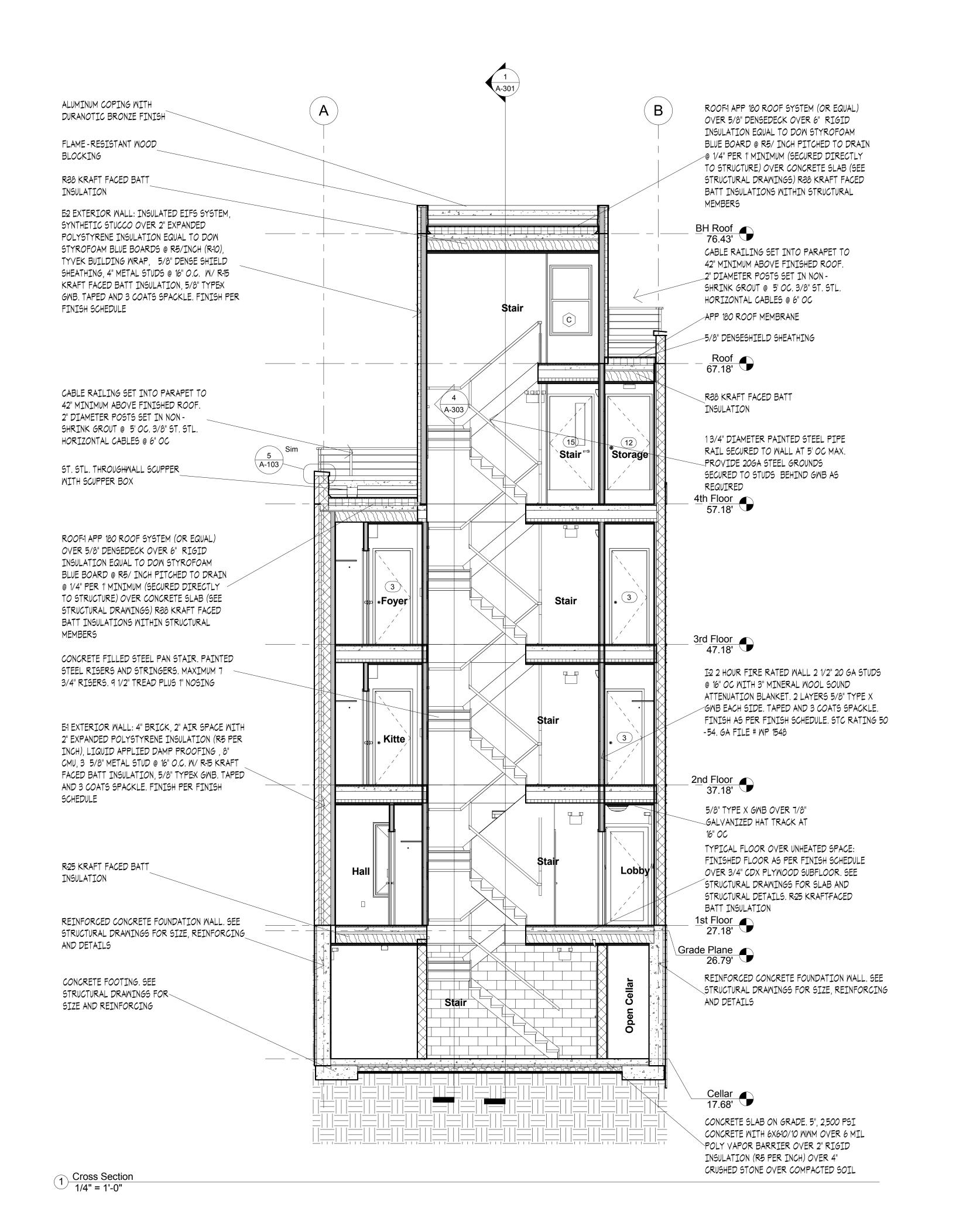


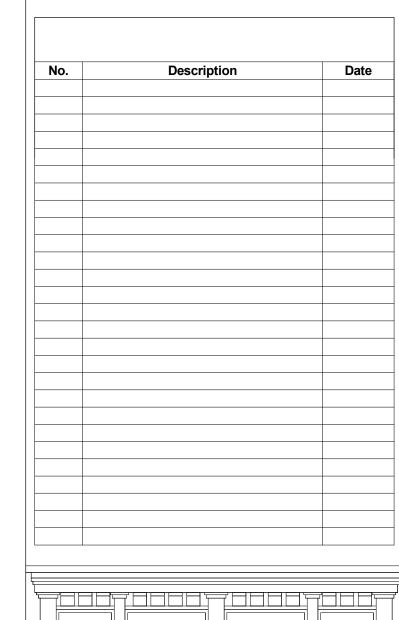
No.	Des	cription	Date
		Reuben Gross As	sociates,
		Architects, PA 1205 W. Laurelton Pkw	
		Teaneck, NJ 07666	
		tel. 201-833-4446 fax. 2 rgtect@optonline.net w	
		LIBERTY AVE	-
		735 LIBERTY AV	/E
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NYC Building Department

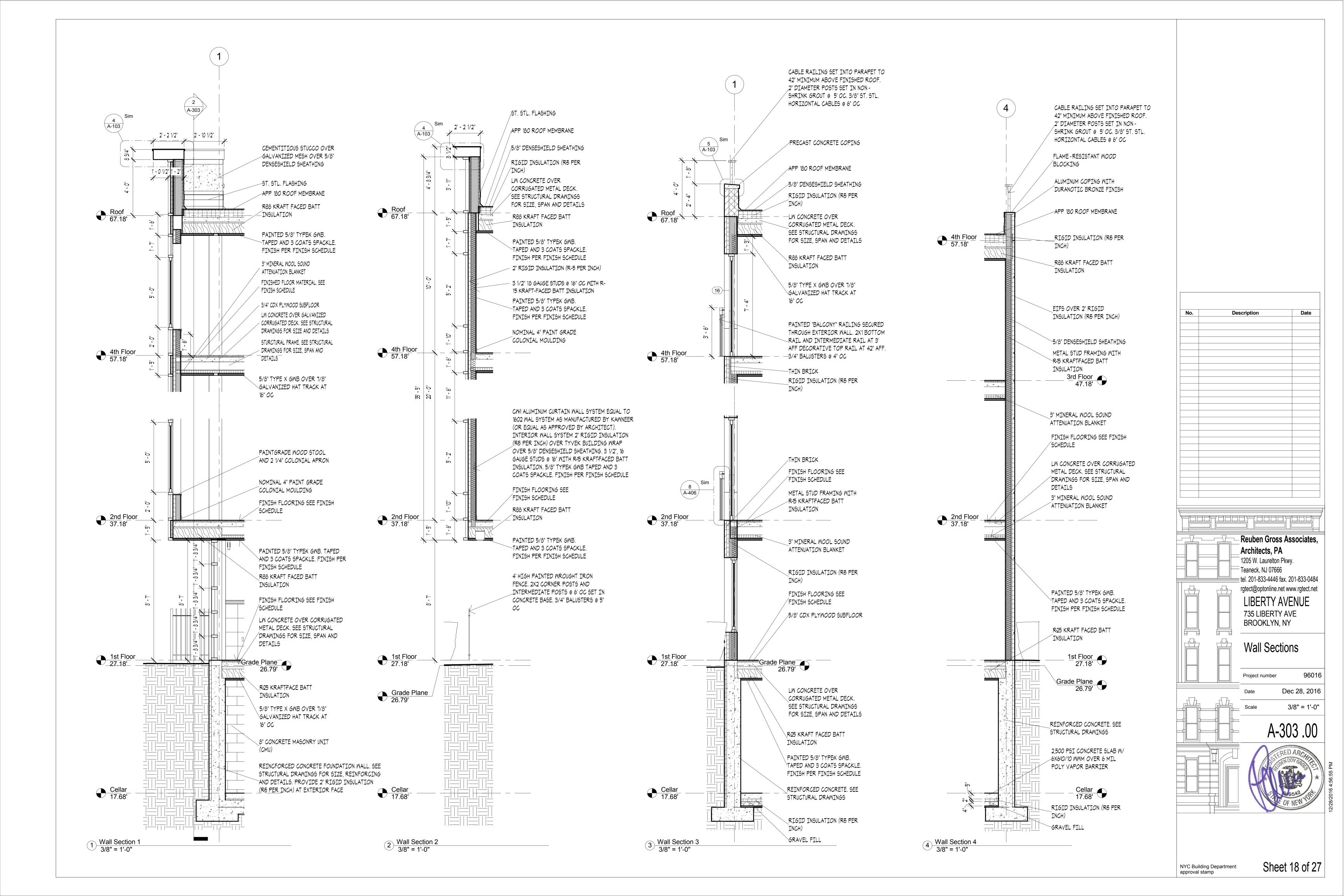
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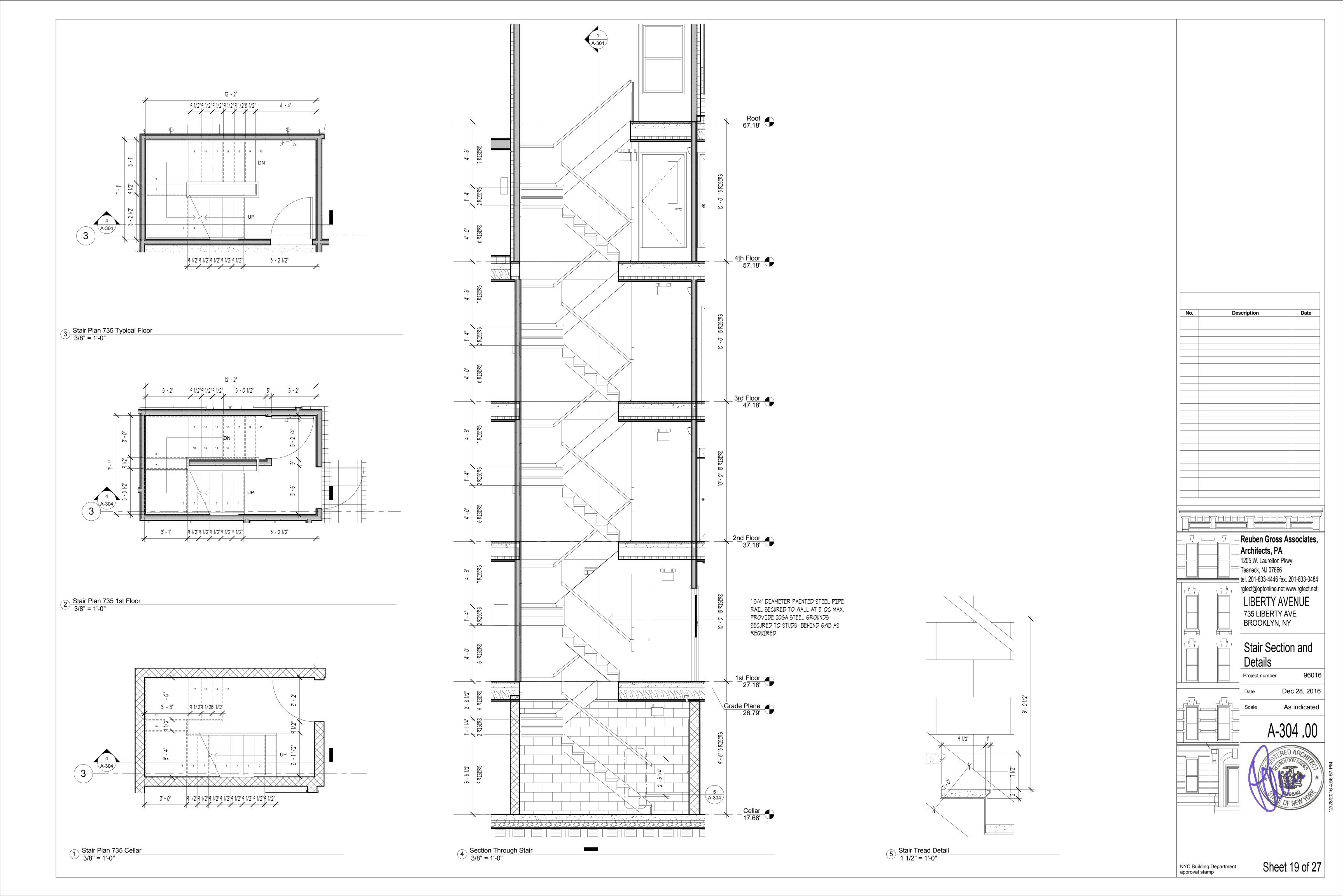


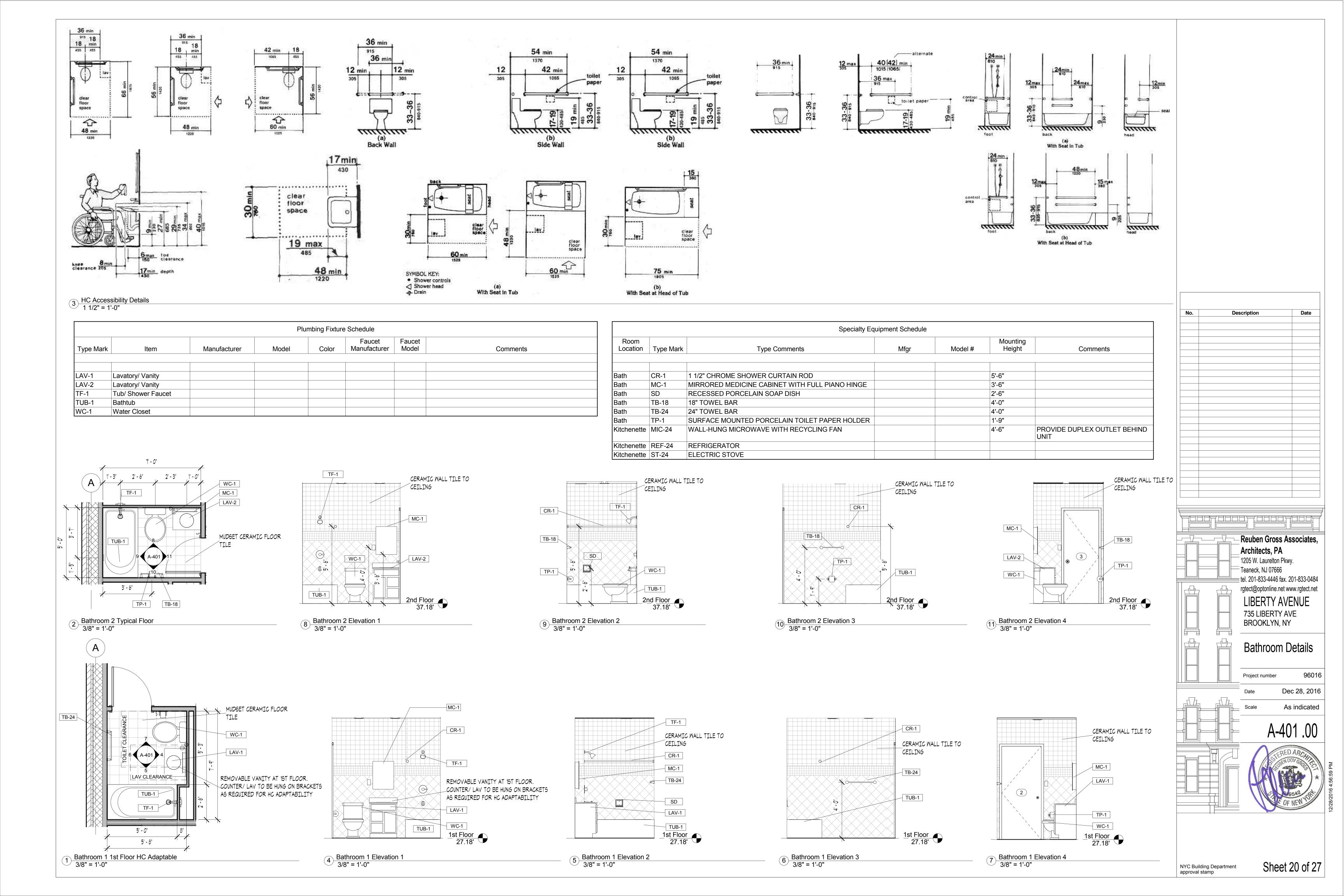


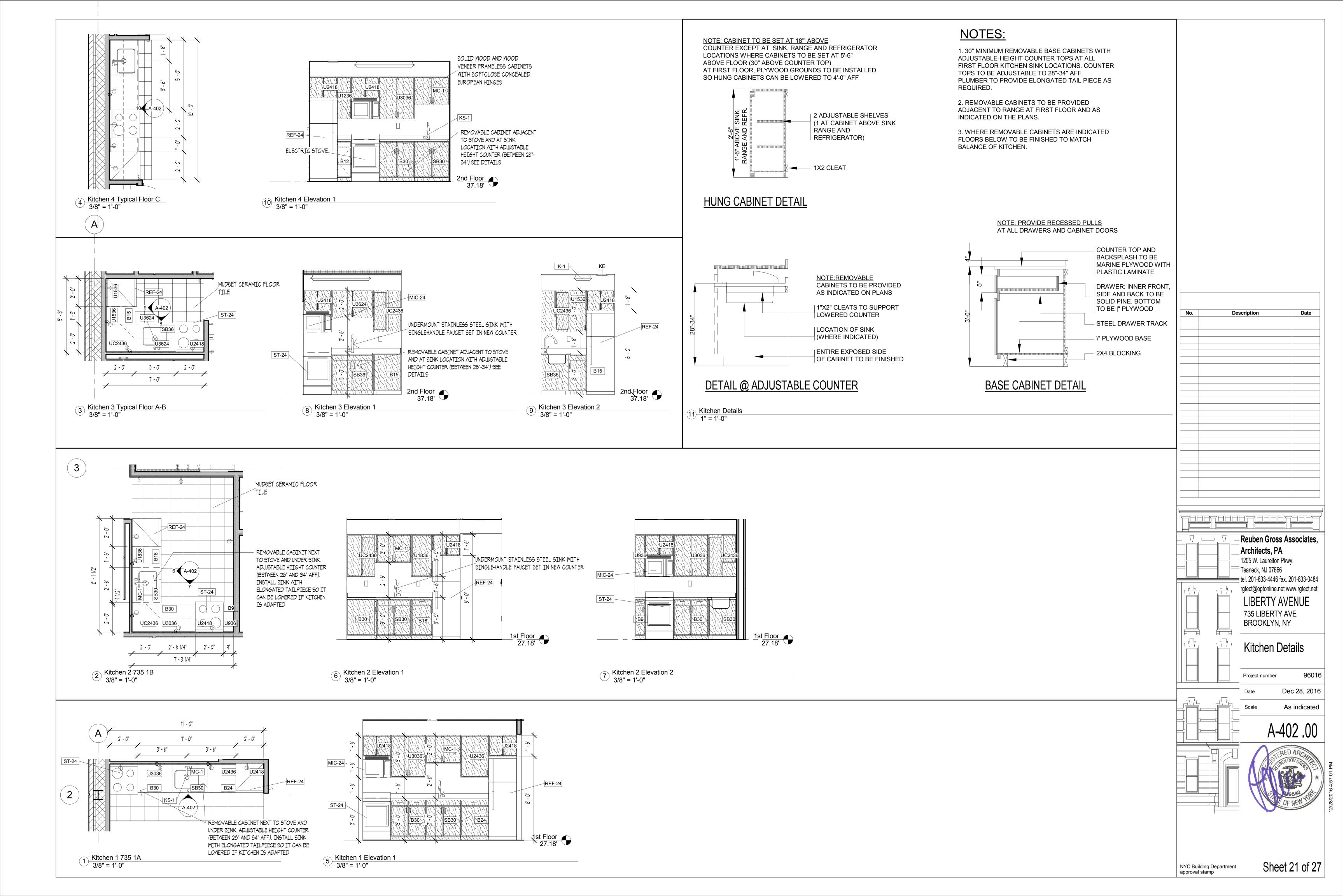
		s Associates,
	_ Architects, P / 1205 W. Laurelton = Teaneck, NJ 0766 = tel. 201-833-4446	Pkwy.
	rgtect@optonline.r LIBERTY / 735 LIBERTY BROOKLYN	Y AVE
	Cross Se	ection
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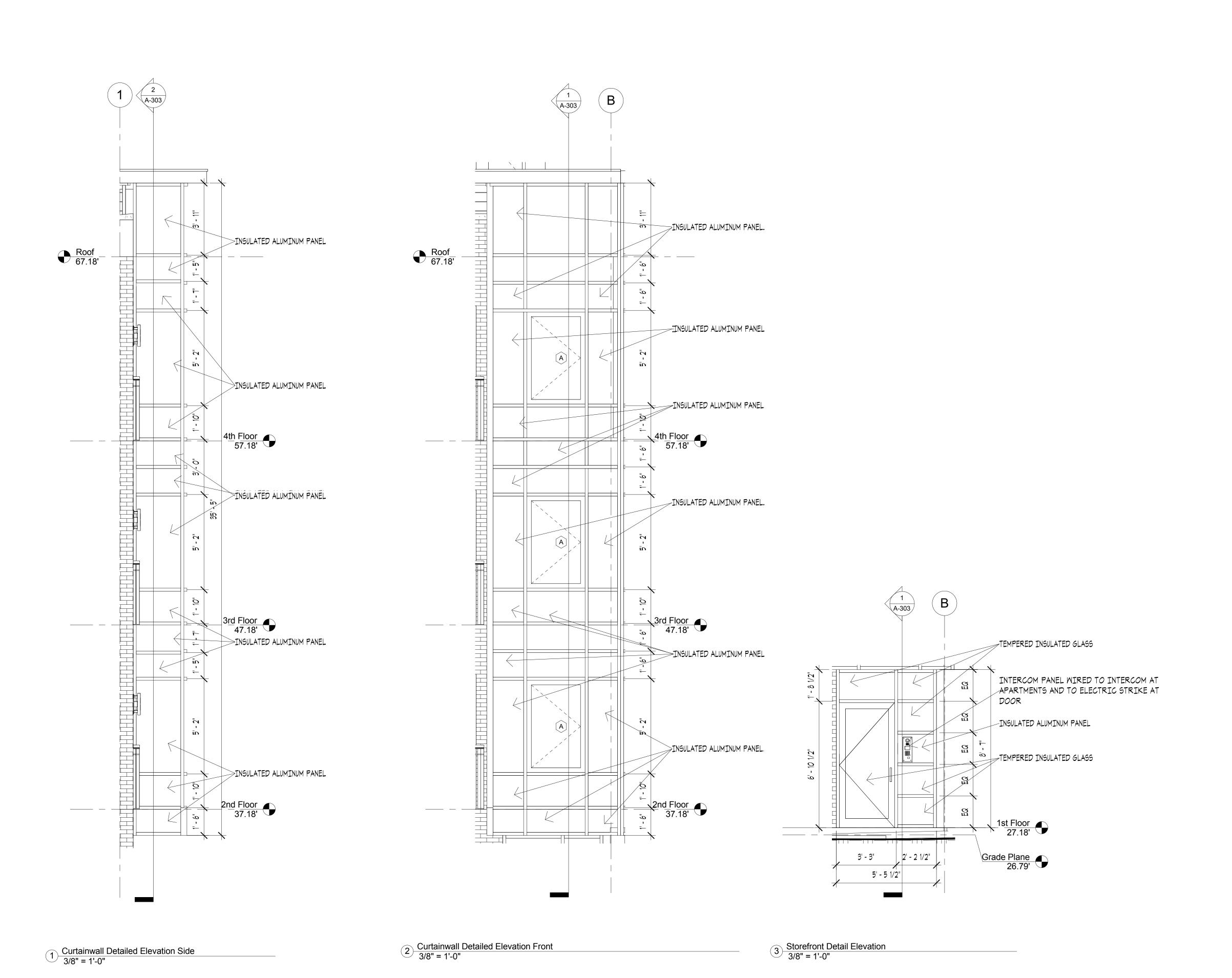










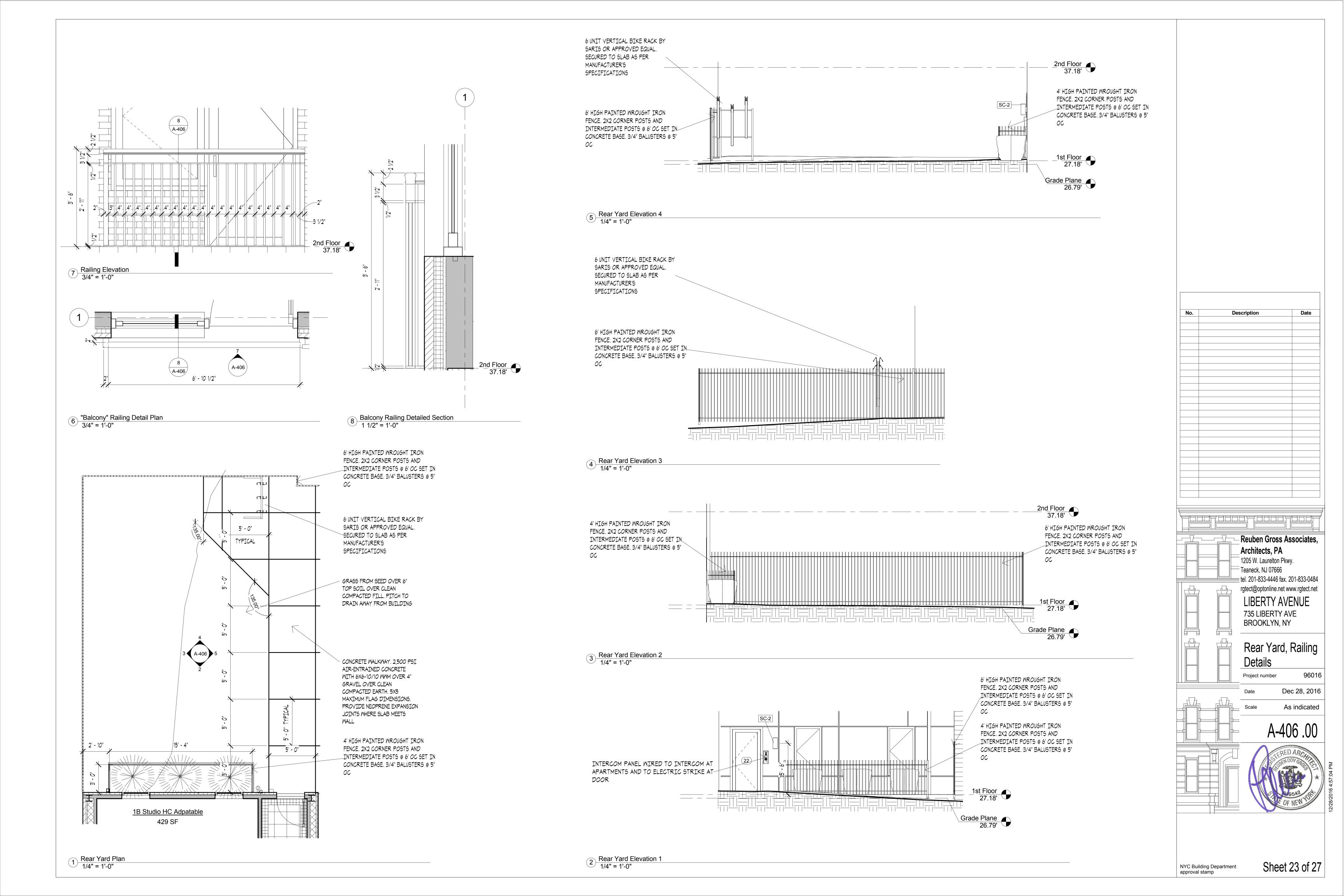


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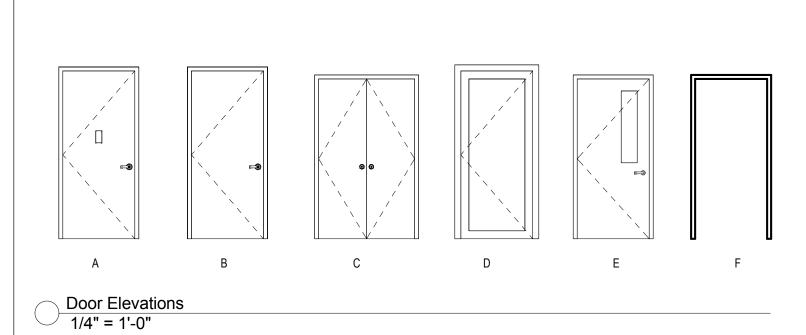
Architects, PA 1205 W. Laurelton Pkwy Teaneck, NJ 07666 tel. 201-833-4446 fax. 2 rgtect@optonline.net wy LIBERTY AVE 735 LIBERTY AVE	y. 201-833-0484 ww.rgtect.net ENUE /E	
Curtainwall	Details	
Project number	96016	
Date De	c 28, 2016	
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	Architects, PA 1205 W. Laurelton Pkwy Teaneck, NJ 07666 tel. 201-833-4446 fax. 2 rgtect@optonline.net wy LIBERTY AVE 735 LIBERTY AVE BROOKLYN, NY Curtainwall Project number	1205 W. Laurelton Pkwy. Teaneck, NJ 07666 tel. 201-833-4446 fax. 201-833-0484 rgtect@optonline.net www.rgtect.net LIBERTY AVENUE 735 LIBERTY AVE BROOKLYN, NY Curtainwall Details Project number 96016

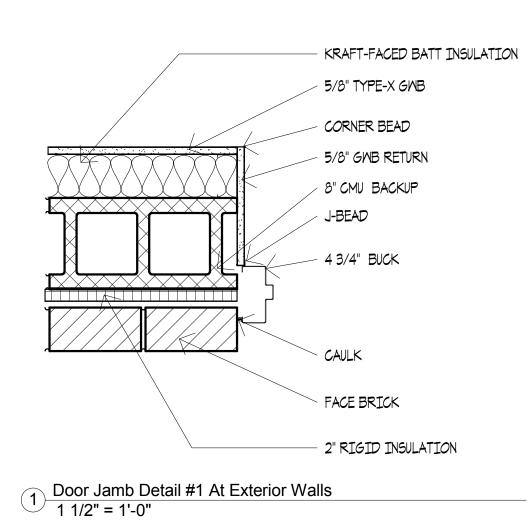
NYC Building Department approval stamp

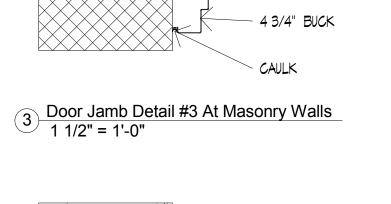
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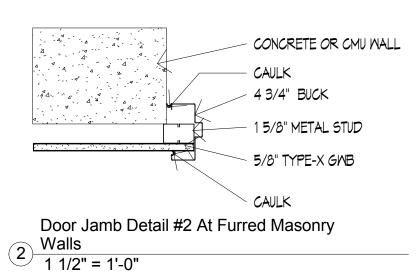


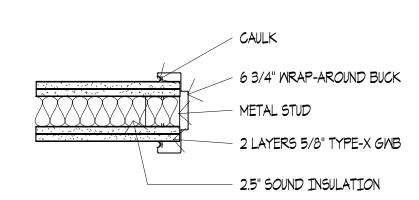
								D	oor Schedu	е												
				S	IZE							HARDWARE SADDLE								SADDLE		
Type Mark	Room	Fire Passage Lock Privacy Push	Door Pull/ Push Plates	Lock Cylinder	Dummy Pulls	Electric Strike/ Interior Buzzer Release	Butt Hinge	Spring s Hinges	Closer	Door Stop	Magnetic Catch Each Leaf	WP Marble Saddle Saddle	Comments									
1	APARTMENT ENTRY	FLUSH SWING	A	3' - 0"	7' - 0"	5	HM	1.5 HR		Χ							X		Х		X	INTERVIEWER AND CHIMES
2	BATHROOM-ADAPTABLE	FLUSH SWING	В	2' - 10"	6' - 8"	4	WOOD				X					X			Х		X	
3	BATHROOM	FLUSH SWING	В	2' - 6"	6' - 8"	4	WOOD				X					X			Х		X	
4	BEDROOM	FLUSH SWING	В	2' - 10"	6' - 8"	4	WOOD				X					X			Х			
5	CLOSET	PAIR FLUSH SWING	С	4' - 0"	6' - 8"	4	WOOD		Х					Х		X			Х	Χ		
6	CLOSET	PAIR FLUSH SWING	С	5' - 0"	6' - 8"	4	WOOD		Х					X		X			Х	Χ		
7	CLOSET	FLUSH SWING	В	1' - 8"	6' - 8"	4	WOOD		Х							X			Х			
8	CLOSET	FLUSH SWING	В	2' - 0"	6' - 8"	4	WOOD		Х							X			Х			
11	STAIR	VISION SWING	E	3' - 0"	6' - 8"	4	WOOD	1.5 HR	Х							X		X	Х			8X20 WIRE GLASS VISION PANEL
12	JANITOR'S CLOSET	FLUSH SWING	В	3' - 0"	6' - 8"	5	HM			Х							Х				X	
13	TRASH STORAGE	FLUSH SWING	В	3' - 0"	6' - 8"	5	HM	1.5 HR	X								X				X	
15	STAIR/ CORRIDRO TO ROOF	VISION SWING	E	3' - 0"	6' - 8"	1	INSULATED HM	1.5 HR		X							X				X	8X20 WIRE GLASS VISION PANEL
16	JULIET BALCONY	ALUMINUM/ GLASS SWING	D	3' - 0"	7' - 2"	1	ALUMINUM, TEMPERED GLASS			X						X					X	PART OF CURTAINWALL/ STOREFRON PACKAGE
22	YARD TO VESTIBULE	ALUMINUM/ GLASS SWING	D	3' - 0"	7' - 0"	6	ALUMINUM, TEMPERED GLASS					Х	X		Х	Х		X			X	PART OF CURTAINWALL/ STOREFRON PACKAGE
23	BUILDING ENTRANCE	ALUMINUM/ GLASS SWING	D			1	ALUMINUM, TEMPERED GLASS					Х	X		X	Х		X			Х	PART OF CURTAINWALL/ STOREFRON PACKAGE
24	VESTIBULE TO LOBBY	ALUMINUM/ GLASS SWING	D	3' - 0"	7' - 1 13/32"		ALUMINUM, TEMPERED GLASS					X	X		Х	Х		X				PART OF CURTAINWALL/ STOREFRON PACKAGE
27	VESTIBULE TO LOBBY	ALUMINUM/ GLASS SWING	D	3' - 0"	7' - 0"	5	ALUMINUM, TEMPERED GLASS					X	X		X	Х		X				PART OF CURTAINWALL/ STOREFRON PACKAGE
31	KITCHENETTE	CASED ARCH	F	3' - 0"	6' - 8"																	
32	KITCHENETTE	CASED ARCH	F	5' - 0"	6' - 8"																	
33	LOBBY	CASED ARCH	F	4' - 0"	6' - 8"																	



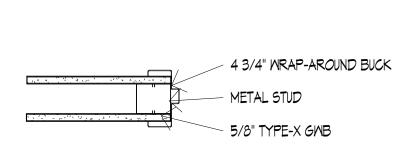




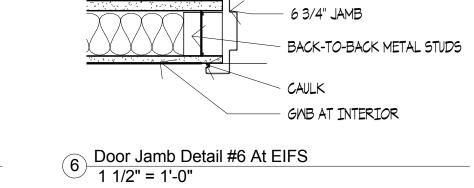








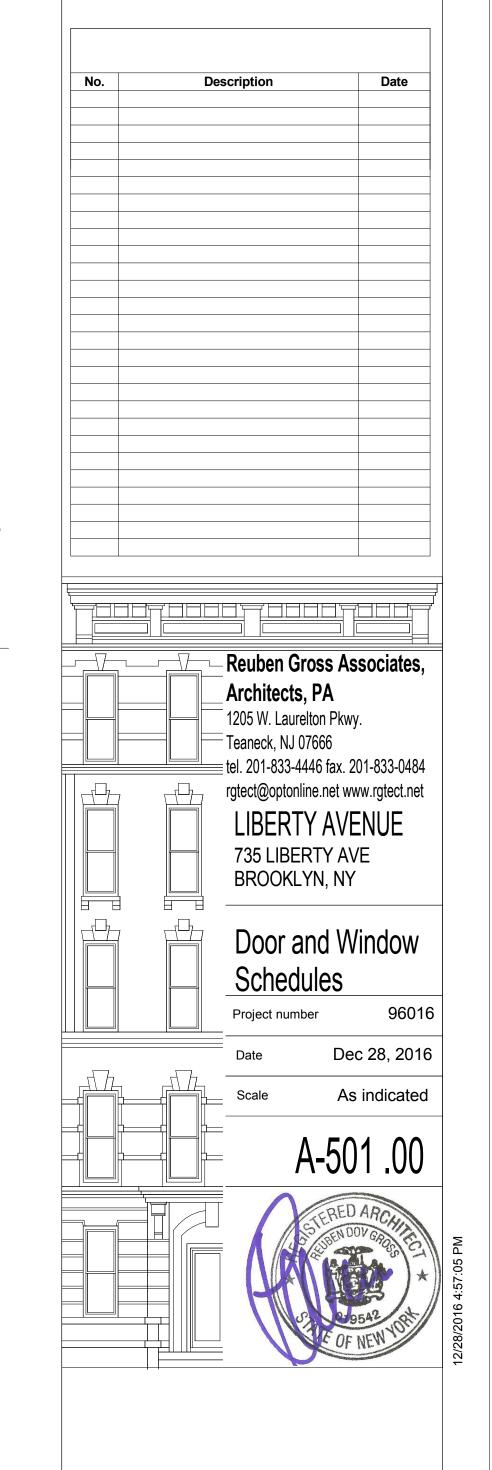
Door Jamb Detail #4 At Wall Type I-1
1 1/2" = 1'-0"



- EIFS FINISH

- 2" RIGID INSULATION

					Window Schedule				
Type Mark	Width	Height	Manufacturer	Model	Description	Glass Type	Maximum U Value	Sill	Lintel
A			KAWNEER		CASEMENT	CLEAR INSULATED	0.40		
С	3' - 0"	5' - 0"	CRYSTAL WINDOW	SERIES 8500 DOUBLE-HUNG	DOUBLE HUNG	WIRE GLASS	0.40		
E	6' - 4"	5' - 4"	CRYSTAL WINDOW	SERIES 8500 DOUBLE CASEMENT	ALUMINUM WINDOWS BY CRYSTAL OR APPROVED EQUAL. INSULATED CLEAR GLASS. FRAMES WITH THERMAL BREAK	CLEAR INSULATED	0.51		
K	3' - 0"	5' - 4"	CRYSTAL WINDOW	SERIES 8500 SINGLE CASEMENT	ALUMINUM WINDOWS BY CRYSTAL OR APPROVED EQUAL. INSULATED CLEAR GLASS. FRAMES WITH THERMAL BREAK	CLEAR INSULATED	0.51		
L	2' - 0"	4' - 0"	CRYSTAL WINDOW	SERIES 8500 SINGLE CASEMENT	ALUMINUM WINDOWS BY CRYSTAL OR APPROVED EQUAL. INSULATED CLEAR GLASS. FRAMES WITH THERMAL BREAK	CLEAR INSULATED	0.51		



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						Finish Schedule					
Level	Name	Floor Material	Floor Finish	Wall Material	Wall Finish	Base Molding	Stool/Apron	Molding Finish	Ceiling Material	Ceiling Finish	Comments
	Bath	CONCRETE C	CT-FLOOR 2	MOLD RESISTANT GWB/ WONDERBOARD	CT WALL-2	CT SANITARY COVE-2			MOLD RESISTANT GWB	PAINT SEMI-GLOSS	
st Floor	Bedroom	CONCRETE TO	&G WOOD	GWB	PAINT PEARL	PAINT GRADE WOOD	PAINT GRADE WOOD	PAINT SEMI-GLOSS	GWB	PAINT FLAT	
2nd Floor	Closet	CONCRETE T	&G WOOD	GWB	PAINT PEARL	PAINT GRADE WOOD	-	PAINT SEMI-GLOSS	GWB	PAINT FLAT	
Cellar OVERALL	Electric	CONCRETE CO	ONCRETE SEALER	CONCRETE/CMU	CONCRETE SEALER PAINT	-		-	GWB	PAINT FLAT	
	Foyer	CONCRETE TO	&G WOOD	GWB	PAINT PEARL	-	-	PAINT SEMI-GLOSS	GWB	PAINT FLAT	
1st Floor	Hall	CONCRETE T	&G WOOD	GWB	PAINT PEARL	PAINT GRADE WOOD		PAINT SEMI-GLOSS	GWB	PAINT FLAT	
1st Floor	Jan.	CONCRETE C	T-FLOOR 4	MOLD RESISTANT GWB/ WONDERBOARD	PAINT PEARL	CT SANITARY COVE-3	-	-	GWB	PAINT FLAT	
	Kitte	CONCRETE C	T-FLOOR 3	GWB	PAINT SEMI-GLOSS	PAINT GRADE WOOD	-	PAINT SEMI-GLOSS	GWB	PAINT SEMI-GLOSS	
1st Floor	Living/ Dining/ Kitchen	CONCRETE TO	&G WOOD	GWB	PAINT PEARL	PAINT GRADE WOOD	PAINT GRADE WOOD	PAINT SEMI-GLOSS	GWB	PAINT FLAT	
	Living/ Dining/ Sleeping	CONCRETE TO	&G WOOD	GWB	PAINT PEARL	PAINT GRADE WOOD	PAINT GRADE WOOD	PAINT SEMI-GLOSS	GWB	PAINT FLAT	
1st Floor	Lobby	CONCRETE C	T-FLOOR 1	GWB	CT WALL-1 WAINSCOTT/ VWC-1	CT SANITARY COVE-1	-	-	GWB	PAINT FLAT	
Cellar OVERALL	Open Cellar	CONCRETE CO	ONCRETE SEALER	CONCRETE/CMU	CONCRETE SEALER PAINT	-			GWB	PAINT FLAT	
	Public Corridor										
st Floor	Rear Yard Residential Recrea Space 850 SF	tion									
th Floor	Roof Deck			-	-	-	-	-	-	-	
th Floor	Roof Deck Private			-	-	-	-	-	-	-	
	Stair	CONCRETE C	T-FLOOR 1	GWB	PAINT SEMI-GLOSS	-	-	-	GWB	PAINT FLAT	
	Storage	CONCRETE C	ONCRETE SEALER	CONCRETE/CMU	CONCRETE SEALER PAINT				GWB	PAINT FLAT	
	Trash	CONCRETE C	T-FLOOR 4	CONCRETE/CMU	CONCRETE SEALER PAINT				GWB	PAINT FLAT	
st Floor	Vest.	CONCRETE C	T-FLOOR 1	GWB	CT WALL-1 WAINSCOTT/ VWC-1	CT SANITARY COVE-1			GWB	PAINT FLAT	
Cellar OVERALL	Water	CONCRETE CO	ONCRETESEALER	CONCRETE/CMU	CONCRETE SEALER PAINT	-			GWB	PAINT FLAT	

	Wall Schedule	
Type Mark	Description	Fire Rating
CW-1	CW-1 ALUMINUM CURTAIN WALL SYSTEM EQUAL TO 1602 WAL SYSTEM AS MANUFACTURED BY KAWNEER (OR EQUAL AS APPROVED BY ARCHITECT). INTERIOR WALL SYSTEM 2" RIGID INSULATION (R-5 PER INCH) OVER TYVEK BUILDING WRAP OVER 5/8" DENSESHIELD SHEATHING. 3 1/2", 16 GAUGE STUDS @ 16" WITH R-15 KRAFT-FACED BATT INSULATION. 5/8" TYPE-X GWB TAPED AND 3 COATS SPACKLE. FINISH PER FINISH SCHEDULE	
E-1	E-1 4" BRICK, 2" AIR SPACE WITH 2" EXPANDED POLYSTYRENE INSULATION (R-5 PER INCH), LIQUID APPLIED DAMP PROOFING, 8" CMU, 3 5/8" METAL STUD @ 16" O.C. W/ R-15 KRAFT FACED BATT INSULATION, 5/8" TYPE-X GWB	
E-2	E-2 3 COATS CEMENTITIOUS STUCCO OVER GALVANIZED MESH, 2" RIGID INSULATION (R-5 PER INCH), TYVEK BUILDING WRAP, 5/8" DENSESHIELD SHEATHING, 4" 16 GA STUDS @ 16" W/ R-15 KRAFT FACED BATT INSULATION, 5/8" TYPE-X GWB	2 Hours
E-3	E-3 THIN BRICK SYSTEM OVER GALVANIZED TRACK OVER 2" EXPANDED POLYSTYRENE INSULATION EQUAL TO DOW STYROFOAM BLUE BOARDS @ R-5/INCH (R-10), TYVEK BUILDING WRAP, 5/8" DENSE SHIELD SHEATHING, 4" METAL STUDS @ 16" O.C. W/ R-15 KRAFT FACED BATT INSULATION, 5/8" TYPE-X GWB	
E-4	E-4 EXTERIOR WALL. 8" CMU, 1 1/2" METAL STUD @ 16" O.C. 5/8" TYPE-X GWB. TAPED AND 3 COATS SPACKLE. FINISH PER FINISH SCHEDULE	3 Hours
E-5	E-5 EXTERIOR WALL. 8" CMU. REFER TO STRUCTURAL DRAWINGS FOR REINFORCING, CEMENTITIOUS STUCCO OVER LATHE OVER 2" RIGID INSULATION (R5 PER INCH) AT EXTERIOR. AT INTERIOR 3 1/2" METAL STUD @ 16" O.C. W/ R-15 KRAFT-FACED BATT INSULATION. 5/8" TYPE-X GWB TAPED AND 3 COATS SPACKLE. FINISH AS PER FINISH SCHEDULE	3 Hours
E-8	REINCFORCED CONCRETE FOUNDATION WALL. SEE STRUCTURAL DRAWINGS FOR SIZE, REINFORCING AND DETAILS. PROVIDE 2" RIGID INSULATION (R-5 PER INCH) AT EXTERIOR FACE	3 Hours
I-1	I-1 UNRATED INTERIOR WALL. 2 1/2" 20 GA STUDS@ 16" OC. 5/8" TYPE X GWB. AT BATHROOM LOCATION PROVIDE MOLD RESISTANT BOARD. AT TUB SURROUND, PROVIDE CEMENT BOARD EQUAL TO WONDERBOARD	
I-2	I-2 2 HOUR FIRE RATED WALL 2 1/2" 20 GA STUDS@ 16" OC WITH 3" MINERAL WOOL SOUND ATTENUATION BLANKET. 2 LAYERS 5/8" TYPE X GWB EACH SIDE. TAPED AND 3 COATS SPACKLE. FINISH AS PER FINISH SCHEDULE. STC RATING 50-54. GA FILE # WP 1548	2 HR PER UL U419
I-3	I-3 CHASE WALL 1 5/8" 20 GA STUDS@ 16" OC. 5/8" TYPE X GWB. AT BATHROOM LOCATION PROVIDE MOLD RESISTANT BOARD. AT TUB SURROUND, PROVIDE CEMENT BOARD EQUAL TO WONDERBOARD. EACH SIDE OF CHASE	
I-4	I-4 1 HOUR FIRE RATED WALL. 2 1/2" 20 GA STUDS@ 16" OC. 3" MINERAL WOOL SOUND ATTENUATION BLANKET. 2 LAYERS 1/2" TYPE C GWB ONE SIDE. 1 LAYER 1/2" TYPE C GWB OTHER SIDE. AT BATHROOM LOCATION PROVIDE MOLD RESISTANT BOARD. AT TUB SURROUND PROVIDE CEMENT BOARD EQUAL TO WONDERBOARD. STC RATING 50-54 GA FILE WP1023	1 HOUR
I-5	8" CMU WALL. 3 HOUR FIRE RATING	3 Hours
P-1	PARAPET 3 COATS CEMENTITIOUS STUCCO OVER GALVANIZED MESH, TYVEK BUILDING WRAP, 5/8" DENSESHIELD SHEATHING, 6" METAL STUDS, 5/8" DENSESHIELD SHEATHING, 3 COATS CEMENTITIOUS STUCCO	
SF-1	ALUMINUM AND TEMPERED GLASS STOREFRONT SYSTEM. 2X5 MULLIONS TO MATCH CW-1 WITH THERMAL BREAK. TEMPERED INSULATED GLAZING	

Lighting Fixture Schedule						
Type Mark	Fixture Type	Bulb Type	Wattage	Comments		
		I				
E-LITE	2-HEAD EMERGENCY LIGHT WITH BATTERY BACKUP			WIRED TO HOUSE PANEL		
EXIT	ILLUMINATED EXIT LIGHT WITH BATTERY BACKUP			WIRED TO HOUSE PANEL		
FL-4	4', 2-BULB FLUORESCENT FIXTURE	2 T-8	32 W	WIRED TO HOUSE PANEL		
FL-8	8', 2-BULB FLUORESCENT FIXTURE	2 T-8	102 W	WIRED TO HOUSE PANEL		
K-1	1X4 2-BULB FLUORESCENT	FLUORESCENT TUBE	32 W	WITH WRAP-AROUND ACRYLIC LENS		
REC-1	RECESSED	LED 65 W EQUIV	9 W	EQUAL TO LITHONIA 6BPMW. PROVIDE 1 HOUR FIRE RATED BAFFLE ABOVE EACH FIXTURE. WIRED TO LOCAL SWITCHES AS INDICATED OR TO HOUSE PANEL AT LOBBY/ VESTIBULE AREA		
SC-1	DECORATIVE WALL SCONCE		60 W	WIRED TO TIMER AT HOUSE PANEL		
SC-2	UP-DOWN TUBE-TYPE SCONCE		1000 W	WIRED TO TIMER AT HOUSE PANEL		
SURF-1	SURFACE MOUNTED	2 CFL	28 W	WIRED TO HOUSE PANEL		
SURF-2	SURFACE MOUNTED	LED 45 W EQUIV	6 W	WIRED LOCAL SWITCH		
WALL-1	WALL MOUNTED	FLUORESCENT TUBE	9 W	WIRED TO HOUSE PANEL		

Electrical Fixture Schedule						
Type Mark	Unit Type	Manufactur er	Model	Height	Comments	
A/P	APARTMENT ELECTRICAL PANEL			4' AFF	SEE ELECTRICAL DRAWINGS FOR CIRCUITRY AND DETAILS	
DUP	DUPLEX CONVENIENCE OUTLET	LEVITON	DECORA 5325-T	18" AFF, 66" AFF FOR MICROWAVE	SEE ELECTRICAL DRAWINGS FOR CIRCUITRY AND DETAILS	
GFI	DUPLEX OUTLET WITH GFCI PROTECTION	LEVITON	GFNT1-KGY	4' AT BATHROOM, 3'-6" AT KITCHEN, 2' AT EXTERIOR	EXTERIOR OUTLET MODEL GFWT2-KW. PROVIDE WEATHERPROOF ENCLOSURE AT EXTERIOR UNITS	
INT	INTERCOM RELEASE AT APARTMENT			4' AFF	WIRED TO INTERCOM PANEL(S) AT LOBBY AND ELECTRIC STRIKE RELEASE AT ENTRY DOOR(S)	
INT-P	INTERCOM PANEL AT EXTERIOR	Aiphone Corp.	GT-DM with SBX-GTDM	4' AFF	INTERCOM PANEL WIRED TO INTERCOM AT APARTMENTS AND TO ELECTRIC STRIKE AT DOOR	
S/CO	SMOKE/ CO DETECTOR	Generic	Generic	AT CEILING	HARDWIRED WITH BATTERY BACKUP	
SIMP	SIMPLEX OUTLET			18" AFF	ON SEPARATE CIRCUIT	
SW-1	SINGLE POLE LIGHT SWITCH	LEVITON	5603-W	4' AFF		
TV	TV CABLE OUTLET	LEVITON	40681-W	18" AFF	MT CONDUIT TO ELECTRIC ROOM IN CELLAR WIRED TO SERVICE BY CABLE PROVIDER	

No.	Des	scription		Date
		Architects, P. 1205 W. Laurelton Teaneck, NJ 0766 tel. 201-833-4446 rgtect@optonline.r LIBERTY 735 LIBERTY BROOKLYN	n Pkwy. 66 fax. 201-8 net www.rg AVENU Y AVE	tect.net
		Schedule	es	
		Project number		96016
\Box	$\neg \neg$	Date	Dec 28	3, 2016
		Scale		
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SECTION 084413 GLAZED ALUMINUM CURTAIN WALLS

PART 1 - GENERAL 1.1 Related Documents

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 Summary Section Includes: Kawneer Architectural Aluminum Curtain Wall Systems, including perimeter trims, stools, accessories, shims and anchors, and perimeter sealing of curtain wall framing.

Types of Kawneer Aluminum Curtain Wall include: 1602 Wall System – 2" x 4-15/16" (50.8 x 125.4) or 6-1/16" (153.9), outside glazed pressure

1.3 Definitions

Definitions: For fenestration industry standard terminology and definitions refer to American Architectural Manufactures Association (AAMA) – AAMA Glossary (AAMA AG).

1.4 Performance Requirements

General Performance: Comply with performance requirements specified, as determined by testing of glazed aluminum curtain walls representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

Glazed aluminum curtain walls shall withstand movements of supporting structure including, but not limited to, story drift, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads. Failure also includes the following:

Thermal stresses transferring to building structure.

Glass breakage.

Loosening or weakening of fasteners, attachments, and other components.

Failure of operating units.

B. Delegated Design: Design glazed aluminum curtain walls, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated. EDITOR NOTE: PROVIDE WIND LOAD DESIGN PRESSURES IN PSF AND INCLUDE APPLICABLE BUILDING CODE AND YEAR EDITION.

C. Wind loads: Provide Curtain Wall system; include anchorage, capable of withstanding wind load design pressures as per the NYC Building Code (2014).

D. Air Infiltration: The test specimen shall be tested in accordance with ASTM E 283. Air infiltration rate shall not exceed 0.06 cfm/ft² (0.3 l/s · m²) at a static air pressure differential of 6.24 psf (300 Pa). E. Water Resistance, (static): The test specimen shall be tested in accordance with ASTM E 331. There

shall be no leakage at a static air pressure differential of 10 psf (479 Pa) as defined in AAMA 501. F. Water Resistance, (dynamic): The test specimen shall be tested in accordance with AAMA 501.1 There shall be no leakage at an air pressure differential of 10 psf (479 Pa) as defined in AAMA 501.

G. Structural performance shall be based on Aluminum Association "Specification for Aluminum Structures" or CSA Standard CAN3-S157 "Strength Design in Aluminum". There shall be no deflection in excess of L/175 of the span of any framing member at design load.

H. Thermal Transmittance (U-factor): When tested to AAMA Specification 1503, the thermal transmittance (U-factor) shall not be more than

0.40 (low-e). Condensation Resistance (CRF): When tested to AAMA Specification 1503, the condensation resistance factor shall not be less than 68_{frame}

and 67_{glass} (low-e),

Condensation Index (I): when tested to CSA-A440-00, the Condensation Index shall not be less than Captured - 57_{frame} and 60_{glass} (clear). Submittals

Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: For glazed aluminum curtain walls. Include plans, elevations, sections, full-size details, and attachments to other work.

Samples for Initial Selection: For units with factory-applied color finishes.

Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified preconstruction testing agency, for glazed aluminum curtain walls, indicating compliance with performance

Fabrication Sample: Of each vertical-to-horizontal intersection of aluminum-framed curtain wall systems, made from 12" (304.8 mm) lengths of full-size components and showing details of the following:

Joinery Glazing

1.6 Quality Assurance Installer Qualifications: Installer who has had successful experience with installation of the same or similar systems required for the project and other projects of similar size and scope.

B. Manufacturer Qualifications: A manufacturer capable of fabricating glazed aluminum curtain walls that meet or exceed performance requirements.

C. Source Limitations: Obtain aluminum curtain wall system through one source from a single

D. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If revisions are proposed, submit comprehensive explanatory data to Architect for review. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate

aesthetic effects and set quality standards for materials and execution. Build mockups for type(s) of curtain wall elevation(s) indicated, in location(s) shown on Drawings. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination".

1.7 Project Conditions Field Measurements: Verify actual locations of structural supports for glazed aluminum curtain walls by field measurements before fabrication and indicate measurements on Shop Drawings.

1.8 Warranty

Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty.

by manufacturer

PART 2 - PRODUCTS

2.1 Manufacturers Basis-of-Design Product:

Kawneer Company Inc. 1602 Wall System.

Frame depth options: 2" x 4-15/16" (50.8 x 125.4) or 6-1/16" (153.9), outside glazed pressure plate format.

Warranty Period: Two (2) years from Date of Substantial Completion of the project provided

however that the Limited Warranty shall begin in no event later than six months from date of shipment

Tested to AAMA 501.

Substitutions: Refer to Substitutions Section for procedures and submission requirements. Pre-Contract (Bidding Period) Substitutions: Submit written requests ten (10) days prior to bid

Post-Contract (Construction Period) Substitutions: Submit written request in order to avoid

curtain wall installation and construction delays. Product Literature and Drawings: Submit product literature and drawings modified to suit specific

project requirements and job conditions. Certificates: Submit certificate(s) certifying substitute manufacturer (1) attesting to adherence to specification requirements for curtain wall system performance criteria, and (2) has been engaged in

the design, manufacturer and fabrication of aluminum curtain walls for a period of not less than ten (10) years. (Company Name). 4. Test Reports: Submit test reports verifying compliance with each test requirement required by the project.

Samples: Provide samples of typical product sections and finish samples in manufacturer's standard sizes.

Substitution Acceptance: Acceptance will be in written form, either as an addendum or modification, and documented by a formal change order signed by the Owner and Contractor.

2.2 Materials

A. Aluminum Extrusions: Alloy and temper recommended by glazed aluminum curtain wall manufacturer for strength, corrosion resistance, and application of required finish and not less than 0.070" (1.8) wall thickness at any location for the main frame and complying with ASTM B 221: 6063-T6 alloy and temper. Aluminum sheet alloy: Shall meet the requirements of ASTM B209.

C. Fasteners: Aluminum, nonmagnetic stainless steel or other materials to be non-corrosive and compatible with aluminum window members, trim hardware, anchors, and other components.

D. Anchors, Clips, and Accessories: Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.

Pressure Plate: Pressure plate shall be aluminum and fastened to the mullion with stainless steel screws.

F. Reinforcing Members: Aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.

G. Sealant: For sealants required within fabricated curtain wall system, provide permanently elastic, nonshrinking, and non-migrating type recommended by sealant manufacturer for joint size and movement.

H. Thermal Barrier: Thermal separator shall be extruded of a silicone compatible elastomer that provides a minimum 3/16" separation. I. Tolerances: Reference to tolerances for wall thickness and other cross-sectional dimensions of glazed

curtain wall members are nominal and in compliance with AA Aluminum Standards and Data 2.3 Curtain Wall Framing

A. Framing Members: Manufacturer's standard extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.

Glazing System: 4 sided captured.

Glazing Plane: Front. Glass: 1" (25.4) insulating glass option. 1/4" (6.3) for Spandrel applications.

Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

D. Framing Sealants: Shall be suitable for glazed aluminum curtain wall as recommended by sealant manufacturer. E. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding

fasteners and accessories compatible with adjacent materials. Where exposed shall be stainless steel. F. Perimeter Anchors: When steel anchors are used, provide insulation between steel material and

aluminum material to prevent galvanic action. G. Packing, Shipping, Handling and Unloading: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

H. Storage and Protection: Store materials protected from exposure to harmful weather conditions. Handle curtain wall material and components to avoid damage. Protect curtain wall material against damage from elements, construction activities, and other hazards before, during and after installation.

2.4 Glazing Glazing: Comply with Division 08 Section "Glazing". Following glazing options are available. 1602 Wall System: Outside glazed pressure plate format with 1" (25.4) double glazed insulating

Glazing Gaskets: Gaskets to meet the requirements of ASTM C864.

Spacers and Setting Blocks: Manufacturer's standard elastomeric type.

Bond-Breaker Tape: Manufacturer's standard TFE-fluorocarbon or polyethylene material to which sealants will not develop adhesion.

E. Glazing Sealants: As recommended by manufacturer for joint type.

Doors: Comply with Division 08 Section "Aluminum-Framed Entrances and Storefronts".

B. Windows: Comply with Division 08 Section "Aluminum Windows".

2.6 Accessory Materials Bituminous Paint: Cold-applied asphalt-mastic paint complying with SSPC-Paint 12 requirements

except containing no asbestos, formulated for 30-mil (0.762 mm) thickness per coat. B. InLighten™ Light Shelf: aluminum light shelf system consisting of anchor channels, support beams, fascia trims and Aluminum Composite Material (ACM) panels that is anchored directly to the Curtain Wall intermediate horizontal members.

Light Shelf: Interior mounted shelf to reflect daylight deeper into interior space.

Light Shelf System to consist of:

Aluminum Composite Material (ACM) panel, 4mm thick.

Translucent polycarbonate panel, 4mm/16mm thick.

ACM finish on upper and lower surface shall be selected from Kawneer standard finishes. Extruded Aluminum outriggers and fascia.

Extruded aluminum anchor designed to secure to compatible verticals of framing system. Anchor shall be designed to engage shelf so as to allow the shelf to rotate down and hang on its own

Extruded aluminum shear blocks designed to hinge on the anchors to allow rotating individual shelves for cleaning.

Panel /Shelf projection shall not exceed 30" (762mm).

Mullion spacing of framing system shall not exceed 6' (1.83 m) on center.

Panel /Shelf deflection shall not exceed L/120 of horizontal span length. Framing System to Support Light Shelf shall be: (select appropriate framing system)

Curtain wall framing system.

Storefront Framing System.

Submittals.

Manufacturer's Installation Instructions. Samples for Verification.

Factory applied finish as selected by architect.

Functioning Light Shelf sample demonstrating operation.

Shop Drawing including:

1) Plans, elevations, sections, fabrication and installation details. C. Validation from manufacture of single-source for light shelf and framing system and compatibility

between the system. 2.7 Fabrication

Form or extrude aluminum shapes before finishing.

Fabricate components that, when assembled, have the following characteristics: Profiles that are sharp, straight, and free of defects or deformations.

Accurately fitted joints.

Physical and thermal isolation of glazing from framing members.

Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances. 5. Provisions for field replacement of glazing from exterior.

Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible. Internal weeping system or other means to drain water passing joints, condensation occurring

within framing members, and moisture migrating within glazed aluminum curtain wall to exterior. Curtain Wall Framing: Fabricate components for assembly using shear block system following

manufacturer's standard installation instructions. D. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.8 Aluminum Finishes

Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

B. Factory Finishing: Kawneer Permanodic™ AA-M10C21A44 / AA-M45C22A44, AAMA 611, Architectural Class I Color Anodic Coating (Color as selected by architect from manufacturer's standard colors).

PART 3 - EXECUTION

3.1 Examination

A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and

other conditions affecting performance of the Work. B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 Installation

General: Install curtain wall systems plumb, level, and true to line, without warp or rack of frames with manufacturer's prescribed tolerances and installation instructions. Provide support and anchor in place.

Dissimilar Materials: Provide separation of aluminum materials from sources of corrosion or electrolytic action contact points.

Glazing: Glass shall be outside glazed and held in place with extruded aluminum pressure plates anchored to the mullion using stainless steel fasteners spaced no greater than 9" on center.

Water Drainage: Each light of glass shall be compartmentalized using joint plugs and silicone sealant to divert water to the horizontal weep locations. Weep holes shall be located in the horizontal pressure plates and covers to divert water to the exterior of the building.

Related Products Installation Requirements Sealants (Perimeter): Refer to Joint Treatment (Sealants) Section.

Glass: Refer to Glass and Glazing Section.

Reference: ANSI Z97.1, CPSC 16 CFR 1201 and GANA Glazing Manual

3.3 Field Quality Control

A. Field Tests: Architect shall select curtain wall units to be tested as soon as a representative portion of the project has been installed, glazed, perimeter caulked and cured. Conduct tests for air infiltration and water penetration with manufacturer's representative present. Tests not meeting specified performance requirements and units having deficiencies shall be corrected as part of the contract amount.

Refer to Testing Section for payment of testing and testing requirements. a. Air Infiltration Tests: Conduct tests in accordance with ASTM E 783. Allowable air infiltration shall not exceed 1.5 times the amount indicated in the performance requirements or 0.09 cfm/ft², which ever

Testing: Testing shall be performed per AAMA 503 by a qualified independent testing agency.

b. Water Infiltration Tests: Conduct tests in accordance with ASTM E 1105. No uncontrolled water leakage is permitted when tested at a static test pressure of two-thirds the specified water penetration pressure but not less than 8 psf (383 Pa).

Manufacturer's Field Services: Upon Owner's written request, provide periodic site visit by

manufacturer's field service representative.

3.4 Adjusting, Cleaning and Protection Protection: Protect installed product's finish surfaces from damage during construction. Protect aluminum curtain wall system from damage from grinding and polishing compounds, plaster, lime, acid,

cement, or other harmful contaminants. B. Cleaning: Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of debris.

C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period

END OF SECTION 084413



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CRYSTAL

SERIES 8500 AW-PG100-C CASEMENT OUTSWING WINDOW **SECTION 08 51 13**

ALUMINUM WINDOWS

PART 1 - GENERAL

1.1 SCOPE OF WORKs

- A. Furnish and install aluminum windows as shown in bid drawings and as per specifications stipulated in this section.
- B. Factory-installed glass & glazing
- 1.2 ITEMS FURNISHED BUT NOT INSTALLED (Enter description and quantity of items such as extra sash, screens, glass units, hardware, etc. for attic stock)
- 1.3 ITEMS INSTALLED BUT NOT FURNISHED (Enter description and quantity of items such as air conditioners, louvers, duct work to be installed in locations as directed by Architect)
- 1.4 RELATED SECTIONS A. Section 07 90 00 - Joint Protection.
- B. Section 08 41 00 Entrances and Storefronts.
- C. Section 08 70 00 Hardware.

1.5 REFERENCES

- AAMA American Architectural Manufacturers Association AAMA/WDMA/CSA 101/I.S.2/A440-08 "North American Fenestration
- Standard/Specification for Windows, Doors, and Skylights" AAMA/WDMA/CSA 101/I.S.2/A440-05 "Standard/Specification for Windows, Doors, and Unit Skyliahts'
- AAMA 502-08 Voluntary Specification for Field Testing of Newly Installed Fenestration Products.
- AAMA 611-98 Voluntary Specification for Anodized Architectural Aluminum AAMA 701/702-04 - Voluntary Specification for Pile Weatherstripping and Replaceable
- Fenestration Weatherseals AAMA 800-07 - Voluntary Specifications and Test Methods for Sealants.
- AAMA 902-07 Voluntary Specification for Sash Balances. AAMA 910-93 - Voluntary Life Cycle' Specifications and Test Methods for Architectural
- Grade Windows and Sliding Glass Doors. AAMA 1503-98 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors, and Glazed Wall Sections.
- 10. AAMA 2603-02 Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels. 11. AAMA 2604-05 - Voluntary Specification, Performance Requirements and Test
- Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels. 12. AAMA 2605-05 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and
- B. ASTM American Society for Testing and Materials: ASTM E 283-04 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across
 - ASTM E 330-02 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Uniform Static Air Pressure Difference.

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CRYSTAL

SERIES 8500 AW-PG100-C CASEMENT OUTSWING WINDOW

- 3. ASTM E 331-00 Standard Test Method for Water Penetration of Exterior Windows,
- Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference. ASTM E 547-00 - Standard Test Method for Water Penetration of Exterior Windows,
- Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Differential... ASTM F 588; 1997 - Standard Test Methods for Measuring the Forced Entry Resistance
- of Window Assemblies, Excluding Glazing Impact ASTM E 2190-02 - Standard Specification for Insulating Glass Unit Performance and Evaluation.
- C. NFRC National Fenestration Rating Council.
- NFRC 100-04 Procedure for Determining Fenestration Product U Factors. NFRC 102-04 - Procedure for Measuring the Steady-State Thermal Transmittance of
- 3. NFRC 500-04 Procedure for Determining Fenestration Product Condensation Resistance Values.
- D. IGCC Insulating Glass Certification Council.
- E. SGCC Safety Glazing Certification Council.
- Z97.1-04 American National Standard for Safety Glazing Materials used in Buildings -Safety Performance Specifications and Methods of Test.
- 16 CFR 1201 Consumer Product Safety Commission Safety Standard for Architectural Glazing Materials - codified at Title 16, Part 1201 of the Code of Federal Regulations.
- F. ANSI Z97.1 American National Standard For Safety Glazing Materials Used in Buildings -Safety Performance Specifications and Methods of Test/Consumer Products Safety Commission
- G. LEED: The Leadership in Energy & Environmental Design; U.S. Green Building Council

1.6 SUBMITTALS

- A. Submit administrative requirements under provisions of Section 01 30 00.
- B. Product Data: Manufacturer's data sheets on each product to be used, including: Preparation instructions and recommendations.
- Storage and handling requirements and recommendations. Installation methods.

C. Shop Drawings:

- 1. Elevation for each style window specified indicating its size, glazing type, muntin type and
- 2. Manufacturer's head, jamb and sill details and section views for each window type specified
- Provide a window schedule indicating the type, size, color, , and operation of each unit specified. Coordinate with window mark types found in the Contract Drawings.
- Selection Samples: For each finish product specified, two complete sets of color chips

representing manufacturer's full range of available colors and patterns.

- F. Verification Samples: For each finish product specified, samples may be subsequently installed
- G. Test Reports: Submit certified independent testing agency reports indicating window units meet or exceed specified performance requirements.

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CRYSTAL

SERIES 8500 AW-PG100-C CASEMENT OUTSWING WINDOW

1.7 SYSTEM DESCRIPTION

- A. Operation: CASEMENT OUTSWING
- B. AAMA Rating: AW-PG100-C when tested according to AAMA/WDMA/CSA 101/I.S.2/A440-08 at the gateway size of 36" x 60"
- C. Construction: 2 5/8 inch frame depth. Wall thickness: 0.080" frame/sill; 0.080" sash. Factory finished extruded aluminum frame and sash members with integral structural polyurethane thermal
- D. Glazing: 1 inch insulating glass (Optional 1-1/4" IGU); monolithically bonded to the sash frame with double-sided structural glazing tape (SGT) on the interior, and secured with aluminum extruded snap-in glazing bead with bulb gasket.

1.8 HARDWARE:

- A. Sash Locks: Linear Handle mounted to Jamb on interior. Lifting/Pressing down the handle shall activate aluminum linear multi-point lock bar with integral locks to engage keepers attached to the sash on multiple points as required by window size.
- B. Hinges: Concealed heavy-duty stainless steel 4-bar hinges to rotate vent outward on vertical axis. C. Handle: Linear Handle to lock and unlock sash. Aluminum build-in profile as handle next to lock to facilitate operation. (Optional Roto Operator).

1.9 WEATHERSTRIPPING:

- A. Sash: Two rows of 1/4" diameter foam filled bulb gasket shall be used around the sash perimeter to minimize air infiltration.
- B. Securely stake and join at corners. Provide drainage to exterior as necessary.

1.10 PERFORMANCE REQUIREMENTS

- A. Air, Water and Structural Performance Requirements:
 - When tested in accordance with cited test procedures, windows shall meet or exceed the following performance criteria, as well as those indicated in AAMA 101 and 101/I.S.2/A440-08 for performance grade of unit specified unless otherwise noted herein.
 - Air Test Performance Requirements: Performance: Air infiltration maximum 0.10 cfm per square foot at 6.2 psf pressure
 - differential when tested in accordance with ASTM E283 for sliding sealed products. Water Test Performance Requirements:
 - No uncontrolled water leakage at 12 psf static pressure differential when tested in accordance with ASTM E331 and ASTM E547. Structural Test Performance Requirements:
 - Uniform Load Deflection Test
 - No deflection of any unsupported span L of test unit (framing rails, muntins, mullions, etc.) in excess of L/175 at both a positive and negative load of
 - design test pressure when tested in accordance with ASTM E330. Structural reinforcing that is not standard on units being furnished is not

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CRYSTAL

SERIES 8500 AW-PG100-C CASEMENT OUTSWING WINDOW

- b. Uniform Load Structural Test: Unit to be tested at 1.5 x design test pressure, both positive and negative,
- acting normal to plane of wall in accordance with ASTM E330. No glass breakage; permanent damage to fasteners, hardware parts, or anchors; damage to make windows inoperable; or permanent deformation of

any main frame or ventilator member in excess of 0.2% of its clear span.

- B. Forced Entry Resistance Test: ASTM F 588, Type and Grade as indicated for each Product.
- C. Thermal Performance Requirements
 - Perform thermal computer simulation in accordance with the configuration specified in
- 2. Computed Thermal Transmittance (U-Value) shall not exceed 0.51 BTU/hr/sq.ft./°F for the whole window assembly
- window assembly.

1.11 QUALITY ASSURANCE

- manufacturer which has been fabricating/manufacturing commercial grade aluminum windows of similar quality and performance for a minimum of ten (10) years.
- C. Provide test reports from AAMA accredited laboratory certifying that window units are found to be in compliance with AAMA/WDMA/CSA 101/I.S.2/A440-08 and performance standards listed
 - stating that the tested window meets or exceeds criteria for the appropriate AAMA/WDMA/CSA 101/I.S.2/A440 test.
- with manufacturer's recommendations
- B. Protect units against damage from the elements, construction activities and other hazards before, during, and after installation

1.13 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.14 WARRANTY

- A. Refer to Crystal Window & Door Systems, Ltd. standard warranty.
- B. Optional Extended Warranty (contact your Crystal sales representative).

PART 2 - PRODUCTS

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CRYSTAL

SERIES 8500 AW-PG100-C CASEMENT OUTSWING WINDOW

2.1 MANUFACTURERS

- Acceptable Manufacturer: Crystal Window & Door Systems, Ltd., which is located at: 31-10 Whitestone Expressway, Flushing, NY 11354; Tel: 718. 961.7300; Tel: 800. 472.9988; Fax: 718.460.4594; Web: www.crystalwindows.com
- B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.
- 2.2 Aluminum:
- Extruded aluminum prime billet 6063-T5 or 6063-T6 alloy for primary components; 6063-T5, 6063-T6, or 6061-T6 for structural components; all meeting the requirements of ASTM B221.
- Aluminum sheet alloy 5005 H 32 (for anodic finish), meeting the requirements of ÅSTM B209 or

alloy 3003 H 14 (for painted or unfinished sheet).

- 2.3 Thermal Barrier:
 - A. Structural Thermal Barrier: Structural thermal barrier shall consist of poured-in-place polyurethane polymer that shall
 - transfer shear during bending and provide composite action between frame components.
 - B. Non Structural Thermal Barriers: 1. Non structural thermal barriers are used only in conjunction with structural thermal barriers. The purpose of non structural thermal barriers is to enhance thermal performance of the primary structural thermal barriers by inhibiting heat transfer through thermal radiation and convection. Non structural thermal barriers shall not be used as
 - primary load carrying members. Rigid non structural thermal barriers shall be constructed of extruded polyvinylchloride

- 2.4 GLASS

 - Vertical Glazing: For glass surfaces sloped 15 degrees or less from vertical. Design glass to resist design wind pressure based on glass type factors for short-duration load.
 - Thickness: Where glass thickness is indicated, it is a minimum. Provide glass lites in
 - thicknesses as needed to comply with requirements indicated. Strength: Where float glass is indicated, provide annealed float glass. Where fully tempered glass is indicated, provide Kind FT heat-treated float glass. Thermal and Optical Performance Properties: Provide glass with performance properties
 - specified, as indicated in manufacturer's published test data, based on procedures a. U-Factors: Total-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as BTU/sq.ft x h x deg F (W/sq. m x
 - b. Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
 - Visible Reflectance: Center-of-glazing values, according to NFRC 300. Float Glass: ASTM C 1036, Type 1, Quality-Q3, Class 1 (clear) unless otherwise
 - Coated Glass: ASTM C 1376, Type 1, Quality-Q3, Class 1 (clear) unless otherwise

indicated, of kind and condition indicated.

- Laminated Glass: ASTM C 1172, Type 1, Quality-Q3, Class 1 (clear) unless otherwise indicated, of kind and condition indicated.
- B. Insulating Glass Units: 1. Factory-assemble units consisting of sealed lites of glass separated by a PPG Intercept

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CRYSTAL

SERIES 8500 AW-PG100-C CASEMENT OUTSWING WINDOW

- Spacer system consisting of a one-piece, metallic, U-channel design that creates an effective thermal barrier to help reduce conducted heat loss through the window. 2. Insulating glass units shall be sealed with an integral dessicant matrix and a butyl sealant extruded around the entire perimeter of the spacer to achieve a seal. The sealant applied is to be Dual Seal Equivalent (DSE). Interspace to be filled with air or argon gas as
- required by thermal computer simulation.
- 3. Insulating Glass Types: Low-E coated, insulating glass units. a. Overall Unit Thickness: 1" (25.4mm)
 - Thickness of Each Glass Lite: 1/8", 3/16" or 1/4" Outdoor Lite: Class 1 (Clear) float glass, or fully tempered float glass. Interspace Content: Air or Argon Gas.
- Indoor Lite: Class 1 (Clear) float glass, or fully tempered float glass. Low-E Coating: Sputtered on second or third surface. Glass Winter Night time U-Value: 0.27 maximum.
- Solar Heat Gain Coefficient: 0.46 maximum. Provide safety glazing labeling, if necessary.

2.5 WINDOW ACCESSORIES Provide the following accessories as specified in the contract drawings. Finish to match window

- frames or as selected by the Architect:
- A. Wrap Around Panning B. Preset Panning
- C. Snap Trim/Clips
- D. Expanders
- E. Receptors
- F. Subsills and Subsill Anchors
- G. Mullions and Mullion Covers H. Exterior Sills

Interior Stools

- J. Muntins
- 2.6 FINISHES A. Conforming to AAMA 2604-05 specification, finish on all extruded aluminum shall consist of zero or near-zero VOC, organic POWDER COAT with a baked on super-durable thermosetting polyester resin, electro-statically applied on five-stage pre-treated aluminum surface. Powder

coat material to be as manufactured by Sherwin Williams or PPG Powder Coatings.

B. Color to be selected from Manufacturer's Standard Color Chart (or custom-matched as required by project Architect/Owner).

A. Screen frames shall consist of tubular extruded aluminum profiles with finish to match window

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- 2.7 Insect Screens:
 - B. Fiberglass mesh (18 X 16) with PVC spline.

CRYSTAL

SERIES 8500 AW-PG100-C CASEMENT OUTSWING WINDOW

- 2.8 Steel components including attachment fasteners shall be 300 series stainless steel except as noted.
- 2.9 Thermoplastic or thermo-set plastic caps, housings and other components shall be injection-molded nylon, extruded PVC, or other suitable compound.

Sealants shall comply with applicable provisions of AAMA 800 and/or Federal

ications F5-11-001 and 002 Series. Frame joinery sealants shall be suitable for application specified and as tested and approved by window manufacturer.

PART 3 EXECUTION

2.10 Sealants:

- 3.1 EXAMINATION
- A. Do not begin installation until substrates have been properly prepared. B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory

3.2 PREPARATION A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best

result for the substrate under the project conditions.

preparation before proceeding.

- 3.3 INSTALLATION A. Install in accordance with manufacturer's instructions.
- 3.4 ANCHORAGE

A. Anchor window units and/or assemblies sufficiently to maintain permanent positions when subjected to normal thermal movement, specified building movement and specified wind loads.

- 3.5 PROTECTION
- A. Protect installed products until completion of project.

B. Final operating adjustment shall be made after glazing work is complete. Operating sash and

ventilator shall operate smoothly and shall be weathertight when in locked position C. Touch-up, repair or replace damaged products before Substantial Completion.

A.Remove all garbage off site and legally dispose of existing windows and debris generated from the installation of the new windows.

3.6 DISPOSAL OF DEBRIS

3.7 OPTIONAL FIELD TESTING

A. At the discretion and expense of Owner or Owner's representative, perform on-site testing of installed units in conformance with AAMA 502 - Voluntary Specification for Field Testing of Windows and Sliding Glass Doors. Conduct air and water infiltration testing with the window

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CRYSTAL

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- manufacturer, contractor, and owner present.
- A. Adjust all products, sash, vents, and hardware after installation, as necessary to provide proper

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B. An AAMA accredited lab will be hired by the owner to perform the required testing.

operation and a weather tight installation

1205 W. Laurelton Pkwy. Teaneck, NJ 07666 tel. 201-833-4446 fax. 201-833-0484 rgtect@optonline.net www.rgtect.net

> 735 LIBERTY AVE BROOKLYN, NY

> > Project number



- Computed Solar Heat Gain Coefficient (SHGC) shall not exceed 0.31 for the whole

- A. Manufacturer Qualifications: All windows specified in this section shall be supplied by a
- B. Installer Qualifications: All products listed in this section are to be installed by a single installer with a minimum of five (5) years demonstrated experience in installing windows of the same type and scope as specified, preferably AAMA certified installers.
- 1. Test reports shall be accompanied by the window manufacturer's letter of certification

1.12 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation in accordance

- 3.8 ADJUSTMENT AND CLEAN UP
- B. Remove any labels and dirt from the window.

END OF SECTION

Reuben Gross Associates

Description

Date

Architects. PA

Dec 28, 2016