GENERAL STRUCTURAL AND CONSTRUCTION NOTES

A. CODES AND STANDARDS:

1. THE FOLLOWING CODES AND STANDARDS SHALL APPLY TO THE DESIGN, CONSTRUCTION, AND QUALITY CONTROL OF ALL WORK PERFORMED ON THE PROJECT. USE THE LATEST EDITIONS UNLESS NOTED OTHERWISE.

   a. NEW YORK CITY BUILDING CODE, 2014 EDITION.
   b. "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318)", AMERICAN CONCRETE INSTITUTE.
   c. "MANUAL OF STEEL CONSTRUCTION – LOAD AND RESISTANCE FACTOR DESIGN," AMERICAN INSTITUTE OF STEEL CONSTRUCTION INCLUDING SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.
   d. LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
   e. "STRUCTURAL WELDING CODE ANSI/AWS D1.1", AMERICAN WELDING SOCIETY.
   f. "SDI MANUAL OF CONSTRUCTION WITH STEEL DECK No. MOC1," STEEL DECK INSTITUTE
   g. "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530–08/ASCE 5–08/TMS 402–08) AND SPECIFICATION FOR MASONRY STRUCTURES (ACI 530.1–08/ASCE 6–08/TMS 602–08)."

B. DESIGN LOADS

1. DEAD LOAD — PER MATERIAL SELF WEIGHT
   SUPERIMPOSED DEAD LOAD — 45 PSF
2. LIVE LOAD
   - OFFICE (1ST FLOOR) — 100 PSF
   - OFFICE (2ND FLOOR) — 50 PSF
   - ROOF — 20 PSF
3. ROOF SNOW LOAD
   - GROUND SNOW LOAD, Pg — 25 PSF
   - FLAT ROOF SNOW LOAD, Pf — 20 PSF
   - SNOW EXPOSURE FACTOR, Ce — 0.9
   - SNOW LOAD IMPORTANCE FACTOR, I — 1.0
   - THERMAL FACTOR, Ct — 1.0
4. WIND LOAD
   - BASIC WIND SPEED — 98 MPH
   - WIND IMPORTANCE FACTOR, I — 1.0
   - OCCUPANCY CATEGORY — II
   - WIND EXPOSURE — B
   - INTERNAL PRESSURE COEFFICIENT — +/–0.18 (ENCLOSED)
   - COMPONENTS AND CLADDING — ASCE 7–05
5. EARTHQUAKE DESIGN DATA
   - SEISMIC IMPORTANCE FACTOR I — 1.0
   - OCCUPANCY CATEGORY — II
   - SPECTRAL RESPONSE COEFFICIENTS — Sds=0.294, Sd1=0.117
   - SITE CLASS — D
   - SEISMIC DESIGN CATEGORY — B
   - BASIC SEISMIC–FORCE–RESISTING SYSTEM: WALL — LONG DIRECTION: EXISTING UNREINFORCED MASONRY + NEW INTERMEDIATE REINFORCED CMU; SHORT DIRECTION: STEEL OMF
   - RESPONSE MODIFICATION FACTOR R — 3.0
   - ANALYSIS PROCEDURE — EQUIVALENT LATERAL FORCE PROCEDURE

C. MATERIALS:

1. THE FOLLOWING ASTM STANDARDS AND DESIGN STRESSES SHALL BE USED FOR THE APPROPRIATE MATERIALS USED IN THE CONSTRUCTION OF THIS PROJECT.

2. CEMENT: ASTM C150; TYPE I OR III

3. AGGREGATES: ASTM C33 (NORMAL WEIGHT)
   ASTM C330 (STRUCTURAL LIGHTWEIGHT)

4. CONCRETE: ALL CONCRETE SHALL BE AIR–ENTRAINED 5%±1% BY VOLUME, AIR–ENTRAINING ADMIXTURE TO COMPLY WITH ASTM C260.

	APPLICATION	F'c @ 28 DAYS PSI	WT (PCF)	W/C (MAX)
a.	SLAB ON GRADE	4000	145	0.50
b.	FOOTINGS, FOUNDATION WALLS AND GRADE BEAMS	4000	145	0.45
c.	LIGHTWEIGHT FILL ON METAL DECK	3500	115	0.50

d. CAST–IN–PLACE CONCRETE COVER
   REINFORCING STEEL CLEAR COVER SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE (NON–POST–TENSIONED):
   - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH — 3"
   - CONCRETE EXPOSED TO EARTH OR WEATHER
     - #6 BARS AND LARGER — 2"
     - #5 BARS AND SMALLER — 1½"
   - CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND SLABS, WALL, JOISTS:
     - #11 BARS AND SMALLER — ¾"
   - BEAMS, COLUMNS:
     - PRIMARY REINFORCEMENT, TIES
       - STIRRUPS, SPIRALS — 1½"
       - SLABS CAST AGAINST MUD SLAB — 2"

e. LIGHTWEIGHT CONCRETE SHALL BE BATCHED AND MIXED AS SPECIFIED IN ACI 301 SECTION 7.4. PRESOAK AGGREGATES AS REQUIRED TO COMPLY WITH THIS SPECIFICATION AND TO FACILITATE CONCRETE PUMPING.

5. REINFORCEMENT:

a.	DEFORMED REINFORCING BARS	ASTM A615, GRADE 60
b.	WELDABLE DEFORMED REINF. BARS	ASTM A706
c.	WELDED WIRE FABRIC (WWF)	ASTM A185

6. STEEL:

a.	STRUCTURAL SHAPES (EXCEPT W SHAPES) & PLATES	ASTM A36
b.	HIGH STRENGTH STRUCTURAL STEEL (W SHAPES)	ASTM A992, GRADE 50, Fy=50KSI
c.	RECTANGULAR HOLLOW STRUCTURAL SHAPES	ASTM A500, GRADE B, Fy=46ksi
d.	HIGH STRENGTH BOLTS	ASTM A325 OR A490
e.	ANCHOR BOLTS	ASTM F1554 GRADE 36
f.	HEADED SHEAR STUDS	ASTM A108
g.	WELDING ELECTRODES	AWS A5.1 OR A5.5, E70XX
h.	ADHESIVE ANCHORING SYSTEM	ITW RAMSET/REDHEAD EPCON SYSTEM, HILTI HVA SYSTEM OR APPROVED EQUAL
i.	GALVANIZED METAL DECK	ASTM A446

D. CONSTRUCTION:

1. GENERAL:

a. TYPICAL DETAILS APPLY REPETITIVELY ON THE PROJECT. CONTRACTOR SHALL COORDINATE THE GENERAL REQUIREMENTS OF TYPICAL DETAILS WITH PROJECT CONDITIONS, PLANS, SPECIFICATIONS, AND SECTIONS.

b. REPRODUCTION OF ANY PORTION OF THE STRUCTURAL CONTRACT DRAWINGS FOR RESUBMITTAL AS SHOPDRAWINGS IS PROHIBITED. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.

c. THESE DRAWINGS REPRESENT THE COMPLETED PROJECT WHICH HAS BEEN DESIGNED FOR THE WEIGHTS OF THE MATERIALS INDICATED ON THE DRAWINGS AND FOR THE SUPERIMPOSED LOADS, AS PERTHE RELEVANT CODE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND TO PROVIDE PROPER DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGINGS, BRACING, SHEETING AND SHORING, ETC.

d. ALL COSTS OF INVESTIGATION AND/OR REDESIGN, DUE TO CONTRACTOR MISLOCATION OF STRUCTURAL ELEMENTS OR OTHER LACK OF CONFORMANCE WITH THE PROJECT DOCUMENTS, SHALL BE AT THE CONTRACTOR'S EXPENSE.

e. CONTRACTOR SHALL REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATIONS OF OPENINGS, SLEEVES, CONCRETE HOUSEKEEPING PADS, INSERTS, AND DEPRESSIONS.

f. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR DETAILED INFORMATION REGARDING FINISHES, FIREPROOFING, ETC.

h. IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES, DETAILS AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN.

i. DIMENSIONS SHALL NOT BE SCALED FROM THE STRUCTURAL CONTRACT DRAWINGS

j. THE CONTRACTOR IS RESPONSIBLE FOR THE "MEANS AND METHODS" OF CONSTRUCTION FOR THE COMPLETION OF THE WORK, AND BE RESPONSIBLE FOR ADEQUATELY BRACING, SHORING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE. SHORING AND BRACING REQUIREMENTS SHALL BE DESIGNED, FABRICATED AND INSTALLED BY THE CONTRACTOR.

k. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL ADJACENT BUILDINGS FROM DAMAGE AND ENSURE THEIR STABILITY DURING CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN PERMISSION FROM OWNER OF ADJACENT BUILDING BEFORE ANY CONSTRUCTION ACTIVITIES BEYOND PROPERTY LINE.

E. FOUNDATIONS & STRUCTURAL EARTHWORK:

1. GENERAL:

a. SEE THE SPECIFICATIONS AND GEOTECHNICAL REPORT REQUIREMENTS FOR EXCAVATION AND PREPARATION OF THE FOUNDATION AND SLAB–ON–GRADE SUBGRADE, INCLUDING COMPACTION RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT ARE PART OF THIS WORK.

b. CONTRACTOR SHALL VERIFY ALL EXISTING FIELD CONDITIONS THAT MAY AFFECT THE INSTALLATION OF THE FOUNDATION SYSTEM AS SHOWN PRIOR TO STARTING WORK.

c. THE SOIL UNDER THE SLAB SHALL BE COMPACTED TO HIGH DENSITY EQUIVALENT TO A MINIMUM OF 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT

1

d. ALL FOUNDATIONS SUSCEPTIBLE TO FROST SHALL BEAR A MINIMUM OF 4'–0" BELOW GRADE. IN CASE OF CONFLICT, NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER IN ADVANCE OF ANY CONSTRUCTION TO ALLOW FOR ADJUSTMENT.

e. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO ADEQUATELY UNDERPIN, SHORE, BRACE, NEEDLE AND SUPPORT ALL ADJACENT EXISTING CONSTRUCTION WHOSE INTEGRITY MAY BE AFFECTED BY THE EXECUTION OF THIS WORK UNTIL NO LONGER REQUIRED. THE CONTRACTOR SHALL ENGAGE A LICENSED PROFESSIONAL ENGINEER TO PROVIDE PLANS AND DETAILS, TO INSPECT, TO OBTAIN APPROVAL AND TO FILE REPORTS OF ALL SHORING, UNDERPINNING, NEEDLING, BRACING OR OTHER PROCEDURES AS REQUIRED BY THE BUILDING DEPARTMENT AND THE BUILDING CODE ANY DAMAGE DUE TO THE EXISTING STRUCTURES OR ADJACENT AREAS DUE TO NEGLIGENCE SHALL BE RECTIFIED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.

f. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT ALL EXISTING STRUCTURES, CURBS, STREETS, ETC. FROM DAMAGE BY CONSTRUCTION EQUIPMENT. THE CONTRACTOR SHALL NOT DISPOSE OF ANY LIQUIDS, SLURRY, SPOILS OR CHEMICALS ON THE SITE EXCEPT AS DIRECTED BY THE OWNER'S REPRESENTATIVE AND APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL RESOURCES OR OTHER AGENCIES HAVING JURISDICTION.

2. STRUCTURAL FILL:

REFER TO SPECIFICATIONS AND GEOTECHNICAL REPORT REQUIREMENTS FOR COMPACTED STRUCTURAL FILL. REQUIREMENTS AND RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT ARE PART OF THISWORK. INSPECTION OF THE PLACEMENT OF COMPACTED STRUCTURAL FILL SHALL BE BY AN EXPERIENCED, QUALIFIED GEOTECHNICAL ENGINEER.

F. CONCRETE:

1. CAST–IN–PLACE:

a. LIGHTWEIGHT CONCRETE SHALL BE BATCHED AND MIXED AS SPECIFIED IN ACI 301 SECTION 7.4. PRESOAK AGGREGATES AS REQUIRED TO COMPLY WITH THIS SPECIFICATION AND TO FACILITATE CONCRETE PUMPING.

b. NO SLEEVE SHALL BE PLACED THROUGH ANY CONCRETE ELEMENT UNLESS SHOWN ON THE STRUCTURAL DRAWINGS, APPROVED SLEEVING SHOP DRAWINGS OR SPECIFICALLY AUTHORIZED IN WRITING BY THE STRUCTURAL ENGINEER.

c. CORE DRILLING OF FOUNDATIONS, BEAMS, JOISTS OR SLABS, SHALL NOT BE PERMITTED UNLESS AUTHORIZED IN WRITING BY THE DESIGNER.

d. NO SPLICES OF REINFORCEMENT SHALL BE PERMITTED EXCEPT AS DETAILED OR AUTHORIZED BY THE DESIGNER. MAKE BARS CONTINUOUS AROUND CORNERS. WHEN PERMITTED, SPLICES SHALL BE MADE BY CONTACT TENSION LAP SPLICES, UNLESS OTHERWISE NOTED.

e. ALL INSERTS AND SLEEVES SHALL BE CAST–IN–PLACE WHENEVER FEASIBLE. DRILLED OR POWDER DRIVEN FASTENERS WILL BE PERMITTED WHEN PROVEN TO THE SATISFACTION OF THE DESIGNER THAT THE FASTENERS WILL NOT SPALL THE CONCRETE AND HAVE THE SAME CAPACITY AS CAST–IN–PLACE INSERTS.

f. WHEN INSTALLING EXPANSION BOLTS OR ADHESIVE ANCHORS, THE CONTRACTOR SHALL TAKE MEASURES TO AVOID DRILLING OR CUTTING OF ANY EXISTING REINFORCING AND DESTRUCTION OF CONCRETE. HOLES SHALL BE BLOWN CLEAN PRIOR TO PLACING BOLTS OR ANCHORS.

g. CONCRETE SLABS SHALL BE FINISHED FLAT AND LEVEL WITHIN TOLERANCE TO THE ELEVATION INDICATED ON THE DRAWINGS. NOMINAL SLAB THICKNESS IS INDICATED. ACTUAL SLAB THICKNESS MAY VARY DUE TO BEAM AND DECK DEFLECTIONS. CONTRACTOR SHALL PROVIDE ADDITIONAL CONCRETE AS NECESSARY TO MAINTAIN A LEVEL SLAB SURFACE AT THE ELEVATION INDICATED.

G. MASONRY:

1. CONCRETE BLOCK SHALL BE OF NORMAL WEIGHT AGGREGATE, AND SHALL CONFORM TO THE FOLLOWING STANDARDS:
   HOLLOW BLOCK ASTM C90, GRADE N1 (f'm = 2,000 PSI ON NET AREA)

2. ALL MORTAR SHALL BE ASTM C270, TYPE M. MINIMUM AVERAGE COMPRESSIVE STRENGTH OF MORTAR TO BE 2,000 PSI AT 28 DAYS.

3. ALL GROUT UNDER STEEL BEARING PLATE SHALL BE HIGH STRENGTH NON–SHRINK GROUT, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS, AS MEASURED IN ACCORDANCE WITH ASTM C–109.

4. GENERAL:

a. PROVIDE STANDARD WEIGHT GALVANIZED HORIZONTAL JOINT REINFORCEMENT IN ALL WALLS AND PARTITIONS AT 16 INCHES O.C. UNLESS OTHERWISE SHOWN OR NOTED. PROVIDE ONE PIECE PREFABRICATEDUNITS AT 8 INCHES O.C. AT ALL WALL CORNERS AND INTERSECTIONS.

b. PROVIDE MASONRY ANCHORS AT 16 INCHES O.C. SET ON COURSING AND ATTACHED TO ALL BEAMS, COLUMNS, PARTITIONS AND WALLS ABUTTING OR EMBEDDED IN MASONRY.

c. PROVIDE BOND BEAMS WITH 2–#4 HORIZONTAL REINFORCEMENT CONTINUOUS IN ALL MASONRY WALLS AT EACH FRAMING LEVEL.

d. ALL PIERS AND PARTITIONS SHALL BE BONDED OR ANCHORED TO ADJACENT MASONRY WALLS. PROVIDE TIES TO ADJACENT FLOOR AND ROOF CONSTRUCTION IN ACCORDANCE WITH DETAILS ON DRAWINGS.

e. IN MULTIPLE WYTHE WALLS (CAVITY AND COMPOSITE WALLS), BOND THE WYTHES TOGETHER WITH RIGID METAL TIES OR PREFABRICATED JOINT REINFORCEMENT CONFORMING TO ACI 530/ASCE 5 REQUIREMENTS.COMPLETELY FILL ALL COLLAR JOINTS IN COMPOSITE WALLS WITH MORTAR OR GROUT.

f. IN GROUTED AND/OR REINFORCED MASONRY WALLS, USE MASONRY UNITS WITH CORES THAT ALIGN VERTICALLY TO PROVIDE CONTINUOUS UNOBSTRUCTED CELLS FOR GROUTING AND REINFORCING STEEL PLACEMENT.

g. LAP SPLICES FOR DEFORMED REINFORCING BARS USED IN MASONRY CONSTRUCTION SHALL BE 50 BAR DIAMETERS.

h. ALL WALL SECTIONS LESS THAN 4 FEET IN LENGTH AND PIERS LESS THAN 4 SQUARE FEET IN CROSS–SECTIONAL AREA TO BE FULLY GROUTED.

i. SUBMIT GROUT MIX DESIGN & MASONRY UNIT CERTIFICATIONS TO THE DESIGNER FOR APPROVAL.

j. CONTRACTOR SHALL PROVIDE ADEQUATE BRACING AND SUPPORT FOR ALL MASONRY WORK UNTIL PERMANENT CONSTRUCTION IS IN PLACE.

k. SEE SPECIFICATIONS AND ARCHITECTURAL DRAWINGS FOR GENERAL CONTROL JOINT REQUIREMENTS. JOINTS ARE TO BE CONSTRUCTED IN ALL WALLS AND PARTITIONS.

l. PROVIDE GALVANIZED STEEL W–SHAPE LINTELS AT EXTERIOR WALLS. PROVIDE MINIMUM 8" BEARING EACH END.

UP TO 12'–0"	W8x24
OVER 12'–0"	SEE DRAWINGS

m. THE CONTRACTOR SHALL VERIFY ALL OPENINGS BELOW LINTELS INDICATED ARE ADEQUATE TO ACCEPT DOORFRAMES, LOUVERS ETC. AS SHOWN ON THE ARCHITECTURAL & MECHANICAL DRAWINGS. NOTIFY THE DESIGNER OF ANY DISCREPANCIES PRIOR TO LINTEL INSTALLATION.

n. NO OPENINGS SHALL BE PLACED ABOVE ANY LINTEL WITHIN A HEIGHT LESS THAN OR EQUAL TO THE WIDTH OF THE CLEAR OPENING BELOW THE LINTEL, UNLESS SPECIFICALLY SHOWN OR APPROVED BY THE DESIGNER.

o. THE CONTRACTOR SHALL PROVIDE LATERAL BRACING AT 4'–0" O/C AT THE TOP OF ALL INTERIOR CMU WALLS. LATERAL BRACING SHALL RESIST A HORIZONTAL FORCE OF 200 LBS PER LINEAR FOOT OF WALL. THE CONTRACTOR SHALL SUBMIT DETAILS FOR ALL CONDITIONS WITH CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER FOR REVIEW.

H. STRUCTURAL STEEL:

a. ALL SHOP AND FIELD CONNECTIONS SHALL BE MADE WITH HIGH STRENGTH BOLTS OR WELDS. ALL HIGH STRENGTH BOLTS AND NUTS SHALL BE CLEARLY MARKED AS REQUIRED BY AISC SPECIFICATIONS.

b. PROVIDE ACCESS FOR INSPECTION OF ALL SHOP AND FIELD CONNECTIONS FOR PROPER MATERIALS AND WORKMANSHIP.

c. ALL CONNECTIONS, SPLICES AND ERECTION PIECES SHALL BE DESIGNED BY THE FABRICATOR'S ENGINEER REGISTERED IN THE PROJECT'S JURISDICTION. CALCULATIONS AND SHOP DRAWINGS SHALL BE SUBMITTED BEARING THE ENGINEER'S SEAL AND SIGNATURE.

d. THE GENERAL CONTRACTOR SHALL NOTIFY THE DESIGNER OF ANY FABRICATION OR ERECTION ERRORS OR DEVIATIONS AND RECEIVE WRITTEN APPROVAL BEFORE ANY FIELD CORRECTIONS ARE MADE.

e. MOMENT CONNECTIONS, SHALL BE DESIGNED FOR THE PLASTIC FLEXURAL STRENGTH (Mp) OF THE BEAM.

f. SIMPLE SHEAR CONNECTIONS SHALL BE SELECTED AND DETAILED BY THE FABRICATOR IN ACCORDANCE WITH AISC LRFD MANUAL OF STEEL CONSTRUCTION. CONNECTIONS ARE TO BE DESIGNED USING REACTIONS CALCULATED FROM "MAXIMUM FACTORED UNIFORM LOAD" TABLES (AISC), WITH A MINIMUM FACTORED REACTION OF 30 KIPS. MINIMUM WELD 3/16" FILLET. MINIMUM NUMBER OF BOLTS PER CLIP ANGLE OR SINGLE PLATE CONNECTION:

BEAM SIZE	MIN. NO. OF ø3/4" A325N BOLTS
W8,W10	2
W12,W14	3
W16,W18	4

g. FOR COMPOSITE BEAMS, REACTIONS CALCULATED FROM "MAXIMUM FACTORED UNIFORM LOAD" TABLES (AISC) SHALL BE INCREASED BY A FACTOR OF 1.75. COMPOSITE GIRDERS' REACTIONS SHALL BE INCREASED BY A FACTOR OF 1.5.

h. UNLESS OTHERWISE NOTED, ALL A325 BOLTS SHALL BE TIGHTENED TO THE "SNUG TIGHT" CONDITION DEFINED AS THE TIGHTNESS ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A PERSON USING AN ORDINARY SPUD WRENCH.

i. PERMANENT FRAMING AND FINAL CONNECTION DETAILS ARE SHOWN ON THE DRAWINGS. THE FABRICATOR AND ERECTOR ARE RESPONSIBLE FOR THE DESIGN OF TEMPORARY BRACING AND RECOMMENDED ERECTION PROCEDURES.

j. CONCRETE SLABS THAT ARE PART OF COMPOSITE FLOOR FRAMING SYSTEMS SHALL ACHIEVE 28–DAY DESIGN STRENGTH PRIOR TO THE APPLICATION OF ANY SUPERIMPOSED LOADS SUCH AS CURTAIN WALLS, MASONRY VENEERS AND STAIRS.

k. WELDING ELECTRODES, WELDING PROCESS, MINIMUM PREHEAT AND INTERPASS TEMPERATURES SHALL BE IN ACCORDANCE WITH THE AISC AND AWS SPECIFICATIONS. ANY STRUCTURAL STEEL DAMAGED IN WELDING IS TO BE REPLACED OR REINFORCED AS ACCEPTABLE TO THE DESIGNER.

l. WELDERS SHALL HAVE CURRENT EVIDENCE OF PASSING THE APPROPRIATE AWS QUALIFICATION TESTS. THE DESIGNER MAY REQUEST SUCH EVIDENCE AT ANY TIME DURING THE PROJECT.

m. STEEL MEMBERS ENCASED IN CONCRETE SHALL NOT BE PAINTED. ALL OTHER STEEL MEMBERS SHALL BE PAINTED AS PER SPECIFICATIONS.

n. STEEL MEMBERS ENCASED IN CONCRETE SHALL HAVE CLIPS OR WIRE MESH WRAPPING UNLESS OTHREWISE SHOWN.

o. ALL SHEAR CONNECTORS TO BE 3/4 IN DIAMETER METAL STUDS FOR COMPOSITE BEAMS AND GIRDERS, UON.LENGTH OF STUD SHALL BE 1–1/2 IN MORE THAN THE DEPTH OF THE METAL DECK.

I. STEEL DECK:

1. DECK PROPERTIES ARE BASED ON PRODUCTS MANUFACTURED BY UNITED STEEL DECK, INC. (USD). DECKS BY OTHER MANUFACTURERS MAY BE SUPPLIED PROVIDED SECTION PROPERTIES ARE WITHIN 5% OF THOSE SPECIFIED AND IF APPROVED BY THE DESIGNER. ALL DECK SHOULD BE GALVANIZED, SEE SPECIFICATIONS.

2. INSTALL IN ACCORDANCE WITH SDI SUGGESTED SPECIFICATIONS UNLESS NOTED OTHERWISE ON THE DRAWINGS. INDIVIDUAL SHEETS SHALL EXTEND OVER AT LEAST THREE SPANS, WITH LAPS TO BE PLACED OVER SUPPORTS.

3. COMPOSITE DECKS SHALL BE WELDED TO ALL SUPPORTS INCLUDING THE EDGE SUPPORT PARALLEL TO THE DECK SPAN WITH 3/4 INCH DIAMETER (EFFECTIVE FUSION DIAMETER) PLUG WELDS OR HEADED STUD WELDS AT 12" O.C. FASTEN SIDE LAPS WITH 1–1/2 (SEAM WELDS OR #10 SELF–TAPPING SCREWS) AT MID SPAN. HEADED STUDS SHALL BE FIELD INSTALLED BY WELDING THROUGH THE METAL DECK. REMOVE FERRULES FROM THE DECK BEFORE CONCRETE IS PLACED.

J. DEMOLITION:

1. ALL WORK DEMOLITION AND REMOVAL SHALL BE DONE CAREFULLY AND NEATLY, IN A SYSTEMATIC MANNER.

2. ALL EXISTING SURFACES AND EQUIPMENT TO REMAIN SHALL FULLY PROTECTED FROM DAMAGE. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR DAMAGE AND SHALL MAKE REPAIRS REQUIRED WITHOUT ADDITIONAL COST TO THE OWNER.

3. NO DEBRIS SHALL BE ALLOWED TO ACCUMULATE ON THE SITE. DEBRIS SHALL BE REMOVED BY THE CONTRACTOR AS THE JOB PROCEEDS. THE SITE SHALL BE LEFT BROOM CLEAN AT THE COMPLETION OF DEMOLITION.

4. NO STRUCTURAL ELEMENTS SHALL BE REMOVED UNLESS PORTIONS AFFECTED ARE ADEQUATELY SUPPORTED BY EITHER TEMPORARY SHORING OR NEW STRUCTURAL ELEMENTS AS REQUIRED TO PROTECT THE STABILITY AND INTEGRITY OF THE EXISTING STRUCTURE.

5. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN ALL TEMPORARY BARRIER AND GUARDS, AND ALL TEMPORARY SHORING AND BRACING AS REQUIRED BY THE NEW YORK CITY BUILDING CODE RULES AND REGULATIONS.

6. CONTRACTOR TO PREPARE PARTIAL DEMOLATION RELATED DRAWINGS INCLUDING SEGMENTS, PROTECTIONS, SAFETY & STABILITY, AND TEMPORARY SHORING, ETC.

K. COORDINATION:

1. THE INTENT OF THE STRUCTURAL DRAWINGS IS TO SHOW THE MAIN STRUCTURAL FEATURES AND STRUCTURAL DESIGN FOR THE PROJECT. ARCHITECTURAL DETAILS ARE SHOWN INCIDENTALLY ONLY AND NOT COMPLETELY.THEREFORE, ARCHITECTURAL DRAWINGS MUST BE USED IN CONJUNCTION WITH STRUCTURAL DRAWINGS DURING ALL PHASES OF CONSTRUCTION. VERIFY ALL DIMENSIONS AND ELEVATIONS SHOWN BEFORE COMMENCING COMMENCING WORK. DISCREPANCIES BETWEEN STRUCTURAL DRAWINGS AND ARCHITECTURAL DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHIECT FOR CLARIFICATION PRIOR TO COMMENCING THE WORK.

2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS AND ELEVATIONS NOT GIVEN ON THE STRUCTURAL DRAWINGS.

3. SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR GEOMETRY AND LOCATION OF OPENINGS IN THE FLOOR AND ROOF SLABS. SEE TYPICAL DETAILS DRAWING FOR FRAMING OF OPENINGS.

SPECIAL INSPECTIONS, PROGRESS INSPECTIONS AND QUALITY CONTROL

1. SPECIAL INSPECTIONS AND PROGRESS INSPECTIONS AS PER THE NEW YORK CITY BUILDING CODE SHALL BE PERFORMED FOR ALL REQUIRED STRUCTURAL ITEMS, INCLUDING:

STRUCTURAL STEEL WELDING	(BC 1704.3.1)
STRUCTURAL STEEL –HIGH–STRENGTH BOLTING	(BC 1704.3.3)
CONCRETE – CAST–IN–PLACE	(BC1704.4)
MASONRY	(BC1704.5)
SUBGRADE INSPECTION	(BC1704.7.1)
SOILS – INVESTIGATION (BORING/TEST PITS)	(BC1704.7.4)
STRUCTURAL STABILITY	(BC1704.20)
CONCRETE TEST CYLINDERS (TR2)	(BC1905.6)
CONCRETE DESIGN MIX (TR3)	(BC1905.3)
FOOTING AND FOUNDATION	(BC109.3.1)

2. FORM TR–1 TECHNICAL REPORT: STATEMENT OF RESPONSIBILITY SHALL BE FILED WITH THE NEW YORK CITY DEPARTMENT OF BUILDINGS BY THE ENGINEER(S) DESIGNATED AND RETAINED BY THE OWNER TO PERFORM CONTROLLED INSPECTIONS IN EACH OF THE ABOVE MENTIONED CATEGORIES. THE OWNER SHALL HIRE AND PAY FOR THE TESTING AND INSPECTIONS FOR EACH OF THE ABOVE MENTIONED CATEGORIES.

LEGEND:

- INDICATE EXISTING WALL
- INDICATE NEW CONC. WALL/PIER
- INDICATE CMU WALL
- INDICATE MOMENT CONNECTION
- PA — INDICATE POST ABOVE
- PB — INDOCATE POST BELOW
- CA — INDICATE COLUMN ABOVE
- CB — INDICATE COLUMN BELOW

STRUCTURAL ENGINEER:

TIMES BUILDINGS PC
ENGINEERING SERVICES
8534 GRAND AVE. 2nd FL. ELMHURST, NY 11373
TEL: (718)502–9631 FAX: (718)228–7348
WEB: WWW.TBES.US EMAIL: INFO@TBES.US

NO.	DATE	DESCRIPTION
1	04/19/18	PAA1

PROJECT:

5614 3rd Avenue,
Brooklyn, New York

DRAWING TITLE:

GENERAL NOTES

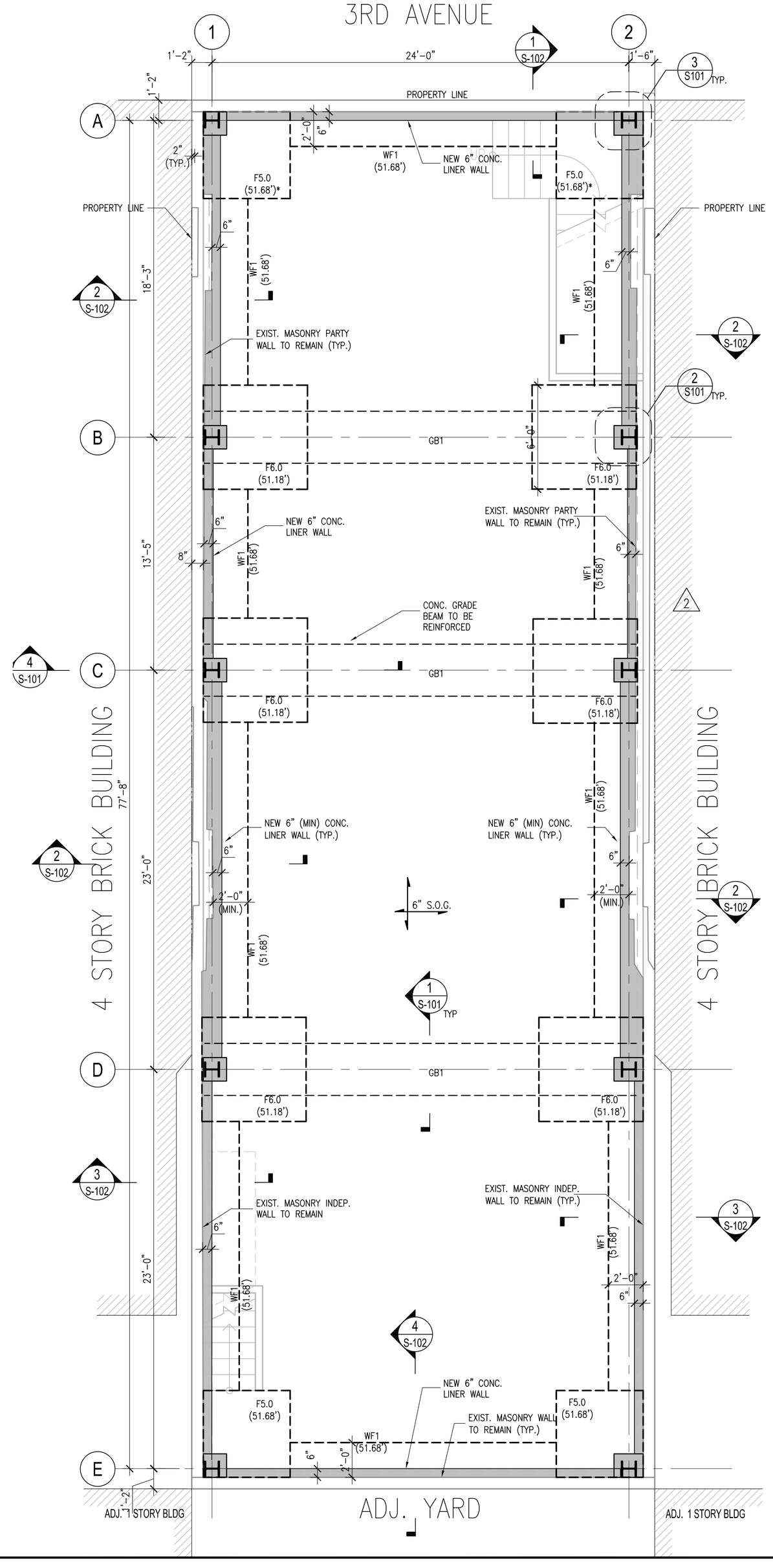
NYC DOB APPROVAL

NYC DOB NUMBER:

SEAL & SIGNATURE

STATE OF NEW YORK · LING WANG · 095042 · LICENSED PROFESSIONAL ENGINEER

DATE: 04–10–2017
PROJECT NO: 1700520
DRAWING BY: E.L.
CHK BY: J.W.
DWG NO: S-100.01



FOUNDATION PLAN

SCALE: 1/4"=1'-0"

FOUNDATION PLAN NOTES:

1. TOP OF CELLAR ELEVATION TO BE 53.68', UNLESS OTHERWISE NOTED THUS ±____ INDICATING DISTANCE ABOVE OR BELOW TOP OF SLAB. CONTRACTOR TO VERIFY ALL DIMENSIONS & ELEVATIONS IN FIELD WITH ARCHITECTURAL DRAWINGS.
2. FOOTING DESIGN BASED ON SOIL BEARING CAPACITY OF 2 TON/FT^2. SEE BORING REPORT FOR BALANCE INFORMATION. BOTTOM OF FOOTING ELEVATION AS SHOWN ON PLAN (..)
3. SEE ARCH. DWG FOR WATERSTOP, DAMPER & WATER PROOFING REQUIREMENT.
4. SEE DWG S-100 FOR GENERAL NOTES, SEE S-301 & S-302 FOR TYPICAL DETAILS.
5. NEW CONCRETE LINER WALL REINFORCEMENT TO BE #5@12" O.C. HORIZ. & VERT.
6. SEE S.O.E. DWG FOR SEQUENCE OF FOUNDATION CONSTRUCTION

FOOTING SCHEDULE

MARK	SIZE	DEPTH	BOTTOM REINF EACH WAY UON	TOP REINF EACH WAY UON
F5.0	5'-0" X 5'-0"	1'-6"	6#7 E.W.	6#6 E.W.
F6.0	6'-0" X 6'-0"	2'-0"	8#7 E.W.	
WF1	2'-0" WIDE	1'-6"	#5@10" S.W. 3#5 L.W.	

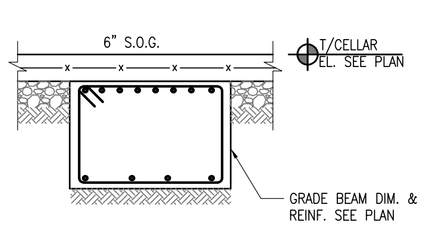
CMU WALL SCHEDULE

WALL TYPE	VERTICAL	HORIZONTAL	JAMB REBAR	REMARKS
(6")	#5@32" O.C. (2-#5 AT CORNER & ENDS)	HB 120 STD TRUSS REINF. @ EVERY OTHER COURSE	2-#5	FULLY GROUTED

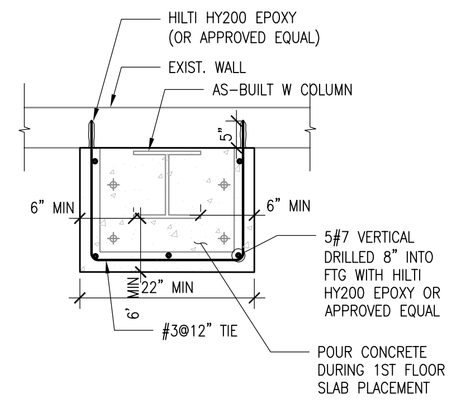
GRADE BEAM SCHEDULE

MARK	SIZE		REINFORCEMENT			REMARKS
	WIDTH(in)	DEPTH(in)	BOTTOM	TOP	STIRRUPS	
GB1	42	24	6-#8	10-#8	#4@8"o/c	

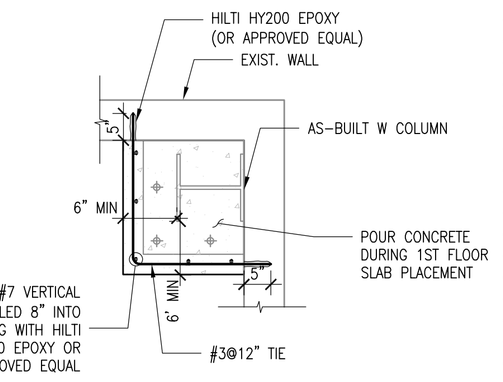
NOTE: LONGITUDINAL REBAR TO BE EXTENDED INTO FAR END OF FOOTING AND TERMINATE W/STD HOOK.



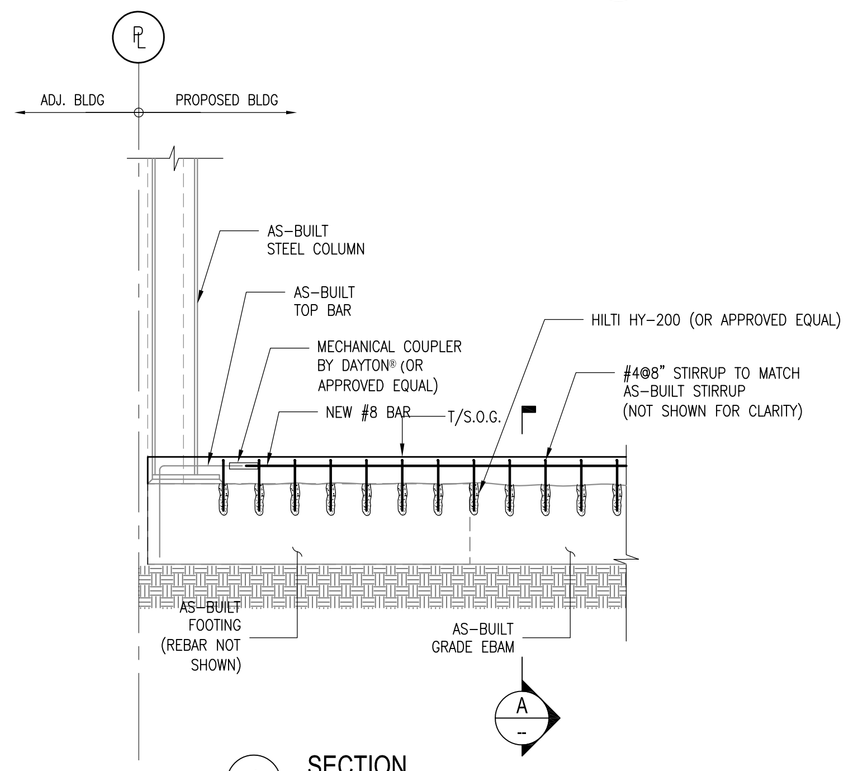
1 GRADE BEAM SECTION
Scale: 1/2" = 1'-0"



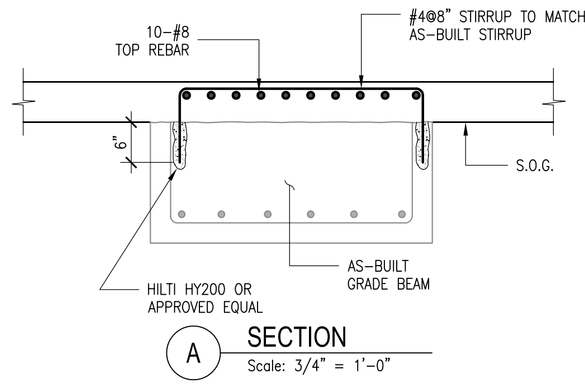
2 EDGE COLUMN DETAIL
Scale: 3/4" = 1'-0"



3 CORNER COLUMN DETAIL
Scale: 3/4" = 1'-0"



4 SECTION
Scale: 1/2" = 1'-0"



A SECTION
Scale: 3/4" = 1'-0"

STRUCTURAL ENGINEER :

TIMES BUILDINGS PC
ENGINEERING SERVICES
8534 GRAND AVE. 2nd FL. ELMHURST, NY 11373
TEL: (718)502-9631 FAX: (718)228-7348
WEB: WWW.TBES.US EMAIL: INFO@TBES.US

NO.	DATE	DESCRIPTION
2	05/13/19	PAA2
1	04/19/18	PAA1

PROJECT:

5614 3rd Avenue,
Brooklyn, New York

DRAWING TITLE:

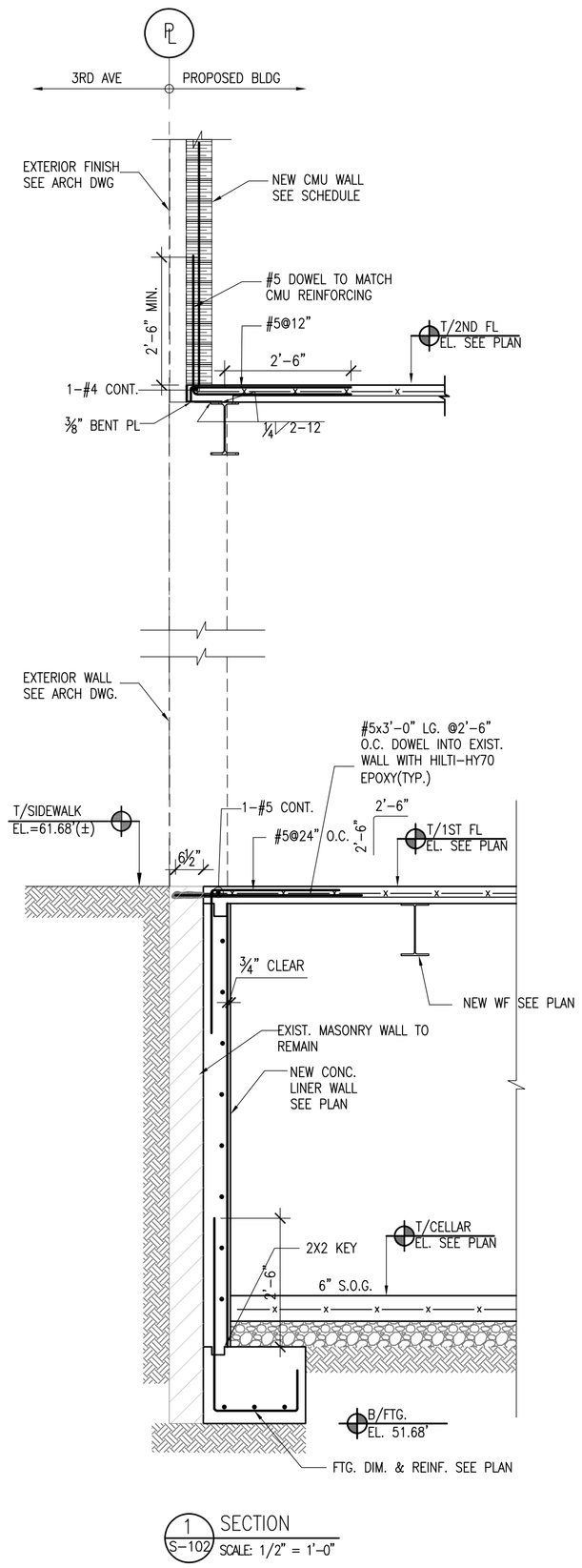
FOUNDATION PLAN

NYC DOB APPROVAL

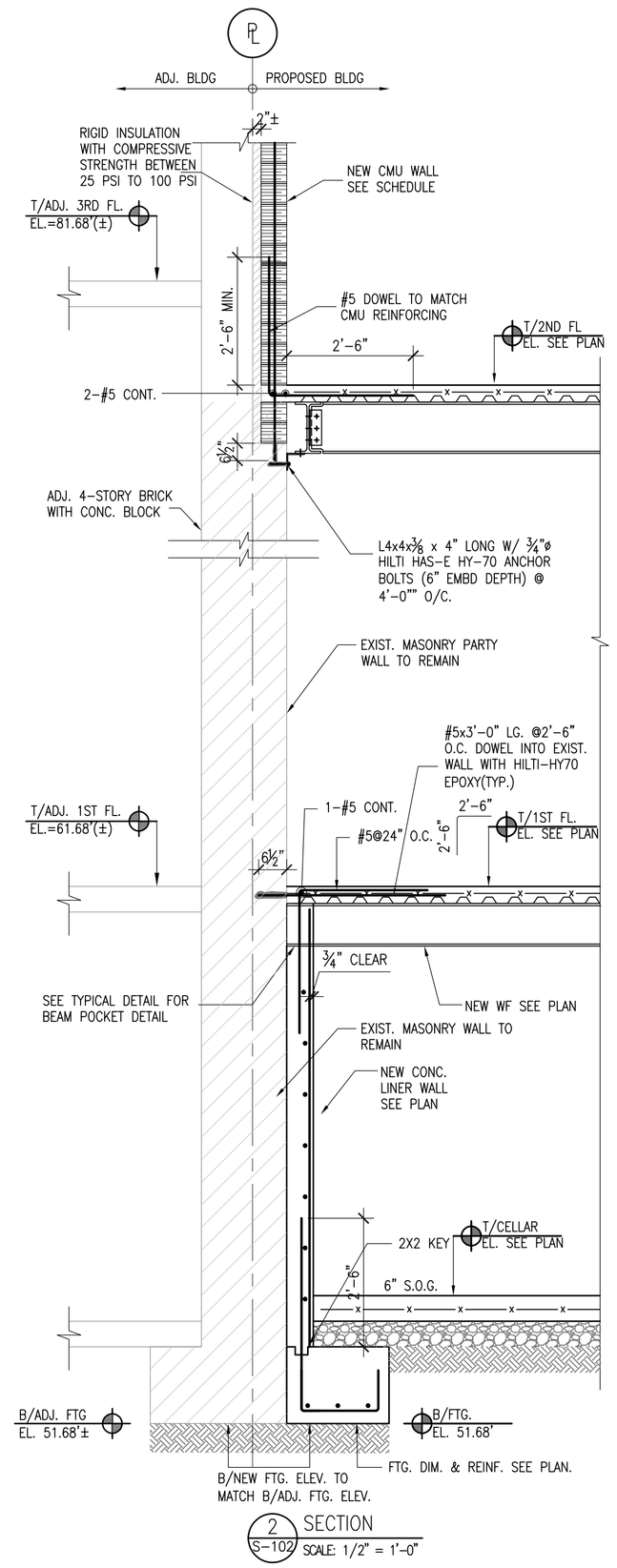
NYC DOB NUMBER:

SEAL & SIGNATURE

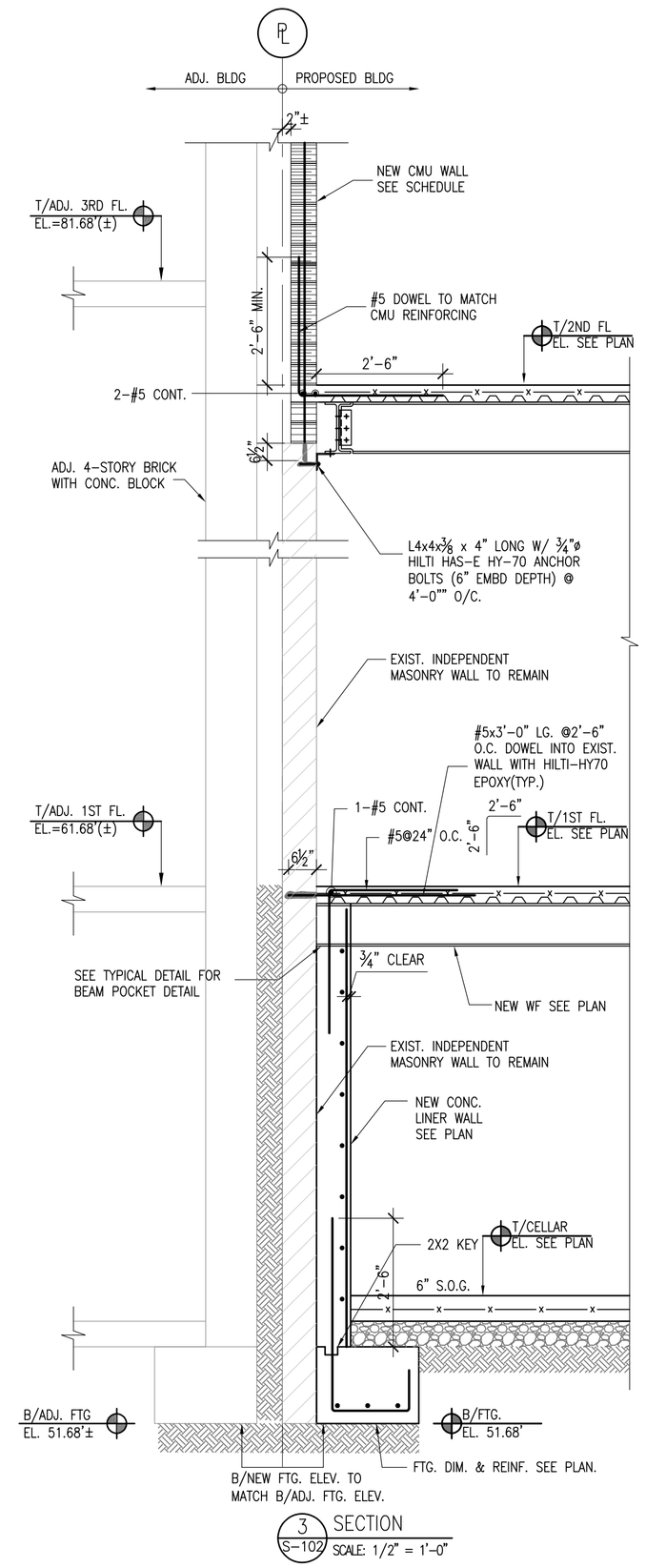
DATE: 04-10-2017
PROJECT NO: 1700520
DRAWING BY: E.L.
CHK BY: J.W.
DWG NO: S-101.02



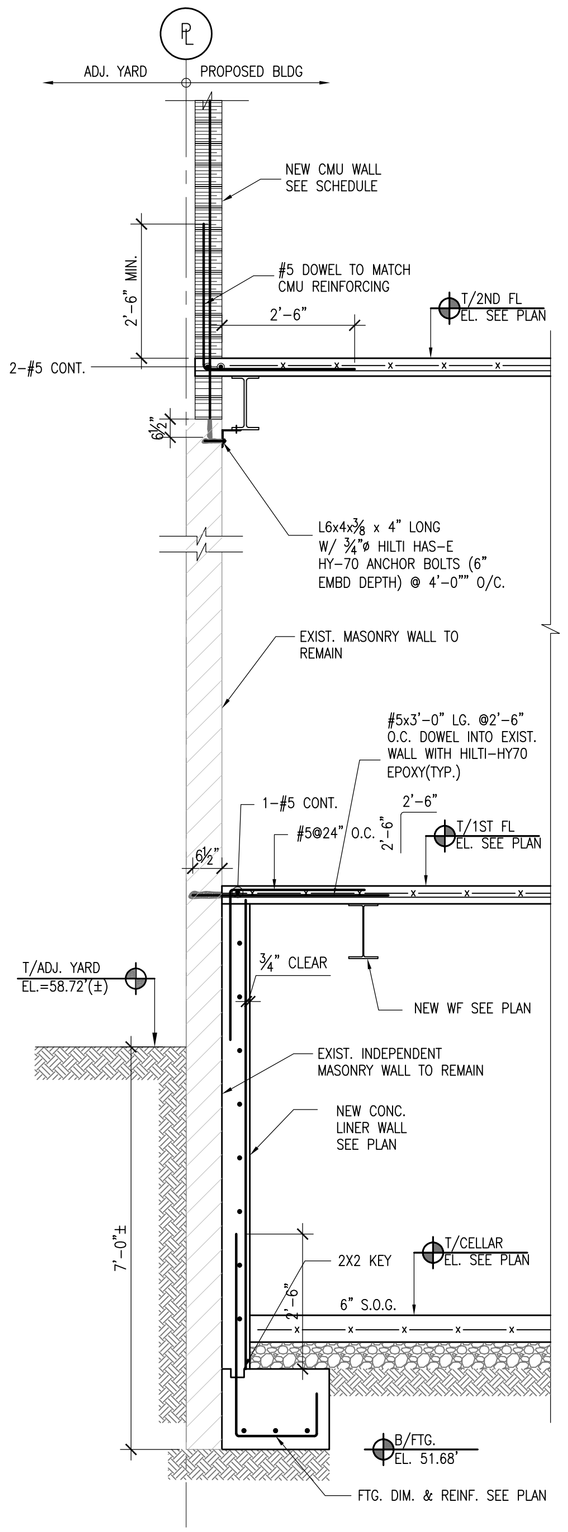
1 SECTION
S-102 SCALE: 1/2" = 1'-0"



2 SECTION
S-102 SCALE: 1/2" = 1'-0"



3 SECTION
S-102 SCALE: 1/2" = 1'-0"



4 SECTION
S-102 SCALE: 1/2" = 1'-0"

STRUCTURAL ENGINEER :
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NO.	DATE	DESCRIPTION
1	04/19/18	PAA1

PROJECT:

5614 3rd Avenue,
Brooklyn, New York

DRAWING TITLE:

SECTIONS

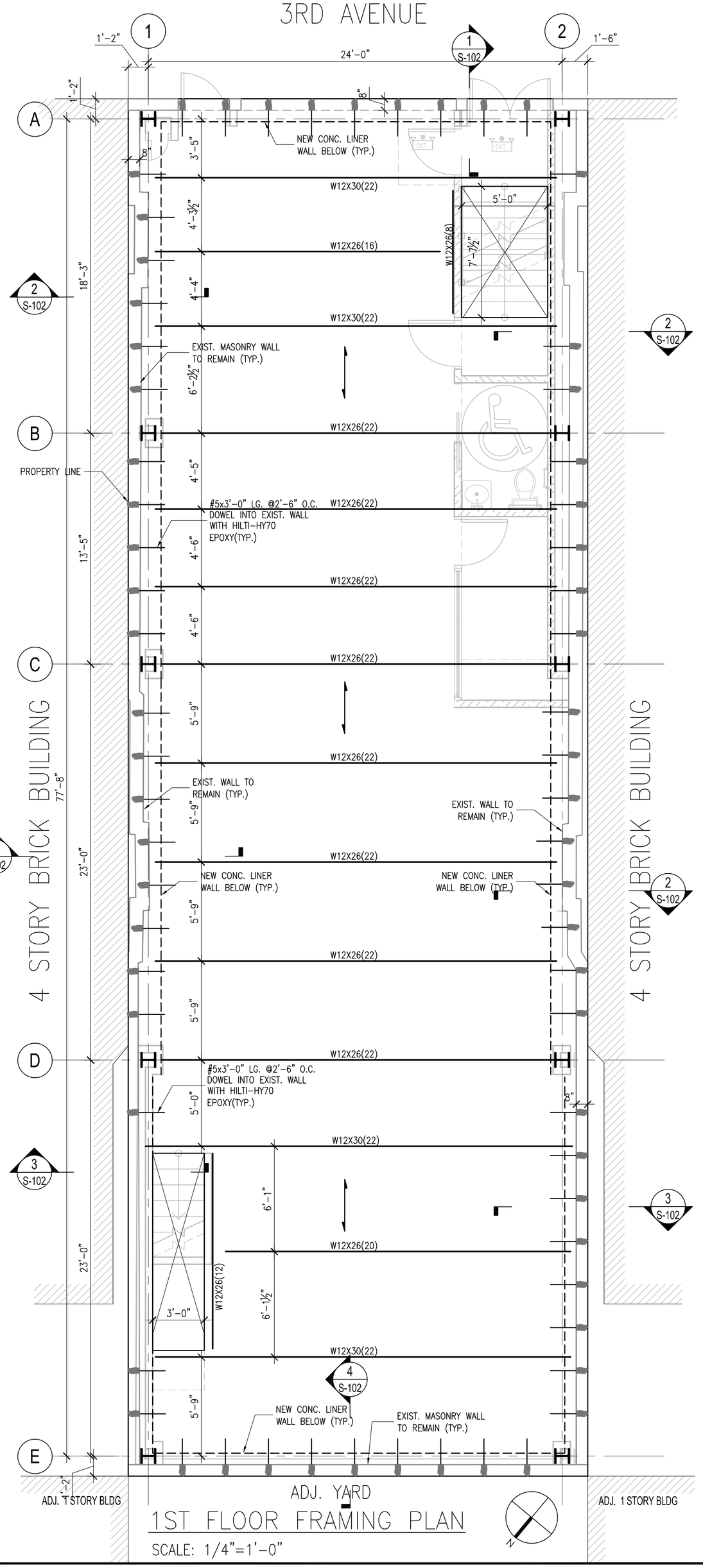
NYC DOB APPROVAL

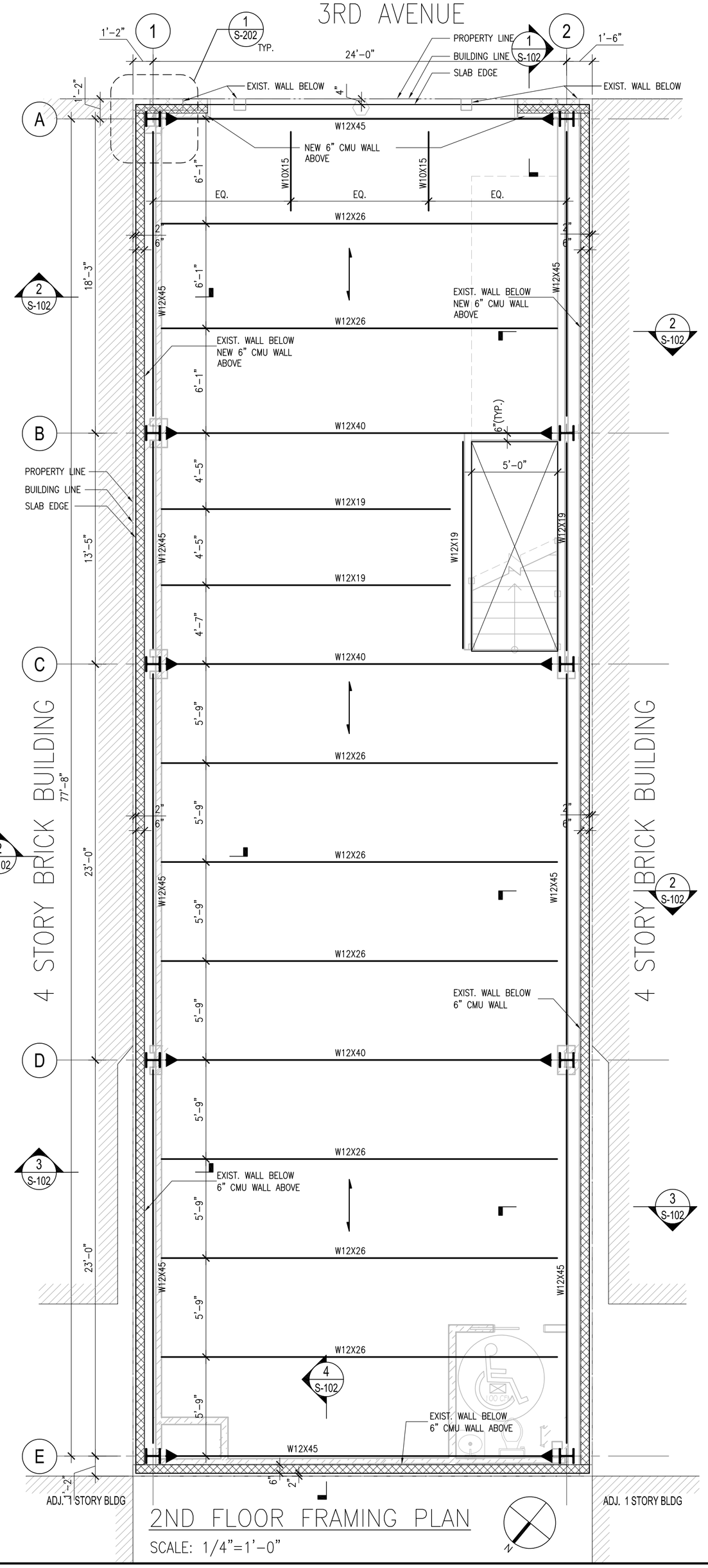
NYC DOB NUMBER:

SEAL & SIGNATURE

STATE OF NEW YORK · JING WANG · 095042 · LICENSED PROFESSIONAL ENGINEER

DATE: 04-10-2017
PROJECT NO: 1700520
DRAWING BY: E.L.
CHK BY: J.W.
DWG NO: S-102.00





PLAN NOTES:

1. TOP OF 1ST AND 2ND FLOOR ELEVATIONS TO BE 61.68' & 79.68', RESPECTIVELY, UNLESS OTHERWISE NOTED THUS ±____ INDICATING DISTANCE ABOVE OR BELOW TOP OF SLAB. ALL DIMENSIONS SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS AND IN FILED.
2. 1ST FLOOR CONSTRUCTION TO BE 2" DEEP METAL DECK PLUS 3¼" LIGHT WEIGHT CONCRETE TOPPING REINFORCED WITH 6X6-W1.4XW1.4 WWF. METAL DECK SHALL BE 20 GAGE LOK-FLOOR BY UNITED STEEL DECK OR APPROVED EQUAL. (TOTAL DEPTH=5¼") DIRECTION OF METAL DECK SHOWN THUS ◄——► ON PLAN.
3. 2ND FLOOR CONSTRUCTION TO BE 1½" DEEP METAL DECK PLUS 2½" LIGHT WEIGHT CONCRETE TOPPING REINFORCED WITH 6X6-W1.4XW1.4 WWF. METAL DECK SHALL BE 20 GAGE LOK-FLOOR BY UNITED STEEL DECK OR APPROVED EQUAL. (TOTAL DEPTH=4") DIRECTION OF METAL DECK SHOWN THUS ◄——► ON PLAN.
4. METAL DECK SHALL BE CONTINUOUSLY SUPPORTED FOR 2 SPANS MIN., SINGLE SPAN GREATER THAN 6'-0" SHALL BE SHORED DURING CONSTRUCTION.
5. TOP OF STEEL ELEVATION TO BE 5¼" BELOW TOP OF SLAB FOR 1ST FLOOR AND 4" BELOW TOP OF SLAB FOR 2ND FLOOR.
6. (...) INDICATES NUMBER OF ¾" DIAMETER, 4" LONG HEADED STUDS.
7. STEEL BEAMS SPAN LONGER THAN 20' TO BE SHORED DURING CONCRETE PLACEMENT.
8. FOR GENERAL NOTES SEE DRAWING S-100; FOR TYPICAL DETAILS SEE DRAWING S-301 & S-302.
9. ►—— INDICATES MOMENT CONNECTION
10. ●—— INDICATES #5x3'-0" LG. @2'-6" O.C. DOWEL INTO EXIST. WALL WITH HILTI-HY70 EPOXY

STRUCTURAL ENGINEER :
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NO.	DATE	DESCRIPTION
2	06/26/19	PAA2
1	04/19/18	PAA1

PROJECT:

5614 3rd Avenue,
Brooklyn, New York

DRAWING TITLE:

1ST & 2ND FLOOR FRAMING PLAN

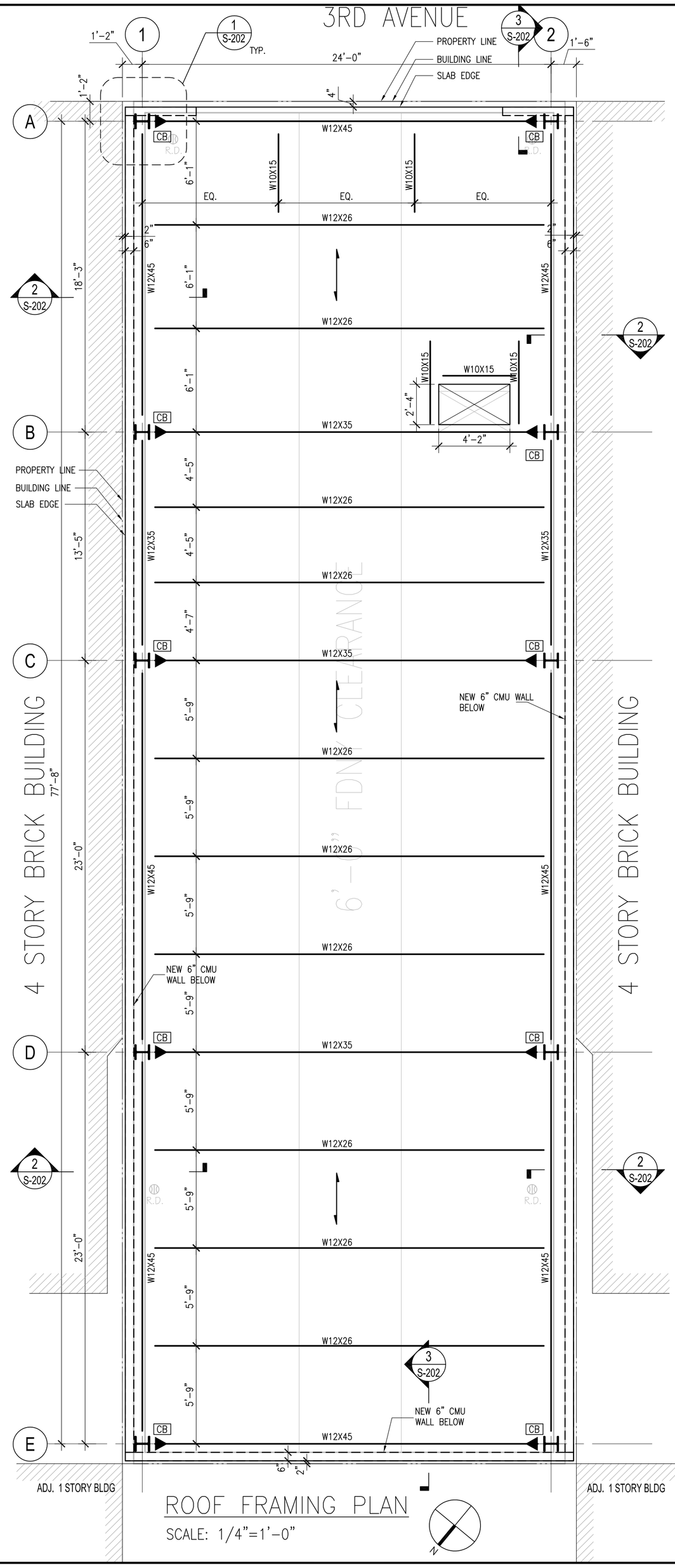
NYC DOB APPROVAL

NYC DOB NUMBER:

SEAL & SIGNATURE

STATE OF NEW YORK · JING WANG · 095042 · LICENSED PROFESSIONAL ENGINEER

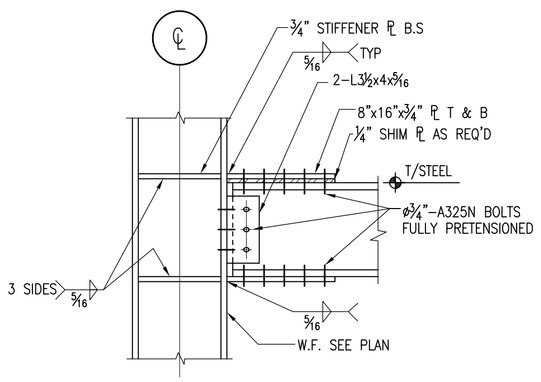
DATE: 04-10-2017
PROJECT NO: 1700520
DRAWING BY: E.L.
CHK BY: J.W.
DWG NO: S-201.02



ROOF FRAMING PLAN
SCALE: 1/4"=1'-0"

PLAN NOTES: 2

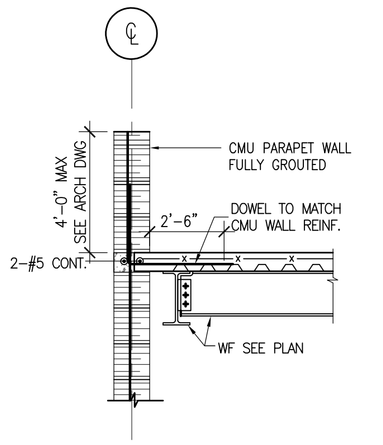
1. TOP OF ROOF ELEVATION TO BE 92.68', UNLESS OTHERWISE NOTED THUS ±___ INDICATING DISTANCE ABOVE OR BELOW TOP OF SLAB. ALL DIMENSIONS SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS AND IN FILED.
2. FLOOR CONSTRUCTION TO BE 1½" DEEP METAL DECK PLUS 2½" LIGHT WEIGHT CONCRETE TOPPING REINFORCED WITH 6X6–W1.4XW1.4 WWF. METAL DECK SHALL BE 20 GAGE LOK–FLOOR BY UNITED STEEL DECK OR APPROVED EQUAL. (TOTAL DEPTH = 4") DIRECTION OF METAL DECK SHOWN THUS ⟶ ON PLAN.
3. METAL DECK SHALL BE CONTINUOUSLY SUPPORTED FOR 2 SPANS MIN., SINGLE SPAN GREATER THAN 6'–0" SHALL BE SHORED DURING CONSTRUCTION.
4. TOP OF STEEL ELEVATION TO BE 4" BELOW TOP OF SLAB U.N.O.
5. STEEL BEAMS SHALL BE EQUALLY SPACED WITHIN BAYS U.N.O.
6. FOR GENERAL NOTES SEE DRAWING S–100; FOR TYPICAL DETAILS SEE DRAWING S–301 & S–302.
7. ⟶ INDICATES MOMENT CONNECTION



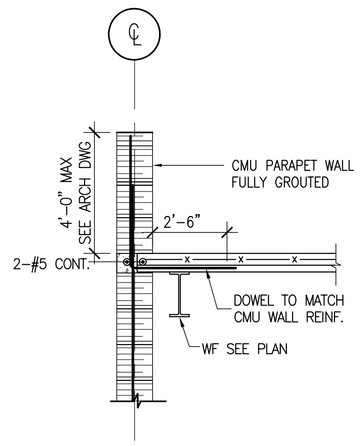
AT COLUMN FLANGE

NOTE: SEE PLAN AND TYP. DETAIL FOR BALANCE OF INFO.

1 S-202 BEAM TO COLUMN M.C. DETAIL
SCALE: 3/4" = 1'-0"



2 S-202 CMU PARAPET WALL SECTION
SCALE: 1/2" = 1'-0"



3 S-202 CMU PARAPET WALL SECTION
SCALE: 1/2" = 1'-0"

COLUMN SCHEDULE

GRID LINE / FLOOR	A		B		C		D		E	
	1	2	1	2	1	2	1	2	1	2
ROOF	⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛
2ND FLOOR 13'-0"	W10X49	W10X49	W10X49	W10X49	W10X49	W10X49	W10X49	W10X49	W10X49	W10X49
1ST FLOOR 18'-0" (2)	W10 X 49	W10 X 49	W10 X 49	W10 X 49	W10 X 49	W10 X 49	W10 X 49	W10 X 49	W10 X 49	W10 X 49
CELLAR 8'-0"	W10 X 49	W10 X 49	W10 X 49	W10 X 49	W10 X 49	W10 X 49	W10 X 49	W10 X 49	W10 X 49	W10 X 49
BASE PLATE d x b x t	20"X20"X1"	20"X20"X1"	20"X20"X1"	20"X20"X1"	20"X20"X1"	20"X20"X1"	20"X20"X1"	20"X20"X1"	20"X20"X1"	20"X20"X1"
SERVICE LOAD ON FOOTING (KIPS)	65	55	90	100	115	105	140	140	80	80
FLOOR / GRID LINE	1	2	1	2	1	2	1	2	1	2
	A		B		C		D		E	

NOTES:

1. FOR COLUMN ORIENTATION SEE PLAN.
2. ALL LOADS SHOWN ARE UNFACTORED GRAVITY LOADS IN KIPS.
3. BASE PLATE TO BE ASTM A36. U.N.O
4. ANCHOR BOLTS TO BE (4)–3/4" Ø, 1'–3" LONG, F1554 GR36, U.N.O.
5. — — — INDICATES COLUMN SPLICE.
6. ⊛ INDICATES LATERAL COLUMN. SEE TYP. DETAIL FOR COLUMN SPLICE DETAIL.

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NO.	DATE	DESCRIPTION
2	06/26/19	PAA2
1	04/19/18	PAA1

PROJECT:
5614 3rd Avenue,
Brooklyn, New York

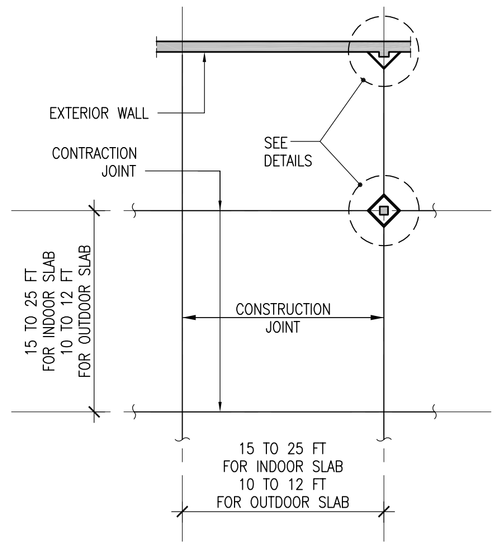
DRAWING TITLE:
ROOF FRAMING PLAN, FLOOR SECTIONS & COLUMN SCHEDULE

NYC DOB APPROVAL

NYC DOB NUMBER:

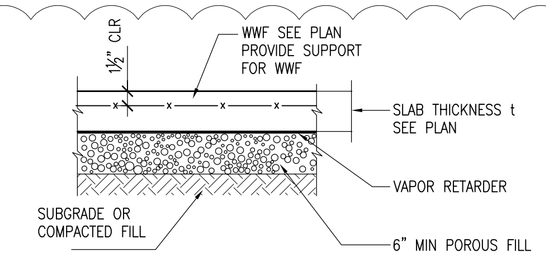
SEAL & SIGNATURE
STATE OF NEW YORK · JING WANG · 095042 · LICENSED PROFESSIONAL ENGINEER

DATE: 04–10–2017
PROJECT NO: 1700520
DRAWING BY: E.L.
CHK BY: J.W.
DWG NO: S-202.02

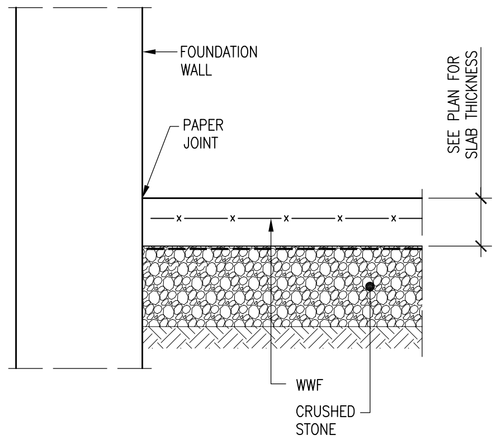


JOINT LAYOUT

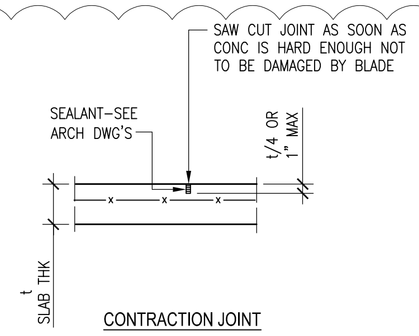
NOTE:
CAST SLAB IN A LANE PATTERN



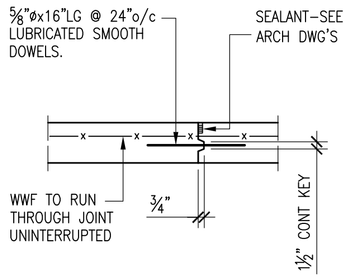
CROSS SECTION



FOUNDATION WALL JOINT

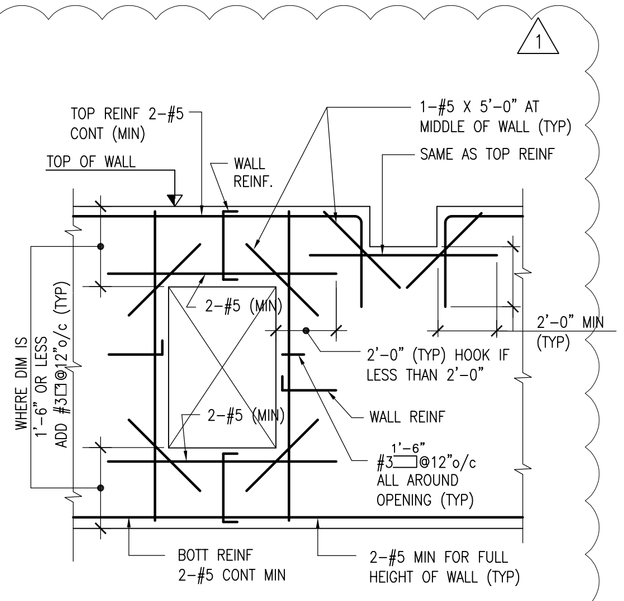


CONTRACTION JOINT



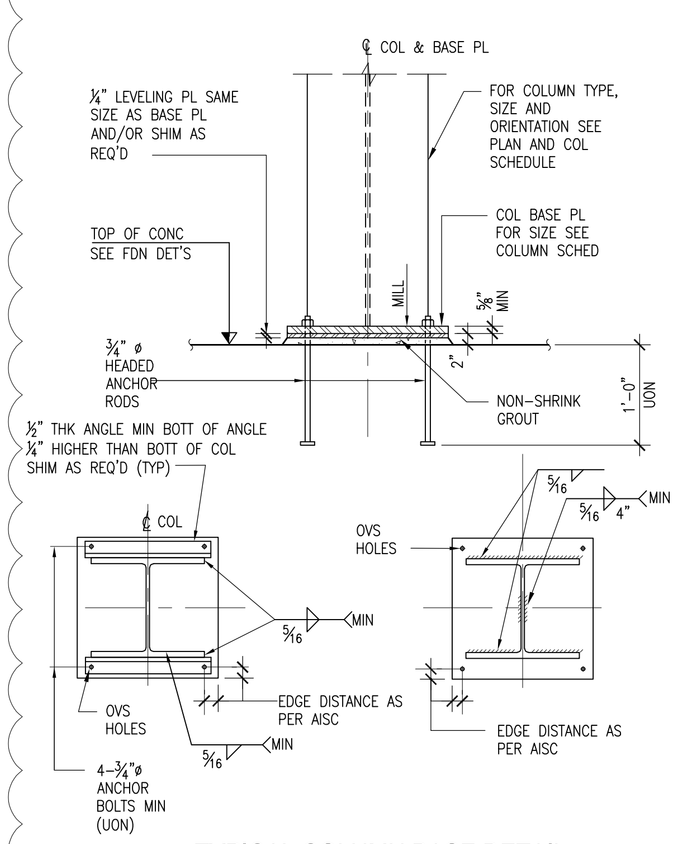
CONSTRUCTION JOINT

SLAB ON GRADE TYPICAL DETAILS

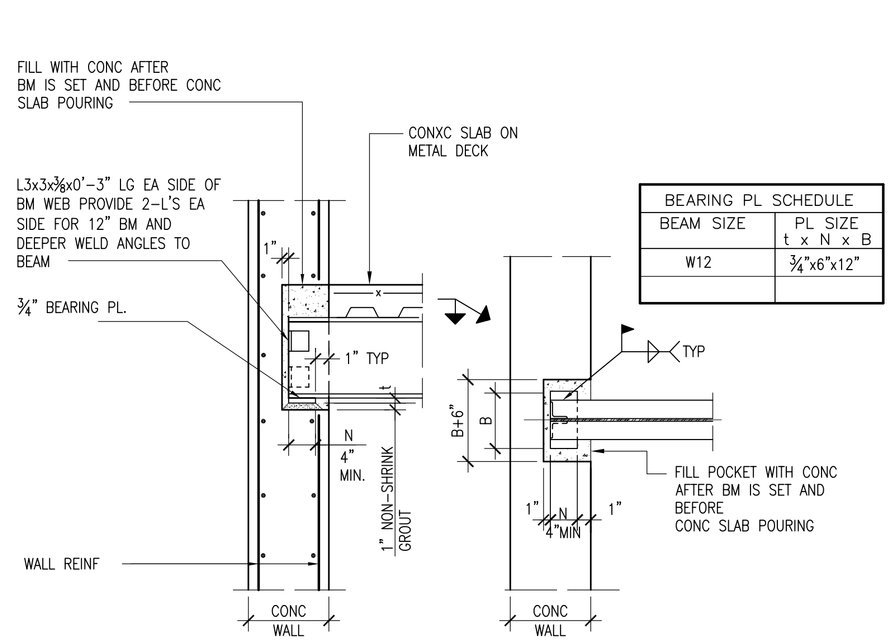


TYPICAL ADDITIONAL REINFORCING AT OPENINGS IN CONCRETE WALL

NOTE:
IF OPENING IS SMALL AND REINFORCING IS NOT INTERRUPTED NO ADDITIONAL REINFORCING IS REQUIRED.



TYPICAL COLUMN BASE DETAIL

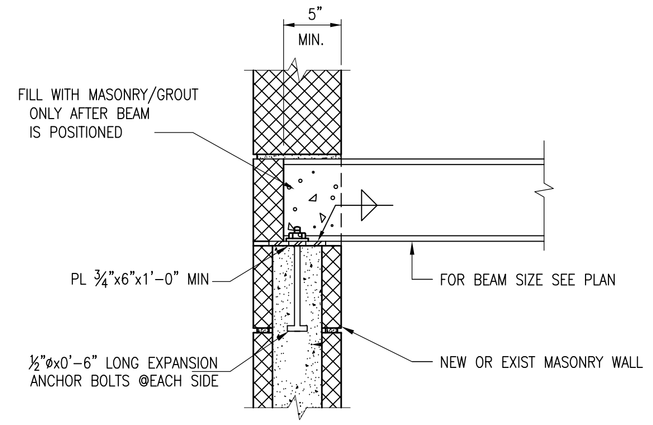


BEARING PL SCHEDULE	
BEAM SIZE	PL SIZE t x N x B
W12	¾"x6"x12"

BEAM SEAT DETAIL AT CONC. WALL

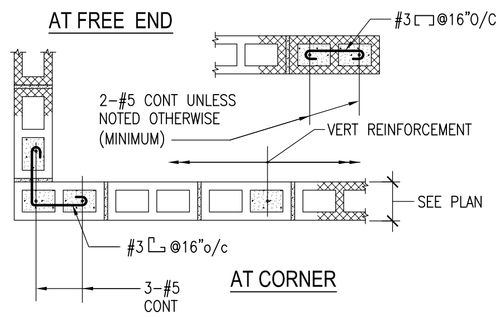
NOTES:

1. VERIFY NEED FOR ADDITIONAL REINF. UNDER BEAMS OR GIRDERS.
2. DIMENSION BETWEEN BACK OF POCKET AND OUTER FACE OF WALL SHOULD BE KEPT TO A MINIMUM OF 4". OTHERWISE, TREAT POCKET AS OPENING IN WALL.



TYPICAL STEEL BEAM SEAT AT MASONRY WALL

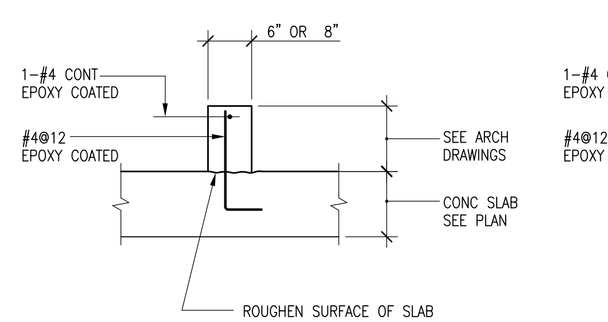
NOTE: METAL DECK NOT SHOWN FOR CLARITY. SEE WALL SECTIONS FOR CMU WALL REBAR & DOWEL AND OTHER BALANCE INFO.

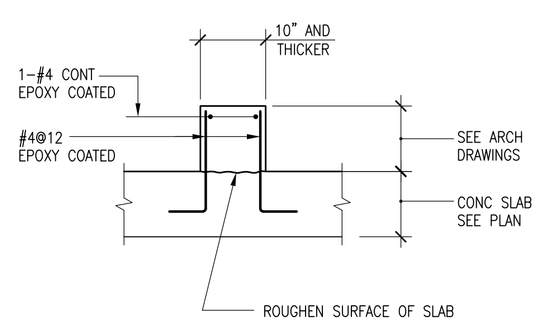


NOTES:

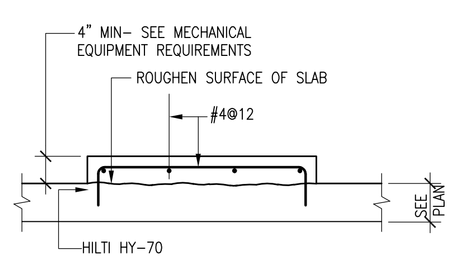
1. SEE SPECIFICATIONS FOR HORIZONTAL REINFORCEMENT REQUIREMENTS.
2. PROVIDE BOND BEAMS WITH MINIMUM 2–#5 CONTINUOUS BARS AT MAXIMUM SPACING OF 8'–0" ON CENTER.
3. PROVIDE MINIMUM REINFORCEMENT FOR ALL PERIMETER WALLS AND FOR ALL CMU STAIRS AND ELEVATOR ENCLOSURES.

CMU WALL REINFORCING DETAILS

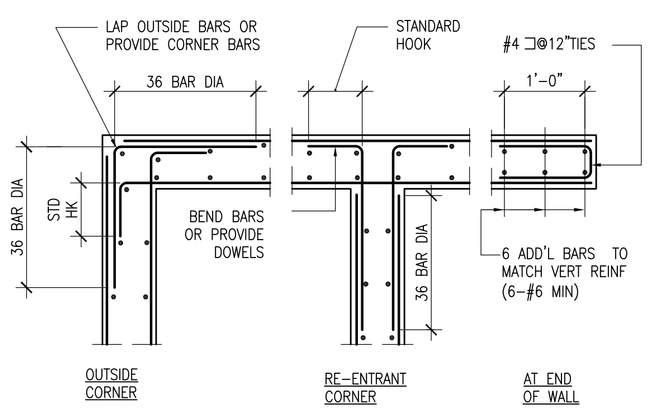




CONCRETE CURB DETAIL

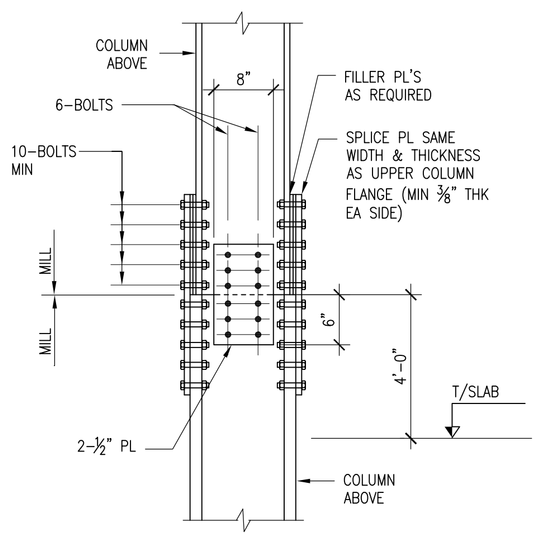


CONCRETE PAD FOR MECH EQUIPMENT



NOTE:
CORNER BARS AND/OR DOWELS TO MATCH HORIZONTAL REINFORCING.

DETAILS FOR HORIZONTAL REINFORCING AT CORNERS OF CONCRETE WALLS



TYPICAL COLUMN SPLICE DETAILS

STRUCTURAL ENGINEER :
TIMES BUILDINGS PC
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8534 GRAND AVE. 2nd FL. ELMHURST, NY 11373
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NO.	DATE	DESCRIPTION
1	04/19/18	PAA1

PROJECT:

5614 3rd Avenue,
Brooklyn, New York

DRAWING TITLE:

TYPICAL DETAILS-1

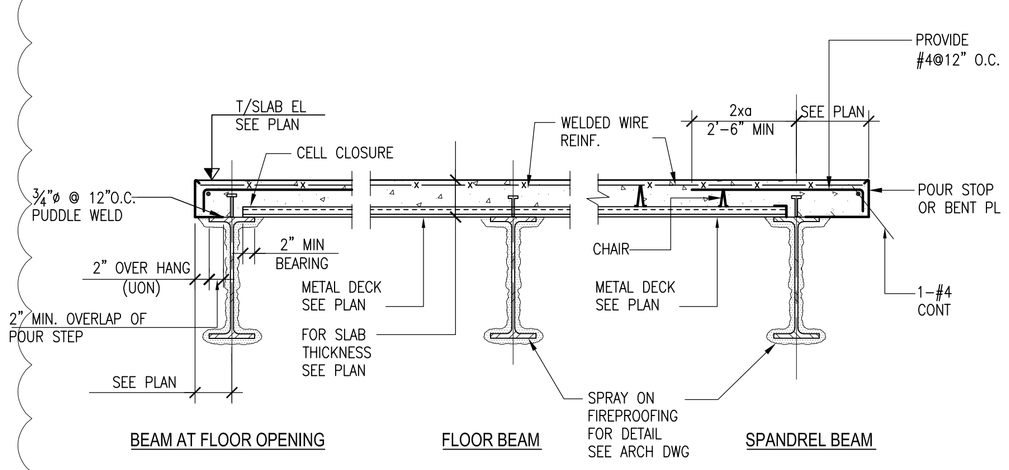
NYC DOB APPROVAL

NYC DOB NUMBER:

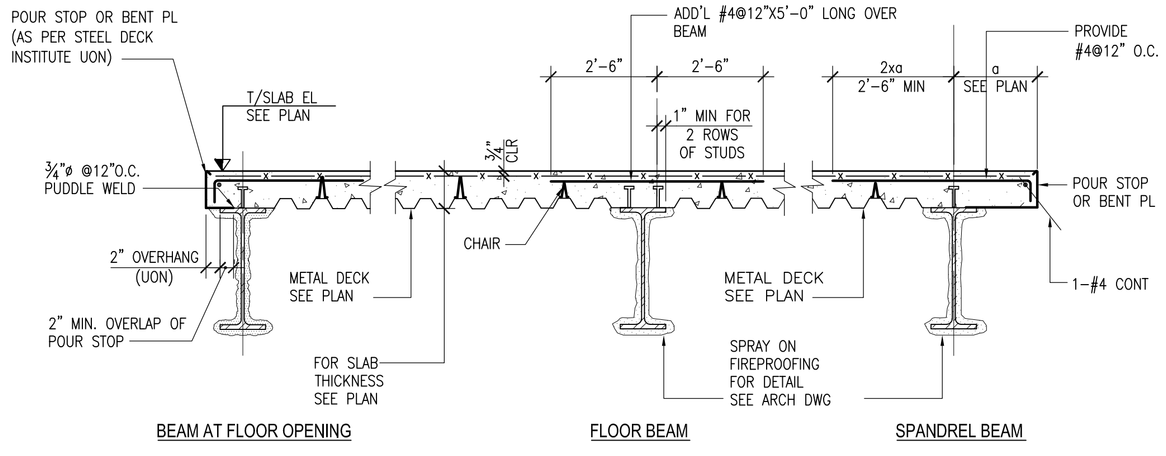
SEAL & SIGNATURE

STATE OF NEW YORK · LING WANG · 095042 · LICENSED PROFESSIONAL ENGINEER

DATE:	04–10–2017
PROJECT NO:	1700520
DRAWING BY:	E.L.
CHK BY:	J.W.
DWG NO:	S-301.01



DECK PERPENDICULAR TO BEAM



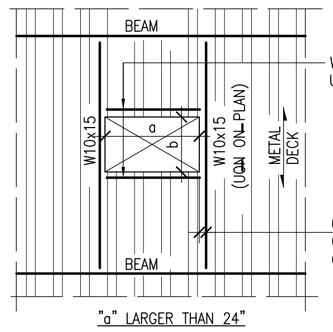
DECK PARALLEL TO BEAM

CONCRETE SLAB ON METAL DECK DETAIL

CONTRACTOR SHALL INCLUDE IN THE BID ADDITIONAL QUANTITY OF CONCRETE REQUIRED TO COMPENSATE FOR METAL DECK DEFLECTION. THE BEAM, GIRDER, AND DECK DEFLECTION MAY TOTAL UP TO ½" IN THE MIDDLE OF A BAY.

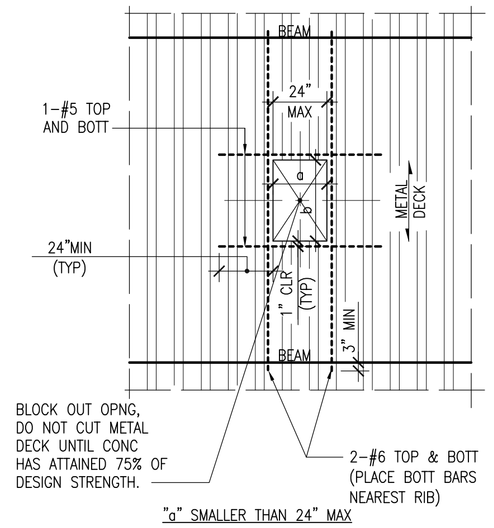
NOTES:

1. SHEAR STUDS SHALL BE UNIFORMLY DISTRIBUTED ALONG BEAM UNLESS MORE THAN ONE GROUP OF SHEAR STUDS IS SHOWN ALONG THE BEAM, IN WHICH CASE STUDS SHALL BE EQUALLY DISTRIBUTED WITHIN EACH SEGMENT OF BEAM IF THE SPACING OF 1 ROW SHEAR STUDS IS 6"o/c OR LESS, 2 ROWS OF EQUALLY SPACED STUDS SHALL BE USED.
2. NUMBER OF SHEAR CONNECTORS IS SHOWN ON PLAN BY (___). DELETE SHEAR STUDS FOR NON-COMPOSITE WORK.
3. DECK AND SLAB DEPTH MAY DIFFER AT SPECIFIC LOCATIONS. SEE PLANS FOR DETAILS.
4. THICKNESS OF CLOSURE PIECE TO BE DETERMINED BY DECK MANUFACTURE UNLESS THICKNESS IS SPECIFICALLY INDICATED ELSEWHERE.
5. WELD DECK TO STEEL WITH 3/4" DIA. PUDDLE WELDS AT 12" ON CENTER OR USE UL-APPROVED POWDER-ACTUATED FASTENERS. WHERE TWO DECK UNITS ABUT, EACH UNIT SHALL BE SO WELDED OR FASTENED TO THE STEEL FRAMING.
6. ATTACH DECK PANELS TO ONE ANOTHER AT SIDE LAPS BY MECHANICALLY FASTENING WITH #10 SHEET METAL SCREWS AT 24" ON CENTER.

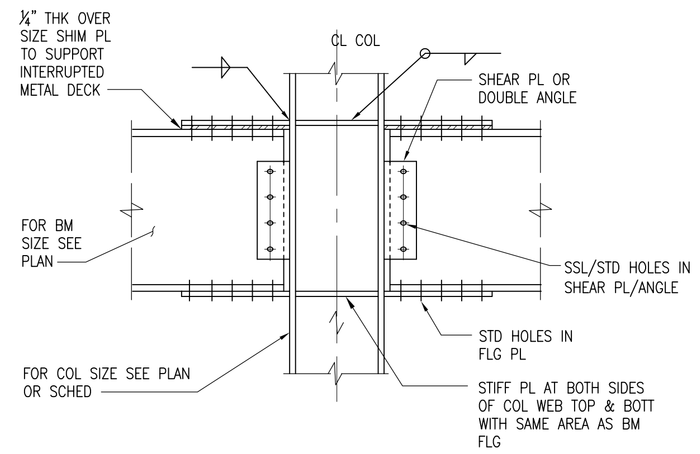


NOTES:

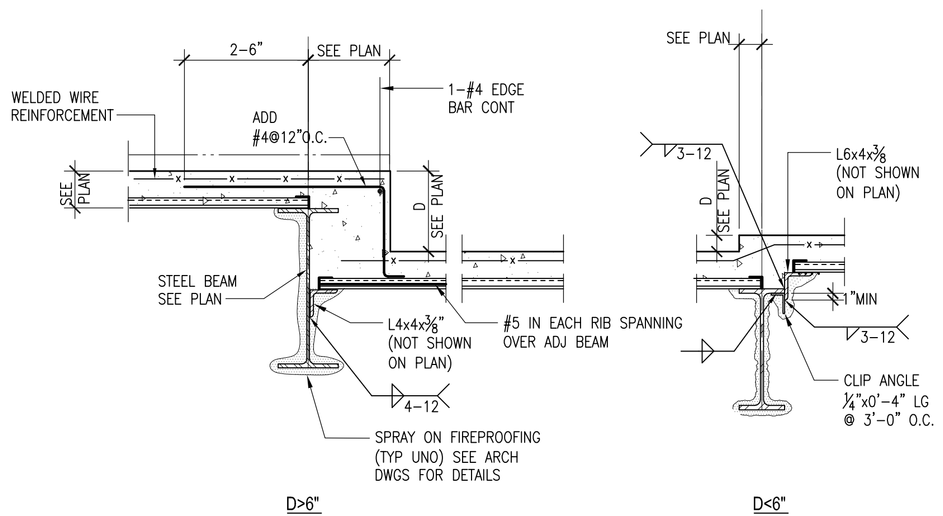
1. NO REINFORCEMENT IS REQUIRED FOR OPENINGS WITH "a" SMALLER THAN 6".
2. OPENING SHOWN AS "a"x"b" ON PLAN ("a" MEASURED PERPENDICULAR TO METAL DECK SPAN)



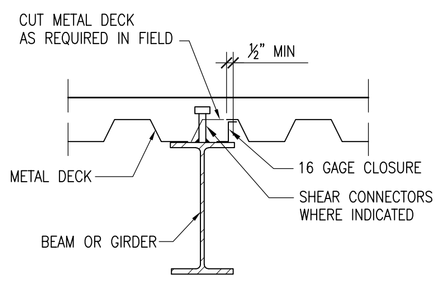
OPENING ON METAL DECK SLAB DETAIL



MOMENT CONNECTION DETAILS

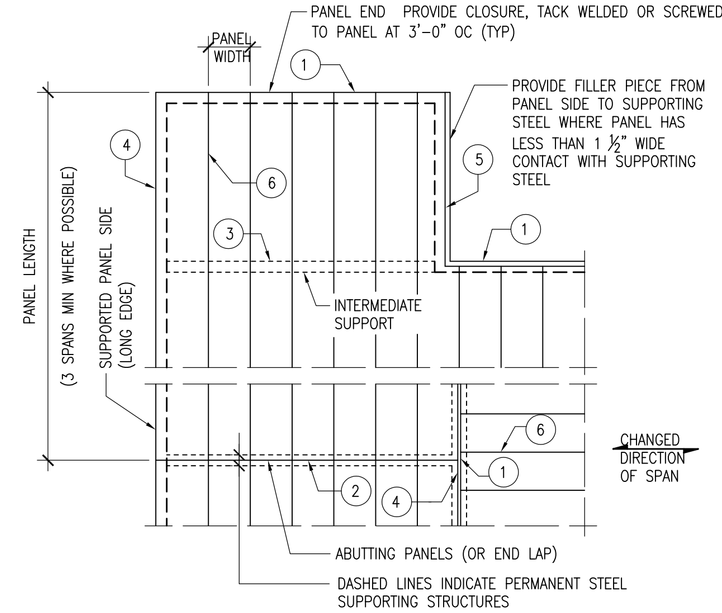


METAL DECK SLAB STEP DETAIL



NOTE:
DECK FLUTE MUST BE IN FULL CONTACT WITH BEAM FLANGE TO INSURE THAT FLANGE DOES NOT FALL UNDER HIGH CELL RESULTING IN UNBRACED BEAM.

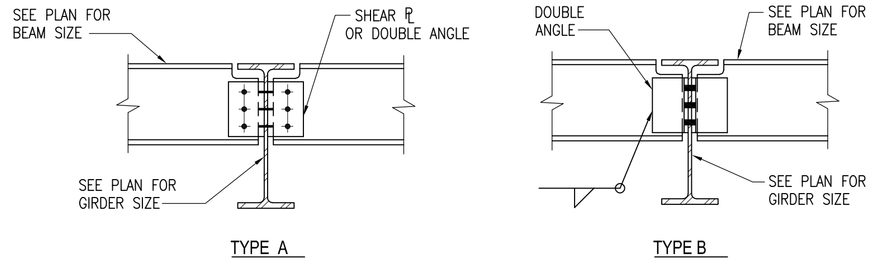
METAL DECK PARALLEL TO STEEL BEAM
CONCRETE SLAB ON METAL DECK DETAIL



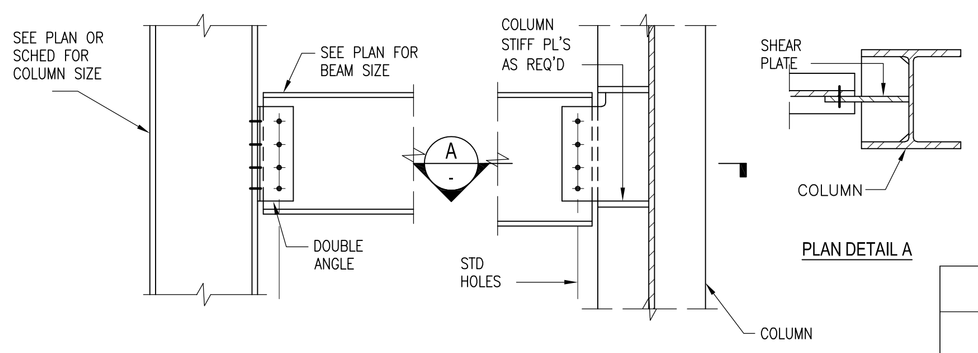
1. PANEL END-½"ø PUDDLE WELDS AT 12" ON CENTER.
2. ABUTTING PANELS-½"ø PUDDLE WELDS AT 12" ON CENTER EACH PANEL END OR ½"ø PUDDLE WELDS AT 12" ON CENTER AT CENTER OF END LAP.
3. PANEL INTERMEDIATE SUPPORT-½"ø PUDDLE WELDS AT 12" ON CENTER.
4. PANEL SIDE-½"ø PUDDLE WELDS AT 12" ON CENTER.
5. PANEL SIDE WITH FILLER PIECE-½"ø PUDDLE WELDS AT 12" ON CENTER FILLER TO PANEL AND FILLER TO SUPPORTING STEEL.
6. PANEL SIDE LAP- 1" LONG SEAM WELDS AT 12" ON CENTER.

METAL DECK WELDING PLAN

CONCRETE SLAB ON METAL DECK DETAIL



BEAM TO GIRDER



BEAM TO COLUMN

SHEAR CONNECTION DETAILS

BEAMS		
BAR SIZE	BOTTOM BARS	OTHER BARS
3	18	24
4	25	32
5	31	40
6	37	48
7	54	70
8	62	80

WALLS	
BAR SIZE	VERTICAL AND HORIZONTAL BARS
3	18
4	25
5	31
6	37

SLABS / MATS			
BAR SIZE	12" OR LESS THICK	12" OR GREATER THICK	
	ALL BARS	BOTTOM BARS	OTHER BARS
3	18	18	24
4	25	25	32
5	31	31	40
6	37	37	48
7	54	54	70
8	62	62	80

SPLICE LENGTH SCHEDULE
FOR f'c=4 KSI N.W CONCRETE

NEW SHEET

STRUCTURAL ENGINEER :
TIMES BUILDINGS PC
ENGINEERING SERVICES
8534 GRAND AVE. 2nd FL. ELMHURST, NY 11373
TEL: (718)502-9631 FAX: (718)228-7348
WEB: WWW.TBES.US EMAIL: INFO@TBES.US

NO.	DATE	DESCRIPTION
1	04/19/18	PAA1

PROJECT:
5614 3rd Avenue,
Brooklyn, New York

DRAWING TITLE:
TYPICAL DETAILS-2

NYC DOB APPROVAL

NYC DOB NUMBER:

SEAL & SIGNATURE
STATE OF NEW YORK · JING WANG · 095042 · LICENSED PROFESSIONAL ENGINEER

DATE: 04-10-2017
PROJECT NO: 1700520
DRAWING BY: E.L.
CHK BY: J.W.
DWG NO: S-302.00
7 OF 7