Under Directive 2 of 1975
Date/Time:
Jan 8, 2014 – 12:41 PM

APPROVED

Damian Titus

Jan 8, 2014 – 12:41 PM
II. STRUCTURAL FRAME CONNECTIONS

SEC. 41. All steel, steel and concrete columns shall be designed in accordance with the requirements of Specification for Structural Steel Buildings, AISC, 1975, and the requirements for the connections shall be in accordance with the latest edition of Section 9 of the American Institute of Steel Construction, Inc., Specifications for Structural Steel Buildings.

SEC. 42. When plate connections to columns are made with high strength bolts, the requirements for the connections shall be in accordance with the latest edition of Section 9 of the American Institute of Steel Construction, Inc., Specifications for Structural Steel Buildings.

SEC. 43. Plate connections shall be designed and fabricated in accordance with the latest edition of Section 9 of the American Institute of Steel Construction, Inc., Specifications for Structural Steel Buildings.

SEC. 44. Connections shall be designed and fabricated in accordance with the latest edition of Section 9 of the American Institute of Steel Construction, Inc., Specifications for Structural Steel Buildings.

III. CONTINUOUS MEMBERS

SEC. 45. The continuous members are required to be designed to withstand the loads imposed on the building in accordance with the latest edition of the American Institute of Steel Construction, Inc., Specifications for Structural Steel Buildings.

SEC. 46. The connections are required to be designed to withstand the loads imposed on the building in accordance with the latest edition of the American Institute of Steel Construction, Inc., Specifications for Structural Steel Buildings.

SEC. 47. The connections are required to be designed to withstand the loads imposed on the building in accordance with the latest edition of the American Institute of Steel Construction, Inc., Specifications for Structural Steel Buildings.

IV. SPECIAL REQUIREMENTS

SEC. 48. All steel, steel and concrete columns shall be designed in accordance with the requirements of Specification for Structural Steel Buildings, AISC, 1975, and the requirements for the connections shall be in accordance with the latest edition of Section 9 of the American Institute of Steel Construction, Inc., Specifications for Structural Steel Buildings.

SEC. 49. All steel, steel and concrete columns shall be designed in accordance with the requirements of Specification for Structural Steel Buildings, AISC, 1975, and the requirements for the connections shall be in accordance with the latest edition of Section 9 of the American Institute of Steel Construction, Inc., Specifications for Structural Steel Buildings.
Phase 1 – South of Gateway (no MOE) already approved by Amtrak
Phase 2 – North of Gateway & MOE (South of Gateway)
Phase 3 – Gateway
APPROVED
Under Directive 2 of 1975
Date/Time:
Damian Titus
Jan 8, 2014 – 12:41 PM
## COLUMN AND FOUNDATION SCHEDULE - EAST PLATFORM

### Location Reference | Column Reference | Column Location | Column Type | Beam Information | Design Load | Column Details
--- | --- | --- | --- | --- | --- | ---
A1 | A1 | 4119 | 41194 | 121331763 | 121331763 | DEPT OF BLDGS
A2 | A2 | 4119 | 41194 | 121331763 | 121331763 | DEPT OF BLDGS
A3 | A3 | 4119 | 41194 | 121331763 | 121331763 | DEPT OF BLDGS
A4 | A4 | 4119 | 41194 | 121331763 | 121331763 | DEPT OF BLDGS
A5 | A5 | 4119 | 41194 | 121331763 | 121331763 | DEPT OF BLDGS
A6 | A6 | 4119 | 41194 | 121331763 | 121331763 | DEPT OF BLDGS
A7 | A7 | 4119 | 41194 | 121331763 | 121331763 | DEPT OF BLDGS
A8 | A8 | 4119 | 41194 | 121331763 | 121331763 | DEPT OF BLDGS
A9 | A9 | 4119 | 41194 | 121331763 | 121331763 | DEPT OF BLDGS
A10 | A10 | 4119 | 41194 | 121331763 | 121331763 | DEPT OF BLDGS

### Notes
- **APPROVED** Under Directive 2 of 1975
- **Date/Time:** Jan 8, 2014 – 12:41 PM
- **Damian Titus**
12" PRESSURE SLAB CONN. TO 33RD RETAINING WALL

PRESSURE SLAB DETAIL

PERIMETER GRADE BEAM
### CAISSON REINFORCEMENT

**LAP SPlice LENGTH SCHEDULE (INCHES)**

<table>
<thead>
<tr>
<th>BAR SIZE (INCHES)</th>
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### SLAB/SLAB-ON-GRADE REINFORCEMENT

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### COLUMN REINFORCEMENT

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### GRADE BEAM/BEAM REINFORCEMENT

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### FOOTING/MAT REINFORCEMENT

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### FOUNDATION WALL REINFORCEMENT - VERTICAL BARS

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### FOUNDATION WALL REINFORCEMENT - HORIZONTAL BARS

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Under Directive 2 of 1975

Date:

Damian Titus

AMENDED APPLICATION

08/15/2017
NEW PILE CAP ON EXIST. CAISSON

CAISSON TO COLUMN DIRECT BEARING DETAIL

STIFFENER AT C5.5 CAISSONS

CAISSON CORE SHEAR STUD SPACING ON W-SHAPE

BUILT-UP STEEL CORE BEAM TAPPER IN ROCK SOCKET

PRELIMINARY
NOT FOR
CONSTRUCTION

AMENDED APPLICATION
08/15/2017

DATE:

DENNIS TITUS

DEPT OF BLDGS

Job Number Scan Code
C4.5.5 CAISSONS

C4.5.4 CAISSONS

C4.5.3 CAISSONS

DIRECT BEARING CAPPLATE

E/13.5

A/14 (A) & (B)

A/14.8 (A) & (B)

H/14.8

ADDITIONAL CAISSON DETAIL
UPPER LEVEL PLATFORM - LOADING DIAGRAM

LOWER LEVEL PLATFORM - LOADING DIAGRAM

TOWER A AND RETAIL LATERAL LOAD SUMMARY

TOWER OVERBUILD LOADS

PRELIMINARY
NOT FOR
CONSTRUCTION

AMENDED APPLICATION
08/15/2017

APPROVED
Under Directive 2 of 1975
Date:
Damian Titus

LOADING DIAGRAM LEGEND

LOADING DIAGRAMS

S-004.01

SHEET 15 of 163
APPROVED
Under Directive 2 of 1975
Date:
08/15/2017

PRELIMINARY
NOT FOR
CONSTRUCTION
PRELIMINARY
NOT FOR
CONSTRUCTION
APPROVED
Under Directive 2 of 1975
Date:
Damian Titus
AMENDED APPLICATION
08/15/2017
APPROVED
Under Directive 2 of 1975
Date: 08/15/2017

AMENDED APPLICATION
AMENDED APPLICATION

Under Directive 2 of 1975

Date:
Damian Titus
08/15/2017
AMENDED APPLICATION

Date: 08/15/2017
PRELIMINARY
NOT FOR
CONSTRUCTION

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Date:
Damian Titus
AMENDED APPLICATION
08/15/2017
AMENDED APPLICATION

Date: 08/15/2017

PRELIMINARY
NOT FOR
CONSTRUCTION
Under Directive 2 of 1975
Date: 08/15/2017

Damian Titus

AMENDED APPLICATION
CAISSON CAP PLATE UNDER TOWER A AREA AT NORTH OF YARD WALL
APPROVED
Under Directive 2 of 1975
Date: 08/15/2017

Atypical A-Frame Elevation at Column A.817
Atypical A-Frame Elevation at Column C.815
Atypical A-Frame Elevation at Column D.815
Atypical A-Frame Elevation at Column E.815

Atypical A-Frame Elevation at Column F.815
EMBEDDED PIER & TRANSFER GRILLAGE BM. AT J14.5
AMENDED APPLICATION

Hudson’s Gloves

56c SWOK, 711 SE-SW HD 3

PRELIMINARY
NOT FOR
CONSTRUCTION

APPROVED
Under Directive 2 of 1975

Date:
Damian Titus

08/15/2017

TYPICAL NEW RETAINING WALL AT 3RD STREET
APPROVED
Under Directive 2 of 1975
Date:
Damian Titus
AMENDED APPLICATION
08/15/2017
1. PLACE CONDUIT/IPES BETWEEN TOP AND BOTTOM LAYERS OF REINFORCEMENT WITH VISIBLE CLEAR ZONE OF 1" WR.
2. CONDUIT/IPES BE PLACED ON STEEL. USE OF ALUMINUM CONDUIT/IPES PROHIBITED.
3. BASEPLATE CLASSES MUST NOT BE USED FOR STEEL CONDUIT/IPES OF THICKNESS LESS THAN 1/4".
4. CONDUIT/IPES ARE TO BE PROVIDED WITH A MINIMUM OF 1" CLEARANCE OF STEEL PRODUCTS.
5. OCTAGONAL HOLLOW STEEL PIPE IS NOT PERMITTED TO BE USED AS STEEL CONDUIT/IPES.
6. WHEN USING TUBULAR STEEL CONDUIT/IPES, THE CLEARANCE BETWEEN CONDUIT/IPES AND STEEL PRODUCTS SHALL NOT BE LESS THAN 1/2".
7. TYPICAL CONDUIT/IPES ARE TO BE PROVIDED WITH A MINIMUM OF 1" CLEARANCE OF STEEL PRODUCTS.
8. ALL DETAIL SHEETS TO BE MARKED WITH THE DRAWING NUMBER AND DATE OF APPROVAL.

Damian Titus
AMENDED APPLICATION
08/15/2017
GENERAL BRACED FRAME NOTES:

1. REFER TO PLANS FOR TOP STEEL ELEVATIONS AND FOR GRIDLINE DIMENSIONS

2. ALL FORCES (KIPS) ARE FACTORED AND ARE TO BE CONSIDERED FULLY REVERSIBLE UNLESS OTHERWISE NOTED AS FOLLOWS:
   +XXX  INDICATES TENSION ONLY
   -XXX   INDICATES COMPRESSION ONLY

3. SEE TYPICAL BRACE CONNECTION DETAILS

4. ALL BRACE AND BEAM MEMBERS ARE ORIENTED WEB VERTICAL UNLESS OTHERWISE NOTED ON ELEVATION AS FOLLOWS:
   (H) INDICATES MEMBER WITH WEB ORIENTED HORIZONTAL

5. SEE PLAN FOR COLUMN ORIENTATION

6. SEE STEEL COLUMN SCHEDULE FOR SHEAR BASE MARK AND SCHEDULE

7. SEE STEEL BEAM LEGEND ON FRAMING PLAN FOR KEY TO BEAM DATA AND FOR FORCES NOT SHOWN

8. ALL BRACED FRAME LINE DIAGRAMS DENOTE CENTERLINES FOR BEAMS AND COLUMNS AND WORKING LINES FOR BRACES (SEE BRACE DETAILS)

9. MINIMIZE UNBRACED LENGTH OF GUSSET AT BRACE TO GUSSET CONNECTIONS

LEGEND:

N      INDICATES NET (NON-FACTORED) AXIAL FORCE

TFXX  INDICATES FACTORED AXIAL FORCE TRANSFERRED THROUGH THE CONNECTION JOINT INTO THE FAR MEMBER IN KIPS OR NET UPLIFT AT BASE IN KIPS SEE TENSION / MOMENT COLUMN SPLICE DETAIL

BW      INDICATES BUILT UP WIDE FLANGE WITH DIMENSION BW - d X w X bf X tw. SEE DETAIL 1/S-610.00 FOR DETAIL

TB    INDICATES TIE BEAM. SEE S-120 SERIES FOR SIZE S AND FORCES

EPX INDICATES SHEAR EMBED PLATE

TOWER A BRACED FRAME ELEVATIONS

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CAMBER TOLERANCE FOR TRUSSES SHALL BE AS FOLLOWS:

- PRIOR TO INSTALLATION: -0, +½"
- INSTALLED, PRIOR TO INSTALLATION OF FLOORS: -¼", +¼"

VC INDICATES FACTORED SHEAR IN COLUMN

NOTE: SHEET 81 of 163

APPROVED
Under Directive 2 of 1975
Date:

Damian Titus

AMENDED APPLICATION
08/15/2017

HUDSON YARDS

Address: 530 WEST 33RD STREET
NEW YORK, NY

LEVEL 0.4 - PLENUM

PRELIMINARY
NOT FOR
CONSTRUCTION

1/4" = 1'-0"
SLOPING TRUSS CHORD

TRUSS CHORD BREAK POINT

CJP

SHIM AS REQUIRED

W24 SUPPORTING BEAM BETWEEN DOUBLE TRUSS PLATE GIRDER

FUTURE COLUMN ABOVE

AA/3

SHIM AS REQUIRED

1" GAP

TOP OF STEEL EL. 39'-8" TOP OF BEAM EXPOSED. PROVIDE MIN. 2" CEMENTITIOUS FLOORING OVER BEAMS

(2) W12 1'-2"

5/16" SETBACK

5/16"x8" WEB DOUBLER

4 SIDES 1/4

19

FUTURE COLUMN

GIRDER

TRUSS

EXTEND EXIST. END PLATE & SHIM PLATE

FIELD DRILL ADDITIONAL ROW OF 1-1/8" A490X BOLTS GAGE 6½"

5/16 EXIST. TO NEW END PL

3/8 EXIST. TO NEW SHIM PL

ABANDON 1 ROW OF BOLTS @ AA/11.9

2 ROWS OF BOLTS @ AA/10.5 & AA/13 ADJACENT TO BOTTOM FLANGE

CONNECTION PLATE

3/4" X 11" WIDE PLATE GR50

3" EXIST. COPED BEAM FLANGE

5/16 1/2 1/2

3 SIDES

AA/10.5 AA/11.9 AA/13

1 3/4" 1 3/4" 1 3/4"

FUTURE COLUMN

GIRDER

TRUSS

3/4" X 11" WIDE PLATE GR50

3" EXIST. COPED BEAM FLANGE

1/2 1/2

3 SIDES

AA/9.3

TYPICAL DETAIL AT FUTURE COLUMN SUPPORTED ON DOUBLE TRUSS

TYPICAL DETAIL AT FUTURE COLUMN SUPPORTED ON DOUBLE TRUSS
Under Directive 2 of 1975
APPROVED

Date:
Damian Titus
AMENDED APPLICATION
08/15/2017
Under Directive 2 of 1975

APPROVED

08/15/2017

QUADRUPLE GIRDER ELEVATION AT PK GRIDLINE

QUADRUPLE GIRDER TYPICAL CONNECTION AT COLUMN

SECTION A-A

QUADRUPLE GIRDER TO SINGLE GIRDER SPlice AT SINGLE GIRDER

SECTION B-B

QUADRUPLE GIRDER TYPICAL SHEAR CONNECTOR DETAIL

QUADRUPLE GIRDER TO SINGLE GIRDER SPlice AT STEP IN SLAB

PRELIMINARY
NOT FOR
CONSTRUCTION
AMENDED APPLICATION

SECTION

PLANK TO VESSEL GRILLAGE BEAM CONNECTION

PLANK TO VESSEL GRILLAGE BEAM CONNECTION

DOUBLE GIRDERS TO SINGLE GIRDER SPlice AT STEP

DOUBLE GIRDERS CONNECTION AT COLUMN

SECTION AA

DATE:
Damian Titus
08/15/2017
APPROVED
Under Directive 2 of 1975
Date: 08/15/2017

1. LOCALLY REDUCED AND REINFORCED PLATE GIRDER AT MECHANICAL ROOM

2. REINFORCED PLATE GIRDER SECTIONS
SLAB BARS

FUTURE TOPPING SLAB

DOWELS WITH THREADED COUPLERS TO MATCH SLAB BARS

STIFFENER AS REQUIRED

BEARING PLATE & STIFFENER PER SCHEDULE ON 6/S712

COUPLE ALL SLAB BARS TO PLATFORM BARS

TOWER A INFILL FRAMING

END PLATE FOR FUTURE BEAM CONNECTION

TIE TO MATCH WALL BARS

(4) ADDITIONAL HORIZONTAL BARS @3" O.C. TO MATCH TYP. WALL BARS & TIES @ EACH HORIZONTAL & VERTICAL PLATFORM FRAMING

CONCRETE BEARING WALL

SECTION AT WALL ALONG NORTH EDGE OF YARDS

PLAN DETAIL AT COLUMN J/14.5 - LOWER PLATFORM

SECTION AT SE CORNER

PLAN DETAIL AT COLUMN J14.8 - UPPER PLATFORM
NOTE:
FOR GAPS LARGER THAN 3/16", PROVIDE SHIM PLATES BETWEEN PLATE AND UPPER BEAM FLUSH WITH BEAM FLANGE TIPS.

OPTION 1

W16
W24
PL3-1/4"X9" GR 50

OPTION 2

(2) - 7/8" DIA. A325N BOLTS @ 10" O.C.

4"

T.O. STEEL EL. 39'-5" WT

5/16 3-12 5/16 3-12

5/8 TYP.

1"X20" (TYP.)

5/8

1 3/4" 9 ROWS @ 3" O.C.

W36

1" THICK PL WITH 1-1/8" A490N BOLTS. HSSL HOLES IN PLATE

2 1/4" MAX.

475K 1"

3"

1 3/4" MIN.

NEW W36 1-1/2" THICK TAB WITH 1-1/8" A490N BOLTS. HSSL HOLES IN PLATE

4 ROWS @ 3.5" SPACING

3 COLS @ 3.5" SPACING

EXISTING W14 BEAMS

1'-4"

EXISTING COLUMN STIFFENER

1 3/4" MIN.

EXISTING COLUMN STIFFENER

SECTION A

SECTION B

SHIM AS REQUIRED

Key Plan

Project No. Drawn By

Date:

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CMU BLOCK WALL SEE TYP. DETAILS

WEST ATRIUM TRENCH SLAB

UPPER PLATFORM SLAB

MEP DISTRIBUTION ZONE

CABLE CONNECTION BEYOND

1/4 1/4

1'-0" CONTINUOUS WELD ON BOTH SIDES OF HANGER CONNECTION

CABLE WALL BY OTHERS

1/2" THICK STIFFENERS

PLATFORM FRAMING

1/4 1/4

4-12 4-12

2'-0" CONTINUOUS EACH END

CABLE WALL BY OTHERS

5/16 5/16

CABLE WALL CONNECTION BY OTHERS

3/4" DECK SUPPORT PL

18"x18" BOX OUT

CABLE CONNECTION BEYOND

WP

1'-2" 10" 8" 1'-0"

FINAL DIMENSIONS AND LAYOUT BY CURTAIN WALL MANUFACTURER

WEST ATRIUM TRENCH ELEVATION

WEST ATRIUM REINFORCING

WEST ATRIUM HANGER DETAIL

WEST ATRIUM VESTIBULE FOOTING PLAN

WEST ATRIUM VESTIBULE CONNECTION, TYP
EXIST. BEAM AND SLAB TO BE REMOVED
EXISTING STAIRS TO BE DEMOLISHED

L_T/STRUCTURAL SLAB EL = 26' - 8"

EXISTING WET WELL
NEW STAIR. SEE ARCH. DRAWINGS
EXISTING STAIR TO REMAIN

DRILL AND EPOXY DOWEL TO MATCH WALL REINF. MIN. EMBEDMENT = 4"

LAP SPLICE TYP.
#4@48" O.C. VERT BARS 2 - 9 GAGE WIRES AT EVERY OTHER COURSE HORIZ REINF

EXISTING SUBSTATION WALL
PROVIDE BOND BEAM AT TOP AND BOTTOM OF WALL. PROVIDE 2-#5 HORIZ BARS IN COURSE

NEW 8" CMU WALL TO BE FULLY GROUTED
DRY PACK BETWEEN EXISTING BEAM AND CMU WALL TO ACHIEVE FULL BEARING

CHOP OUT EXIST SUBSTATION SLAB LOCALLY TO INSTALL PLATE GIRDER. REINFORCING TO REMAIN IN PLACE
SHORE SLAB TEMPORARILY PRIOR TO REMOVING SLAB

2ND FLOOR
EXIST. SUBSTATION
L6X4X3/8" SLAB SUPPORT

NEW SLAB TO BE POURED BACK

1/2" = 1'-0"  5/16 5/16 3 SIDES TYP.
3" CLR
L4X4X3/8 3/8" THICK PL. GR50 W/ (2)-7/8" A325N BOLTS & HSSL HOLES IN PL
2" TYP. 4" 1"
(4) -1-1/8" A490SC-B BOLTS W/ OVS HOLES IN PL
3" 1 3/4" 1 3/4" TYP.
EXIST. BEAM TO BE CUT

CAMB OUT EXIST SUBSTATION SLAB USING PENNABLE MATERIALS COMPATIBLE TO BEAM AREA

MORE SLAB TEMPORARILY PROCT TO BEACHSEW BAR

EXISTING SUBSTATION WALL ADJACENT TO GRID J PLATE GIRDER
EXIST. SUBSTATION SLAB RE-SUPPORT AT NEW PLATE GIRDER
EXIST. SUBSTATION SLAB RE-SUPPORT AT NEW COLUMN

EXIST. SUBSTATION RE-SUPPORT
SUBSTATION RESUPPORT

SECTION

PRELIMINARY
NOT FOR 
CONSTRUCTION

APPROVED
Under Directive 2 of 1975
Date:
Damian Titus
AMENDED APPLICATION
08/15/2017
ESCALATOR PIT DETAIL NEAR GRID B/3

ESCALATOR PIT NEAR GRIDS B/3

SECTION AT SE CORNER ESCALATOR AT GRID M

SECTION AT SE CORNER ESCALATOR AT GRID L.5

CAST CONCRETE WALL UP TO UNDERSIDE OF CAST SLAB

3/4" CLR

3/4" DIA. X 6" LONG STUD @ 12" O.C.

#6 @ 12" O.C. T&B

#4 @ 12" O.C. T&B

#4@12" O.C.

PLATFORM STRUCTURAL SLAB
ELEVATOR PIT BETWEEN GRID 1-3/C-D

ELEVATOR PIT BETWEEN GRID 1-3/AA-A

SECTION AT ELEVATOR PIT BETWEEN GRID 1-3/C-D

SECTION AT ELEVATOR PIT BETWEEN GRID 1-3/AA-A

PRELIMINARY NOT FOR CONSTRUCTION

APPROVED Under Directive 2 of 1975

Date:

Damian Titus

AMENDED APPLICATION

08/15/2017

121331763

PRELIMINARY NOT FOR CONSTRUCTION
TYPICAL DEEP BEAM BOTTOM FLANGE BRACING CONNECTION

TYPICAL SPANDREL OR BRACED BEAM KICKER CONNECTION

TYPICAL FULL HEIGHT FITTED STIFFENER AT SPANDREL OR BRACED BEAM CONNECTION

TYPICAL FULL HEIGHT UNFITTED STIFFENER AT BRACED BEAM CONNECTION

TYPICAL BEAM POCKET AT WALL

TYPICAL BEAM POCKET AT PILASTER

TYPICAL BEAM POCKET IN FOUNDATION WALL

BEARING PLATE SCHEDULE

1. SEE PLAN FOR LOCATION OR SPACING

NOTES:

1. DESIGN CONNECTION FOR FORCES BASED ON COLUMN AXIAL LOAD

PRELIMINARY NOT FOR CONSTRUCTION

APPROVED

Under Directive 2 of 1975

Date:

AMENDED APPLICATION

08/15/2017
Under Directive 2 of 1975:

1. PROVIDE REINFORCEMENT AS NOTED FOR OPENING TYPE. SEE FRAMING PLANS FOR OPENING TYPE

2. SEE STRUCTURAL DRAWINGS FOR PENETRATIONS. CONTRACTOR SHALL VERIFY QUANTITY, SIZE, AND LOCATION OF ALL PENETRATIONS WITH MEP DRAWINGS

3. Penetration shall be verified by the Architect/Engineer. No penetrations shall be made without prior review of the Architect/Engineer.

4. SEE TYPICAL COMPOSITE STEEL DECK DETAIL AT BEAM WEB PENETRATIONS WITH ADDITIONAL STUDS AND SLAB REINFORCEMENT

5/16 5/16 5/16

REINFORCEMENT PROVISIONS BY TYPE

- PROVIDE DOUBLER PLATES
- PROVIDE STIFFENER PLATES

RECTANGULAR PENETRATION

CIRCULAR PENETRATION

BEAM WEB PENETRATION TYPE U (UNREINFORCED)

BEAM WEB PENETRATIONS TYPE D (WEB DOUBLER PLATE REINFORCEMENT)

BEAM WEB PENETRATIONS TYPE S (STIFFENER REINFORCEMENT)
BEAM WEB PENETRATION SCHEDULE

<table>
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<tr>
<th>Code</th>
<th>Type</th>
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NOTES:
- Refer to Detail 3/S-715.00 for typical notes.

BEAM WEB PENETRATION SCHEDULE (CONT.)

1. Refer to note for notes.
NEW OPENINGS IN EXISTING SLAB

- Clusters of openings spaced closer than 12" clear shall be treated as one large opening, providing the reinforcement or framing.
- Drypack between channels and metal deck for full bearing support.

NOTES:
- Metal closure piece at edge of slab at opening see arch. & mech. dwgs. by metal deck contractor.
- See plan of metal deck for direction see plan of metal deck.
- Direction of span of metal deck.
- C8 x 11.5 | C6 x 8.2
- TYP 2" (TYP.)
- W beam (see plan)
- Opening size greater than 1'-0" x 1'-0" for size and location see plan & mech. dwgs.
- Do not cut opening until new reinforcement is installed.
- Opening to be sawcut.
- Opening size 1'-0" x 1'-0" max. for size & location see plan & mech dwgs.
- Core drill or sawcut opening as req'd.
TYPICAL FOUNDATION WALL DETAIL - PLAN

TYPICAL VERTICAL CONSTRUCTION JOINT IN CONCRETE WALL

TYPICAL WALL OPENING DETAILS

STEEL COLUMN AT FOUNDATION WALL

TYPICAL SECTION AT ENTRANCE

TYPICAL SECTION AT ENTRANCE WITH HAUNCH

NOTES:
1. SEE ARCHITECTURAL AND STRUCTURAL SPECIFICATIONS FOR WATERSTOP REQUIREMENTS
2. SEE GENERAL NOTES FOR CONSTRUCTION JOINT MAXIMUM SPACING

Related Companies 60 Columbus Circle
New York, NY 10023
Tel: 212.801.1000  Fax: 212.801.1048

Tishman Construction Corporation 100 Park Avenue, 5th Floor
New York, NY 10017
Tel: 212.682.6000  Fax: 212.682.6172

Kohn Pedersen Fox Associates PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
Tel: 917.661.7800 Fax: 718.661.7801

Ove Arup & Partners P.C.
77 Water Street
New York, NY 10005
Tel: 212.896.3000

AECOM
605 Third Avenue
New York, NY 10158
Tel: 212-973-9200 Fax: 682.6172

Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10017
Tel: 917.661.7800 Fax: 718.661.7801

Consortium
LIRR - M.o.E - FINAL 100% DESIGN 5/5/2015
L.I.R.R. - FINAL 100% 10/14/2014 DESIGN SUBMISSION FOR RECORDS

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1. REFER TO PLANS FOR ADDITIONAL BARS AROUND OPENINGS
2. REFER TO PLANS FOR ADDED BARS WHERE BARS ARE INTERRUPTED
3. PROVIDE ADDITIONAL BARS WHERE THE OPENING DIAMETER LESS THAN 2 FEET
4. PROVIDE ADDITIONAL BARS WHERE THE OPENING DIAMETER LESS THAN 2 FEET
5. PROVIDE ADDITIONAL BARS WHERE THE OPENING DIAMETER LESS THAN 2 FEET
6. PROVIDE ADDITIONAL BARS WHERE THE OPENING DIAMETER LESS THAN 2 FEET

ADDITIONAL BARS WHERE BARS ARE INTERRUPTED
1. PROVIDE ADDITIONAL BARS WHERE BARS ARE INTERRUPTED.
2. PROVIDE ADDITIONAL BARS WHERE BARS ARE INTERRUPTED.
3. PROVIDE ADDITIONAL BARS WHERE BARS ARE INTERRUPTED.

ADDITIONAL TOP BARS WHERE NO TOP BARS ARE PRESENT
1. PROVIDE ADDITIONAL TOP BARS WHERE NO TOP BARS ARE PRESENT.
2. PROVIDE ADDITIONAL TOP BARS WHERE NO TOP BARS ARE PRESENT.
3. PROVIDE ADDITIONAL TOP BARS WHERE NO TOP BARS ARE PRESENT.

CLUSTERED OPENING ADDITIONAL REINFORCEMENT
1. PROVIDE ADDITIONAL REINFORCEMENT AS SHOWN IN TYPE 1.
2. PROVIDE ADDITIONAL REINFORCEMENT AS SHOWN IN TYPE 2.
3. PROVIDE ADDITIONAL REINFORCEMENT AS SHOWN IN TYPE 3.

TYPICAL SLAB CONSTRUCTION JOINT
1. CONSTRUCT WALL JAMB CONSTRUCTION JOINT LISTS PLANS FOR APPEAL
2. CONSTRUCT WALL JAMB CONSTRUCTION JOINT LISTS PLANS FOR APPEAL

TYPICAL CORNER SLAB DETAILS

TYPICAL SLAB OPENING DETAILS

TYPICAL STEP IN SLAB DETAILS

TYPICAL SLAB DETAIL

TYPICAL CONCRETE SLAB DETAILS

TYPICAL SLAB OPENING DETAILS
Under Directive 2 of 1975

Date:

Damian Titus

AMENDED APPLICATION

08/15/2017