MANHATTAN WEST PLATFORM
BLOCK 729, LOT 60, NEW YORK, NY
ISSUED FOR BUILDING DEPARTMENT APPROVAL
MAY 21, 2012
GENERAL NOTES:

1. ADEQUATE BRACING OF ALL ATTACHED ELEMENTS TO THE STRUCTURE IS TO BE PROVIDED.
2. CONSTRUCTION JOINTS SHOWN ARE NOT TO BE USED AS PLANE OF DISSOCIATION.
3. CONSTRUCTION JOINTS SHOULD BE FILLLED WITH A FLEXIBLE MATERIAL WHERE CONVOYING OF LINES OCCURS.
4. CONCRETE, METAL DECK, Tek Screws, Z-Ties, etc. shown are shown "as required".
5. ALL FOOTINGS TO BE DESIGNED TO WITHSTAND THE ADHIBITING LOADS AS SHOWN.
6. ALL SOCKETED REINFORCEMENT TO BE SET AT LEAST 2" ABOVE THE FINISHED GRADE.
7. ALL MISSING OR EG annoying by THE CONSULTANT.
8. ALL DRAWINGS TO BE REVIEWED AND APPROVED BY THE CONSULTANT.
9. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2008 NEW YORK CITY BUILDING CODE.
10. ALL DRAWINGS TO BE CONSIDERED LATEST EDITION OR REVISION WHERE DOCUMENTS ARE REFERENCED IN THE GENERAL AND DESIGN NOTES.
11. ALL DRAWINGS TO BE CORRECTED FOR ANY ERRORS OR OMISSIONS WHICH THEY MAY CONTAIN.
12. ALL DRAWINGS TO BE THE LATEST EDITION OR REVISION WHERE DOCUMENTS ARE REFERENCED IN THE GENERAL AND DESIGN NOTES.
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48. ALL DRAWINGS TO BE THE LATEST EDITION OR REVISION WHERE DOCUMENTS ARE REFERENCED IN THE GENERAL AND DESIGN NOTES.
NOTES:
1. THE TEMPORARY PROTECTION PLATFORM SHOWN IS DIAGRAMMATIC ONLY. THE CONTRACTOR IS TO DESIGN THE SYSTEM, BASED ON THE PERFORMANCE CRITERIA SHOWN ON THE DRAWINGS AND IN THE PERFORMANCE SPECIFICATION.
2. CONTRACTOR SHALL USE A LICENSED PROFESSIONAL ENGINEER TO DESIGN & DETAIL THE TPP. DESIGN CALCULATIONS SHALL BE SUBMITTED TO THE CONSULTANT BEARING THE SEAL AND SIGNATURE OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK.
3. DESIGN SYSTEM TO MEET ALL NYCBC REQUIREMENTS.
4. DESIGN SYSTEM TO MEET ALL MTA RELATED CRITERIA AND CLEARANCES.
5. DESIGN SYSTEM TO SUPPORT 1.5 TIMES THE SELF WEIGHT OF ONE GIRDER PLUS APPLICABLE CONSTRUCTION LIVE LOAD ON THE TPP.
6. DESIGN THE TPP SYSTEM FOR A DEFLECTION LIMIT THAT IS SUITABLE FOR AND CONSISTENT WITH THE REQUIREMENTS OF THE POST TENSIONED SEGMENTAL GIRDER CONSTRUCTION.
1. TEMPORARY COLUMNS/BRACING TO BE PROTECTED FROM TRAIN IMPACT, BY CONCRETE ENCASEMENT OF TEMPORARY STRUCTURE.

2. TEMPORARY PROTECTION PLATFORM TO BE DESIGNED TO SUPPORT 1.5 TIMES WEIGHT OF ONE SEGMENT (56T) OR 100T ANYWHERE ON WORKING DECK SURFACE.

CL CAISSON

ELEV 323'-7"

ELEV 311'-0"

2

FO-042.00
1/2"=1'-0"

TOP OF TEMPORARY WORKING/PROTECTION DECK

STUB COLUMN

D

W36

W21 (TYP.)

6'-2" (TYP.)

12"x12" TIMBER

BRACING

W44 SPANNING BETWEEN COLUMNS

4'-0"

MINIMUM CRASH WALL HEIGHT OF 12'-0" ABOVE TOP OF RAIL ELEVATION. MINIMUM THICKNESS OF CRASH WALL IS 2'-6"

ELEV ±312'-1"

ELEV ±328'-3"

ELEV ±317'-7"

EX. 33RD STREET OVERPASS

STRUCTURE BEYOND 22'-8"

29'-6"

4'-0"

'RIDING POSITION' OF BOX GIRDER

ELEV 323'-7"

TOP OF CRASH WALL

EL. 297'-0"

32'-0"

8'-0"

10'-0"

4'-3"

17'-6"

17'-6"

1'-9"

W14x550 WITH 4-3" WEB PLATES.

SAME AS SHOWN IN 6/S-422A.

MAXIMUM UNFACTORED LOAD ON COLUMN FROM FUTURE BRIDGE OVER DYER AVENUE IS P_DL = 780 kips, P_LL = 600 kips

EXTEND COLUMN AFTER REMOVAL OF TPP AS NOTED IN 1/S-450.

MOVEABLE PORTION OF TPP FRAMING SHOWN DOTTED W14 COLUMNS AND BRACING

W21W21W21W21W21

W36 (TYP)
**LIST OF STRUCTURAL DRAWINGS**

<table>
<thead>
<tr>
<th>DRAWING No.</th>
<th>DRAWING TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-001.00</td>
<td>COVER SHEET/DRAWING LIST</td>
</tr>
<tr>
<td>S-002.00</td>
<td>GENERAL NOTES AND DESIGN NOTES</td>
</tr>
<tr>
<td>S-003.00</td>
<td>TYPICAL DETAILS</td>
</tr>
<tr>
<td>S-102 .00</td>
<td>TRACK LEVEL PLAN</td>
</tr>
<tr>
<td>S-102E.00</td>
<td>PLAN DETAILS FOR FOOTINGS AT E-YARD</td>
</tr>
<tr>
<td>S-104.00</td>
<td>LEVEL B1 PLAN</td>
</tr>
<tr>
<td>S-105.00</td>
<td>LEVEL B PLAN</td>
</tr>
<tr>
<td>S-106.00</td>
<td>GROUND LEVEL FRAMING PLAN</td>
</tr>
<tr>
<td>S-106A.00</td>
<td>GROUND LEVEL PARTIAL FRAMING PLAN A</td>
</tr>
<tr>
<td>S-106B.00</td>
<td>GROUND LEVEL PARTIAL FRAMING PLAN B</td>
</tr>
<tr>
<td>S-106C.00</td>
<td>GROUND LEVEL PARTIAL FRAMING PLAN C</td>
</tr>
<tr>
<td>S-301.00</td>
<td>CAISSON/ROCK ANCHOR SCHEDULE</td>
</tr>
<tr>
<td>S-302.00</td>
<td>CAISSON/ROCK ANCHOR SCHEDULE</td>
</tr>
<tr>
<td>S-400.00</td>
<td>FOUNDATION SECTIONS</td>
</tr>
<tr>
<td>S-400A.00</td>
<td>FOUNDATION SECTIONS</td>
</tr>
<tr>
<td>S-401.00</td>
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</tr>
<tr>
<td>S-402.00</td>
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<tr>
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</tr>
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<td>S-416.00</td>
<td>CONCRETE CAPPING BEAM (NORTH)</td>
</tr>
<tr>
<td>S-416A.00</td>
<td>CONCRETE CAPPING BEAM (NORTH)</td>
</tr>
<tr>
<td>S-417.00</td>
<td>CONCRETE CAPPING BEAM (SOUTH)</td>
</tr>
<tr>
<td>S-417A.00</td>
<td>CONCRETE CAPPING BEAM (SOUTH)</td>
</tr>
<tr>
<td>S-420.00</td>
<td>TYPICAL PLENUM SECTIONS AND DETAILS</td>
</tr>
<tr>
<td>S-421.00</td>
<td>TYPICAL PLENUM SECTIONS AND DETAILS</td>
</tr>
<tr>
<td>S-422.00</td>
<td>STEEL CAPPING BEAM PLAN</td>
</tr>
<tr>
<td>S-422A.00</td>
<td>STEEL CAPPING BEAM SECTIONS</td>
</tr>
<tr>
<td>S-440.00</td>
<td>PRECAST COLUMN PROTECTION DETAILS</td>
</tr>
<tr>
<td>S-450.00</td>
<td>LEVEL B SECTIONS</td>
</tr>
<tr>
<td>S-501.00</td>
<td>ELEVATIONS</td>
</tr>
</tbody>
</table>

**MANHATTAN WEST PLATFORM**

**BLOCK 729, LOT 60, NEW YORK, NY**

**ISSUED FOR BUILDING DEPARTMENT APPROVAL**

**MAY 31, 2012**
1. ALL DOWELS SHALL HAVE MINIMUM EMBEDMENT EQUIVALENT TO THE STRAIGHT TENSION EMBEDMENT LENGTH OR 2'-0".

2. PROVIDE DOWELS TO WALLS AND COLUMNS SIMILAR IN NUMBER, SIZE, AND SPACING TO THE VERTICAL STEEL IN THE WALL OR COLUMN.

3. APPLY TO THE EARTH AND BEDROCK PRESSURE DISTRIBUTION, THE SIDEWALK OR SEISMIC SURCHARGE WHICH IS GREATER.

4. SITE CLASS: B

5. ALL STRUCTURAL STEEL ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH AISC LRFD LOAD AND RESISTANCE FACTOR DESIGN.

6. THE STRUCTURE HAS BEEN DESIGNED ASSUMING THE BUILD-UP OF HYDROSTATIC PRESSURE.

7. CONCRETE COVER:
   - MINIMUM OF 4'-0" BELOW FINISHED GRADE UNLESS NOTED OTHERWISE.
   - MINIMUM OF 6'-0" FROM SUPPORT OR REINFORCEMENT UNLESS NOTED OTHERWISE.

8. WELDED STUD SHEAR CONNECTORS: HEADED STUDS SHALL BE MANUFACTURED BY NELSON (OR APPROVED ALTERNATIVE) AND MANUFACTURER'S RECOMMENDATIONS. PHYSICAL PROPERTIES OF HEADED STUDS SHALL BE IN ACCORDANCE WITH AWS D1.1.

9. PERFORMANCE SPECIFICATION DESIGN ITEMS:
   - STEEL: A992 GRADE 50 OR SIMILAR GRADE STEEL.
   - CONCRETE: NORMAL WEIGHT CONCRETE.
   - REINFORCED CONCRETE: 4.00% MINIMUM STEEL AND IN A RUN OF 10 UNLESS NOTED OTHERWISE.

10. STRUCTURAL STEEL:
    - Ss = 0.365

11. PE = [TAKE FROM GEOTECHNICAL REPORT IF APPLICABLE]

12. P = Pe + Ps

13. DEFLECTION LIMITS FOR LAUNCHER:
    - HORIZONTAL DEFLECTION: l/1600
    - VERTICAL DEFLECTION: l/2500

14. REINFORCEMENT DETAILING AND PLACING DRAWINGS.

15. FIREPROOFING OF ALL STEEL, UNLESS NOTED OTHERWISE.

16. BAR BENDING SCHEDULES FOR THE FOLLOWING ITEMS:
    - SUSPENDED SLABS, RAMPS & BEAMS
    - CRASH WALLS, 18" WALL ADJACENT TO SUSPENDED SLABS, RAMPS & BEAMS
    - CAPPING BEAMS - INFLILL PORTION

17. REINFORCEMENT DETAILING AND PLACING DRAWINGS.

18. TRENCHES, DEPRESSIONS, GROOVES, CURBS, CHAMFERS, SLOPES, OPENINGS AND SLEEVES NOT SHOWN ON THE STRUCTURAL DRAWINGS.

19. SUSPENDED SLABS, RAMPS & BEAMS.

20. ALL STRUCTURAL STEEL TO CONFORM TO ASTM A992 GRADE 50.

21. HOLLOW STRUCTURAL SECTIONS TO CONFORM TO ASTM A500 GRADE B.

22. ALL CAST-IN-ACCESSORIES, ANCHORS, HARDWARE, CONNECTIONS, FLOOR OPENINGS AND THE LIKE TO ACCOMMODATE CRANES, TOWING AND OTHER SIMILAR ACTIVITY.

23. ASSEMBLIES TO BE PROTECTED AGAINST CORROSION.

24. AS AN ALTERNATE TO THE CORROSION PROTECTIVE PAINT, PROVIDE ASTM A588 MATERIAL FOR ALL EXPOSED STEEL FRAMING IN THE STRUCTURE.

25. ALL STAINLESS STEEL TO CONFORM TO ASTM A240.

26. ALL ALUMINUM TO CONFORM TO ASTM B209.

27. DOWEL BAR CURING.

28. CONCRETE QUALITY IN CONCRETE PLACEMENT.

29. CONDUCT COMPREHENSIVE REVIEW OF THE GENERAL AND DESIGN NOTES.

30. TRENCHES AND DEPRESSIONS TO WITHSTAND THE LOADS SHOWN AND THE ACTUAL EARTH PRESSURE DISTRIBUTION ON THE STRUCTURAL DRAWINGS.

31. TEMPORARY GYING AND BRACING OF STRUCTURE UNTIL CONCRETE SLABS HAVE BEEN POURED AND HAVE MATURED TO THEIR STRENGTH.

32. THE WALLS HAVE BEEN DESIGNED ASSUMING THE BUILD-UP OF HYDROSTATIC PRESSURE.

33. AS AN ALTERNATE TO THE CORROSION PROTECTIVE PAINT, PROVIDE ASTM A588 MATERIAL FOR ALL EXPOSED STEEL FRAMING IN THE STRUCTURE.

34. PROVIDE DOWELS TO WALLS AND COLUMNS SIMILAR IN NUMBER, SIZE, AND SPACING TO THE VERTICAL STEEL IN THE WALL OR COLUMN.

35. THE WALLS HAVE BEEN DESIGNED ASSUMING THE BUILD-UP OF HYDROSTATIC PRESSURE.

36. AS AN ALTERNATE TO THE CORROSION PROTECTIVE PAINT, PROVIDE ASTM A588 MATERIAL FOR ALL EXPOSED STEEL FRAMING IN THE STRUCTURE.

37. PROVIDE DOWELS TO WALLS AND COLUMNS SIMILAR IN NUMBER, SIZE, AND SPACING TO THE VERTICAL STEEL IN THE WALL OR COLUMN.

38. THE WALLS HAVE BEEN DESIGNED ASSUMING THE BUILD-UP OF HYDROSTATIC PRESSURE.
PART PLAN (SUSPENDED DUCT BANK) 1/8"=1'-0"

SEE DWG S-106A
SEE DWG S-106B
SEE DWG S-106C
SEE DWG S-106D

9" CONC SLAB ON 3" COMP METAL DECK
DESIGN DECK AS FORMWORK ONLY
REINFORCE WITH #6 @16B & #6 @8T.
PROVIDE ONE LAYER OF #6 @16B TEMP REINF.

FUTURE 9" CONCRETE SLAB ON 3" COMPOSITE METAL DECK. STRUCTURE DESIGNED TO SUPPORT ASSUMED CONSTRUCTION LOADS OF
WL = 300 PSF
WSDL = 50 PSF
WD = 150 PSF

FUTURE PORTION OF GROUND LEVEL FRAMING SHOWN DOTTED

2'-31 2" 18'-1" 11'-11"

18" SLAB REINF WITH #6 @8" T&B EA. WAY (TYPICAL)

STEEL STAIR CP1- 20x3 4x12 PLATE WITH 4-5 8" Ø x69 16" LG STUDS.

CP2- 20x3 4x12 PLATE WITH 6-5 8" Ø x69 16" LG STUDS.

2L's-3x3 BRACE (TYP) REFER TO 8/S-451
2L's-3x3 HANGERS (TYP)
ROCK ANCHOR SCHEDULE

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<tr>
<th>S-301</th>
<th>No. Size Spacing (IN)</th>
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TYPICAL ROCK ANCHOR DEATIL

- **Notes:**
  1. Rock anchors are to be installed at locations shown on drawings or as indicated.
  2. Anchor plates are to be placed at locations shown on drawings or as indicated.
  3. Rock anchors shall be in conformance with PTI (Post Tensioning Institute) latest published editions.
  4. Provide double corrosion protection system on all rock anchors.
  5. Do not weld in the vicinity of the high strength bars.
  6. Provide a minimum of 10% of the remaining anchors after proof tests are completed.
  7. Hold 1.33P for creep test as above.
  8. Hold 1.33P for creep test. Record movements at 0, 1, 2, 3, 4, 5, 6 and 10 minutes. The anchor is acceptable if anchor movement between 1 minute and 10 minutes does not exceed 0.040".

**Installation Procedure:**

1. Rock anchors are to be SAS Stressteel Grade 150 anchors or equivalent.
2. Drill 8"Ø hole to specified depth.
3. Pour concrete footings.
4. Insert a grout pipe to the bottom of the anchor hole, pump full of cement grout and release pressure from jack.
5. Remove grout pipe and install the pre-assembled anchor into grouted hole.
6. After successful testing, lock off anchor at specified load, using external wrench and measure location of rock anchors and drill base plates to suit as built rock anchor locations.
7. Release the anchor at specified load, using external wrench and measure location of rock anchors and drill base plates to suit as built rock anchor locations.
8. After successful testing, lock off anchor at specified load, using external wrench and measure location of rock anchors and drill base plates to suit as built rock anchor locations.
9. Install template for rock anchors and secure in place to avoid shifting of anchors during concreting.
10. Proof tests shall be conducted by incrementally loading the anchor as noted below:

**Rock Anchor Schedule:**

| S-301 | Beam
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<tr>
<td>G</td>
<td>3'-6&quot; Ø INNER LINER</td>
</tr>
<tr>
<td>H</td>
<td>4'-0&quot; Ø OUTER LINER</td>
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<tr>
<td>B</td>
<td>1 1/2&quot;-1'-0&quot;</td>
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</tbody>
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**Notes:**

- TYPICAL DETAIL AT INTERNAL STABILITY CASING
- **Typical Reinforced Caisson 'CA1':**
  - 9500 psi min. grout
  - 3" SAS STRESSTEEL
  - 8"Ø hole

- **Typical Reinforced Caisson 'CA2':**
  - 5,000 psi min. grout
  - 3" SAS STRESSTEEL
  - 8"Ø hole

**General Notes:**

- Rock anchors shall be in conformance with PTI (Post Tensioning Institute) latest published editions.
- Provide double corrosion protection system on all rock anchors.
- Do not weld in the vicinity of the high strength bars.
- Provide a minimum of 10% of the remaining anchors after proof tests are completed.
- Hold 1.33P for creep test as above.
- Hold 1.33P for creep test. Record movements at 0, 1, 2, 3, 4, 5, 6 and 10 minutes. The anchor is acceptable if anchor movement between 1 minute and 10 minutes does not exceed 0.040".
- Threadbar.
- Beams shall be placed at locations shown on drawings or as indicated.
- Anchor plates are to be placed at locations shown on drawings or as indicated.
- Rock anchors shall be in conformance with PTI (Post Tensioning Institute) latest published editions.
- Provide double corrosion protection system on all rock anchors.
- Do not weld in the vicinity of the high strength bars.
- Provide a minimum of 10% of the remaining anchors after proof tests are completed.
- Hold 1.33P for creep test as above.
- Hold 1.33P for creep test. Record movements at 0, 1, 2, 3, 4, 5, 6 and 10 minutes. The anchor is acceptable if anchor movement between 1 minute and 10 minutes does not exceed 0.040".
- Threadbar.
PERMANENT CAISSON LINER TO REMAIN IN PLACE

FINDING ELEVATION OF CAISSONS TO BE CONFIRMED BY GEOTECHNICAL ENGINEER PRIOR TO CASTING CAISSON

A

S-302

TYPICAL CAISSON SHAFT DETAIL

1/2"=1'-0"

7'-6" c/c CAISSON

8'-0" 12'-6"

EL. 311'-0"

±1'-0"

FRICIONLESS CAISSON LENGTH

ROCK SOCKET LENGTH

CAISSON LENGTH

TRACK LEVEL

CAPPING BEAM

GRAVITY WALL

±1'-0"

4"

TYP

TENSION DEVELOPMENT LENGTH

B

S-301

EXTEND BUNDLED BARS

A MINIMUM CLASS 'B'

TENSION LAP LENGTH

INNER CAISSON TYPE CA'1'

3" CLEAR COVER TO TIES

S/2 MAX WHERE S IS VERTICAL SPACING OF TIES. TYP

OUTER CAISSON TYPE CA'2' OR CA'3'

REFER TO PLAN FOR SPECIFIC TYPE AND LOCATIONS.

PROVIDE SECTION OF INTERNAL STABILITY CASING AS REQUIRED TO MAINTAIN INTEGRITY OF CAISSON REINFORCEMENT CAGE DURING INSTALLATION. CONTRACTOR TO DETERMINE THICKNESS OF CASING AS WELL AS NUMBER, LENGTH, POSITION AND WELDING REQUIREMENTS FOR REINFORCEMENT.

6" CLEAR COVER TO TIES

C

S-301

D

S-301

D

S-301

EXISTING GRAVITY WALL

PROVIDE BAR SPACERS TO ENSURE COVER IN MAINTAINED. TYPICAL ALONG ENTIRE LENGTH OF CAISSON ELEVATION FOR TOP OF ROCK SOCKET EL. 280'-0". TO BE CONFIRMED BY GEOTECHNICAL ENGINEER IN THE FIELD. ACTUAL TOP OF SOCKET TO BE NO HIGHER THAN ELEVATION 280'-0". IF TOP OF ROCK SOCKET HAS TO BE LOWERED DUE TO EXISTING CONDITIONS, INCREASE FRICTIONLESS LENGTH AND CAISSON LENGTH ACCORDINGLY.

D

S-301

D

S-301

LENGTH OF ROCK SOCKETS FOR CAISSON TYPES CA'2' & CA'3' IS BASED ON AN ASSUMED TOP OF ROCK ELEVATION OF EL 285'-0". FUTURE CONSTRUCTION SHALL ENSURE ROCK IS NOT REMOVED BELOW THIS ELEVATION.
NOTE:
REFER TO PLAN FOR LOCATION AND NUMBER OF PIERS. PIER LOCATION TO BE COORDINATED WITH THRU COLUMN POSITIONS IN PRECAST GIRDERS.

FUTURE COLUMN ABOVE
REINF WITH
#6 @8 H&V EF
REFER TO DETAIL 5/S-420 FOR REINF OF PRECAST SLAB.

REFER TO DETAIL 5A/S-420 FOR SUPPORT ANGLES FOR PRECAST SLAB.

PERMANENT EPOXY COATED ROCK BOLTS WITH MINIMUM WORKING LOAD CAPACITY OF 30 kips @7'-0" c/c MAX IN EACH DIRECTION FOR FULL HEIGHT & LENGTH OF WALL. PROVIDE DOUBLE GALVANIZED BEARING PLATES AT END (TYPICAL). MINIMUM BEARING PLATE SIZE IS 6"x 6". REFER TO SOE DRAWINGS FOR ADDITIONAL DETAILS OF ROCK BOLTS.
Typical Precast Plenum Wall to Cap Beam Connection

2'-0" x 2'-0" x 4-#8
8'-0" x 1'-0" x 16-#5

Add 4-#10 Continuous Provide Standard 90° Hook EA. End

1 1/2" 3"
4"x4" @5'-0" From Each End

16"x16"x 3" 4" Plate With 4-3 4"Ø x 6"LG Studs

3/8" 6" L8x8x1" x 12"LG

7- #3 @3" c/c 6" 18"

1/2" 3- #4 T&B Cont 2x3"

4x6" = 2'-0" GROUT 1

2" GAP PRIOR TO CASTING 8" SLAB ON GRADE

16- #8 6- #5 4- #5 CORBEL WIDTH LESS 11 2" COVER EACH SIDE

3/8" 6" L8x8x1" x 12"LG

7- #3 @3" c/c 6" 18"

1/2" 3- #4 T&B Cont 2x3"

4x6" = 2'-0" GROUT 1

2" GAP PRIOR TO CASTING 8" SLAB ON GRADE

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7- #3 @3" c/c 6" 18"

1/2" 3- #4 T&B Cont 2x3"

4x6" = 2'-0" GROUT 1

2" GAP PRIOR TO CASTING 8" SLAB ON GRADE
BRACES IMMEDIATELY ADJACENT TO EAST/WEST CROSS WALLS TO BE COORDINATED WITH MEP SERVICES.

2'-6" 4'-3" 3'-4"

Tf=Cf=150

W16

2" 2"

S-450

1" = 1'-0"

W24

W12 COL.

WP

8" 6"

JOINT TO ACCOMMODATE ±1'-2" VERTICAL MOVEMENT

PROVIDE 20x20 POCKET IN INSULATION AND FILL WITH CONCRETE, TYP. AT COLUMN BASES

2-3/4" Ø THREADED ANCHOR RODS @ 1'-6" o/c

W 10 x 45 ON SIDE CONTINUOUS OVER 3 SPANS MIN. CONNECT TO W16 FOR:

Cf = 250 kips

Tf = 50 kips

6"

STEEL SHIMS @ 1'-6" c/c MAX.

SECURE IN PLACE AFTER ERECTION OF STEEL

NOTE: CONNECTION TO 18" CONCRETE WALL DESIGNED FOR A DIRECT LOAD OF 25 klf & A REBOUND LOAD OF 5 klf

WT 5 x 22.5 EMBEDDED IN SLAB TO SUPPORT METAL DECK. TYPICAL ALL ALONG DYER AVENUE

18" OVERLAP FOR WT

3 World Financial Center, New York, NY 10281

Structural:

Project:

Client:

Date

By

RevisionsNo.

File No.:

Seal:

Page Count:

Checked By:

Drawn By:

Sheet Name:

Sheet No.:

Scale:

Project No.:

Key Plan

Architect:

D.O.B. SUBMISSION

LEVEL B SECTIONS

LOT 60

D.O.B. APPL. 04/26/2011 AS SHOWN

T011-0003

LOT 60

DEPT OF BLDGS Job Number Scan Code

APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION

Date/Time:

Damian Titus

Oct 25, 2012 – 4:04 PM

APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION

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Oct 25, 2012 – 4:04 PM
9TH AVENUE DEVELOPMENT
BROOKFIELD PROPERTIES

NORTH SIDE SUPPORT OF EXCAVATION

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

OCTOBER 4, 2012
SUBMITTAL NUMBER: 8 REV. 1
9TH AVENUE DEVELOPMENT
BROOKFIELD PROPERTIES

NORTH SIDE SUPPORT OF EXCAVATION

MUESER RUTLEDGE
CONSULTING ENGINEERS

14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

MARCH 10, 2016

SUBMITTAL NUMBER: 12 REV. 8
MANHATTAN WEST:
NORTH TOWER

ISSUED FOR BUILDING PERMIT
APRIL 1ST, 2015
PLAZA LEVEL: PHASE 1

EXISTING LOFT BUILDING

EXISTING NORTH PLATFORM
PERMIT NO. 110114723

EXISTING SOUTH PLATFORM
PERMIT NO. 110114732

SW TOWER
NB PERMIT NO. 121185760
ANTICIPATED TCO 03/2017

DYER AVENUE PHASE 1
ALT2 TO PERMIT NO. 122450533
ANTICIPATED TCO 12/2019

DYER AVENUE PHASE 1
ALT2 TO PERMIT NO. 122445407
IN CONJUNCTION WITH
ALT1 TO 121186368
ANTICIPATED TCO 03/2017
1. TYPICAL BEAM-TO-BEAM MOMENT SPICE
   NOT TO SCALE

2. BEAM OVER TOP OF COLUMN
   NOT TO SCALE

3. TYPICAL RECTANGULAR STEEL BEAM OPENING DETAIL - REINFORCED
   NOT TO SCALE

4. TYPICAL ROUND STEEL BEAM OPENING DETAIL - UNREINFORCED
   NOT TO SCALE

5. TYPICAL ROUND STEEL BEAM OPENING DETAIL - REINFORCED
   NOT TO SCALE
1 TYPICAL STRUCTURAL BAY
PRECAST PLANK LAYOUT AT LEVEL B2

NOTES:
1. PRECAST PLANKS TO BE DESIGNED FOR LIVE LOAD OF 60 PSF IN ADDITION TO AN AVERAGE OF 8" HAY CONCRETE P.I.

2. MAXIMUM SPAN OF 20 FT. DEHPEDING ON ADDITIONAL ACCESSIBLE WEIGHT.

3. PRECAST PLANK + TOPPING SLAB MUST ACHIEVE A MINIMUM 4 HR. FIRE RATING.

4. FILL OVER PRECAST PLANKS NOT SHOWN FOR CLARITY.

2 TYPICAL PRECAST PLANK + TOPPING SLAB CONSTRUCTION

FOR BUILDING DEPARTMENT APPROVAL
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<td>GENERAL NOTES AND DESIGN NOTES</td>
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<td>FO-041.00</td>
<td>TEMPORARY PROTECTION PLATFORM</td>
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<td>TEMPORARY PROTECTION PLATFORM - SECTIONS</td>
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<tr>
<td>FO-043.00</td>
<td>TEMPORARY PROTECTION PLATFORM - DETAILS</td>
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</tbody>
</table>

MANHATTAN WEST PLATFORM

BLOCK 729, LOT 50, NEW YORK, NY

ISSUED FOR BUILDING DEPARTMENT APPROVAL

MAY 21, 2012
A. GENERAL

A.1 QUANTITY FOR SUPERSTRUCTURE

1. THE STRUCTURE IS TO BE BUILT IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2008 NEW YORK CITY BUILDING CODE, AND ANY APPLICABLE REQUIREMENTS OR LAWS OF THE AUTHORITY HAVING JURISDICTION.

STRUCTURAL ELEMENTS

STRENGTH f'c (PSI) COMMENTS

A.2 STRUCTURAL STEEL

UNLESS NOTED OTHERWISE.

1. COLUMN BASES AND MILLING OF SAME.

SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.

TO Dyer 6000

5. REFER TO THE ARCHITECTURAL AND OTHER DRAWINGS FOR LOCATIONS AND SIZES OF PITS, BASES, HOUSEKEEPING PADS, SUMPS, PRECAST - POST TENSIONED BOX GIRDERS 9500

DRAWINGS. OBTAIN THE CONSULTANT’S PRIOR APPROVAL BEFORE INSTALLING OPENINGS, SLEEVES, ETC. WHICH ARE NOT SHOWN.

MAX W/C RATIO IS 0.40

B. SEQUENCE OF CONSTRUCTION

1. UNLESS NOTED OTHERWISE, THE FINAL CONSTRUCTION SEQUENCING OR PHASING REQUIREMENTS ARE THE RESPONSIBILITY OF 

E-YARD.

2. TOUCH UP PAINT AFTER INSTALLATION OF MECHANICAL AND ELECTRICAL SERVICES IS COMPLETED.

3. AS AN ALTERNATE TO THE CORROSION PROTECTIVE PAINT, PROVIDE ASTM A588 MATERIAL FOR ALL EXPOSED STEEL FRAMING IN THE

MAXIMUM WIND NORTH / SOUTH DIRECTION =

East / West Direction =

MAXIMUM EARTHQUAKE NORTH / SOUTH DIRECTION =

C. STRUCTURAL STEEL ERECTION AND DETAILED FABRICATION DRAWINGS.

STUDS SHALL BE 3/4" IN DIAMETER UNLESS NOTED OTHERWISE.

7. LENGTH FOR ANCHOR RODS, STRAP ANCHORS AND SIMILAR DEVICES IS GIVEN FOR THE STRAIGHT LENGTH WITHOUT HOOK.

2. WHERE MOMENT CONNECTIONS ARE CALLED FOR BUT VALUES ARE NOT INDICATED, DESIGN CONNECTIONS FOR FULL MOMENT

WHICHEVER IS GREATER, UNLESS NOTED OTHERWISE.

5. SPLICES SHALL BE DESIGNED TO DEVELOP THE FULL CROSS SECTIONAL CAPACITY OF THE MEMBER AT THE POINT OF THE SPLICE.

4. PROVIDE COMPOSITE METAL DECK IN ALL ROOF OR FLOOR AREAS WHICH WILL RECEIVE A CONCRETE SLAB, UNLESS DECK IS

3. FOUND ALL CAISSONS IN SOUND ROCK CAPABLE OF SUSTAINING A BOND STRESS OF 300 PSI. IF THESE CONDITIONS DO NOT

4. FOUNDING ELEVATION OF FOOTINGS AND CAISSONS ARE NOTED ON THE DRAWINGS. THESE ELEVATIONS HAVE BEEN DETERMINED

5. PROVIDE TEMPORARY FROST PROTECTION, DURING CONSTRUCTION, FOR ALL FOUNDATIONS WHICH ARE NOT FOUNDED A

7. DO NOT PLACE BACKFILL AGAINST WALLS RETAINING EARTH (OTHER THAN CANTILEVER RETAINING WALLS) UNTIL THE WALLS AND

8. PROVIDE ANCHOR DEVICES UNLESS NOTED OTHERWISE.

5. ANCHOR RODS: CONFORM TO ASTM F1554 GRADE 55 WELDABLE STEEL. 6. STRUCTURAL BOLTS SHALL CONFORM TO ASTM A325, OR ASTM A490. 7. WELDED STUD SHEAR CONNECTORS: HEADED STUDS SHALL BE MANUFACTURED BY NELSON (OR APPROVED ALTERNATIVE) AND

8. NON-SHRINK GROUT: 10 000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS.

E. FOUNDATIONS

P = Ps + Pe
g120

C.1 OTHER ALLOWANCES

P = (P + P) / g67

s = UNIT WEIGHT OF SOIL

H

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PRESSURE.

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s = UNIT WEIGHT OF SOIL

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PRESSURE.
NOTES:

1. THE TEMPORARY PROTECTION PLATFORM SHOWN IS DIAGRAMMATIC ONLY. THE CONTRACTOR IS TO DESIGN THE SYSTEM, BASED ON THE PERFORMANCE CRITERIA SHOWN ON THE DRAWINGS AND IN THE PERFORMANCE SPECIFICATION.

2. CONTRACTOR SHALL USE A LICENSED PROFESSIONAL ENGINEER TO DESIGN & DETAIL THE TPP. DESIGN CALCULATIONS SHALL BE SUBMITTED TO THE CONSULTANT BEARING THE SEAL AND SIGNATURE OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK.

3. DESIGN SYSTEM TO MEET ALL NYCBC REQUIREMENTS.

4. DESIGN SYSTEM TO MEET ALL MTA RELATED CRITERIA AND CLEARANCES.

5. DESIGN SYSTEM TO SUPPORT 1.5 TIMES THE SELF WEIGHT OF ONE GIRDER PLUS APPLICABLE CONSTRUCTION LIVE LOAD ON THE TPP.

6. DESIGN THE TPP SYSTEM FOR A DEFLECTION LIMIT THAT IS SUITABLE FOR AND CONSISTENT WITH THE REQUIREMENTS OF THE POST TENSIONED SEGMENTAL GIRDER CONSTRUCTION.

7.-3" 3" 3'-0" 4'-6" 12'-6" 12'-6" 20'-0" 20'-0" 3'-6" 42'-6" 27'-0" 82'-10" 35'-2" 30'-0" 12"x12" TIMBER (TYP.) W21 TYP U/N W36 W36 W36 W36 W36 W36 W36 W36 W36 W36 W36 W36 W36 W36 W36 W36 W36 W36 W44 CONT. W44 CONT. 12"x12" TIMBER (TYP.) VERTICAL BRACING BELOW VERTICAL BRACING BELOW 6'-2" (TYP) SIM. 1 FO-042.00 SIM. 2 FO-042.00 22'-8" 29'-6" 1 FO-042.00 1 FO-042.00 1 FO-042.00 1 FO-042.00

TEMPORARY PROTECTION PLATFORM (TPP)

TEMPORARY PROTECTION PLATFORM FOUNDATION PLAN
TEMPORARY PROTECTION PLATFORM FRAMING PLAN
NOTE:
1. TEMPORARY COLUMNS/BRACING TO BE PROTECTED FROM TRAIN IMPACT, BY CONCRETE ENCASEMENT OF TEMPORARY STRUCTURE.

2. TEMPORARY PROTECTION PLATFORM TO BE DESIGNED TO SUPPORT 1.5 TIMES WEIGHT OF ONE SEGMENT (56T) OR 100T ANYWHERE ON WORKING DECK SURFACE.
TOP OF RAIL (TRACK 5A)
EL. +284.06'

FRACTURED ROCK
BALLAST
FRACTURED ROCK

TOP OF RAIL (TRACK 6X)
EL. +282.82'

6'-6"
CLEARANCE ZONE
6'-6"
CLEARANCE ZONE
10"

11

8"

2'-6" CRASH WALL
REINF WITH 75 pcy (fc' = 6000 psi)

NOTE: PROVIDE TEMPORARY SUPPORTS TO EXIST SEWER DURING EXCAVATION AND CONSTRUCTION OF NEW FOOTING.

4'-0" MIN EMBEDMENT INTO SOUND ROCK

BACKFILL TRENCH EXCAVATIONS IN ACCORDANCE WITH RECOMMENDATIONS IN GEOTECHNICAL REPORT

EL. 277.00'
2" GROUT

EL. 278.00'
2" GROUT

6'-0" MIN

7'-1"
6'-8"
6'-6"
6'-3"
±5'-4"
8"

9" MIN (NTS)

#6 @8

4- #6B
8- #9T

4- #9
9- #6 HEF

7- #6 HEF

8- #9 T&B

#6 HEF

#6 @8

5'-6" MIN

1'-0" MIN (NTS)

4'-0" MIN EMBEDMENT INTO SOUND ROCK

NOTE: PROVIDE TEMPORARY SUPPORTS TO EXIST SEWER DURING EXCAVATION AND CONSTRUCTION OF NEW FOOTING.

9" MIN (NTS)

#6 @8

4- #9
9- #6 HEF

7- #6 HEF

8- #9 T&B

#6 HEF

#6 @8

5'-6" MIN

1'-0" MIN (NTS)

4'-0" MIN EMBEDMENT INTO SOUND ROCK

NOTE: PROVIDE TEMPORARY SUPPORTS TO EXIST SEWER DURING EXCAVATION AND CONSTRUCTION OF NEW FOOTING.

9" MIN (NTS)

#6 @8

4- #9
9- #6 HEF

7- #6 HEF

8- #9 T&B

#6 HEF

#6 @8

5'-6" MIN

1'-0" MIN (NTS)

4'-0" MIN EMBEDMENT INTO SOUND ROCK

NOTE: PROVIDE TEMPORARY SUPPORTS TO EXIST SEWER DURING EXCAVATION AND CONSTRUCTION OF NEW FOOTING.

9" MIN (NTS)

#6 @8

4- #9
9- #6 HEF

7- #6 HEF

8- #9 T&B

#6 HEF

#6 @8

5'-6" MIN

1'-0" MIN (NTS)
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<td>LEVEL B PLAN</td>
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<td>S-416.00</td>
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MANHATTAN WEST PLATFORM

BLOCK 729, LOT 50, NEW YORK, NY

ISSUED FOR BUILDING DEPARTMENT APPROVAL

MAY 31, 2012
F. CONCRETE AND REINFORCEMENT

D. MATERIALS

B. SEQUENCE OF CONSTRUCTION

3. DIFFERENT TYPES OF METAL DECK, WITH SIMILAR PROPERTIES TO THOSE LISTED ABOVE, MAY BE ACCEPTABLE SUBJECT TO

J. A COPY OF THE GEOTECHNICAL INVESTIGATION REPORT BY MUESER RUTLEDGE DATED JUNE 10, 2008 AND THEIR SUBSEQUENT

1. UNLESS NOTED OTHERWISE, THE FINAL CONSTRUCTION SEQUENCING OR PHASING REQUIREMENTS ARE THE RESPONSIBILITY OF

1. THE STRUCTURE IS TO BE BUILT IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2008 NEW YORK CITY BUILDING CODE, AND

2. BEARING PLATE DIMENSION GIVEN FIRST INDICATES SIDE PARALLEL TO BEAM WEB.

2. WHERE DOCUMENTS ARE REFERENCED IN THE GENERAL AND DESIGN NOTES, THEY SHALL BE THE LATEST EDITIONS OR REVISION,

1. READ STRUCTURAL DRAWINGS AND SPECIFICATIONS IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS.

6. PROVIDE WELDED STIFFENER PLATES ON BOTH SIDES OF THE WEB OF BEAMS AT POINTS OF CONCENTRATED LOAD INCLUDING

5. SPLICES SHALL BE DESIGNED TO DEVELOP THE FULL CROSS SECTIONAL CAPACITY OF THE MEMBER AT THE POINT OF THE SPLICE.

3. FOUND ALL CAISSONS IN SOUND ROCK CAPABLE OF SUSTAINING A BOND STRESS OF 300 PSI. IF THESE CONDITIONS DO NOT

2. WHERE MOMENT CONNECTIONS ARE CALLED FOR BUT VALUES ARE NOT INDICATED, DESIGN CONNECTIONS FOR FULL MOMENT

1. DESIGN CALCULATIONS FOR THESE ITEMS SHALL BE SUBMITTED TO THE CONSULTANT, BEARING THE SEAL &

2. WALL HAVE BEEN DESIGNED FOR A HORIZONTAL PRESSURE (P IN kPa [PSF]) AT ANY DEPTH (h in m [FT]) GIVEN BY THE EXPRESSION:

Fv = 1.0
Fa = 1.0

4. TYPICAL HORIZONTAL ELEMENTS HAVE BEEN DESIGNED SO THAT THE THEORETICAL DEFLECTIONS WILL NOT EXCEED THE FOLLOWING

A.4 FIREPROOFING OF STRUCTURAL STEEL

A.3 PROTECTION OF STRUCTURAL STEEL

1. PROVIDE CORROSION PROTECTIVE PAINT FOR ALL STRUCTURAL STEEL.

1. COLUMN BASES AND MILLING OF SAME.

1. THE STRUCTURAL TENDER IS TO INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING;

A. ALL CAST-IN-ACCESSOIRIES, ANCHORS, HARDWARE, CONNECTIONS, FLOOR OPENINGS AND THE LIKE TO ACCOMMODATE CRANES,

A. REINFORCEMENT DETAILING AND PLACING DRAWINGS.

B. ALLOW FOR THE REMOVAL OF ALL TEMPORARY CONNECTIONS AND MEMBERS THAT PROTRUDE INTO THE FINISHED BUILDING.

C. STRUCTURAL STEEL ERECTION AND DETAILED FABRICATION DRAWINGS.

B. BAR BENDING SCHEDULES

C. TEMPORARY GYING AND BRACING OF STRUCTURE UNTIL CONCRETE SLABS HAVE BEEN POURED AND HAVE MATURED TO THEIR

3. MISC. SUSPENDED CATWALKS, AND SUSPENDED EXIT CORRIDORS AT STAIR TRANSFERS.

8. PERFORMANCE SPECIFICATION DESIGN ITEMS

1. DESIGN AND MEASUREMENT OF DECKING, INCLUDING THE DECKING LIFESPAN, SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF

3. DIFFERENT TYPES OF METAL DECK, WITH SIMILAR PROPERTIES TO THOSE LISTED ABOVE, MAY BE ACCEPTABLE SUBJECT TO

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2. BEARING PLATE DIMENSION GIVEN FIRST INDICATES SIDE PARALLEL TO BEAM WEB.

2. WHERE DOCUMENTS ARE REFERENCED IN THE GENERAL AND DESIGN NOTES, THEY SHALL BE THE LATEST EDITIONS OR REVISION,

1. READ STRUCTURAL DRAWINGS AND SPECIFICATIONS IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS.

6. PROVIDE WELDED STIFFENER PLATES ON BOTH SIDES OF THE WEB OF BEAMS AT POINTS OF CONCENTRATED LOAD INCLUDING

5. SPLICES SHALL BE DESIGNED TO DEVELOP THE FULL CROSS SECTIONAL CAPACITY OF THE MEMBER AT THE POINT OF THE SPLICE.

3. FOUND ALL CAISSONS IN SOUND ROCK CAPABLE OF SUSTAINING A BOND STRESS OF 300 PSI. IF THESE CONDITIONS DO NOT

2. WHERE MOMENT CONNECTIONS ARE CALLED FOR BUT VALUES ARE NOT INDICATED, DESIGN CONNECTIONS FOR FULL MOMENT

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A. REINFORCEMENT DETAILING AND PLACING DRAWINGS.

B. ALLOW FOR THE REMOVAL OF ALL TEMPORARY CONNECTIONS AND MEMBERS THAT PROTRUDE INTO THE FINISHED BUILDING.

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C. TEMPORARY GYING AND BRACING OF STRUCTURE UNTIL CONCRETE SLABS HAVE BEEN POURED AND HAVE MATURED TO THEIR

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1. THE STRUCTURE IS TO BE BUILT IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2008 NEW YORK CITY BUILDING CODE, AND

2. BEARING PLATE DIMENSION GIVEN FIRST INDICATES SIDE PARALLEL TO BEAM WEB.

2. WHERE DOCUMENTS ARE REFERENCED IN THE GENERAL AND DESIGN NOTES, THEY SHALL BE THE LATEST EDITIONS OR REVISION,

1. READ STRUCTURAL DRAWINGS AND SPECIFICATIONS IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS.

6. PROVIDE WELDED STIFFENER PLATES ON BOTH SIDES OF THE WEB OF BEAMS AT POINTS OF CONCENTRATED LOAD INCLUDING

5. SPLICES SHALL BE DESIGNED TO DEVELOP THE FULL CROSS SECTIONAL CAPACITY OF THE MEMBER AT THE POINT OF THE SPLICE.

3. FOUND ALL CAISSONS IN SOUND ROCK CAPABLE OF SUSTAINING A BOND STRESS OF 300 PSI. IF THESE CONDITIONS DO NOT

2. WHERE MOMENT CONNECTIONS ARE CALLED FOR BUT VALUES ARE NOT INDICATED, DESIGN CONNECTIONS FOR FULL MOMENT

1. DESIGN CALCULATIONS FOR THESE ITEMS SHALL BE SUBMITTED TO THE CONSULTANT, BEARING THE SEAL &

2. WALL HAVE BEEN DESIGNED FOR A HORIZONTAL PRESSURE (P IN kPa [PSF]) AT ANY DEPTH (h in m [FT]) GIVEN BY THE EXPRESSION:

Fv = 1.0
Fa = 1.0

4. TYPICAL HORIZONTAL ELEMENTS HAVE BEEN DESIGNED SO THAT THE THEORETICAL DEFLECTIONS WILL NOT EXCEED THE FOLLOWING

A.4 FIREPROOFING OF STRUCTURAL STEEL

A.3 PROTECTION OF STRUCTURAL STEEL

1. PROVIDE CORROSION PROTECTIVE PAINT FOR ALL STRUCTURAL STEEL.

1. COLUMN BASES AND MILLING OF SAME.

1. THE STRUCTURAL TENDER IS TO INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING;

A. ALL CAST-IN-ACCESSOIRIES, ANCHORS, HARDWARE, CONNECTIONS, FLOOR OPENINGS AND THE LIKE TO ACCOMMODATE CRANES,

A. REINFORCEMENT DETAILING AND PLACING DRAWINGS.

B. ALLOW FOR THE REMOVAL OF ALL TEMPORARY CONNECTIONS AND MEMBERS THAT PROTRUDE INTO THE FINISHED BUILDING.

C. STRUCTURAL STEEL ERECTION AND DETAILED FABRICATION DRAWINGS.

B. BAR BENDING SCHEDULES

C. TEMPORARY GYING AND BRACING OF STRUCTURE UNTIL CONCRETE SLABS HAVE BEEN POURED AND HAVE MATURED TO THEIR

3. MISC. SUSPENDED CATWALKS, AND SUSPENDED EXIT CORRIDORS AT STAIR TRANSFERS.

8. PERFORMANCE SPECIFICATION DESIGN ITEMS

1. DESIGN AND MEASUREMENT OF DECKING, INCLUDING THE DECKING LIFESPAN, SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF

3. DIFFERENT TYPES OF METAL DECK, WITH SIMILAR PROPERTIES TO THOSE LISTED ABOVE, MAY BE ACCEPTABLE SUBJECT TO

J. A COPY OF THE GEOTECHNICAL INVESTIGATION REPORT BY MUESER RUTLEDGE DATED JUNE 10, 2008 AND THEIR SUBSEQUENT

1. UNLESS NOTED OTHERWISE, THE FINAL CONSTRUCTION SEQUENCING OR PHASING REQUIREMENTS ARE THE RESPONSIBILITY OF

1. THE STRUCTURE IS TO BE BUILT IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2008 NEW YORK CITY BUILDING CODE, AND

2. BEARING PLATE DIMENSION GIVEN FIRST INDICATES SIDE PARALLEL TO BEAM WEB.

2. WHERE DOCUMENTS ARE REFERENCED IN THE GENERAL AND DESIGN NOTES, THEY SHALL BE THE LATEST EDITIONS OR REVISION,

1. READ STRUCTURAL DRAWINGS AND SPECIFICATIONS IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS.

6. PROVIDE WELDED STIFFENER PLATES ON BOTH SIDES OF THE WEB OF BEAMS AT POINTS OF CONCENTRATED LOAD INCLUDING

5. SPLICES SHALL BE DESIGNED TO DEVELOP THE FULL CROSS SECTIONAL CAPACITY OF THE MEMBER AT THE POINT OF THE SPLICE.

3. FOUND ALL CAISSONS IN SOUND ROCK CAPABLE OF SUSTAINING A BOND STRESS OF 300 PSI. IF THESE CONDITIONS DO NOT

2. WHERE MOMENT CONNECTIONS ARE CALLED FOR BUT VALUES ARE NOT INDICATED, DESIGN CONNECTIONS FOR FULL MOMENT

1. DESIGN CALCULATIONS FOR THESE ITEMS SHALL BE SUBMITTED TO THE CONSULTANT, BEARING THE SEAL &

2. WALL HAVE BEEN DESIGNED FOR A HORIZONTAL PRESSURE (P IN kPa [PSF]) AT ANY DEPTH (h in m [FT]) GIVEN BY THE EXPRESSION:

Fv = 1.0
Fa = 1.0

4. TYPICAL HORIZONTAL ELEMENTS HAVE BEEN DESIGNED SO THAT THE THEORETICAL DEFLECTIONS WILL NOT EXCEED THE FOLLOWING

A.4 FIREPROOFING OF STRUCTURAL STEEL

A.3 PROTE
FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE ROCK BEARING CAPACITY.

1. THE ROCK BEARING CAPACITY HAS BEEN INCREASED BY 10% FOR EACH FOOT OF EMBEDMENT, OF THE FOOTING INTO THE ROCK.

2. AN ASSUMED TOP OF ROCK ELEVATION OF EL 280'-0" AND TOP OF FOOTING ELEVATION OF EL 279'-0"

3. IN ADDITION TO REINF NOTED ON PLAN, PROVIDE 4 - #5 BARS.

4. REFER TO DRAWING S-301 FOR ROCK ANCHOR SCHEDULE AND DETAILS.

5. CLASS 'B' TENSION LAPS.

6. 7 - #5 HORIZONTAL AROUND PERIMETER OF 6'-0" DEEP FOOTINGS. PROVIDE CLASS 'B' TENSION LAPS.

7. 4'-0" DEEP FOOTING

#6@6 TYP.

Qall=56 TSF

4'-0" DEEP FOOTING

#6@6 TYP.

Qall=68 TSF

4'-0" DEEP FOOTING

#6@6 TYP.

Qall=64 TSF

4'-0" DEEP FOOTING

#6@6 TYP.

Qall=56 TSF

4'-0" DEEP FOOTING

#6@6 TYP.

Qall=64 TSF

4'-0" DEEP FOOTING

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4'-0" DEEP FOOTING

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Qall=64 TSF

4'-0" DEEP FOOTING

#6@6 TYP.

Qall=56 TSF

4'-0" DEEP FOOTING

#6@6 TYP.

Qall=64 TSF

4'-0" DEEP FOOTING

#6@6 TYP.
9th Avenue Development
New York, NY

PART PLAN (SUSPENDED DUCT BANK)

SEE DWG S-106A
SEE DWG S-106B
SEE DWG S-106C
SEE DWG S-106D

PART PLAN (SUSPENDED DUCT BANK)

SEE DWG S-106A
SEE DWG S-106B
SEE DWG S-106C
SEE DWG S-106D

FUTURE 9" CONCRETE SLAB ON 3" COMPOSITE METAL DECK. STRUCTURE DESIGNED TO SUPPORT ASSUMED CONSTRUCTION LOADS OF

WL = 300 PSF
WSDL = 50 PSF
WD = 150 PSF

FUTURE PORTION OF GROUND LEVEL FRAMING SHOWN DOTTED

9" CONC SLAB ON 3" COMP METAL DECK
DESIGN DECK AS FORMWORK ONLY
REINFORCE WITH #6 @16B & #6 @8T.
PROVIDE ONE LAYER OF #6 @16B TEMP REINF.

110114732
ES145424672
DEPT OF BLDGS Job Number Scan Code

BLOCK 729
LOT 60

3 World Financial Center, New York, NY 10281

Structural:
Project:
Client:

Date
By
Revisions
File No.:
Seal:
Page Count:

New York, NY
9th Avenue
Development

Drawn By:
Sheet Name:
Sheet No.:
Scale:

Project No.:
Key Plan
Architect:

MAY 31, 2012
D.O.B. SUBMISSION
GROUND LEVEL PARTIAL FRAMING PLAN A
(LOT 50)
9th Avenue Development
New York, NY

Structural:

Project:

Client:

Date: MAY 31, 2012

By:

_checked by:

Revisions: 0

File No.: 110114732

Page Count: 1

Seal:

Page 1

Sheet Name: S-106C.00

Sheet No.: BC/DSTRG

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

Project No.: T011-0003

Key Plan

Architect:

Ensued for D.O.B. Approval

D.O.B. Submission

Ground Level Partial Framing Plan C (LOT 50)

Future 9" Concrete Slab on 3" Composite Metal Deck. Structure designed to support assumed construction loads of WL = 300 PSF, WSDL = 50 PSF, WD = 150 PSF.

Future portion of ground level framing shown dotted.

3" Metal Roof Deck

Chevron Bracing

Block 729

Lot 50

3 World Financial Center, New York, NY 10281
TYPICAL ROCK ANCHOR DETAIL

1. ROCK ANCHORS ARE TO BE SAS STEEL GRADE 150 ANCHORS OR EQUIVALENT.
2. ROCK ANCHORS SHALL BE IN CONFORMANCE WITH PTI (POST TENSIONING INSTITUTE) LATEST SPECIFICATIONS.
3. MIN SPACING OF ROCK ANCHORS IS 3'-0" c/c, INCLUDING ALLOWABLE CONSTRUCTION TOLERANCES OF 3" PER 13'.
4. INSERT A GROUT PIPE TO THE BOTTOM OF THE ANCHOR HOLE, PUMP FULL OF CEMENT GROUT AND INSERT.
5. CARE MUST BE TAKEN NOT TO DAMAGE THE THREADED BARS DURING FABRICATION OR INSTALLATION.
6. AFTER GROUT REACHES SPECIFIED STRENGTH, TEST ANCHORS USING A CALIBRATED CENTER HOLE JACK.
7. AFTER SUCCESSFUL TESTING, LOCK OFF ANCHOR AT SPECIFIED LOAD, USING EXTERNAL WRENCH AND BOLT.
8. THE FIRST THREE ANCHORS INSTALLED AND A MINIMUM OF 10% OF THE REMAINING ANCHORS SHALL BE HOLD 1.33P FOR CREEP TEST AS ABOVE.
9. PERFORMANCE TEST SHALL BE CONDUCTED BY LOADING AND UNLOADING THE ANCHOR AS NOTED BELOW:
   - .25P, .50P, .75P, 1.00P, 1.20P, 1.33P

FOOTING CAP REINFORCEMENT AND CONCRETE FOOTING CAP.

10. INSTALL FOOTING CAP REINFORCEMENT AND CONCRETE FOOTING CAP.
11. POUR CONCRETE FOOTINGS.
12. INSTALL FOOTING REINFORCEMENT.
13. INSTALL TEMPLATE FOR ROCK ANCHORS AND SECURE IN PLACE TO AVOID SHIFTING OF ANCHORS DURING ROCK ANCHORS.
14. AFTER ANCHORS ARE DRILLED, FIELD ROCK ANCHORS.
15. CONCRETING.
16. DO NOT WELD IN THE VICINITY OF THE HIGH STRENGTH BARS.
17. INSTALL BASE PLATE 24"x24"x3" ANCHOR PLATE 16"x16"x3".

NOTES:
1. CAISSONS HAVE BEEN DESIGNED FOR AN ALLOWABLE BOND STRESS OF 300 PSI FOR SOUND ROCK WHICH HAS BEEN CLEANED.
2. ALL ANCHORS SHALL BE 3" DIAMETER SAS STEEL THREADED BARS OR EQUIVALENT, GRADE 150 KSI, MEETING OR EXCEEDING PROPERTIES OF ASTM A-722..
3. ACCEPTABLE IF ANCHOR MOVEMENT BETWEEN THE 1 MIN AND 10 MIN DOES NOT EXCEED 0.040".
4. ANCHOR NUTS & COUPLERS SHALL BE CAPABLE OF DEVELOPING 100% OF THE ULTIMATE STRENGTH OF THE ANCHOR.
5. CARE MUST BE TAKEN NOT TO DAMAGE THE THREADED BARS DURING FABRICATION OR INSTALLATION.
6. DO NOT WELD IN THE VICINITY OF THE HIGH STRENGTH BARS.
7. ALL ANCHORS SHALL BE 3" DIAMETER SAS STEEL THREADED BARS OR EQUIVALENT, GRADE 150 KSI, MEETING OR EXCEEDING PROPERTIES OF ASTM A-722..
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9. PERFORMANCE TEST SHALL BE CONDUCTED BY LOADING AND UNLOADING THE ANCHOR AS NOTED BELOW:
   - .25P, .50P, .75P, 1.00P, 1.20P, 1.33P

GENERAL NOTES
1. CAISSON/ROCK ANCHOR DEVELOPMENT
2. SCALE:
3. SEAL:
4. PROJECT No.:
5. CLIENT:
6. SHEET:

REMARKS TYPICAL.
PERMANENT CAISSON LINER TO REMAIN IN PLACE

FINDING ELEVATION OF CAISSONS TO BE CONFIRMED BY GEOTECHNICAL ENGINEER PRIOR TO CASTING CAISSON

TYPICAL CAISSON SHAFT DETAIL

1/2" = 1'-0"

7'-6" c/c

CAISSON

8'-0" 12'-6"

EL. 311'-0"

±1'-0"

FRICTIONLESS CAISSON LENGTH

ROCK SOCKET LENGTH

CAISSON LENGTH

TRACK LEVEL

CAPPING BEAM

GRAVITY WALL

±1'-0"

4"

TYP E

TENSION DEVELOPMENT LENGTH

B

S-302

EXTEND BUNDLED BARS A MINIMUM CLASS 'B'

TENSION LAP LENGTH

INNER CAISSON TYPE CA'1'

3" CLEAR COVER TO TIES

S/2 MAX WHERE S IS VERTICAL SPACING OF TIES. TYP

OUTER CAISSON TYPE CA'2' OR CA'3'

REFER TO PLAN FOR SPECIFIC TYPE AND LOCATIONS.

PROVIDE SECTION OF INTERNAL STABILITY CASING AS REQUIRED TO MAINTAIN INTEGRITY OF CAISSON REINFORCEMENT CAGE DURING INSTALLATION. CONTRACTOR TO DETERMINE THICKNESS OF CASING AS WELL AS NUMBER, LENGTH, POSITION AND WELDING REQUIREMENTS FOR REINFORCEMENT.

6" CLEAR COVER TO TIES

EXISTING GRAVITY WALL PROVIDE BAR SPACERS TO ENSURE COVER IN MAINTAINED TYPICAL ALONG ENTIRE LENGTH OF CAISSON

LENGTH OF ROCK SOCKETS FOR CAISSON TYPES CA'2' & CA'3' IS BASED ON AN ASSUMED TOP OF ROCK ELEVATION OF EL 285'-0". FUTURE CONSTRUCTION SHALL ENSURE ROCK IS NOT REMOVED BELOW THIS ELEVATION.
TYPICAL PRECAST PLENUM WALL TO CAP BEAM CONNECTION

1. **COMPRESSIBLE MATERIAL**
   - 4" between elements
   - 1/2" between elements

2. **WELD**
   - Full strength weld

3. **STUDS**
   - #4 T&B Continuous
   - 1 1/2" x 3" x 6" x 6"x 3" plate
   - 4" x 4" @ 5'-0" from each end
   - 16" x 16" x 3 4" plate

4. **TIES**
   - 7-#3 @ 3" c/c
   - 2x3"

5. **SHIMS**
   - 4" x 4" x 3"

6. **STUDS**
   - 3-#4 T&B Continuous
   - 16" x 16" x 3 4" plate

7. **TIES**
   - 16-#5

8. **CORBELS**
   - Width less than 11"

9. **ADD 4-#10 CONT. PROVIDE STANDARD 90° HOOK EA. END**

10. **GROUT**
    - 2" gap prior to casting

11. **8" SLAB ON GRADE BETWEEN PRECAST PLENUM STRUCTURE AND CAP BEAM**

12. **ADDITIONAL INFORMATION**
    - 3/8" 6" L8x8x1" x 12" LG
    - 7-#3 @ 3" c/c
    - 6" 18" 2x3"
    - 1/2" 3-#4 T&B Continuous
    - 16" x 16" x 3 4" plate

13. **CORBEL WIDTH LESS THAN 11" COVER EACH SIDE**
    - #5
    - 16-#5

14. **L8x8**

15. **3-#5 CORBEL WIDTH LESS THAN 11" COVER EACH SIDE**
    - #8
    - 16-#5

16. **1/2" 4" COMPRESSIBLE MATERIAL**

17. **END OF POUR BACK**

18. **PRECAST WALL**

19. **C.I.P. WALL**

20. **MAY 31, 2012 - ISSUE FOR D.O.B. APPROVAL**

21. **PROJECT: 9TH AVENUE DEVELOPMENT, NEW YORK, NY**

22. **ARCHITECT: SOM**

23. **DRAWN BY: 110114732**

24. **REVISIONS NO.: ES165496504**

25. **FILE NO.: 10987654321**

26. **DATE: MAY 31, 2012**

27. **CHECKED BY: [Name] 9TH AVENUE DEVELOPMENT NEW YORK, NY**

28. **KEY PLAN**

29. **SCALE:**
   - 1/2" = 1'-0"

30. **SHEET NAME:**

31. **SHEET NO.:**

32. **PROJECT NO.:**

33. **MARCH 2011 AS SHOWN**

34. **TYPICAL PLENUM SECTIONS AND DETAILS (LOT 50)**

35. **LOT 50**

36. **D.O.B. SUBMISSION**

37. **TYPICAL PLENUM WALL TO CAP BEAM CONNECTION**
PARTIAL STEEL CAPPING BEAM PLAN

BLOCK 729
LOT 50

LOT 50

SEG18975521

1/4"=1'-0"

S-422.00

D.O.B. SUBMISSION

STEEL CAPPING BEAM PLAN

(LOT 50)
NOTES:

1. DETAILS SHOWN ARE INDICATIVE ONLY. CONTRACTOR TO DESIGN AND DETAIL PRECAST
   COL-PRECAST LATERAL CONNECTIONS, INSERTS AND THE LIKE TO SUIT THEIR SPECIFIC MEANS AND METHODS.

2. IN ADDITION TO MEETING THE DIMENSIONAL REQUIREMENTS FOR CRASH WALLS AS SPECIFIED IN AMTRAK'S ENGINEERING PRACTICES, DESIGN AND CONSTRUCTION CRITERIA AND THEIR CONNECTIONS ARE NOT OVERLOADED DURING CONSTRUCTION.

3. LIMIT CONCRETE PLACEMENT RATE (cuyd/hr) SUCH THAT PRECAST STAY IN PLACE FORMS
   IN THE PRECAST UNIT.

4. REFER TO STEEL CAPPING BEAM SECTIONS AND STEEL BRACING ELEVATIONS FOR TOP OF CONNECTIONS, INSERTS AND THE LIKE TO SUIT THEIR SPECIFIC MEANS AND METHODS.

5. ROCK ANCHORS ARE NOT SHOWN FOR CLARITY.


7. KEY PLAN 3 World Financial Center, New York, NY 10281

8. CLIENT: Brookfield

9. DEVELOPMENT: 9th Avenue

10. ARCHITECT: SOM

11. STRUCTURAL: S-440

12. DATE: MARCH 2011

13. AS SHOWN
BRACES IMMEDIATELY ADJACENT TO EAST/WEST CROSS WALLS TO BE COORDINATED WITH MEP SERVICES.

2'-6"

4'-3"

3'-4"

Tf=Cf=150

W16

2" 2" 2

S-450

1" = 1'-0"

W24

W12 COL.

WP

8"

6"

JOINT TO ACCOMMODATE ±1'-2" VERTICAL MOVEMENT

PROVIDE 20x20 POCKET IN INSULATION AND FILL WITH CONCRETE, TYP. AT COLUMN BASES

2-3/4" Ø THREADED ANCHOR RODS @ 1'-6" o/c

W 10 x 45 ON SIDE CONTINUOUS OVER 3 SPANS MIN.

CONNECT TO W16 FOR:

Cf = 250 kips

Tf = 50 kips

6"

STEEL SHIMS @ 1'-6" c/c MAX.

SECURE IN PLACE AFTER ERECTION OF STEEL

NOTE: CONNECTION TO 18" CONCRETE WALL DESIGNED FOR A DIRECT LOAD OF 25 klf & A REBOUND LOAD OF 5 klf

WT 5 x 22.5 EMBEDDED IN SLAB TO SUPPORT METAL DECK. TYPICAL ALL ALONG DYER AVENUE

18" OVERLAP FOR WT
# MSE STRUCTURE SHOP DRAWINGS

Prepared For

BROOKFIELD PROPERTIES

---

**MANHATTAN WEST PLATFORM**

**TEMPORARY WALL**

NEW YORK, NEW YORK

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### INDEX

<table>
<thead>
<tr>
<th>SHEET</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Title Sheet</td>
</tr>
<tr>
<td>2.</td>
<td>Construction Requirements</td>
</tr>
<tr>
<td>3.</td>
<td>Plan View</td>
</tr>
<tr>
<td>4.</td>
<td>Typical Cross-Section</td>
</tr>
<tr>
<td>5.</td>
<td>Typical Details</td>
</tr>
</tbody>
</table>

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**Nov 9, 2012 – 3:45 PM**
CONSTRUCTION REQUIREMENTS FOR TENSAR TEMPORARY RETAINING WALL SYSTEM

1. PROJECT INTRODUCTION
2. TEMPORARY RETAINING WALL SYSTEM
3. SOIL CHARACTERISTICS
4. DESIGN PARAMETERS
5. DEPARTMENT OF BUILDINGS
6. DESIGN RESPONSIBILITY
7. RESPONSIBILITY OF THE CONTRACTOR
8. FOUNDAION PREPARATION
9. GEOTECHNICAL CONDITIONS
10. SETTLEMENT
11. GENERAL GUIDELINES

DEPT OF BLDGS Job Number / Scan Code

APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date/Time: Damian Titus
Nov 9, 2012 – 3:45 PM

1. PROJECT INTRODUCTION

The temporary retaining wall system shall be constructed in accordance with this manual. The system is designed to support temporary loads from the excavation. The installation, removal, and use of the system shall be performed in accordance with the instructions provided in this manual.

2. TEMPORARY RETAINING WALL SYSTEM

The temporary retaining wall system shall be designed, fabricated, and installed in accordance with the instructions provided in this manual. The system shall be capable of supporting temporary loads from the excavation.

3. SOIL CHARACTERISTICS

The soil characteristics shall be determined in accordance with the instructions provided in this manual. The soil shall be classified using the American Society of Testing and Materials (ASTM) classification system.

4. DESIGN PARAMETERS

The design parameters shall be determined in accordance with the instructions provided in this manual. The design shall be based on the soil characteristics and the loads expected from the excavation.

5. DEPARTMENT OF BUILDINGS

The Department of Buildings shall be consulted for any questions or concerns related to the installation of the temporary retaining wall system.

6. DESIGN RESPONSIBILITY

The contractor shall be responsible for the design of the temporary retaining wall system. The design shall be reviewed by the Department of Buildings.

7. RESPONSIBILITY OF THE CONTRACTOR

The contractor shall be responsible for the installation, maintenance, and removal of the temporary retaining wall system. The contractor shall be responsible for ensuring that the system is installed, maintained, and removed in accordance with the instructions provided in this manual.

8. FOUNDATION PREPARATION

The foundation preparation shall be performed in accordance with the instructions provided in this manual. The foundation shall be designed to support the loads expected from the excavation.

9. GEOTECHNICAL CONDITIONS

The geotechnical conditions shall be determined in accordance with the instructions provided in this manual. The geotechnical conditions shall be classified using the American Society of Testing and Materials (ASTM) classification system.

10. SETTLEMENT

The settlement of the temporary retaining wall system shall be monitored in accordance with the instructions provided in this manual. The settlement shall be measured using the methods described in this manual.

11. GENERAL GUIDELINES

The general guidelines shall be followed in the design, fabrication, and installation of the temporary retaining wall system. The general guidelines shall be reviewed by the Department of Buildings.
PLAN VIEW

NOT TO SCALE

BEGIN TEMPORARY WALL STA. 0+00.00

END TEMPORARY WALL STA. 2+38.75

EXIST, PAVED LOT
TYPICAL CROSS-SECTION
NOTES:
1. FACING TO CONSIST OF PRE-STRESS WIRE FACE 4" X 4" - W4D X W4D FORM.
2. ALL FORMS AND STRUTS WILL BE FABRICATED WITH BLACK WIRE.
3. OVERALL LENGTH OF WIRE FORMS IS 12'-0". EFFECTIVE CONSTRUCTED WIDTH IS 9'-6" WITH 4" OVER LAPPING AT ENDS.

POSITION TENSAR UNSTABLE GEOGRID IN ACCORDANCE WITH TYPICAL CROSS-SECTION.

1. SEE WELDED WIRE FORM (WUF) FACING UNIT DETAIL FOR FACING MATERIAL AND DIMENSIONAL.
2. ALL FACING UNITS SHALL BE FABRICATED FROM BLACK STEEL.
3. TWO LAYERS OF GEOTEXTILE SHALL BE INSTALLED IN EACH FACING UNIT COURSE.

WELDED WIRE FORM FACING UNIT

WELDED WIRE FORM OUTSIDE CORNER DETAIL

NOT TO SCALE
NOTE:
1. SEE Welded Wire Form (WWF) facing detail for facing materials and dimensions.
2. Set topmost WWF facing unit inside WWF facing unit below to follow grade.
3. Horizontal wires of topmost WWF facing unit may be cut to allow installation over struts of WWF facing unit below.

NESTED BASKET DETAIL
NOT TO SCALE

NOTE:
1. SEE Welded Wire Form (WWF) facing detail and WWF facing detail for facing materials and dimensions.
2. Install adjacent WWF facing units to provide 4" overlap of horizontal wires.

ALTERNATE TOP OF WWF WALL FINISHING DETAIL
NOT TO SCALE
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date/Time:
Damian Titus
Mar 27, 2013 – 1:19 PM
AMENDED APPLICATION

Date/Time: Mar 27, 2013 – 1:19 PM
MANHATTAN WEST PLATFORM
BLOCK 729, LOT 51, NEW YORK, NY
ISSUED FOR POST APPROVAL AMENDMENT
APRIL 12, 2017
S. YARD STEEL RELOCATION PROCEDURE

1. REMOVE EXISTING LAUNCHER BEAMS FOLLOWING PROCEDURE OUTLINED ON DRAWING S-527.
2. CONSTRUCT NEW FOOTINGS AND ROCK ANCHORS FURTHER NORTH OF EXISTING FOOTING (FRAMES 5, 6, 7 AND NEW BrACE FOOTING).
3. SURVEY AS BUILT LOCATION OF ROCK ANCHORS AND FABRICATE NEW COLUMN BASE PLATES TO SUIT AS BUILT ANCHOR LOCATIONS.
4. INSTALL LOWER LIFT OF NEW COLUMN AT FRAME 7 WITH SHOP WELDED BASE PLATE, AND TEMPORARY "Jacking Lugs".
5. INSTALL UPPER LIFT OF NEW COLUMN IN FRAME 7.
6. JACK COLUMNS PER PROCEDURES OUTLINED ON Dwg S-528.
7. REPEAT STEPS 4-6 FOR NEW COLUMNS IN FRAMES 5 & 6.
8. INSTALL NEW BRACING BETWEEN NEW COLUMNS (FRAMES 5, 6, 7).
9. INSTALL NEW DIAGONAL BRACE FROM TOP KP COLUMN AT FRAME 8 DOWN TO NEW FOOTING.
10. REMOVE EXISTING BRACING BETWEEN EXISTING COLUMNS (FRAMES 5, 6, 7).
11. REMOVE BRACING BETWEEN EXISTING COLUMNS (FRAMES 4 & 5).
12. REMOVE SOUTH PORTION OF EXISTING BEAMS (FRAMES 5, 6, 7).
13. REMOVE EXISTING SOUTH LAGS (FRAMES 5, 6, 7).
APPROVED
Under Directive 2 of 1975
Date:
Damian Titus
AMENDED APPLICATION
05/23/2017