ROOF PARAPET REPLACEMENT WITH RAILINGS

DIVISION 5 – METALS

This ***Standard Notice*** addresses the Procedure and Criteria to be considered for the removal of brick masonry parapets and replacement with steel roof railings.

INTRODUCTION

Ongoing brick masonry maintenance comes at a substantial cost to NYCHA. The elimination of brick masonry from the NYCHA portfolio will reduce future expenses associated with brick repointing and replacement, increase durability, decrease maintenance of the façade, and installation and maintenance of expensive sidewalk sheds. The following Code references shall be considered during the design and installation of roof railings:

- 2014 NYCBC Section 1509.8
- 2014 NYCBC Section 1012
- 2014 NYCBC Section 1607.7

DESIGN TO REPAIR APPROACH

The NYCHA standard detail as suggested in the attached detail drawings proposes the attachment of railing posts to the roof level spandrel beam with resin anchors. The posts consist of two steel pipe components, i.e., the base, which attaches to the building structure and the main post portion which bolts to the base. The base portion penetrates the roofing system and shall be sized to allow for flashing as per roofing manufacturers requirements for warrantable penetrations.

The horizontal top and bottom rails consist of steel piping as well sized to resist the code mandated hand rail loads. The area between the horizontal rails is filled either with smaller, welded, vertical steel pipes or prefabricated panels made of a steel angle frame and expanded metal mesh infill. The infill could be any other material such as metal weave or chain link. The railing system design shall consider wind loading criteria accordingly.

All steel components shall be galvanized. The contact between dissimilar metals shall be avoided.

Three conditions shall be considered.

A. Parapet removal/replacement at a building with existing roofing in place
B. Parapet removal/replacement at a building with a recently replaced roofing
C. Parapet removal/replacement as part of roofing replacement

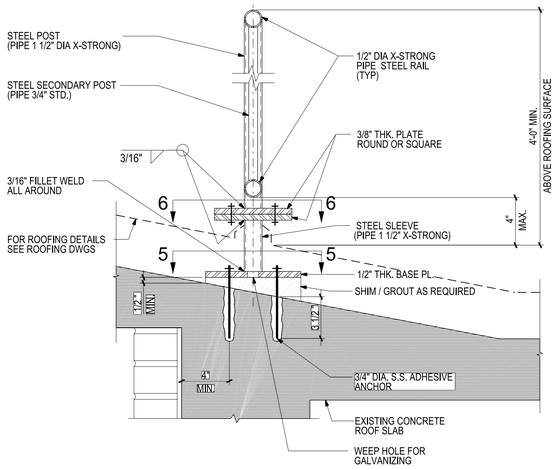
Replacement of parapet with railing at a building with existing roofing stays in place will be required for parapet walls found with extensive damage reported per TR6 report per Local Law 11 or as found otherwise.

Where a roof was recently replaced, the designer shall coordinate the rail replacement details with the roofing manufacturer such that the roofing warranty is not voided. An installation sequence shall be developed and proposed by the designer which will maintain the roofing warranty as well as protect the building against water infiltration at all times during construction.

Replacement of parapet with the railing as part of the roof replacement shall be preferred.

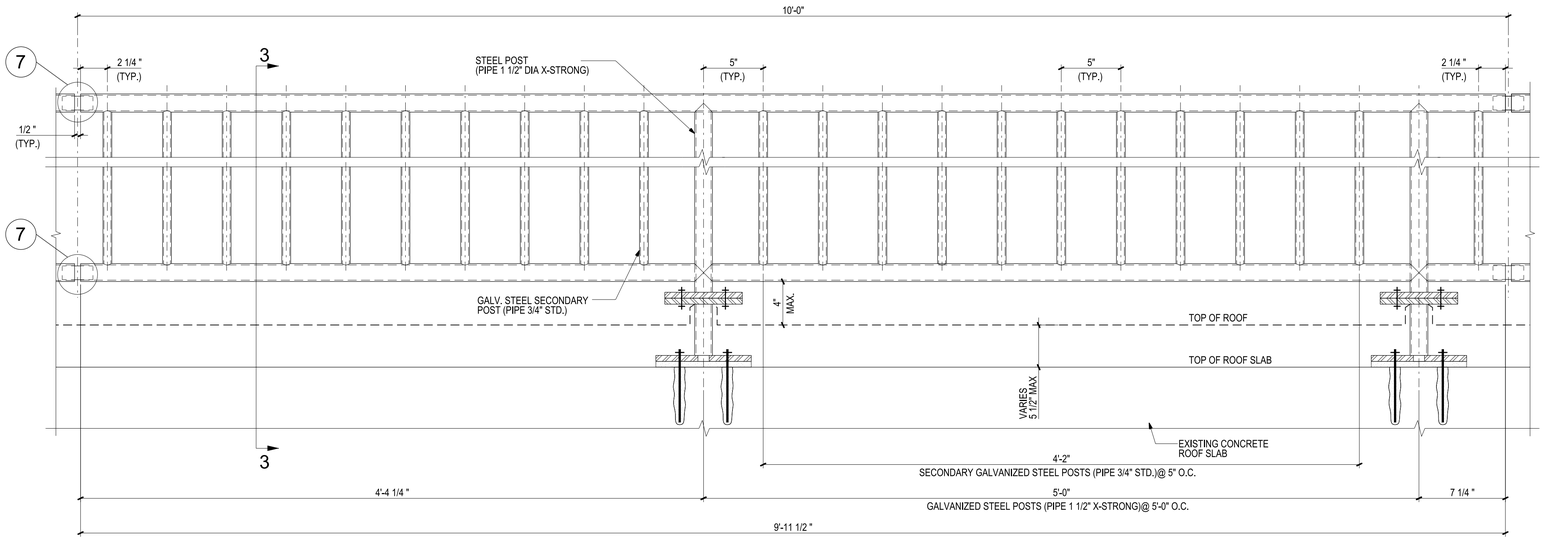
Attachments: Drawing S.001 – Typical Roof Railing Details
Drawing S.002 – Typical Roof Railing Details
Drawing S.003 – Roofing and Fascia Details
Drawing S.004 – Sequence for Temporary Waterproofing

*****End of Standard Notice #2016001*****



3 SECTION OF PARAPET ROOF RAILING WITH SECONDARY POSTS

SCALE: 2" = 1'-0"



1 ELEVATION OF PARAPET ROOF RAILING WITH SECONDARY POSTS

SCALE: 2" = 1'-0"

NOTE:

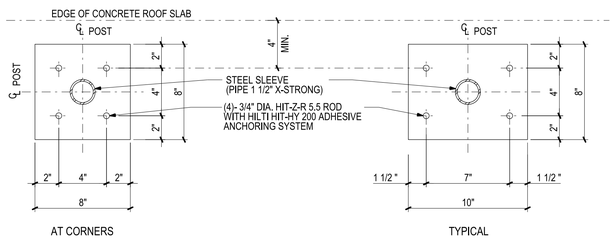
FOR INFORMATION NOT SHOWN SEE DETAIL 3.

4 SECTION OF PARAPET ROOF RAILING WITH WIRE MESH PANELS

SCALE: 2" = 1'-0"

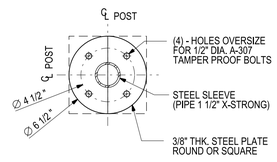
2 ELEVATION OF NEW PARAPET ROOF RAILING WITH FRAME/MESH PANELS

SCALE: 2" = 1'-0"



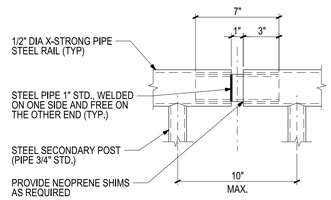
5 STEEL BASE PLATE DETAIL

SCALE: 2" = 1'-0"



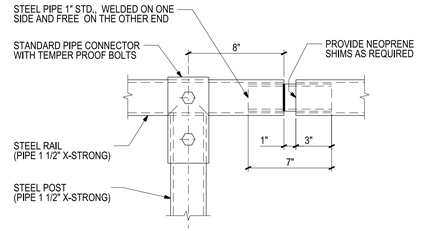
6 STEEL CONNECTION PLATE DETAIL

SCALE: 2" = 1'-0"



7 RAIL CONNECTION DETAIL

SCALE: 1" = 1'-0"



8 RAIL CONNECTION DETAIL

SCALE: 1" = 1'-0"

NOTES:

1. ALL STEEL INCLUDING BOLTS TO BE HOT DIPED GALVANIZED.
2. ALL CONNECTIONS TO BE FIELD BOLTED.
3. ALL WELDING IS TO BE CARRIED OUT IN THE SHOP. FIELD WELDING IS ALLOWED ONLY WITH WRITTEN APPROVAL OF THE E.O.R.
4. HEIGHT OF POST STUB TO BE COORDINATED WITH THE THICKNESS OF THE ROOF BUILD-UPHEIGHT NOT TO EXCEED 6".
5. RAILS MAY BE FABRICATED IN SINGLE PANELS OR LARGER.
6. TUBE & PANEL TYPE ROOF RAIL SYSTEM SHOWN FOR SCHEMATIC PURPOSES ONLY,CONSULTANT TO CONFIRM FINAL DESIGN

NEW YORK CITY HOUSING AUTHORITY
CAPITAL PROJECTS DIVISION
OFFICE of DESIGN
TEL. 212.306.3000 FAX 212.306.5160
90 Church Street
New York, New York 10007

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BY Date	Rev. No.	Submissions

Development:
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Building Address:
123 MAIN STREET
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Borough of: Staten Island
ORACLE No.: 9999

Key/Location Plan

Zone No.: R-XX **Zoning Map No.:** 00x
Block No.: 0000 **Lot No.:** 0
E.D.P. No.: 000
Development No.: NY00XXXX

Contract Title:

Contract No.: CM0000000

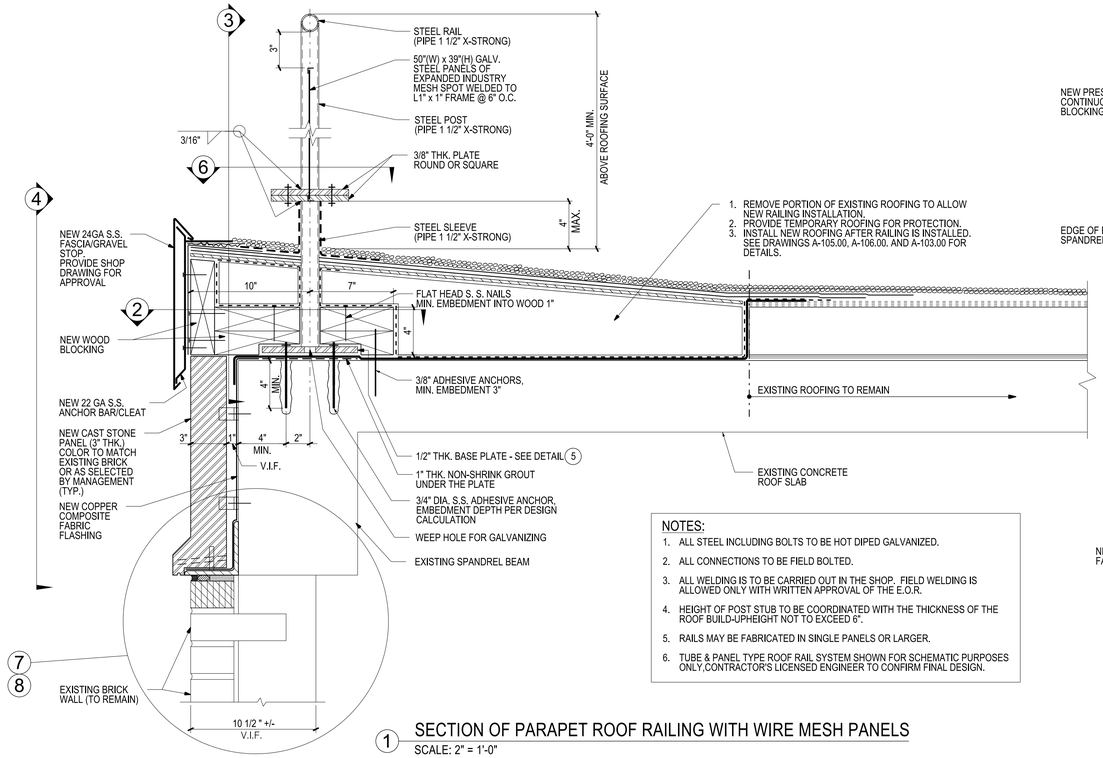
Drawing Title:
TYPICAL ROOF RAILING DETAILS

Seal & Signature:

Drawn By:	Tanna Melnikov
Checked By:	Nitin Saraiya
Date:	Nov. 00, 2014
Scale:	

Drawing No.:
S-001.00

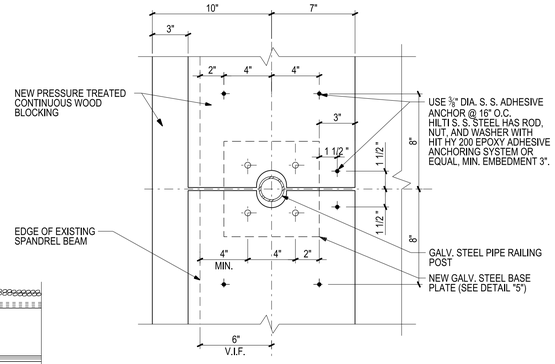
Sheet XX of XX



1 SECTION OF PARAPET ROOF RAILING WITH WIRE MESH PANELS
SCALE: 2" = 1'-0"

NOTES:

1. ALL STEEL INCLUDING BOLTS TO BE HOT DIPED GALVANIZED.
2. ALL CONNECTIONS TO BE FIELD BOLTED.
3. ALL WELDING IS TO BE CARRIED OUT IN THE SHOP. FIELD WELDING IS ALLOWED ONLY WITH WRITTEN APPROVAL OF THE E.O.R.
4. HEIGHT OF POST STUB TO BE COORDINATED WITH THE THICKNESS OF THE ROOF BUILD-UPHEIGHT NOT TO EXCEED 6".
5. RAILS MAY BE FABRICATED IN SINGLE PANELS OR LARGER.
6. TUBE & PANEL TYPE ROOF RAIL SYSTEM SHOWN FOR SCHEMATIC PURPOSES ONLY,CONTRACTOR'S LICENSED ENGINEER TO CONFIRM FINAL DESIGN.



2 WOOD BLOCKING SECTION
SCALE: 2" = 1'-0"

NOTES:

A. DEMOLITION OF PARAPET WALL AND TEMPORARY PROTECTION

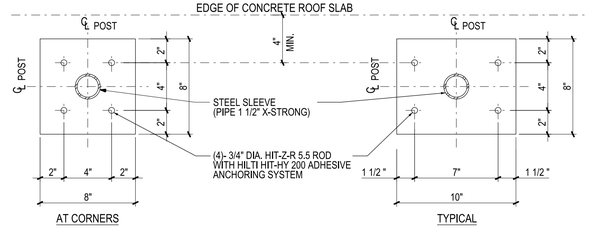
1. BEFORE DISMANTLING THE PARAPET WALL, A STURDY WOOD/METAL ENCLOSURE 8FT. HIGH AND AT LEAST 200 S.FT. SHALL BE BUILT ON ROOF AREA IN SUCH A WAY THAT IT DOES NOT DAMAGE THE ROOFING OR BULKHEADS AND IS NOT PASSABLE BY TENANTS/GENERAL PUBLIC. SHOP DRAWINGS SHALL BE SUBMITTED TO THE AUTHORITY'S REPRESENTATIVE FOR APPROVAL.
2. REMOVE EXISTING COPINGS AND EXISTING CAP FLASHING AND THE EXISTING DOWELS AND ROOFING.
3. CUT AND PROTECT THE ROOFING AS SHOWN IN CONTRACT DRAWING A-106.00 "SEQUENCE FOR TEMPORARY WATERPROOFING AND PROTECTION OF ROOF AND EDGE DURING PARAPET REMOVAL AND REPLACEMENT". BEFORE REMOVING ANY PART OF ROOFING, CONTACT THE ROOFING INSTALLER TO MAKE SURE THAT WARRANTY ON ROOFING DOES NOT GET VOIDED IF IT IS NOT TO BE REPLACED.
4. FOR PARAPET WALL WITH CONCRETE DECK ROOF, REMOVE EXISTING PARAPET WALL INCLUDING ALL BRICK COURSES BELOW CONCRETE SPANDREL TO ONE COURSE BELOW EXISTING SHELF ANGLE/WINDOW LINTEL.
5. REMOVE OLD MORTAR FROM TOP OF SPANDREL BEAM OR MASONRY WALL AND CLEAN ALL SURFACES.
6. REMOVE THE EXISTING WATERPROOFING AND CAULKING.
7. IF THE EXISTING SPANDREL FLASHING/WATERPROOFING/CAULKING IS TESTED POSITIVE FOR ASBESTOS, IT SHALL BE REMOVED AS PER ACM PROTOCOLS.

B. BUILDING PARAPET METAL RAILING.

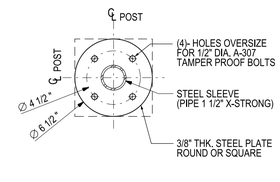
1. INSTALL METAL BASE PLATE FOR THE RAILING PIPE SLEEVE ON CONCRETE SPANDREL BEAM.
2. INSTALL NEW CAST STONE PANEL ON THE FACE OF CONCRETE SPANDREL. BUILD HORIZONTAL EXPANSION JOINT AT NEW SHELF ANGLE. REPAIR/PURGE CONCRETE SPANDREL BEAM IF REQUIRED AS PER TYPICAL DETAIL.
3. INSTALL WOOD BLOCKING TO FORM A SLOPE ALONG THE ROOF EDGE ABOVE THE NEW CAST STONE PANEL AND THE METAL BASE PLATE.
4. INSTALL NEW ROOF RAILING.
5. INSTALL NEW METAL FASCIA.
6. IMMEDIATELY FOLLOWING THE INSTALLATION OF NEW PIPE RAILING AND WALL FASCIA, INSTALL ENTIRE NEW ROOFING IN AFFECTED AREA PER DETAIL ON DRAWINGS A-105.00 AND A-106.00.

C. SHOP DRAWINGS

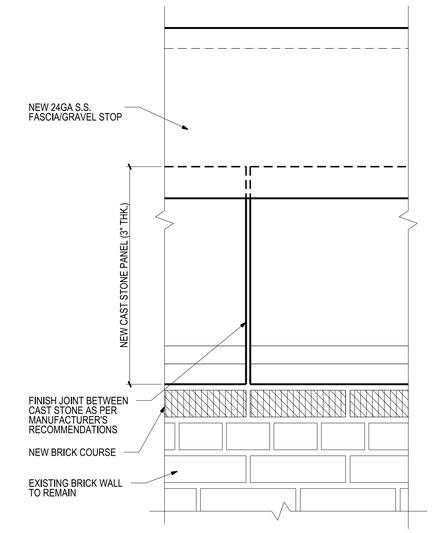
1. CONTRACTOR TO SUBMIT THE SHOP DRAWINGS FOR THE TYPE AND INSTALLATION OF RAILING AND CAST STONE PANEL TO NYCHA REPRESENTATIVE FOR APPROVAL.
2. CONTRACTOR TO SUBMIT THE SHOP DRAWINGS FOR TEMPORARY ROOF PROTECTION AS REQUIRED DURING DEMOLITION AND CONSTRUCTION.
3. CONTRACTOR TO SUBMIT DESIGN CALCULATIONS FOR SHELF ANGLE, ANCHORS FOR SHELF ANGLE, NEW RAILING SYSTEM, ANCHORS FOR BASE PLATE, AND ANCHORS FOR NEW CAST STONE PANELS.



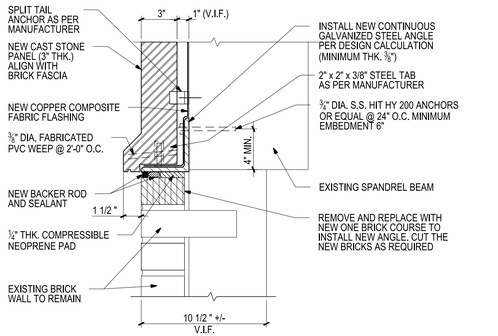
5 STEEL BASE PLATE DETAIL
SCALE: 2" = 1'-0"



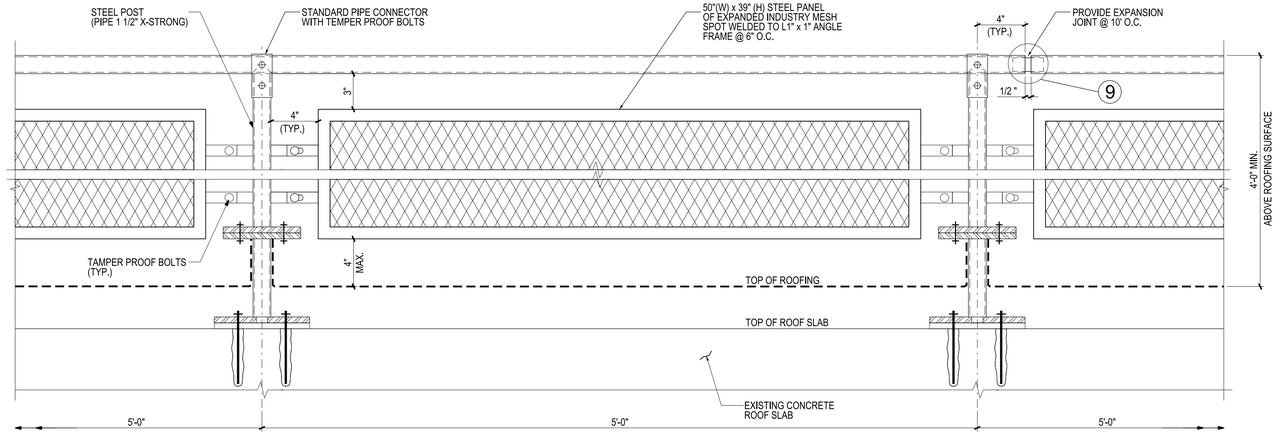
6 STEEL PLATES CONNECTION DETAIL
SCALE: 2" = 1'-0"



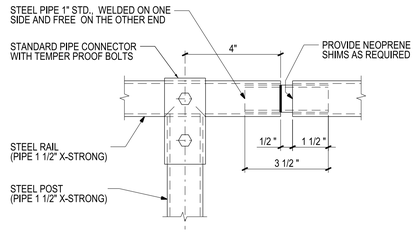
4 ELEVATION OF NEW CAST STONE PANEL
SCALE: 2" = 1'-0"



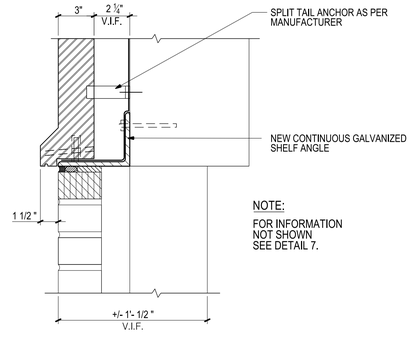
7 INSTALLATION DETAIL (SOLID WALL, BETWEEN WINDOWS)
SCALE: 2" = 1'-0"



3 ELEVATION OF NEW PARAPET ROOF RAILING WITH FRAME/MESH PANELS
SCALE: 2" = 1'-0"



9 RAIL CONNECTION DETAIL
SCALE: 1" = 1'-0"



8 INSTALLATION DETAIL (CAVITY WALL, BETWEEN WINDOWS)
SCALE: 2" = 1'-0"

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TYPICAL ROOF RAILING DETAIL
Seal & Signature:

Drawn By:	Tanna Melnikov
Checked By:	Nitin Saraiya
Date:	Nov. 00, 2014
Scale:	
Drawing No.:	S-002.00

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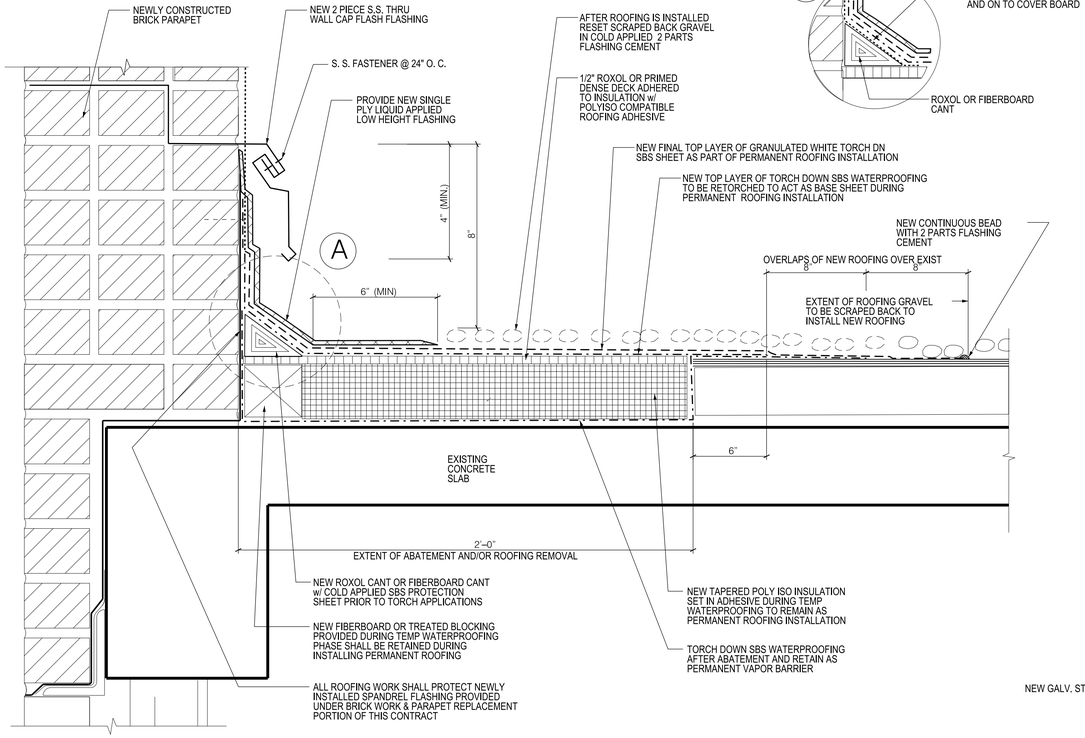
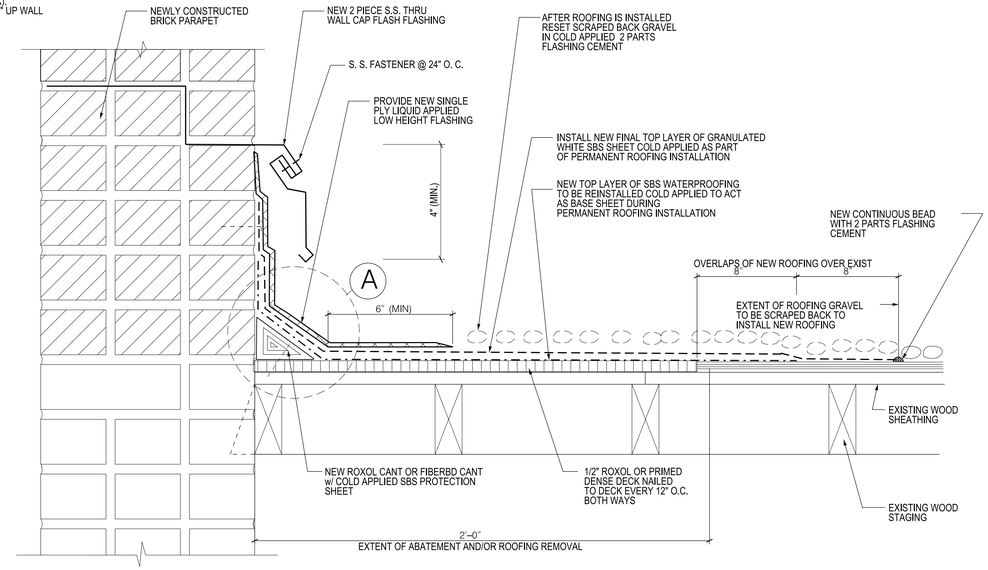


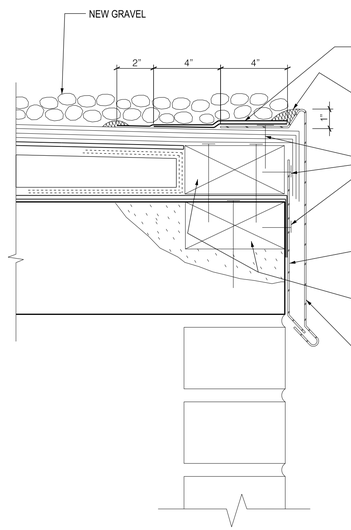
1 ROOFING & FLASHING DETAIL FOR NEW PARAPET (CONCRETE DECK)

NTS



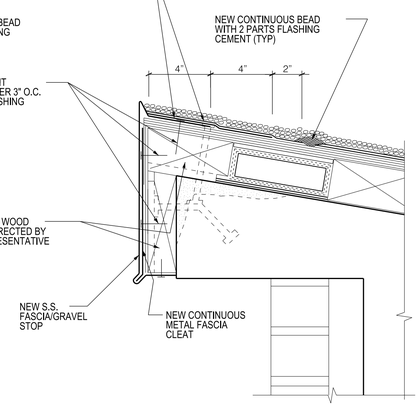
2 FLASHING DETAIL FOR NEW PARAPET (WOOD DECK)

NTS



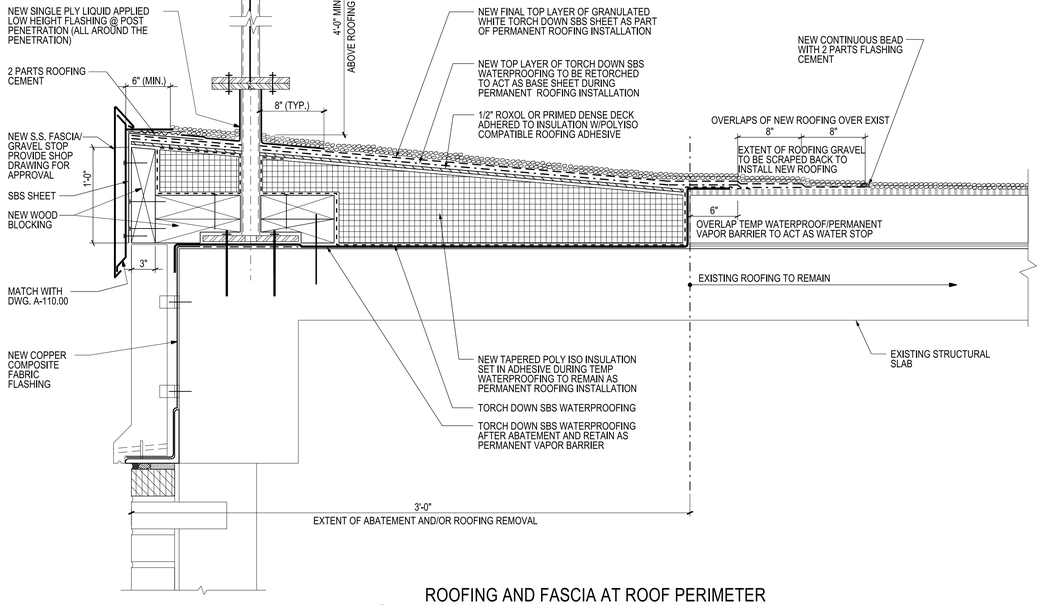
3 FASCIA GRAVEL STOP REPLACEMENT AT BULKHEAD ROOF

NTS



4 FASCIA GRAVEL STOP REPLACEMENT AT MAIN ROOF

NTS



5 ROOFING AND FASCIA AT ROOF PERIMETER WHEN PARAPET WALL REPLACED WITH NEW RAILING

NTS

NOTES:

1. AFTER ROOFING IS INSTALLED, RESET SCRAPED BACK GRAVEL OR INSTALL NEW GRAVEL IN COLD APPLIED CEMENT AS DIRECTED BY AUTHORITY'S REPRESENTATIVE
2. WHERE EXISTING PARAPET WALL TO REMAIN AT ENDS OF NEW RAILING, EXTEND THE NEW LIQUID APPLIED BASE FLASHING BY 12" ON EXISTING ADJACENT BASE FLASHING. INSTALL NEW CAP FLASHING MATCHING EXISTING CAP FLASHING.
3. FOR NEW RAILING DETAIL, SEE DWG A-110.00.

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Block No.: 0000 **Lot No.:** 0
E.D.P. No.: 000
Development No.: NY00XXXX

Contract Title:

Contract No.: CM0000000

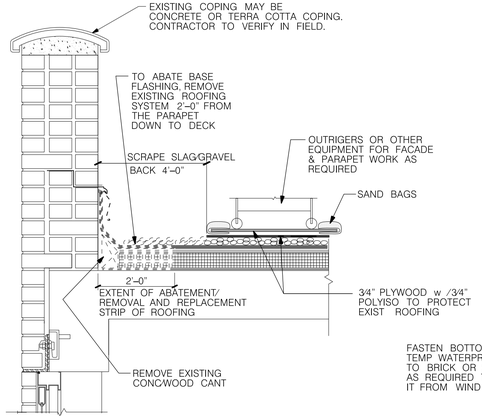
Drawing Title:
ROOFING AND FASCIA DETAILS

Seal & Signature:

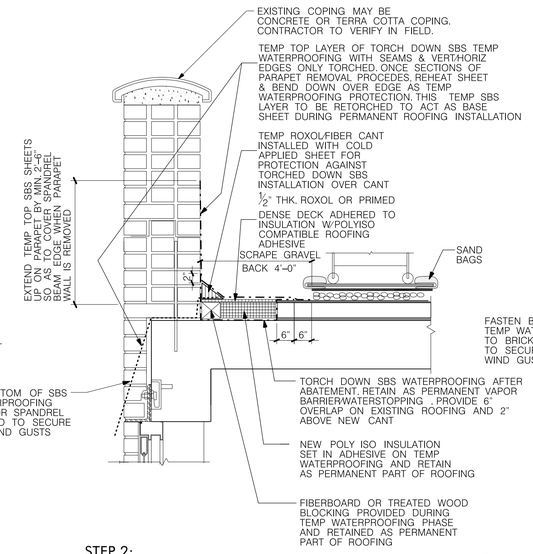
Drawn By:	Tanna Melnikov
Checked By:	Nitin Saraiya
Date:	Nov. 00, 2014
Scale:	

Drawing No.:
S-003.00

Sheet XX of XX

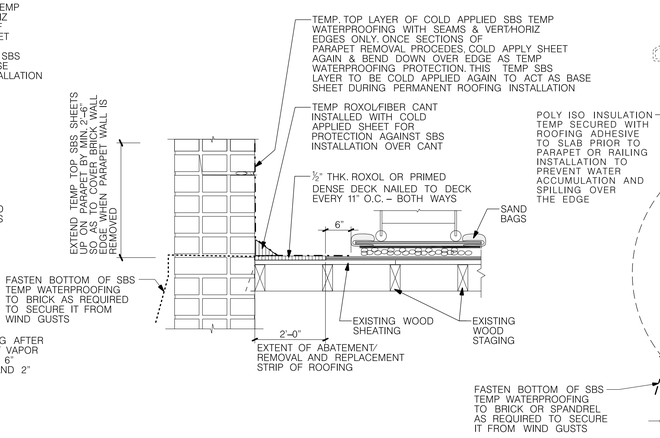


STEP 1:
SETTING UP PROTECTION TO EXISTING ROOF & ABATEMENT OF BASE FLASHING (CONCRETE DECKS OR WOOD DECKS)

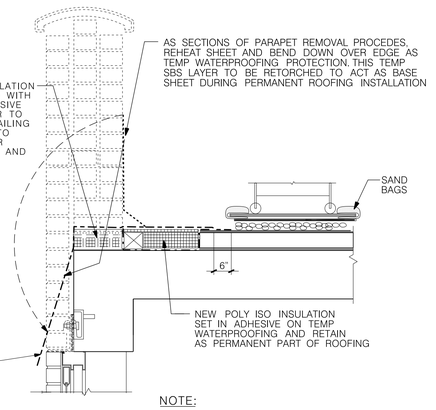


STEP 2:
TEMPORARY WATERPROOFING (CONCRETE DECKS)

OR



STEP 2:
TEMPORARY WATERPROOFING (WOOD DECKS)



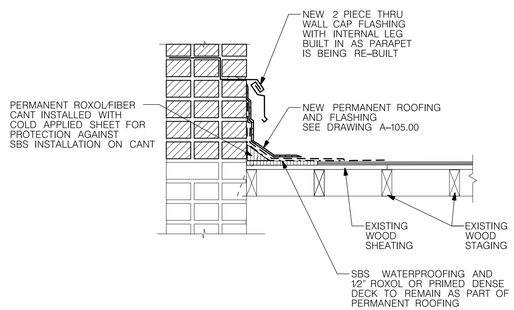
NOTE:

SIMILAR TREATMENT FOR WOOD DECK. INSTEAD OF INSULATION, PROVIDE 1/2" THK. ROXOL OR PRIMED DENSE DECK AND INSTEAD OF TORCH DOWN USE COLD APPLIED METHOD.

STEP 3:
PARAPET REMOVAL AND TEMPORARY WATERPROOFING (CONCRETE DECKS)

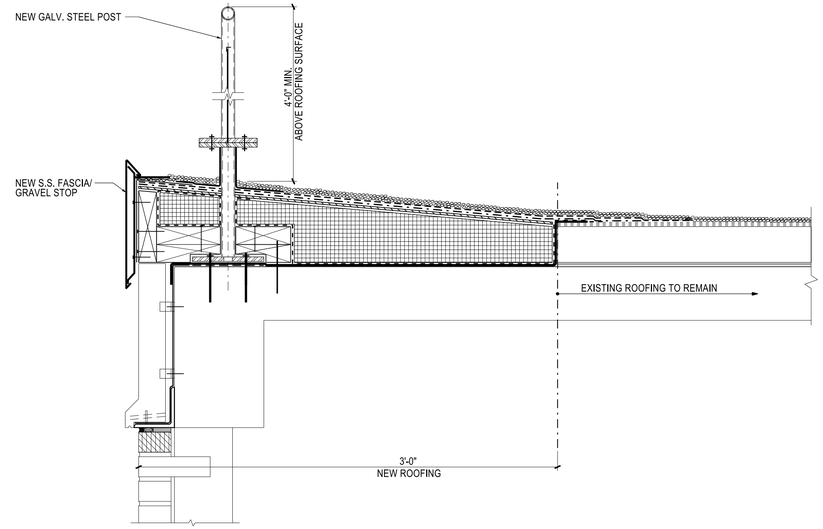
STEP 4:
PERMANENT ROOFING @ CONC DECKS AFTER SECTIONS OF PARAPET ARE REPLACED

OR



STEP 4:
PERMANENT ROOFING @ WOOD DECKS AFTER SECTIONS OF PARAPET ARE REPLACED

OR



STEP 4:
PERMANENT ROOFING w/ RAILING REPLACEMENT AFTER PARAPET HAS BEEN REMOVED

FOR NEW RAILING DETAIL SEE DWG A-110.00

NOTE: FOR NEW PARAPET WALL DETAILS SEE DWG A-103.00, DETAILS 13,14 & 15

REPAIR STEPS:

1. THESE DETAILS ARE FOR CONTRACTOR'S REFERENCE ONLY.
2. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY WATERTIGHT PROTECTION DURING THE CONSTRUCTION WORK.
3. CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHOD OF ROOF PROTECTION.
4. A STURDY WOOD/METAL ENCLOSURE 8 FT. HIGH AND AT LEAST 200 S.F. ROOF AREA SHALL BE BUILT IN SUCH A WAY THAT IT DOES NOT DAMAGE THE ROOFING OR BULKHEADS, AND IS NOT PASSABLE BY TENANTS OR GENERAL PUBLIC BEFORE DISMANTLING THE PARAPET WALL. SHOP DRAWINGS SHALL BE SUBMITTED TO THE AUTHORITY'S REPRESENTATIVE FOR APPROVAL.

SEQUENCE FOR TEMPORARY WATERPROOFING & PROTECTION OF ROOF & EDGE DURING ASBESTOS ABATEMENT & PARAPET REMOVAL/REPLACEMENT

NTS

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Contract No.: CM0000000

Drawing Title:
SEQUENCE FOR TEMPORARY WATERPROOFING AND PROTECTION OF ROOF & EDGE DURING PARAPET REMOVAL AND REPLACEMENT

Seal & Signature:

Drawn By:	Tanna Melnikov
Checked By:	Nitin Saraiya
Date:	Nov. 00, 2014
Scale:	

Drawing No.: S-004.00

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