A. GENERAL:

1. THE STRUCTURAL DRAWINGS FOR THIS PROJECT ARE NOT ISSUED FOR BID UNLESS THE INDIVIDUAL SHEETS ARE IDENTIFIED AS "ISSUED FOR BID".
2. THE STRUCTURAL DRAWINGS FOR THIS PROJECT ARE NOT ISSUED FOR CONSTRUCTION UNLESS THE INDIVIDUAL SHEETS ARE IDENTIFIED AS "ISSUED FOR CONSTRUCTION".

B. CODES AND STANDARDS:

1. THE FOLLOWING CODES AND STANDARDS, INCLUDING ALL SPECIFICATIONS REFERENCED WITHIN, SHALL APPLY TO THE DESIGN, CONSTRUCTION, QUALITY CONTROL AND SAFETY OF ALL WORK PERFORMED ON THE PROJECT. USE THE VERSION REFERENCED IN THE BUILDING CODE UNLESS NOTED OTHERWISE.

   a. BUILDING CODE: 2022 NEW YORK CITY BUILDING CODE
   b. "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES", ASCE 7-22, AMERICAN SOCIETY OF CIVIL ENGINEERS.
   c. "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", ACI 318-19, AMERICAN CONCRETE INSTITUTE.
   d. "ACI MANUAL OF CONCRETE PRACTICE - PARTS 1 THROUGH 6.
   e. "MANUAL OF STANDARD PRACTICE", CONCRETE REINFORCING STEEL INSTITUTE.
   f. "STRUCTURAL WELDING CODE - STEEL", AWS D1.1
      "STRUCTURAL WELDING CODE - STAINLESS STEEL", AWS D1.6
   g. "NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION w/ 2005 SUPPLEMENT",NDS,AMERICAN FOREST & PAPER ASSOC.

C. DESIGN LOADS:

1. GRAVITY LOADS: NEW WOOD FRAMING HAS BEEN DESIGNED FOR THE SELF WEIGHT OF THE FRAMING AND 100 PSF LIVE LOAD.
2. GUARD RAILS: DESIGNED FOR 50 POUNDS PER LINEAR FOOT OR A 200 POUND POINT LOAD ACTING IN ANY DIRECTION AT 42" ABOVE FINISHED FLOOR.

D. 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 (TYP., U.N.O.; SEE BELOW)
   ASTM C150; TYPE II FOR CONCRETE IN CONTACT WITH EARTH

3. CONCRETE: CONCRETE SHALL HAVE THE FOLLOWING ENGINEERING PROPERTIES
   a. COMPRESSIVE STRENGTH, W/C RATIO & UNIT WEIGHT

LOCATION	f'c @ 28 DAYS (PSI)	w/c (MAX PERMITTED)
ALL CONCRETE, U.N.O.	4500	0.45

   b. AIR ENTRAINMENT:
      1. CONCRETE LISTED IN TABLE "A" SHALL BE AIR ENTRAINED WITH THE APPROPRIATE PERCENTAGE AIR CONTENT LISTED IN TABLE "B" AS APPLICABLE FOR THE INDICATED EXPOSURE CLASS AND NOMINAL MAXIMUM AGGREGATE SIZE IN THE CONCRETE MIX. THE REQUIRED AIR CONTENT VALUE MAY BE REDUCED BY 1% FOR ALL CONCRETE WITH COMPRESSIVE STRENGTH GREATER THAN 5,000 PSI. THE PERMITTED TOLERANCE ON THE REQUIRED AIR CONTENT IS ±1.5 PERCENT. SEE ACI 318 FOR ADDITIONAL REQUIREMENTS.

TABLE "A"

LOCATION	EXPOSURE CLASS**
ALL CONCRETE	F2

** REFER TO ACI 318

TABLE "B"

NOMINAL MAXIMUM AGGREGATE SIZE	REQD. AIR CONTENT EXPOSURE CATEGORY	
	F1	F2 & F3
3/8"	6%	7.5%
1/2"	5.5%	7%
3/4"	5%	6%
1"	4.5%	6%

4.REINFORCING STEEL:

DEFORMED REINFORCING BARS	ASTM A615, GRADE 60
EPOXY COATED REINF. BARS	ASTM A775

EPOXY COAT ALL REINFORCING STEEL

5. STRUCTURAL STEEL:

CHANNELS, ANGLE, PLATES & BARS	ASTM A36 (Fy=36 ksi) U.N.O. ASTM A572, GR 50 WHERE INDICATED
ROUND PIPE	ASTM A53, GRADE "B" Fy = 35 KSI
ROUND HSS	ASTM A500, GRADE "C" Fy = 46 KSI
SQUARE & RECTANGULAR HSS's	ASTM A500, GRADE "C" Fy = 50 KSI
HIGH STRENGTH BOLTS	ASTM A325 TYP, U.N.O. & ASTM A490 WHERE INDICATED
ROUND RODS & THREADED RODS	ASTM A36 U.N.O. ASTM A572, GR 50 WHERE INDICATED
WELDING ELECTRODES	AWS A5.1 OR A5.5, E70XX

6. POST-INSTALLED ANCHORS

EXPANSION BOLTS INTO CONCRETE	HILTI KWIK BOLT TZ
SCREW ANCHORS INTO CONCRETE	HILTI KWIK HUS EZ
ADHESIVE ANCHORS INTO CONCRETE	HILTI HIT HY 200 SAFE SET WITH HILTI HIT Z-ROD or HILTI HIT HY 200 SAFESET W/ HOLLOW DRILL BIT W/ HILTI HAS- E THREADED ROD or HILTI HIT RE 500 SD W/ HILTI HAS –E THREADED ROD FOR ALL ADHESIVE ANCHORS, HOLES SHALL BE HAMMER DRILLED AND HOLES MAY BE DRY OR WATER SATURATED
EXPANSION ANCHORS INTO GROUT FILLED CONCRETE BLOCK	HILTI KWIK BOLT 3
SCREW ANCHORS LARGER > 1/4" DIA. INTO CONCRETE OR GROUT FILLED CONCRETE BLOCK	HILTI KWIK HUS EZ

a. ALTERNATIVE ANCHORS MAY BE USED IF APPROVED IN WRITING BY THE STRUCTURAL ENGINEER. THE CONTRACTOR SHALL SUBMIT CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROJECT'S JURISDICTION VERFIYING THAT PROPOSED ALTERNATIVE ANCHORS WILL PROVIDE THE SAME OR GREATER LOAD CARRYING CAPACITY AS THE SPECIFIED ANCHORS. THE CONTRACTOR SHALL SUBMIT ICC ESR REPORTS. EACH ANCHOR CONFIGURATION SHALL BE EVALUATED AND COMPARED TO THE SPECIFIED ANCHOR.

b. ALL ANCHORS SHALL ASSUME THE CRACKED CONCRETE DESIGN CONDITION, U.N.O.

c. POST-INSTALLED ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII).

d. THE CONTRACTOR SHALL ARRANGE FOR AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ON SITE INSTALLATION TRAINING FOR EACH SPECIFIED ANCHOR TYPE. THE STRUCTURAL ENGINEER OF RECORD SHALL RECEIVE DOCUMENTATION VERIFYING THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS HAVE BEEN TRAINED PRIOR TO COMMENCEMENT OF INSTALLING ANCHORS.

e. INSTALLATION OF ADHESIVE ANCHORS SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY AN APPROVED CERTIFICATION PROGRAM. CERTIFICATION SHALL INCLUDE WRITTEN AND PERFORMANCE TESTS IN ACCORDANCE WITH THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM OR EQUIVALENT. THE ACCEPTABILITY OF CERTIFICATIONS OTHER THAN THE ACI/CRSI ADDHESIVE INSTALLER CERTIFIFICATION WILL BE DETERMINED BY THE STRUCTURAL ENGINEER OF RECORD.

f. CONCRETE SHALL HAVE ACHIEVED DESIGN STRENGTH PRIOR TO INSTALLING POST-INSTALLED ANCHORS. ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE THAT HAS CURED FOR A MINIMUM OF 21 DAYS.

g. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ANCHORS AND PROXIMITY OF ANCHORS TO EDGES OF CONCRETE OR MASONRY. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.

h. POST-INSTALLED ANCHORS SHALL BE INSTALLED IN A MANNER THAT DOES NOT DAMAGE REINFORCING STEEL. REINFORCING STEEL SHALL BE LOCATED BY NON-DESTRUCTIVE MEANS PRIOR TO DRILLING HOLES. PLATES AND BRACKETS THROUGH WHICH ANCHORS WILL BE INSTALLED SHALL NOT BE FABRICATED UNTIL AFTER REINFORCING STEEL IS LOCATED AND ANCHOR LOCATIONS ARE ADJUSTED. CONTRACTOR SHALL NOTIFY STRUCTURAL ENGINEER TO OBTAIN ALTERNATIVE ANCHOR LAYOUT WHERE ANCHORS MUST BE RELOCATED TO AVOID INTERFERENCE WITH REINFORCING STEEL.

i. ADHESIVE ANCHORS SHALL BE INSTALLED WITH A 6" EMBEDMENT DEPTH UNLESS NOTED OTHERWISE. ANCHORS OTHER THAN ADHESIVE ANCHORS SHALL BE INSTALLED WITH AN EMBEMENT DEPTH EQUAL TO THE MAXIMUM EMBEDMENT DEPTH NOTED IN THE MANUFACTURER'S PRODUCT TECHNICAL GUIDE UNLESS NOTED OTHERWISE. WHERE EMBEDMENT DEPTH IS SPECIFIED, THAT DEPTH IS THE REQUIRED FINAL EFFECTIVE MINIMUM EMBEDMENT DEPTH.

j. POST INSTALLED ANCHORS SHALL BE INSPECTED PERIODICALLY DURING INSTALLATION PER CHAPTER 17 OF IBC2021, UNLESS NOTED OTHERWISE.

k. ADHESIVE ANCHORS INSTALLED IN VERTICAL SURFACES OR IN OVERHEAD OR UPWARDLY INCLINED ORIENTATIONS SHALL BE CONTINUOUSLY INSPECTED DURING INSTALLATION PER ACI 318.

l. INSPECTIONS SHALL BE PERFORMED BY A SPECIAL INSPECTOR WHO HAS BEEN APPROVED BY THE BUILDING OFFICIAL. THE SPECIAL INSPECTOR SHALL VERIFY THAT ALL ANCHORS WERE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, THE APPLICABLE ICC ESR REPORTS AND THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. THE INSPECTION SHALL INCLUDE VERIFICATION OF ANCHOR SPACING, EMBEDMENT AND EDGE DISTANCE REQUIREMENTS.

7. WOOD FRAMING:

a. TIMBER (SAWN LUMBER):
   ALL SAWN LUMBER SHALL HAVE 19% MAX. MOISTURE CONTENT AND SHALL BE SURFACE DRY IN THE FOLLOWING SPECIES AND GRADES:

FRAMING	SPECIES	GRADE
STUDS	SPRUCE-PINE-FIR	NO. 2
BEAMS, HEADERS & ALL OTHER FRAMING	HEM-FIR	NO. 2

b. LAMINATED VENEER LUMBER:
   TRUS JOIST MICROLAM LVL's MANUFACTURED BY WEYERHAEUSER
   BEAMS: GRADE 1.9; E = 1,900,000 PSI; Fb = 2,600 PSI; Fv = 285 PSI

c. PARALLEL STRAND LUMBER:
   PARALLAM PSL AS MANUFACTURED BY ILEVEL BY WEYERHAEUSER
   BEAMS: GRADE 2.0E; E = 2,000,000 PSI; Fb = 2,900 PSI; Fv = 290 PSI
   COLUMNS: GRADE 1.8E; E = 1,800,000 PSI; Fb = 2,400 PSI; Fv = 190 PSI

d. LAMINATED STRAND LUMBER:
   TRUS JOIST TIMBERSTRAND LSL's MANUFACTURED BY WEYERHAEUSER
   BEAMS/COLUMNS: GRADE 1.3E; E=1,300,000 PSI; Fb=1,700 PSI; Fv=400 PSI

e. PRESERVATIVE TREATED PARALLEL STRAND LUMBER
   TRUS JOIST PARALLAM PLUS PSL's MANUFACTURED BY WEYERHAEUSER
   SERVICE LEVEL "SL 2"
   BEAMS: E = 1,460,000 PSI; Fb = 1827 PSI; Fv = 197 PSI
   COLUMNS: E = 1,314,000 PSI; Fb = 1512 PSI; Fv = 120 PSI

g. NAILS: ALL NAILS SHALL BE COMMON NAILS, STAINLESS STEEL U.N.O.

h. STRUCTURAL CONNECTORS:
   STRUCTURAL CONNECTORS FOR WOOD CONSTRUCTION MANUFACTURED BY SIMPSON STRONG-TIE COMPANY. STAINLESS STEEL.

E. CONSTRUCTION:

1. GENERAL:

a. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL REVIEW THE STRUCTURAL CONTRACT DOCUMENTS AND SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY CONFLICTS BETWEEN THOSE DOCUMENTS AND ANY SAFETY REGULATIONS. SUCH REVIEW AND NOTIFICATION SHALL OCCUR PRIOR TO PRODUCTION OF SHOP DRAWINGS.

b. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALLOWABLE CONSTRUCTION LOADS, FOR PROTECTING THE COMPLETED STRUCTURAL FRAMING FROM DAMAGE DUE TO TEMPORARY CONSTRUCTION LOADINGS, FOR DETERMINING SEQUENCES OF CONSTRUCTION, AND FOR DETERMINATION, DESIGN AND INSTALLATION OF ALL FALSEWORK, FORMWORK, STAGING, TEMPORARY BRACING, SHEETING AND SHORING NECESSARY FOR CONSTRUCTION.

c. ALL SUBMITTALS, INCLUDING SHOP DRAWINGS SHALL BE SUBMITTED ELECTRONICALLY IN PDF FORMAT.

d. COSTS OF INVESTIGATION AND/OR REDESIGN DUE TO CONTRACTOR ERRORS WILL BE AT THE CONTRACTOR'S EXPENSE.

e. IF DIFFERENCES OCCUR WITHIN OR BETWEEN THE DRAWINGS AND SPECIFICATIONS REGARDING MATERIALS, SIZES, STRENGTHS OR QUANTITIES, THEN THE BETTER MATERIAL, HIGHER STRENGTH, LARGER SIZE AND GREATER QUANTITY INDICATED, SPECIFIED OR NOTED SHALL BE PROVIDED.

f. REINFORCING STEEL IN EXISTING CONCRETE SHALL BE LOCATED PRIOR TO INSTALLATION OF NEW OPENINGS OR CORING OF HOLES IN THE CONCRETE. REINFORCING STEEL MAY NOT BE CUT WITHOUT APPROVAL FROM THE ENGINEER.

g. DIMENSIONS MAY NOT BE SCALED FROM THE DRAWINGS.

h. ALL CONSTRUCTION IS NEW UNLESS IDENTIFIED AS EXISTING "(E)". THE CONTRACTOR SHALL VERIFY ALL EXISTING BUILDING INFORMATION AND SHALL NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATION OF ANY STRUCTURAL COMPONENT. UNLESS INDICATED OTHERWISE, NEW SLABS ARE TO BE AT THE SAME ELEVATIONS AS ADJACENT EXISTING SLABS. FOUNDATION ELEVATIONS OR COLUMN LENGTHS SHALL BE ADJUSTED WITH THE APPROVAL OF THE STRUCTURAL ENGINEER TO ACHIEVE MATCHING SLAB ELEVATIONS.

i. INFORMATION SHOWN ON THE SECTIONS AND DETAILS IS THAT WHICH IS REQUIRED TO CONVEY THE PURPOSE FOR WHICH THE SECTIONS AND DETAILS WERE PROVIDED. THE CONTRACTOR IS RESPONSIBLE FOR REFERRING ELSEWHERE ON THE CONTRACT DOCUMENTS FOR ALL OTHER INFORMATION WHICH MAY BE OCCURRING IN THE SECTIONS OR DETAILS, BUT WHICH IS NOT SHOWN.

F. CONCRETE:

1. CAST-IN-PLACE CONCRETE:

   a. POST-INSTALLED ANCHOR BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH THE ANCHOR MANUFACTURER'S REQUIREMENTS; PRECAUTIONS SHALL BE TAKEN TO AVOID DAMAGING REINFORCING STEEL WHEN DRILLING BOLT HOLES.

   b. HORIZONTAL CONSTRUCTION JOINTS AND ALL OTHER HORIZONTAL JOINTS ABUTTING PREVIOUSLY CAST CONCRETE ELEMENTS SHALL BE ROUGH JOINTS, UNO.

   c. "ROUGH JOINTS" ARE JOINTS WHICH SHALL BE ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY 1/4" AND SHALL BE CLEAN AND FREE OF LAITANCE.

   d. WELDING OF REINFORCING STEEL IS NOT PERMITTED.

   e. EMBEDMENT OF ALUMINUM IN CONCRETE IS NOT PERMITTED EXCEPT AT LOCATIONS SPECIFIED OR INDICATED ON THE ARCHITECTURAL DRAWINGS. ALUMINUM EMBEDDED IN CONCRETE SHALL BE COATED TO PREVENT DIRECT CONTACT WITH THE CONCRETE. DETAILS AND MATERIAL INFORMATION FOR THE COATING MATERIAL SHALL BE SUBMITTED FOR REVIEW.

   f. PROVIDE SPACERS, BOLSTERS, SUPPORT CHAIRS AND SUPPORT BARS AS REQUIRED TO SUPPORT REINFORCING STEEL; PROVIDE PLASTIC-TIPPED CHAIRS AND BOLSTERS WHERE UNDERSIDES OF SLABS ARE EXPOSED TO VIEW.

G. STRUCTURAL STEEL:

1. GENERAL:

   a. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE AWS "STRUCTURAL WELDING CODE - STEEL", ANSI/AWS D1.1 AND AISC REQUIREMENTS; STRUCTURAL STEEL THAT IS DAMAGED DURING WELDING SHALL BE REPLACED OR REPAIRED IN A MANNER THAT IS ACCEPTABLE TO THE STRUCTURAL ENGINEER.

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

   c. ALL STEEL SHALL BE HOT-DIP GALVANIZED U.N.O. AND SHALL BE COMMERCIAL BLAST CLEANED AND PAINTED WITH THREE COATS OF EPOXY PAINT IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SYSTEM SPEC NO. 13.01.

   d. ALL STRUCTURAL FASTENERS SHALL BE GRADE 316 OR 316L STAINLESS STEEL.

   e. ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY APPLYING AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH THE REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL CONTAIN 95% ZINC BY WEIGHT. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NO LESS THAN THE COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.

   f. ALL STRUCTURAL STEEL INCLUDING BOLTS AND OTHER HARDWARE THAT IS SUBJECT TO WETTING WITH SALT-LADEN WATER OR OTHER MILD CHEMICAL ATTACK (SUCH AS

H. WOOD:

1. WOOD CONNECTORS AND FASTENERS:

   a. SEE IBC TABLE 2304.9.1 FOR MINIMUM FASTENING REQUIREMENTS.

   b. WOOD CONNECTORS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY. PROVIDE FULL FASTENING USING THE LARGEST FASTENER SIZE, TYPE AND QUANTITY AS SPECIFIED IN THE SIMPSON STRONG-TIE CATALOG TO DEVELOP THE PUBLISHED CAPACITY OF THE CONNECTOR.

   c. WOOD CONNECTOR AND FASTENER FINISH / MATERIAL REQUIREMENTS: CONNECTORS AND FASTENERS SHALL BE GRADE 316 OR 316L STAINLESS STEEL

   d. USE 1/2" DIA. LAG BOLTS OR THRU BOLTS AT 24" O.C. TO JOIN MULTIPLE 2x BEAMS OR GIRDERS SO THAT LOAD DISTRIBUTES EQUALLY.

   e. PROVIDE STANDARD WASHERS ON ALL BOLTED CONNECTIONS.

2. PRESERVATIVE-TREATED WOOD:

   a. ABOVE GROUND PRESERVATIVE TREATED WOOD:
      WOOD REQUIRED TO BE PRESERVATIVE-TREATED SHALL BE TREATED WITH WATER-BORNE PRESERVATIVES IN ACCORDANCE WITH AWPA U1 (COMMODITY SPECIFICATIONS "A" OR "F") FOR ABOVE-GROUND USE.

3. MEMBERS SHALL BE SET WITH CROWN UP AND HAVE MINIMUM OF 2" BEARING.

I. CONCRETE REPAIR:

1. REMOVE DELAMINATED CONCRETE TO EXPOSE SOUND CONCRETE FREE OF FRACTURES, LOOSE AGGREGATE OR EXCESSIVE CRACKING.

2. IF REMOVAL OF DELAMINATED CONCRETE EXPOSES CORRODED REINFORCING BARS OR MORE THAN HALF OF ANY CLEAN (FREE OF OXIDATION) REINFORCING BARS, CONTINUE TO REMOVE ADDITIONAL CONCRETE TO PROVIDE A MINIMUM OF 1" (U.N.O.) CLEARANCE AROUND THE REINFORCING BAR.

3. IF THE EXPOSED REINFORCING BARS, WHERE THE BAR INTERSECTS THE EDGE OF A REPAIR AREA, ARE CORRODED, CONTINUE TO REMOVE/CHIP OUT CONCRETE ALONG THE REINFORCING BAR (1" MINIMUM CLEAR ALL AROUND) UNTIL THE BAR IS FREE/CLEAN OF CORROSION FOR A LENGTH OF 2". FROM HERE ON THIS PROCESS WILL BE REFERED TO "CHASING" OR "CHASE" OF THE REINFORCING BAR.

4. IF THE REMOVAL OF DELAMINATED CONCRETE EXPOSES LESS THAN HALF OF ANY CLEAN (UNOXIDIZED) EXISTING REINFORCED BAR TO WHICH THE REMAINING CONCRETE IS STILL TIGHTLY BONDED, DO NOT CHIP OUT ANY MORE CONCRETE AROUND THE REINFORCING BAR. IF BAR OR BOND TO CONCRETE IS DISTURBED, REMOVE CONCRETE PER GENERAL NOTE F, 2.

5. THE EDGES OF ALL REPAIR AREAS SHALL BE CHIPPED OR SAW CUT AT APPROXIMATELY 90° FROM THE SURFACE OF THE MEMBER TO A MINIMUM OF 1" BEHIND THE REINFORCEMENT IF EXPOSED OR TO A MINIMUM DEPTH OF 1" FROM THE SURFACE IF NO REINFORCEMENT IS EXPOSED

6. FOR CLEANING, REPAIR AND IDENTIFICATION OF CORRODED REINFORCING, SEE S300.E

7. IF THE DEMOLITION DOES NOT EXTEND BEHIND EXISTING REINFORCING STEEL OR U.N.O., DRILL AND EPOXY 1/2"Ø ALL-THREAD "PINS" WITH A MINIMUM 2" EMBEDMENT INTO EXISTING CONCRETE AT 8" EACH WAY. PROVIDE MINIMUM 1" LONG 90° HOOK AT THE ENDS OF ALL PINS. PROVIDE THE ABOVE WHERE INDICATED ON DETAILS AS "PINS".

8. APPLY A BONDING AGENT TO ALL EXISTING CONCRETE THAT WILL BE IN CONTACT WITH NEW CONCRETE, USE ONLY A CEMENT-BASED AGENT. USE OF ANY POLYMER-BASED BONDING AGENT IS NOT PERMITTED.

9. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, REMOVE ANY CONDUIT AND ABANDONED UTILITIES UNCOVERED IN REPAIR AREAS.

10. IF REINFORCING STEEL IS CLOSE TO THE SURFACE, NOT MEETING THE COVER REQUIREMENTS, BUILD OUT PATCHES TO PROVIDE THE PROPER COVER INDICATED ON THE GENERAL NOTES.

11. PRIOR TO PLACING ANY PATCH MATERIAL, APPLY A PENETRATING CORROSION INHIBITOR MATERIAL OVER THE ENTIRE PATCH AREA. USE SIKA FERRO GARD 903 OR EQUAL.

12. COAT EXPOSED REBAR WITH EPOXY PROTECTIVE COAT. COMPLETELY COVER EXPOSED PERIMETER OF BAR. US SIKA ARMATEC 110 EP CEM OR EQUAL.

13. SUBSTRATE TO BE SURFACE DRY, WITH NO OBSERVABLE WATER ACCUMULATION AT COMPLETION OF REBAR CLEANING. APPLY SCRUB COAT OF POLYMER-MODIFIED, CEMENTITIOUS PATCHING MATERIAL TO SUBSTRATE, FILLING ALL PORES AND VOIDS. WHILE SCRUB COAT IS WET, PLACE 5000 PSI CEMENTITIOUS PATCHING MATERIAL PER MANUFACTURES REQUIREMENTS.

14. ALL TEMPORARY SHORING SHALL BE INSTALLED PRIOR TO ANY REHABILITATION WORK.

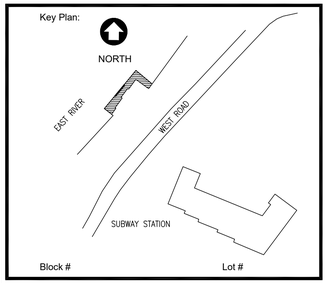
RIOC
ROOSEVELT ISLAND OPERATING CORPORATION

STRUCTURAL ENGINEER

IMEG
The FUTURE. Built Smarter www.imegcorp.com
1411 BROADWAY
SUITE 610
NEW YORK, NEW YORK 10018

NO.	DESCRIPTION	DATE	CHECKED	DRAWN
1	ADDED SCOPE PER MANUFACTURER	12/19/25	CCG	JBV
0	RELEASE FOR APPROVAL	8/4/25	JBV	JBV

Key Plan:



Block # Lot #

PROJECT TITLE:

ELEANOR'S PIER REHABILITATION

W ROAD, NEW YORK, NY

DRAWING TITLE:

GENERAL NOTES

DATE	08/04/2025
SCALE	AS NOTED
JOB NO.	25003964.00
DOB #	

DRAWING NUMBER

S-000.00

SHEET NO. 1 OF 3

A. GENERAL:

1. THE STRUCTURAL DRAWINGS FOR THIS PROJECT ARE NOT ISSUED FOR BID UNLESS THE INDIVIDUAL SHEETS ARE IDENTIFIED AS "ISSUED FOR BID".
2. THE STRUCTURAL DRAWINGS FOR THIS PROJECT ARE NOT ISSUED FOR CONSTRUCTION UNLESS THE INDIVIDUAL SHEETS ARE IDENTIFIED AS "ISSUED FOR CONSTRUCTION".

B. CODES AND STANDARDS:

1. THE FOLLOWING CODES AND STANDARDS, INCLUDING ALL SPECIFICATIONS REFERENCED WITHIN, SHALL APPLY TO THE DESIGN, CONSTRUCTION, QUALITY CONTROL AND SAFETY OF ALL WORK PERFORMED ON THE PROJECT. USE THE VERSION REFERENCED IN THE BUILDING CODE UNLESS NOTED OTHERWISE.

   a. BUILDING CODE: 2022 NEW YORK CITY BUILDING CODE
   b. "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES", ASCE 7-22, AMERICAN SOCIETY OF CIVIL ENGINEERS.
   c. "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", ACI 318-19, AMERICAN CONCRETE INSTITUTE.
   d. "ACI MANUAL OF CONCRETE PRACTICE - PARTS 1 THROUGH 6.
   e. "MANUAL OF STANDARD PRACTICE", CONCRETE REINFORCING STEEL INSTITUTE.
   f. "STRUCTURAL WELDING CODE - STEEL", AWS D1.1
      "STRUCTURAL WELDING CODE - STAINLESS STEEL", AWS D1.6
   g. "NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION w/ 2005 SUPPLEMENT",NDS,AMERICAN FOREST & PAPER ASSOC.

C. DESIGN LOADS:

1. GRAVITY LOADS: NEW WOOD FRAMING HAS BEEN DESIGNED FOR THE SELF WEIGHT OF THE FRAMING AND 100 PSF LIVE LOAD.
2. GUARD RAILS: DESIGNED FOR 50 POUNDS PER LINEAR FOOT OR A 200 POUND POINT LOAD ACTING IN ANY DIRECTION AT 42" ABOVE FINISHED FLOOR.

D. 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 (TYP., U.N.O.; SEE BELOW)
   ASTM C150; TYPE II FOR CONCRETE IN CONTACT WITH EARTH

3. CONCRETE: CONCRETE SHALL HAVE THE FOLLOWING ENGINEERING PROPERTIES
   a. COMPRESSIVE STRENGTH, W/C RATIO & UNIT WEIGHT

LOCATION	f'c @ 28 DAYS (PSI)	w/c (MAX PERMITTED)
ALL CONCRETE, U.N.O.	4500	0.45

   b. AIR ENTRAINMENT:
      1. CONCRETE LISTED IN TABLE "A" SHALL BE AIR ENTRAINED WITH THE APPROPRIATE PERCENTAGE AIR CONTENT LISTED IN TABLE "B" AS APPLICABLE FOR THE INDICATED EXPOSURE CLASS AND NOMINAL MAXIMUM AGGREGATE SIZE IN THE CONCRETE MIX. THE REQUIRED AIR CONTENT VALUE MAY BE REDUCED BY 1% FOR ALL CONCRETE WITH COMPRESSIVE STRENGTH GREATER THAN 5,000 PSI. THE PERMITTED TOLERANCE ON THE REQUIRED AIR CONTENT IS ±1.5 PERCENT. SEE ACI 318 FOR ADDITIONAL REQUIREMENTS.

TABLE "A"

LOCATION	EXPOSURE CLASS**
ALL CONCRETE	F2

** REFER TO ACI 318

TABLE "B"

NOMINAL MAXIMUM AGGREGATE SIZE	REQD. AIR CONTENT EXPOSURE CATEGORY	
	F1	F2 & F3
3/8"	6%	7.5%
1/2"	5.5%	7%
3/4"	5%	6%
1"	4.5%	6%

4.REINFORCING STEEL:

DEFORMED REINFORCING BARS	ASTM A615, GRADE 60
EPOXY COATED REINF. BARS	ASTM A775

EPOXY COAT ALL REINFORCING STEEL

5. STRUCTURAL STEEL:

CHANNELS, ANGLE, PLATES & BARS	ASTM A36 (Fy=36 ksi) U.N.O. ASTM A572, GR 50 WHERE INDICATED
ROUND PIPE	ASTM A53, GRADE "B" Fy = 35 KSI
ROUND HSS	ASTM A500, GRADE "C" Fy = 46 KSI
SQUARE & RECTANGULAR HSS's	ASTM A500, GRADE "C" Fy = 50 KSI
HIGH STRENGTH BOLTS	ASTM A325 TYP, U.N.O. & ASTM A490 WHERE INDICATED
ROUND RODS & THREADED RODS	ASTM A36 U.N.O. ASTM A572, GR 50 WHERE INDICATED
WELDING ELECTRODES	AWS A5.1 OR A5.5, E70XX

6. POST-INSTALLED ANCHORS

EXPANSION BOLTS INTO CONCRETE	HILTI KWIK BOLT TZ
SCREW ANCHORS INTO CONCRETE	HILTI KWIK HUS EZ
ADHESIVE ANCHORS INTO CONCRETE	HILTI HIT HY 200 SAFE SET WITH HILTI HIT Z-ROD or HILTI HIT HY 200 SAFESET W/ HOLLOW DRILL BIT W/ HILTI HAS- E THREADED ROD or HILTI HIT RE 500 SD W/ HILTI HAS –E THREADED ROD FOR ALL ADHESIVE ANCHORS, HOLES SHALL BE HAMMER DRILLED AND HOLES MAY BE DRY OR WATER SATURATED
EXPANSION ANCHORS INTO GROUT FILLED CONCRETE BLOCK	HILTI KWIK BOLT 3
SCREW ANCHORS LARGER > 1/4" DIA. INTO CONCRETE OR GROUT FILLED CONCRETE BLOCK	HILTI KWIK HUS EZ

a. ALTERNATIVE ANCHORS MAY BE USED IF APPROVED IN WRITING BY THE STRUCTURAL ENGINEER. THE CONTRACTOR SHALL SUBMIT CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROJECT'S JURISDICTION VERFIYING THAT PROPOSED ALTERNATIVE ANCHORS WILL PROVIDE THE SAME OR GREATER LOAD CARRYING CAPACITY AS THE SPECIFIED ANCHORS. THE CONTRACTOR SHALL SUBMIT ICC ESR REPORTS. EACH ANCHOR CONFIGURATION SHALL BE EVALUATED AND COMPARED TO THE SPECIFIED ANCHOR.

b. ALL ANCHORS SHALL ASSUME THE CRACKED CONCRETE DESIGN CONDITION, U.N.O.

c. POST-INSTALLED ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII).

d. THE CONTRACTOR SHALL ARRANGE FOR AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ON SITE INSTALLATION TRAINING FOR EACH SPECIFIED ANCHOR TYPE. THE STRUCTURAL ENGINEER OF RECORD SHALL RECEIVE DOCUMENTATION VERIFYING THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS HAVE BEEN TRAINED PRIOR TO COMMENCEMENT OF INSTALLING ANCHORS.

e. INSTALLATION OF ADHESIVE ANCHORS SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY AN APPROVED CERTIFICATION PROGRAM. CERTIFICATION SHALL INCLUDE WRITTEN AND PERFORMANCE TESTS IN ACCORDANCE WITH THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM OR EQUIVALENT. THE ACCEPTABILITY OF CERTIFICATIONS OTHER THAN THE ACI/CRSI ADDHESIVE INSTALLER CERTIFIFICATION WILL BE DETERMINED BY THE STRUCTURAL ENGINEER OF RECORD.

f. CONCRETE SHALL HAVE ACHIEVED DESIGN STRENGTH PRIOR TO INSTALLING POST-INSTALLED ANCHORS. ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE THAT HAS CURED FOR A MINIMUM OF 21 DAYS.

g. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ANCHORS AND PROXIMITY OF ANCHORS TO EDGES OF CONCRETE OR MASONRY. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.

h. POST-INSTALLED ANCHORS SHALL BE INSTALLED IN A MANNER THAT DOES NOT DAMAGE REINFORCING STEEL. REINFORCING STEEL SHALL BE LOCATED BY NON-DESTRUCTIVE MEANS PRIOR TO DRILLING HOLES. PLATES AND BRACKETS THROUGH WHICH ANCHORS WILL BE INSTALLED SHALL NOT BE FABRICATED UNTIL AFTER REINFORCING STEEL IS LOCATED AND ANCHOR LOCATIONS ARE ADJUSTED. CONTRACTOR SHALL NOTIFY STRUCTURAL ENGINEER TO OBTAIN ALTERNATIVE ANCHOR LAYOUT WHERE ANCHORS MUST BE RELOCATED TO AVOID INTERFERENCE WITH REINFORCING STEEL.

i. ADHESIVE ANCHORS SHALL BE INSTALLED WITH A 6" EMBEDMENT DEPTH UNLESS NOTED OTHERWISE. ANCHORS OTHER THAN ADHESIVE ANCHORS SHALL BE INSTALLED WITH AN EMBEMENT DEPTH EQUAL TO THE MAXIMUM EMBEDMENT DEPTH NOTED IN THE MANUFACTURER'S PRODUCT TECHNICAL GUIDE UNLESS NOTED OTHERWISE. WHERE EMBEDMENT DEPTH IS SPECIFIED, THAT DEPTH IS THE REQUIRED FINAL EFFECTIVE MINIMUM EMBEDMENT DEPTH.

j. POST INSTALLED ANCHORS SHALL BE INSPECTED PERIODICALLY DURING INSTALLATION PER CHAPTER 17 OF IBC2021, UNLESS NOTED OTHERWISE.

k. ADHESIVE ANCHORS INSTALLED IN VERTICAL SURFACES OR IN OVERHEAD OR UPWARDLY INCLINED ORIENTATIONS SHALL BE CONTINUOUSLY INSPECTED DURING INSTALLATION PER ACI 318.

l. INSPECTIONS SHALL BE PERFORMED BY A SPECIAL INSPECTOR WHO HAS BEEN APPROVED BY THE BUILDING OFFICIAL. THE SPECIAL INSPECTOR SHALL VERIFY THAT ALL ANCHORS WERE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, THE APPLICABLE ICC ESR REPORTS AND THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. THE INSPECTION SHALL INCLUDE VERIFICATION OF ANCHOR SPACING, EMBEDMENT AND EDGE DISTANCE REQUIREMENTS.

7. WOOD FRAMING:

a. TIMBER (SAWN LUMBER):
   ALL SAWN LUMBER SHALL HAVE 19% MAX. MOISTURE CONTENT AND SHALL BE SURFACE DRY IN THE FOLLOWING SPECIES AND GRADES:

FRAMING	SPECIES	GRADE
STUDS	SPRUCE-PINE-FIR	NO. 2
BEAMS, HEADERS & ALL OTHER FRAMING	HEM-FIR	NO. 2

b. LAMINATED VENEER LUMBER:
   TRUS JOIST MICROLAM LVL's MANUFACTURED BY WEYERHAEUSER
   BEAMS: GRADE 1.9; E = 1,900,000 PSI; Fb = 2,600 PSI; Fv = 285 PSI

c. PARALLEL STRAND LUMBER:
   PARALLAM PSL AS MANUFACTURED BY iLEVEL BY WEYERHAEUSER
   BEAMS: GRADE 2.0E; E = 2,000,000 PSI; Fb = 2,900 PSI; Fv = 290 PSI
   COLUMNS: GRADE 1.8E; E = 1,800,000 PSI; Fb = 2,400 PSI; Fv = 190 PSI

d. LAMINATED STRAND LUMBER:
   TRUS JOIST TIMBERSTRAND LSL's MANUFACTURED BY WEYERHAEUSER
   BEAMS/COLUMNS: GRADE 1.3E; E=1,300,000 PSI; Fb=1,700 PSI; Fv=400 PSI

e. PRESERVATIVE TREATED PARALLEL STRAND LUMBER
   TRUS JOIST PARALLAM PLUS PSL's MANUFACTURED BY WEYERHAEUSER
   SERVICE LEVEL "SL 2"
   BEAMS: E = 1,460,000 PSI; Fb = 1827 PSI; Fv = 197 PSI
   COLUMNS: E = 1,314,000 PSI; Fb = 1512 PSI; Fv = 120 PSI

g. NAILS: ALL NAILS SHALL BE COMMON NAILS, STAINLESS STEEL U.N.O.

h. STRUCTURAL CONNECTORS:
   STRUCTURAL CONNECTORS FOR WOOD CONSTRUCTION MANUFACTURED BY SIMPSON STRONG-TIE COMPANY. STAINLESS STEEL.

E. CONSTRUCTION:

1. GENERAL:

a. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL REVIEW THE STRUCTURAL CONTRACT DOCUMENTS AND SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY CONFLICTS BETWEEN THOSE DOCUMENTS AND ANY SAFETY REGULATIONS. SUCH REVIEW AND NOTIFICATION SHALL OCCUR PRIOR TO PRODUCTION OF SHOP DRAWINGS.

b. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALLOWABLE CONSTRUCTION LOADS, FOR PROTECTING THE COMPLETED STRUCTURAL FRAMING FROM DAMAGE DUE TO TEMPORARY CONSTRUCTION LOADINGS, FOR DETERMINING SEQUENCES OF CONSTRUCTION, AND FOR DETERMINATION, DESIGN AND INSTALLATION OF ALL FALSEWORK, FORMWORK, STAGING, TEMPORARY BRACING, SHEETING AND SHORING NECESSARY FOR CONSTRUCTION.

c. ALL SUBMITTALS, INCLUDING SHOP DRAWINGS SHALL BE SUBMITTED ELECTRONICALLY IN PDF FORMAT.

d. COSTS OF INVESTIGATION AND/OR REDESIGN DUE TO CONTRACTOR ERRORS WILL BE AT THE CONTRACTOR'S EXPENSE.

e. IF DIFFERENCES OCCUR WITHIN OR BETWEEN THE DRAWINGS AND SPECIFICATIONS REGARDING MATERIALS, SIZES, STRENGTHS OR QUANTITIES, THEN THE BETTER MATERIAL, HIGHER STRENGTH, LARGER SIZE AND GREATER QUANTITY INDICATED, SPECIFIED OR NOTED SHALL BE PROVIDED.

f. REINFORCING STEEL IN EXISTING CONCRETE SHALL BE LOCATED PRIOR TO INSTALLATION OF NEW OPENINGS OR CORING OF HOLES IN THE CONCRETE. REINFORCING STEEL MAY NOT BE CUT WITHOUT APPROVAL FROM THE ENGINEER.

g. DIMENSIONS MAY NOT BE SCALED FROM THE DRAWINGS.

h. ALL CONSTRUCTION IS NEW UNLESS IDENTIFIED AS EXISTING "(E)". THE CONTRACTOR SHALL VERIFY ALL EXISTING BUILDING INFORMATION AND SHALL NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATION OF ANY STRUCTURAL COMPONENT. UNLESS INDICATED OTHERWISE, NEW SLABS ARE TO BE AT THE SAME ELEVATIONS AS ADJACENT EXISTING SLABS. FOUNDATION ELEVATIONS OR COLUMN LENGTHS SHALL BE ADJUSTED WITH THE APPROVAL OF THE STRUCTURAL ENGINEER TO ACHIEVE MATCHING SLAB ELEVATIONS.

i. INFORMATION SHOWN ON THE SECTIONS AND DETAILS IS THAT WHICH IS REQUIRED TO CONVEY THE PURPOSE FOR WHICH THE SECTIONS AND DETAILS WERE PROVIDED. THE CONTRACTOR IS RESPONSIBLE FOR REFERRING ELSEWHERE ON THE CONTRACT DOCUMENTS FOR ALL OTHER INFORMATION WHICH MAY BE OCCURRING IN THE SECTIONS OR DETAILS, BUT WHICH IS NOT SHOWN.

F. CONCRETE:

1. CAST-IN-PLACE CONCRETE:

   a. POST-INSTALLED ANCHOR BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH THE ANCHOR MANUFACTURER'S REQUIREMENTS; PRECAUTIONS SHALL BE TAKEN TO AVOID DAMAGING REINFORCING STEEL WHEN DRILLING BOLT HOLES.

   b. HORIZONTAL CONSTRUCTION JOINTS AND ALL OTHER HORIZONTAL JOINTS ABUTTING PREVIOUSLY CAST CONCRETE ELEMENTS SHALL BE ROUGH JOINTS, UNO.

   c. "ROUGH JOINTS" ARE JOINTS WHICH SHALL BE ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY 1/4" AND SHALL BE CLEAN AND FREE OF LAITANCE.

   d. WELDING OF REINFORCING STEEL IS NOT PERMITTED.

   e. EMBEDMENT OF ALUMINUM IN CONCRETE IS NOT PERMITTED EXCEPT AT LOCATIONS SPECIFIED OR INDICATED ON THE ARCHITECTURAL DRAWINGS. ALUMINUM EMBEDDED IN CONCRETE SHALL BE COATED TO PREVENT DIRECT CONTACT WITH THE CONCRETE. DETAILS AND MATERIAL INFORMATION FOR THE COATING MATERIAL SHALL BE SUBMITTED FOR REVIEW.

   f. PROVIDE SPACERS, BOLSTERS, SUPPORT CHAIRS AND SUPPORT BARS AS REQUIRED TO SUPPORT REINFORCING STEEL; PROVIDE PLASTIC-TIPPED CHAIRS AND BOLSTERS WHERE UNDERSIDES OF SLABS ARE EXPOSED TO VIEW.

G. STRUCTURAL STEEL:

1. GENERAL:

   a. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE AWS "STRUCTURAL WELDING CODE - STEEL", ANSI/AWS D1.1 AND AISC REQUIREMENTS; STRUCTURAL STEEL THAT IS DAMAGED DURING WELDING SHALL BE REPLACED OR REPAIRED IN A MANNER THAT IS ACCEPTABLE TO THE STRUCTURAL ENGINEER.

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

   c. ALL STEEL SHALL BE HOT-DIP GALVANIZED U.N.O. AND SHALL BE COMMERCIAL BLAST CLEANED AND PAINTED WITH THREE COATS OF EPOXY PAINT IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SYSTEM SPEC NO. 13.01.

   d. ALL STRUCTURAL FASTENERS SHALL BE GRADE 316 OR 316L STAINLESS STEEL.

   e. ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY APPLYING AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH THE REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL CONTAIN 95% ZINC BY WEIGHT. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NO LESS THAN THE COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.

   f. ALL STRUCTURAL STEEL INCLUDING BOLTS AND OTHER HARDWARE THAT IS SUBJECT TO WETTING WITH SALT-LADEN WATER OR OTHER MILD CHEMICAL ATTACK (SUCH AS

H. WOOD:

1. WOOD CONNECTORS AND FASTENERS:

   a. SEE IBC TABLE 2304.9.1 FOR MINIMUM FASTENING REQUIREMENTS.

   b. WOOD CONNECTORS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY. PROVIDE FULL FASTENING USING THE LARGEST FASTENER SIZE, TYPE AND QUANTITY AS SPECIFIED IN THE SIMPSON STRONG-TIE CATALOG TO DEVELOP THE PUBLISHED CAPACITY OF THE CONNECTOR.

   c. WOOD CONNECTOR AND FASTENER FINISH / MATERIAL REQUIREMENTS: CONNECTORS AND FASTENERS SHALL BE GRADE 316 OR 316L STAINLESS STEEL

   d. USE 1/2" DIA. LAG BOLTS OR THRU BOLTS AT 24" O.C. TO JOIN MULTIPLE 2x BEAMS OR GIRDERS SO THAT LOAD DISTRIBUTES EQUALLY.

   e. PROVIDE STANDARD WASHERS ON ALL BOLTED CONNECTIONS.

2. PRESERVATIVE-TREATED WOOD:

   a. ABOVE GROUND PRESERVATIVE TREATED WOOD:
      WOOD REQUIRED TO BE PRESERVATIVE-TREATED SHALL BE TREATED WITH WATER-BORNE PRESERVATIVES IN ACCORDANCE WITH AWPA U1 (COMMODITY SPECIFICATIONS "A" OR "F") FOR ABOVE-GROUND USE.

3. MEMBERS SHALL BE SET WITH CROWN UP AND HAVE MINIMUM OF 2" BEARING.

I. CONCRETE REPAIR:

1. REMOVE DELAMINATED CONCRETE TO EXPOSE SOUND CONCRETE FREE OF FRACTURES, LOOSE AGGREGATE OR EXCESSIVE CRACKING.

2. IF REMOVAL OF DELAMINATED CONCRETE EXPOSES CORRODED REINFORCING BARS OR MORE THAN HALF OF ANY CLEAN (FREE OF OXIDATION) REINFORCING BARS, CONTINUE TO REMOVE ADDITIONAL CONCRETE TO PROVIDE A MINIMUM OF 1" (U.N.O.) CLEARANCE AROUND THE REINFORCING BAR.

3. IF THE EXPOSED REINFORCING BARS, WHERE THE BAR INTERSECTS THE EDGE OF A REPAIR AREA, ARE CORRODED, CONTINUE TO REMOVE/CHIP OUT CONCRETE ALONG THE REINFORCING BAR (1" MINIMUM CLEAR ALL AROUND) UNTIL THE BAR IS FREE/CLEAN OF CORROSION FOR A LENGTH OF 2". FROM HERE ON THIS PROCESS WILL BE REFERED TO "CHASING" OR "CHASE" OF THE REINFORCING BAR.

4. IF THE REMOVAL OF DELAMINATED CONCRETE EXPOSES LESS THAN HALF OF ANY CLEAN (UNOXIDIZED) EXISTING REINFORCED BAR TO WHICH THE REMAINING CONCRETE IS STILL TIGHTLY BONDED, DO NOT CHIP OUT ANY MORE CONCRETE AROUND THE REINFORCING BAR. IF BAR OR BOND TO CONCRETE IS DISTURBED, REMOVE CONCRETE PER GENERAL NOTE F, 2.

5. THE EDGES OF ALL REPAIR AREAS SHALL BE CHIPPED OR SAW CUT AT APPROXIMATELY 90° FROM THE SURFACE OF THE MEMBER TO A MINIMUM OF 1" BEHIND THE REINFORCEMENT IF EXPOSED OR TO A MINIMUM DEPTH OF 1" FROM THE SURFACE IF NO REINFORCEMENT IS EXPOSED

6. FOR CLEANING, REPAIR AND IDENTIFICATION OF CORRODED REINFORCING, SEE S300.E

7. IF THE DEMOLITION DOES NOT EXTEND BEHIND EXISTING REINFORCING STEEL OR U.N.O., DRILL AND EPOXY 1/2"Ø ALL-THREAD "PINS" WITH A MINIMUM 2" EMBEDMENT INTO EXISTING CONCRETE AT 8" EACH WAY. PROVIDE MINIMUM 1" LONG 90° HOOK AT THE ENDS OF ALL PINS. PROVIDE THE ABOVE WHERE INDICATED ON DETAILS AS "PINS".

8. APPLY A BONDING AGENT TO ALL EXISTING CONCRETE THAT WILL BE IN CONTACT WITH NEW CONCRETE, USE ONLY A CEMENT-BASED AGENT. USE OF ANY POLYMER-BASED BONDING AGENT IS NOT PERMITTED.

9. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, REMOVE ANY CONDUIT AND ABANDONED UTILITIES UNCOVERED IN REPAIR AREAS.

10. IF REINFORCING STEEL IS CLOSE TO THE SURFACE, NOT MEETING THE COVER REQUIREMENTS, BUILD OUT PATCHES TO PROVIDE THE PROPER COVER INDICATED ON THE GENERAL NOTES.

11. PRIOR TO PLACING ANY PATCH MATERIAL, APPLY A PENETRATING CORROSION INHIBITOR MATERIAL OVER THE ENTIRE PATCH AREA. USE SIKA FERRO GARD 903 OR EQUAL.

12. COAT EXPOSED REBAR WITH EPOXY PROTECTIVE COAT. COMPLETELY COVER EXPOSED PERIMETER OF BAR. US SIKA ARMATEC 110 EP CEM OR EQUAL.

13. SUBSTRATE TO BE SURFACE DRY, WITH NO OBSERVABLE WATER ACCUMULATION AT COMPLETION OF REBAR CLEANING. APPLY SCRUB COAT OF POLYMER-MODIFIED, CEMENTITIOUS PATCHING MATERIAL TO SUBSTRATE, FILLING ALL PORES AND VOIDS. WHILE SCRUB COAT IS WET, PLACE 5000 PSI CEMENTITIOUS PATCHING MATERIAL PER MANUFACTURES REQUIREMENTS.

14. ALL TEMPORARY SHORING SHALL BE INSTALLED PRIOR TO ANY REHABILITATION WORK.

2025.08.04 - ISSUED FOR BID

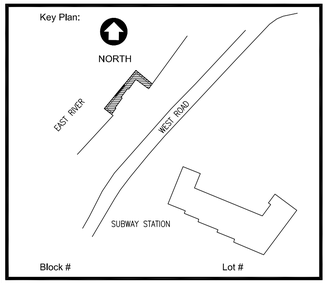
RIOC
ROOSEVELT ISLAND OPERATING CORPORATION

STRUCTURAL ENGINEER

IMEG
The FUTURE. Built Smarter www.imegcorp.com
1411 BROADWAY
SUITE 610
NEW YORK, NEW YORK 10018

DESCRIPTION	NO.	DATE	CHECKED	DRAWN

Key Plan:



Block # Lot #

PROJECT TITLE:

ELEANOR'S PIER REHABILITATION

W ROAD, NEW YORK, NY

DRAWING TITLE:

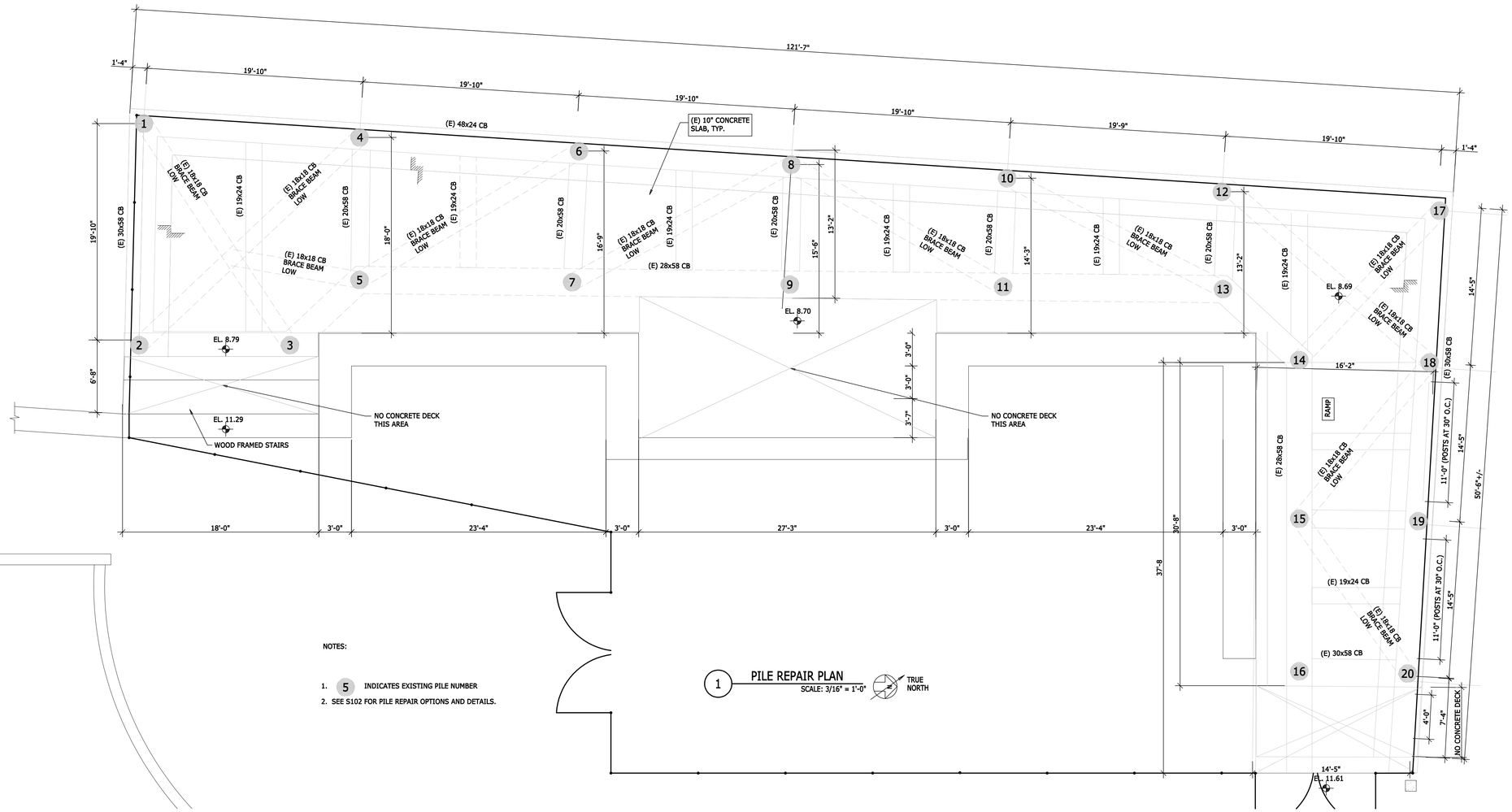
GENERAL NOTES

DATE	08/04/2025
SCALE	AS NOTED
JOB NO.	25003964.00
DRAWN	CHECKED
DOB #	

DRAWING NUMBER

S-000.00

SHEET NO. 1 OF 3



NOTES:

1. 5 INDICATES EXISTING PILE NUMBER
2. SEE S102 FOR PILE REPAIR OPTIONS AND DETAILS.

1 PILE REPAIR PLAN
SCALE: 3/16" = 1'-0"

TRUE NORTH

CONSTRUCTION SEQUENCE

	RESPONSIBLE CONTRACTOR
1) DEMOLISH ALL EXISTING WOOD FRAMING AND HARDWARE. MAINTAIN PERIMETER 'SHIPLAP' DECORATIVE TRIM	WOOD FRAMING CONTRACTOR
2) DEMOLISH EXISTING RAILINGS. SALVAGE EXISTING WOOD TOP RAILS.	MISCELLANEOUS METALS CONTRACTOR
3) INSTALL TEMPORARY FENCING AT THE PERIMETER OF THE PIER. SEE PLANS	MISCELLANEOUS METALS CONTRACTOR
4) PILE REHABILITATION CONTRACTOR PERFORMS PILE REPAIRS.	PILE REPAIR CONTRACTOR
5) INSTALL NEW RAILINGS AT PERIMETER.	MISCELLANEOUS METALS CONTRACTOR
6) REMOVE TEMPORARY FENCING ON PHYSICAL PIER. LANDBASED FENCING TO REMAIN UNTIL END OF PROJECT.	MISCELLANEOUS METALS CONTRACTOR
7) INSTALL NEW WOOD FRAMING AND DECKING.	WOOD FRAMING CONTRACTOR
8) REMOVE REMAINDER OF FENCING.	MISCELLANEOUS METALS CONTRACTOR

NOTES:
1. EXISTING FENCING TO BE REMOVED BY RIOC AFTER WOOD DEMOLITION.
2. EXISTING TIMBER LIGHT STANDARDS TO REMAIN. ALL CONDUIT TO BE REMOVED AND SECURED BY RIOC.

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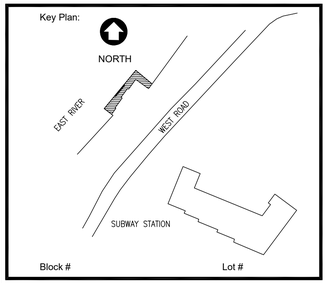
NO.	DESCRIPTION	DATE	CHECKED	DRAWN
1	ADDED SCOPE PER MANUFACTURER	12/19/25	JBV	JBV
0	RELEASE FOR APPROVAL	8/4/25	JBV	JBV

Key Plan:



Block #

Lot #

PROJECT TITLE:

ELEANOR'S PIER REHABILITATION

W ROAD, NEW YORK, NY

DRAWING TITLE:

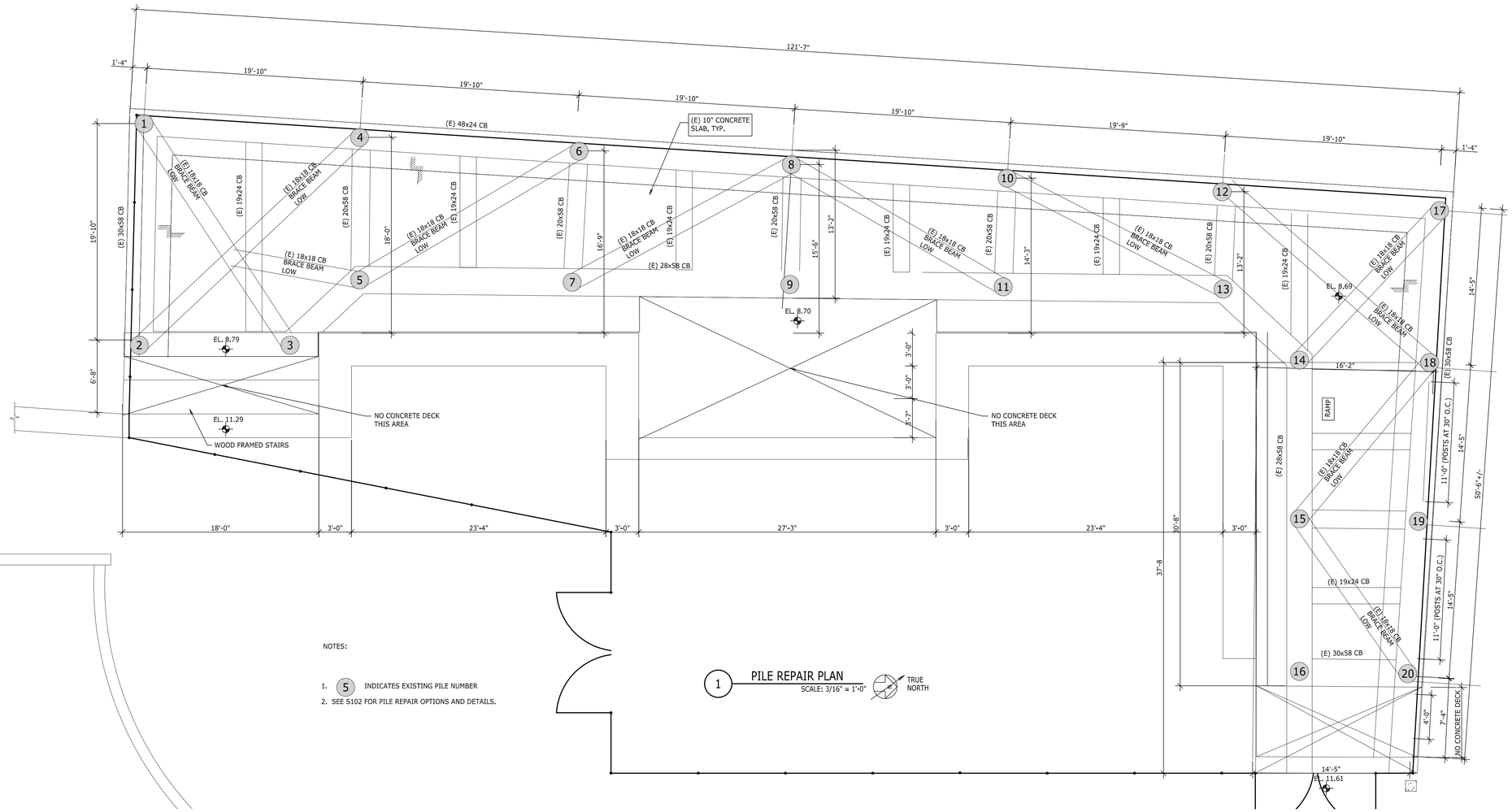
PILE REPAIR PLAN

DATE	08/04/2025
SCALE	AS NOTED
JOB NO.	25003964.00
DOB #	

DRAWING NUMBER

S-101.00

SHEET NO. 2 OF 3



NOTES:

1. (5) INDICATES EXISTING PILE NUMBER
2. SEE S102 FOR PILE REPAIR OPTIONS AND DETAILS.

1 PILE REPAIR PLAN
SCALE: 3/16" = 1'-0"
TRUE NORTH

CONSTRUCTION SEQUENCE

	RESPONSIBLE CONTRACTOR
1) DEMOLISH ALL EXISTING WOOD FRAMING AND HARDWARE. MAINTAIN PERIMETER 'SHIPLAP' DECORATIVE TRIM	WOOD FRAMING CONTRACTOR
2) DEMOLISH EXISTING RAILINGS. SALVAGE EXISTING WOOD TOP RAILS.	MISCELLANEOUS METALS CONTRACTOR
3) INSTALL TEMPORARY FENCING AT THE PERIMETER OF THE PIER. SEE PLANS	MISCELLANEOUS METALS CONTRACTOR
4) PILE REHABILITATION CONTRACTOR PERFORMS PILE REPAIRS.	PILE REPAIR CONTRACTOR
5) INSTALL NEW RAILINGS AT PERIMETER.	MISCELLANEOUS METALS CONTRACTOR
6) REMOVE TEMPORARY FENCING ON PHYSICAL PIER. LANDBASED FENCING TO REMAIN UNTIL END OF PROJECT.	MISCELLANEOUS METALS CONTRACTOR
7) INSTALL NEW WOOD FRAMING AND DECKING.	WOOD FRAMING CONTRACTOR
8) REMOVE REMAINDER OF FENCING.	MISCELLANEOUS METALS CONTRACTOR

NOTES:
1. EXISTING FENCING TO BE REMOVED BY RIOC AFTER WOOD DEMOLITION.
2. EXISTING TIMBER LIGHT STANDARDS TO REMAIN. ALL CONDUIT TO BE REMOVED AND SECURED BY RIOC.

2025.08.04 - ISSUED FOR BID

RIOC
ROOSEVELT ISLAND OPERATING CORPORATION

STRUCTURAL ENGINEER
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1411 BROADWAY
SUITE 610
NEW YORK, NEW YORK 10018

NO.	DESCRIPTION	DATE	CHECKED	DRAWN

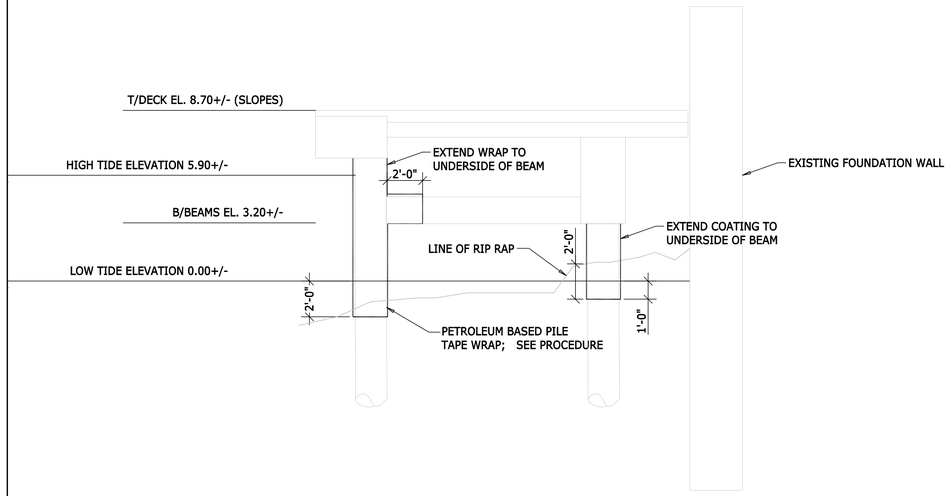
Key Plan:
NORTH
EAST RIVER
WEST ROAD
SUBWAY STATION
Block # Lot #

PROJECT TITLE:
ELEANOR'S PIER REHABILITATION
W ROAD, NEW YORK, NY

DRAWING TITLE:
PILE REPAIR PLAN

DATE	08/04/2025
SCALE	AS NOTED
JOB NO.	25003964.00
DRAWN	CHECKED
DOB #	

DRAWING NUMBER
S-101.00



1 PILE REPAIR TYPE 1

1/4"=1'-0"

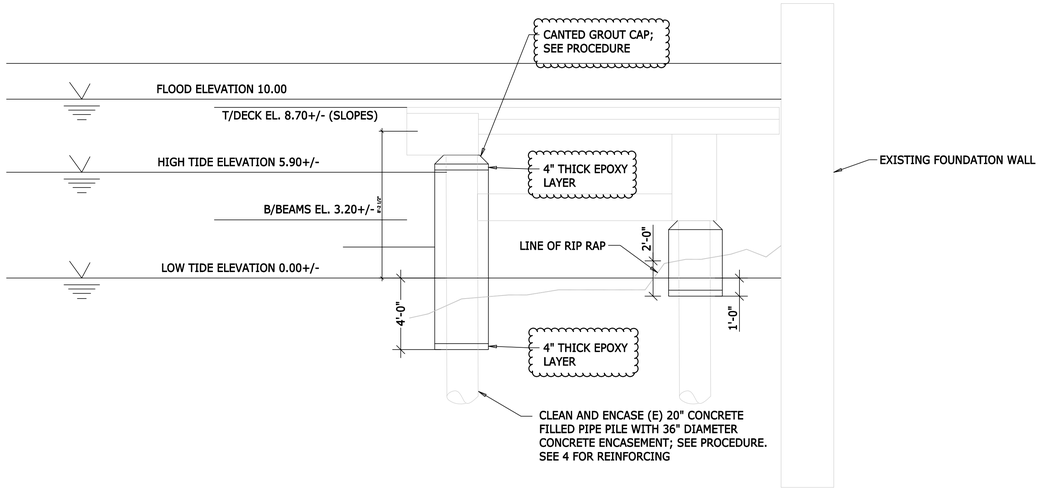
BASIS OF DESIGN IS DENSO SERIES 2000HD AND SERIES 70, OR APPROVED EQUAL.

PROCEDURE:

1. EXPOSE PILE TO LENGTH INDICATED.
2. CLEAN OFF ALL DEBRIS USING SSPC SP3 POWER TOOL CLEANING
3. APPLY PETROLEUM BASED PILING TAPE TO LENGTH OF PILE.
4. TAPE SPECIFICATIONS:
   a. MEETS NACE RE0375-2006
   b. MIN. THICKNESS = 51 MILS (ASTM D1000)
   c. MIN. BREAKING STRENGTH = 22.5 lbf/in. (ASTM E96-66 PROCEDURE A)
   d. ELONGATION AT BREAK = 10%
   e. RESISTANCE TO CATHODIC DISBONDING = 28 in2 avg. (ASTM G-8 - 30 DAYS)
   f. PETROLATUM INPREGNATED FABRIC TAPE WITH HIGH DENSITY POLYETHYLENE FILM COVER.
5. PROVIDE SUBMITTAL OF TAPE FOR APPROVAL.
6. APPLY TAPE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

CONTRACTOR QUALIFICATIONS:

1. MUST HAVE 10 YEARS MIN. EXPERIENCE
2. PROVIDE A LIST OF 5 SIMILAR PROJECTS.
3. MUST HAVE EXPERIENCE IN PUBLIC WORKS PROJECTS. PROVIDE A LIST OF PROJECTS.
4. MUST CARRY INSURANCE TO THE AMOUNT SPECIFIED BY OWNER.
5. OWNER HAS A RIGHT TO SELECT BIDDER BASED ON EXPERIENCE.



2 PILE REPAIR TYPE 2

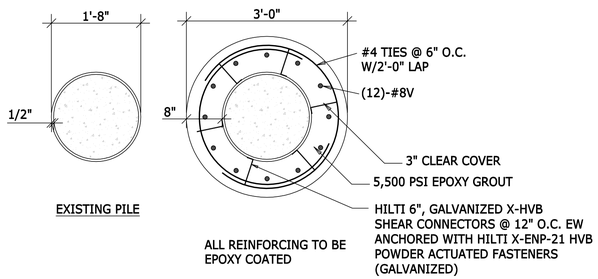
1/4"=1'-0"

PROCEDURE: (BASIS OF DESIGN IS DENSO SEA SHIELD 500 SYSTEM OR APPROVED EQUAL.)

1. EXPOSE PILE TO LENGTH INDICATED.
2. CLEAN OFF ALL DEBRIS USING HIGH PRESSURE WATER (3,500-4,000 PSI)
3. APPLY FIBERGLASS JACKET.
   A. The fiberglass jacket thickness shall be 1/8" or 3/16" thickness, depending on the application and diameter size.
   B. The jacket shall be translucent to provide visual Inspection during the injection of the epoxy grout.
   C. The jacket shall have minimum 1-1/4") injection ports spaced at intervals not to exceed five feet. To provide even distribution of the epoxy grout, the injection ports shall be placed on alternate sides (can be Field installed by contractor).
   D. The jackets shall have stand-offs adhered to the inside of the jacket to provide 8" annulus between the pile and the jacket (can be field installed by contractor). A UV inhibitor shall be included in the polyster resin to provide long-term UV stability.
4. PLACE BACKER ROD OR SIMILAR AT BASE TO PROVIDE DAM FOR GROUT POUR
5. PROVIDE 4" BASE SET OF EPOXY (SeaShield FX-70TNG)
6. EPOXY GROUT FILL (SeaShield 550), EPOXY GROUT TO BE PUMPED FROM BOTTOM OF JACKET.
7. AFTER EPOXY GROUT HAS CURED, PROVIDE 4" EPOXY CAP (SeaShield FX-70TNG), AND CANTED NON-SHRINK GROUT AT TOP.
8. PROVIDE SUBMITTAL FOR APPROVAL.

PILE NUMBER	REPAIR TYPE	REPAIR LENGTH (FEET)	REPAIR DETAIL	COMMENTS
1	COATING	6	1	
2	COATING	3	1	
3	COATING	3	1	
4	COATING	8	1	
5	COATING	5	1	
6	COATING	8	1	
7	CONCRETE ENCASEMENT	9	2	
8	COATING	8	1	
9	COATING	5	1	
10	COATING	8	1	
11	COATING	5	1	
12	CONCRETE ENCASEMENT	10	2	
13	COATING	5	1	
14	COATING	3	1	PROTECT TO CONCRETE AT BASE
15	COATING	5	1	
16	COATING	3	1	
17	COATING	6	1	
18	CONCRETE ENCASEMENT	8	2	
19	CONCRETE ENCASEMENT	8	2	
20	COATING	3	1	

3 PILE REPAIR SCHEDULE



4 PILE REPAIR TYPE 2

3/4"=1'-0"

PILE PLANS

RIOC
ROOSEVELT ISLAND OPERATING CORPORATION

STRUCTURAL ENGINEER
IMEG
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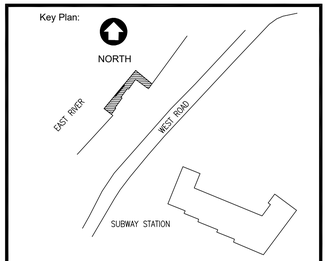
SUITE 610
NEW YORK, NEW YORK 10018

NO.	DESCRIPTION	DATE	CHECKED	DRAWN
1	ADDED SCOPE PER MANUFACTURER	12/19/25	CCG	JBV
0	RELEASE FOR APPROVAL	8/4/25	JBV	JBV

Key Plan:



Block # Lot #

PROJECT TITLE:

ELEANOR'S PIER REHABILITATION

W ROAD, NEW YORK, NY

DRAWING TITLE:

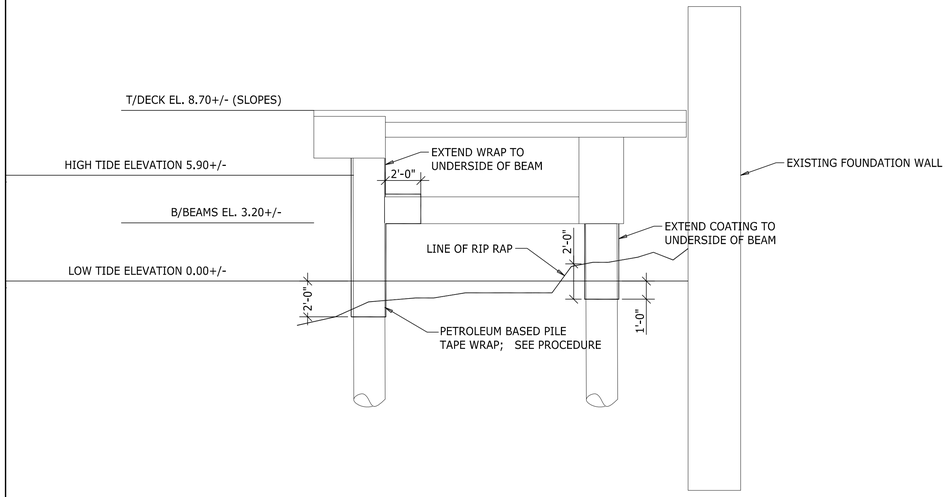
PILE REPAIR DETAILS

DATE	08/04/2025
SCALE	AS NOTED
JOB NO.	25003964.00
DOB #	

DRAWING NUMBER

S-102.00

SHEET NO. 3 OF 3



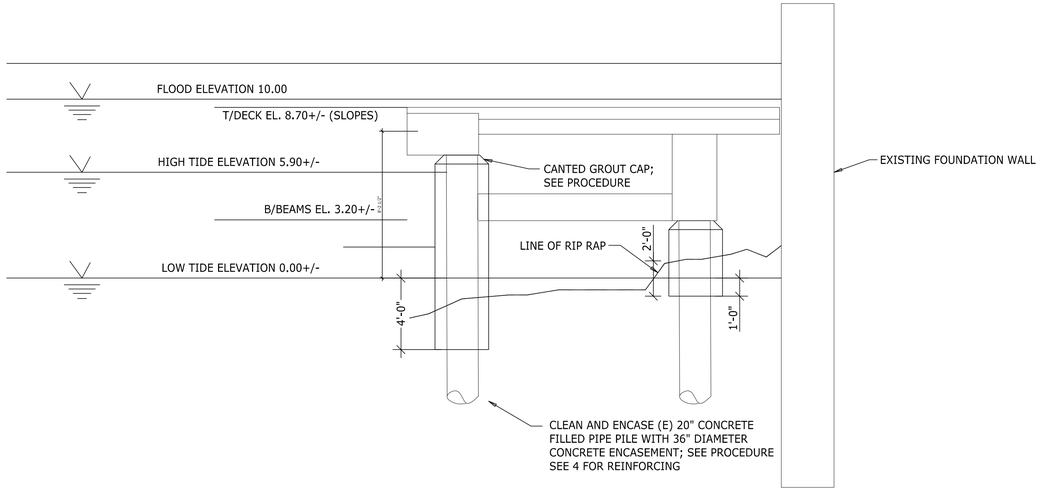
1 PILE REPAIR TYPE 1

1/4"=1'-0"

PROCEDURE:
1. EXPOSE PILE TO LENGTH INDICATED.
2. CLEAN OFF ALL DEBRIS USING SSPC SP3 POWER TOOL CLEANING
3. APPLY PETROLEUM BASED PILING TAPE TO LENGTH OF PILE.
4. TAPE SPECIFICATIONS:
   a. MEETS NACE RE0375-2006
   b. MIN. THICKNESS = 51 MILS (ASTM D1000)
   c. MIN. BREAKING STRENGTH = 22.5 lbf/in. (ASTM E96-66 PROCEDURE A)
   d. ELONGATION AT BREAK = 10%
   e. RESISTANCE TO CATHODIC DISBONDING = 28 in2 avg. (ASTM G-8 - 30 DAYS)
   f. PETROLATUM INPREGNATED FABRIC TAPE WITH HIGH DENSITY POLYETHYLENE FILM COVER.
5. PROVIDE SUBMITTAL OF TAPE FOR APPROVAL.
6. APPLY TAPE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

CONTRACTOR QUALIFICATIONS:

1. MUST HAVE 10 YEARS MIN. EXPERIENCE
2. PROVIDE A LIST OF 5 SIMILAR PROJECTS.
3. MUST HAVE EXPERIENCE IN PUBLIC WORKS PROJECTS. PROVIDE A LIST OF PROJECTS.
4. MUST CARRY INSURANCE TO THE AMOUNT SPECIFIED BY OWNER.
5. OWNER HAS A RIGHT TO SELECT BIDDER BASED ON EXPERIENCE.



2 PILE REPAIR TYPE 2

1/4"=1'-0"

PROCEDURE:
1. EXPOSE PILE TO LENGTH INDICATED.
2. CLEAN OFF ALL DEBRIS USING HIGH PRESSURE WATER (3,500-4,000 PSI)
3. APPLY HDPE JACKET WITH THE FOLLOWING SPECIFICATIONS:
   HDPE (high density polyethylene)
   Thickness: 80 mils min. (ASTM D5199)
   Tensile strength at break: 324 lb/in-width (ASTM D638)
   Elongation at break: 700% (ASTM D6693)
   Puncture Resistance: 158 lb (ASTM D4833)
   Tear Resistance: 56 lb (ASTM D1004)
   Carbon black content: ≥2% (ASTM D1603)
   UV Resistance 50 (ASTM D 7238)
3. PLACE BACKER ROD OR SIMILAR AT BASE TO PROVIDE DAM FOR GROUT POUR
4. PROVIDE 4" BASE SET OF EPOXY GROUT.
5. EPOXY GROUT TO MEET THE FOLLOWING SPECIFICATIONS CONFORMING TO ASTM C-881 AND AASHTO M-235:
   a. SIKA SIKADUR 35 HI MOD LPL MODIFIED WITH SAND
5. PROVIDE SUBMITTAL FOR APPROVAL.
6. EPOXY GROUT TO BE PUMPED FROM BOTTOM OF JACKET.
7. AFTER EPOXY GROUT HAS CURED, PROVIDE CANTED NON-SHRINK GROUT AT TOP.

PILE NUMBER	REPAIR TYPE	REPAIR LENGTH (FEET)	REPAIR DETAIL	COMMENTS
1	COATING	6	1	
2	COATING	3	1	
3	COATING	3	1	
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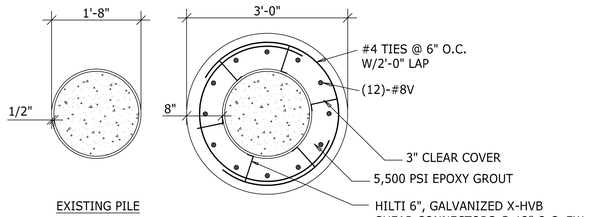
11	COATING	5	1	
12	CONCRETE ENCASEMENT	10	2	
13	COATING	5	1	
14	COATING	3	1	PROTECT TO CONCRETE AT BASE
15	COATING	5	1	
16	COATING	3	1	
17	COATING	6	1	
18	CONCRETE ENCASEMENT	8	2	
19	CONCRETE ENCASEMENT	8	2	
20	COATING	3	1	

3 PILE REPAIR SCHEDULE



4 PILE REPAIR TYPE 2

3/4"=1'-0"

PILE PLANS

2025.08.04 - ISSUED FOR BID

RIOC
ROOSEVELT ISLAND OPERATING CORPORATION

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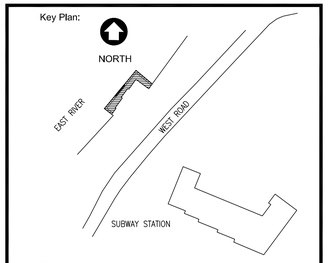
NO.	DESCRIPTION	DATE	CHECKED	DRAWN

Key Plan:



Block # Lot #

PROJECT TITLE:
ELEANOR'S PIER REHABILITATION
W ROAD, NEW YORK, NY

DRAWING TITLE:
PILE REPAIR DETAILS

DATE	08/04/2025
SCALE	AS NOTED
JOB NO.	25003964.00
DRAWN	CHECKED
DOB #	

DRAWING NUMBER
S-102.00

SHEET NO. 3 OF 3