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# **Engineering Services Schematic Design Report**

**Building Envelope Consulting** 

The Metropolitan Condo 5320 N Sheridan Road Chicago, IL

**BIM Consulting** 

**Structural Engineering** 



Date: 9/23/2025

ZS Project Number: 257018.1

**Forensic Engineering** 

Prepared for:

**Client: Briarwood Management** 

Client Address: 1055 W. Brym Mawr Avenue

Suite F293

Chicago, IL 60660 Attn: David Slack

Prepared by: ZS LLC (ZS)



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# **Contents**

1.0	Introduction	2
	PT Investigation	
	Investigation Approach	
	Investigation Methodology	
	Observations / Discussion	
3.0	Schematic Drawings and Updated Budget	
0.0	Table-1 Engineer's Estimate of Probable Repair Cost	
4.0	Representative Photos	

Date: 9/23/2025

Page | 2

# 1.0 Introduction

The parking structure attached to the Metropolitan Condo building in Chicago, Illinois (Figure 1) is in need of repair. The assessment report created by ZS in March, 2025 recommended repairs to the Post-Tension (PT) structure, including slabs, walls, and columns; repairs to the CMU walls; and replacement of the waterproofing system currently in place. To aid in the preparation of the construction documents and to improve the budget recommendations, ZS performed investigative openings into the structure to test the PT tendons. With that information, Schematic Design (SD) drawings were produced and an updated budget prepared.

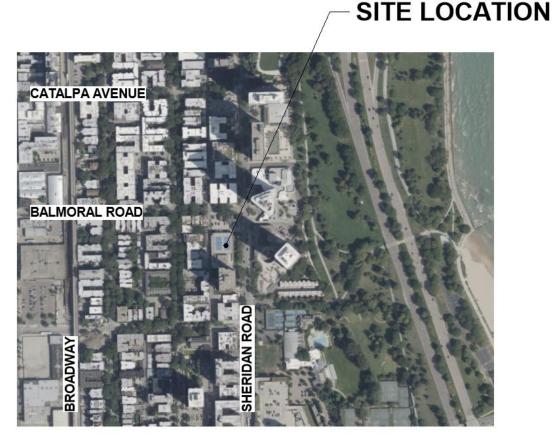


Figure 1: Project Location

This report summarizes the findings of the PT investigation and includes the SD drawings and updated budget

# 2.0 PT Investigation

# **Investigation Approach**

ZS conducted an initial walkthrough of the structure on June 25, 2025. During this visit, locations of interest were marked with the intent of identifying PT tendons positioned close to the surface. These locations were selected based on a review of the provided structural drawings. According to the tendon profiles shown in the drawings, areas with approximately 1½ - 2½ inches of concrete cover above the tendons were targeted. It was determined that the highest likelihood of encountering main PT tendons was adjacent to or directly in front of



columns (Photo 1), as the primary tendon groupings are typically centered around these structural elements. The high point of the temperature tendons was located in line with the column.

While on site, several locations where tendons had been exposed at spalled concrete were tested to verify that the standard testing methodology would be valid at the Metropolitan parking structure. The test involves driving a metal tool into the tendon; a flat screwdriver and small pry bar were used for the testing ( Photo 2 and Photo 3 ). If the tendon still holds tension, the tool will not separate the metal strands that make up the tendon. Where the tendon has failed, the tool will separate the strands ( Photo 4 ).

# Investigation Methodology

ZS was onsite July 14 through July 17, 2025 to perform the PT testing. Grove Masonry Maintenance was onsite to perform the concrete work. The test process was:

- Grove Masonry was tasked with making approximately 6" x 6"- 18" openings in the concrete slab to expose PT tendons within the marked locations.
- The surface of the concrete was cut into a 1 in deep hatched pattern using a concrete saw. This allowed for a jack hammer to carefully chip away the concrete to expose the intended tendon(s). Grove worked around existing rebar and other miscellaneous material within the concrete.
- Openings were limited to 3 ½ 4 ½ inches deep. If no tendon was found, the area was reviewed by ZS and recorded accordingly. Once it was determined that the opening would not be excavated further, Grove Masonry was tasked with squaring off the opening as well as roughening the walls of the opening which allows for a stronger bond with the repair mortar. Once the opening was prepared, the repair mortar (SIKA 421) mortar was poured into the opening.
- If a tendon was discovered, the surrounding concrete was excavated so testing could occur. Once a tendon was exposed properly ZS performed tension testing. A test consisted of cutting the tendon's protective sheathing, exposing the steel cable (Photo 5). The tendon test described above was then performed by ZS. Depending on the result of the test, the tendon was prepared and the opening was patched following the guidelines described for locations where no tendon was found as follows:
  - A failing tendon required no preparation (Photo 6).
  - A passing tendon requires more excavation around the tendon in order to apply grease and waterproofing tape. Grease was applied into open sheathing and anywhere steel tendons were exposed. Waterproofing tape was wrapped around entire tendon where sheathing was cut or steel was exposed (Photo 7).
  - For tendons located at a depth of approximately 4½ inches, or in areas where adjacent tendons were present, concrete was not removed from the underside of the tendon. This approach was taken to avoid working too close to the bottom surface of the slab, which could risk creating holes through the entire slab or was limited by lack of access to the underside. Despite this, grease and waterproofing tape were applied to the top side of the tendon at the location of the cut sheathing to provide protection (Photo 8).

Metropolitan Schematic Design Report

Date: 9/23/2025

Page | 4

# Observations / Discussion

In the four days of work, 75 PT tendons were tested; of those 75, 22 (30%) were discovered to be no longer holding tension.

There were 52 main reinforcing tendons tested; of those 52, 12 tendons (23%) were no longer holding tension. The majority of the failed tendons were in areas where the garage floor was flat. There were 23 temperature tendons tested (temperature tendons run perpendicular to the main reinforcing and help with load distribution). Ten of the temperature tendons were found to be failed (43%). Those ten were evenly distributed throughout the structure. Based on a detailed review of the original construction plans, the total number of tendons in this structure is 1,010 (562 main tendons and 448 temperature tendons). Therefore, and based on the test results, ZS estimates 200 tendons will require repair.

That there were more failed tendons in the flat areas of the structure suggests runoff from vehicles may not be affectively draining from those areas of the parking structure. A properly maintained traffic coating as well as power-washing of the floor to remove road salt deposits will be essential in maintaining the health of the structure.

# 3.0 Schematic Drawings and Updated Budget

SD drawings based on the recommendations made in ZS' initial report were developed and shared with contractors who work in the Chicago area and perform PT repairs to create a more detailed budget for the parking structure repairs. The drawings are included with this report. Table 1 below is a summary of the repairs as detailed in the drawings along with the revised budget.

As part of developing the SD drawings set and discussing the project with contractors, ZS reviewed the possibility of phasing the work to allow for some parking stalls to remain available while the work is being performed. No practical way of phasing the work was found. The repairs will be through slab, meaning that there will be work on the underside of the slab at each PT repair. Therefore, the level that is being worked on as well as the level below will be inaccessible for safety reasons.

While it may be technically possible to park cars on the 1st and 2nd levels during work on the 5th and 6th levels, contractors will require the entire structure to be vacated during the PT repair process. This is due to safety concerns, liability insurance requirements, and the fact that destressing the tendons temporarily weakens the concrete slab.



Metropolitan Schematic Design Report Date: 9/23/2025

Page | 5

**Table-1 Engineer's Estimate of Probable Repair Cost** 

Repair Item	Description	Quantity	Unit Price	Total Cost
G1	Mobilization and General Conditions	LS	LS	\$500,000
1	Repair Concrete Spalls at cast on grade horizontal surface	15 sqft	\$100/sqft	\$1,500
2	Repair concrete spalls on vertical surface (wall)	360 sqft	\$200/sqft	\$72,000
3	Repair concrete spalls on overhead surface (underside of slab)	60 sqft	\$200/sqft	\$12,000
4	Repair concrete spalls on column surface	50 sqft	\$200/sqft	\$10,000
5	Repair Cracks in concrete slab on grade	3,000 Inft	\$12/Inft	\$36,000
6	Install new traffic coating	53,650 sqft	\$6/sqft	\$321,900
7	Construction joint in slab on grade	250 Inft	\$16/Inft	\$4,000
8	Repair cracks in concrete wall or columns	3,330 Inft	\$16/Inft	\$53,280
9	Remove and repair existing repair patch or spalled concrete	16,000 sqft	\$60/sqft	\$960,000
10	Repair cracks in PT slab floor	340 Inft	\$12/Inft	\$4,080
11	Install water repellent sealer on cast on grade slab	25,000 sqft	\$1/sqft	\$25,000
12	Pt tendon repair	200 ea	\$13,600ea	\$2,720,000
	\$4,720,000			
	\$140,000			
	\$470,000			
	\$5,330,000			

Date: 9/23/2025

Page | 6

# 4.0 Representative Photos

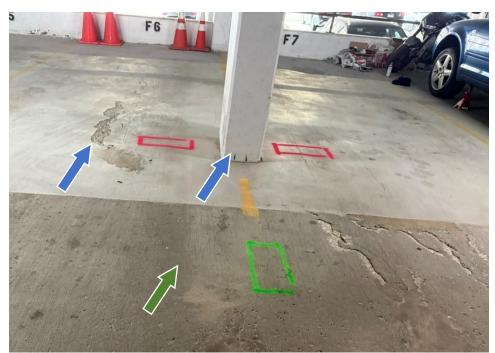


Photo 1: Main Tendon Location Markings – Green Arrow Indicates Temperature Tendon Location Marking



Photo 2: Tendon Exposed at Concrete Spall



Photo 3: Tenson Testing



Photo 4: Failed Tendon Test



Photo 5: Cut in Tendon Sheathing



Photo 6: Abandoned Failed Tendon



Photo 7: Good Tendon; Greased and Wrapped



Photo 8: Tendon Protection Where Tendon Could Not be Fully Wrapped

# THE METROPOLITAN PARKING STRUCTURE REPAIRS

# SCHEMATIC DRAWINGS

# 5320 N SHERIDAN ROAD CHICAGO, ILLINOIS

**OWNER:** 

THE METROPOLITAN 5320 SHERIDAN ROAD CHICAGO, IL

**ARCHITECT/ENGINEER:** 

ZS LLC 1525 EAST 53RD SREET, SUITE 815 CHICAGO, ILLINOIS 60615

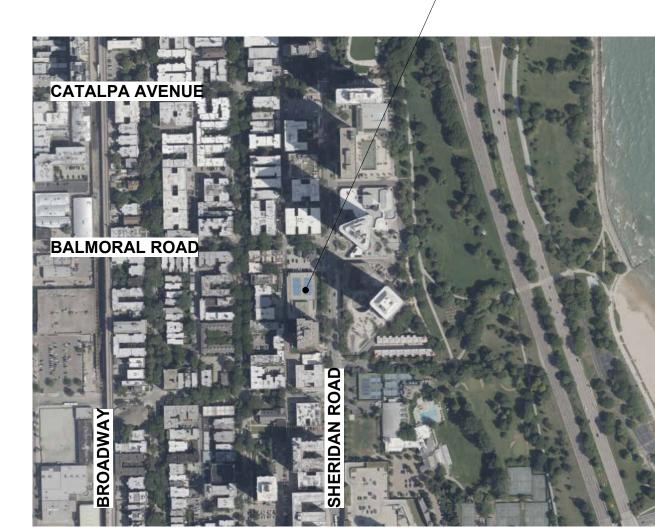


# **INDEX OF DRAWINGS:**

REPAIR DETAILS REPAIR DETAILS PT ELEVATIONS PT DETAILS

**LOCATION MAP:** 

SITE LOCATION



No.	Description	Date
1	Schematic Drawings	09/23/2025
<u>Owr</u>	<u>ier:</u>	
	THE METROPOLITAN	1
	5320 SHERIDAN ROA	
	CHICAGO, IL	
	TITLE PAG	
	IIILLIAG	_

SEPTEMBER 23, 2025

1525 East 53rd Street, Suite 827

Chicago, IL 60615 Phone: (414) 727-5000 Fax: (414) 727-6666

I SHERIDAN ROAD CAGO, ILLINOIS

# 01-GENERAL REQUIREMENTS

- 1. GOVERNING DESIGN CODES:
- A. INTERNATIONAL BUILDING CODE (IBC-2018) B. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE 7-16)
- C. SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, 15 TH ED. (ANSI/AISC 360-16) 1. MEMBER DESIGN BASIS IS LOAD AND RESISTANCE FACTOR DESIGN (LRFD)
- 2. CONNECTION DESIGN BASIS IS LOAD AND RESISTANCE FACTOR DESIGN (LRFD) D. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14)
- E. BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (TMS 402-13/ACI 530-13/ASCE 5-13) SPECIFICATION FOR MASONRY STRUCTURES (TMS 602-13/ACI 530.1-13/ASCE 6-13)
- NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS (AISI S100-16) H. NATIONAL DESIGN STANDARD FOR WOOD CONSTRUCTION (ANSI/AWC NDS-2018)
- A. DEFERRED SUBMITTALS ARE REQUIRED FOR THE FOLLOWING ITEMS. THE CONTRACTOR SHALL SUBMIT COPIES OF THESE ITEMS TO THE BUILDING DEPARTMENT AFTER REVIEW BY THE ARCHITECT AND/OR ENGINEER OF RECORD: 1. PT REPAIR PLAN
- **DESIGN LOAD CRITERIA:** AS SHOWN ON PLANS A. DEAD LOADS
- B. FLOOR LIVE LOADS CURRENT CODE REQUIREMENT 40PSF PER ORIGINAL DESIGN DRAWINGS 50PSF

# **03-CONCRETE**

- CAST-IN-PLACE CONCRETE: A. ALL CONCRETE WORK INCLUDING FABRICATION AND PLACEMENT OF REINFORCING SHALL BE PERFORMED IN ACCORDANCE WITH REQUIREMENTS GIVEN IN ACI 318 AND ACI301 (REFERENCED EDITIONS) EXCEPT AS
- MODIFIED BY THE PROJECT CONTRACT DOCUMENTS. B. CONCRETE MIXES SHALL SATISFY THE REQUIREMENTS GIVEN IN THE PROJECT SPECIFICATIONS.
- C. CONCRETE STRENGTH: CONCRETE MIXES USED ON THE PROJECT SHALL ATTAIN 28-DAY COMPRESSIVE STRENGTHS AS FOLLOWS:

CONCRETE TYPE	28-DAY COMPRESSIVE STRENGTH (PSI)
NW	4,500
NW	5,000
NW	SEE COLUMN SCHEDULE
NW	4,000
NW	4,000
	NW NW NW

D. DURABILITY REQUIREMENTS: CONCRETE MIXES USED ON THE PROJECT SHALL BE PROPORTIONED TO SATISFY THE FOLLOWING DURABILITY REQUIREMENTS:

CONCRETE DURABILITY REQUIREMENTS					
DESCRIPTION OF CONCRETE USE AND / OR EXPOSURE	FREEZE-THAW (ACI 318, 4.2.1)	PERMEABILITY (ACI 318, 4.2.2)	CHLORIDES (ACI 318, 4.2.3)	SULFATES (ACI 318, 4.3.1)	
PARKING GARAGE (ALL CONCRETE)	SEVERE	III	0.15	NA	

- REFER TO ACI 318, CHAPTER 4 DEFINITION OF EXPOSURE CLASSIFICATIONS.
- 2. PERMEABILITY CLASSIFICATIONS ARE AS FOLLOWS: I - CONCRETE INTENDED TO HAVE LOW PERMEABILITY WHEN EXPOSED TO WATER.
- II CONCRETE EXPOSED TO FREEZING AND THAWING IN A MOIST CONDITION. III - FOR CORROSION PROTECTION OF REINFORCING IN CONCRETE EXPOSED TO
- CHLORIDES FROM DEICING CHEMICALS, SALT OR SALT WATER. 3. CONCRETE USED IN POST-TENSIONED CONCRETE IN ANY EXPOSURE CLASSIFICATION SHALL BE
- LIMITED TO A CHLORIDE ION CONTENT OF 0.06% OR LESS (ACI 318 4.2.3).
- E. ALL CONCRETE IN CONTACT WITH ON-SITE SOILS SHALL CONTAIN TYPE I/II CEMENT.
- F. ALL REINFORCING STEEL IN CONCRETE SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI AND SHALL MEET THE REQUIREMENTS OF ASTM A615 OR ASTM A706. REINFORCING SHOWN AS GRADE 75 SHALL HAVE A MINIMUM YIELD STRENGTH OF 75,000 PSI AND MEET THE REQUIREMENT OF ASTM A615.
- G. CONCRETE REINFORCING USED IN WELDED APPLICATIONS SHALL CONFORM TO ASTM A706 WITH A MINIMUM YIELD STRENGTH OF 60,000 PSI.
- H. MECHANICAL REINFORCING COUPLERS SHALL BE ZAP SCREWLOCK MANUFACTURED BY BARSPLICE PRODUCTS, INC. (ICC REPORT ER-5461) OR APPROVED EQUIVALENT. COUPLERS SHALL BE ZINC COATED AND CAPABLE OF DEVELOPING 125% OF
- THE SPECIFIED YIELD STRENGTH OF THE REINFORCING. WELDED WIRE FABRIC SHALL BE SUPPLIED IN SHEETS ONLY AND SHALL MEET THE REQUIREMENTS OF ASTM A185. J. STEEL PLATES EMBEDDED IN CONCRETE SHALL CONFORM TO ASTM A36 UNLESS NOTED OTHERWISE ON PLANS OR DETAILS. HEADED ANCHOR STUDS SHALL CONFORM TO ASTM A108, 60,000 PSI MINIMUM TENSILE STRENGTH. REINFORCING BARS
- WELDED TO PLATES SHALL CONFORM TO ASTM A706, GRADE 60. K. REINFORCING DETAILING: 1. ALL REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH ACI 318 AND ACI 315 "DETAILS AND DETAILING OF
- CONCRETE REINFORCEMENT". 2. CONCRETE COVER: UNLESS OTHERWISE SHOWN ON PLANS OR IN DETAILS, PROVIDE THE FOLLOWING CONCRETE
- COVER TO REINFORCING a. CONCRETE POURED IN FORMS AND EXPOSED TO WEATHER OR EARTH:
- #5 BARS OR SMALLER BARS LARGER THAN #5 BARS
- b. COLUMNS, GIRDERS AND BEAMS PRINCIPAL REINFORCING, TIES AND STIRRUPS SLABS AND WALLS JOISTS

TOP REINFORCING BARS - AT MIDSPAN

- c. PARKING GARAGE SLABS: TOP REINFORCING BOTTOM REINFORCING
- 3. SPLICES OF REINFORCING BARS ARE PERMITTED ONLY AS DETAILED OR AUTHORIZED BY THE STRUCTURAL ENGINEER. LAP SPLICES, WHERE PERMITTED, SHALL BE CLASS 'B' LAP SPLICES UNLESS NOTED OTHERWISE. 4. REINFORCING IN BEAMS, SLABS, JOISTS, AND WALLS NOTED AS CONTINUOUS SHALL BE LAP SPLICED WITH CLASS 'B' LAP SPLICES AS FOLLOWS:
- 2. BOTTOM REINFORCING BARS OVER SUPPORTS 5. SPLICE WIRE FABRIC REINFORCING BY LAP SPLICING ONE FULL MESH PLUS 2" AT SIDE AND END LAPS, BUT NOT LESS
- THAN 6". LAP SPLICES SHALL BE WIRE TIED. 6. MAKE ALL REINFORCING BARS CONTINUOUS AROUND CORNERS OR PROVIDE CORNER BARS OF EQUAL SIZE AND
- SPACING. SEE DETAILS FOR REINFORCING AT WALL INTERSECTIONS AND CORNERS. SPLICE CORNER BARS WITH CLASS 'B' LAP SPLICES UNLESS SHOWN OTHERWISE. 7. AT LOCATIONS WHERE ALL REINFORCING WITHIN A STRUCTURAL ELEMENT WILL BE SPLICED, THE SPLICES MUST BE
- STAGGERED UNLESS SHOWN OTHERWISE IN DETAILS OR SCHEDULES. OTHERWISE, STAGGER ADJACENT SPLICES
- DEINEODOING BAD DEVELOPMENT AND LAD SOLICE LENGTHS: DEEED TO DEVELOPMENT LENGTH AND LAD SOLICE

. REINFORCING BAR DEVELOPMENT AND LAP SPLICE LENGTHS: REFER TO DEVELOPMENT LENGTH AND LAF	SELICE
SCHEDULE BELOW FOR MINIMUM SPLICE AND DEVELOPMENT LENGTHS TO BE USED FOR DETAILING.	

	MINIMUM REINFORCING DEVELOPMENT LENGTHS AND LAP SPLICE LENGTHS									
	CONCRETE STRENGTH = 4000 PSI									
BAR		LENGTH (L <sub>d</sub> ) OR SION LAP (L <sub>st</sub> )	CLASS B LAP SPL	TENSION LICE (Lst)		ARD HOOK IT LENGTH (L <sub>dh</sub> )	HEADED BAR DEVELOPMENT LENGTH (L <sub>dt</sub> )			
SIZE	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	SIDE COVER ≥2½" END COVER ≥2"	SIDE COVER <2½" END COVER <2"	COVER ≥2db SPACING ≥4db			
#3	18"	14"	24"	18"	6"	7"	6"			
#4	25"	19"	32"	25"	7"	9"	8"			
#5	31"	24"	40"	31"	8"	12"	9"			
#6	37"	28"	48"	37"	10"	14"	11"			
#7	54"	42"	70"	54"	12"	17"	13"			
#8	62"	47"	80"	62"	13"	19"	15"			
#9	70"	54"	90"	70"	15"	21"	17"			
#10	78"	60"	102"	78"	17"	24"	19"			
#11	87"	67"	113"	87"	19"	27"	21"			

- UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE CONTRACT DRAWINGS, USE THE MINIMUM LENGTH FOR A CLASS B LAP SPLICE OR THE MINIMUM DEVELOPMENT LENGTH INDICATED IN THE TABLES ABOVE MULTIPLIED BY THE APPLICABLE FACTOR(S)
- A. WHERE THE CLEAR SPACING BETWEEN BARS LAP SPLICED OR DEVELOPED AT ANY SECTION IS LESS THAN 2 BAR DIAMETERS. OR WHERE THE BAR COVER IS LESS THAN THE BAR DIAMETER, MULTIPLY THE TABULATED BAR SPLICE OR DEVELOPMENT LENGTH BY 1.5 B. FOR EPOXY COATED BARS, MULTIPLY THE TABULATED BAR SPLICE OR DEVELOPMENT LENGTH BY 1.2.
- TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS. TABLE IS FOR 1 OR 2 BAR BUNDLES ONLY. FOR DEVELOPMENT LENGTHS AND TENSION LAP SPLICE LENGTHS OF BUNDLED BARS

LISTED BELOW. THE PRODUCT OF THE FACTORS IN A. AND B. BELOW NEED NOT EXCEED 1.7.

REFER TO ACI 318-14 SECTION 25.6 OR CONTACT THE STRUCTURAL ENGINEER. MECHANICAL COUPLERS MAY BE SUBSTITUTED FOR TENSION LAP SPLICED BARS PROVIDED THAT THEY MEET THE REQUIREMENTS OF ACI 318-14 SECTION 25.5.

# 03-CONCRETE (CONT'D)

- 9. AT ENDS OF BEAMS, SLABS, JOINTS, WALLS AND GRADE BEAMS, TERMINATE TOP REINFORCING WITH STANDARD HOOKS
- UNLESS SHOWN OTHERWISE ON PLANS OR DETAILS. 10. REINFORCING AROUND OPENINGS IN WALLS AND FLOORS: UNLESS NOTED OTHERWISE ON PLAN OR IN DETAILS, PROVIDE 2-#5 BARS (ONE BAR EACH FACE) AT EACH SIDE OF OPENING (CIRCULAR OPENINGS SHALL BE CONSIDERED SQUARE WITH EQUIVALENT OPENING WIDTH EQUAL TO DIAMETER OF CIRCULAR OPENING). EXTEND #5 BARS PAST EDGES OF OPENING A DISTANCE OF 24". EXCEPTIONS: RECTANGULAR OPENINGS WITH THE LARGEST OPENING DIMENSION LESS THAN 8" AND CIRCULAR
- OPENINGS LESS THAN 8" IN DIAMETER DO NOT NEED ADDITIONAL REINFORCING AS DESCRIBED ABOVE. MULTIPLE OPENINGS SHALL BE SPACED A MINIMUM OF 32" (CLEAR) APART TO QUALIFY FOR THIS EXCEPTION. 11. WHERE UNIFORMLY SPACED WALL OR SLAB REINFORCING IS INTERRUPTED BY THE OPENING, PROVIDE ADDITIONAL
- REINFORCING AT EACH EDGE EQUAL TO HALF THE AREA OF INTERRUPTED REINFORCING. SIZE OF ADDITIONAL BARS AT EACH EDGE SHALL MATCH THE SIZE OF INTERRUPTED REINFORCING. SPACE THE ADDITIONAL BARS AT 3" ON CENTER STARTING 1" FROM THE SIDE OF THE OPENING AND EXTEND THE BARS PAST THE EDGES OF THE OPENING THE LENGTH OF A CLASS 'B' SPLICE.
- WELDING OF REINFORCING IS NOT ALLOWED UNLESS DETAILED OR AUTHORIZED BY THE STRUCTURAL ENGINEER. M. PLACING OF REINFORCING:
- PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING AT POSITIONS SHOWN ON PLANS AN TO MAINTAIN REQUIRED CONCRETE COVER.
- PROVIDE ADDITIONAL BARS AND SUPPORTS AS NECESSARY TO SECURE REINFORCING IN PLACE DURING CONCRETE 3. ALL STIRRUPS SHALL HAVE A #3 SPACER BAR AT ALL CORNERS OVER LENGTH OF STIRRUP SPACING WHERE NO OTHER LONGITUDINAL REINFORCING BAR IS PRESENT.
- 4. WET-STABBING OF REINFORCING OR EMBEDS INTO PREVIOUSLY PLACED CONCRETE IS NOT ALLOWED. N. CONTROL JOINTS IN CONCRETE: PROVIDE CONTROL JOINTS IN CONCRETE WALLS AT A MAXIMUM SPACING OF 30'-0 ON CENTER. SEAL CONTROL JOINTS
- EXPOSED TO EARTH OR WEATHER WITH JOINT SEALANT. PROVIDE CONTROL JOINTS IN SLABS-ON-GRADE AT A MAXIMUM SPACING OF 12'-0 ON CENTER UNLESS OTHERWISE SHOWN ON PLAN OR IN DETAILS. COORDINATE JOINT LOCATIONS WITH FLOOR FINISHES AND LOCATE JOINTS AT COLUMN CENTERLINES, AT ENDS AND CORNERS OF WALLS, RE-ENTRANT CORNERS AND LOCATIONS PRONE TO CRACKING WHERE POSSIBLE. CONTRACTOR SHALL SUBMIT A PLAN LOCATING CONTROL JOINTS TO ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO PROCEEDING WITH THE WORK.
- CONSTRUCTION JOINTS: LOCATE CONSTRUCTION JOINTS AT CONTROL JOINT LOCATIONS WHERE POSSIBLE.
- SLABS, BEAMS, AND JOISTS SHALL NOT HAVE CONSTRUCTION JOINTS IN A HORIZONTAL PLANE. ANY STOP IN CONCRETE WORK MUST BE MADE AT THIRD POINT OF SPAN WITH VERTICAL BULKHEADS AND HORIZONTAL KEYS, UNLESS OTHERWISE SHOWN. ALL CONSTRUCTION JOINTS SHALL BE AS DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER. 3. FOR CONCRETE POURED ON METAL DECK, LOCATE CONSTRUCTION JOINTS FIVE FEET FROM THE CENTERLINE OF
- PARALLEL STEEL BEAMS OR GIRDERS, OR, HALFWAY BETWEEN ADJACENT BEAMS, WHICHEVER IS LESS. 4. ALL REINFORCING SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS, OR, PROVIDE DOWEL BAR SPLICERS CAPABLE OF DEVELOPING THE STRENGTH OF THE REINFORCING. LAP SPLICE DOWEL BAR EXTENSION AND DOWEL BAR
- CONSOLIDATE ALL CONCRETE DURING PLACEMENT AND THOROUGHLY WORK AROUND REINFORCING AND EMBEDDED ITEMS AND INTO CORNERS OF FORMS FOLLOWING ACI RECOMMENDATIONS.
- WHEN CONCRETE PLACEMENT IS INTERRUPTED, NOTIFY THE STRUCTURAL ENGINEER FOR RECOMMENDATIONS. UNLESS DIRECTED OTHERWISE, PROVIDE A CONSTRUCTION JOINT BY ROUGHENING THE CONCRETE SURFACE TO AN AMPLITUDE OF 1/4" COAT THE JOINT SURFACE WITH THE SPECIFIED BONDING AGENT PRIOR TO POURING CONCRETE.
- POST-TENSIONED CONCRETE: A. ALL CONCRETE AND MILD REINFORCING MATERIALS USED IN POST-TENSIONED CONCRETE CONSTRUCTION SHALL CONFORM TO REQUIREMENTS GIVEN IN ACI 318, ACI 301 (REFERENCED EDITIONS) AND THE REQUIREMENTS GIVEN IN 'CAST-IN-PLACE
- CONCRETE' SECTION ABOVE. B. POST-TENSIONING CABLES, SHEATHING, ANCHORAGES, HARDWARE AND ACCESSORIES SHALL CONFORM TO REQUIREMENTS
- GIVEN IN ACI 423.6 AND PTI SPECIFICATION FOR UNBONDED, SINGLE STRAND TENDONS. POST-TENSIONING TENDONS SHALL BE LOW-RELAXATION, 7-WIRE STRAND (GRADE 270) CONFORMING TO ASTM A 416. POST-TENSIONING STRANDS, ANCHORAGES AND COUPLINGS USED IN CONSTRUCTION PERMANENTLY EXPOSED TO WEATHER
- (GARAGES, TERRACES, BALCONIES AND DECKS) SHALL BE FULLY ENCAPSULATED IN AN APPROVED CORROSION PROTECTION

SPLICER TO REINFORCING USING CLASS 'B' LAP SPLICES.

- ALL TENDONS SHALL BE UNBONDED UNLESS NOTED OTHERWISE. DETAILS OF ALL POST-TENSIONING TENDONS, ANCHORAGES AND COUPLINGS SHALL BE SUBMITTED TO THE ENGINEER FOR
- APPROVAL STRESSING FORCES SHOWN ON THE DRAWINGS ARE FINAL, EFFECTIVE FORCES. THE TENDON SUPPLIER AND CONTRACTOR
- ARE JOINTLY RESPONSIBLE TO PROVIDE THE SPECIFIED FORCES. POST-TENSIONING TENDONS SHALL BE PLACED AT THE POSITIONS SHOWN ON THE DRAWINGS. THE SUPPLIER SHALL DETAIL DIMENSIONS TO INTERMEDIATE POINTS AS REQUIRED TO PLACE THE TENDONS TO THE REQUIRED TOLERANCES AND SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR APPROVAL.
- POST-INSTALLED ANCHORS INTO CONCRETE: A. PROVIDE POST-INSTALLED, CONCRETE ANCHORS AS SHOWN IN THE CONTRACT DOCUMENTS AND IN THE SPECIFICATIONS.
- ANCHORS SUPPORTING MISCELLANEOUS FRAMING SHALL BE AS SHOWN IN THE PLANS AND DETAILS. IF NOT OTHERWISE SPECIFIED, THE ANCHORS SHALL BE HILTI KWIK BOLT TZ.
- ANCHORS SUPPORTING ARCHITECTURAL COMPONENTS. ELECTRICAL AND MECHANICAL EQUIPMENT SHALL BE AS INDICATED IN THE PLANS AND DETAILS. IF NOT OTHERWISE SPECIFIED, THE ANCHORS SHALL BE HILTI HDI CONCRETE EXPANSION
- D. PRIOR TO ANCHOR INSTALLATION, LOCATE EXISTING REINFORCING WITHIN CONCRETE SUBSTRATE. DO NOT DAMAGE EXISTING REINFORCING DURING INSTALLATION. CONTACT THE STRUCTURAL ENGINEER IF ANCHOR LOCATION CONFLICTS
- PRODUCT SUBSTITUTION: THE CONTRACTOR MAY SUBMIT ALTERNATE ANCHORS FOR REVIEW AND APPROVAL PROVIDED THE ACCOMPANYING PRODUCT DATA IS SATISFACTORY TO THE ENGINEER FOR COMPARISON TO THE SPECIFIED ANCHORS.

CONCRETE MASONRY UNITS:

REINFORCING DETAILING:

THAN 24" WIDE.

WITH EXISTING REINFORCING.

- A. ALL CONCRETE MASONRY WORK INCLUDING FABRICATION AND PLACEMENT OF REINFORCING SHALL BE PERFORMED IN ACCORDANCE WITH REQUIREMENTS GIVEN IN ACI 530 AND ACI 530.1 (REFERENCED EDITIONS)
- EXCEPT AS MODIFIED BY THE PROJECT CONTRACT DOCUMENTS. B. MASONRY BLOCK UNITS SHALL CONFORM TO ASTM C90 (MEDIUM OR LIGHTWEIGHT BLOCK).
- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONFORM TO ASTM C270 AS FOLLOWS: a. EXTERIOR WALLS AND INTERIOR WALLS: TYPE S b. FOUNDATION WALLS AND WALLS EXPOSED TO EARTH: TYPE M
- GROUT USED IN MASONRY CONSTRUCTION SHALL CONFORM TO ASTM C476 AND SHALL DEVELOP 3,000 PSI (MINIMUM) COMPRESSIVE STRENGTH IN 28-DAYS WHEN TESTED IN ACCORDANCE WITH C1019.
- MASONRY SHALL DEVELOP 2,000 PSI (MINIMUM) COMPRESSIVE STRENGTH (fm) IN 28 DAYS WHEN TESTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
- F. ALL REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI AND SHALL MEET THE REQUIREMENTS OF ASTM A615 OR ASTM A706.

STRENGTH. REINFORCING BARS WELDED TO PLATES SHALL CONFORM TO ASTM A706, GRADE 60.

- REINFORCING USED IN WELDED APPLICATIONS SHALL CONFORM TO ASTM A706 WITH A MINIMUM YIELD STRENGTH OF 60,000 PSI. H. HORIZONTAL JOINT REINFORCING SHALL CONFORM TO ASTM A951 (LADDER-TYPE) WITH CROSS WIRES AT 16" ON CENTER. SIDE RODS SHALL BE #9 SIZE AND SHALL CONFORM TO ASTM A82. STEEL PLATES EMBEDDED IN GROUTED MASONRY SHALL CONFORM TO ASTM A36 UNLESS NOTED OTHERWISE ON PLANS OR DETAILS. HEADED ANCHOR STUDS SHALL CONFORM TO ASTM A108, 60,000 PSI MINIMUM TENSILE
- a. ALL REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH ACI 530 AND ACI 530.1. b. VERTICAL REINFORCING SHALL EXTEND THE FULL HEIGHT OF THE WALL AND SHALL BE GROUTED IN PLACE
- c. CONTINUOUS REINFORCING MAY BE SPLICED AS REQUIRED USING BARS OF LONGEST PRACTICAL LENGTH.
- HORIZONTAL REINFORCING SHALL BE CONTINUOUS AROUND WALL CORNERS AND INTERSECTIONS. d. WHERE REQUIRED, REINFORCING SPLICES SHALL BE SHOWN ON REINFORCING SHOP DRAWINGS AND SHALL CONFORM TO THE FOLLOWING SCHEDULE.

BAR	BAR	CENTERED IN	CELL	BAR AT EDGE OF CELL
SIZE	8" BLOCK	10" BLOCK	12" BLOCK	ALL BLOCK SIZES
#3	12"	12"	12"	15"
#4	12"	12"	12"	26"
#5	18"	14"	12"	41"
#6	34"	26"	21"	54"
#7	47"	36"	29"	63"
NOTES: 1. VALUES CALCULATED PER IBC SECTION 2108.2. 2. REINFORCING $F_y = 60,000$ PSI.				

e. VERTICAL REINFORCING SHALL BE DOWELED INTO FOUNDATION OR SLAB SUPPORTING MASONRY, PROVIDE DOWELS OF ADEQUATE LENGTH FOR CONCRETE OR MASONRY DEVELOPMENT LENGTH INTO FOUNDATION AND MASONRY LAP SPLICE PROJECTION ABOVE. FOR MASONRY SUPPORTED ON SLABS, PROVIDE DOWELS EMBEDDED INTO SLAB WITH STANDARD HOOKS. DOWEL SIZE AND SPACING SHALL MATCH VERTICAL

3. VALUES ONLY APPLY FOR A SINGLE BAR WITHIN CELL. 4. COVER FOR BAR AT EDGE OF CELL IS 1½" MIN.

- K. MINIMUM WALL REINFORCING: a. REINFORCE MASONRY WALLS AS SHOWN ON THE DRAWINGS. WHERE NOT SHOWN, REINFORCE WALLS
- (INCLUDING PARTITION WALLS) WITH #5 VERTICAL BARS AT 48" ON CENTER MAXIMUM SPACING UNLESS NOTED OTHERWISE. b. PROVIDE 1-#5 BAR AT ALL CORNERS, ENDS OF WALLS, EACH SIDE OF OPENINGS AND EACH SIDE OF
- c. PROVIDE HORIZONTAL JOINT LADDER-TYPE REINFORCING AT 16" ON CENTER UNLESS NOTED OTHERWISE
- ON DRAWINGS. PROVIDE PREFABRICATED JOINT REINFORCING ASSEMBLIES FOR CORNERS AND INTERSECTIONS. LAP SPLICE JOINT REINFORCING 8" KEEPING CELL OPENING CLEAR OF CROSS WIRES. d. PROVIDE ADDITIONAL HORIZONTAL JOINT REINFORCING IN BED JOINT ABOVE MASONRY COURSE OPENINGS. EXTEND JOINT REINFORCING A MINIMUM OF 2'-6 PAST EDGE OF OPENINGS.
- L. OPENINGS IN WALLS: a. REFER TO ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS FOR LOCATIONS OF OPENINGS THROUGH MASONRY WALLS. PROVIDE LOOSE LINTEL OR BOND BEAM OVER TOP OF OPENINGS GREATER

1. PROVIDE BOND BEAMS IN MASONRY WALLS AS SHOWN ON THE DRAWINGS. OR TO MATCH EXISTING

- M. REINFORCING PLACEMENT: a. ALL REINFORCING SHALL HAVE A MINIMUM GROUT COVER OF ONE BAR DIAMETER. b. BARS CENTERED IN CELLS SHALL BE HELD SECURELY IN PLACE. BARS NOTED AS "EACH FACE" SHALL BE
- SECURED IN PLACE AT 4'-0 ON CENTER (VERTICAL) USING PREFABRICATED REBAR POSITIONERS. CONTROL JOINTS: UNLESS SHOWN OTHERWISE ON STRUCTURAL OR ARCHITECTURAL DRAWINGS, PROVIDE CONTROL JOINTS AT A MAXIMUM SPACING OF 30'-0 ON CENTER IN EXTERIOR WALLS AND 40'-0 ON CENTER IN

# 04-MASONRY (CONT'D)

- a. FILL ALL BLOCK CELLS CONTAINING REINFORCING WITH GROUT.
- b. FILL ALL VOIDS AND CELLS WITH GROUT FOR A DISTANCE OF 24" BELOW AND 16" EACH SIDE OF ALL BEAM AND LINTEL REACTIONS OR OTHER CONCENTRATED LOADS UNLESS SHOWN OTHERWISE.
- c. FILL ALL VOIDS AND CELLS OF MASONRY BLOCK SUPPORTING CONCRETE SLABS OR STEEL DECK FOR A DISTANCE OF 8" BELOW BEARING ELEVATION.
- d. UNLESS SHOWN OTHERWISE IN DETAILS, GROUT CELLS CONTAINING ANCHORS OR EMBEDMENTS PLUS ADJACENT CELLS BELOW, ABOVE AND EACH SIDE.
- e. FILL ALL CELLS BELOW GRADE WITH GROUT.
- f. FILL ALL CELLS ABOVE ROOF LEVEL WITH GROUT AT PARAPETS. g. WHERE A CHANGE IN WALL THICKNESS OCCURS, GROUT THE TOP COURSE OF THE THICKER WALL. h. GROUT BEAM AND JOIST POCKETS WHERE REQUIRED TO MAINTAIN FIRE RATING OF WALL.
- P. SLIP JOINTS: PROVIDE SLIP JOINTS AT THE TOP OF ALL NON-LOAD BEARING WALLS. Q. MAINTAIN SUPPORT OF MASONRY LINTELS FOR A MINIMUM OF SEVEN DAYS OR UNTIL MASONRY HAS REACHED
- STRENGTH SUFFICIENT TO SAFELY SUPPORT IMPOSED LOADS. R. MASONRY WALL CONSTRUCTION SHALL BE RUNNING BOND UNLESS NOTED OTHERWISE ON THE DRAWINGS.

ARCHITECTURAL ENGINEERING 1525 East 53rd Street, Suite 827 Chicago, IL 60615 Phone: (414) 727-5000 Fax: (414) 727-6666 www.zsllc-us.com

No.	Description	Date
1	Schematic Drawings	09/23/2025
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THE METROPOLITAN 5320 SHERIDAN ROAD CHICAGO, IL

GENERAL NOTES

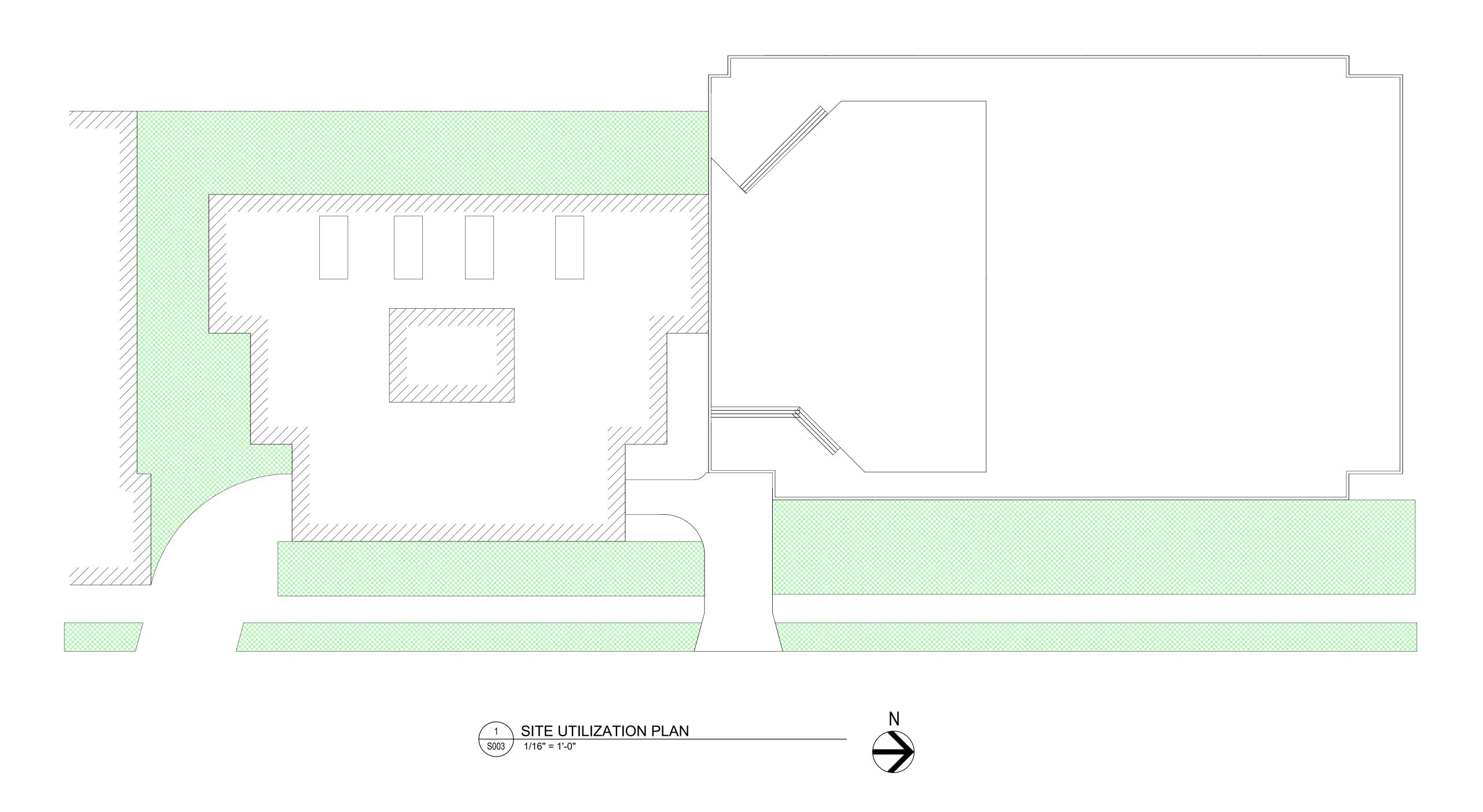
NOTE IN REGARD TO EXISTING CONDITIONS

NO ADDITIONAL COST OR BURDEN TO THE CONTRACT.

INFORMATION SHOWN ON THESE DRAWINGS. WITH RESPECT TO EXISTING CONDITIONS, TO THE BEST OF OUR KNOWLEDGE, REPRESENT THE GENERAL AND CURRENT FIELD CONDITIONS. ZS MAKES NO WARRANTY AS TO THE COMPLETENESS OR ACCURACY OF ANY AND ALL EXISTING CONDITIONS SHOWN ON THESE DRAWINGS. CONTRACTOR('S) SHALL VERIFY ALL EXISTING CONDITIONS RELATED TO THE NEW WORK AND REPORT TO THE AE FOR REVIEW ANY DISCREPANCIES BEFORE PERFORMING ANY WORK. ANY WORK PERFORMED PRIOR TO AE REVIEW AND SUBSEQUENT RESOLUTION OF

DISCREPANCIES BY THE AE IS SUBJECT TO REMOVAL AND REPLACEMENT AT

257018 Project number **SEPTEMBER 23. 2025** 



NOTE IN REGARD TO EXISTING CONDITIONS

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# HE METACTOLITAN PARKING STRUCTORE REFA

No.	Description	Date
1	Schematic Drawings	09/23/2025

Owner:

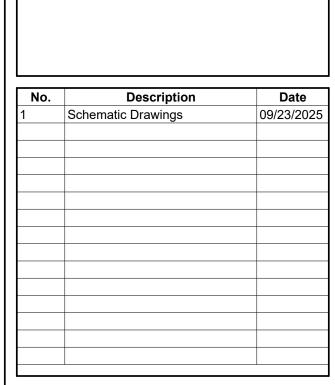
THE METROPOLITAN 5320 SHERIDAN ROAD CHICAGO, IL

SITE UTILIZATION PLAN

Project number Date

SEPTEMBER 23, 2025





Owner: THE METROPOLITAN 5320 SHERIDAN ROAD CHICAGO, IL

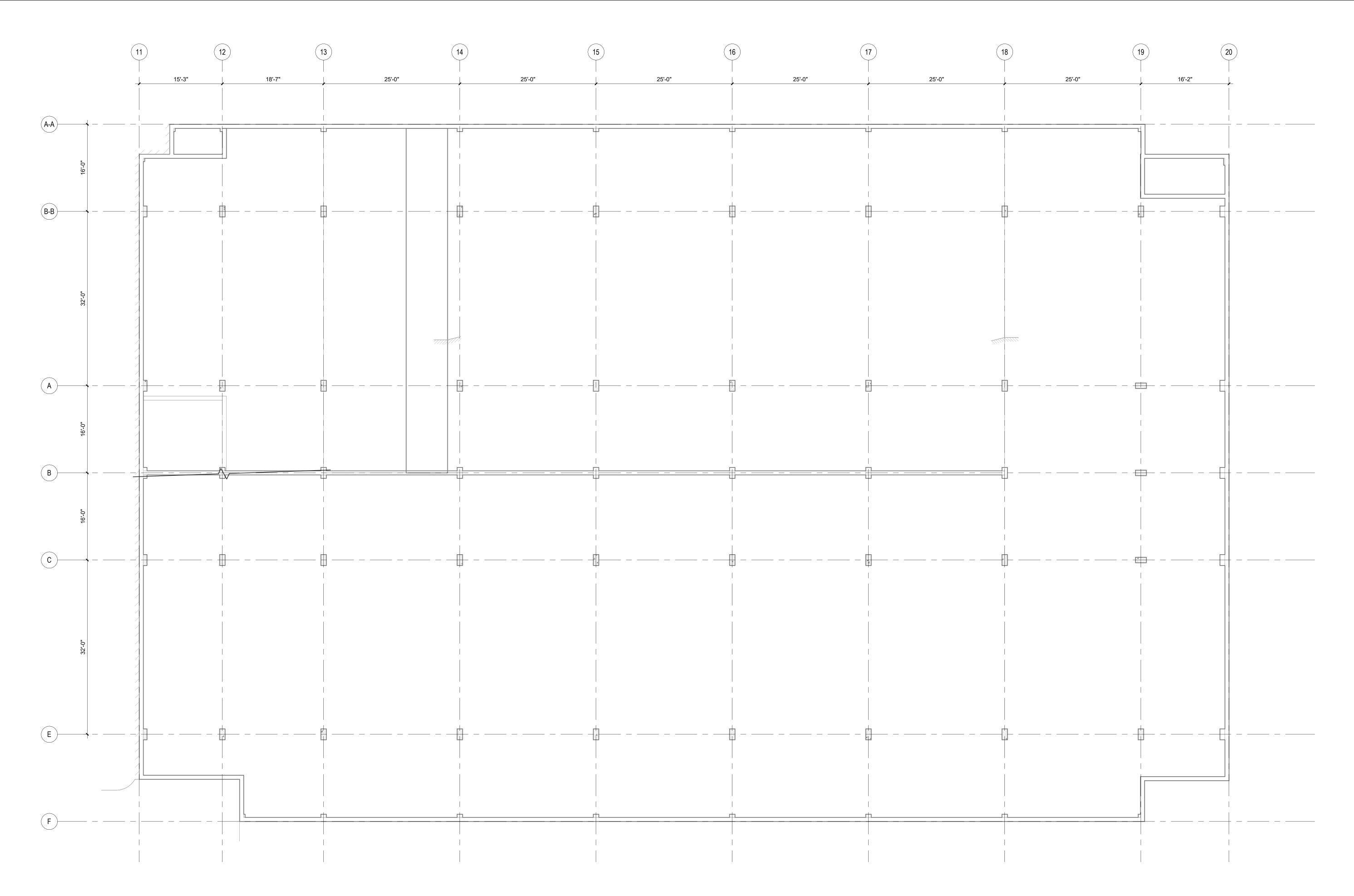
**REPAIR PLAN -**LEVEL 1 AND LEVEL 2

EXPLAN - LEVELS 1 AND 2

NOTE IN REGARD TO EXISTING CONDITIONS

INFORMATION SHOWN ON THESE DRAWINGS, WITH RESPECT TO EXISTING CONDITIONS, TO THE BEST OF OUR KNOWLEDGE, REPRESENT THE GENERAL AND CURRENT FIELD CONDITIONS. ZS MAKES NO WARRANTY AS TO THE

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REPAIR PLAN - LEVEL 1 AND LEVEL 2

	KEYED NOTES LEVEL 1 AND LEVEL 2						
NO.	DESCRIPTION	REPAIR DETAILS	QUATITY	UNITS			
1	REPAIR CONCRETE SPALLS AT CAST ON GRADE HORIZONTAL SURFACE; PREPARE SURFACE AND PATCH CONCRETE	1/S008	15	SQFT			
2	REPAIR CONCRETE SPALLS ON VERTICAL SURFACE (WALL); PREPARE SURFACE AND PATCH CONCRETE	6/S008 5/S009	61	SQFT			
3	REPAIR CONCRETE SPALLS ON OVERHEAD SURFACE (UNDERSIDE OF SLAB); PREPARE SURFACE AND PATCH CONCRETE	4/S008 5/S008	10	SQFT			
4	REPAIR CONCRETE SPALL ON COLUMN SURFACE; PREPARE SURFACE AND PATCH CONCRETE	1/S009 2/S009	15	SQFT			
5	REPAIR CRACKS IN CONCRETE SLAB ON GRADE; ROUT AND SEAL CRACK	8/\$008	3000	LNFT			
7	CONSTRUCTION JOINT IN CONCRETE SLAB ON GRADE	8/\$008	250	LNFT			
8	REPAIR CRACKS IN CONCRETE WALL OR COLUMN; ROUT AND SEAL CRACK	8/\$009	177	LNFT			
(11)	INSTALL WATER REPELLENT ON CAST ON GRADE SLAB	2/S008 7/S009	25000	SQFT			



# IE METROPOLITAN PARKING STRUCTURE REF

No.	Description	Date
1	Schematic Drawings	09/23/20

wner: THE METROPOLITAN 5320 SHERIDAN ROAD

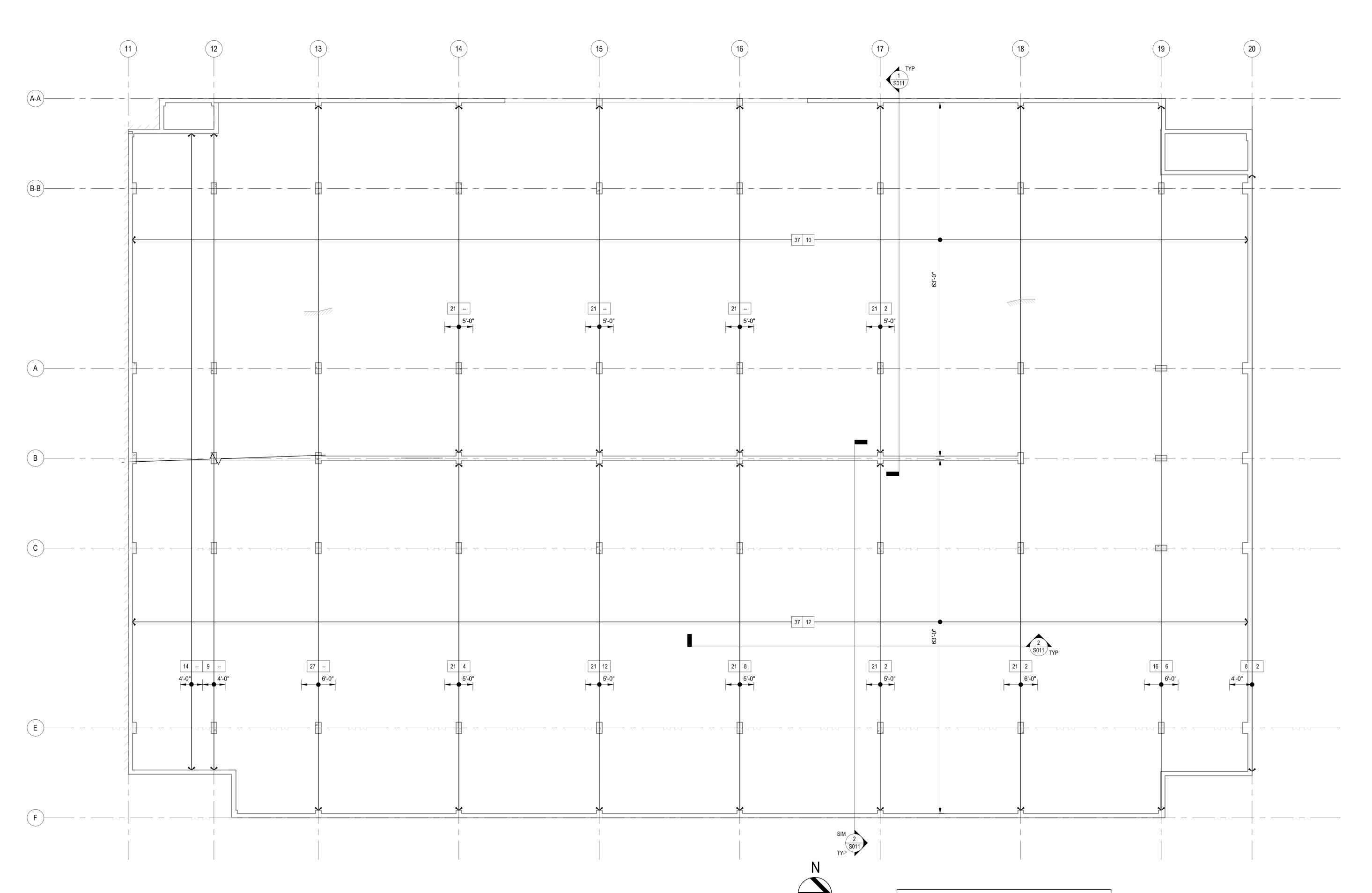
REPAIR PLAN -LEVEL 3 AND LEVEL 4

CHICAGO, IL

Project number 257018

Date SEPTEMBER 23, 2025

S005



REPAIR PLAN - LEVEL 3 AND LEVEL 4

	KEYED NOTES LEVEL 3 AND LEVEL 4					
NO.	DESCRIPTION	REPAIR DETAILS	QUATITY	UNITS		
2	REPAIR CONCRETE SPALLS ON VERTICAL SURFACE (WALL); PREPARE SURFACE AND PATCH CONCRETE	6/S008 5/S009	230	SQFT		
4	REPAIR CONCRETE SPALL ON COLUMN SURFACE; PREPARE SURFACE AND PATCH CONCRETE	1/S009 2/S009	20	SQFT		
6	PT SLAB COATING; PREPARE CONCRETE SURFACE AND INSTALL TRAFFIC COATING	3/S008 7/S009	25000	SQFT		
8	REPAIR CRACKS IN CONCRETE WALL OR COLUMN; ROUT AND SEAL CRACK	8/S009	850	LNFT		
9	REMOVE EXISTING REPAIR PATCH OR SPALLED CONCRETE; PREPARE SURFACE; INSTALL NEW CONCRETE PATCH	1/S008	7400	SQFT		
<b>(10)</b>	REPAIR CRACKS IN CONCRETE PT SLAB FLOOR; ROUT AND SEAL CRACK	6/S009	210	LNFT		

PT TENDON LEGEND

EXISTING TENDON ANCHOR LOCATION

EXPECTED QUANTITY OF TENDONS THAT REQUIRE REPAIRS

EXPECTED QUANTITY OF EXISTING TENDONS IN GROUP

WIDTH OF EXISTING TENDON GROUP

• PT ANCHOR LOCATION AND QUANTITIES PROVIDED FOR BIDDING PURPOSES ONLY, ALL TENDON LOCATIONS SHOWN ON PLAN TO BE EXPOSED AND TESTED FOR TENSION

• PT REPAIR DETAILS PROVIDED FOR DESIGN INTENT. FINAL REPAIRS AND SEQUENCING THE RESPONSIBILITY OF PT REPAIR CONTRACTOR

• PT REPAIR CONTRACTOR TO SUBMIT RESTRESSING PLAN FOR

PT ANCHOR LOCATION AND QUANTITIES PROVIDED FOR BIDDING PURPOSES ONLY, ALL TENDON LOCATIONS SHOWN ON PLAN TO BE EXPOSED AND TESTED FOR TENSION
PT REPAIR DETAILS PROVIDED FOR DESIGN INTENT. FINAL REPAIRS AND SEQUENCING THE RESPONSIBILITY OF PT REPAIR CONTRACTOR
PT REPAIR CONTRACTOR TO SUBMIT RESTRESSING PLAN FOR ENGINEER'S APPROVAL. PLAN TO INCLUDE SEQUENCING FOR ADJACENT SLAB OPENINGS SO AS NOT TO OVERSTRESS REMAINING CONCRETE WITH PT FORCE.
REPAIR ALL DAMAGED TENDON SHEATHING PER DETAILS 1 / S012 2 / S012 AND 3 / S012
REPLACE PT TENDON ANCHORS AS REQUIRED PER DETAIL 4 / S012
REPLACE DAMAGED TENDON SECTIONS, SPLICE AS REQUIRED PER DETAIL 6 / S012, 7 / S012 AND 9 / S012
PROVIDE TEMPORARY LOCK-OFF ANCHORS TO MAINTAIN PT FORCES IN AREAS NOT SHORED OR AS REQUIRED BY CONTRACTOR PER DETAIL 8 / S012
PROVIDE DOG-BONE STYLE COUPLERS WHERE TENDON TO BE RESTRESSED AT MID-SPAN PER DETAIL 5 / S012

EYPLAN - LEVELS 3 AND 4

NOTE IN REGARD TO EXISTING CONDITIONS

INFORMATION SHOWN ON THESE DRAWINGS, WITH RESPECT TO EXISTING CONDITIONS, TO THE BEST OF OUR KNOWLEDGE, REPRESENT THE GENERAL AND CURRENT FIELD CONDITIONS. ZS MAKES NO WARRANTY AS TO THE COMPLETENESS OR ACCURACY OF ANY AND ALL EXISTING CONDITIONS SHOWN ON THESE DRAWINGS. CONTRACTOR('S) SHALL VERIFY ALL EXISTING CONDITIONS RELATED TO THE NEW WORK AND REPORT TO THE AE FOR REVIEW ANY DISCREPANCIES BEFORE PERFORMING ANY WORK. ANY WORK PERFORMED PRIOR TO AE REVIEW AND SUBSEQUENT RESOLUTION OF DISCREPANCIES BY THE AE IS SUBJECT TO REMOVAL AND REPLACEMENT AT NO ADDITIONAL COST OR BURDEN TO THE CONTRACT.



No.	Description	Date
1	Schematic Drawings	09/23/20

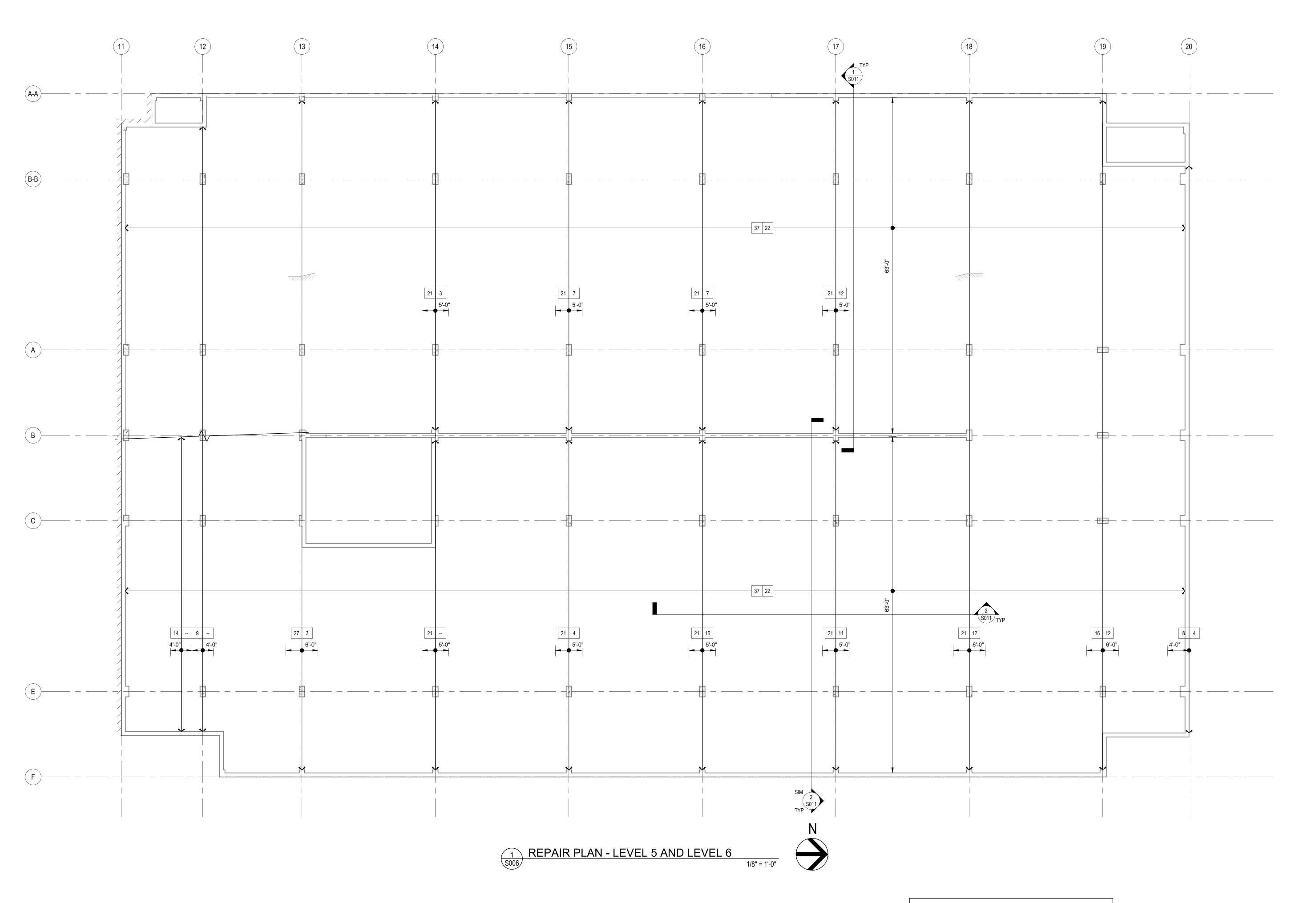
THE METROPOLITAN 5320 SHERIDAN ROAD CHICAGO, IL

**REPAIR PLAN -**LEVEL 5 AND

LEVEL 6

Project number SEPTEMBER 23, 2025

DISCREPANCIES BY THE AE IS SUBJECT TO REMOVAL AND REPLACEMENT AT NO ADDITIONAL COST OR BURDEN TO THE CONTRACT.

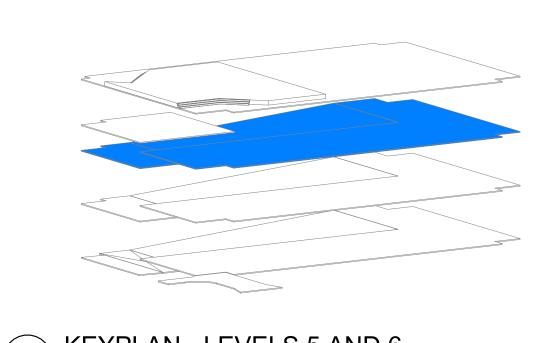


	KEYED NOTES LEVEL 5 AND L			
NO.	DESCRIPTION	REPAIR DETAILS	QUATITY	UNITS
2	REPAIR CONCRETE SPALLS ON VERTICAL SURFACE (WALL); PREPARE SURFACE AND PATCH CONCRETE	6/S008 5/S009	70	SQFT
3	REPAIR CONCRETE SPALLS ON OVERHEAD SURFACE (UNDERSIDE OF SLAB); PREPARE SURFACE AND PATCH CONCRETE	4/S008 5/S008	50	SQFT
4	REPAIR CONCRETE SPALL ON COLUMN SURFACE; PREPARE SURFACE AND PATCH CONCRETE	1/S009 2/S009	15	SQFT
6	PT SLAB COATING; PREPARE CONCRETE SURFACE AND INSTALL TRAFFIC COATING	3/S008 7/S009	25000	SQFT
8	REPAIR CRACKS IN CONCRETE WALL OR COLUMN; ROUT AND SEAL CRACK	8/S009	2300	LNFT
9	REMOVE EXISTING REPAIR PATCH OR SPALLED CONCRETE; PREPARE SURFACE; INSTALL NEW CONCRETE PATCH	1/S008	8500	SQFT
$\langle 10 \rangle$	REPAIR CRACKS IN CONCRETE PT SLAB FLOOR; ROUT AND SEAL CRACK	6/S009	130	LNFT

PT TENDON LEGEND EXISTING TENDON ANCHOR LOCATION EXPECTED QUANTITY OF TENDONS THAT REQUIRE REPAIRS EXPECTED QUANTITY OF EXISTING TENDONS IN GROUP WIDTH OF EXISTING TENDON GROUP PT ANCHOR LOCATION AND QUANTITIES PROVIDED FOR BIDDING PURPOSES ONLY, ALL TENDON LOCATIONS SHOWN ON PLAN TO BE EXPOSED AND TESTED FOR TENSION
• PT REPAIR DETAILS PROVIDED FOR DESIGN INTENT. FINAL REPAIRS AND SEQUENCING THE RESPONSIBILITY OF PT REPAIR CONTRACTOR PT REPAIR CONTRACTOR TO SUBMIT RESTRESSING PLAN FOR ENGINEER'S APPROVAL. PLAN TO INCLUDE SEQUENCING FOR ADJACENT SLAB OPENINGS SO AS NOT TO OVERSTRESS REMAINING CONCRETE WITH PT FORCE. REPAIR ALL DAMAGED TENDON SHEATHING PER DETAILS 1 / S012 2 / S012 AND 3 / S012
REPLACE PT TENDON ANCHORS AS REQUIRED PER DETAIL 4 / S012
REPLACE DAMAGED TENDON SECTIONS, SPLICE AS REQUIRED PER DETAIL 6 / S012 , 7 / S012 AND 9 / S012 PROVIDE TEMPORARY LOCK-OFF ANCHORS TO MAINTAIN PT FORCES IN

AREAS NOT SHORED OR AS REQUIRED BY CONTRACTOR PER DETAIL

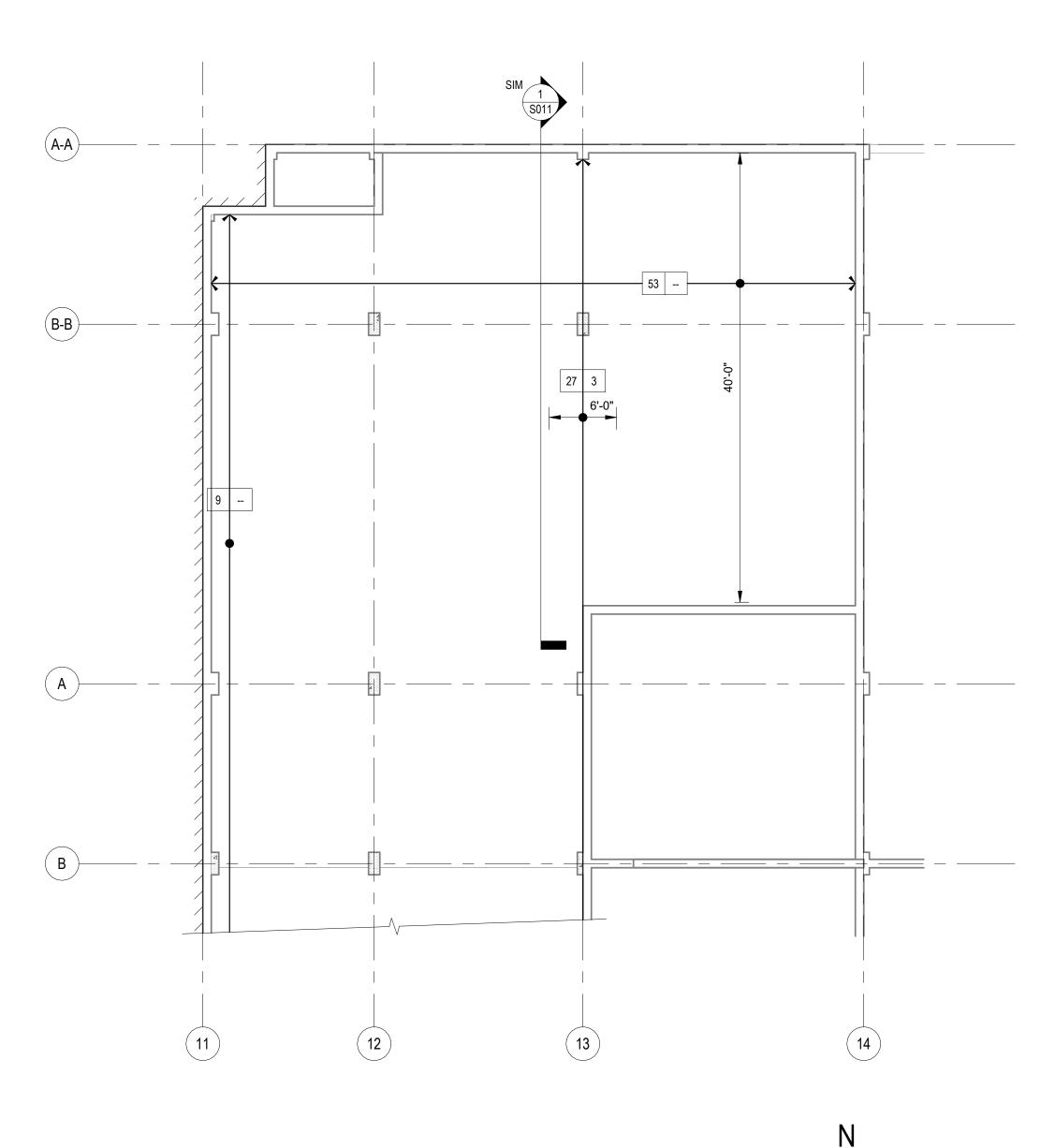
PROVIDE DOG-BONE STYLE COUPLERS WHERE TENDON TO BE RE-STRESSED AT MID-SPAN PER DETAIL 5 / S012



(2) KEYPLAN - LEVELS 5 AND 6

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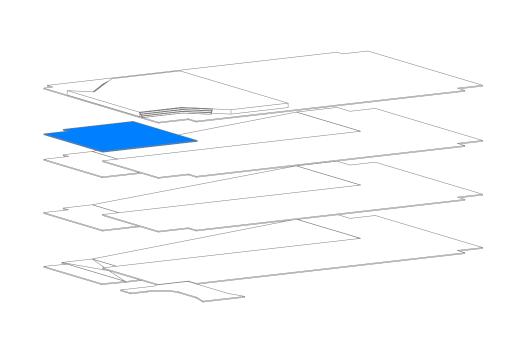




	KEYED NOTES LEVEL 6						
NO.	DESCRIPTION	REPAIR DETAILS		UNITS			
6	PT SLAB COATING; PREPARE CONCRETE SURFACE AND INSTALL TRAFFIC COATING	3/S008 7/S009	3650	SQFT			
9	REMOVE EXISTING REPAIR PATCH OR SPALLED CONCRETE; PREPARE SURFACE; INSTALL NEW CONCRETE PATCH	1/S008	120	SQFT			

1 REPAIR PLAN - PARTIAL LEVEL 6

PT TENDON LEGEND EXISTING TENDON ANCHOR LOCATION EXPECTED QUANTITY OF TENDONS THAT REQUIRE REPAIRS EXPECTED QUANTITY OF EXISTING TENDONS IN GROUP WIDTH OF EXISTING TENDON GROUP - PT ANCHOR LOCATION AND QUANTITIES PROVIDED FOR BIDDING PURPOSES ONLY, ALL TENDON LOCATIONS SHOWN ON PLAN TO BE EXPOSED AND TESTED FOR TENSION PT REPAIR DETAILS PROVIDED FOR DESIGN INTENT. FINAL REPAIRS AND SEQUENCING THE RESPONSIBILITY OF PT REPAIR CONTRACTOR PT REPAIR CONTRACTOR TO SUBMIT RESTRESSING PLAN FOR ENGINEER'S APPROVAL. PLAN TO INCLUDE SEQUENCING FOR ADJACENT SLAB OPENINGS SO AS NOT TO OVERSTRESS REMAINING CONCRETE WITH PT FORCE. • REPAIR ALL DAMAGED TENDON SHEATHING PER DETAILS 1 / S012 2 / S012 AND 3 / S012 • REPLACE PT TENDON ANCHORS AS REQUIRED PER DETAIL 4 / S012 REPLACE DAMAGED TENDON SECTIONS, SPLICE AS REQUIRED PER DETAIL 6 / S012 , 7 / S012 AND 9 / S012
• PROVIDE TEMPORARY LOCK-OFF ANCHORS TO MAINTAIN PT FORCES IN AREAS NOT SHORED OR AS REQUIRED BY CONTRACTOR PER DETAIL 8 / S012 PROVIDE DOG-BONE STYLE COUPLERS WHERE TENDON TO BE RE-STRESSED AT MID-SPAN PER DETAIL 5 / S012



EXPLAN - LEVEL 6

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Project number SEPTEMBER 23, 2025

THE METROPOLITAN

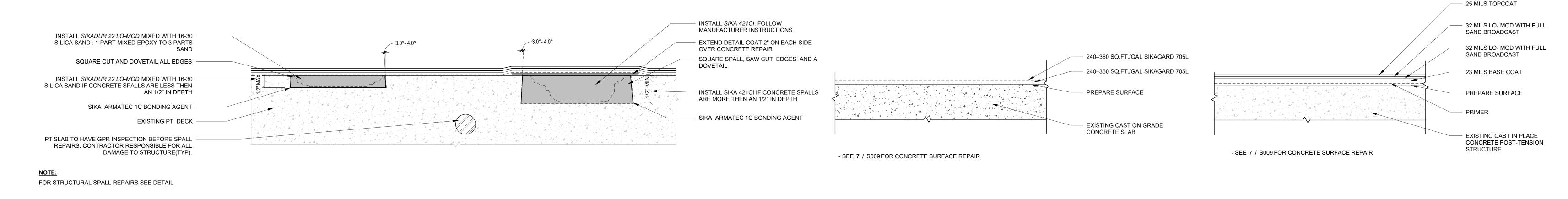
5320 SHERIDAN ROAD

CHICAGO, IL

**REPAIR PLAN -**

PARTIAL LEVEL 6

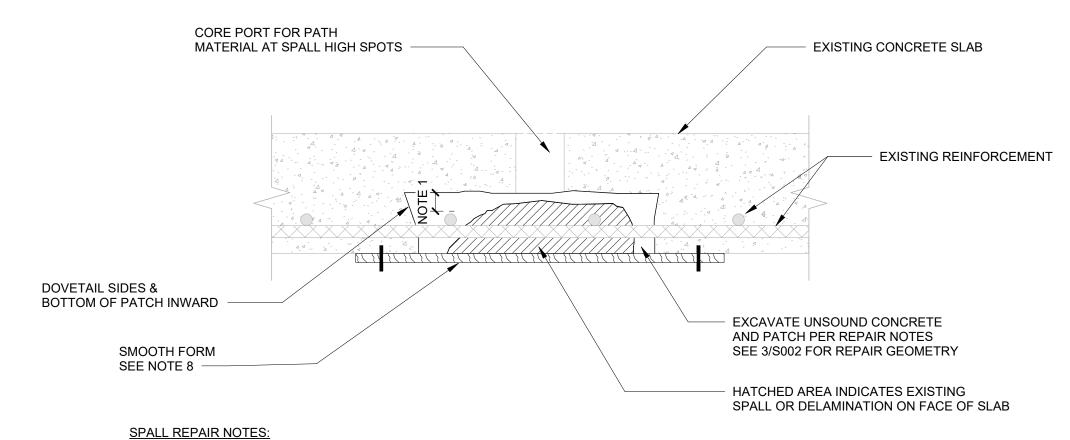
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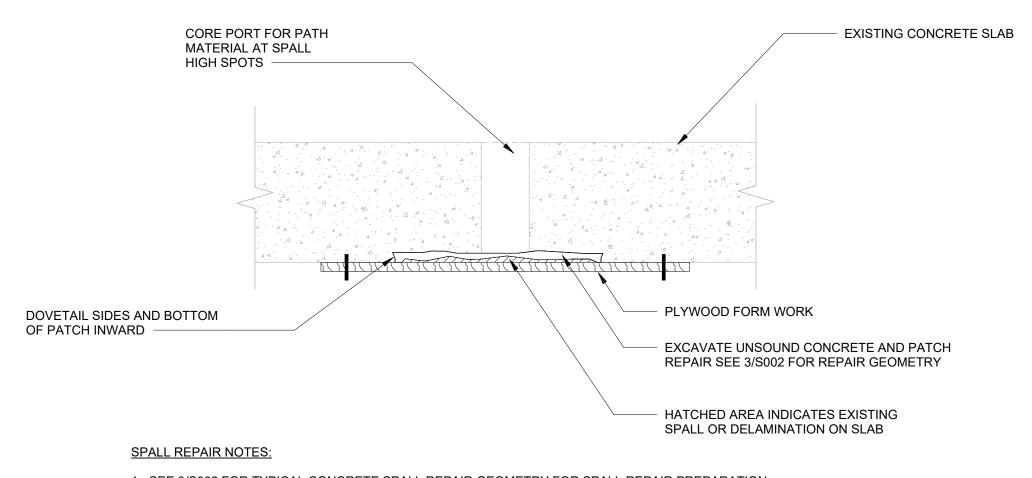
CONCRETE SURFACE REPAIR

TYPICAL WATER REPELLENT AT CAST ON GRADE SLAB

TYPICAL EPOXY HYBRID DECK SYSTEM AT POST TENSIONED STRUCTURE S008 6" = 1'-0"

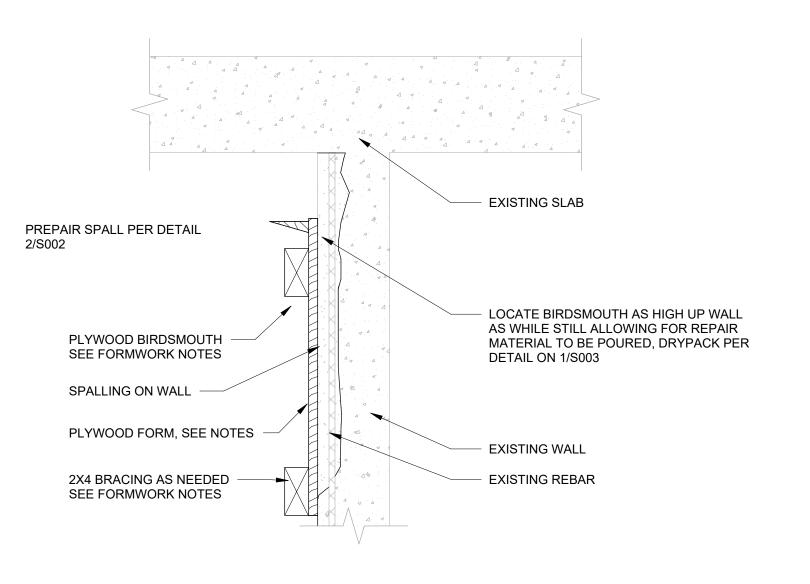


- 1. CHIP AND REMOVE CONCRETE TO PROVIDE 3/4" CLEAR MINIMUM BETWEEN EXISTING REINFORCEMENT AND EXCAVATED CONCRETE SURFACES. 2. 1/2" MINIMUM DEPTH SAWCUT EACH SIDE OF SPALL REPAIR. LAYOUT REPAIR PERIMETER PER DETAIL 3/S002
- 3. EXCAVATE 2" BEYOND BOUNDARY OF DELAMINATION OR SPALL OR 2" BEYOND CORRODED BARS TO EXPOSE CLEAN REINFORCEMENT WHICHEVER IS
- 4. APPROXIMATE AREAS OF UNSOUND CONCRETE WERE PREVIOUSLY IDENTIFIED BY TECHNICIAN AND MARKED ON CONCRETE SURFACE. EXACT EXTENTS OF REPAIR TO BE DETERMINED BY CONTRACTOR PERFORMING SOUNDING WITH A HAND HELD HAMMER ON ALL EXISTING CONCRETE SURFACES IN THEGENERAL VICINITY OF MARKED REPAIR AREAS. UNSOUND CONCRETE SHALL BE REMOVED BY MEANS OF A HAND HELD 15 LB. MECHANICAL CHIPPING HAMMER OR BY OTHER METHODS ACCEPTABLE TO THE ENGINEER THAT WILL NOT CAUSE CRACKING OR DAMAGE TO THE REMAINING SOUND CONCRETE. DO NOT DAMAGE EXISTING REINF.
- 5. EXCAVATE AND REMOVE ALL UNSOUND CONCRETE AT DELAMINATED AND SPALLED AREAS TO A MINIMUM DEPTH OF 1 1/2". CLEAN EXISTING STEEL REINFORCEMENT USING A POWERED MECHANICAL BRUSH. CLEAN CONCRETE TO REMOVE CORROSION, LOOSE PARTICLES AND OTHER CONTAMINANTS THAT WILL DECREASE BOND.
- 6. WHERE EXISTING STEEL REINFORCEMENT HAS LOST 20% OR MORE OF CROSS SECTIONAL AREA DUE TO CORROSION, PROVIDE A SPLICE BAR EQUAL IN SIZE AND GRADE (GRADE 60 MINIMUM) TO THAT OF THE EXISTING BAR WITH AT LEAST A 42 BAR DIAMETER LAP AT EACH END BEYOND THE CORRODED PORTION OF THE EXISTING BAR. IN LIEU OF LAPPING REPLACEMENT REINFORCING, REBAR COUPLERS MAY BE USED TO REPLACE DAMAGED SECTION OF BAR IF ENOUGH CONCRETE COVER REMAINS AFTER COUPLER INSTALLATION.
- 7. APPLY ARMATECH-110 EPOCEM (OR APPROVED EQUAL) PER MANUFACTURER'S REPAIR PROCEDURE TO THE REBAR (ON THE SAME DAY IT WAS CLEANED) AND TO THE CONCRETE SURFACES.
- 8. INSTALL FORM WORK TO CREATE A FLAT UNIFORM SURFACE. SPALL TO HAVE CORED PORT IN TOP OF SLAB TO INSTALL REPAIR MATERIAL. ANCHOR FORM TO CONCRETE WITH TAPCON SCREWS. SEAL AROUND FORM TO CONTAIN REPAIR MATERIAL.
- 9. INSTALL SIKACRETE-421CI RAPID BY POURING THROUGH PORT. VIBRATE FORM AS REQUIRED TO COMPLETELY FILL VOID. FOLLOW MANUFACTURER'S WRITTEN INSTRUCTIONS FOR MIXING AND APPLICATION.
- 10. AFTER REPAIR MATERIAL HAS CURED, GRIND OFF ANY PASTE THAT RAN BEYOND PERIMETER OF THE PATCH.
- 11. RESTRICT VEHICLE TRAFFIC ON SLAB FOR 24 HOURS AFTER POURING.



- 1. SEE 3/S002 FOR TYPICAL CONCRETE SPALL REPAIR GEOMETRY FOR SPALL REPAIR PREPARATION.
- 2. EXACT EXTENTS OF REPAIR TO BE DETERMINED BY CONTRACTOR PERFORMING SOUNDING WITH A HAND HELD HAMMER. UNSOUND CONCRETE SHALL BE REMOVED BY MEANS OF A HAND HELD 15LB. MECHANICAL CHIPPING HAMMER OR BY OTHER METHODS ACCEPTABLE TO THE ENGINEER THAT WILL NOT CAUSE CRACKING OR DAMAGE TO THE REMAINING SOUND CONCRETE. DO NOT DAMAGE EXISTING REINF.
- 3. PATCH DEPTH. 1" MAXIMUM. FOR PATCH DEPTHS GREATER THAN 1" OR IF REBAR IS EXPOSED, SEE 2/S002 DETAIL.
- 4. CLEAN CONCRETE TO REMOVE CORROSION, LOOSE PARTICLES AND OTHER CONTAMINANTS THAT WILL DECREASE BOND. APPLY ARMATECH-110 EPOCEM BONDING PRIMER AND REINFORCEMENT CORROSION PROTECTION (OR APPROVED EQUAL) PER MANUFACTURER'S REPAIR PROCEDURE TO THE CONCRETE SURFACES.
- 5. INSTALL FORM WORK TO CREATE A FLAT UNIFORM SURFACE. FORM TO HAVE CORE PORT AT TOP TO PERMIT REPAIR MATERIAL INSTALLATION. ANCHOR FORM TO CONCRETE WITH TAPCON SCREWS. SEAL AROUND FORM TO CONTAIN REPAIR
- 6. INSTALL SIKACRETE 421CI RAPID BY POURING THROUGH CORED PORT IN TOP OF SLAB. VIBRATE FORM AS REQUIRED TO COMPLETELY FILL VOID. FOLLOW MANUFACTURER'S WRITTEN INSTRUCTIONS FOR MIXING AND APPLICATION.
- 7. AFTER REPAIR MATERIAL HAS CURED, GRIND OFF ANY PASTE BEYOND PERIMETER OF THE PATCH.
- 8. RESTRICT VEHICLE TRAFFIC ON SLAB FOR 24 HOURS AFTER POURING.

9. MATCH PAINT TO EXISTING.



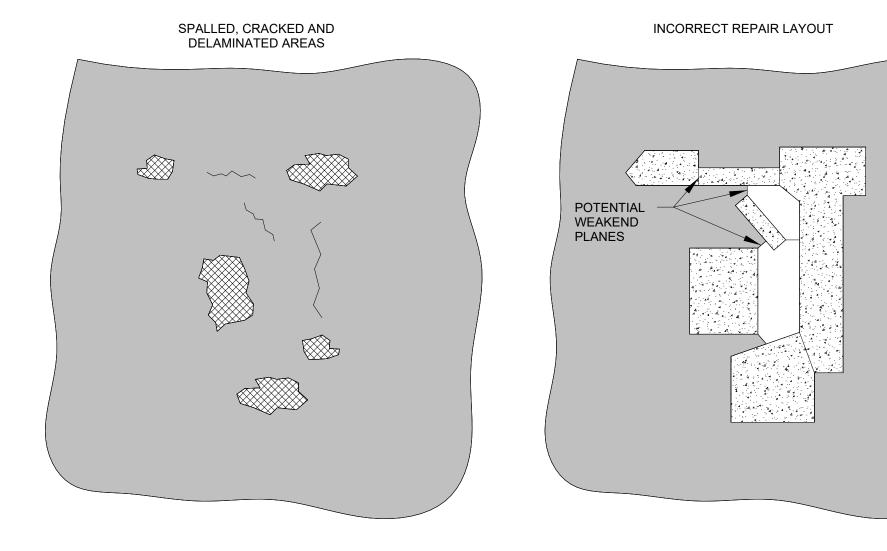
- 1. USE A MINIMUM OF 3/4" PLYWOOD WITH ONE FACE GRADE B OR BETTER FOR FORMWORK.
- 2. ANCHOR FORMWORK TO SOUND CONCRETE USING 3" TAPCONS WITH WASHERS.
- 3. FASTEN 2X4 LUMBER BRACING TO EXTERIOR FACE OF PLYWOOD AT
- 12" O/C WHEN PLYWOOD SPANS EXCEED 12".

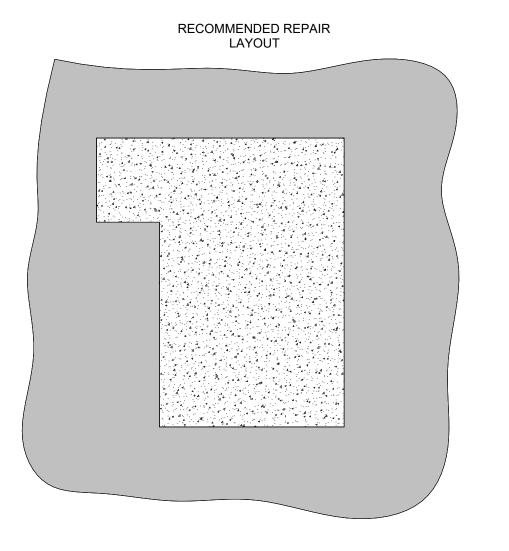
4. PROVIDE 8" LONG PLYWOOD BIRDSMOUTH SPOUT AT TOP OF PLYWOOD FORMWORK. TOP OF BIRDSMOUTH SHALL BE A MINIMUM OF 1" ABOVE THE TOP OF NEW CONCRETE PATCH/REPAIR AREA.

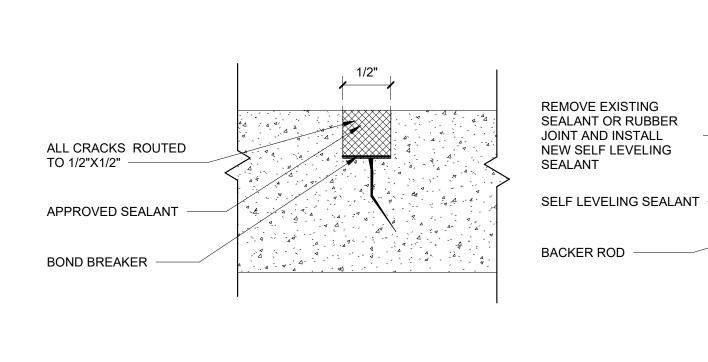
CONCRETE SPALL REPAIR DETAIL DEEPER THAN 1"

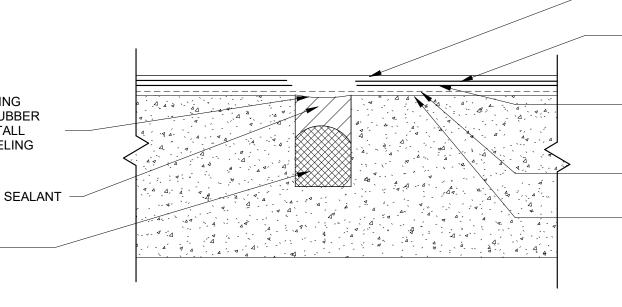












SIKALASTIC 745 TOP COAT, OVER SEALANT JOINT. DO NOT BROADCAST SAND OVER SEALANT JOINT. ISOLATE JOINTS WITH BOND BREAK TAPE. TRAFFIC COATING SIKADUR 22 LO MOD AT 33 MIL WITH FULL SAND BROADCAST OVER JOINT, REMOVE BOND BREAKING TAPE BEFORE EPOXY SETS ISOLATE JOINTS WITH BOND BREAK TAPE, TRAFFIC COATING SIKADUR 22 LO MOD AT 33 MIL WITH FULL SAND BROADCAST OVER JOINT, REMOVE BOND BREAK TAPE BEFORE EPOXY SETS SIKALASTIC 720 BASECOAT AT 25 MIL, OVER URETHANE JOINT - FTP PRIMER

1. INSTALL ALL NEW BACKER ROD AND ELASTOMERIC SELF LEVELING SEALANT AS BELOW. BACKER ROD SHALL BE SET USING A BACKER ROD SETTING TOOL CALIBRATED FOR THE DEPTH INDICATED 2. SEE DETAIL 4 / S009 FOR SEALANT INSTALLATION RATIOS 5. FOR JOINT LESS THEN 1/4" THICK, REPLACE BACKER ROD WITH A BOND BREAKER TAPE.

REPAIR GEOMETRY LAYOUT DETAIL FOR SPALLED, CRACKED, AND DELAMINATED AREAS





<u>Owner:</u> THE METROPOLITAN 5320 SHERIDAN ROAD CHICAGO, IL REPAIR DETAILS

SEPTEMBER 23, 2025

S008

Project number

Description

09/23/2025

Schematic Drawings

ARCHITECTURAL ENGINEERING

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4

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# **REPAIR PROCEDURE:**

- 1. REMOVE DELAMINATED/UNSOUND CONCRETE AS DIRECTED BY FIELD ENGINEER AS SHOWN ABOVE.
- 2. REMOVE ALL LOOSE MATERIAL AND SAND BLAST CLEAN EXPOSED STEEL.
- 3. SUPPLEMENT EXISTING REINFORCING BARS THAT HAVE LOST MORE THAN 20% OF THEIR ORIGINAL CROSS SECTIONAL AREA WITH NEW EPOXY COATED #3 BARS. REMOVE ADDITIONAL CONCRETE AS REQUIRED SO THAT NEW REINFORCING IS PROPERLY LAP SPLICED TO EXISTING.
- 4. PRE-WET CONCRETE SURFACE FOR MINIMUM OF 1 HOUR AND COAT EXISTING SURFACES WITH BONDING AGENT.
- 5. APPLY NON-SAG REPAIR MORTAR IN LAYERS AS PER MANUFACTURER'S REPAIR PROCEDURE OR FORM AND PUMP REPAIR.
- 6. CURE AND PROTECT FINISHED REPAIR.

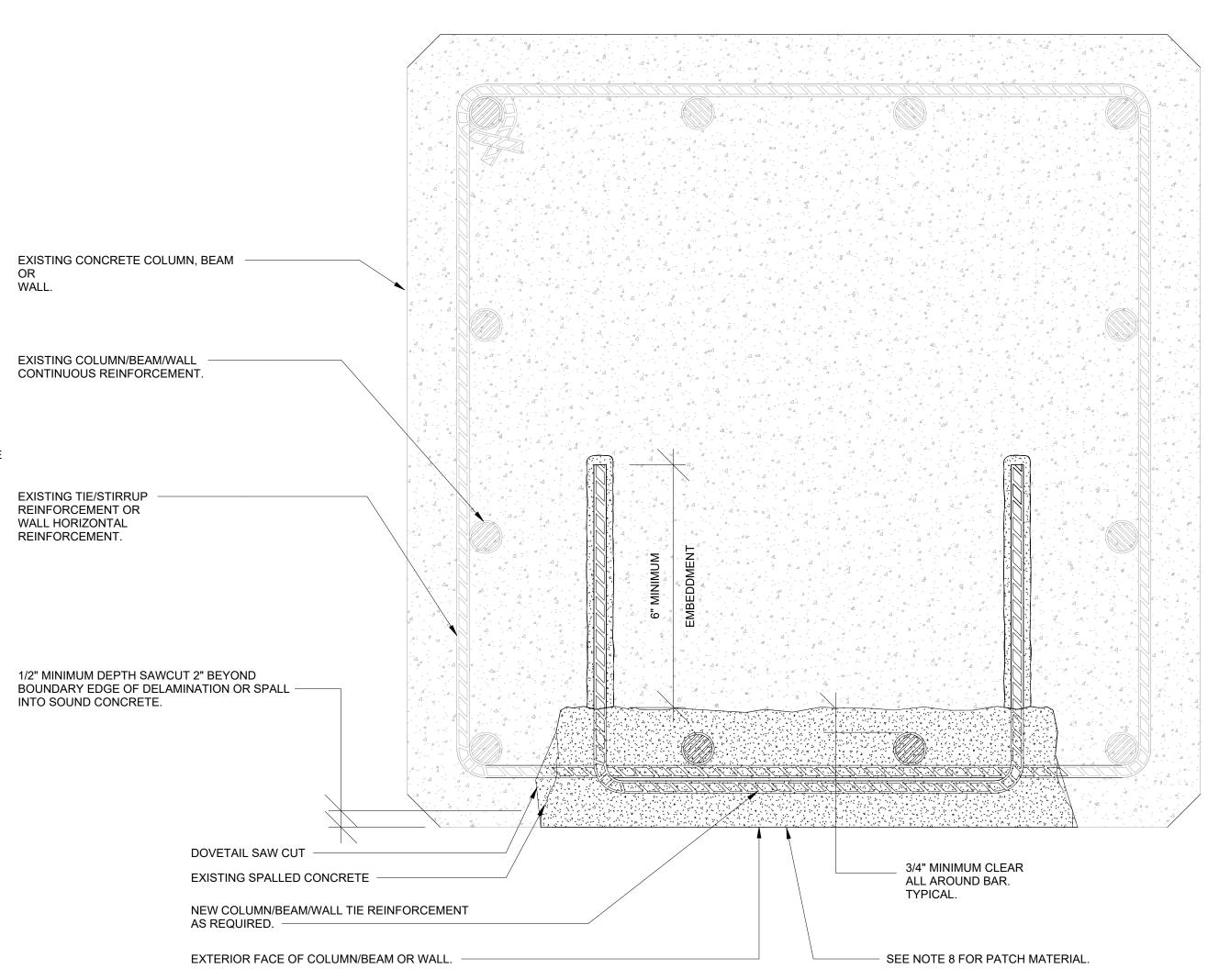
# **REPAIR NOTES**:

- 1. BEFORE BEGINNING ANY WORK, CONTRACTOR SHALL ERECT DUST BARRIERS AROUND WORK AREA COMPLETE WITH FILTERS TO PREVENT THE SPREAD OF DUST TO OTHER PARTS OF THE BUILDING. LIKEWISE CONTRACTOR SHALL USE 2. EQUIPPED WITH DUST COLLECTING DEVICES DURING CONCRETE REMOVAL AND SAND BLASTING FOR 100% DUST CONTROL. LOCATE AREAS OF UNSOUND CONCRETE. UNSOUND CONCRETE SHALL BE REMOVED BY MEANS OF A HAND HELD 15 LB.
- MECHANICAL CHIPPING HAMMER OR BY OTHER METHODS ACCEPTABLE TO THE ENGINEER THAT WILL NOT CAUSE 3. EXCAVATE AND REMOVE ALL UNSOUND CONCRETE AT DELAMINATED AND SPALLED AREAS TO A MINIMUM DEPTH OF 1 AND TO AT LEAST 3/4" BEHIND AND ALL AROUND EXISTING STEEL REINFORCING BARS. CLEAN EXISTING STEEL
- REMOVE ANY PARTICLES FROM THE PATCH AREA. PROVIDE MINIMUM 1/2" DEEP SQUARE CUT IN EXISTING SOUND 4. DO NOT REMOVE MORE THAN 20% OF THE COLUMN CROSS-SECTIONAL AREA AT ONE TIME AND DO NOT REMOVE MORE THAN 36" HIGH. WHERE EXISTING REMOVED DETERIORATED CONCRETE REACHES ONE OF THESE LIMITS, THE

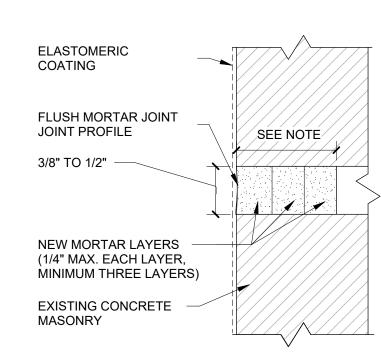
REINFORCEMENT TO A BARE METAL FINISH AND REMAINING SOUND CONCRETE TO REMOVE ADHERED CORROSION

PRODUCT AND LOOSE CONCRETE PARTICLES. VACUUM OR CLEAN AREA AFTER CLEANING WITH COMPRESSED AIR TO

- SHALL BE MADE ACCORDING TO THE INFORMATION GIVEN IN THIS DETAIL AND THE COMPRESSIVE STRENGTH OF THE 5. WHERE EXISTING COLUMN/BEAM/WALL TIE/STIRRUP STEEL REINFORCEMENT HAS LOST 20% OR MORE OF CROSS SECTIONAL AREA DUE TO CORROSION, A NEW #3 TIE SHALL BE ADDED AS SHOWN IN THE DETAIL WITH THE LEGS OF THE TIE DRILLED AND EPOXY GROUTED INTO THE EXISTING COLUMN OR WALL WITH AT LEAST 6" EMBEDMENT.
- 6. WHERE EXISTING VERTICAL OR HORIZONTAL CONTINUOUS LONGITUDINAL STEEL REINFORCEMENT HAS LOST 20% OR MORE OF ITS ORIGINAL CROSS SECTIONAL AREA DUE TO CORROSION, PROVIDE A SPLICE BAR EQUAL IN SIZE AND GRADE, EPOXY COATED(GRADE 60 MINIMUM) TO THAT OF THE EXISTING BAR WITH AT LEAST A 42 BAR DIAMETER LAP AT EACH END BEYOND THE CORRODED PORTION OF THE EXISTING BAR WHERE THERE IS NOT LESS THAN 5% CROSS SECTIONAL AREA LOSS.
- 7. AFTER THE AREA TO RECEIVE THE PATCH IS CLEANED, THOROUGHLY WET WITH WATER TO REVEAL ANY CRACKS THAT MAY BE PRESENT. PERFORM EPOXY INJECTION FOR ALL EXISTING COLUMN CRACKS WITHIN THE EXCAVATED AREA PRIOR TO PLACING PATCH CONCRETE. SEE EPOXY INJECTION DETAIL 4/A5.0 AND REMOVE ALL REMNANT SEAL AND PEEL EPOXY.
- 8. COVER ALL EXPOSED NEW AND EXISTING REINFORCING BARS AFTER CLEANING TO A BARE METAL FINISH WITH "SIKA ARMATEC 110 EPOCEM" ACCORDING TO THE MANUFACTURER'S PUBLISHED INSTRUCTIONS. BONDING AGENT SHALL BE APPLIED ACCORDING TO THE MANUFACTURE'S PUBLISHED INSTRUCTIONS AND PATCHING MATERIAL SHALL BE PLACED WITHIN THE SPECIFIED TIME FRAME AFTER BONDING AGENT HAS BEEN APPLIED. PATCH MIX SHALL BE "SIKATOP 123 PLUS MIXED AND PLACED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S INSTRUCTIONS. CONTRACTOR SHALL FORM THE FACE OF THE REPAIR AREA AND FILL WITH PATCH MATERIAL REMOVING THE FORM WORK SHORTLY AFTER THE PATCH MATERIAL HAS REACHED INITIAL SET SO THAT A SMOOTH TROWEL FINISH AND SMOOTH CHAMFERED EDGES CAN BE PROVIDED TO MATCH THE EXISTING CONCRETE COLUMN OR WALL FINISH.
- 9. AT LOCATIONS WHERE THE EXISTING REINFORCEMENT IS EXPOSED TO VIEW AND THE SPACING OF THE EXISTING REINFORCEMENT IS GREATER OR EQUAL TO 6" IN EITHER DIRECTION, PROVIDE STAINLESS STEEL PINS AND STAINLESS STEELWIRE ACCORDING TO DETAIL 2/A5 IN ADDITION TO THE REQUIREMENTS ABOVE.
- 10. AFTER PATCH HAS CURED AND FORM WORK HAS BEEN REMOVED, GRIND PATCH SURFACE TO REMOVE ALL REMNANT FORM WORK MARKS AND GRIND PATCH EDGES FOR SMOOTH APPEARANCE AND FOR FLUSH EVEN FIT WITH EXISTING CONCRETE THAT REMAINS. FILL MINOR PIT HOLES WITH PATCH MATERIAL SLURRY.

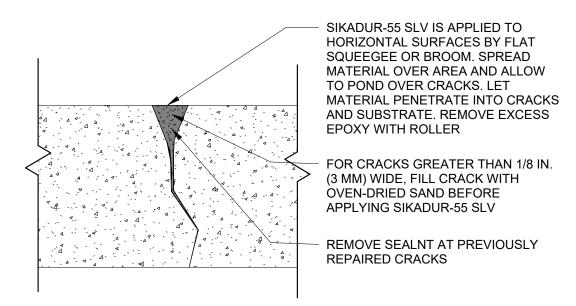


\ TYPICAL COLUMN SPALL REPAIR DETAIL \ S009 / N.T.S.



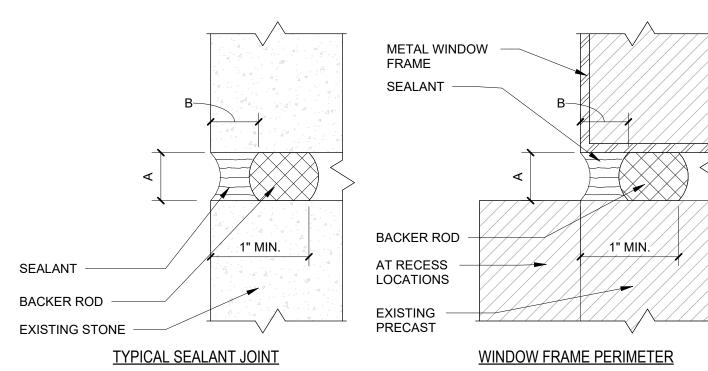
CAREFULLY USE HAND HELD DUST COLLECTING MECHANICAL GRINDERS TO REMOVE EXISTING MORTAR TO MINIMUM 3/4" DEEP. CLEAN OUT REMAINING DUST AND DEBRIS.

MORTAR JOINT TUCKPOINTING \( \sum \) S009 \( \frac{1}{2} \) 3" = 1'-0"



6 \ CRACK DETAIL AT POST-TENSIONED STRUCTURE

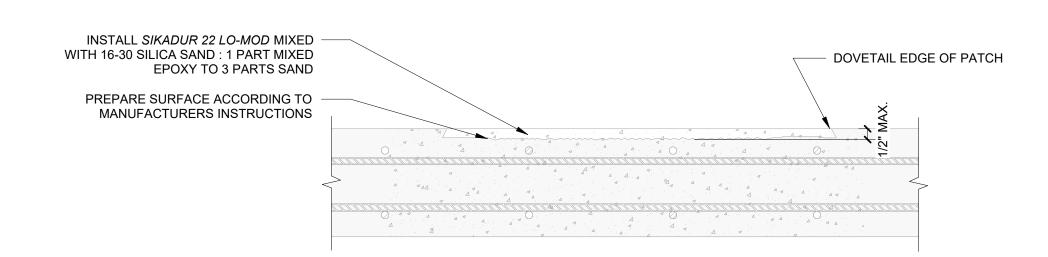
REPAIR OF EXISTING SPALLED/DELAMINATED CONCRETE COLUMN OR BEAM \S009 / NO SCALE



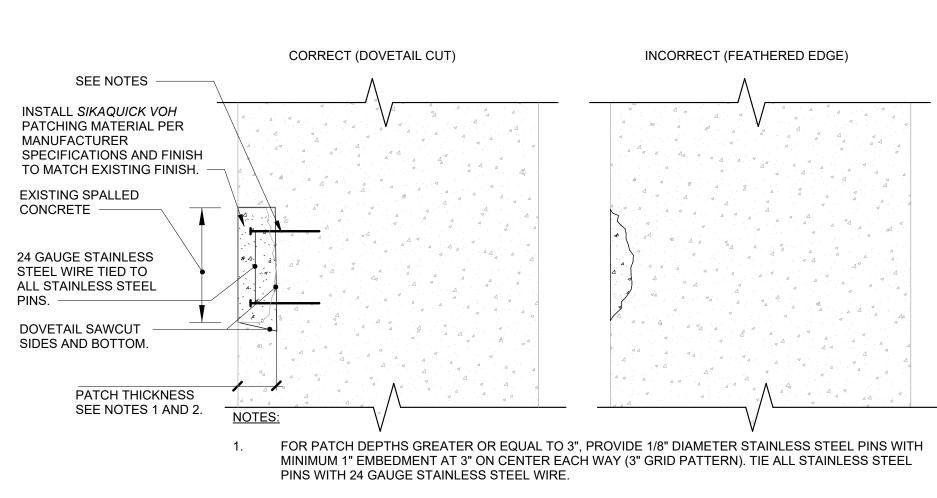
1. INSTALL ALL NEW BACKER ROD AND ELASTOMERIC SEALANT AS BELOW. BACKER ROD SHALL BE SET USING A BACKER ROD SETTING TOOL CALIBRATED FOR THE DEPTH INDICATED. 2. RATIO "A" : "B" SHALL BE 2:1 3. "A" DIMENSION SHALL BE 1" MAX.

4. "B" DIMENSION SHALL BE 1/4" MIN. 1/2" MAX. 5. REMOVE ALL EXISTING SEALANT AND BACKER ROD AT EXISTING JOINTS AND FROM WINDOW FRAME PERIMETERS AND INSTALL NEW SEALANT IN ACCORDANCE WITH SPECIFICATIONS. 6. FOR JOINT LESS THEN 1/4" THICK, REPLACE BACKER ROD WITH A BOND BREAKER TAPE.

SEALANT AT CONCRETE PRECAST & WINDOW



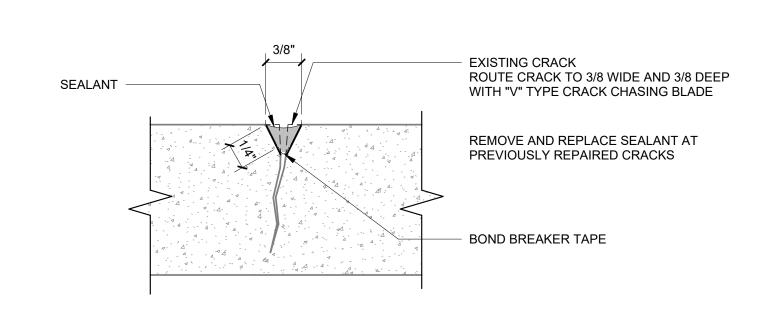
CONCRETE SURFACE DELAMINATION REPAIR 1 1/2" = 1'-0" ∖S009 /



FOR SPALL THICKNESS OF 1/2" TO 3", PROVIDE 1/8" DIAMETER STAINLESS STEEL PINS IN A 3"x 3" GRID PATTERN OFFSET 1/2" FOR EACH 1/2" OF SPALL THICKNESS. TIE EACH LAYER WITH 24 GAUGE

- STAINLESS STEEL WIRE. SEE 7 / S008 FOR RECOMMENDED REPAIR GEOMETRY LAYOUT FOR SPALLS.
- 1/2" MINIMUM DEPTH DOVETAIL SAWCUT 2" BEYOND BOUNDARY EDGE OF DELAMINATION OR SPALL.
- IF STEEL REINFORCEMENT IS ENCOUNTERED. SEE DETAIL

**CONCRETE SPALL DETAIL - NON STRUCTURAL S009** / 3" = 1'-0"



SEALANT CRACK REPAIR 、S009 / 12" = 1'-0"

ARCHITECTURAL ENGINEERING 1525 East 53rd Street, Suite 827 Chicago, IL 60615 Phone: (414) 727-5000 Fax: (414) 727-6666

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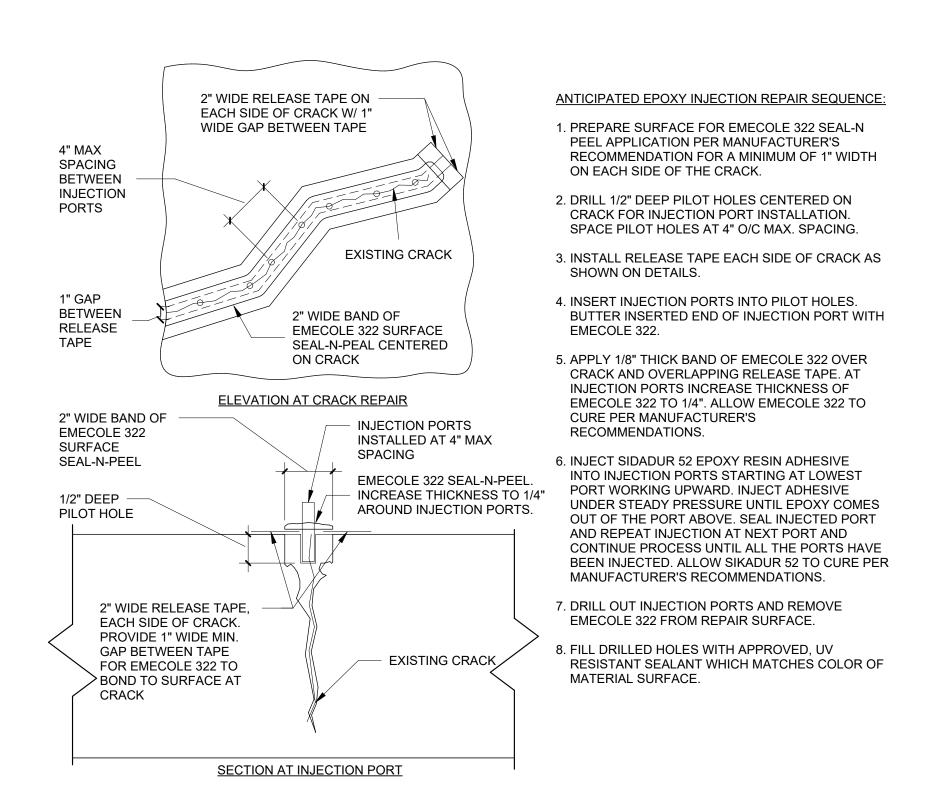
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Description Schematic Drawings

Owner: THE METROPOLITAN 5320 SHERIDAN ROAD CHICAGO, IL REPAIR DETAILS

SEPTEMBER 23, 2025



1 CRACK REPAIR / EPOXY INJECTION DETAIL
S010 3" = 1'-0"

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HE METROPOLITAN PARKING STRUCTURE REPAIRS

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No. Description Date

1 Schematic Drawings 09/23/20

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THE METROPOLITAN 5320 SHERIDAN ROAD CHICAGO, IL

REPAIR DETAILS

ect number

SEPTEMBER 23, 2025

NOTE IN REGARD TO EXISTING CONDITIONS INFORMATION SHOWN ON THESE DRAWINGS, WITH RESPECT TO EXISTING CONDITIONS, TO THE BEST OF OUR KNOWLEDGE, REPRESENT THE GENERAL AND CURRENT FIELD CONDITIONS. ZS MAKES NO WARRANTY AS TO THE COMPLETENESS OR ACCURACY OF ANY AND ALL EXISTING CONDITIONS SHOWN ON THESE DRAWINGS. CONTRACTOR('S) SHALL VERIFY ALL EXISTING CONDITIONS RELATED TO THE NEW WORK AND REPORT TO THE AE FOR REVIEW ANY DISCREPANCIES BEFORE PERFORMING ANY WORK. ANY WORK PERFORMED PRIOR TO AE REVIEW AND SUBSEQUENT RESOLUTION OF DISCREPANCIES BY THE AE IS SUBJECT TO REMOVAL AND REPLACEMENT AT NO ADDITIONAL COST OR BURDEN TO THE CONTRACT.





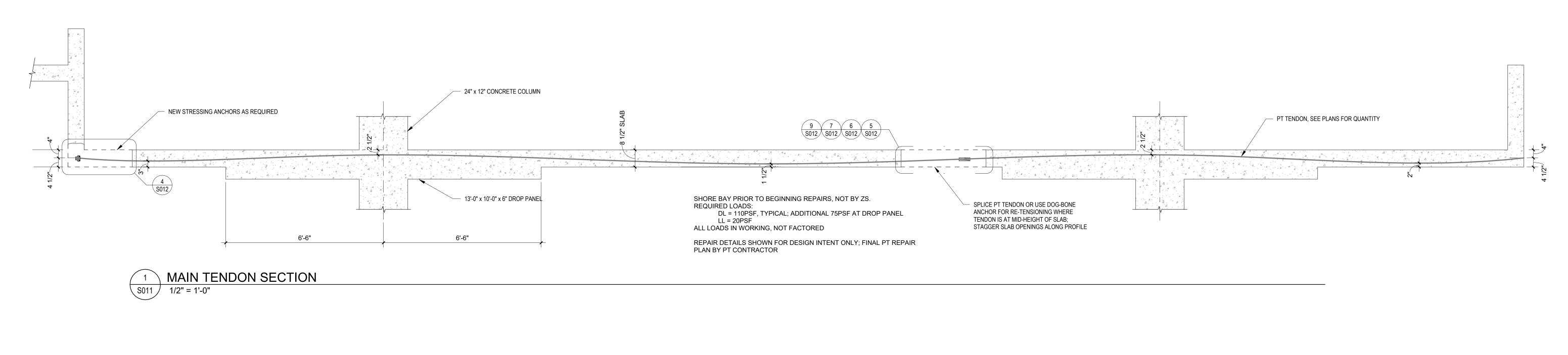
ARKING

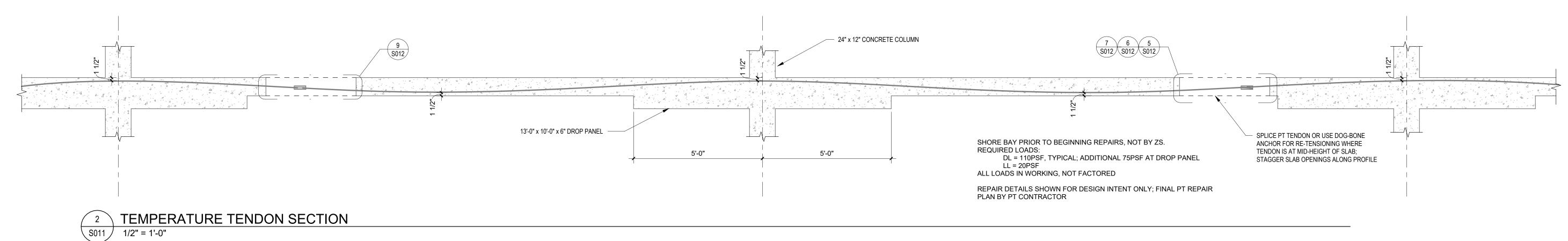
Schematic Drawings

THE METROPOLITAN 5320 SHERIDAN ROAD CHICAGO, IL

PT ELEVATIONS

SEPTEMBER 23, 2025







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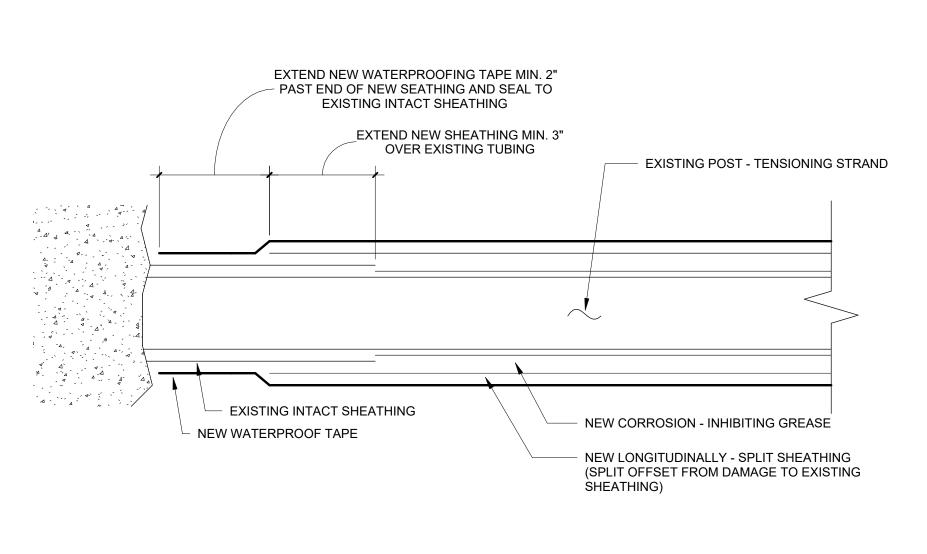
Description Schematic Drawings

Owner: THE METROPOLITAN 5320 SHERIDAN ROAD

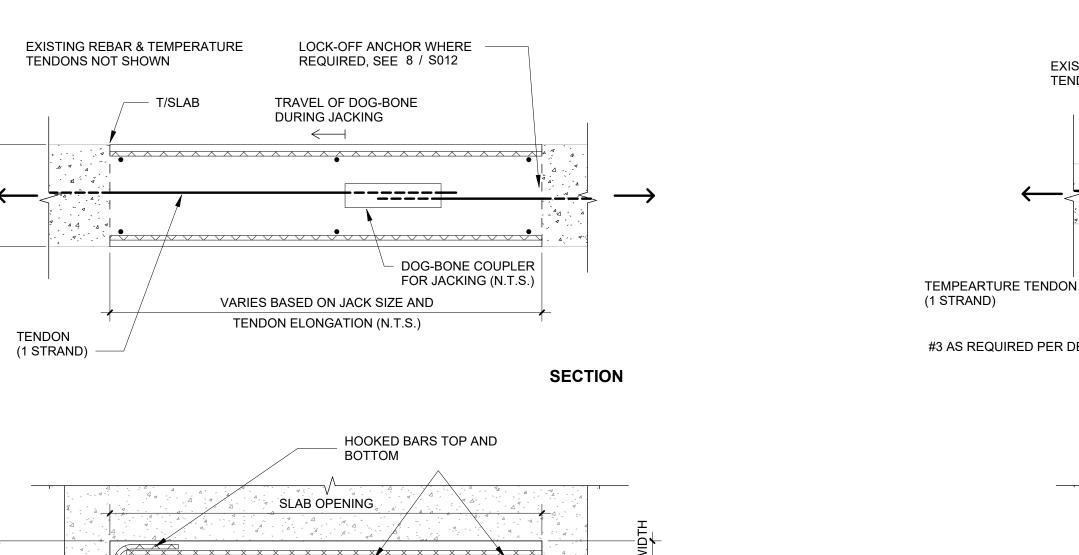
CHICAGO, IL PT DETAILS

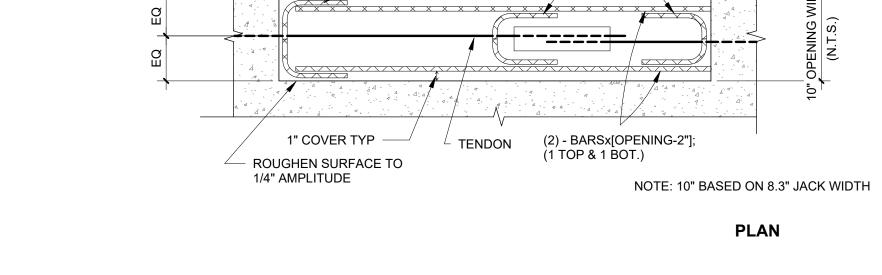
SEPTEMBER 23, 2025

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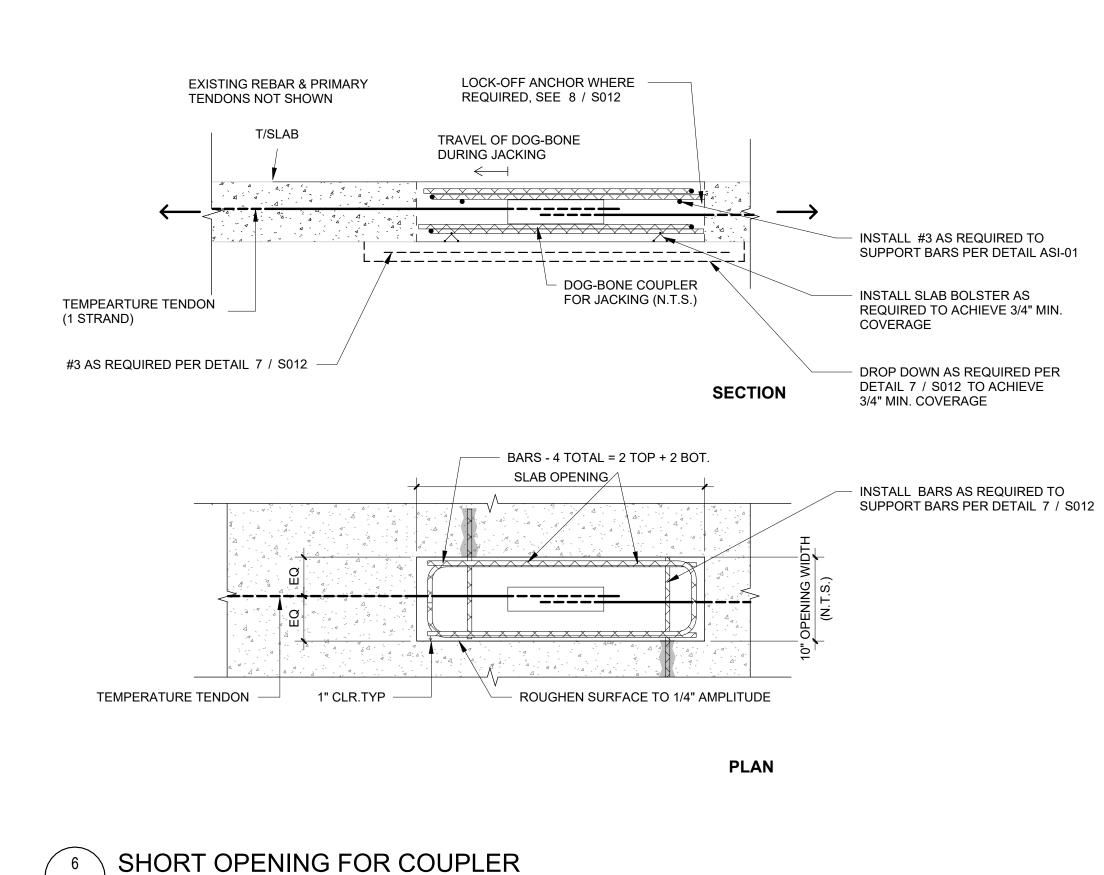








NEW OPENING FOR DOG-BONE COUPLER



EXISTING REBAR & TEMPERATURE

COUPLER

SECTION

ROUGHEN SURFACE TO

1/4" AMPLITUDE

TRAVEL ←

2'-0" PRELIMINARY

(N.T.S.)

9 SPLICE W/ IN-LINE COUPLER

TENDONS NOT SHOWN

T/SLAB

EXISTING POST-TENSIONING

COVER EXPOSED TENDON

NOTE:
IF ANY SURFCE CORROSION IS

OBSERVED ON THE TENDN,

SANDBLASTING PRIOR TO APPLYING THE GREASE.

IT SHOULD BE REMOVED BY

WITH CORROSION INHIBITING GREASE

INSTALL SPLIT-TUBE SHEATHING.

OVERLAP EXISTING UNDAMAGED

SHEATHING REPAIR DETAIL SECTION

SHEATHING 3 IN. MIN. AT END

(SEE END DETAIL)

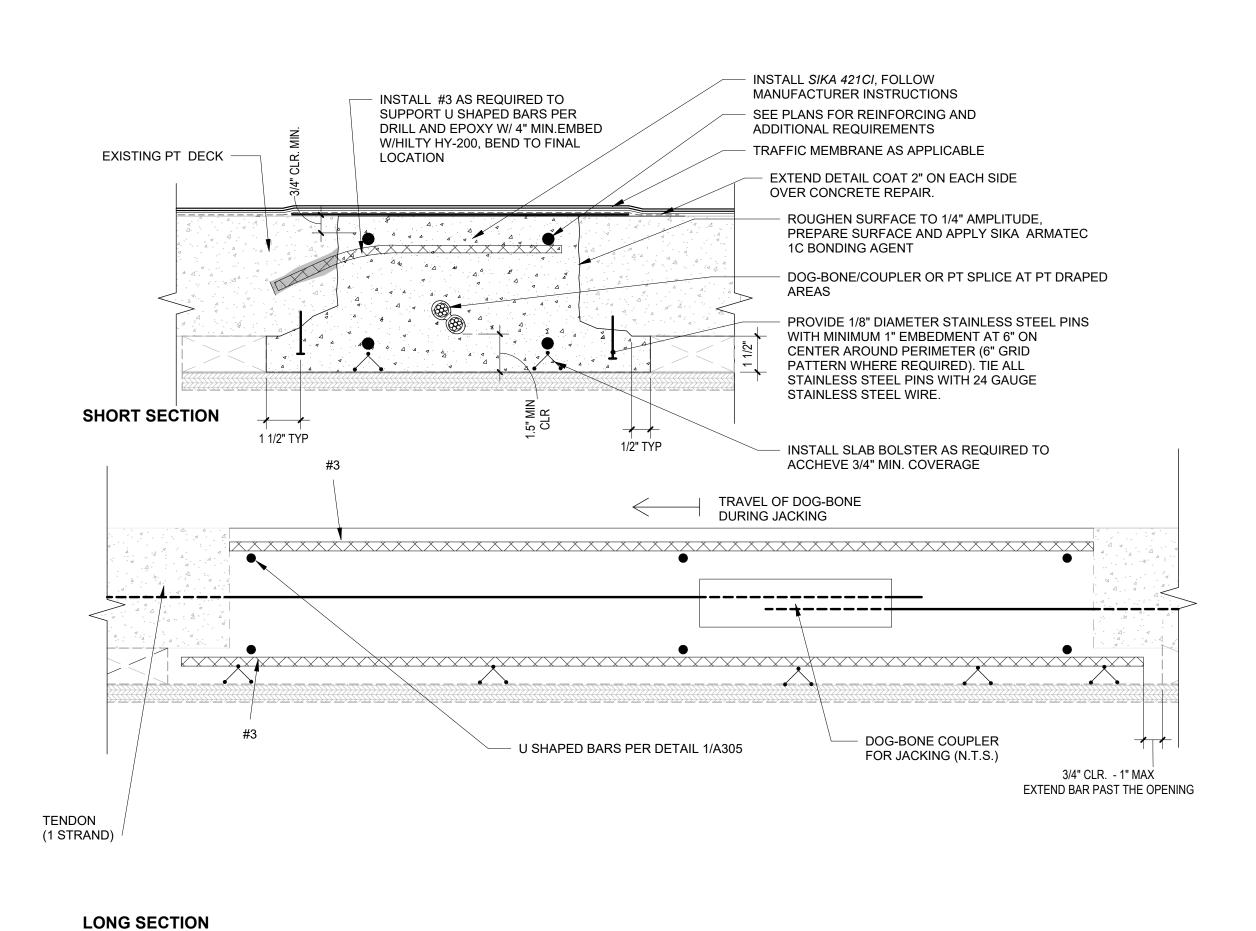
WRAP WATERPROOF TAPE AROUND ENTIRE LENGTH OF THE

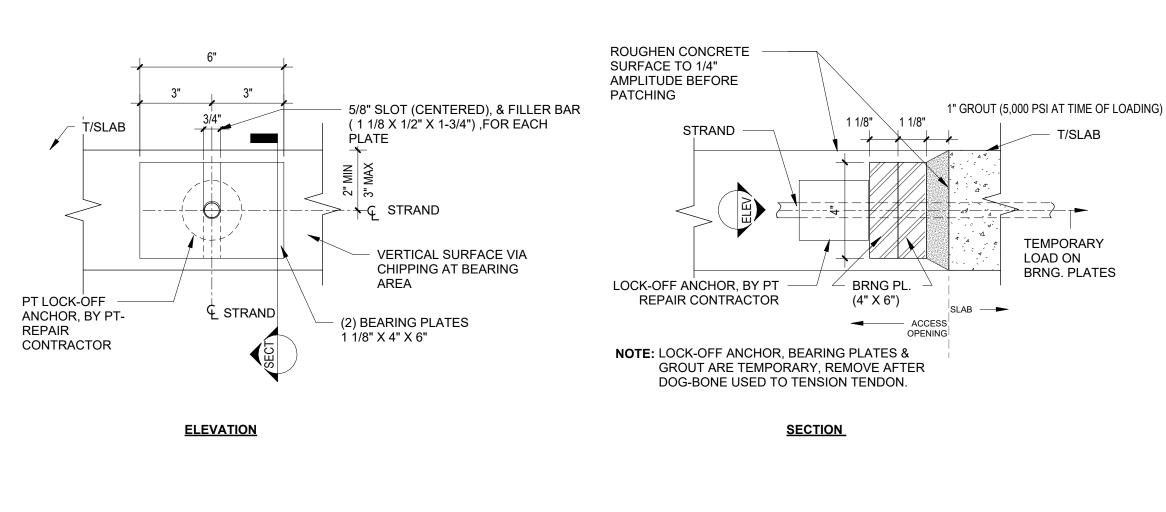
NEW TUBING, EXTENDING IT 2 IN.

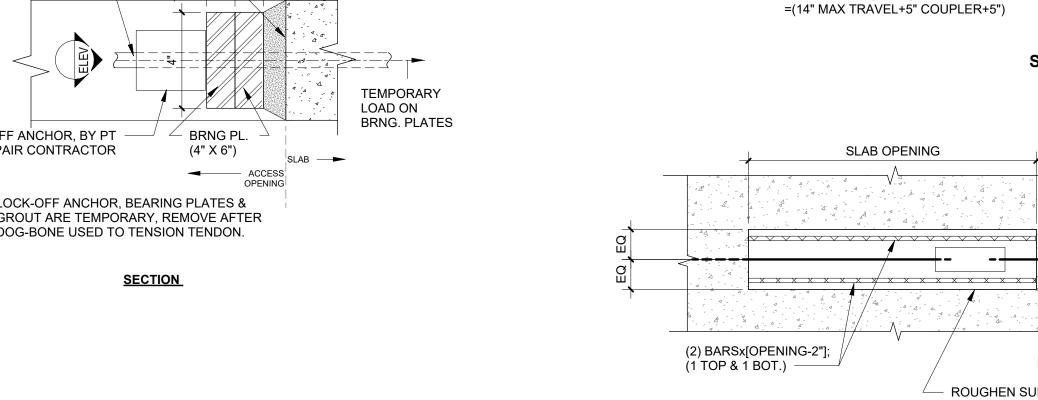
ONTO EXISTING INTACT SHEATHING ON EACH END. TAPE SHOULD BE

APPLIED CONTINUOUSLY WITH THE

TAPE EDGES OVERLAPPED 1/4 IN. MIN.







REMOVE EXISTING CONCRETE AND PLACE

LEAVE 4" OF EXPOSED EXISTING

EXPOSE TENDON.

· - - - - - - - - - /

MIN. CLEARANCE AT ALL LOCATION

½" STRAND

OF EXPOSED TENDONS

SECTION

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U-SHAPED BARS

ROUGHEN SURFACE TO

1/4" AMPLITUDE

PLAN

SHEATHING INTACT AND SEAL ENDS

OF NEW SHEATHING PER END DETAIL

SAWCUT PATCH EDGE TO A DEPTH

EXISTING TENDON

ROUGHEN SURFACE TO

1/4" AMPLITUDE BEFORE

PATCHING

OF 1/2" MIN. AFTER CHIPPING TO

NEW STRUCTURAL CONCRETE

INSTALL NEW TENDON SHEATHING

TYP. 1 1/2" TO 5 1/2"

FULL DEPTH REPAIR REQUIRED IF BOTTOM -

OF SLAB IS DETERIORATED OR IF FINAL SLAB THICKNESS BELOW THE TENDON IS LESS

SHEATHING REPAIR DETAIL ELEV

NOTE: 1" COVER (U.N.O.) FOR #3 BARS

NEW ANCHOR -

XXXXX

NEW SHOULDER

**NEW POCKET & PT ANCHOR** 

BARS -

S012

**NEW ANCHOR** 

- REINFORCING

PER SECTION

TEMPORARY LOCK-OFF ANCHOR DETAIL

S012 3" = 1'-0"