REPAIR AND PREVENTATIVE MAINTENANCE OF THE SENECA NIAGARA PARKING GARAGE NIAGARA FALLS, NEW YORK

MAY 20, 2022

SHEET INDEX SCOPE OF WORK KEY PLAN NOTE: THIS IS A SUMMARY OF THE WORK AND MAY NOT INCLUDE ALL WORK ITEMS THAT THE CONTRACTOR WILL BE RESPONSIBLE FOR DURING THE PROJECT. S0.00 COVER SHEET S0.01 GENERAL NOTES 1. PROJECT MOBILIZATION AND DEMOBILIZATION, INCLUDING ALL PERMITS AS REQUIRED. S1.01 LEVEL ONE FLOOR PLAN WEST HALF S1.02 LEVEL ONE FLOOR PLAN EAST HALF 2. IMPLEMENT REPAIRS IN A LOGICAL MANNER. THE CONTRACTOR SHALL SUBMIT PHASING PLANS FOR APPROVAL BY THE OWNER AND ENGINEER. S1.03 LEVEL TWO FLOOR PLAN WEST HALF S1.04 LEVEL TWO FLOOR PLAN EAST HALF 3. DESIGN, INSTALLATION, AND MAINTENANCE OF THE ENTIRE SHORING SYSTEM. THE OWNER AND ENGINEER DO NOT TAKE ANY RESPONSIBILITY FOR THE DETERMINATION S1.05 LEVEL TWO SOFFIT PLAN WEST HALF Zaika Indian Cuisine & Bar OF WHETHER SHORING IS REQUIRED FOR ANY REPAIRS OR NOT. S1.06 LEVEL TWO SOFFIT PLAN EAST HALF Rainbow Bridge Toll Gate S1.07 LEVEL THREE FLOOR PLAN WEST HALF 4. PERFORM CONCRETE SLAB REPAIRS AT LOCATIONS DESIGNATED ON THE DRAWINGS ACCORDING TO THE SPECIFICATIONS AND REPAIR DETAIL SHEETS. S1.08 LEVEL THREE FLOOR PLAN EAST HALF Niagara St Niagara Falls S1.09 LEVEL THREE SOFFIT PLAN WEST HALF 5. PERFORM CONCRETE COLUMN, BEAM, STEM, AND WALL REPAIRS AT LOCATIONS DESIGNATED ON THE S1.10 LEVEL THREE SOFFIT PLAN EAST HALF DRAWINGS ACCORDING TO THE SPECIFICATIONS AND REPAIR DETAIL SHEETS. S1.11 LEVEL FOUR FLOOR PLAN WEST HALF 6. PERFORM FLOOR CRACK REPAIRS AT LOCATIONS DESIGNATED ON THE DRAWINGS Sheraton At The F Hotel, Niagara Fa S1.12 LEVEL FOUR FLOOR PLAN EAST HALF ACCORDING TO THE SPECIFICATIONS AND REPAIR DETAIL SHEETS. Niagara Falls Falls St State Park S1.13 LEVEL FOUR SOFFIT PLAN WEST HALF The Conference & Event Seneca Niage 7. PERFORM EXPANSION JOINT REPLACEMENT AT LOCATIONS DESIGNATED ON THE DRAWINGS S1.14 LEVEL FOUR SOFFIT PLAN EAST HALF Resort & Casino ACCORDING TO THE SPECIFICATIONS AND REPAIR DETAIL SHEETS. Old Falls St Center Niagara Falls S1.15 LEVEL FIVE FLOOR PLAN WEST HALF S1.16 LEVEL FIVE FLOOR PLAN EAST HALF 8. PERFORM TEE-TO-TEE CONNECTION REPAIRS AT LOCATIONS DESIGNATED BY THE ENGINEER Duggan Dr ACCORDING TO THE SPECIFICATIONS AND REPAIR DETAIL SHEETS. S1.17 LEVEL FIVE SOFFIT PLAN WEST HALF S1.18 LEVEL FIVE SOFFIT PLAN EAST HALF 9. INSTALL STRIPING IN PARKING AREAS, DIRECTIONAL MARKINGS IN TRAFFIC AREAS, AND SAFETY MARKINGS AT ALL CURBS, ISLANDS, STAIRS, ETC. AFFECTED BY CONSTRUCTION S2.01 REPAIR DETAILS ACTIVITIES ACCORDING TO THE SPECIFICATIONS. Hells Half Acre S2.02 REPAIR DETAILS S2.03 REPAIR DETAILS 10. DEMOBILIZE, SWEEP CLEAN AND POWERWASH ALL AREAS AFFECTED BY THE WORK. THIS INCLUDES Rainbow Blvc Rainbow Blvd CLEANING ALL LIGHT FIXTURES, SIGNAGE, PARKING EQUIPMENT, STAIR TOWERS, ELEVATORS, S2.04 REPAIR DETAILS EXHAUST EQUIPMENT, FIRE PROTECTION SYSTEM, ETC. THAT HAVE BEEN IMPACTED BY THE REPAIR S2.05 REPAIR DETAILS Green Island S2.06 REPAIR DETAILS RE Buffalo Ave 384) S2.07 REPAIR DETAILS Buffalo Ave Niagara Falls State Park Parking Lot 3 -SENECA NIAGARA PARKING GARAGE NO. DESCRIPTION DRAWING TITLE: COVER SHEET DRAWING NO.

05/20/22

PROJECT NO : **51-22109**

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GENERAL NOTES

- THE FOLLOWING GENERAL NOTES SHALL APPLY UNLESS NOTED OTHERWISE ON PLANS:
- 1. ALL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE LOCAL, STATE, AND NATIONAL BUILDING CODES.
- 2. DO NOT SCALE DIMENSIONS FROM DRAWINGS.
- 3. THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL DIMENSIONS SHOWN ON PLANS WITH EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
- 4. THE CONTRACTOR SHALL REPORT IMMEDIATELY TO THE ENGINEER ANY DISCREPANCIES OR INCORRECT INFORMATION WITH THE DRAWINGS BASED ON EXISTING CONDITIONS. AFTER REPORTING THE DISCREPANCIES VERBALLY, A WRITTEN REPORT SHOULD THEN FOLLOW. THE CONTRACTOR SHALL BE DIRECTED BY THE ENGINEER REGARDING THE DISCREPANCIES.
- 5. THE CONTRACTOR SHALL PROVIDE METHODS AND EQUIPMENT FOR PROTECTING THE STRUCTURE AND ALL MATERIALS AND PERSONNEL FROM FIRE DAMAGE PRIOR TO STARTING WORK. METHODS AND EQUIPMENT ARE SUBJECT TO APPROVAL BY THE LOCAL FIRE DEPARTMENT. THE CONTRACTOR SHALL SUBMIT THE METHODS AND EQUIPMENT TO THE ENGINEER IN WRITING AND OBTAIN THE ENGINEER'S AND OWNER'S APPROVAL PRIOR TO STARTING WORK. FIRE PROTECTION AND PREVENTION DURING THE CONSTRUCTION PERIOD SHALL BE IN ACCORDANCE WITH ALL LAWS AND REGULATIONS, INCLUDING BUT NOT LIMITED TO THE LATEST N.F.P.A. REGULATIONS, O.S.H.A., AND STATE AND LOCAL REQUIREMENTS
- 6. THE CONTRACTOR SHALL COMPLY WITH ALL SAFETY AND HEALTH LAWS AND REGULATIONS INCLUDING, BUT NOT LIMITED TO, PROVISIONS AND REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AS AMENDED AND/OR THE CONSTRUCTION SAFETY ACT OF 1969, AS AMENDED (WHICHEVER IS APPLICABLE) AND WITH ALL MOST RECENT APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS, AND ORDERS OF ANY PUBLIC AUTHORITY HAVING JURISDICTION AND SAFETY OF PERSONS OR PROPERTY OR TO PROTECT THEM FROM DAMAGE, INJURY OR LOSS. HE SHALL ERECT AND MAINTAIN, AS REQUIRED BY EXISTING CONDITIONS AND PROGRESS OF THE WORK, ALL REASONABLE SAFEGUARDS FOR SAFETY AND PROTECTION, INCLUDING POSTING DANGER SIGNS AND OTHER WARNING AGAINST HAZARDS, PROMULGATING SAFETY REGULATIONS, AND NOTIFYING THE OWNER AND USERS OF ADJACENT UTILITIES. THE CONTRACTOR SHALL ASSURE THAT ALL OF HIS SUBCONTRACTORS ALSO CONFORM TO ALL HEALTH AND SAFETY LAWS AND REGULATIONS. THE CONTRACTOR SHALL AT ALL TIMES HAVE AN O.S.H.A. CERTIFIED "COMPETENT PERSON" ON THE JOB AND AN INDIVIDUAL TRAINED AND CERTIFIED IN FIRST AID BY THE AMERICAN RED CROSS.
- 7. THE CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, AND SHEETING REQUIRED FOR SAFETY AND PROPER EXECUTION OF THE WORK. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL THE METHOD OF SHORING. SHORING SHALL BE SEALED BY AN ENGINEER LICENSED IN THE STATE WHERE THE WORK WILL OCCUR.
- 8. THE CONTRACTOR SHALL NOT DEMOLISH ANY EXISTING STRUCTURAL ELEMENT IN THE STRUCTURE PRIOR TO INSTALLATION OF PROPER SHORING MEMBERS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL NOT ATTEMPT TO BRING ANY VEHICLE OR EQUIPMENT INTO THE FACILITY PRIOR TO INSTALLATION OF PROPER SHORING MEMBERS APPROVED BY THE ENGINEER AND OF WHICH THE REQUIREMENTS ARE SHOWN ON PLANS. ANY VEHICLE AND/OR EQUIPMENT TO BE BROUGHT INTO THE FACILITY SHALL BE APPROVED BY THE ENGINEER. THE CONTRACTOR IS SOLELY RESPONSIBLE TO PREPARE SHOP DRAWINGS FOR THE SHORING MEMBERS AND TO SUBMIT THEM TO THE ENGINEER FOR APPROVAL.
- 9. WHEN THE PLANS INCLUDE INFORMATION PERTAINING TO SURFACE OBSERVATION, MATERIAL TESTING, AND OTHER PRELIMINARY INVESTIGATIONS, SUCH INFORMATION REPRESENTS ONLY THE OPINION OF THE ENGINEER AS TO THE LOCATION, CHARACTER, OR QUALITY OF THE MATERIALS ENCOUNTERED AND IS ONLY INCLUDED FOR CONVENIENCE OF THE BIDDER. THE OWNER/ENGINEER ASSUMES NO RESPONSIBILITY WHATSOEVER IN RESPECT TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION, AND THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE CONDITIONS INDICATED ARE REPRESENTATIVE OF THOSE EXISTING THROUGHOUT THE WORK, OR THAT UNANTICIPATED DEVELOPMENTS MAY NOT OCCUR. SAID INFORMATION SHALL NOT BE CONSIDERED BY THE PARTIES AS A BASIS FOR THE CONTRACT AWARD AMOUNT.
- 10. ANY EXTRA WORK BEYOND THE SCHEDULED QUANTITIES REQUIRING ADDITIONAL COST TO THE OWNER SHALL BE APPROVED BY THE OWNER AND ENGINEER PRIOR TO TAKING SUCH ACTION. CLAIMS FOR EXTRA WORK WHICH HAVE NOT BEEN AUTHORIZED IN WRITING BY THE OWNER AND APPROVED BY THE ENGINEER WILL BE REJECTED AND THE CONTRACTOR SHALL NOT BE ENTITLED TO PAYMENT. THE CONTRACTOR SHALL PROMPTLY SUBMIT THE PROPOSAL FOR EXTRA WORK, IN WRITING, AS ADDITIONAL WORK IS DISCOVERED.
- 11. THE PLANS MAY BE SUPPLEMENTED BY STANDARD AND WORKING DRAWINGS AS ARE NECESSARY TO ADEQUATELY DESCRIBE THE WORK. IN THE SOLE JUDGMENT OF THE ENGINEER, IF AN EVENT A CHANGE BECOMES NECESSARY IN THE BEST INTERESTS OF THE PROJECT, DUE TO CIRCUMSTANCES NOT KNOWN UNTIL THE BID DOCUMENTS WERE SUBMITTED TO THE OWNER OR ARISING THEREAFTER, THE ENGINEER MAY ALTER THE PLANS AS MAY BE NECESSARY AND INCREASE OR DECREASE THE QUANTITIES OF WORK TO BE PERFORMED IN ACCORDANCE WITH SUCH CHANGES. THE OWNER SHALL BE INFORMED WITH A COPY OF ALL SUBMITTALS AND CORRESPONDENCE AS THE CHANGES MAY OCCUR.
- 12. EXECUTION OF THE WORK WILL INVOLVE CONSIDERATION FOR ALLOWING THE OWNER TO CONTINUE TO USE AREAS OUTSIDE THE REPAIR AREA AND THE FACILITIES ABOVE AND SURROUNDING THE AREAS UNDER REPAIR. PRIOR TO THE AWARD OF THE CONTRACT, THE CONSTRUCTION SCHEDULE PREPARED BY THE CONTRACTOR SHALL BE SUBMITTED TO THE OWNER AND COORDINATED WITH THE FACILITY MANAGEMENT. OWNER'S APPROVAL OF THE PROPOSED SCHEDULE SHALL PRECEDE THE CONTRACT
- 13. THE CONTRACTOR SHALL REVIEW ALL EXISTING CONDITIONS TO DETERMINE ALL SERVICES (ELECTRICAL, HVAC, PLUMBING) AFFECTED BY THE REPAIR WORK. HE SHALL MAKE NECESSARY TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SERVICES TO ALL AREAS OF THE FACILITY OR OTHER AREAS NOT IN THE CONTRACT AFFECTED BY THE WORK. THE CONTRACTOR SHALL SUBMIT THE METHODS AND SCHEDULE OF CONNECTIONS FOR THE OWNER'S APPROVAL PRIOR TO COMMENCEMENT,
- 14. AS THE WORK PROGRESSES, THE CONTRACTOR SHALL PRODUCE "AS-BUILT" DRAWINGS FOR THE INSTALLATION OF ALL REPAIR ITEMS UNDER THE CONTRACT. THE ENGINEER WILL PROVIDE THE GENERAL CONTRACTOR WITH A SET OF REPRODUCIBLES FOR THIS PURPOSE. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN THE "AS-BUILT" DRAWINGS UPDATED ACCORDING TO THE JOB PROGRESS. FOR EACH PAY REQUEST BY THE CONTRACTOR, THE OWNER AND ENGINEER SHALL RECEIVE A COPY OF THE UPDATED "AS-BUILT" DRAWINGS.

CONSTRUCTION NOTES

- 1. CODES AND STANDARDS: ALL STRUCTURAL RENOVATION WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF ALL STATE BUILDING CODES AND WITH THE LATEST EDITION OF THE FOLLOWING CODES AND STANDARDS:
- A. ACI 304 "RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE"
- B. ACI 305 "RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING"
 C. ACI 306 "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING"
- D. ACI 309 "RECOMMENDED PRACTICE FOR CONSOLIDATION OF CONCRETE"
- E. ACI 311 "RECOMMENDED PRACTICE FOR CONCRETE INSPECTION"
- F. ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
 G. ACI 347 "FORMWORK FOR CONCRETE"
- H. AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"

 I. AISC "SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL
- FOR BUILDINGS"

 J. AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS"

 K. AWS D1.1 "STRUCTURAL WELDING CODE"
- 2. ALL DETAILS, SECTIONS, AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE, UNLESS OTHERWISE SHOWN.
- 3. THE ENGINEER SHALL HAVE AUTHORITY TO REJECT WORK WHICH DOES NOT CONFORM TO THE CONTRACT DOCUMENTS. THE ENGINEER AND OWNER WILL HAVE AUTHORITY TO REQUIRE SPECIAL INSPECTION OR TESTING OF THE WORK. HOWEVER, NEITHER THE ENGINEER'S AUTHORITY TO ACT UNDER THIS SUBPARAGRAGH NOR ANY DECISION MADE BY HIM IN GOOD FAITH TO EXERCISE OR NOT EXERCISE SUCH AUTHORITY, SHALL GIVE RISE TO ANY DUTY OR RESPONSIBILITY OF THE ENGINEER TO THE CONTRACTOR, ANY SUBCONTRACTOR, ANY OF THEIR AGENTS OR EMPLOYEES, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK.
- 4. THE CONTRACTOR SHALL MAINTAIN, ON SITE, ONE COMPLETE SET OF DRAWINGS (WHITE PRINTS) AND SPECIFICATIONS FURNISHED BY THE OWNER AT THE CONTRACTOR'S EXPENSE, AN ACCURATE RECORD OF THE INSTALLATION OF ALL MATERIALS AND SYSTEMS COVERED BY THE CONTRACT. THE "AS-BUILT" RECORD SHALL INDICATE THE EXACT LOCATION AND AMOUNT OF ALL WORK. THE COMPLETED SET OF "AS-BUILT" DRAWINGS MUST BE DELIVERED TO THE OWNER AND ENGINEER AS SOON AS THE PROJECT IS FINISHED.
- 5. ANY EQUIPMENT GREATER THAN 6,000 LBS. SHALL REQUIRE SPECIALIZED SHORING OF THE SUPPORTED SLAB. THE ENGINEER SHALL REVIEW AND APPROVE SHORING PRIOR TO STARTING WORK. ALL LOOSE CONCRETE ADJACENT TO A RENOVATION AREA ON THE SOFFIT OF A SUPPORTED SLAB SHALL BE REMOVED PRIOR TO STARTING WORK. ALL NOISE AND DUST PRODUCING OPERATIONS ARE LIMITED TO THE OWNER'S SATISFACTION AND LOCAL CODE REQUIREMENTS.
- 6. THE NEW CONCRETE SHALL BE PLACED, CONSOLIDATED, AND FINISHED TO MATCH EXISTING FINISH ELEVATIONS. ALL NEW CONCRETE MAY BE OPEN TO SERVICE LOADS AFTER THE NEW CONCRETE HAS ACHIEVED A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI. THE SHORING AND FALSEWORK SHALL BE LEFT IN PLACE UNTIL THE NEW CONCRETE ACHIEVES AT LEAST 80% OF THE DESIGN COMPRESSIVE STRENGTH
- 7. CONCRETE TESTING WILL BE PERFORMED BY THE TESTING LABORATORY SELECTED BY THE OWNER IN ACCORDANCE WITH ACI 301 SUBSECTION 1.6 UNLESS STATED OTHERWISE IN THE SPECIFICATIONS. SEE THE SPECIFICATIONS FOR CONCRETE TEST REQUIREMENTS.
- 8. HAND-HELD PNUEMATIC HAMMERS MAY BE UTILIZED TO REMOVE AREAS OF CONCRETE SCHEDULED TO BE REMOVED. MAXIMUM HAMMER SIZE SHALL NOT EXCEED 60 LBS. THE USE OF HOE RAMS AND HYDRO-DEMOLITION IS PROHIBITED.

CONCRETE REPAIR PROCEDURE NOTES

- 1. ESTABLISH A BENCH MARK AND SHOOT ELEVATIONS OF THE EXISTING SLAB, INCLUDING BOTH INSIDE AND OUTSIDE OF REPAIR AREAS. MAINTAIN A RECORD OF THE ELEVATIONS BEFORE, DURING, AND UPON COMPLETION OF REPAIR WORK.
- 2. INSTALL TRAFFIC DEVICES FOR PROPER MAINTENANCE AND PROTECTION OF TRAFFIC DURING CONSTRUCTION AND DUSTPROOF PARTITIONS AROUND AND DIRECTLY BENEATH WORK AREA.
- 3. PROVIDE ADEQUATE SHORING AND BRACING FOR THE SAFE AND PROPER EXECUTION OF THE WORK. ALL SHORING SHALL BE CARRIED TO GRADE UNLESS DESIGNED AND STAMPED BY A PROFESSIONAL ENGINEER. SEE DETAIL 3, DWG S2.02.
- 4. SAWCUT PERIMETER OF AREA TO BE REPAIRED WITHOUT CUTTING REINFORCING STEEL. REMOVE DETERIORATED CONCRETE. REINFORCING BARS THAT HAVE LOST 20% OR MORE OF THEIR CROSS-SECTIONAL AREA SHALL BE SUPPLEMENTED. BARS THAT HAVE BEEN CUT OR HAVE GREATER THAN 50% SECTION LOSS SHALL BE REPLACED WITH NEW EPOXY-COATED REBAR. NEW REBAR SHALL BE LAP SPLICED. IF THERE IS INSUFFICIENT DEVELOPMENT LENGTH, DOWELS (DETAIL 4, DWG S2.02) AND MECHANICAL FASTENERS (DETAIL 5, DWG S2.02) SHALL BE USED.
- 5. INSTALL THE NECESSARY FALSEWORK (FOR FULL DEPTH REPAIRS) AND PROVIDE NEW EPOXY—COATED REINFORCING STEEL AND WELDED WIRE FABRIC TO MATCH THE EXISTING LAYOUT.
- 6. FOR FULL AND PARTIAL DEPTH SLAB REPAIR AREAS PLACE, CONSOLIDATE, AND FINISH NEW FIBER-REINFORCED CONCRETE. FINISH CONCRETE WITH A LIGHT BROOM FINISH.
- 7. FOR VERTICAL AND OVERHEAD REPAIR AREAS, APPLY APPROVED SHOTCRETE OR FORM AND PUMP MATERIAL IN LAYERS OF LIMITED THICKNESS PER THE MANUFACTURERS RECOMMENDATIONS AND THE SPECIFICATIONS.
- 8. CURING OF NEW CONCRETE SHALL BE BY APPROVED METHODS AND THE MINIMUM PERIOD FOR MAINTENANCE MOISTURE AND TEMPERATURE SHALL BE 3 DAYS OR THE TIME NECESSARY TO ATTAIN 80% OF THE SPECIFIED COMPRESSIVE STRENGTH, WHICHEVER PERIOD IS GREATER. THE SAME REQUIREMENTS SHALL APPLY FOR REMOVAL OF FALSEWORK AND SHORING.
- 9. NO SURFACE TREATMENTS (SEALER OR WATERPROOF MEMBRANE) SHALL BE APPLIED TO NEW CONCRETE WITHIN THE FIRST 28 DAYS AFTER PLACEMENT.
- MAINTAIN OR IMPROVE THE EXISTING SLOPE TO PROVIDE POSITIVE DRAINAGE ON THE FINISHED SLAB SURFACE.
 EXPOSED REPAIR SURFACES SHALL NOT CONTAIN FINS, OFFSETS, SHOULDERS, OR PASTE LEAKING DUE TO POORLY FIT FORMS. A SAMPLE REPAIR AREA SHALL BE FORMED AND PLACED AT THE BEGINNING OF THE PROJECT IN ORDER TO ESTABLISH A STANDARD OF ACCEPTABILITY.
- 12. ALL CRACKS IN NEW CONCRETE, NEW CONSTRUCTION JOINTS AND COVE JOINTS SHALL HAVE A JOINT SEALANT INSTALLED PER SPECIFICATIONS AS SHOWN IN THE DETAILS.

REINFORCED CONCRETE NOTES

1. ALL REINFORCED CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"

2 MATERIALS:

- A. THE 28-DAY COMPRESSIVE STRENGTH OF ALL NEW CONCRETE SHALL BE A MINIMUM OF 5,000 PSI UNLESS OTHERWISE NOTED.
- B. ALL NEW REINFORCING STEEL SHALL BE EPOXY COATED REBAR AND CONFORM TO ASTM A775 (60,000 PSI YIELD).
- 3. ALL DIMENSIONS SHOWN FOR LOCATION OF REINFORCING STEEL ARE TO THE FACE OF MAIN BARS AND DENOTE MINIMUM CLEAR COVER. UNLESS SPECIFICALLY NOTED, CONCRETE COVER FOR NEW EPOXY COATED REINFORCING STEEL SHALL BE:

REINFORCING STEEL IN CONCRETE CAST AGAINST EARTH - 3"

#6 OR LARGER BARS IN CONCRETE EXPOSED TO WEATHER OR TRAFFIC — 2" #5 OR SMALLER BARS AND W.W.F. IN CONCRETE EXPOSED TO WEATHER OR TRAFFIC — 1 1/2"

REINFORCING STEEL NOT EXPOSED TO EARTH, WEATHER, OR TRAFFIC: #11 OR SMALLER BARS IN SLABS, WALLS, AND JOISTS — 3/4" ALL BARS IN BEAMS AND COLUMNS — 1 1/2"

ALL EXISTING REINFORCING STEEL (TOP OR BOTTOM) - 3/4"

- 4. UNLESS DIRECTED OTHERWISE BY THE ENGINEER, ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED, AND SPACED IN THE FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES". BAR SUPPORT IN CONTACT WITH EXPOSED SURFACES SHALL BE PLASTIC TIPPED.
- 5. SHOP DRAWINGS SHOWING REINFORCING DETAILS, INCLUDING STEEL SIZES, SPACING, AND PLACEMENT, SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION.
- 6. FORMS FOR ALL CONCRETE WORK, IF USED, SHALL BE TIGHT, LEAKPROOF, AND PROVIDE THE NECESSARY RIGIDITY TO SUPPORT THE IMPOSED LOADS WITHOUT ANY SETTLEMENT OR DEFORMATION.
- 7. ALL REINFORCING SPLICES SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF ACI 318, BUT IN NO CASE WILL IT BE LESS THAN THE LENGTHS NOTED BELOW, UNLESS NOTED ON THE DRAWINGS. WELDED WIRE FABRIC SHALL BE LAPPED 2 FULL MESH PANELS AND TIED SECURELY. WHERE REQUIRED, DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING BARS AND BE SPLICED ACCORDING TO THE TABLE BELOW, UNLESS NOTED OTHERWISE.

LAP SPLICE LENGTHS FOR BARS IN TENSION AND TEMPERATURE STEEL						
BAR SIZE	UNCOATED REINFORCEMENT	EPOXY-COATED REINFORCEMENT				
3	17"	25"				
4	22"	33"				
5	28"	41"				
6	33"	50"				
7	48"	72"				
8	55"	83"				
9	62"	93"				
5 6 7 8	28" 33" 48" 55"	41" 50" 72" 83"				

TABLE NOTES:

• CLASS B SPLICE

•NORMAL WEIGHT CONCRETE
•COMPRESSIVE STRENGTH = 5000 PSI

•GRADE 60 REINFORCING STEEL
•LESS THAN 12" OF CONCRETE CAST BELOW REINFORCING STEEL

• CLEAR COVER BETWEEN 1 AND 3 BAR DIAMETERS

•BAR SPACING BETWEEN 2 AND 6 BAR DIAMETERS

Design Management

REPAIR AND PREVENTATIVE MAINTENAN OF THE SENECA NIAGARA PARKING GARA

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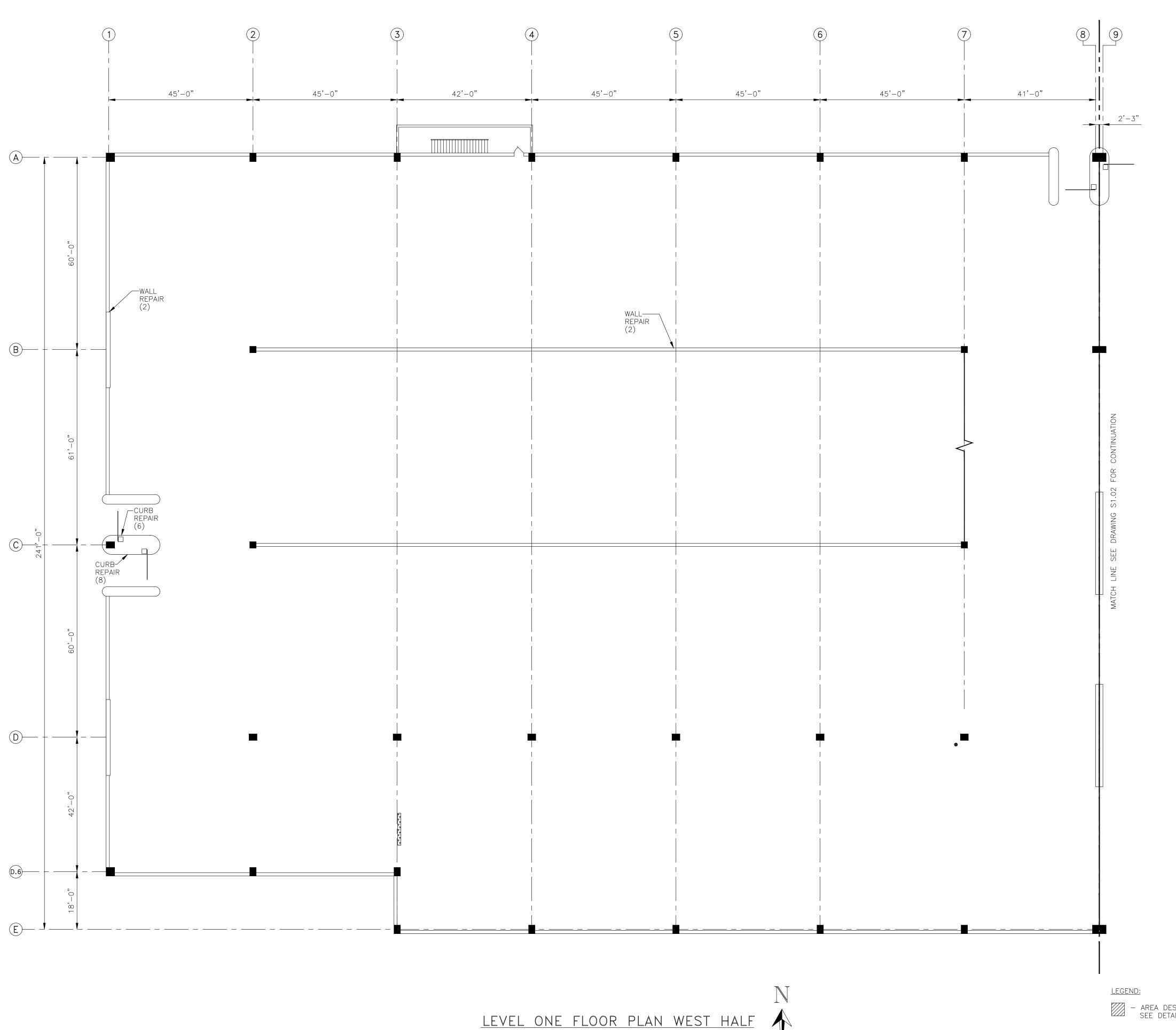
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- AREA DESIGNATED FOR FULL DEPTH SLAB-ON-GRADE FLOOR REPAIR, SEE DETAIL 16, DRAWING S2.05

WALL REPAIR (#) — DENOTES PARTIAL DEPTH WALL REPAIR (AREA IN S.F.), SEE DETAIL 9, DRAWING S2.03 CURB REPAIR (#) — DENOTES FULL DEPTH CURB REPAIR (AREA IN S.F.), SEE DETAIL 18, DRAWING S2.06

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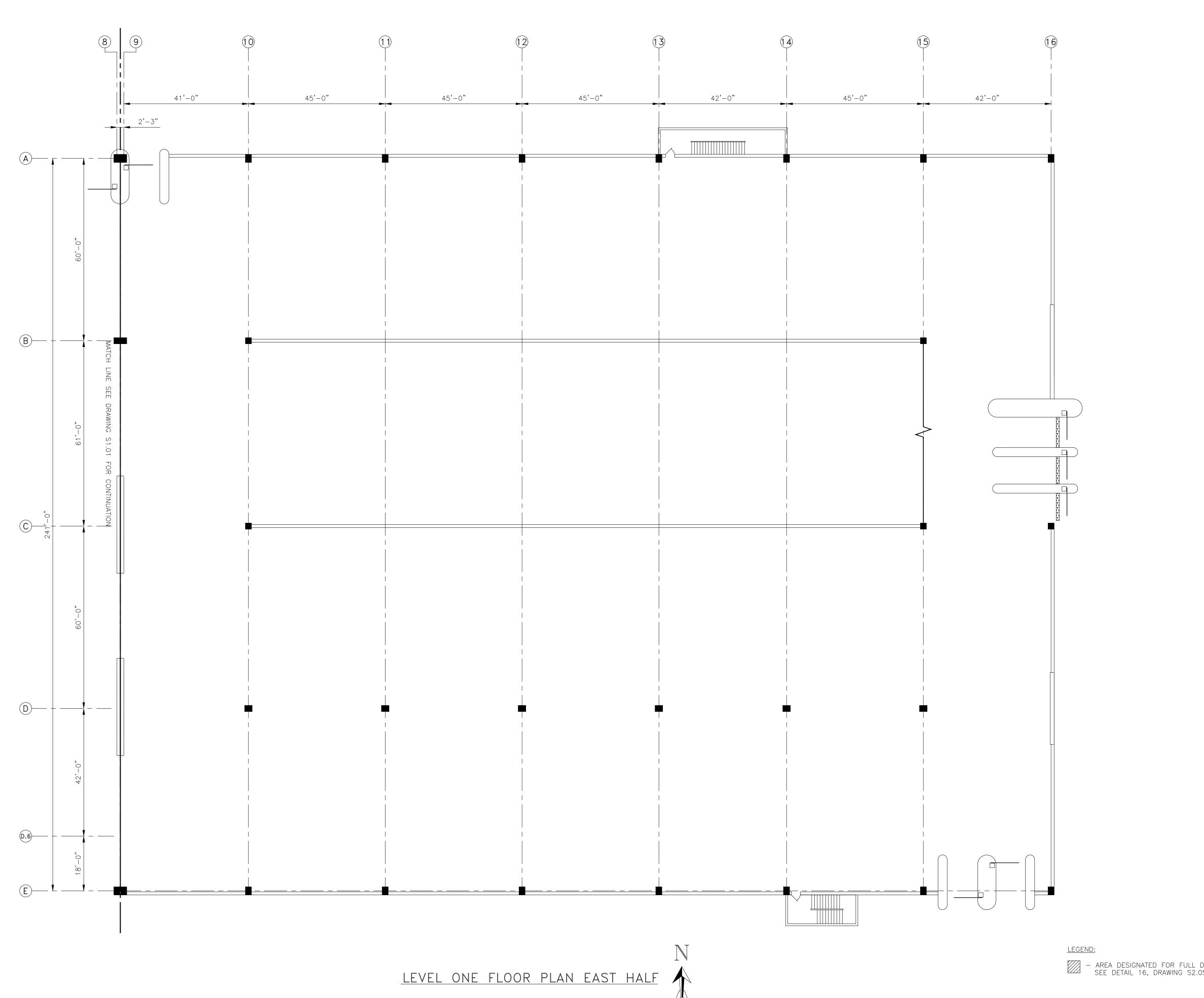
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LEVEL ONE FLOOR PLAN WEST HALF

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- AREA DESIGNATED FOR FULL DEPTH SLAB-ON-GRADE FLOOR REPAIR, SEE DETAIL 16, DRAWING S2.05

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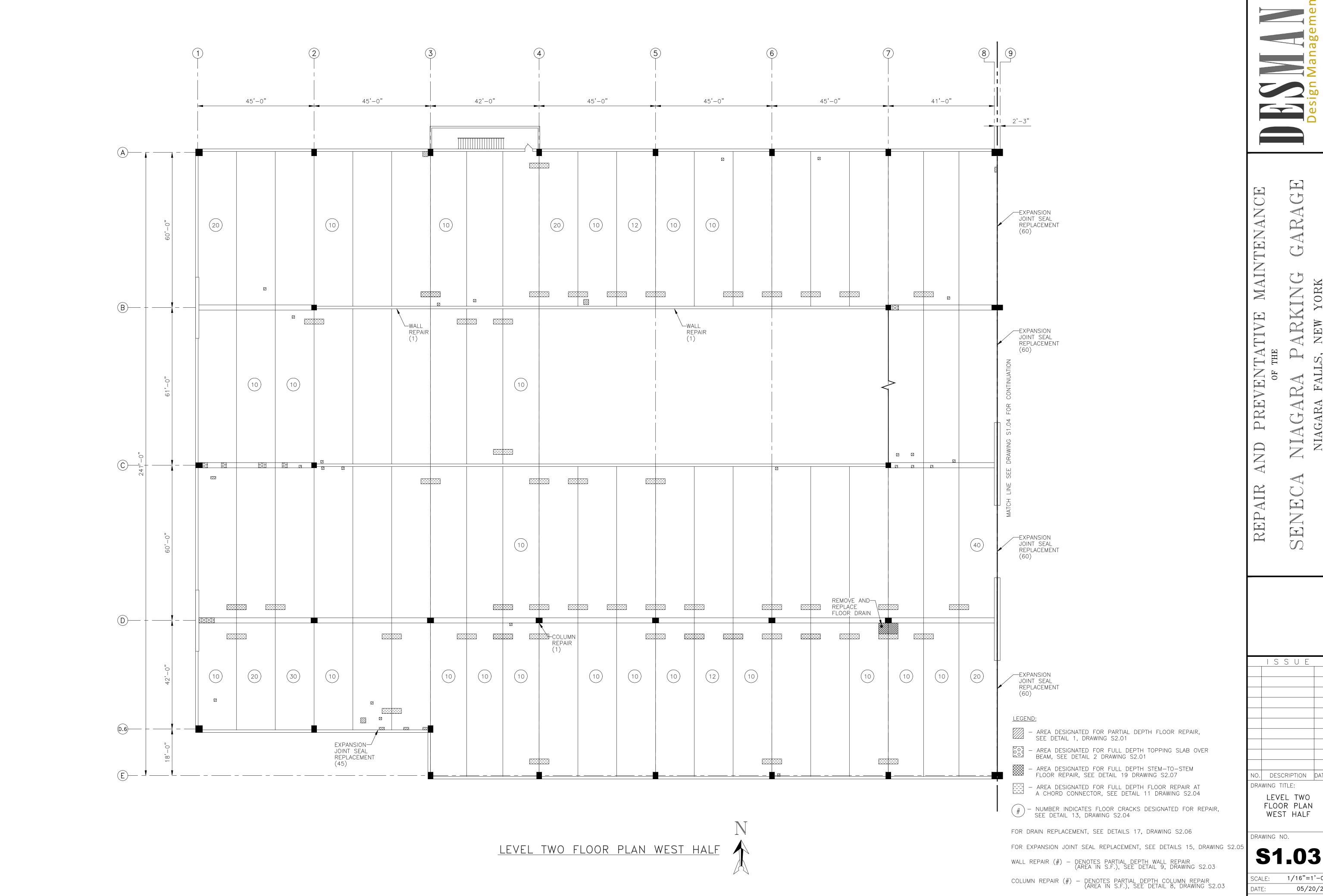
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LEVEL ONE FLOOR PLAN EAST HALF

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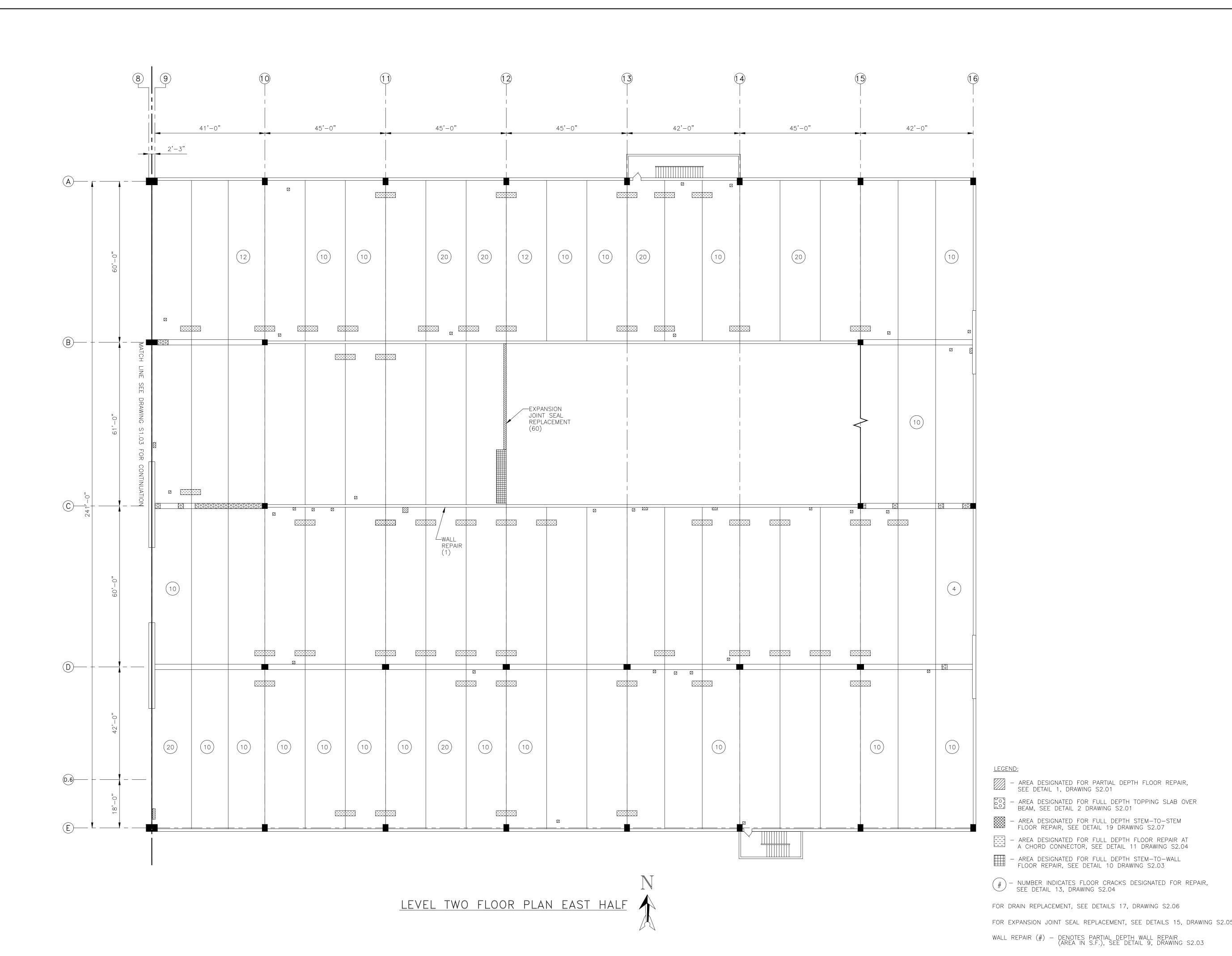
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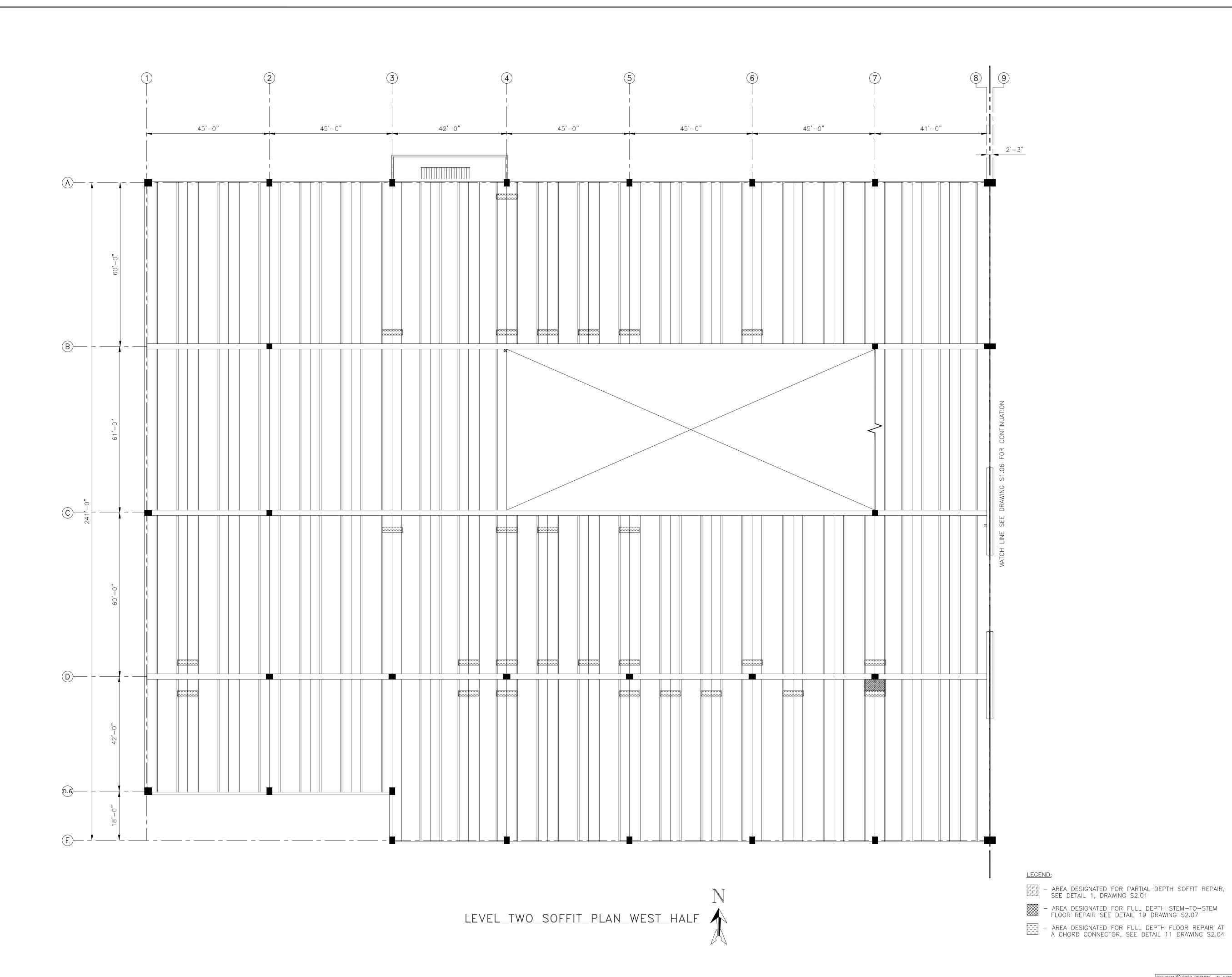
LEVEL TWO FLOOR PLAN EAST HALF

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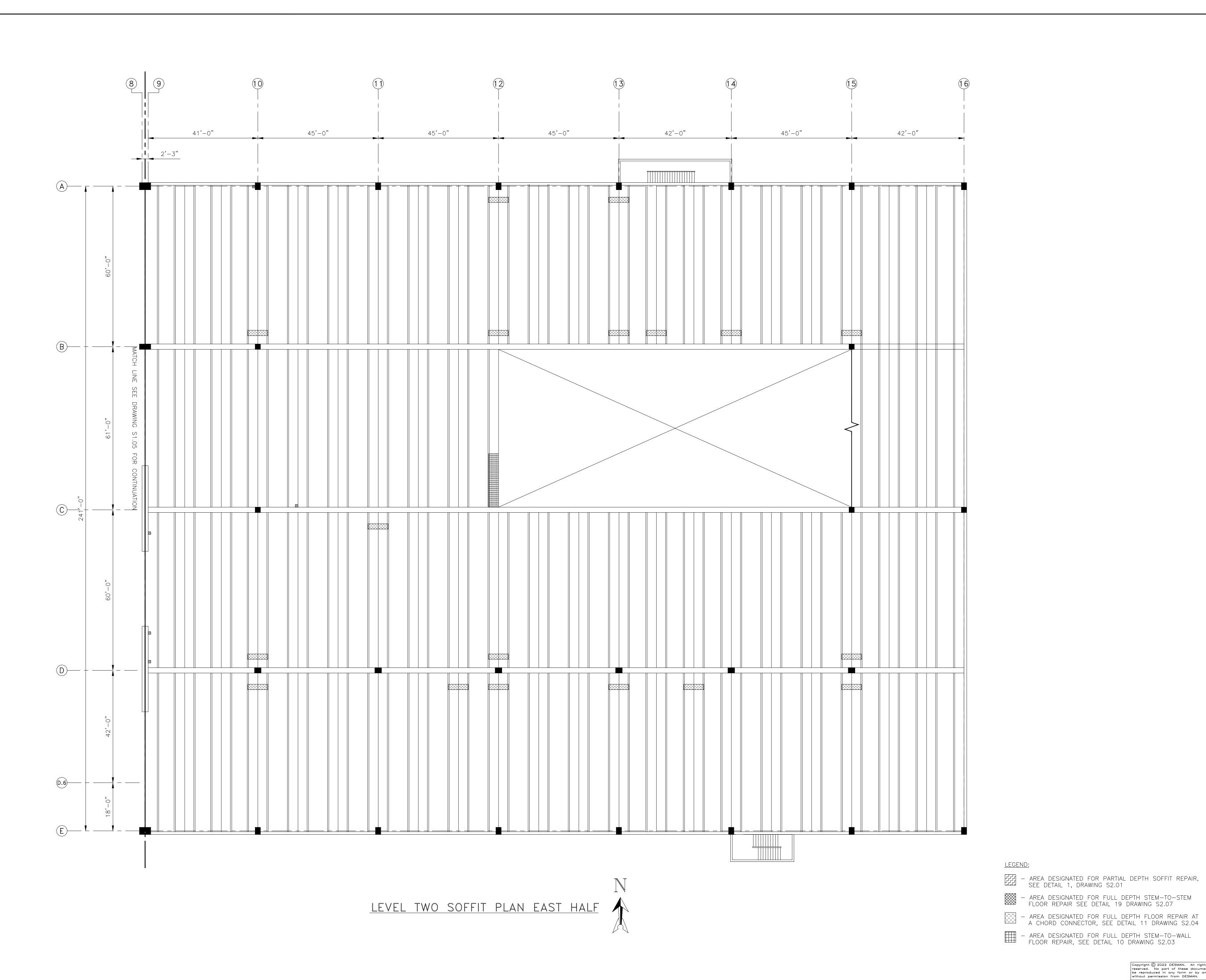
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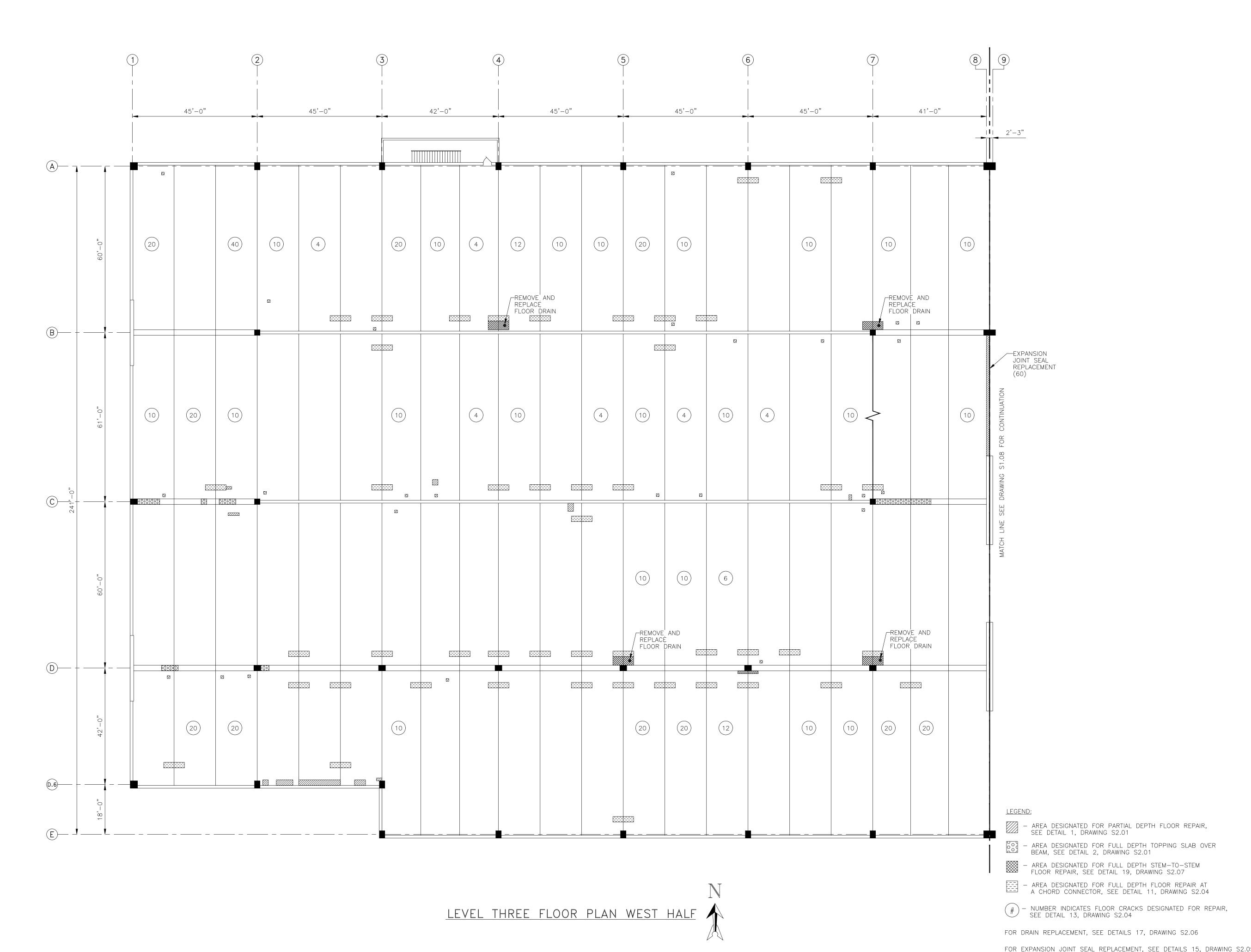
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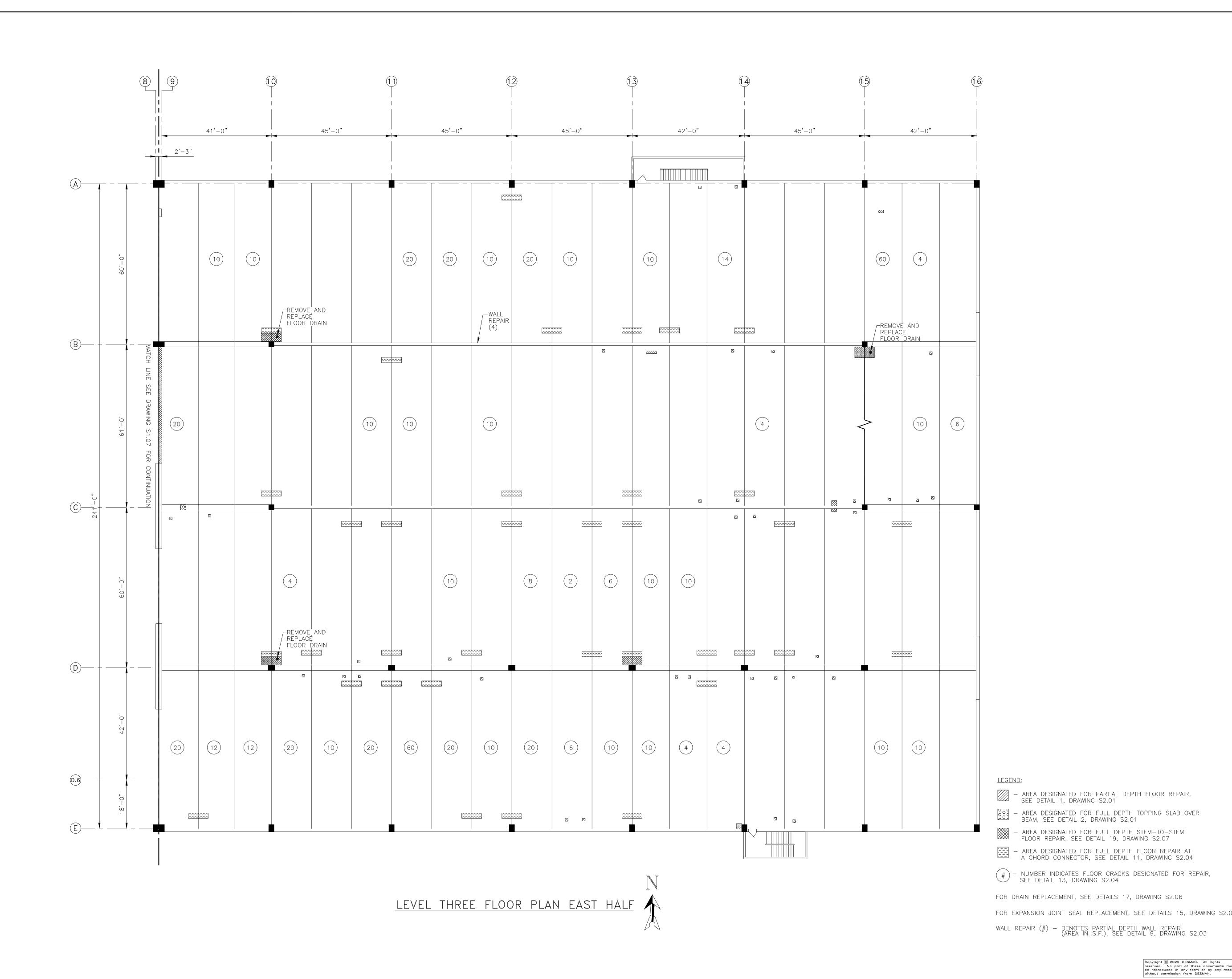
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LEVEL THREE FLOOR PLAN WEST HALF

DRAWING NO.

1/16"=1'-0' 05/20/22 PROJECT NO : **51-22109**



PREVENTATIVE OF THE REPAIR ISSUE

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NO. DESCRIPTION DATE DRAWING TITLE:

LEVEL THREE FLOOR PLAN EAST HALF

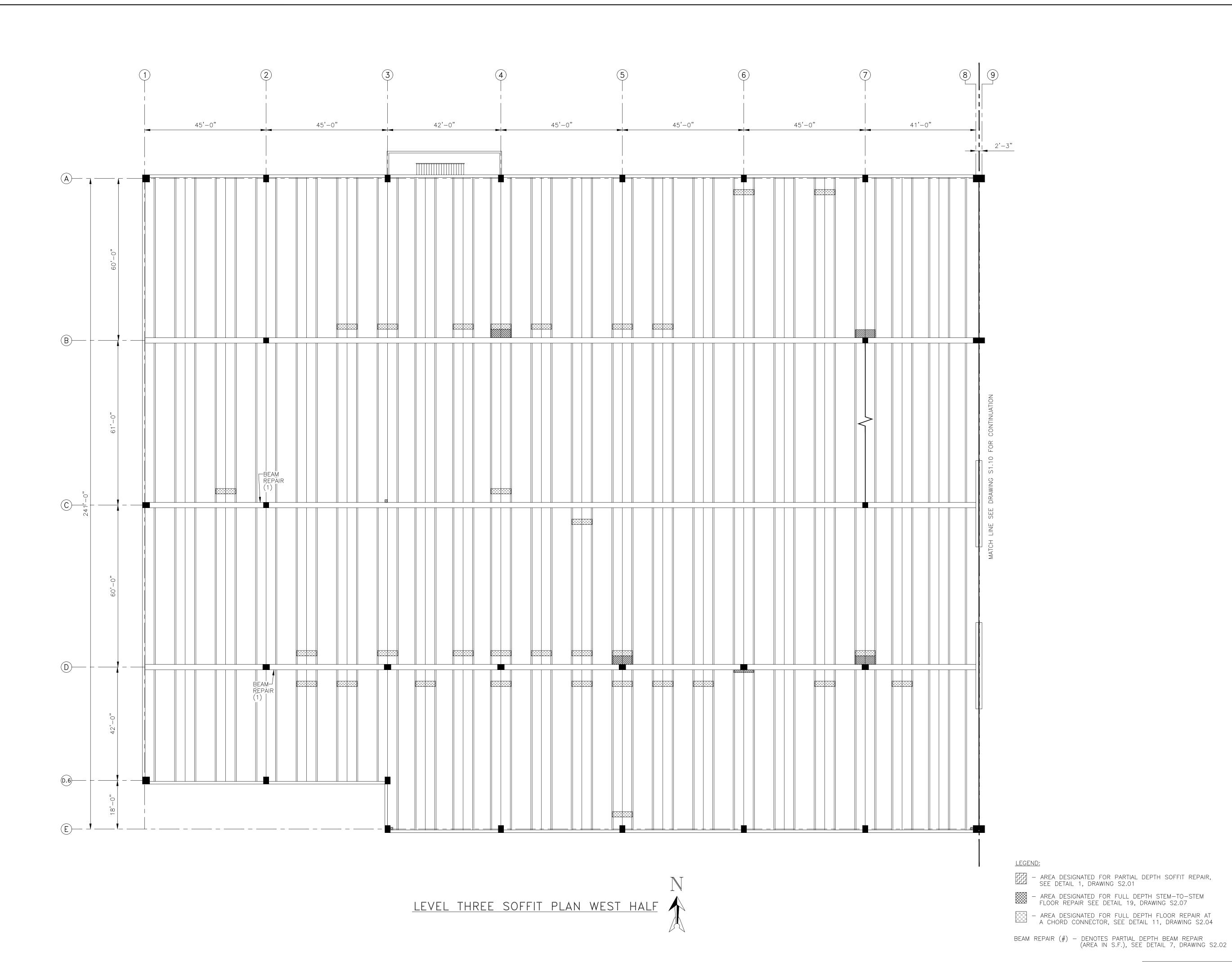
DRAWING NO.

S1.08

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SCALE: 1/16"=1'-0" 05/20/22 PROJECT NO : **51-22109** DES. DRWN. CK'D.

EAD DJC MWR



REPAIR AND PREVENTATIVE MAINTENANCE OF THE SENECA NIAGARA PARKING GARAGE

ISSUE

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LEVEL THREE SOFFIT PLAN WEST HALF

DRAWING NO.

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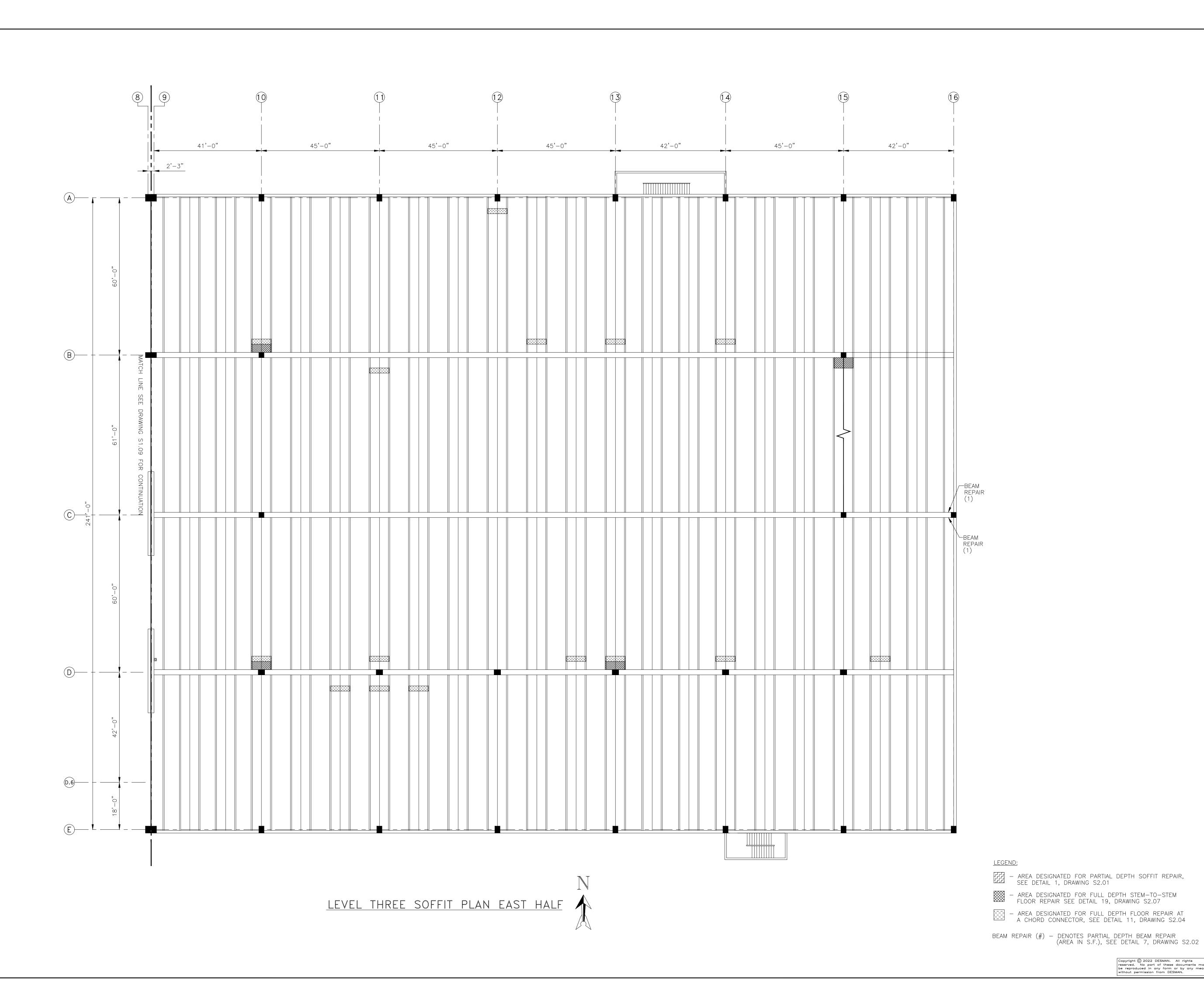
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DATE: 05/20/22

PROJECT NO : 51-22109

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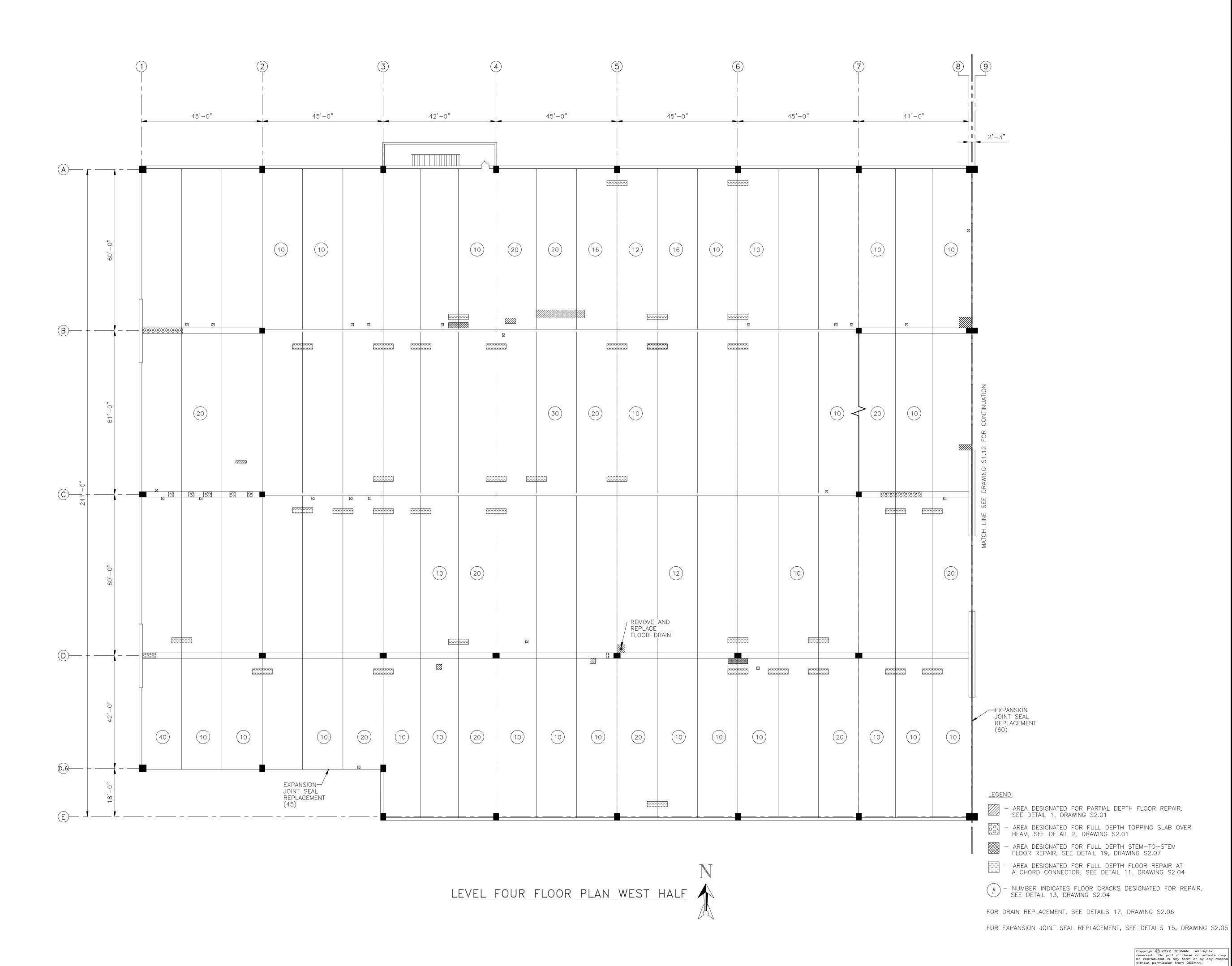
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LEVEL THREE SOFFIT PLAN EAST HALF

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SCALE: 1/16"=1'-0" 05/20/22 PROJECT NO : **51-22109**

EAD DJC MWR

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LEVEL FOUR

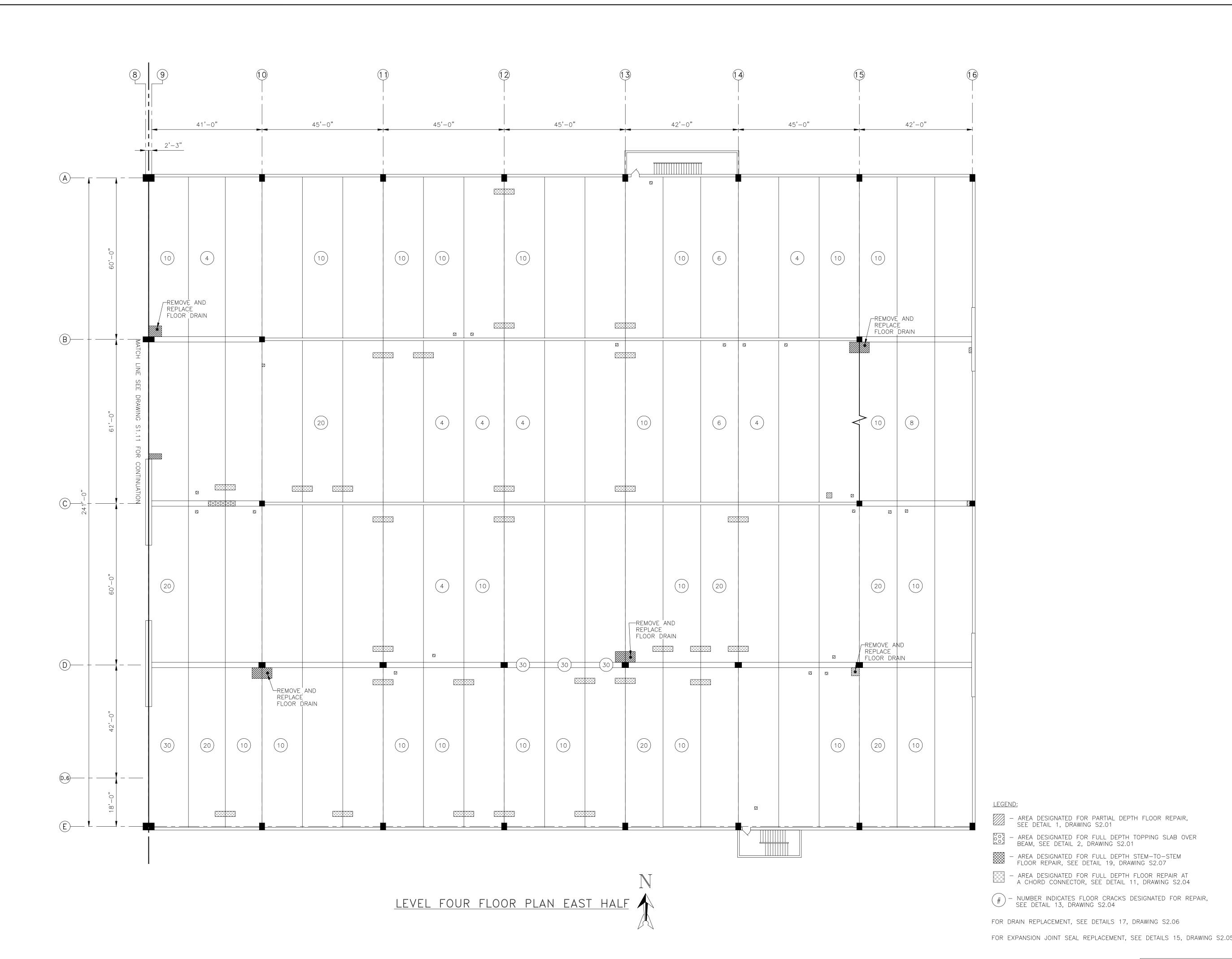
FLOOR PLAN WEST HALF

DRAWING TITLE:

DRAWING NO.

ISSUE

DES. DRWN. CK'D.



REPAIR AND PREVENTATIVE MAINTENANCE OF THE SENECA NIAGARA PARKING GARAGE

NO. DESCRIPTION DATE

DRAWING TITLE:

LEVEL FOUR
FLOOR PLAN
EAST HALF

DRAWING NO.

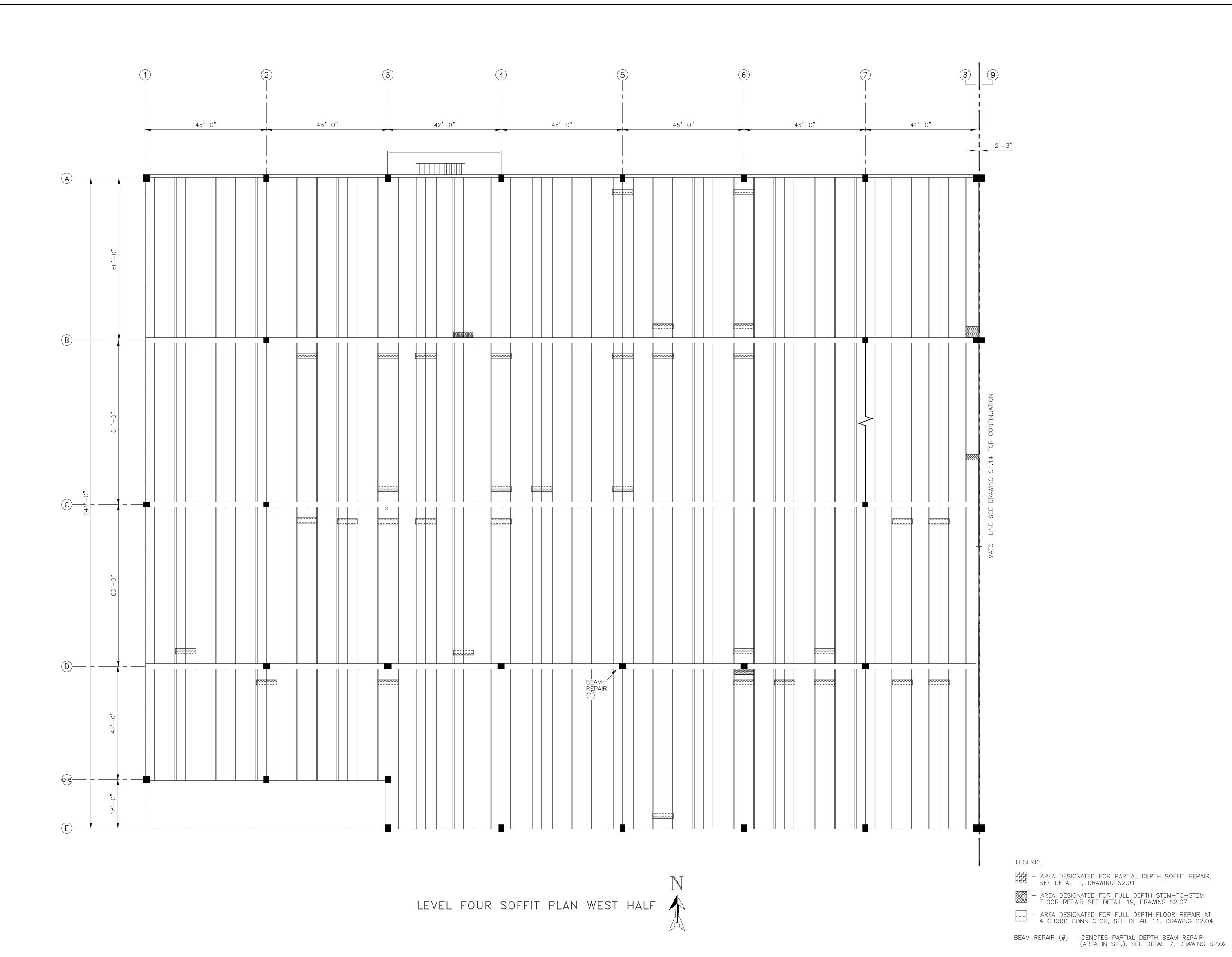
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DATE: 05/20/22

PROJECT NO : 51-22109

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REPAIR AND PREVENTATIVE MAINTENANCE
OF THE
SENECA NIAGARA PARKING GARAGE

ISSUE

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LEVEL FOUR SOFFIT PLAN WEST HALF

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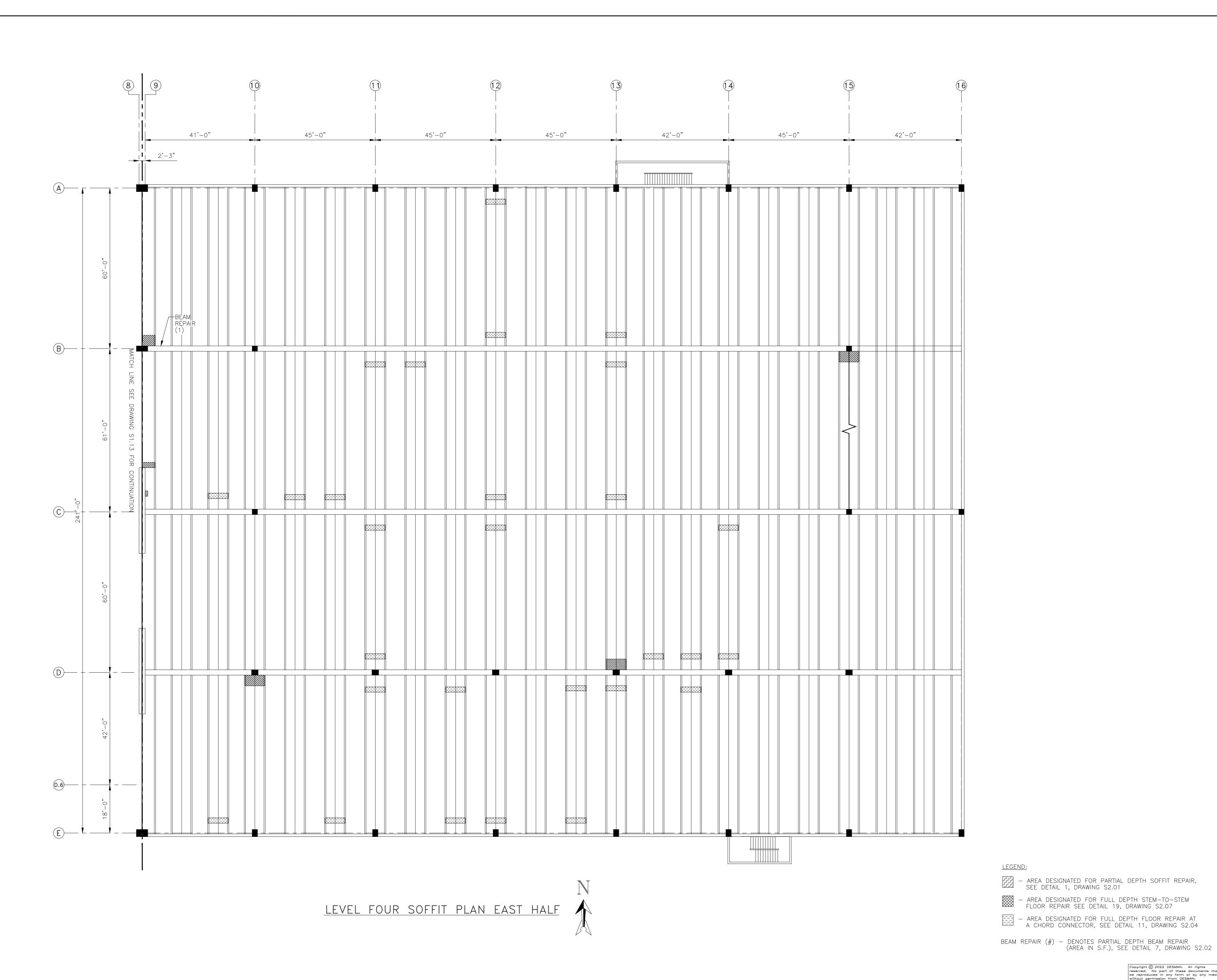
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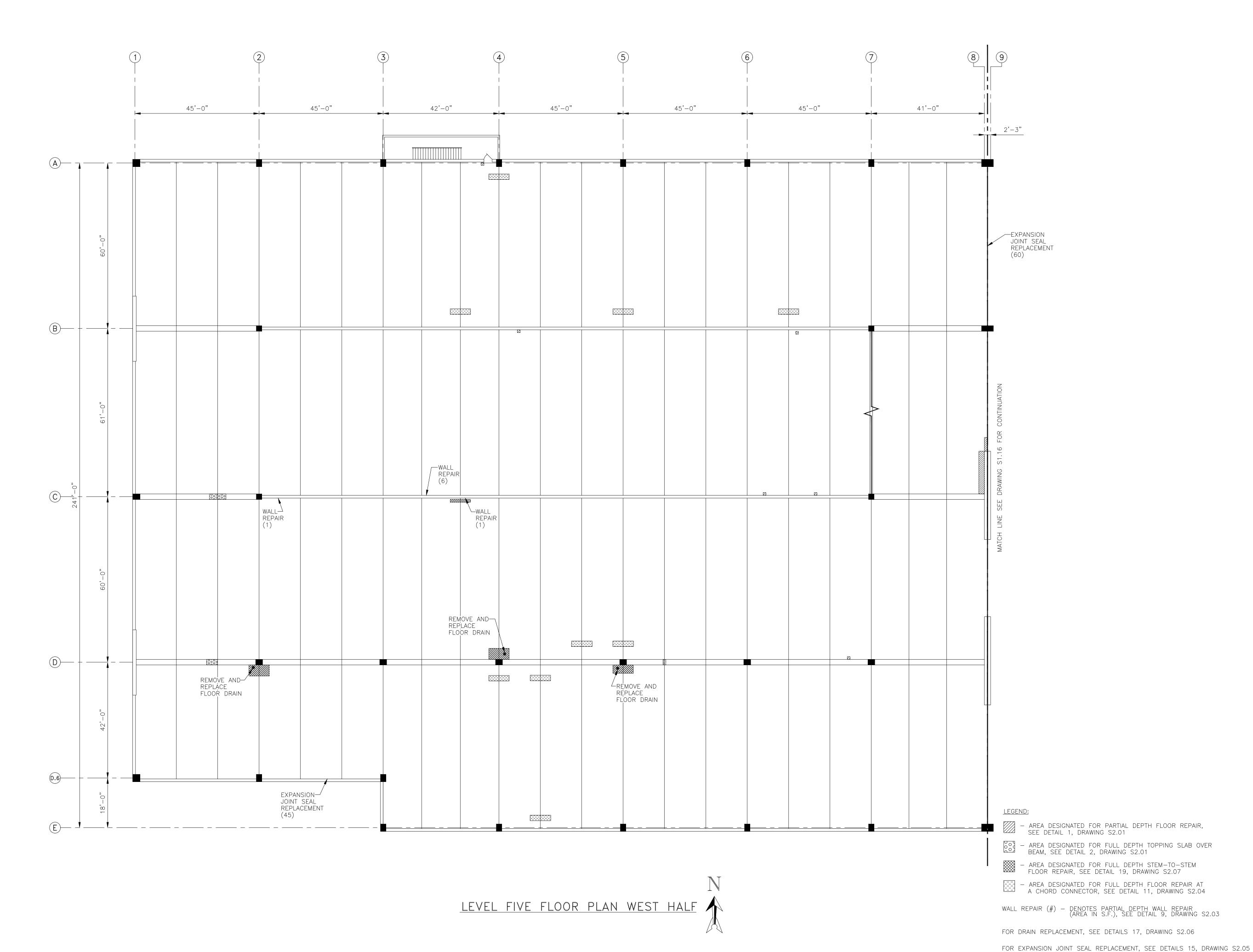
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LEVEL FOUR SOFFIT PLAN EAST HALF

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1/16"=1'-0" 05/20/22 PROJECT NO : 51-22109 DES. DRWN. CK'D.
EAD DJC MWR



REPAIR AND PREVENTATIVE MAINTENANC OF THE SENECA NIAGARA PARKING GARA(

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ISSUE

NO. DESCRIPTION DATE

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LEVEL FIVE FLOOR PLAN WEST HALF

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PRAWING \$2.06

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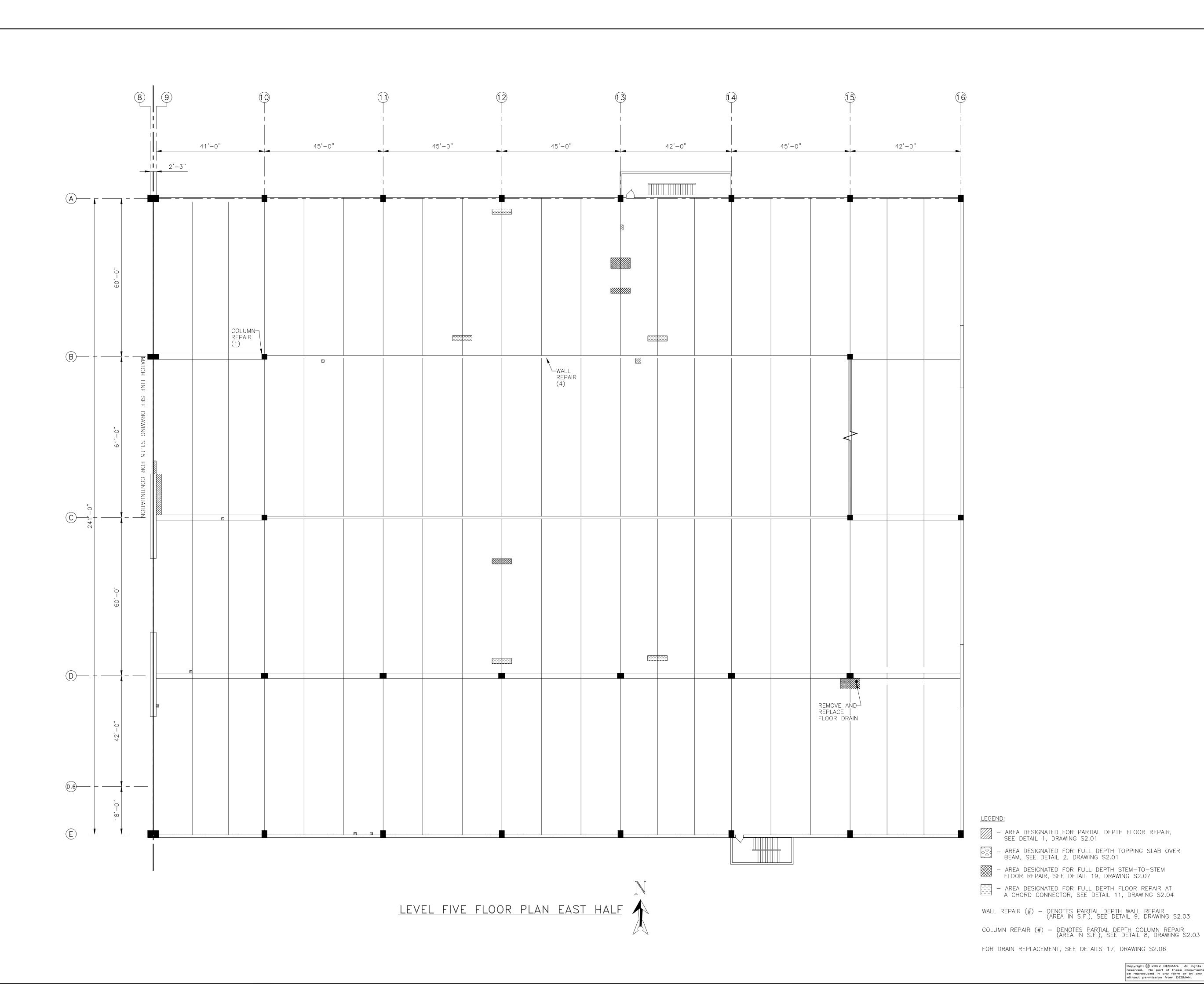
EE DETAILS 15, DRAWING \$2.05

DATE: 05/20/22

PROJECT NO: 51-22109

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EAD DJC MWR



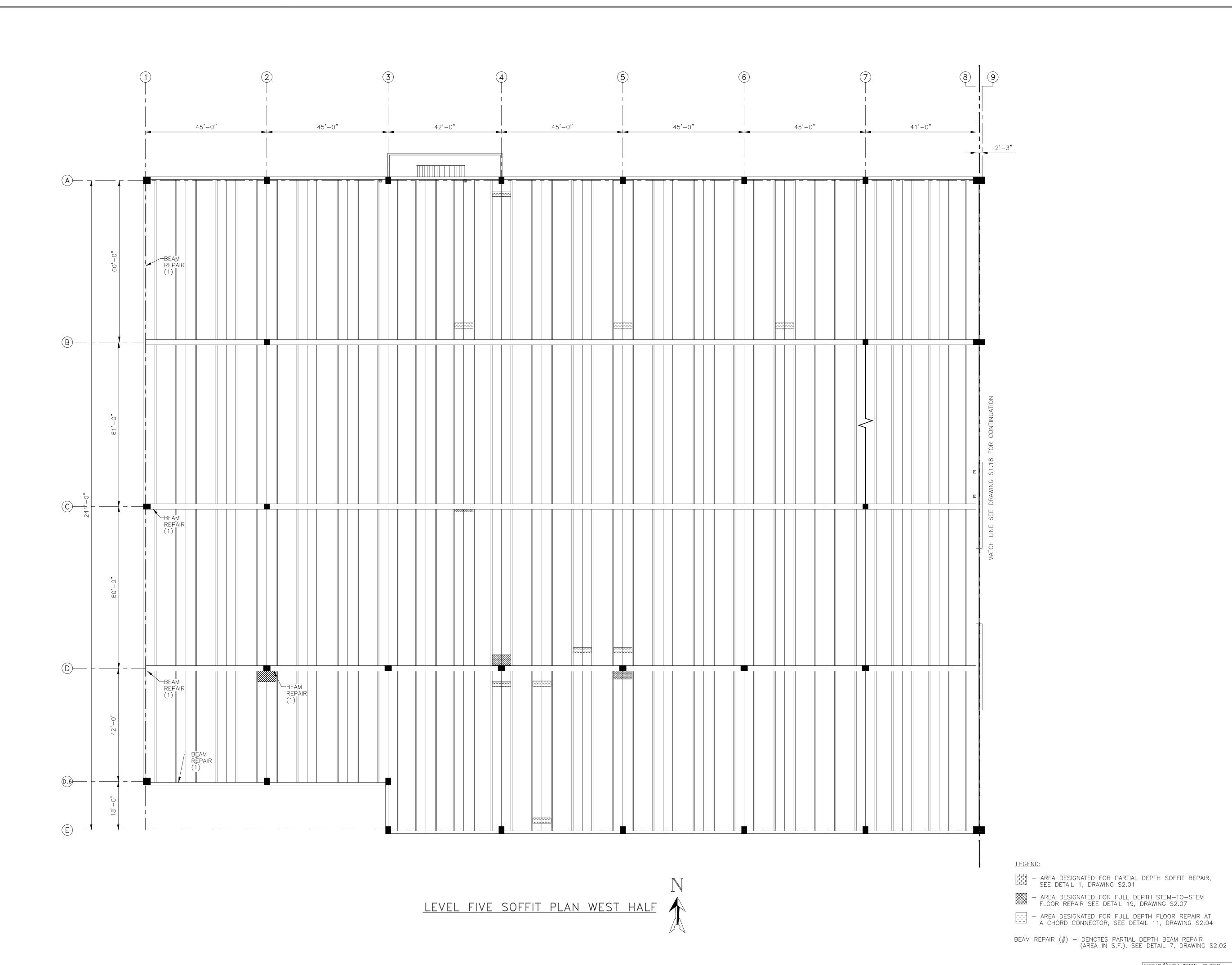
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LEVEL FIVE FLOOR PLAN EAST HALF

DRAWING NO.

1/16"=1'-0" SCALE: 05/20/22 PROJECT NO : **51-22109** DES. DRWN. CK'D. EAD DJC MWR



REPAIR AND PREVENTATIVE MAINTENANCE
OF THE
SENECA NIAGARA PARKING GARAGE

NO. DESCRIPTION DATE

ISSUE

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LEVEL FIVE
SOFFIT PLAN
WEST HALF

DRAWING NO.

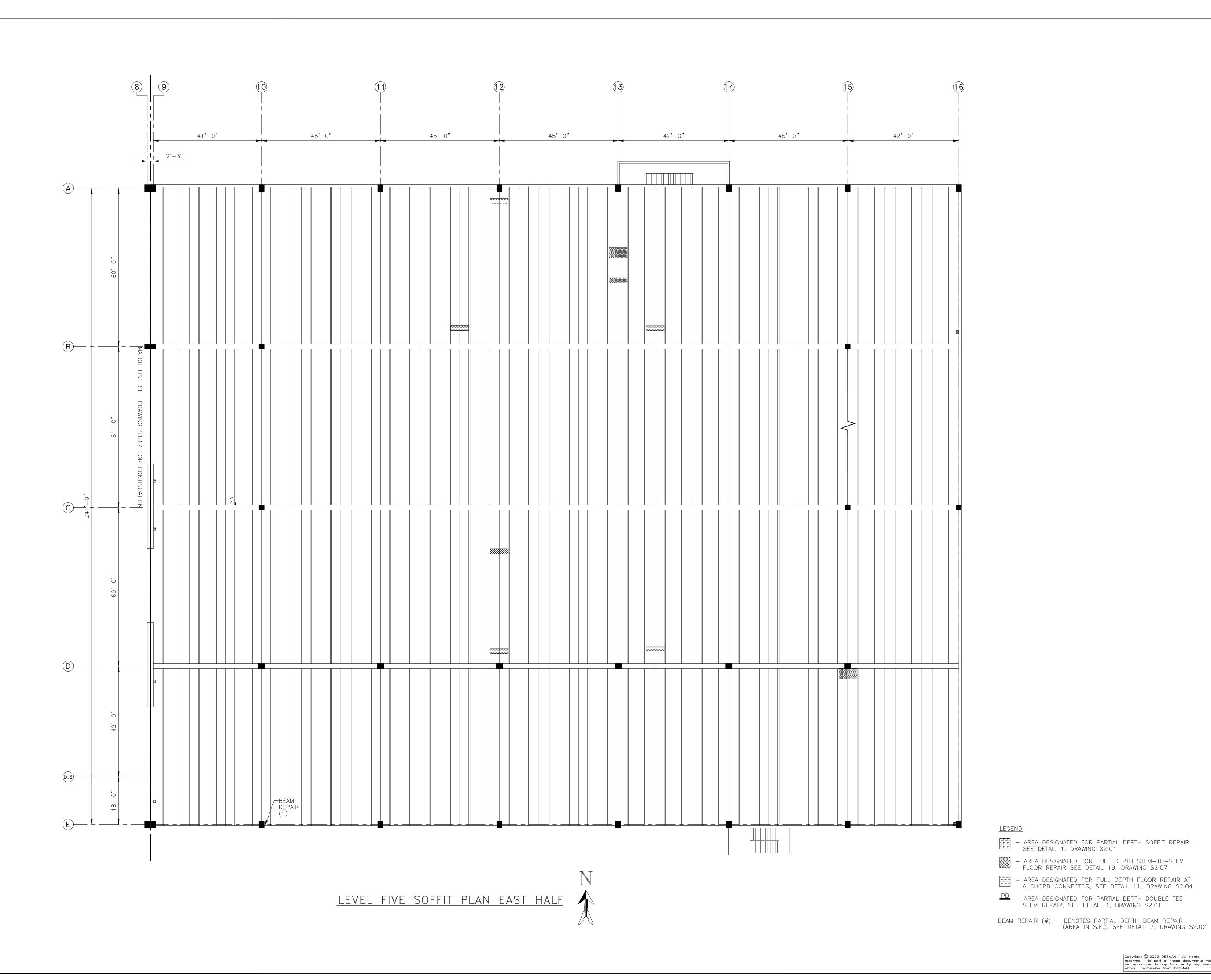
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DATE: 05/20/22

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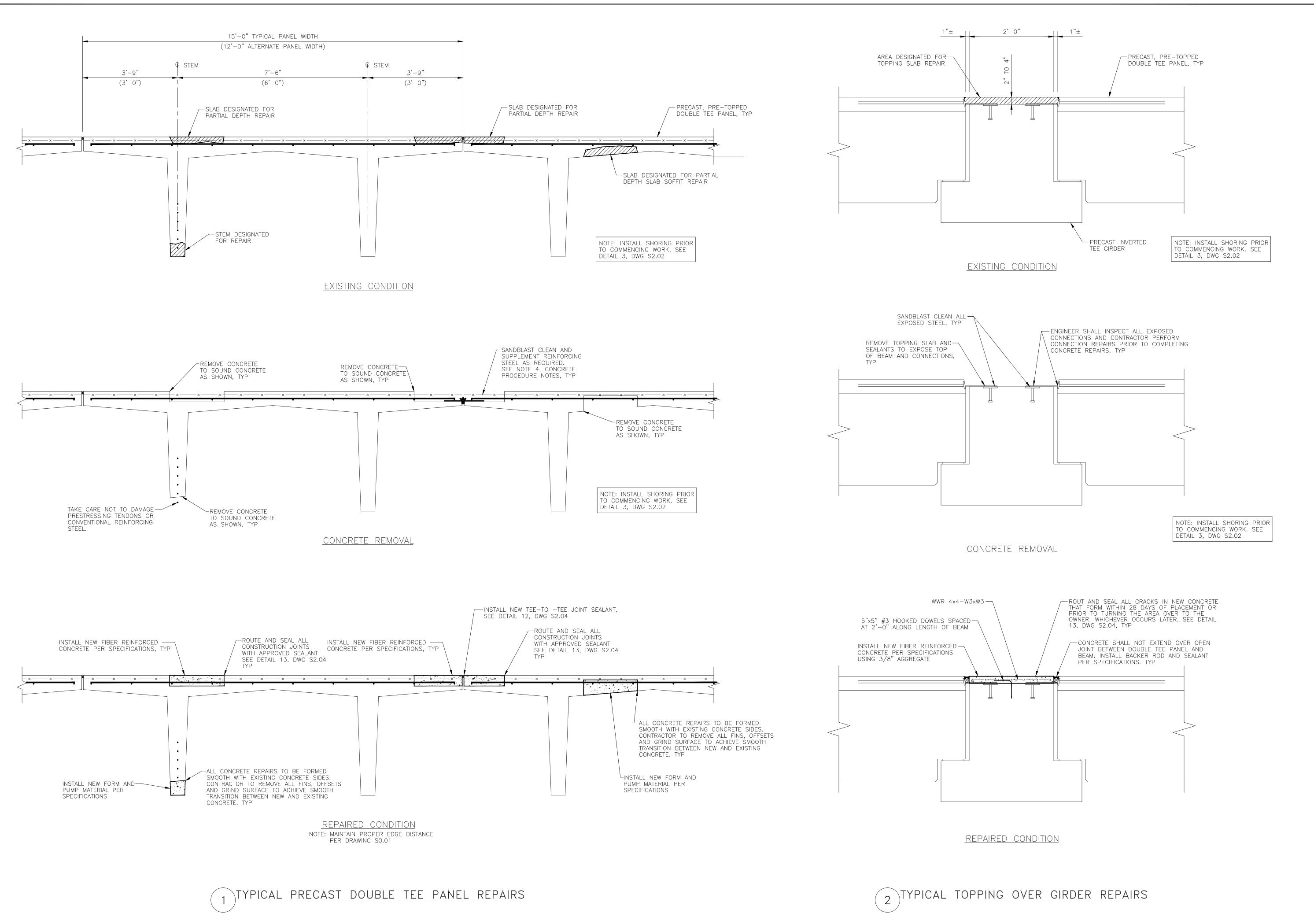
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SOFFIT PLAN EAST HALF

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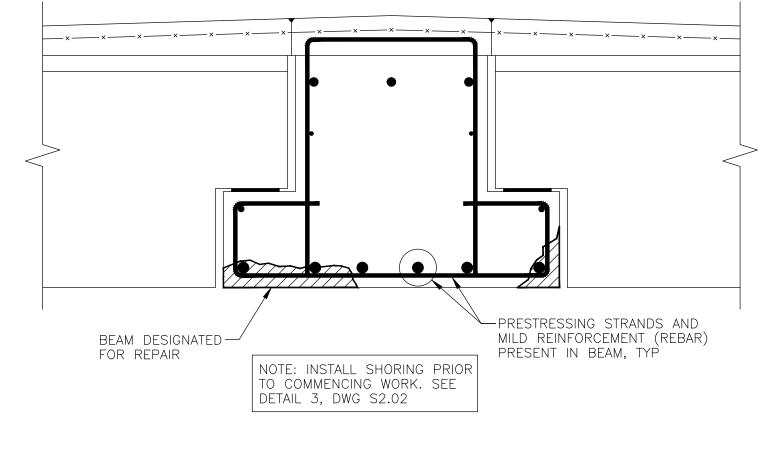
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REPAIR DETAILS

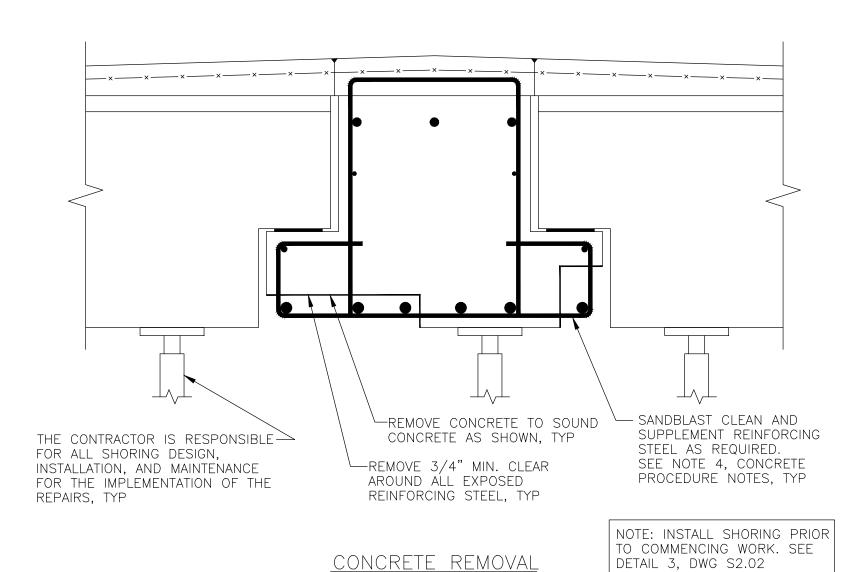
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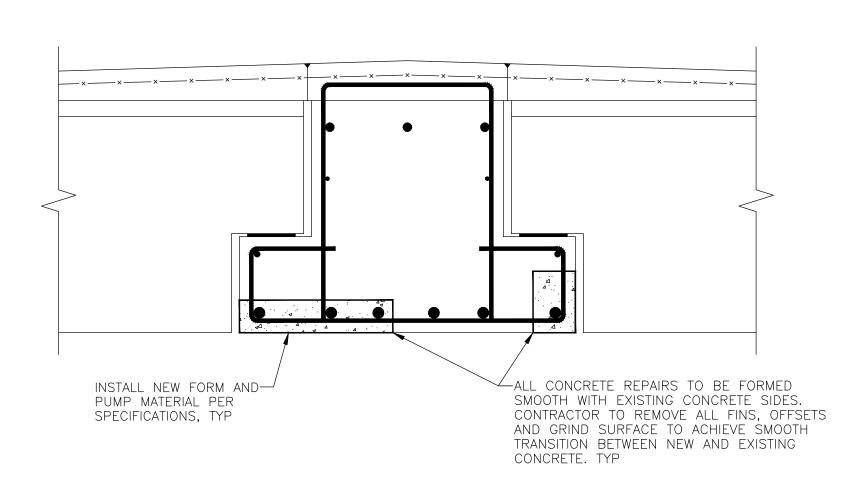
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1. FOR GENERAL NOTES, SEE DRAWING SO.01.



EXISTING CONDITION





REPAIRED CONDITION



1. FOR GENERAL NOTES, SEE DRAWING SO.01.

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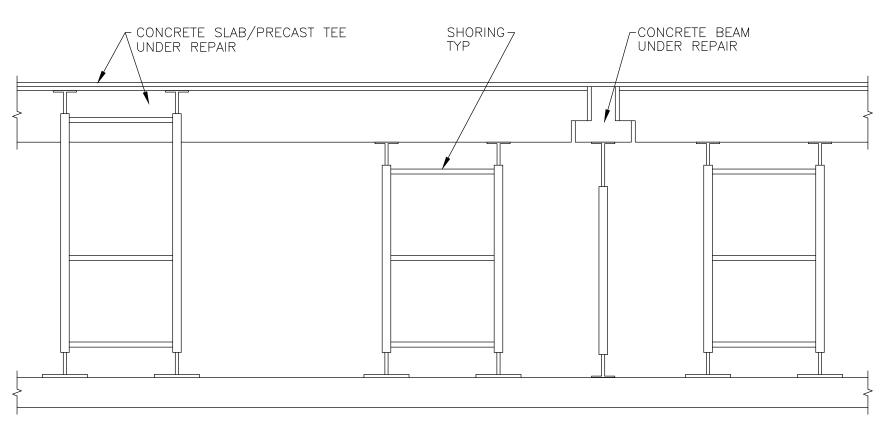
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REPAIR DETAILS

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05/20/22 PROJECT NO : 51-22109 DES. | DRWN. | CK'D. DJC MWR



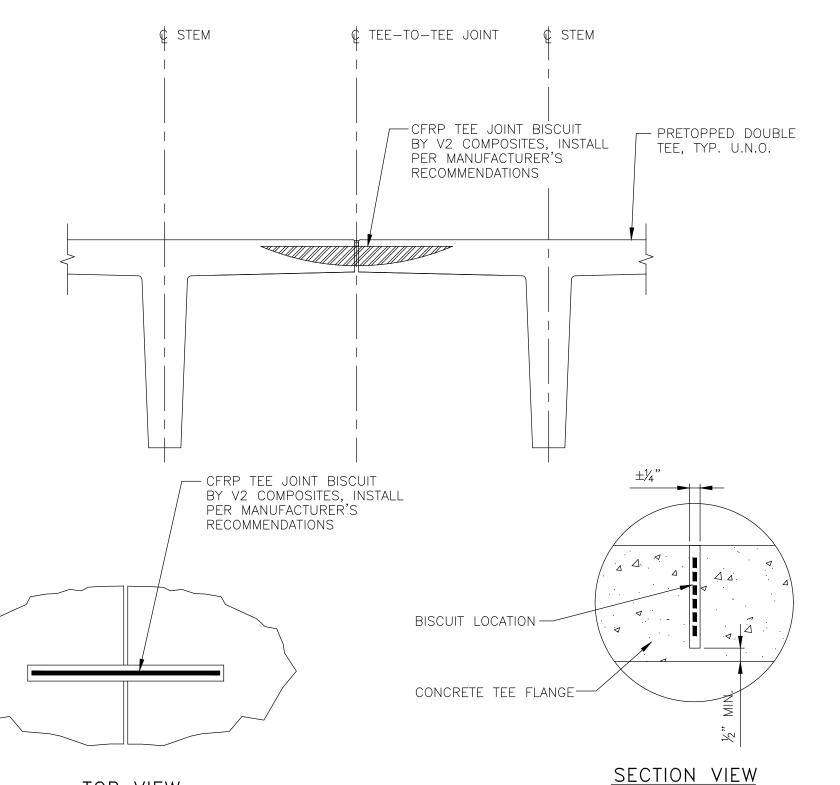
NOTE: THIS SKETCH IS FOR DEMONSTRATIVE PURPOSES, AND DOES NOT IMPLY ANY SHORING CONCEPTS, DESIGNS, OR TECHNIQUES TO THE CONTRACTOR, SHORING DESIGNER, OR ERECTOR.

SHORING NOTES

TOP VIEW

- 1. THE CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, AND SHEETING REQUIRED FOR SAFETY AND PROPER EXECUTION OF THE WORK. THE CONTRACTOR WILL BE RESPONSIBLE ALL OF THE SHORING DESIGN, INSTALLATION, AND MAINTENANCE FOR THE IMPLEMENTATION OF THE REPAIRS.
- 2. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR THE ERECTION AND MAINTENANCE OF THE SHORING SYSTEM DURING THE REPAIR WORK. ON A DAILY BASIS, THE SHORING SYSTEM SHALL BE CHECKED TO ENSURE TIGHTNESS TO THE SOFFIT AT ALL LOCATIONS.
- 3. SUFFICENT LATERAL SUPPORT MUST BE PROVIDED WHERE NECESSARY TO PREVENT THE IMPOSITION OF LATERAL LOADS ON THE SHORING SYSTEM.
- 4. TOWER LEG LOADING SHOULD BE AS UNIFORMLY DISTRIBUTED AS POSSIBLE. NEVER LOAD ONE LEG OF FRAME OR ONE LEDGER OF A TOWER.
- 5. THE SHORING SHALL REMAIN IN PLACE UNTIL THE NEW CONCRETE HAS ACHIEVED A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI OR 80% OF ITS DESIGN COMPRESSIVE STRENGTH.
- 6. SHORING SYSTEM SHOULD BE INSTALLED AND MAINTAINED PER PUBLISHED SAFETY RULES AND REGULATIONS OF THE SCAFFOLD AND SHORING INSTITUTE.
- 7. THE CONTRACTOR SHALL SUBMIT SHORING DESIGN AND ERECTION DRAWINGS TO MEET ALL STATE AND FEDERAL, AND OSHA REQUIREMENTS FOR REVIEW. THE SHORING SYSTEM SHALL BE DESIGNED AND STAMPED BY A LICENSED OHIO PROFFESIONAL ENGINEER.
- 8. THE SHORING SHALL BE DESIGNED FOR WORKING LOADS SHOWN BELOW:
 - A. WEIGHT OF CONCRETE (DEAD). B. WEIGHT OF FORMWORK (DEAD).. .10 LBS/SF C. CONSTRUCTION LOAD (LIVE) .. .30 LBS/SF MIN. .100 LBS/SF MIN. D. DEAD + LIVE .. E. ASCE 7 LOADS OR APPLICABLE LOCAL CODE (LIVE) 40-100+ LBS/SF F. USE OF MOTORIZED CARTS/BUGGIES (LIVE)...... 25 LBS/SF MÍN.
 - NOTE THAT "E" IS IN ADDITION TO "D", WHICH INCLUDES ITEMS "A—C". THEREFORE, TOTAL UNFACTORED LOAD = "D" + "E" (IF APPLICABLE) + "F" (IF APPLICABLE)
- 9. THE SHORING SYSTEM SHALL BE DESIGNED SO THAT THE CONCRETE MEMBERS UNDER REPAIR AND ADJACENT TO MEMBERS UNDER REPAIR DO NOT EXPERIENCE ANY DEFLECTION DURING THE CONSTRUCTION PHASE WHEN FULL/PARTIAL DEPTH CONCRETE IS REMOVED ALONG WITH REINFORCING BARS.
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WALL/COLUMN SHORING DESIGN, INSTALLATION, AND MAINTENANCE AT WALL/COLUMN REPAIRS AND LOCATIONS WHERE LATERAL SUPPORT IS PARTIALLY/FULLY REMOVED FROM THE ÉXISTING WALLS/COLUMNS DUE TO FLOOR SLAB AND BEAM REPAIRS.

SHORING DETAILS/REQUIREMENTS FOR SLAB REPAIRS



TEE-TO-TEE CONNECTION REPAIR DETAIL

- 1. LOCATE EXISTING CONNECTIONS.
- 2. MARK BISCUIT LOCATIONS, AVOIDING EXISTING CONNECTIONS, 18" ON CENTER AT 90°
- BLADE MUST BE 14" IN DIAMETER AND 1/4" THICK FOR STANDARD BISCUIT - CUT DEPTH IS $lac{1}{2}$ " FROM THE BOTTOM OF THE FLANGE OF THE "TEE"
- 4. PLACE DUCT TAPE AROUND SLOT, LEAVING ABOUT 1/4" SURFACE EXPOSED.
- 5. WIPE BISCUITS WITH MEP (METHYL ETHYL KETONE) TO REMOVE ANY DIRT AND OILS. SET ASIDE IN CLEAN, DRY LOCATION.
- 6. MIX EPOXY UNTIL A UNIFORM GRAY COLOR IS ACHIEVED AND NO VISIBLE BLACK OR WHITE STREAKS REMAIN.
- 7. FILL SLOT WITH PASTE, MAKING SURE TO WORK PASTE AGAINST SIDE WALLS OF SLOT.
- 9. PLACE BISCUIT INTO EPOXY FILLED SLOT ASSURING THAT THE ENTIRE BISCUIT IS BELOW THE CONCRETE DECK SURFACE. USING A PUTTY KNIFE, WORK THE BISCUIT SIDE TO SIDE IN THE SLOT TO SEAT IT AND REMOVE ANY TRAPPED AIR.
- 10. REMOVE ANY EXCESS EPOXY LEVEL WITH TAPED SURFACE. REMOVE MASKING TAPE
- 11. CLEAN UP UNCURED EPOXY USING ACETONE OR EPOXY THINNER (CURED EPOXY CAN

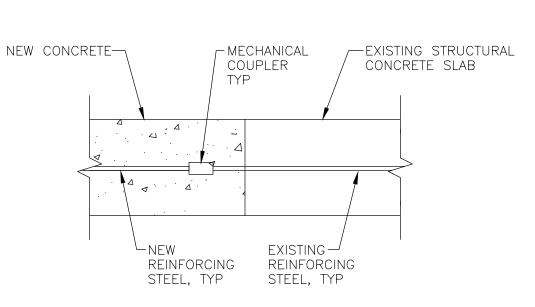
12. THE REPAIR NEEDS EIGHT (8) HOURS TO REACH FULL CURE.

WET CUTTING:

DRY CUTTING:

- SWEEP ALL DUST AND CHIPS

MANUFACTURER DOWEL DETAIL



MECHANICAL COUPLER DETAIL

REPAIR PROCEDURE

ACROSS JOINT.

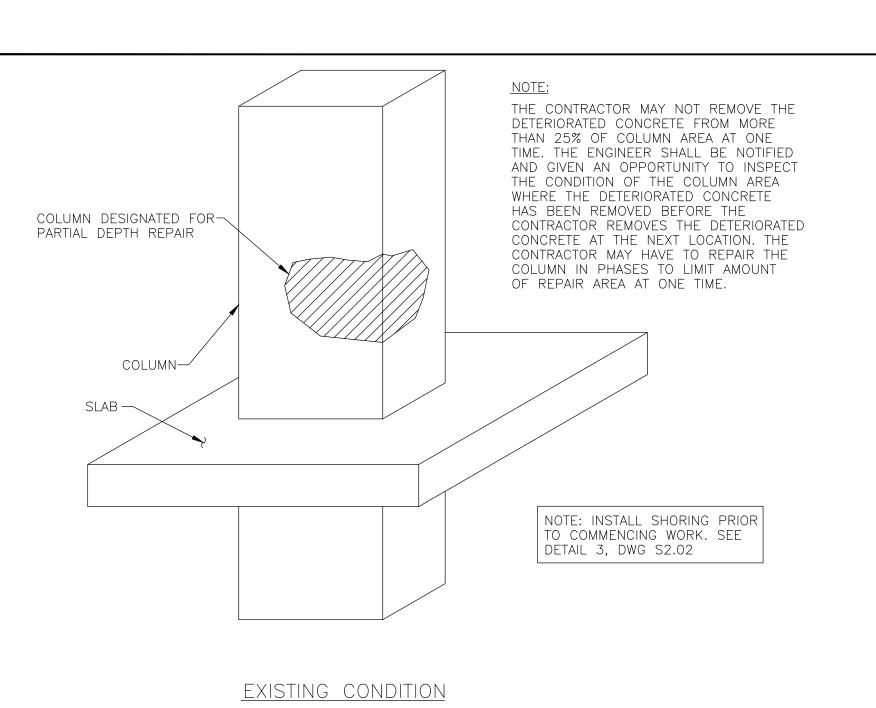
3. PROVIDE SAW-CUTS FOR BISCUIT INSTALLATION:

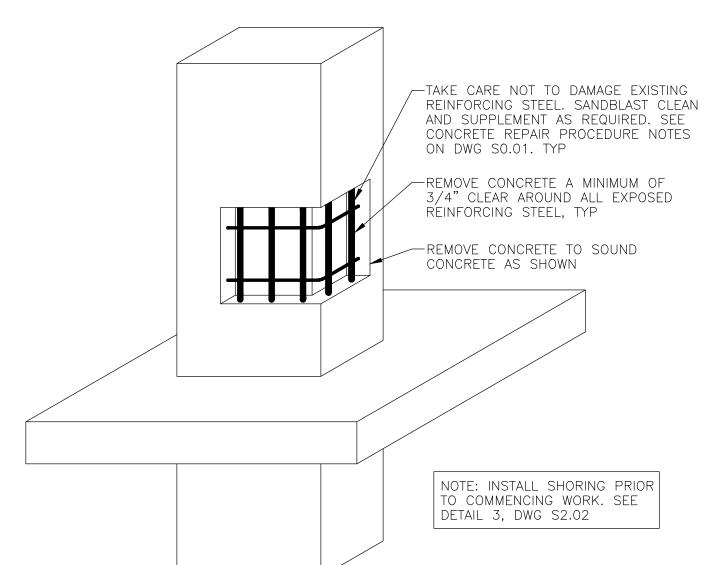
- CUT SHOULD BE 18" LONG SLOT CENTERED ON JOINT

- 8. "BUTTER" BOTH SIDES OF CARBON BISCUIT, WORKING PASTE INTO SURFACE.
- WHEN EPOXY BEGINS TO SET.
- ONLY BE REMOVED BY MECHANICAL MEANS).

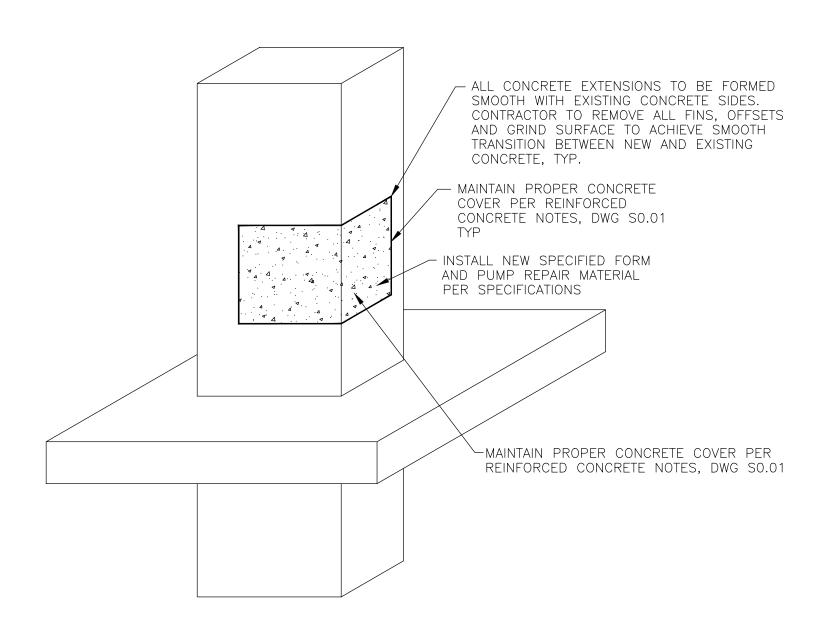
-SWEEP ALL SLURRY AND REMOVE - POWER WASH SLOTS USING CLEAN, POTABLE WATER - ALLOW SLOTS TO DRY

- USING 100 PSI OIL FREE AIR, BLOW CUTS CLEAN OF DUST



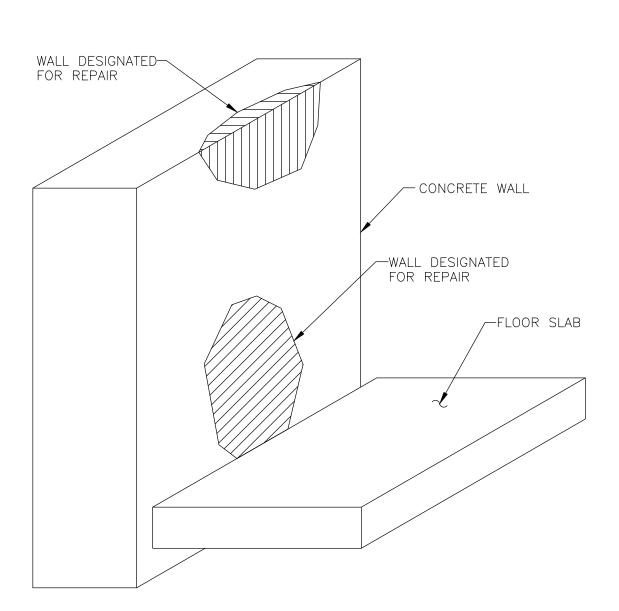


CONCRETE REMOVAL

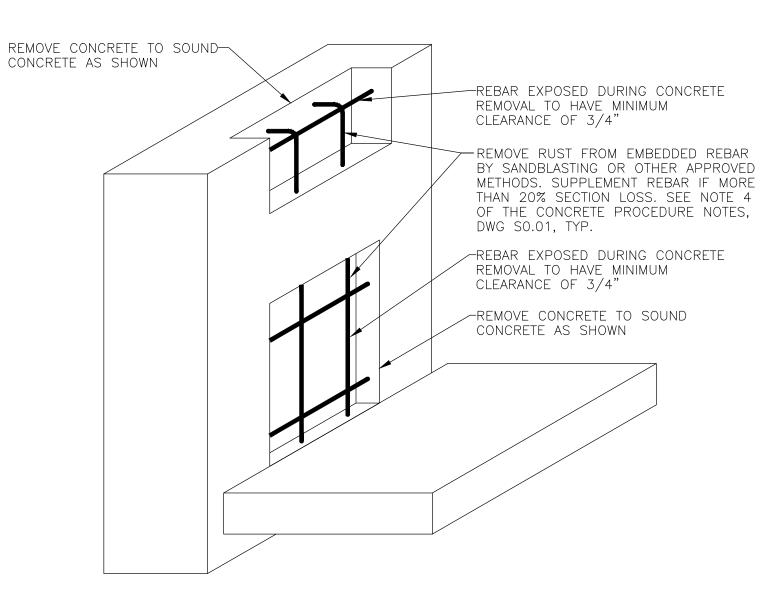


PARTIAL DEPTH COLUMN REPAIR

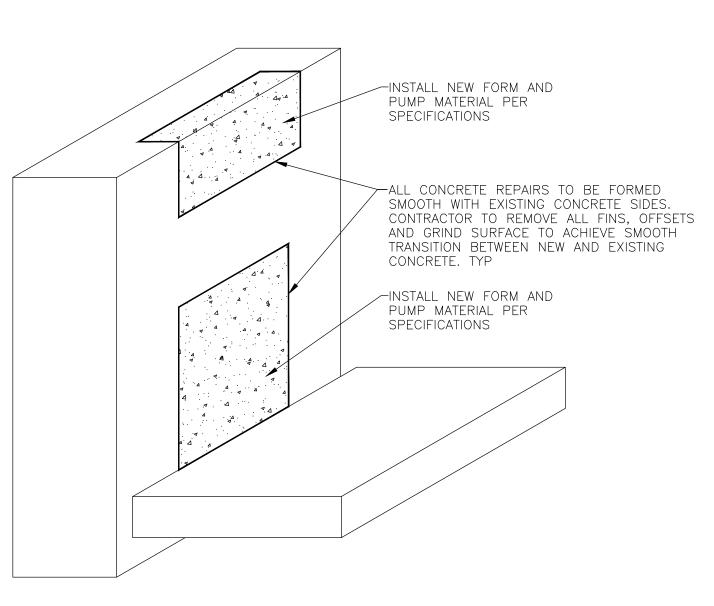
REPAIRED CONDITION



EXISTING CONDITION

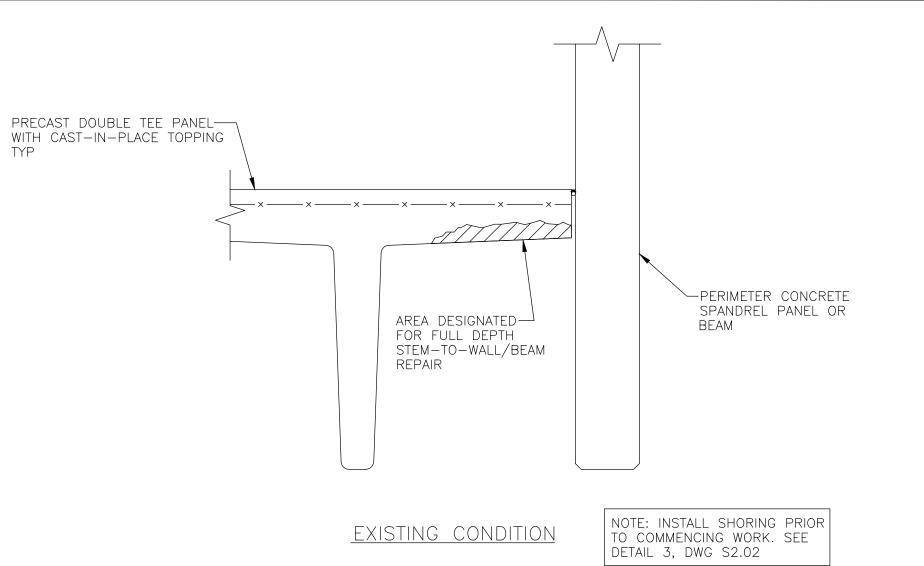


CONCRETE REMOVAL



REPAIRED CONDITION

9 PARTIAL DEPTH WALL REPAIR DETAIL



#4 @ 6" DOWELED AS SHOWN— USING HILTI HIT HY 200 —#3 @ 6" O.C. Spaced evenly, SAFESET ADHESIVE ANCHORING SYSTEM, EMBED 6". SEE PLAN AT STEM-TO-STEM REPAIR LOCATION, DETAIL 2, DWG S4.02. PLACE BARS AT MID-HEIGHT. -SANDBLAST CLEAN AND SUPPLEMENT REMOVE CONCRETE-REINFORCING STEEL AS REQUIRED. TO SOUND CONCRETE SEE NOTE 4, CONCRETE PROCEDURE AS SHOWN, TYP NOTES, DWG SO.01, TYP. -- REMOVE CONCRETE TO SOUND CONCRETE AS SHOWN, TYP

ROUT AND SEAL ALL CONSTRUCTION JOINTS WITH APPROVED SEALANT, SEE DETAIL 13, DWG S2.04, TYP INSTALL NEW FIBER ----REINFORCED CONCRETE PER SPECIFICATIONS -INSTALL NEW COVE JOINT WITH APPROVED SEALANT, ROUT AND SEAL ALL-SEE DETAIL 13, DWG S2.04 CONSTRUCTION JOINTS WITH APPROVED SEALANT, SEE DETAIL 13, DWG S2.04, 3/8" BENT PLATE, $^{\perp}$ 4" WIDE --3/8"ø HIT-Z RODS SPACED AT 6'-0" MAX. ALONG WALL USING HILTI HIT—HY 200 SAFE SET ADHESIVE ANCHORING SYSTEM, EMBED 2 3/8". ALL STEEL AND HARDWARE TO BE HOT-DIP GALVANIZED.

CONCRETE REMOVAL

REPAIRED CONDITION

NOTE: MAINTAIN PROPER EDGE DISTANCE
PER NOTES ON DRAWING SO.01

10 FULL DEPTH STEM-TO-WALL/BEAM REPAIR DETAIL

NOTES:

1. FOR GENERAL NOTES, SEE DRAWING SO.01.

NOTE: INSTALL SHORING PRIOR

TO COMMENCING WORK. SEE

DETAIL 3, DWG S2.02

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S2.03

SCALE: NONE

DATE: 05/20/22

PROJECT NO : 51-22109

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DETAILS

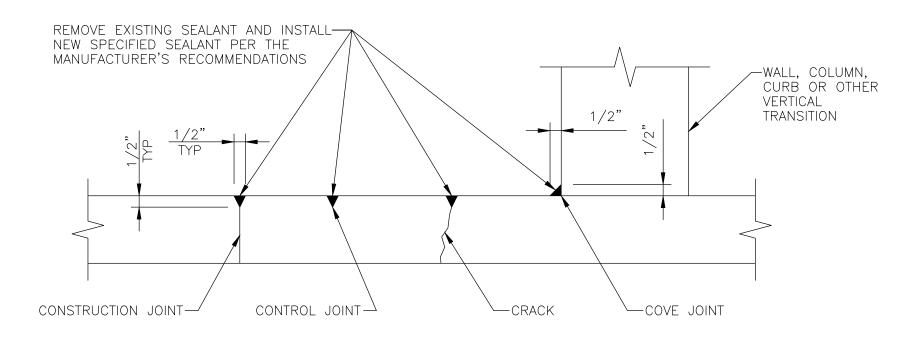
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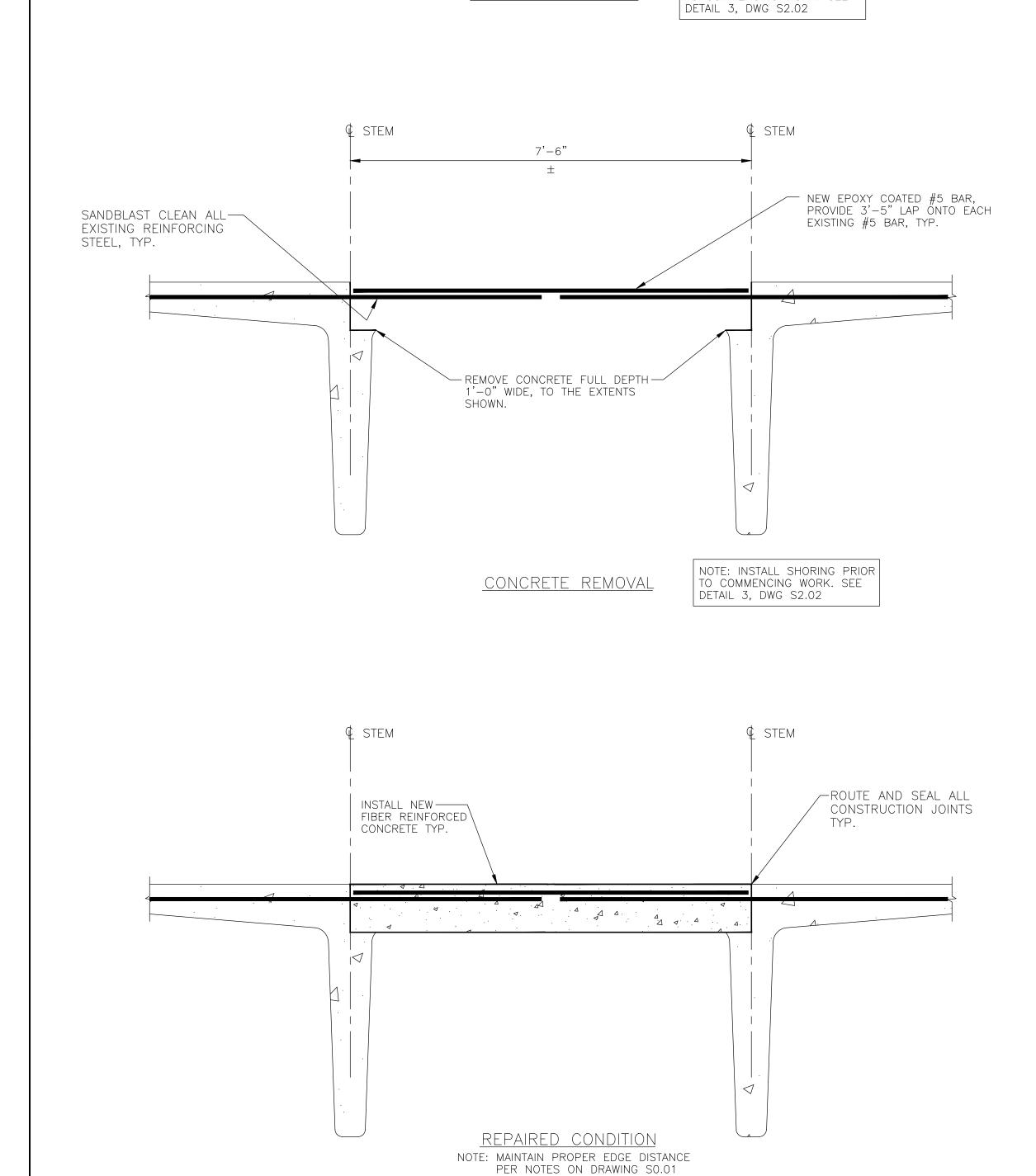
1. FOR GENERAL NOTES, SEE DRAWING SO.01.

JOINT OPENING | /-INSTALL THE SPECIFIED SEALANT TO FORM AN HOURGLASS PROFILE. REMOVE EXISTING AND INSTALL NEW JOINT SEALANT WITH BACKER ROD IF REQUIRED BY MANUFACTURER, SEE SPECIFICATIONS NOTE: DO NOT INSTALL NEW JOINT SEALANT UNTIL AFTER CONCRETE REPAIRS ARE COMPLETE. $\triangleleft \triangle$ - EXISTING DOUBLE TEE FLANGE OR LIGHT WALL . *\(\sqrt{\)* EXISTING DOUBLE LBACKER ROD SHOULD BE LARGER THAN THE TEE FLANGE OR END OF SLAB JOINT OPENING. INSTALL ONLY ONE ROD IN THE JOINT, AT NO TIME SHALL MULTIPLE RODS BE COMBINED WITHIN THE JOINT OPENING.

12 TEE-TO-TEE JOINT SEALANT DETAIL



- 1. ALL EXISTING CONSTRUCTION, CONTROL, AND COVE JOINTS AND CRACKS SHALL HAVE THE EXISTING SEALANT REMOVED AND HAVE NEW SEALANT INSTALLED AT LOCATIONS WHERE A NEW WATERPROOFING MEMBRANE IS SCHEDULED TO BE INSTALLED.
- 2. ALL NEW CONSTRUCTION, CONTROL, AND COVE JOINTS AND CRACKS THAT FORM IN NEWLY PLACED CONCRETE SHALL HAVE NEW SEALANT INSTALLED REGARDLESS OF WHETHER A NEW WATERPROOFING MEMBRANE IS SCHEDULED TO BE INSTALLED OR NOT.
- 3. REMOVE EXISTING DETERIORATED JOINT/CRACK SEALANT BY APPROVED METHODS. 4. ROUT AND CLEAN TO ESTABLISH A PROFILE OF V-SHAPED GROOVE (1/2" X 1/2")
- 5. PRIME THE SURFACES WHICH THE NEW SEALANT MATERIAL WILL BOND TO.
- 6. INSTALL THE APPROVED MULTI-COMPONENT POLYURETHANE SEALANT.
- 7. FOR APPROVED MATERIALS AND MANUFACTURERS, SEE SPECIFICATIONS
- (13) JOINT AND CRACK SEALANT INSTALLATION



(11) FULL DEPTH CHORD CONNECTOR REPAIR DETAIL

EXISTING CONDITION

EXISTING CONNECTION TO BE REMOVED

₽ STEM

NOTE: INSTALL SHORING PRIOR

TO COMMENCING WORK. SEE

-PRECAST DOUBLE-TEE,

⊈ STEM

EXISTING #5 BARS,

REPAIR DETAILS

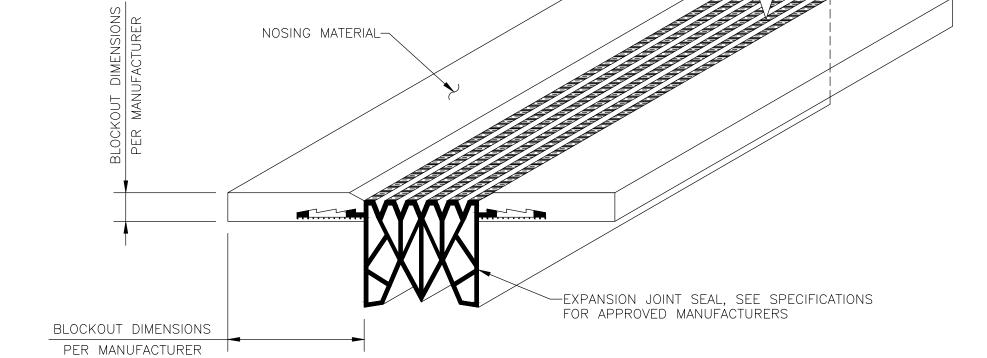
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MWR



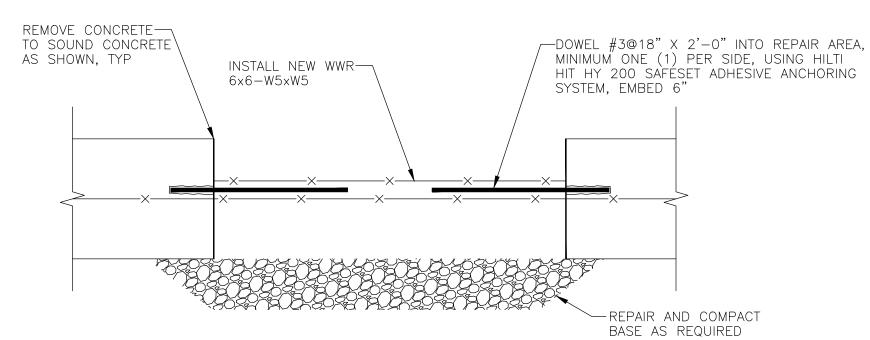
TYPICAL INSTALLATION

-GRIND OUT BROKEN WELD, PREP SURFACES FOR NEW WELD, AND RE-WELD.

14 TEE-TO-TEE CONNECTION RE-WELD

- 1. THE EXPANSION JOINT INSTALLATION SHALL BE STRICTLY PERFORMED IN ACCORDANCE WITH MANUFACTURERS ESTABLISHED PROCEDURES.
- 2. REPORT ANY UNANTICIPATED CONDITIONS TO THE ENGINEER FOR DISPOSITION.
- 3. THE MANUFACTURER'S REPRESENTATIVE, GENERAL CONTRACTOR, AND ENGINEER SHALL REVIEW BLOCK-OUT REQUIREMENTS AND TERMINATION DETAILS PRIOR TO INSTALLATION OF THE EXPANSION JOINT SYSTEM. IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO CREATE THE BLOCK-OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE SELECTED SYSTEM. BLOCK-OUTS MUST MEET BOTH VERTICAL AND HORIZONTAL REQUIREMENTS.
- 4. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CREATING BLOCK—OUT DIMENSIONS FOR THE ABOVE SPECIFIED GLAND. BLOCK—OUT WIDTHS EXCEEDING SPECIFIED DIMENSIONS THAT REQUIRE A LARGER GLAND SHALL BE PROVIDED AT CONTRACTOR'S EXPENSE.
- 5. THE END OF NEW EXPANSION JOINT SEALS TO BE TERMINATED AND CAPPED PER MANUFACTURER'S RECOMMENDATIONS.
- 6. SEE SPECIFICATIONS FOR APPROVED WINGED EXPANSION JOINT SYSTEMS.

STANDARD WINGED EXPANSION JOINT SYSTEM INSTALLATION DETAIL



SLAB-ON-GRADE DESIGNATED FOR FULL DEPTH REPAIR

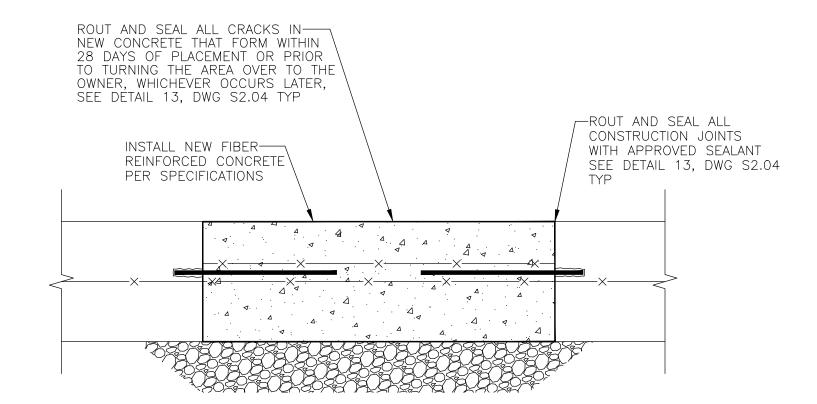
6" CRUSHED LIMESTONE BASE

(ASSUMED)

CONCRETE REMOVAL

EXISTING CONDITION

WELDED WIRE-REINFORCEMENT



REPAIRED CONDITION

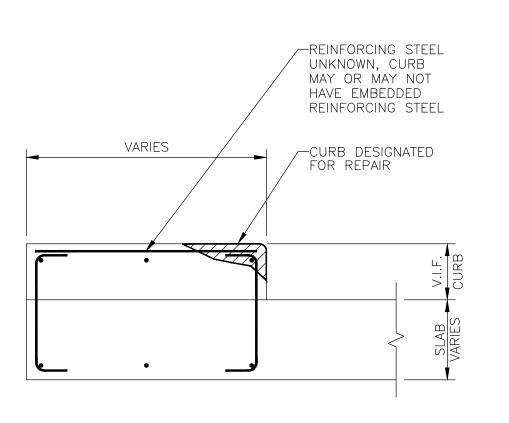


REPAIR DETAILS

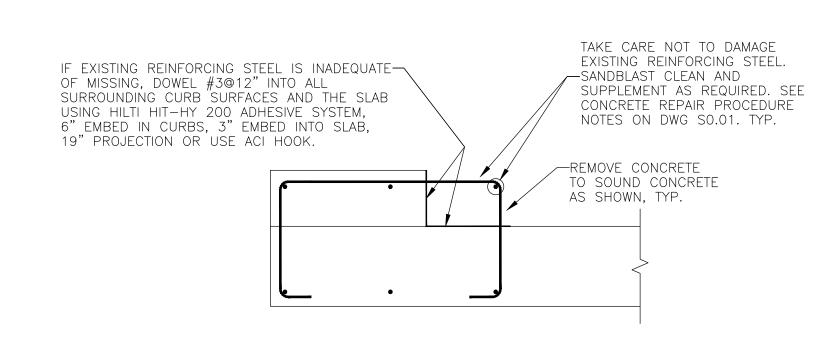
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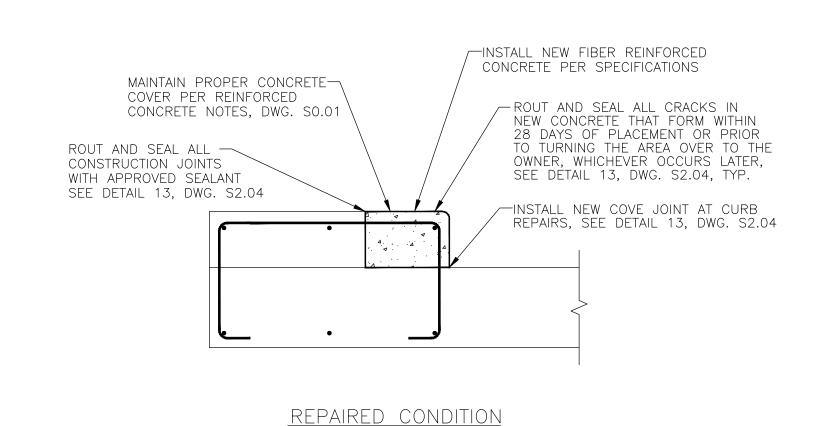
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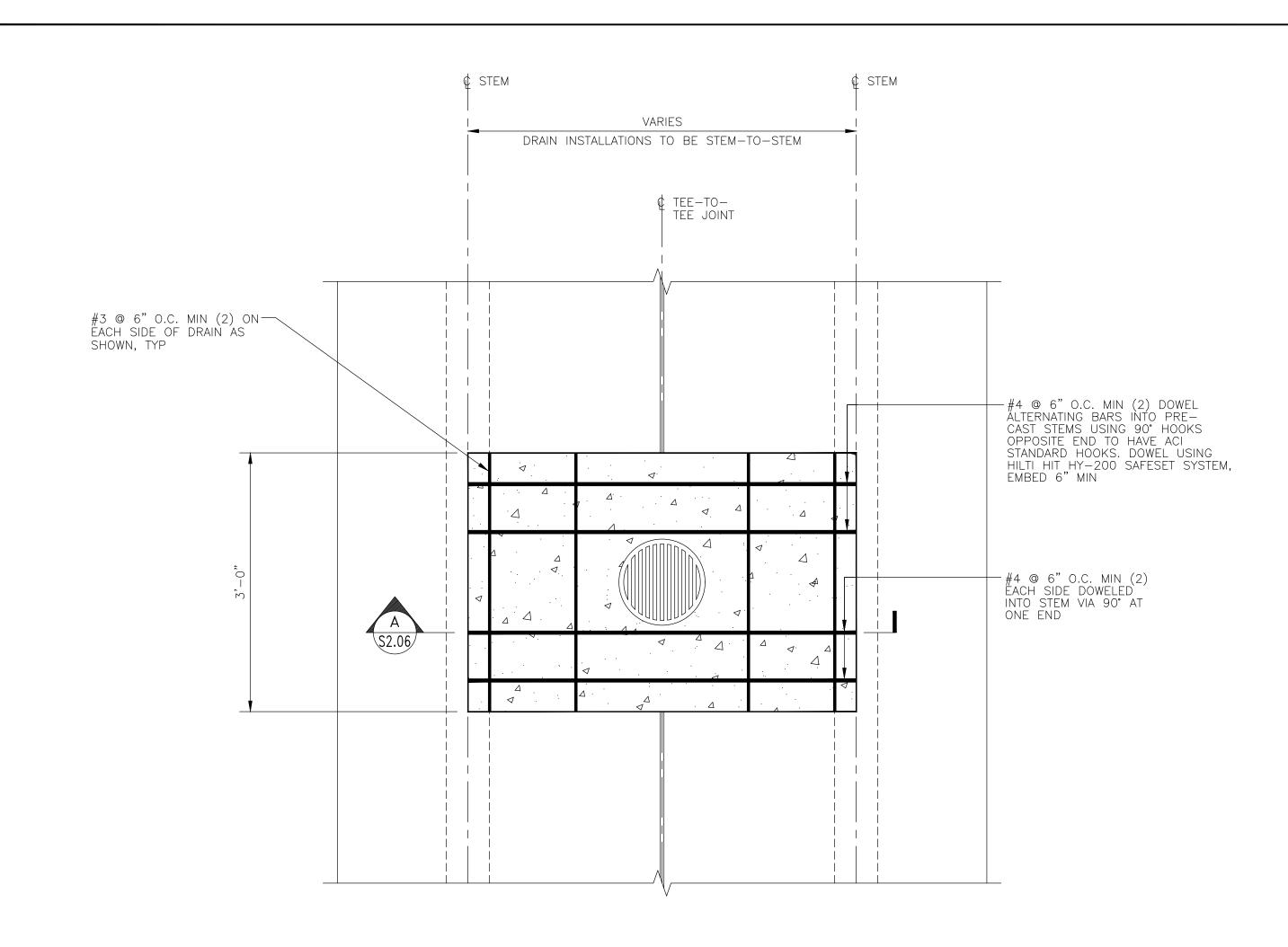
1. FOR GENERAL NOTES, SEE DRAWING SO.01.



EXISTING CONDITION







17 FLOOR DRAIN INSTALLATION AT PRECAST STRUCTURAL SLAB

