ADDENDUM NO. 2

TRANSPORTATION CENTER PARKING GARAGE REPAIR & PREVENTATIVE MAINTENANCE PHASE 1
(15% MBE & 5% WBE PARTICIPATION)
JULY 13, 2018

TO ALL BIDDERS:

This addendum, including all articles and corrections listed below, shall be taken into account in preparing the bid forms and shall become part of the Contract.

All bidders are requested to attach this Addendum to the Bid Form and return to the City.

ITEM NO. 1 – SUBSTITUTE DRAWING SHEETS

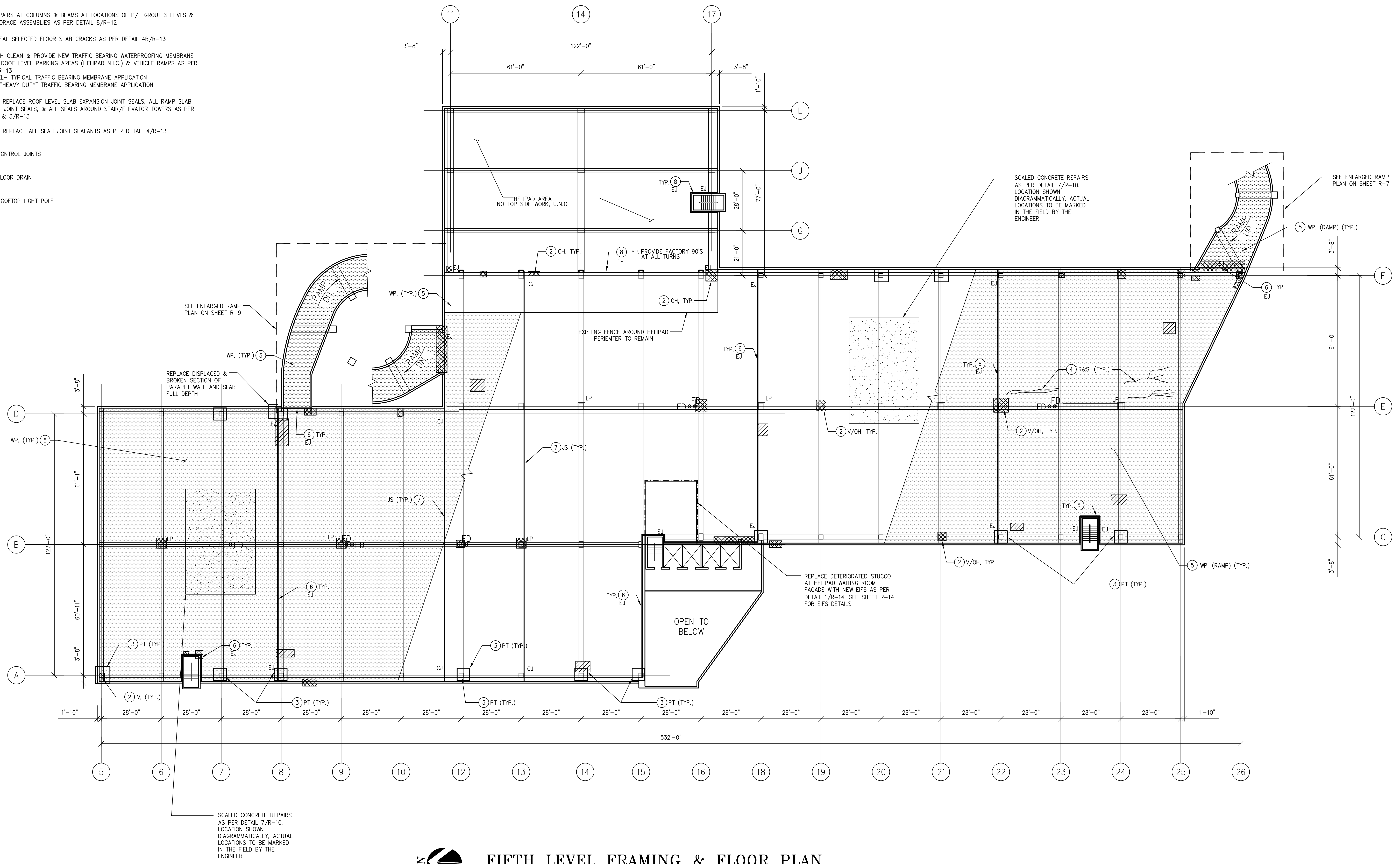
Substitute the following attached Drawing Sheets in their entirety. Drawing Sheets: R-5, R-6, R-7, R-8, R-9, R-10, R-11, R-16, ED-1, E-2.

ITEM NO. 2 – SUBSTITUTE SPECIFICATIONS

Substitute the following attached Specification in their entirety. Specifications: 00.10.00 “Instructions to Bidders”, 07.57.50 “Traffic Membrane”, 07.91.00 “Expansion Joint Seals”, 07.91.50 “Expansion Joint Seals Silicone Faced Foam Compression Seal”.

LEGEND

①	▨ PD	PARTIAL DEPTH CONCRETE PATCH REPAIRS AS PER DETAIL 3 & 4/R-10
②	▩ V/OH	VERTICAL & OVERHEAD CONCRETE PATCH REPAIRS V = VERTICAL REPAIRS AT WALLS, COLUMNS, ETC. AS PER DETAILS 2 & 5/R-10 OH = OVERHEAD REPAIRS AT BEAMS, SOFFITS, ETC. AS PER DETAIL 1/R-10
③	▭ P/T	PATCH REPAIRS AT COLUMNS & BEAMS AT LOCATIONS OF P/T GROUT SLEEVES & P/T ANCHORAGE ASSEMBLIES AS PER DETAIL 8/R-12
④	R&S	ROUT & SEAL SELECTED FLOOR SLAB CRACKS AS PER DETAIL 4B/R-13
⑤	░	POWERWASH CLEAN & PROVIDE NEW TRAFFIC BEARING WATERPROOFING MEMBRANE OVER THE ROOF LEVEL PARKING AREAS (HELIPAD N.I.C.) & VEHICLE RAMPS AS PER DETAIL 1/R-13 ROOF LEVEL– TYPICAL TRAFFIC BEARING MEMBRANE APPLICATION RAMPS – "HEAVY DUTY" TRAFFIC BEARING MEMBRANE APPLICATION
⑥	EJ	REMOVE & REPLACE ROOF LEVEL SLAB EXPANSION JOINT SEALS, ALL RAMP SLAB EXPANSION JOINT SEALS, & ALL SEALS AROUND STAIR/ELEVATOR TOWERS AS PER DETAILS 2 & 3/R-13
⑦	JS	REMOVE & REPLACE ALL SLAB JOINT SEALANTS AS PER DETAIL 4/R-13
	⊟	EXISTING CONTROL JOINTS
	⊗FD	EXISTING FLOOR DRAIN
	LP	EXISTING ROOFTOP LIGHT POLE



FIFTH LEVEL FRAMING & FLOOR PLAN

SCALE: 1" = 30'-0"

NOTES:
1. WORK LOCATIONS SHOWN ON DRAWINGS ARE APPROXIMATE AND PARTIALLY DIAGRAMMATIC. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS TO DOCUMENT COMPLETED WORK.
3. CONTRACTOR SHALL NOT SCALE OFF DRAWINGS.
4. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD.
5. CONTRACTOR SHALL PROTECT ALL EXISTING MEP, ETC. FOR DURATION OF CONSTRUCTION SO AS NOT TO DISTURB SERVICE.
6. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS IN THE FIELD AND IMMEDIATELY INFORM ENGINEER OF ANY DISCREPANCIES.
7. CONTRACTOR TO PROVIDE NEW STRIPING AND FLOOR SIGNAGE SAME AS EXISTING. CONTRACTOR SHALL DOCUMENT EXISTING STRIPING LAYOUT AND FLOOR SIGNAGE PRIOR TO SHOTBLASTING ROOF LEVEL FLOOR SLAB.

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SEAL:

REPAIR & PREVENTIVE MAINTENANCE - 2018
OF THE
TRANSPORTATION CENTER PARKING GARAGE
DAYTON, OHIO

No.	DATE	BY

REVISIONS

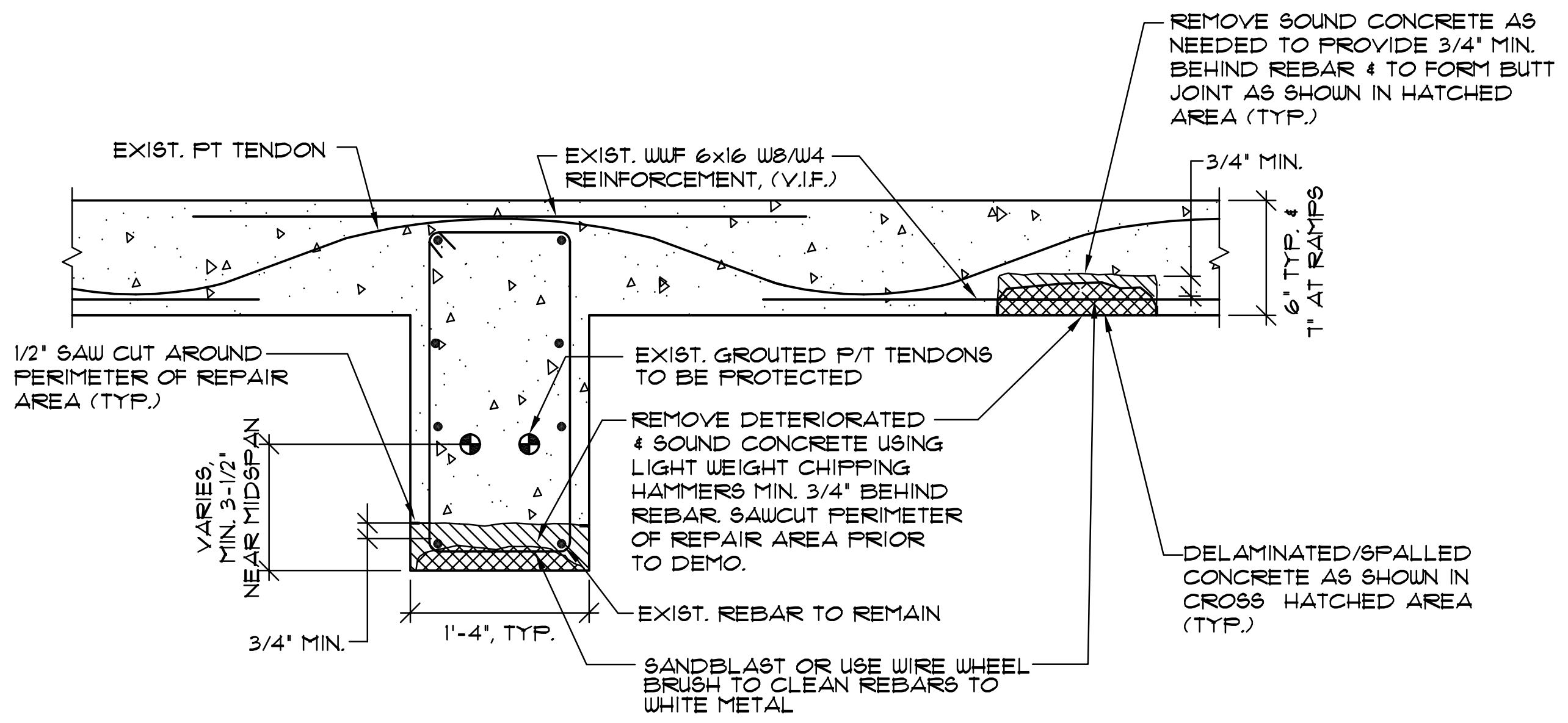
DESIGN:	P.H.
DRAWN:	V.B.
CHECKED:	N.R.
SCALE:	1" = 20'-0"
DATE:	MAY 2018
PROJECT No.: .	OSO-DTCPG PHI-2018

DRAWING TITLE:

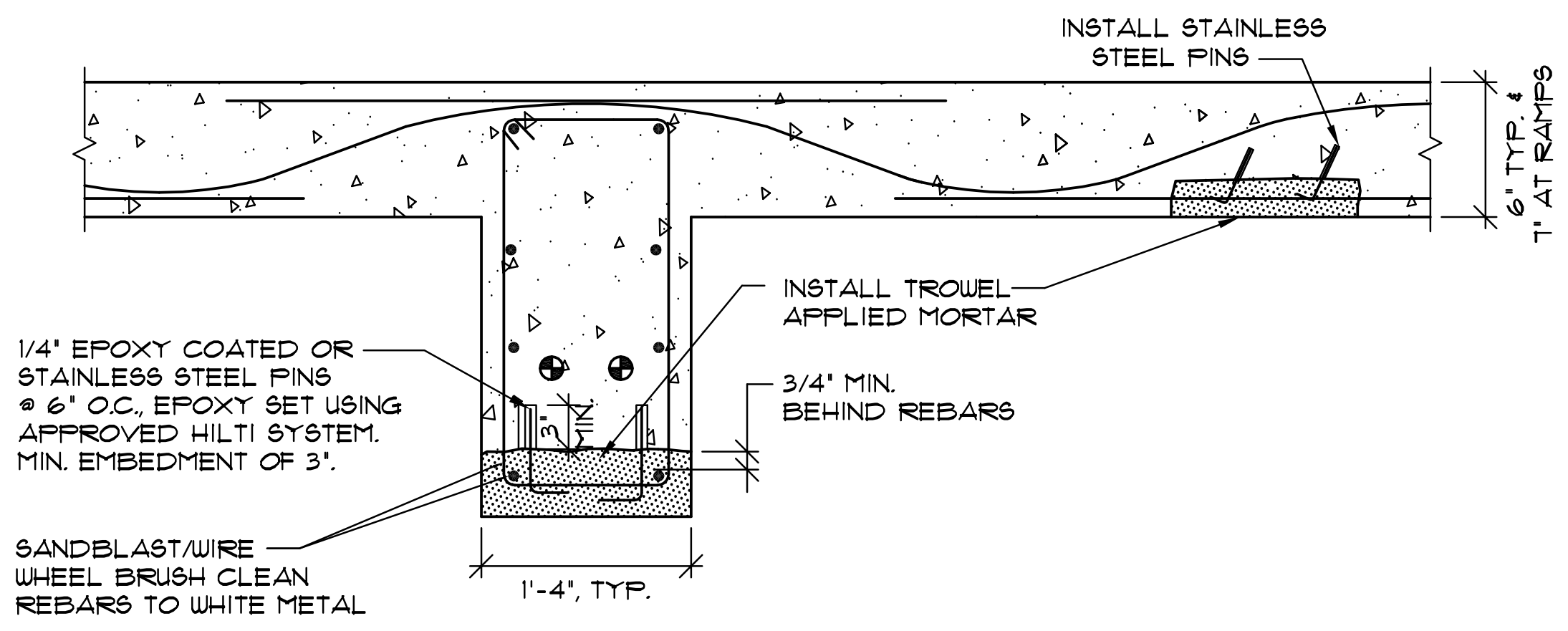
FIFTH LEVEL
FRAMING AND
FLOOR PLAN

DRAWING No.

R-5



EXISTING CONDITION



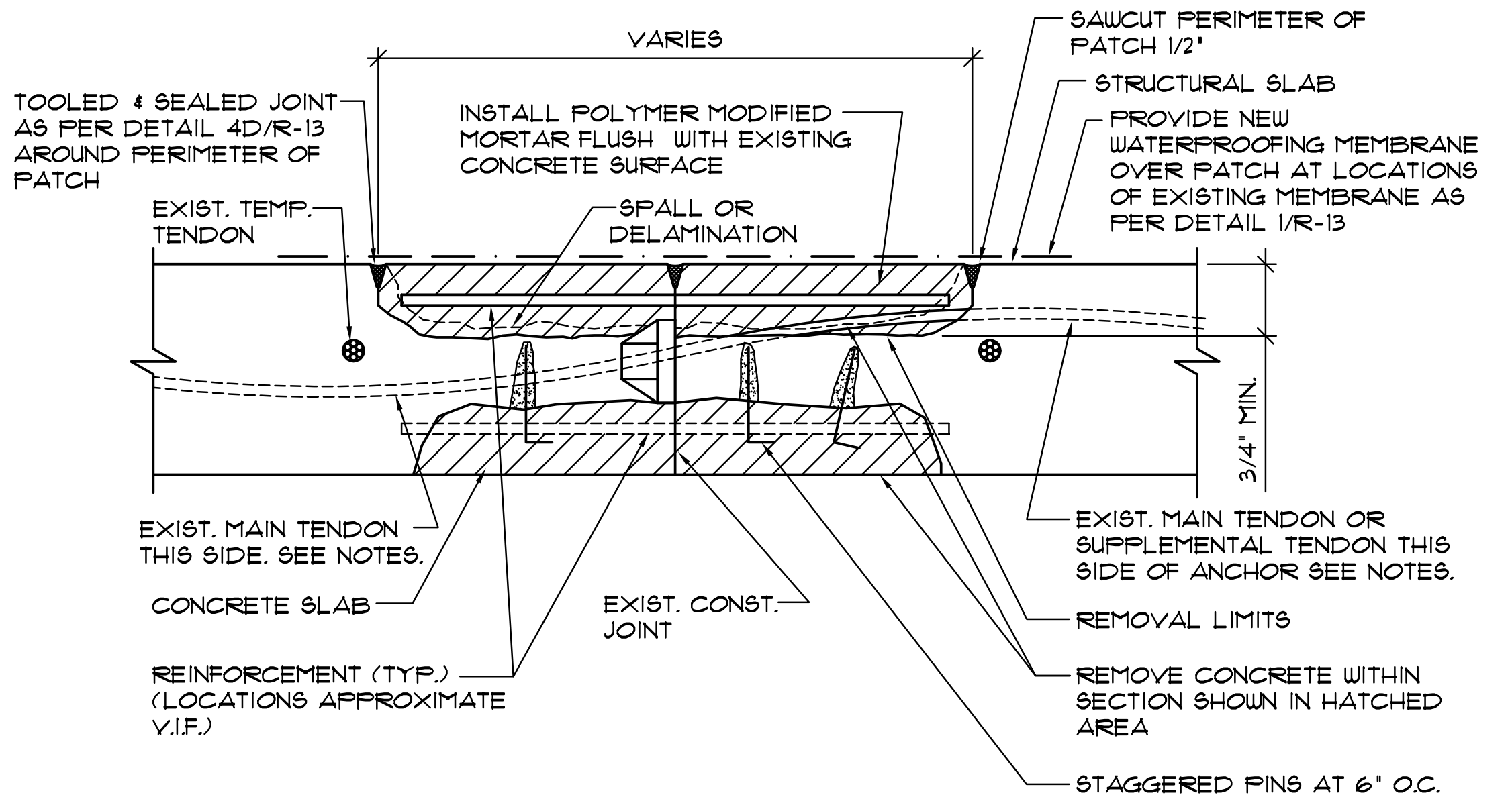
REPAIRED CONDITION

REPAIR PROCEDURE:

1. REMOVE CONCRETE USING LIGHT WEIGHT CHIPPING HAMMERS, TAKING CARE NOT TO DAMAGE EXISTING POST-TENSIONING TENDONS OR REINFORCING BARS
2. SANDBLAST/WIREBRUSH CLEAN ALL EXPOSED REBARS
3. INSTALL NEW 1/4" DIA. STAINLESS STEEL PINS @ 6" O.C., STAGGERED, MIN. 3" EMBEDMENT USING APPROVED HILTI EPOXY SYSTEM.
4. PATCH WITH APPROVED HIGH STRENGTH POLYMER MODIFIED CONCRETE PATCHING MATERIAL

1 OVERHEAD REPAIR DETAIL

R-10 SCALE: N.T.S.



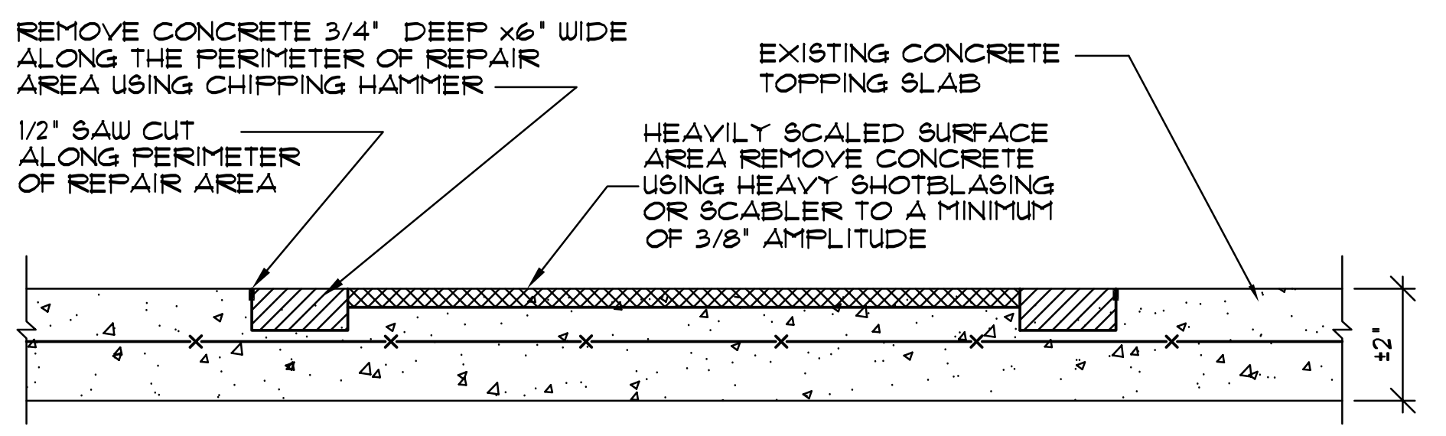
NOTE:

1. ANCHOR MAY BE INTERMEDIATE ANCHOR FOR MAIN TENDON OR AN END FOR SUPPLEMENTAL TENDON (DO NOT RELY ON PLAN FOR CONFIGURATION). REFER TO TYPICAL DETAIL FOR CONCRETE REMOVAL GUIDELINES.

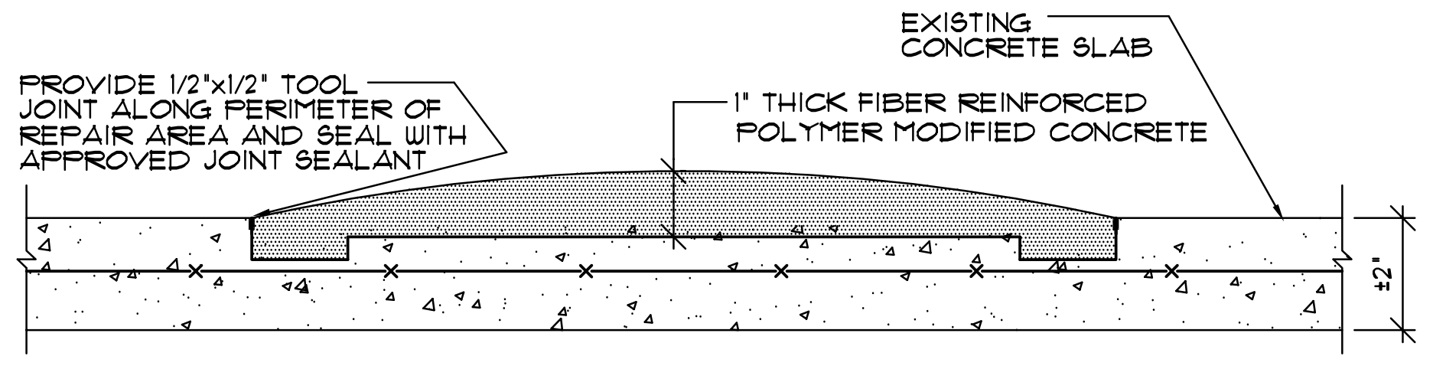
2. DO NOT REMOVE OVERHEAD CONCRETE UNTIL PARTIAL DEPTH REPAIR HAS SUFFICIENTLY CURED

4 FLOOR REPAIR – PARTIAL DEPTH & OVERHEAD @ CONSTRUCTION JOINTS

R-10 SCALE: N.T.S.



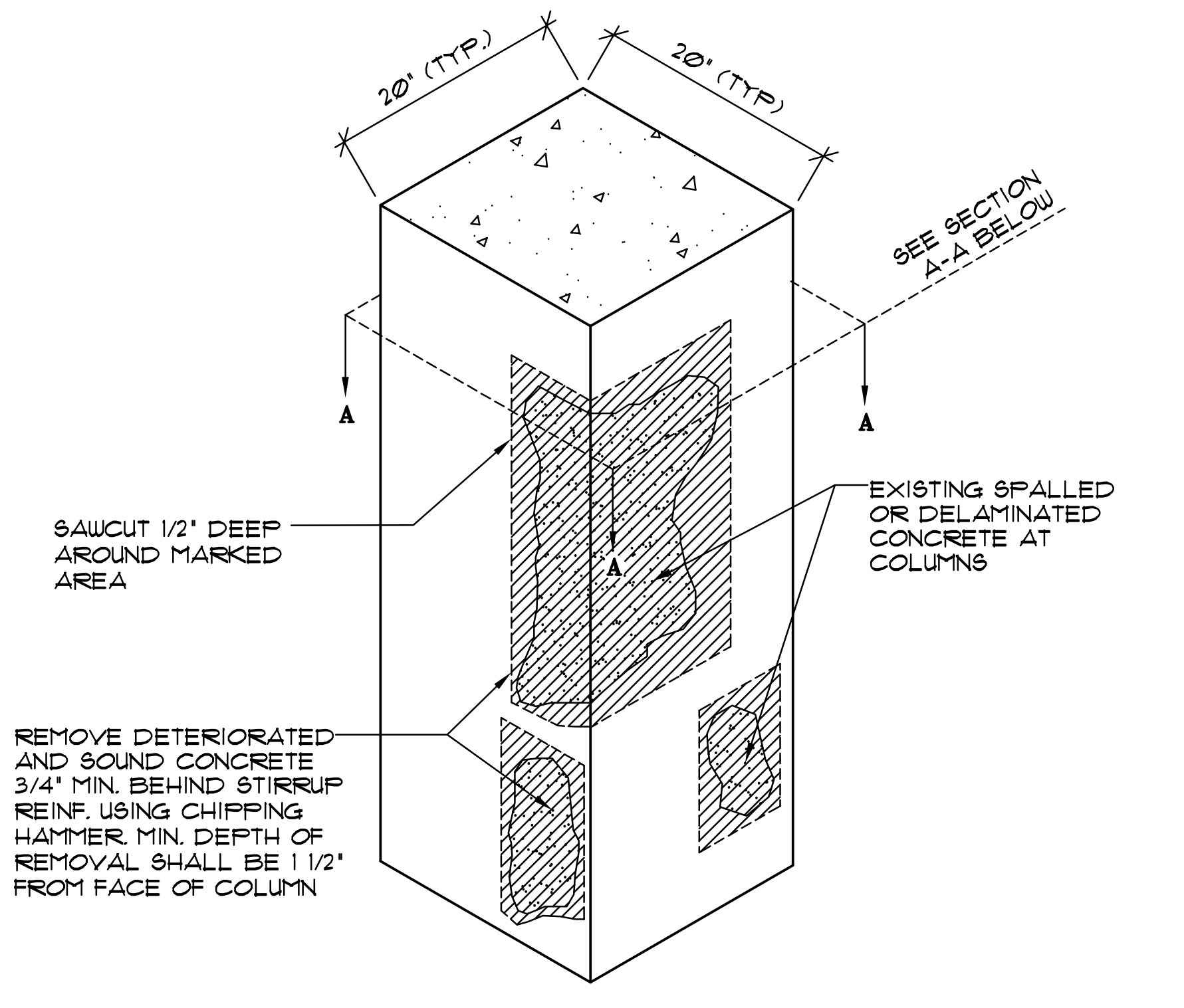
EXISTING & DEMOLITION CONDITION:



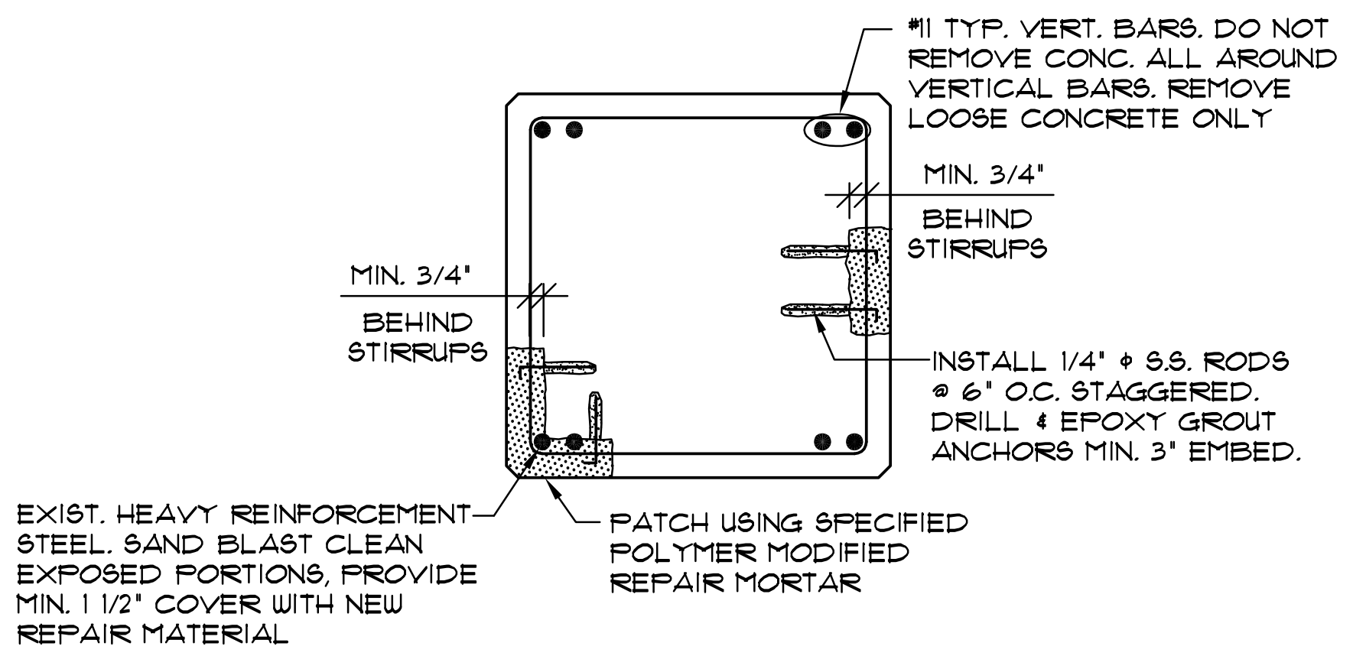
REPAIR CONDITION:

7 SURFACE SCALING REPAIR DETAIL

R-10 SCALE: N.T.S.



EXISTING CONDITION & DEMOLITION



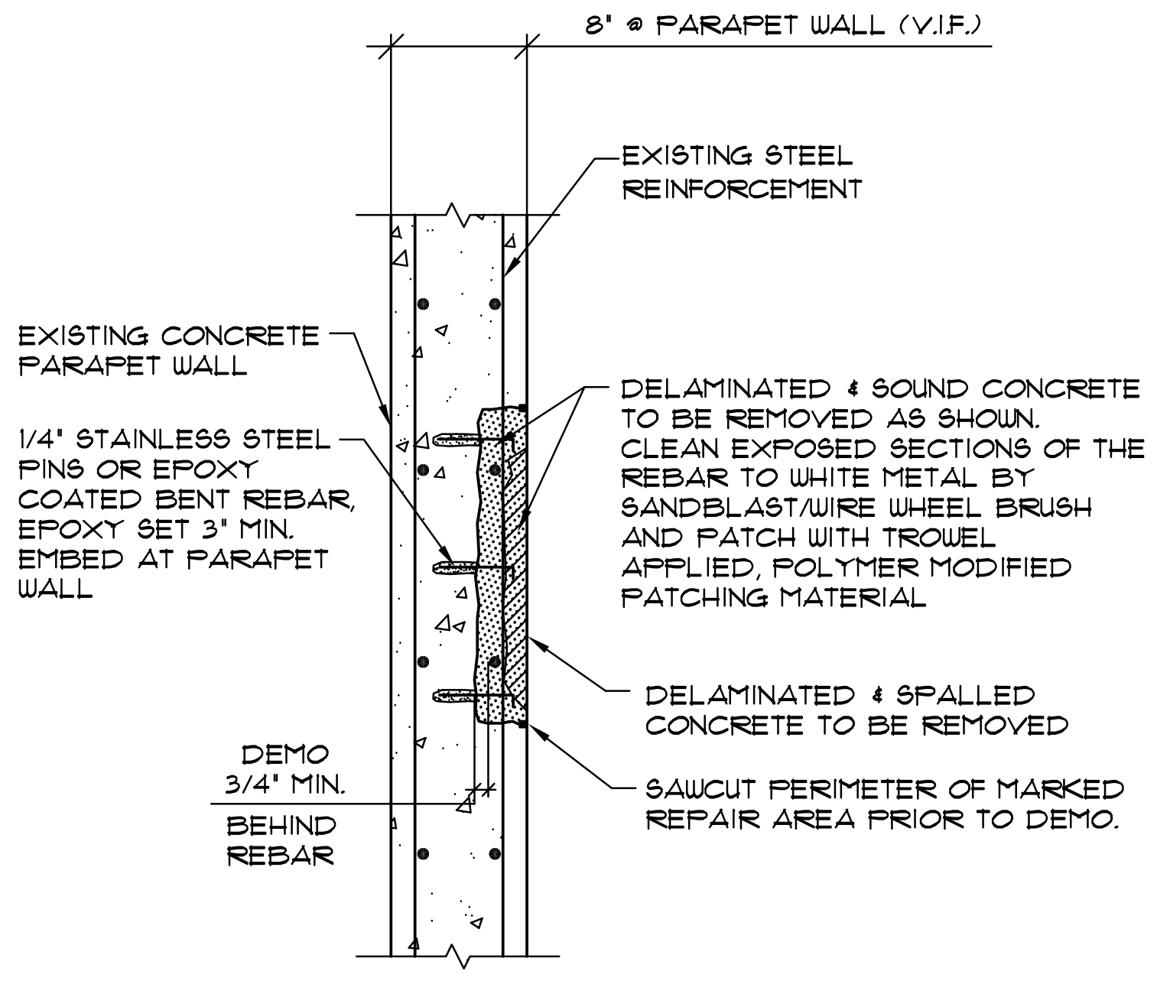
SECTION A–A
REPAIRED CONDITION

REPAIR PROCEDURE:

1. SOUND COLUMNS AND MARK REPAIR LOCATIONS IN THE PRESENCE OF THE ENGINEER
2. SAW CUT PERIMETER OF MARKED PATCH 1/2" DEEP
3. REMOVE LOOSE AND SOUND CONCRETE MIN. 3/4" BEHIND STIRRUPS.
4. CLEAN REINF. TO WHITE METAL SUPPLEMENT CORRODED REINFORCEMENT WITH NEW REBAR. (> 20% LOSS OF CROSS SECTIONAL AREA) OR AS DIRECTED BY THE ENGINEER
5. INSTALL NEW 1/4" DIA. STAINLESS STEEL PINS @ 6" O.C., STAGGERED, MIN. 3" EMBEDMENT USING APPROVED HILTI EPOXY SYSTEM.
6. INSTALL POLYMER MODIFIED REPAIR MORTAR
7. REINFORCEMENT VARIES. ASSUME REBAR SHOWN SCHEMATICALLY ONLY.

2 COLUMN REPAIR DETAIL

R-10 SCALE: 1" = 1'-0"

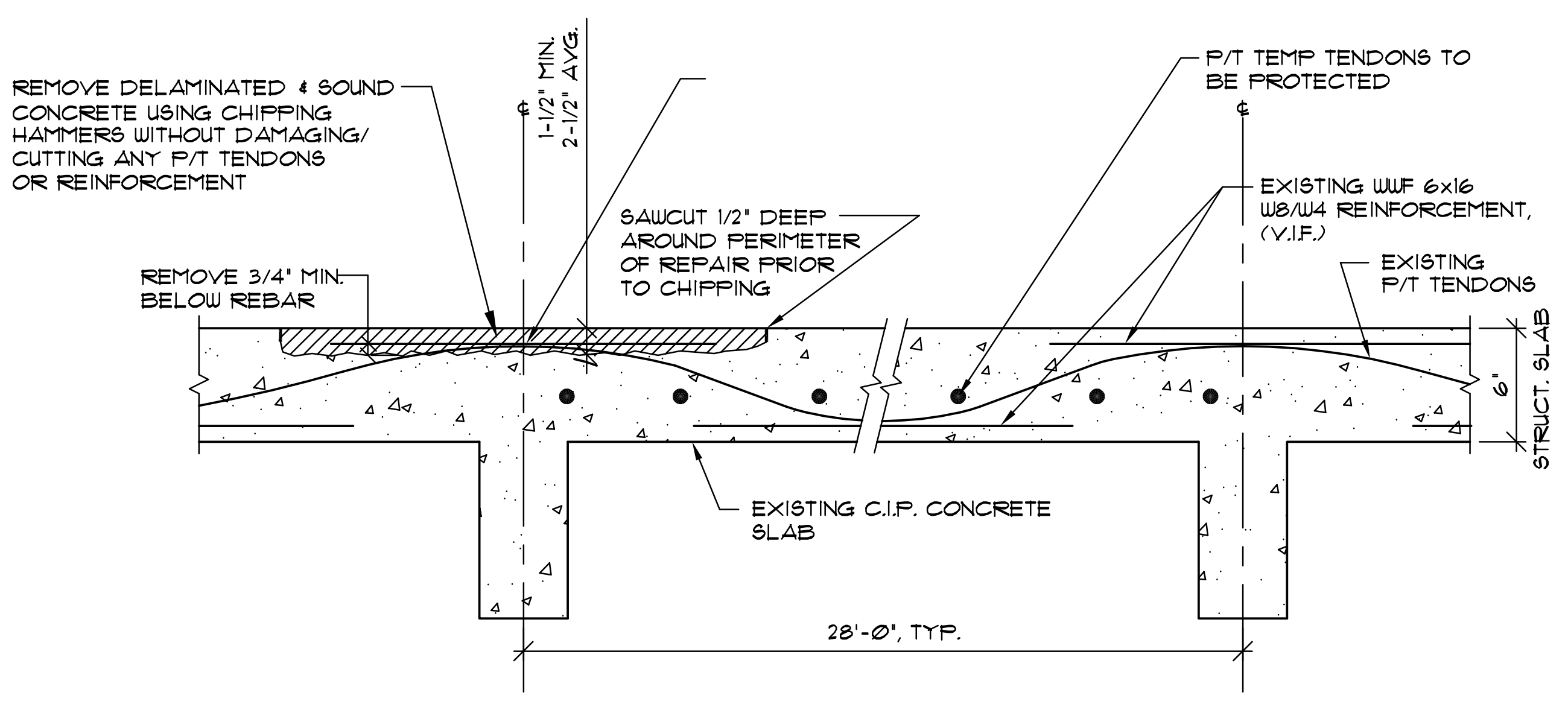


REPAIR PROCEDURE:

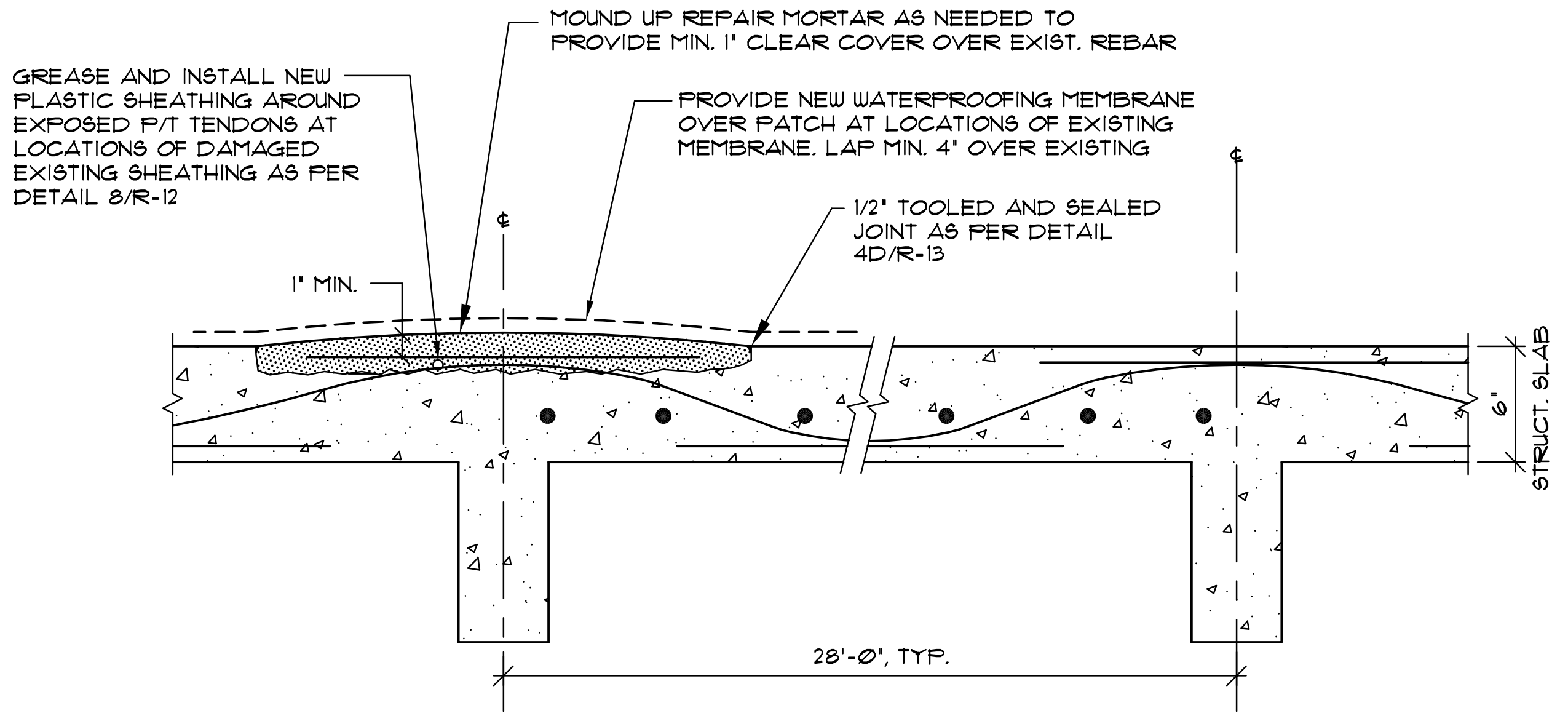
1. REMOVE SOUND AND DELAMINATED CONCRETE FROM THE VERTICAL SURFACES TO A MINIMUM 3/4" BEHIND REBAR USING CHIPPING HAMMERS CREATING BUTT JOINT.
2. SANDBLAST/WIRE WHEEL BRUSH CLEAN EXPOSED REBARS.
3. PATCH WITH APPROVED PATCHING MATERIAL.

5 VERTICAL PATCH REPAIR

R-10 SCALE: 1" = 1'-0"



EXISTING CONDITION & DEMOLITION

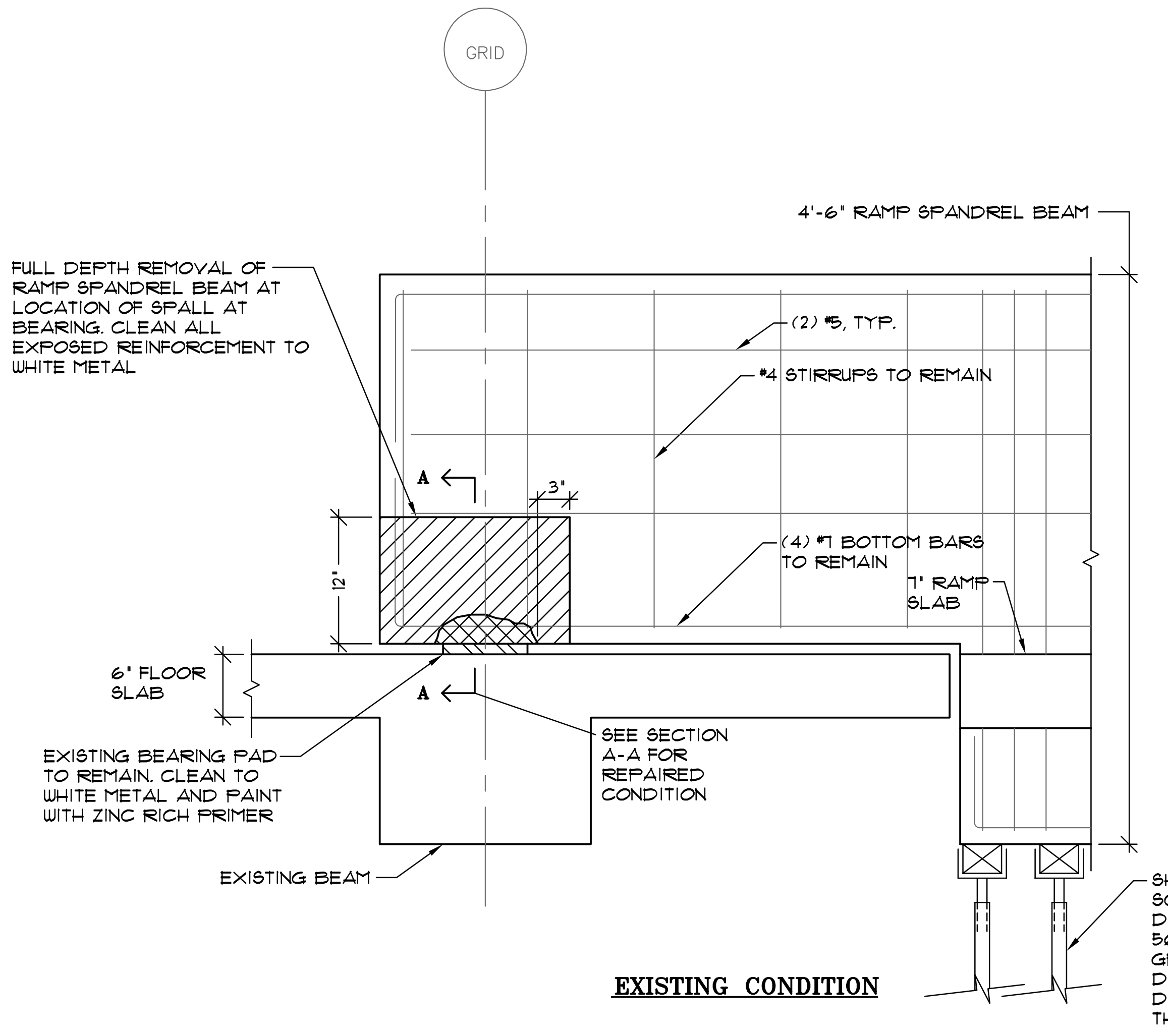


REPAIRED CONDITION

1. MARK AREA OF REPAIR BY SOUNDING THE CONCRETE FLOOR IN THE PRESENCE OF THE ENGINEER.
2. SAWCUT 1/2" DEEP AROUND PERIMETER OF REPAIR WITHOUT CUTTING ANY EMBEDDED REINFORCEMENT OR PT TENDONS.
3. REMOVE CONCRETE TO AN AVERAGE DEPTH OF 2 1/2" (MINIMUM REMOVAL 1 1/2" FROM EXISTING SURFACE OR 3/4" BEHIND REBARS) USING CHIPPING HAMMERS.
4. CLEAN SUBSTRATE FREE OF DEBRIS AND PREPARE SURFACE TO RECEIVE CONCRETE. WIRE WHEEL BRUSH OR SANDBLAST REBAR FREE OF CORROSION.
5. SUPPLEMENT WITH NEW #4 REBAR ALL REBAR THAT IS FOUND TO HAVE LOST MORE THAN 20% OF ITS CROSS SECTIONAL AREA AND / OR AS DIRECTED BY THE ENGINEER.
6. APPLY GREASE AND INSTALL NEW PLASTIC SHEATHING OVER EXPOSED DAMAGED PORTIONS OF POST TENSIONING SHEATHING AS PER DETAIL 8/R-12
7. PLACE REPAIR MORTAR AND PROVIDE A MINIMUM CONCRETE COVER OF 1" ABOVE NEW AND EXISTING REINFORCING.
8. PROVIDE 1/2" TOOLED JOINT AROUND PERIMETER OF REPAIR AND SEAL WITH TWO PART POLYURETHANE JOINT SEALANT AS PER DETAIL 4D/R-13

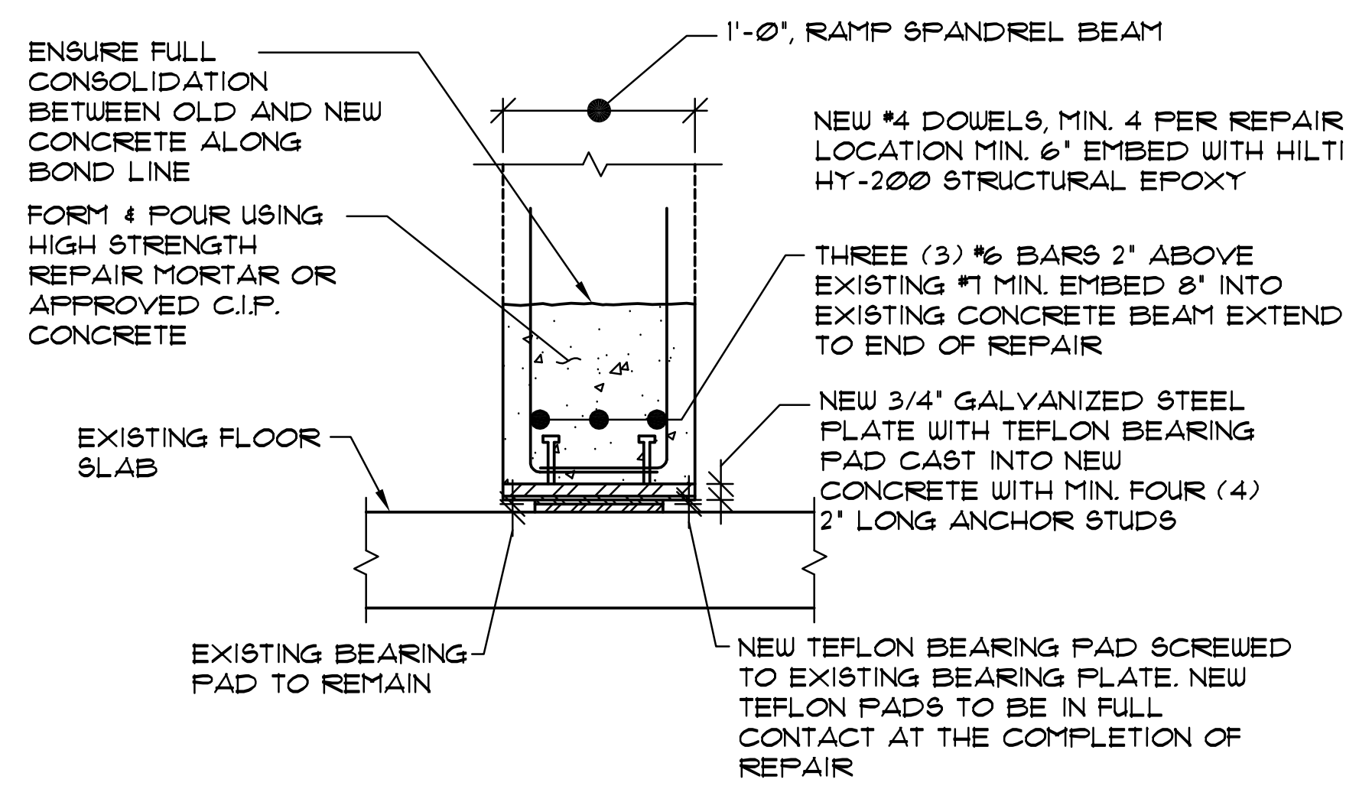
3 PARTIAL DEPTH SLAB REPAIR

R-10 SCALE: N.T.S.



EXISTING CONDITION

SHORING (SHOWN SCHEMATICALLY) DESIGNED TO SUPPORT 50 KIP LOAD DOWN TO GRADE. PROVIDE SHOP DRAWINGS FOR SHORING DESIGN FOR REVIEW BY THE ENGINEER



REPAIRED CONDITION

6 RAMP SPANDREL BEAM BEARING REPAIR

R-10 SCALE: 1" = 1'-0"

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DAYTON, OHIO

No.	DATE	BY
REVISIONS		

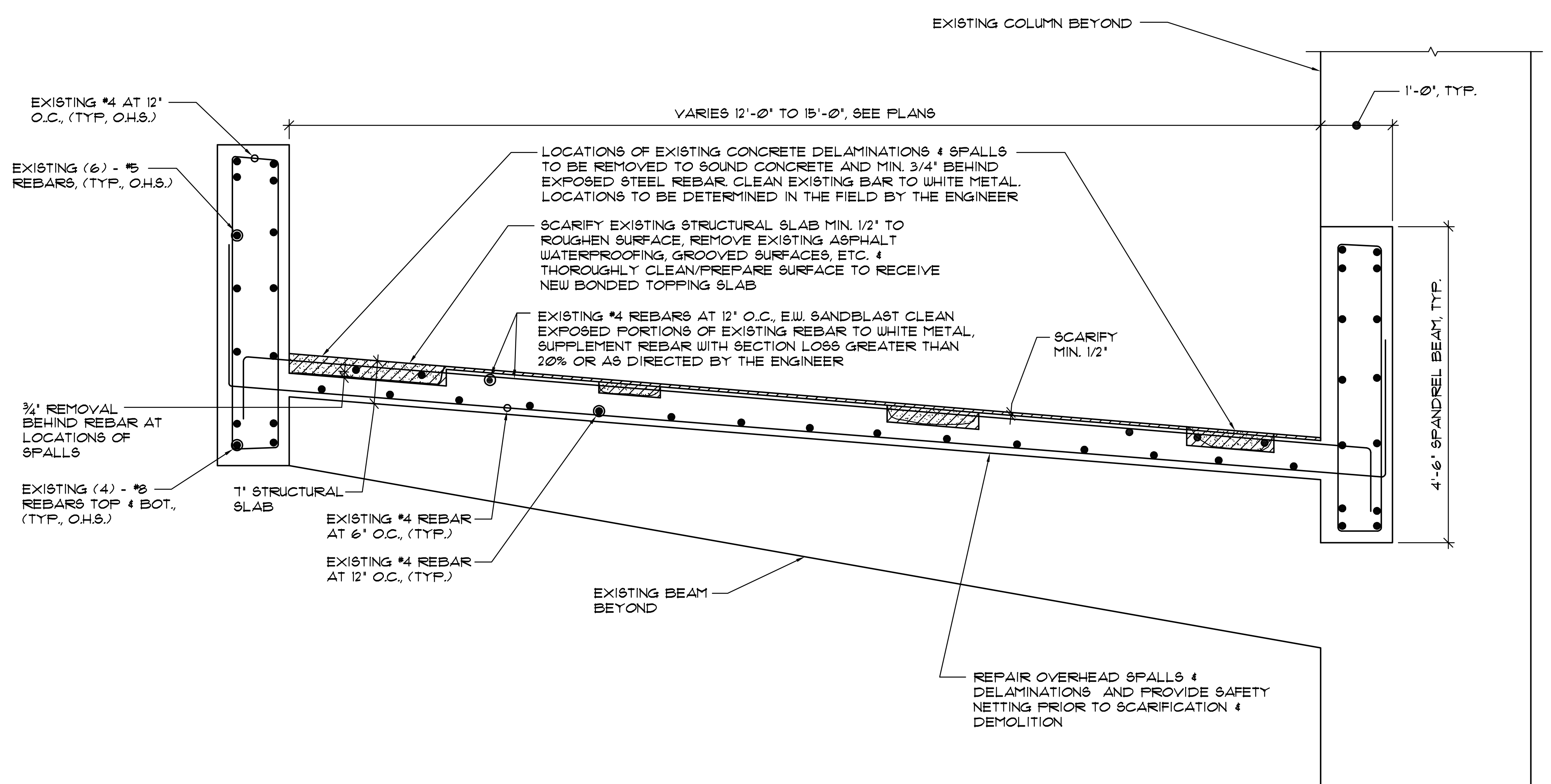
DESIGN: P.H.
DRAWN: V.B.
CHECKED: N.R.
SCALE: AS SHOWN
DATE: MAY 2018
PROJECT No.: . OSO–DTCPG PHI–2018

DRAWING TITLE:

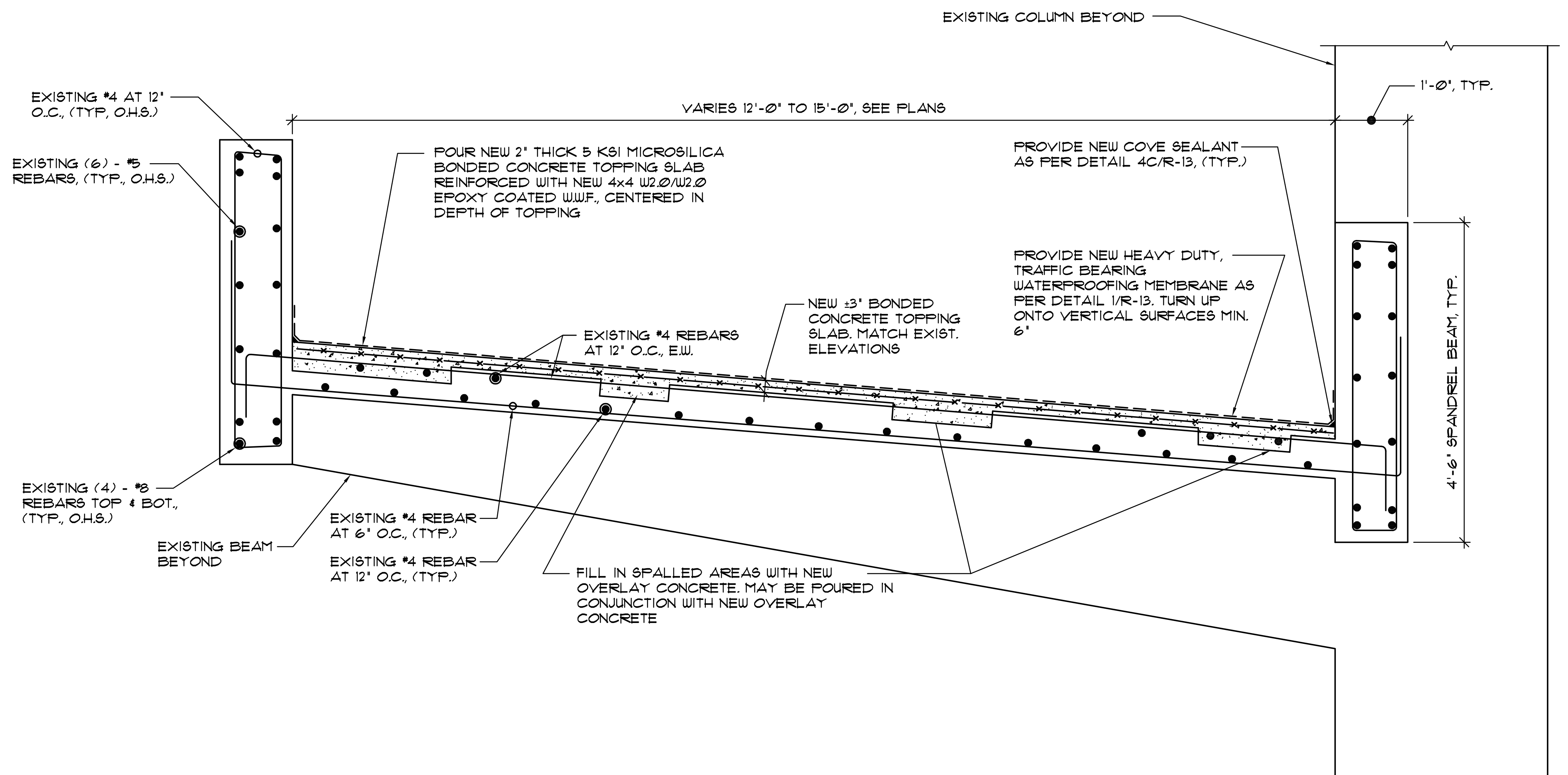
STRUCTURAL REPAIR DETAILS - SHEET 1

DRAWING No.

R-10



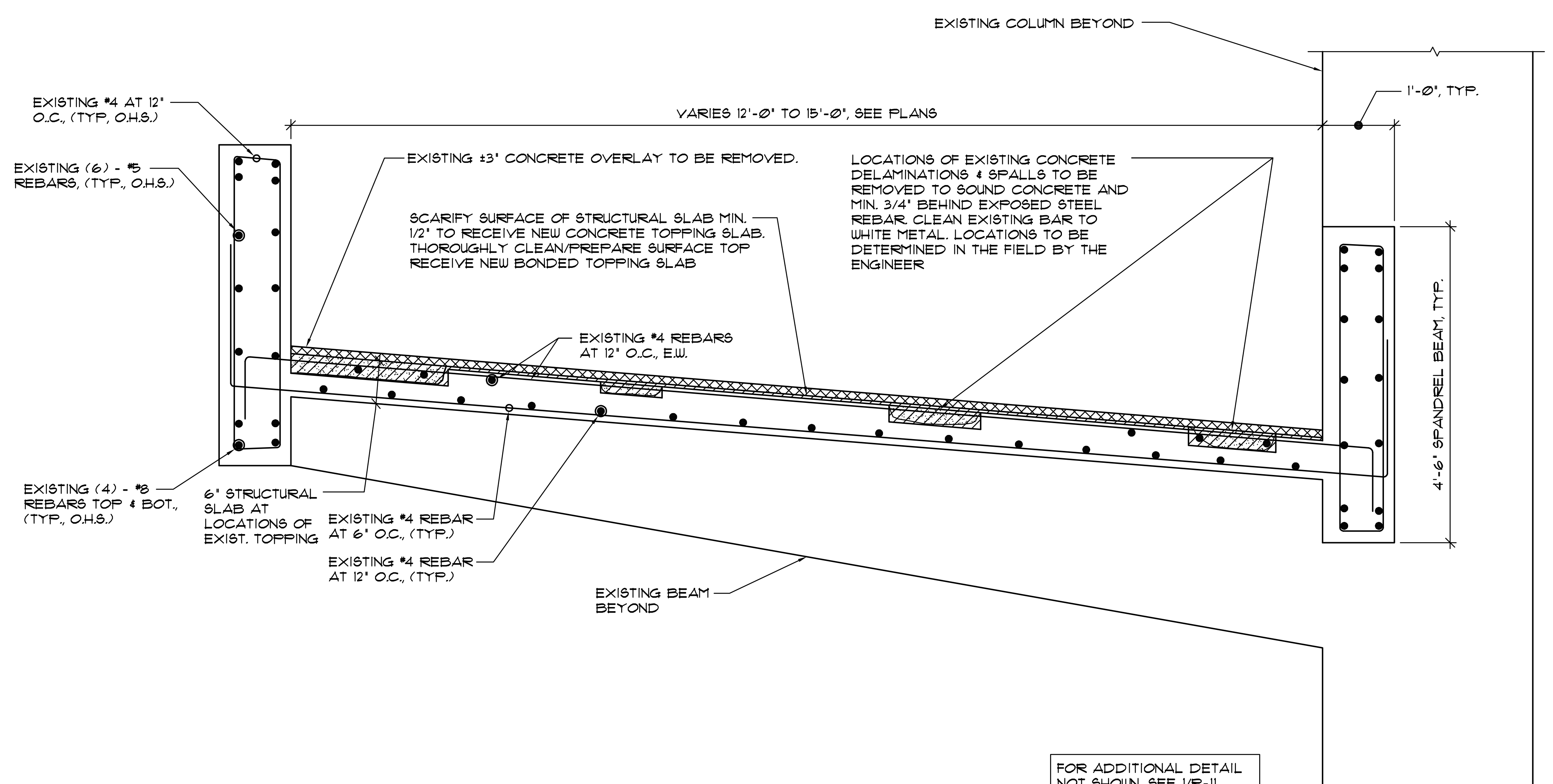
EXISTING CONDITION



REPAIRED CONDITION

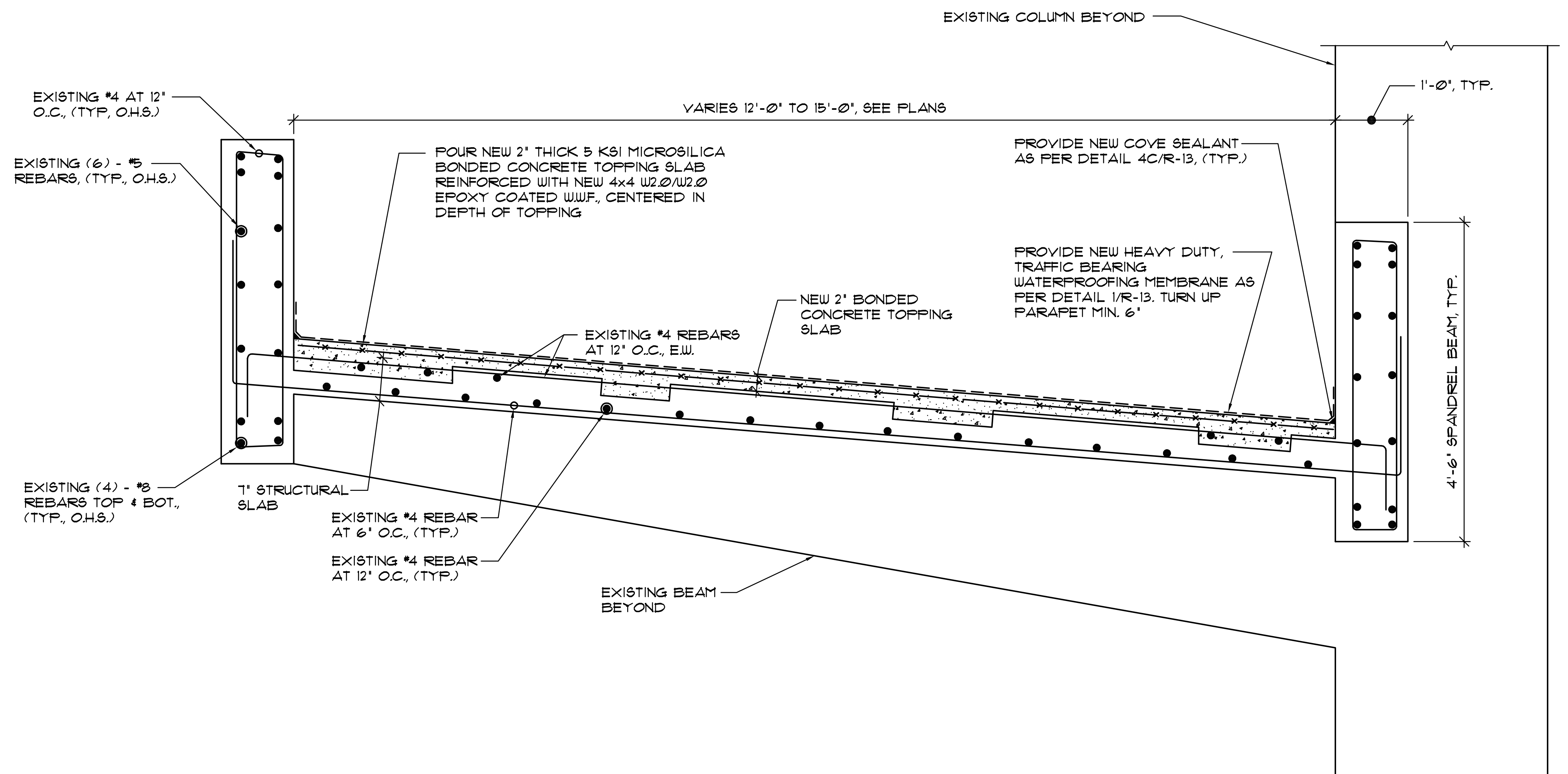
1 NEW CONCRETE OVERLAY DETAIL

R-11 SCALE: 3/4" = 1'-0"



FOR ADDITIONAL DETAIL NOT SHOWN, SEE 1/R-11

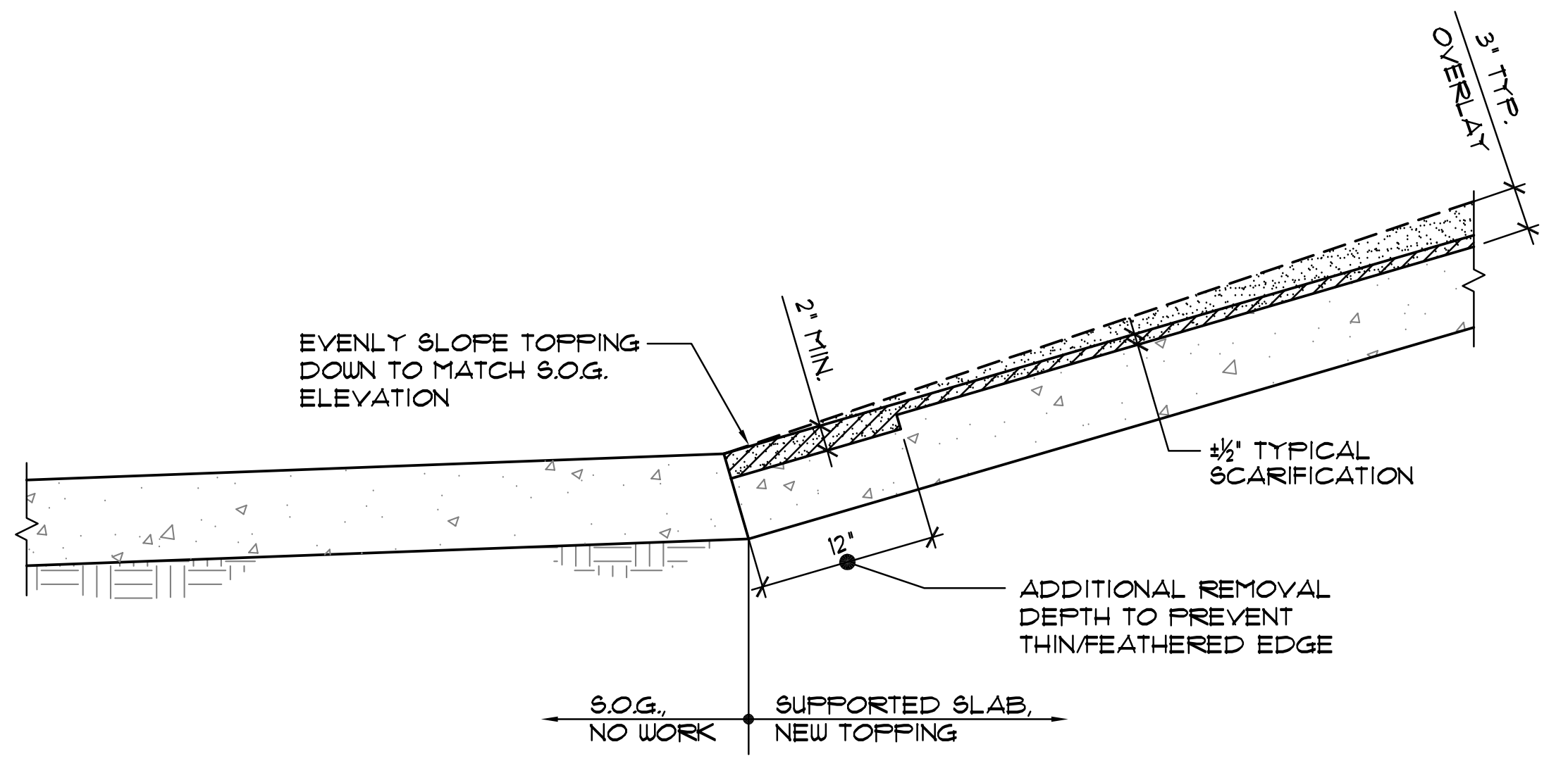
EXISTING CONDITION



REPAIRED CONDITION

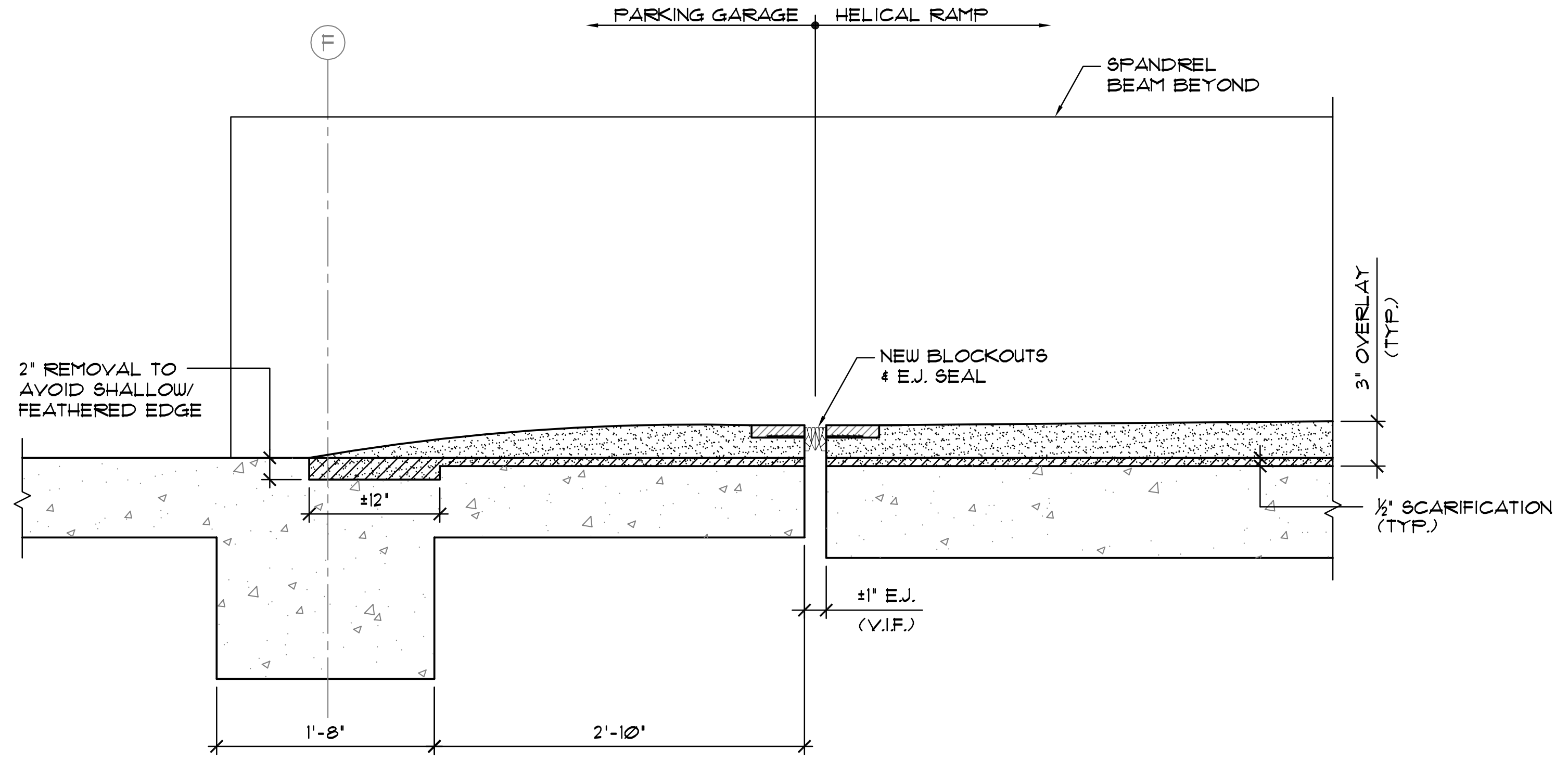
2 REMOVE AND REPLACE EXISTING CONCRETE OVERLAY DETAIL

R-11 SCALE: 3/4" = 1'-0"



3 TRANSITION AT EXTENTS OF OVERLAY

R-11 SCALE: 1" = 1'-0"



4 TRANSITION AT RAMPS TO PARKING GARAGE

R-11 SCALE: 1" = 1'-0"

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REPAIR & PREVENTIVE MAINTENANCE - 2018
OF THE
TRANSPORTATION CENTER PARKING GARAGE
DAYTON, OHIO

No.	DATE	BY

REVISIONS

DESIGN: P.H.
DRAWN: V.B.
CHECKED: N.R.
SCALE: 3/4" = 1'-0"
DATE: MAY 2018
PROJECT No.: . OSO-DTCPG PHI-2018

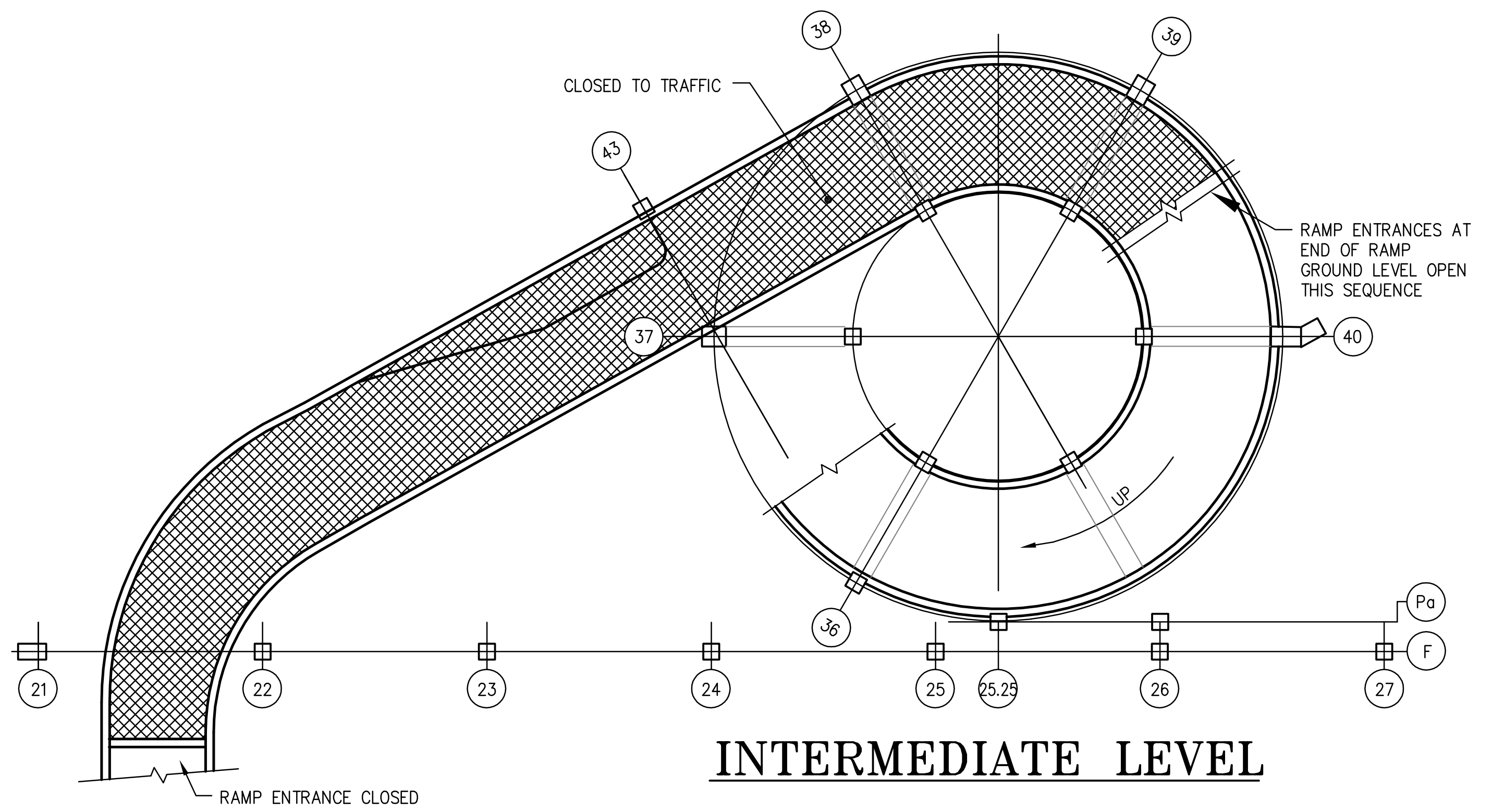
DRAWING TITLE:

STRUCTURAL REPAIR DETAILS - SHEET 2

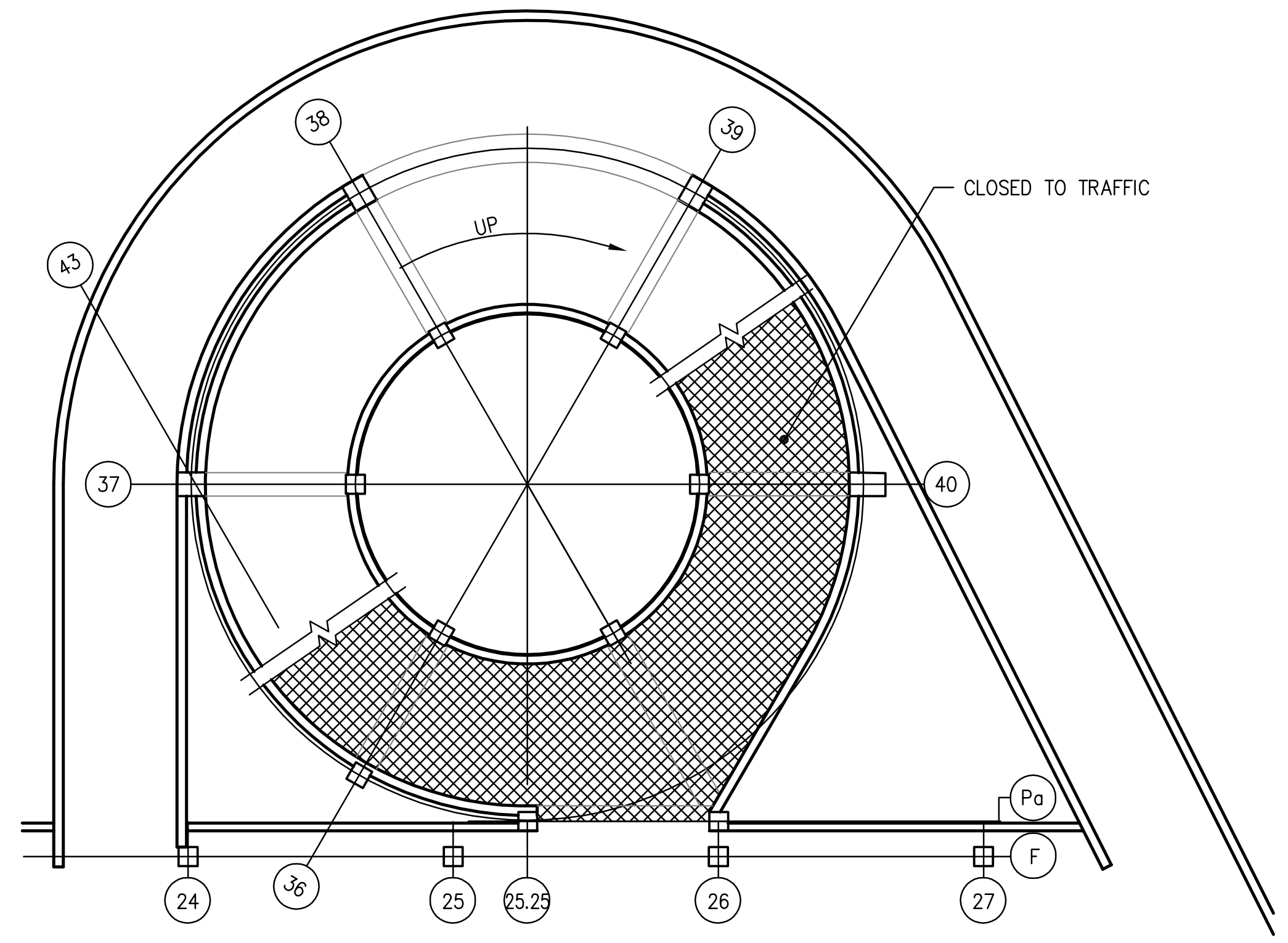
DRAWING No.

R-11

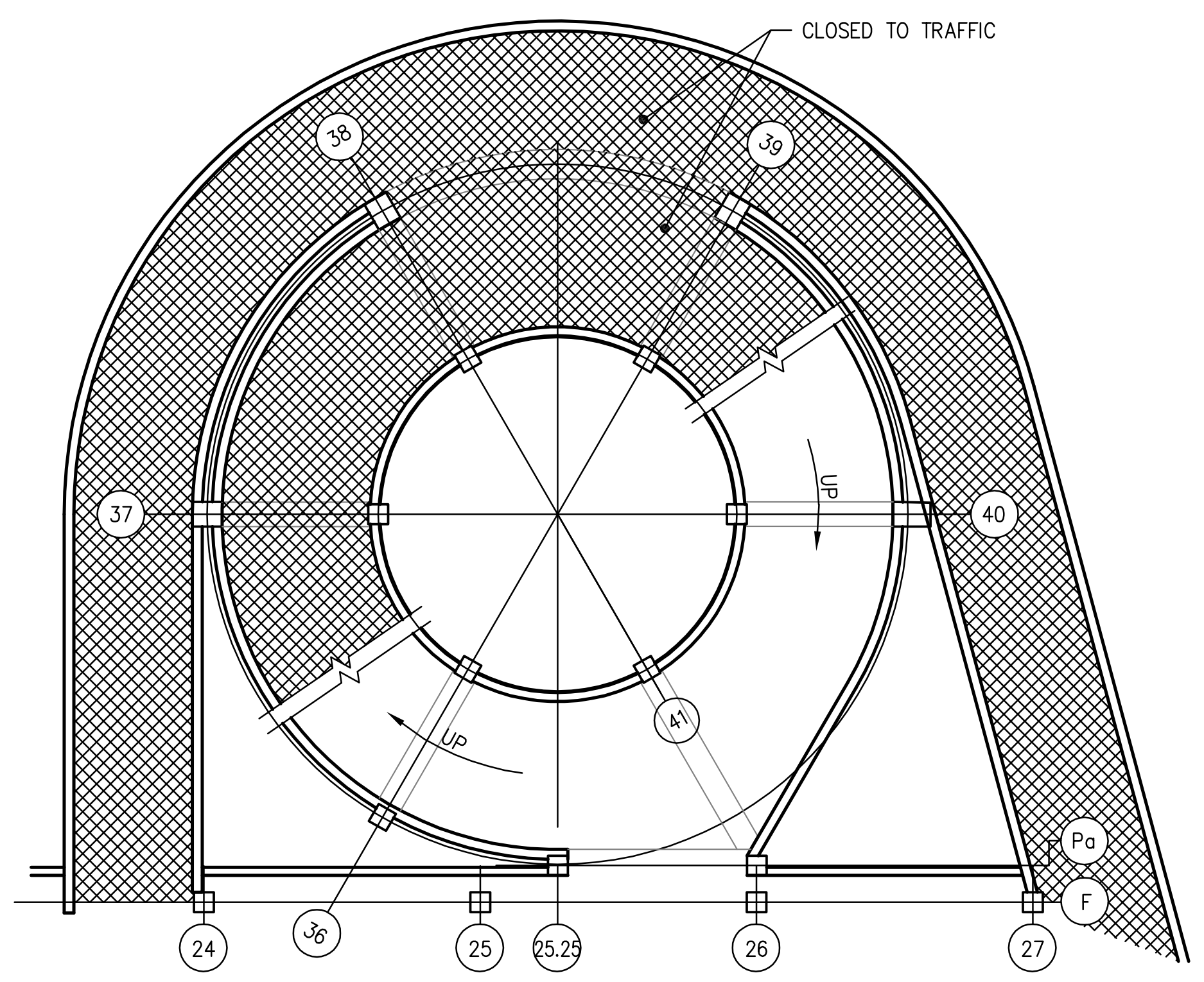
WORK SEQUENCE PLAN #2A - UP RAMP



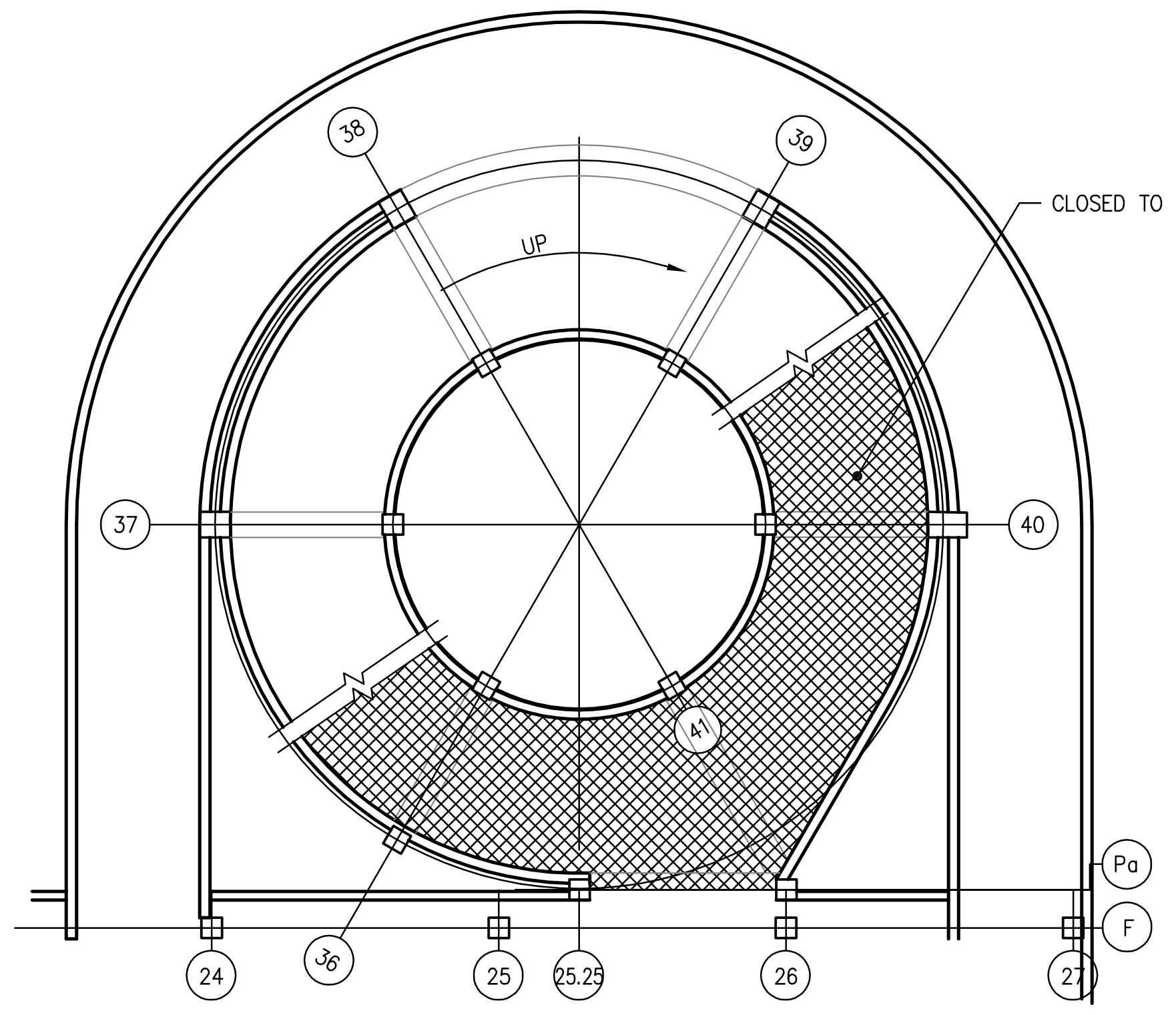
INTERMEDIATE LEVEL



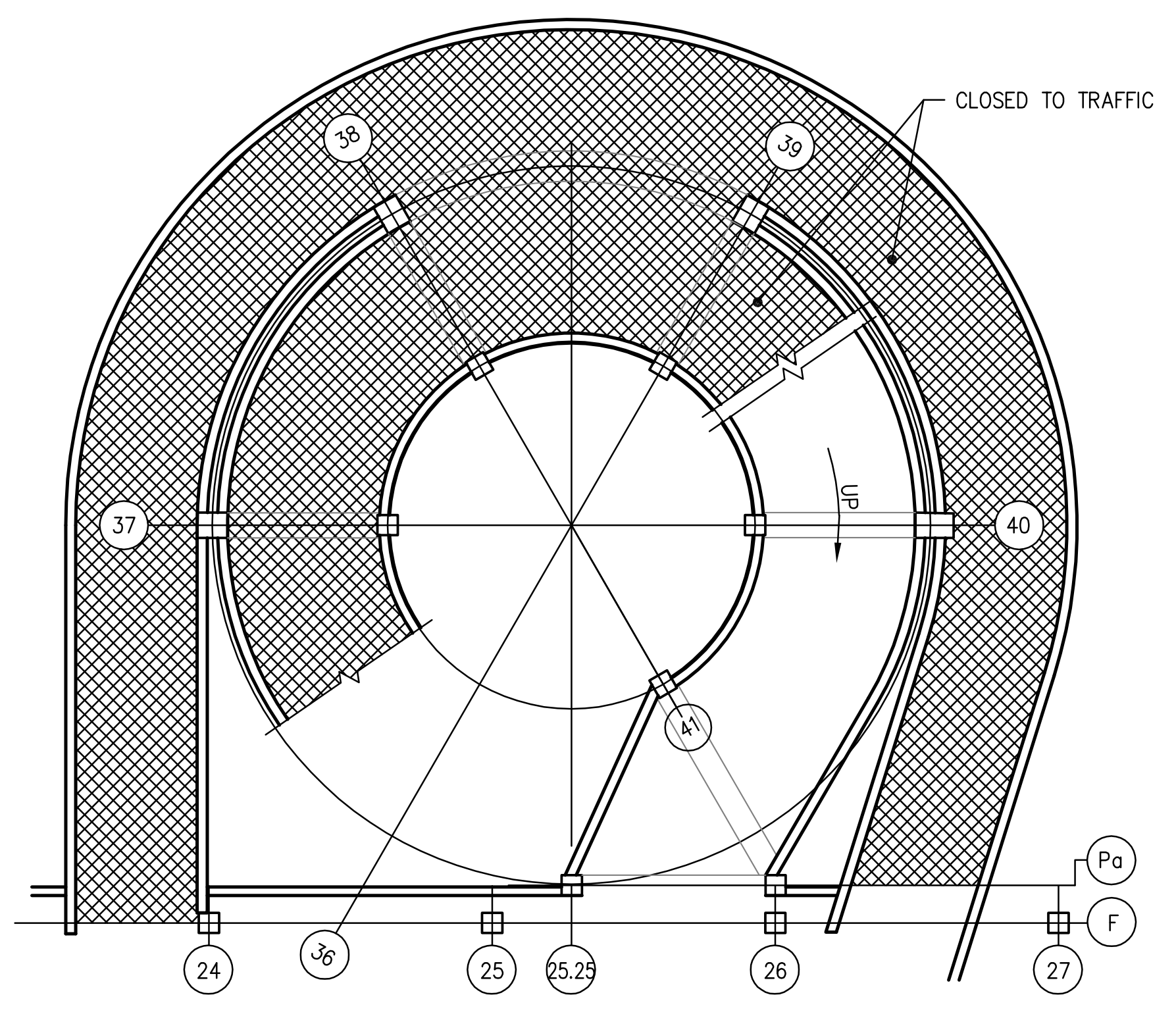
FIRST LEVEL



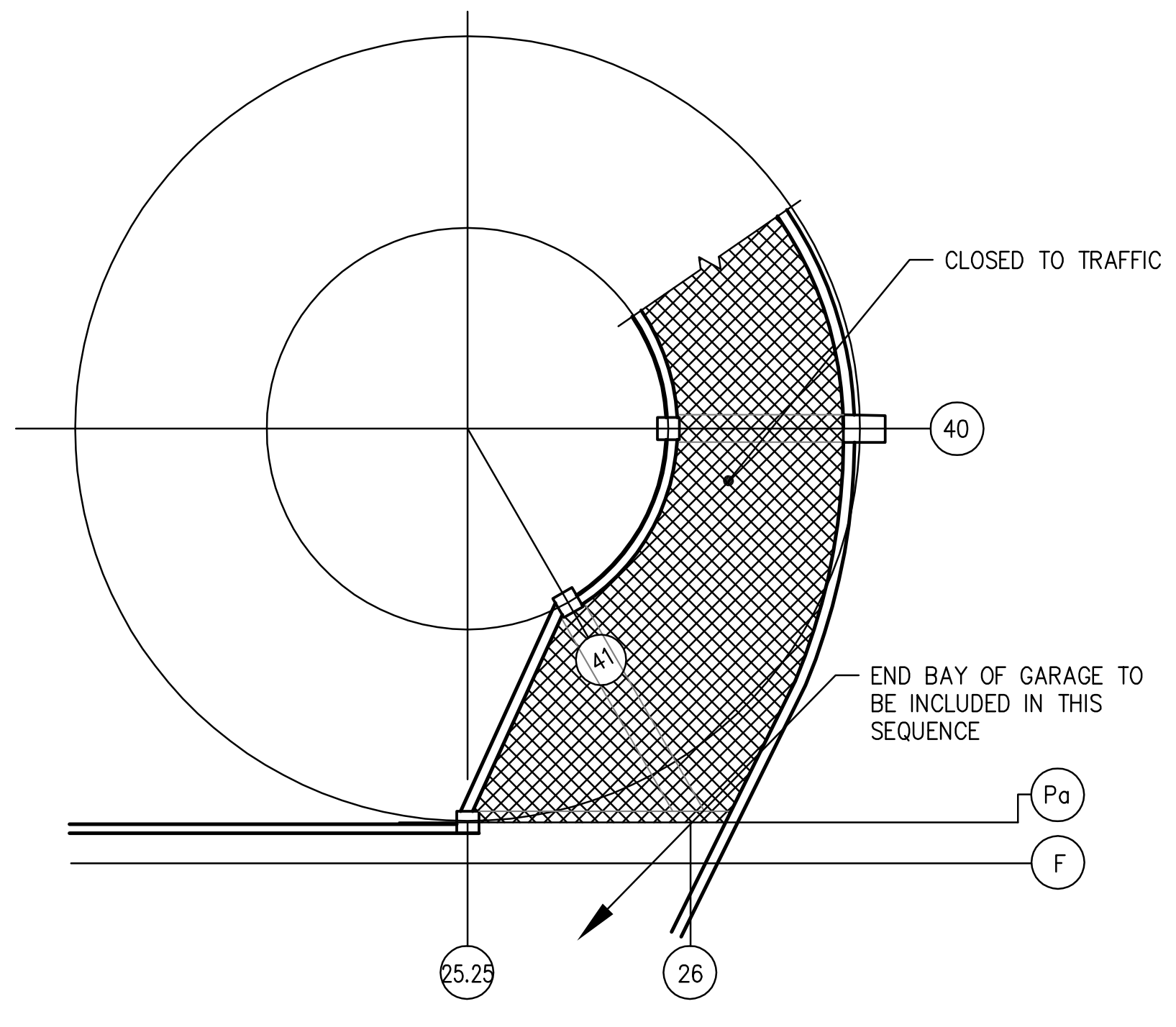
SECOND LEVEL



THIRD LEVEL

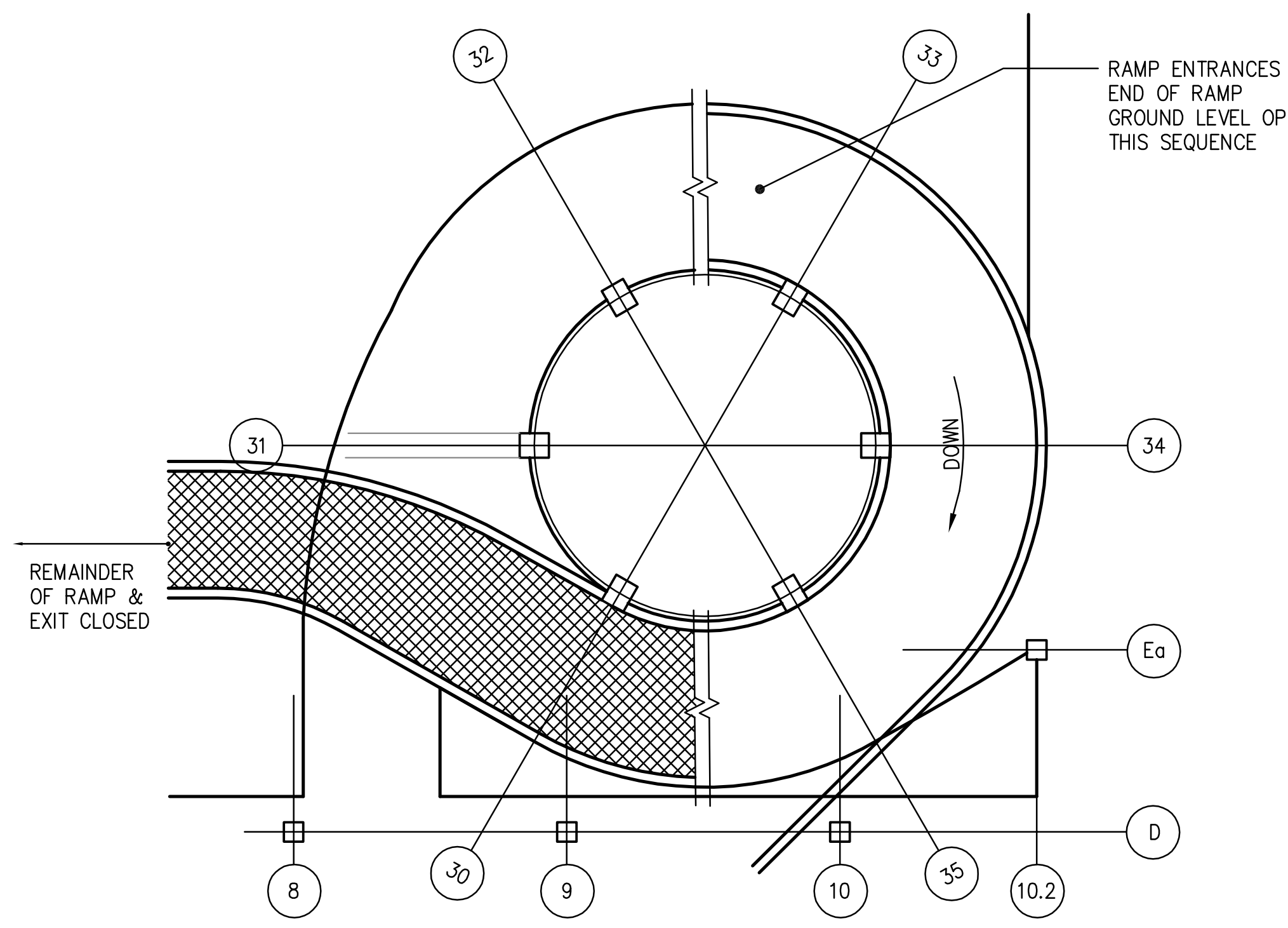


FOURTH LEVEL

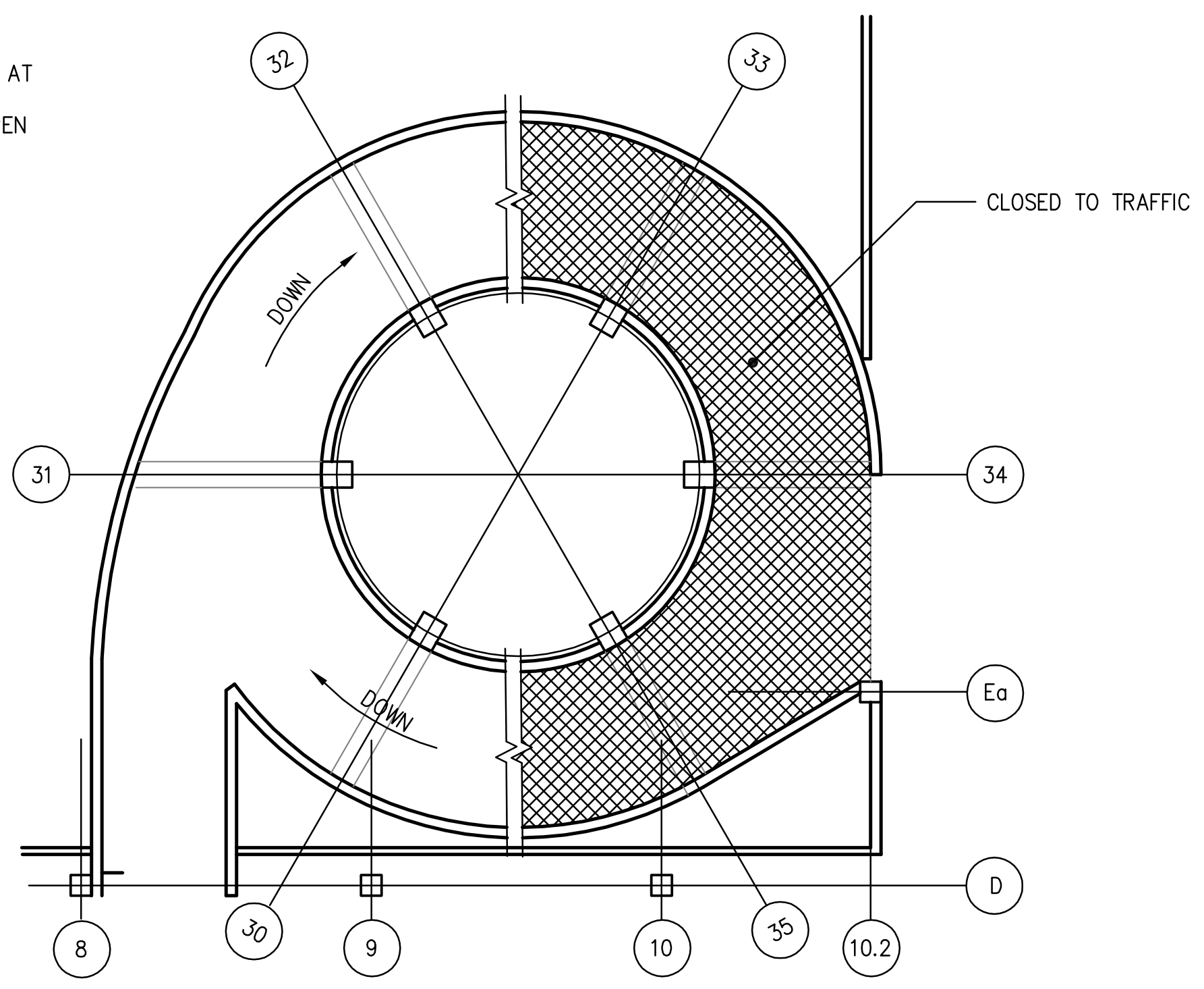


FIFTH LEVEL

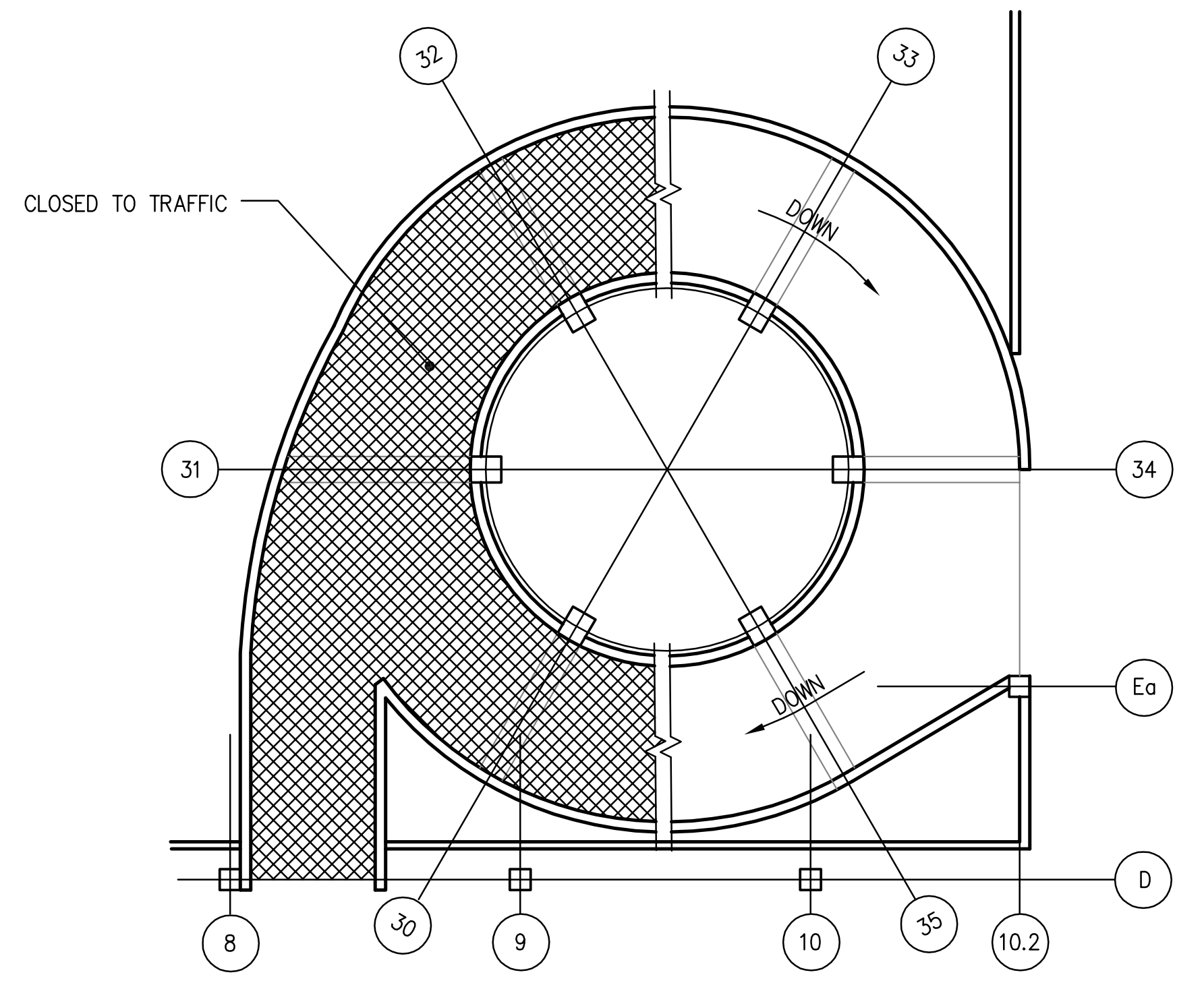
WORK SEQUENCE PLAN #2B - DOWN RAMP



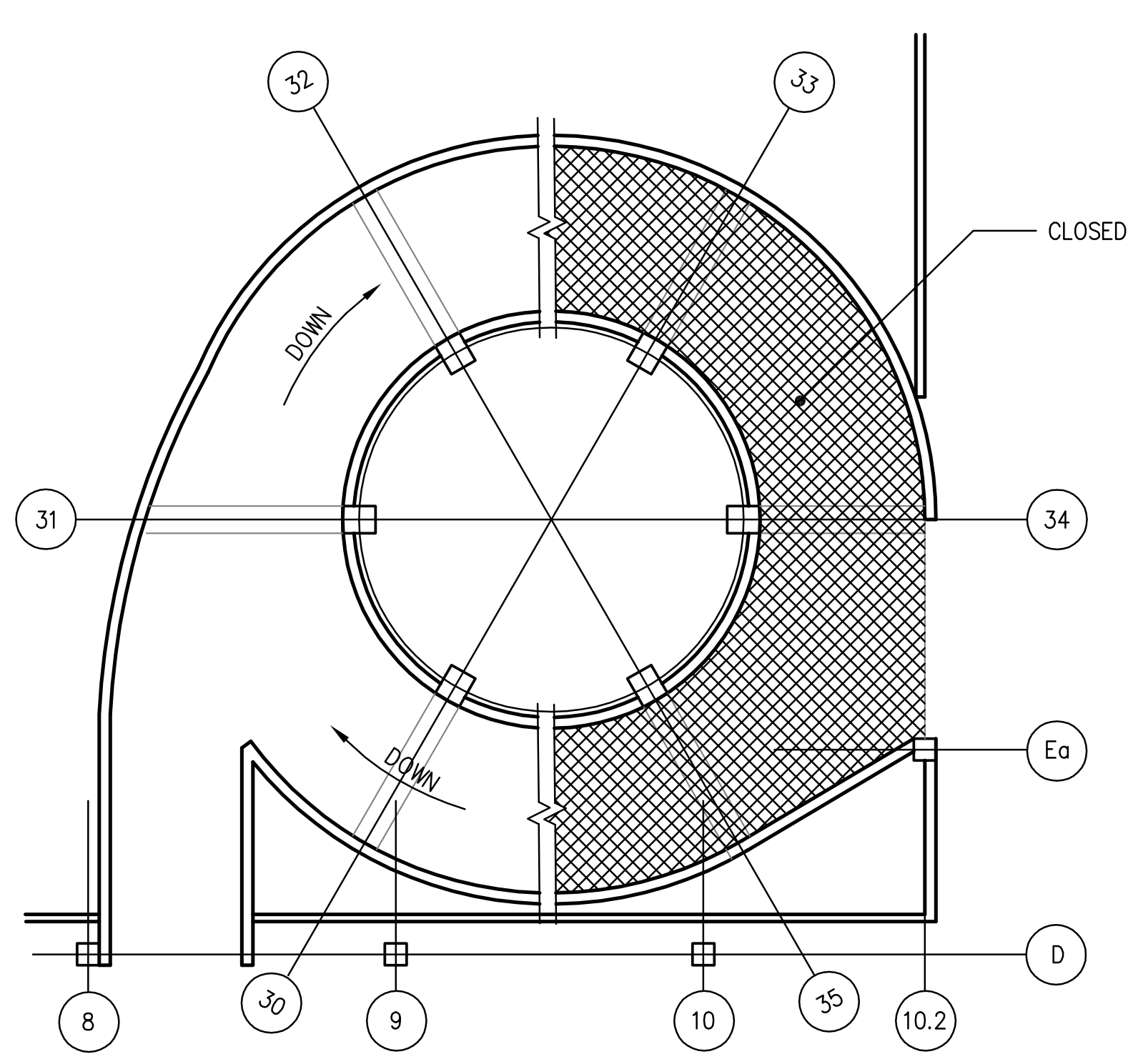
INTERMEDIATED LEVEL



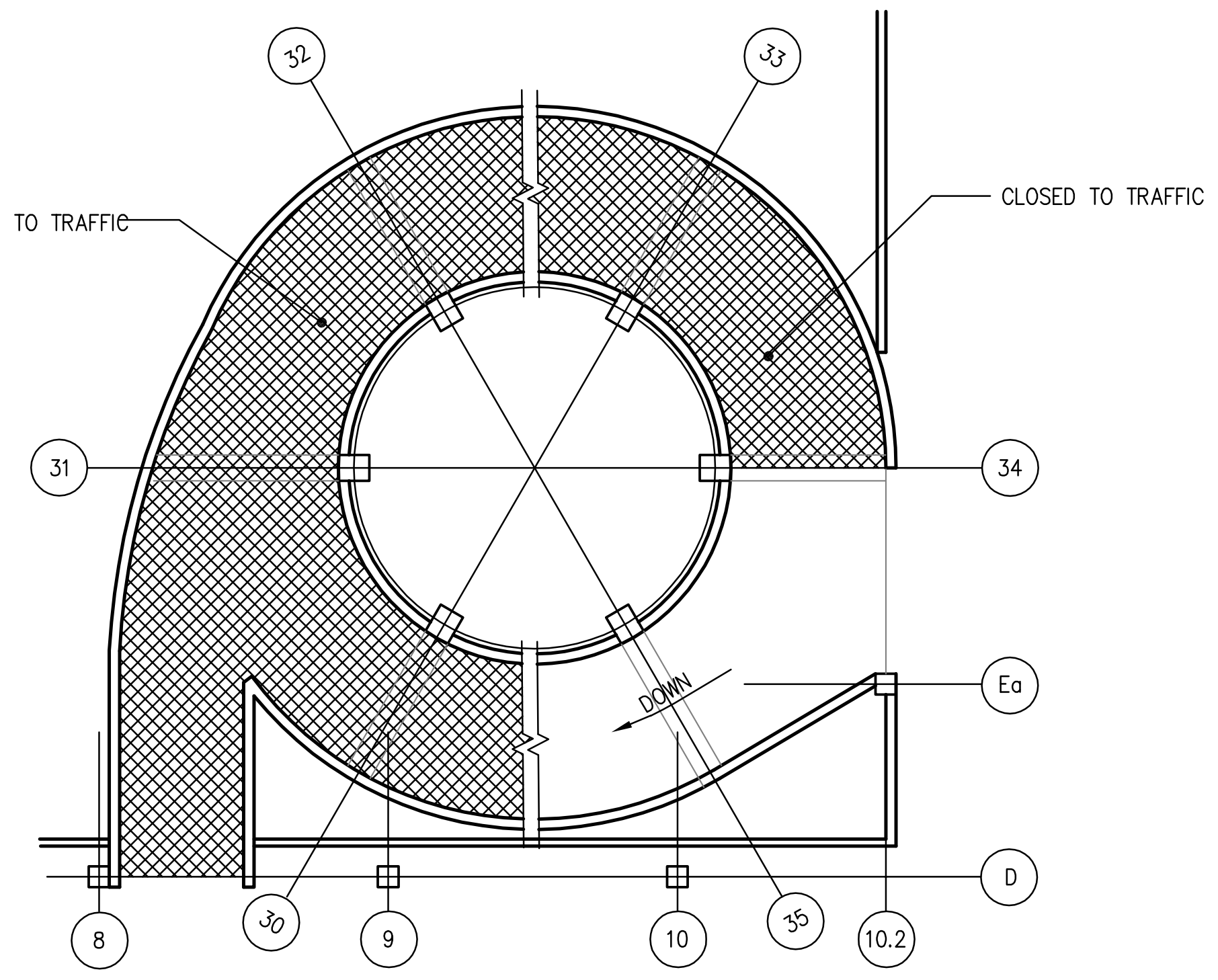
FIRST LEVEL



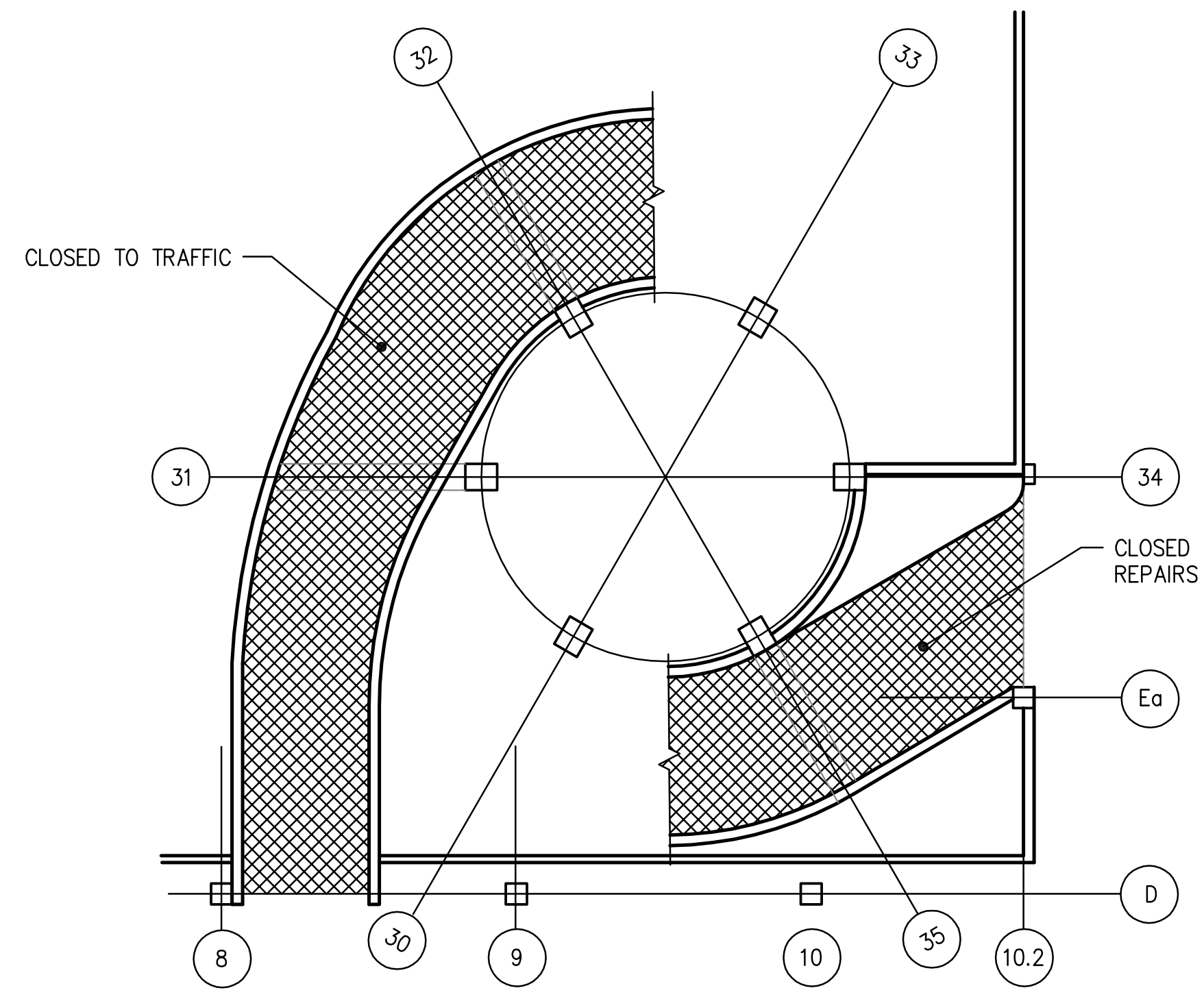
SECOND LEVEL



THIRD LEVEL



FOURTH LEVEL



FIFTH LEVEL

NOTE:

1. CONTRACTOR TO PROVIDE ALL OVERHEAD REPAIRS AND INSTALL NETTING ALONG THE UNDERSIDE OF THE SLAB PRIOR TO COMMENCEMENT OF TOPPING REMOVAL AND SCARIFICATION.
2. SEQUENCE 2A & 2B MAY BE PERFORMED SIMULTANEOUSLY.
3. SEE FOLLOWING SEQUENCING PLANS FOR SECTIONS OF MAIN FLOOR SLABS TO BE REPAIRED DURING THESE WORK SEQUENCES.
4. PROVIDE THE REQUIRED SIGNAGE & BARRIERS TO ISOLATE WORK AREAS FROM THE PUBLIC AND TO SAFELY DIRECT TRAFFIC AROUND THE CLOSED AREAS.

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ASSOCIATES
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No.	DATE	BY

REVISIONS

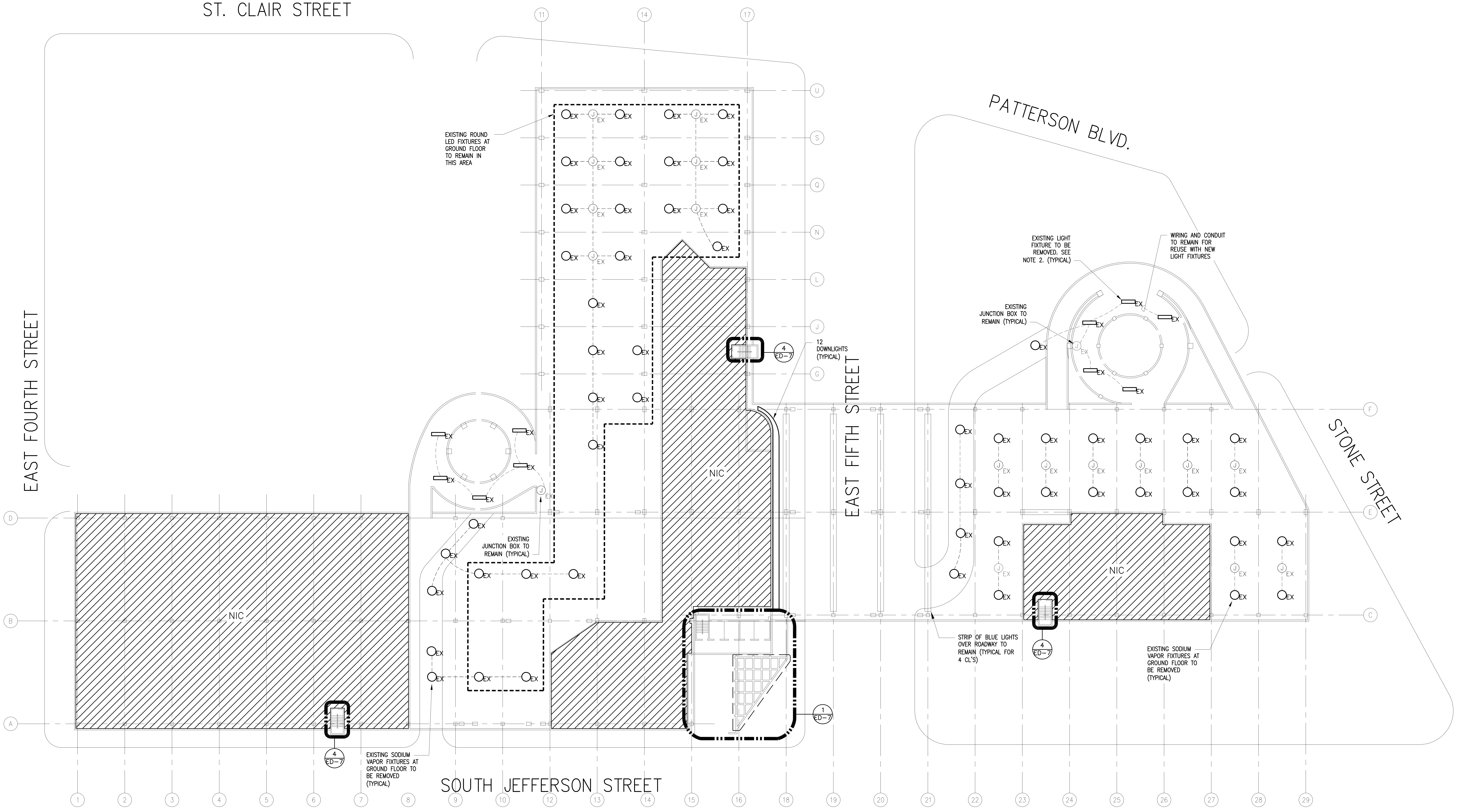
DESIGN:	P.H.
DRAWN:	V.B.
CHECKED:	N.R.
SCALE:	N.T.S.
DATE:	MAY 2018
PROJECT No.: .	OSO–DTCPG PHI–2018

DRAWING TITLE:

SEQUENCING PLANS - SHEET #2

DRAWING No.

R-16



NOTES:

1. SEE DRAWING E–1 FOR GENERAL DEMOLITION NOTES, ABBREVIATIONS, SYMBOL LIST, ETC.
2. EXISTING CIRCUIT AND WIRING SERVING THE LIGHT FIXTURE TO REMAIN AND REUSED FOR NEW LIGHT FIXTURE (SEE LIGHTING PLANS E–2 THRU E–8)
3. FOR NEW STAIRWWLL LIGHTING SEE DETAIL 4 ON E–8.

OsS ASSOCIATES
CONSULTING ENGINEERS
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DAYTON, OHIO

No.	DATE	BY

REVISIONS

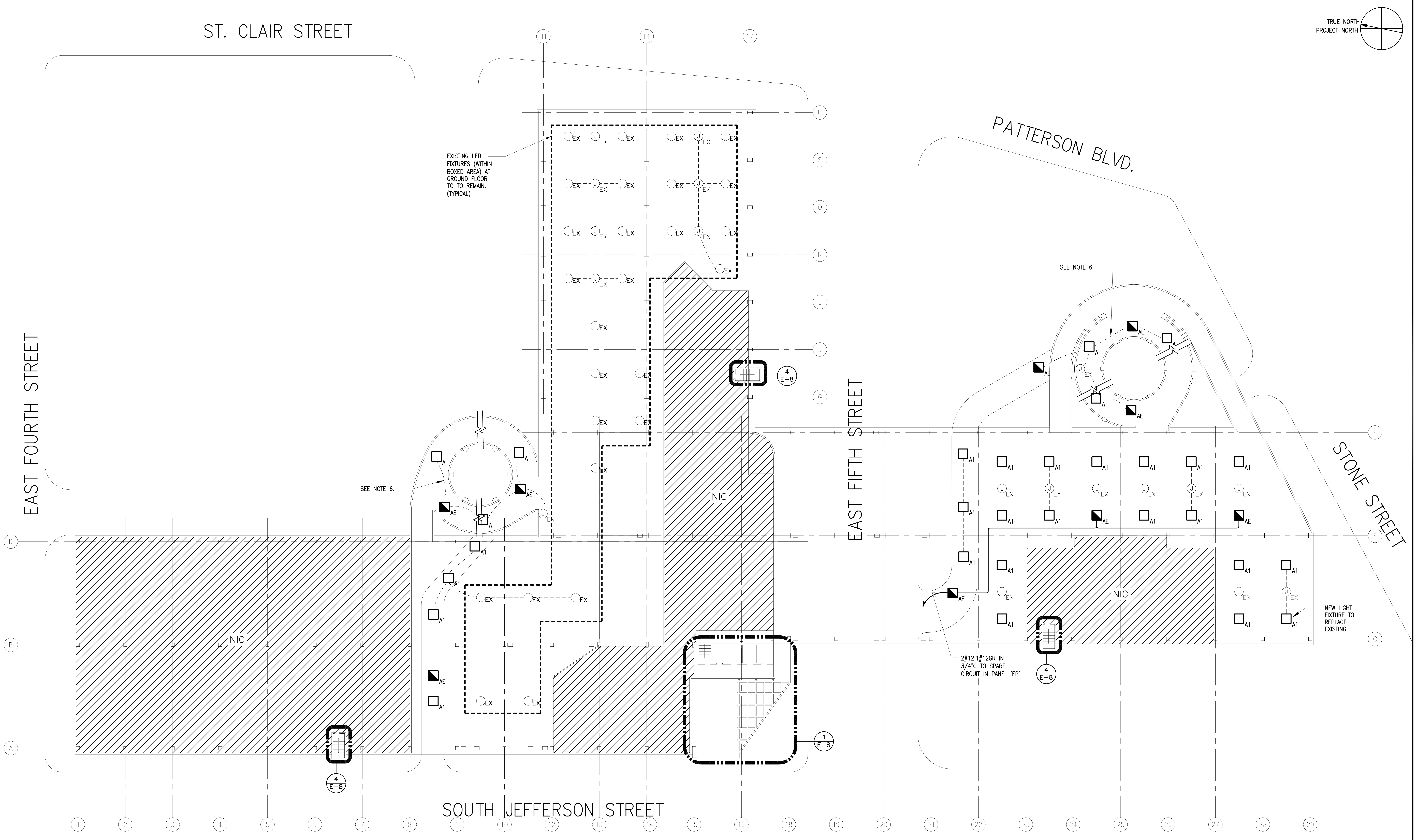
DESIGN:	E.A., K.N.
DRAWN:	K.N., A.A.
CHECKED:	P.C.
SCALE:	AS NOTED
DATE:	MAY 2018
PROJECT No.:	OSO–DTCPG PHI–2018

DRAWING TITLE:

ELECTRICAL GROUND
LEVEL
REMOVAL PLAN

DRAWING No.

ED-1



1
E-2
FIRST LEVEL – LIGHTING PLAN
SCALE: 1" = 25'-0"

NOTES:

1. SEE DRAWING E-1 FOR GENERAL NOTES, ABBREVIATIONS, SYMBOL LIST, ETC. FOR LIGHTING FIXTURE SCEDULE SEE DRAWING E-1.
2. PROVIDE NEW JUNCTION BOX WITH COVER AT LOCATION OF EXISTING FIXTURE FOR EXTENDING WIRING TO NEW FIXTURE LOCATION. EXTEND EXISTING FEEDER LENGTH WITH JUNCTION BOX SPLICE TO REACH NEW LOCATION OF LIGHTING FIXTURES.
3. ALL NEW EXTENSION WIRING TO BE 2#10 , 1#10GR IN 3/4" C, UON.
4. ALL EMERGENCY LIGHTING ARE CONNECTED TO BE CONNECTED TO UNSWITCHED POWER SOURCE. CONTRACTOR TO VERIFY IF ANY CIRCUIT SERVING EMERGENCY LIGHTING IS CONTROLLED. REMOVE CONTROLS AND CONNECT DIRECT TO POWER SOURCE AS NECESSARY.
5. PHOTOCELL TO TURN OFF PERIMETER LIGHTS AS INDICATED. SENSITIVITY OF THE PHOTOCELL TO BE SET TO TURN OFF THE LIGHT DURING CLOUDY/OVERCASE CONDITIONS. PERIMETER LIGHTS TO TURN ON AT DUSK.
6. LIGHTING CIRCUIT SERVING THE RAMPS TO BE UNSWITCHED. REMOVE FROM ANY CONTROLS, IF ANY.
7. EXISTING EXIT SIGNS ARE TO REMAIN. REPAIR AND/OR RE-LAMP EXIT SIGNS AS NECESSARY.

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CHECKED:	P.C.
SCALE:	AS NOTED
DATE:	MAY 2018
PROJECT No.:	OSO-DTCPG PHI-2018

DRAWING TITLE:

ELECTRICAL GROUND LEVEL LIGHTING PLAN

DRAWING No.

E-2

SECTION 00 10 00
INSTRUCTIONS TO BIDDERS

Owner: City of Dayton, Ohio
101 West Third Street
Dayton, OH 45401

Engineer: O&S Associates, Inc.
471 East Broad Street, Suite 910
Columbus, OH 43215

Project: Repair and Preventive Maintenance – Phase 1 (2018)
The Transportation Center Parking Garage
Dayton, Ohio

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

The Information to Bidders, Bid Proposal, the General Conditions, the Supplementary Conditions, the Technical Specifications, and Drawings compose the Contract Documents.

Proposals to be entitled to consideration must be made in accordance with the following instructions:

A. Owner reserves right to award contract in his best interests; to reject any and all Bids; to waive any informalities in Bidding when such waiver is in the best interest of the Owner; and to hold Bids, which shall remain in force and effect, not less than ninety (90) days after date for receipt of Bids.

B. By submitting a Bid, Contractor acknowledges that he has visited the site, examined work areas, and understands site constraints, project permit requirements, and scope of work and specifications for the project. Any deviations, discrepancies, and omissions from drawings and specifications or site conditions found during bidding different from those described in the contract documents (Drawings and Specifications) shall be brought to the attention of the Engineer for immediate resolution and to send written instructions to all bidders. Neither Owner nor Engineer will be responsible for any oral instructions. Lack of such notification to the Engineer will indicate that the bidder considers the documents to be sufficiently complete to prepare a bid for complete installation including all necessary accessory parts.

C. The drawings and specifications shall be considered to be cooperative and anything appearing in the specifications which may not be indicated on the plans, or vice versa, shall be considered as part of the contract and must be executed by the contractor the same as though indicated by both.

D. Before submitting a proposal, bidders should carefully examine the drawings and specifications: Check all schedules, visit the site, fully inform themselves as to all existing conditions and limitations and shall include in the proposal a sum to cover the cost of all items included in that part.

E. Any addenda issued during the time of bidding shall be taken into account in preparing proposals and shall become a part of the contract documents.

F. Wherever in the contract documents, a particular article, material, device, form of construction, fixtures, etc., is shown or specified, such article, material, device, form of construction, fixture, etc., shall be known as standard. All PROPOSALS SHALL BE BASED ON STANDARDS SPECIFIED, and where two or more are named, bidders may bid on any so named. The Contractor is responsible for any extra cost due to changes required by substitutions or selection of any other than the first named product.

Alternates for bid items are not allowed unless approved by the Engineer prior to Bidding. Contractors shall submit alternates to the Engineer at least two weeks before the Bid due date.

G. The Bid proposal shall contain a construction sequence conforming with contract documents identifying beginning and completion of construction activities for each phase of work.

H. The Contractor shall obtain and pay for all State/City/Local Bonds and Permits as required for execution of work per the contract documents.

I. Bidders should be aware that time, as well as money, are of the essence and both shall be considered during bid evaluation.

1.02 Bid Submittals:

A. BID Proposals shall be made upon the form provided in the Project Manual, and all blank spaces shall be fully filled; numbers shall be stated both in writing and figures; the signature shall be in long hand; and the completed form shall be without interlineations, alteration, or erasure.

B. Bid Proposals shall be delivered to the location, by the time and date given in the invitation to bid.

“Transportation Center Parking Garage Repairs and Waterproofing – Phase 1 (2018)”

C. Each proposal shall be properly signed as follows:
When a CORPORATION with the name of the corporation, signature of an officer or other person properly authorized to enter into obligations for it and his title.
When a PARTNERSHIP with name of partnership and signature of one of the partners.
When SOLE PROPRIETORSHIP with his signature.

1.03 PRE-BID MEETING:

A. A mandatory pre-bid meeting will be held at the date and time given in the Invitation to Bid.

1.04 SCHEDULE OF CONSTRUCTION:

A. Execution of the Contract Work will involve consideration for allowing the Tenants of the building to carry on many of their normal functions.

B. The successful Contractor, prior to start of work, shall submit a schedule of activities for each day during the entire repair period for approval by Owner and Engineer.

1.05 STARTING AND COMPLETION TIME:

A. A notice to proceed letter will be sent by the City to the contractor identifying the date for start of construction.

B. The completion date of the project will be established by the City.

1.06 MISCELLANEOUS:

A. All (local, state, and federal) laws, codes, ordinances, and regulations pertaining to this class or type of construction shall be obeyed in regard to preparation of bids, letting of contracts, and complete installation of work.

1.07 CONSTRUCTION CONTRACT ADMINISTRATION:

A. Successful bidders shall furnish to the Engineer, at the time of signing the Contract, the following:

1. List of Sub-Contractors
   a) Division of Work
   b) Amount of Sub-Contract
   c) Firm Name
   d) Address
   e) Telephone Number
   f) Representative

2. List of Major Material Suppliers:

   a) Division of Work
   b) Amount of Material Purchase Order
   c) Firm Name
   d) Address
   e) Telephone Number
   f) Representative

3. Contract Cost Breakdown:
   a) Shall be provided on AIA Form G-702A.

B. Indemnity and Insurance by the Contractor:

1. The Contractor shall provide insurance to completely indemnify, protect, and save harmless to the full extent of the law, the Owner, the Engineer, and agents and employees of any of them, from any and all losses, liens, claims, suits, judgments, and proceedings of whatever nature arising out of the conduct of the work or performance of this contract.

2. All insurance that will be required to be maintained by the Contractor shall be in the amounts and for the coverages specified herein and with such insurance companies as approved by the Owner. Insurance companies must be licensed to do business in the state of Ohio.

3. All insurances shall protect the Owner, the Engineer, agents and employees of any of them and the Contractor, and any sub-contractors, from any losses, claims, suits and judgments, from claims set forth below which may arise out of or result from the operations of the Contractor under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor, or by a sub- contractor, by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable:

   (a) Claims under worker's compensation, disability benefit, and other similar employee benefit, acts which are applicable to the work to be performed;

(b) Claims for damages because of bodily injury, sickness, or disease, or death of the employees of the Contractor;

(c) Claims for damages because of bodily injury, sickness, or disease, or death of any person other than the employee of the Contractor;

(d) Claims for damages insured by usual personal liability coverage which are sustained (1) by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor, or (2) by another person;

(e) Claims for damages, other than to the work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;

(f) Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance, or use of a motor vehicle; and

(g) Claims involving contractual liability insurance applicable to the obligations of the Contractor under indemnity provisions.

4. The Contractor shall furnish acceptable endorsements for the Following:

   (a) Worker's or Workmen's Compensation:

      1. State: Statutory
      2. Applicable Federal: Statutory
      3. Employer's Liability: One Hundred Thousand ($100,000) Dollars.

   (b) Comprehensive General Liability (including Premises-Operations; Independent Contractor's Protective; Products and Completed Operations; Broad Form Property Damage; Blanket Contractual Liability; and Personal Injury):

      1. Bodily Injury and Property Damage: Single Limit - One Million ($1,000,000) Dollars.
      2. Property Damage Liability Insurance shall provide explosion (X), collapse ©, and underground (u) coverage, as applicable.

   (c) Comprehensive Automobile Liability:

      1. Bodily Injury and Property Damage: Single Limit - One Million ($1,000,000) Dollars.

   (d) Umbrella excess Liability: Two million ($5,000,000) Dollars over Primary Insurance.

5. Certificate of Insurance shall state that they are Primary Insurance, where applicable, and shall name the Owner, Engineer, and agents and employees of any of them, as additional insured. Certificates of Insurance shall state that they shall not be canceled, modified, or changed in status except upon (60) days written notice to all named insured. NO CONTRACT SHALL BE BINDING UPON THE OWNER, OR WORK COMMENCED, UNTIL ALL INSURANCE CERTIFICATES HAVE BEEN FILED WITH AND APPROVED BY THE OWNER, INCLUDING INSURANCE CERTIFICATES FROM ALL SUB-CONTRACTORS.

C. Application for Payment:

1. The Contractor shall furnish, free of charge, the necessary blank copies of AIA Form G-702 and G-702A for his applications for Payment.

2. Partial payments made as the work progresses shall in no way be considered as an acceptance of any portion of the labor or material embraced in the contract.

3. Material delivered at the site and approved by the Engineer and included in a certified estimate for partial payment shall become the property of the Owner and in no case shall such materials be removed from the site. However, if such material is stolen, destroyed or damaged by casualty before being used, the contractor will be required to replace it at his own expense. Storage of materials shall comply with the manufacturer's instructions or recommendations.

4. The Contractor, upon receipt of payment, shall reimburse each sub-contractor for labor and materials for which the contractor has received payment from the Owner. The contractor upon receipt of payment shall pay each material supplier for materials for which the contractor has received payment from the Owner.

5. Contractor's requests for payment shall normally be submitted by the Contractor once a month.

6. During the course of work, a retainage of ten (10%) percent will be withheld from work performed, until the satisfactory completion of all work in the Contract.

7. All materials delivered on the site shall be paid for at the rate of 90 percent of the invoiced value of the material.

8. During the course of construction, payment on estimates approved by the Engineer and filed with the Owner shall be made within 30 days.

9. Evidence, satisfactory to the Owner, may be required to show that all current obligations relating to the work are satisfied before releasing any payment due on the work. Before payment of the final estimate, each contractor shall file an affidavit with the Owner, stating that monetary obligations relating to lienable items in connection with this work have been fulfilled. When the major portion of the project is substantially completed and occupied, or in use, or otherwise accepted and there exists no other reasons to withhold retainage, the retained percentages held in connection with such portion will be released from escrow and paid to the Contractor, withholding only that amount necessary to assure completion. The balance of funds will be paid to the Contractor within thirty days from the date of completion and after acceptance by the Engineer and Owner. Provided, however, that nothing in this Contract shall be construed to create an obligation or incur a liability against the Owner in excess of the encumbrances issued to support this Contract.

10. Payment for materials stored, but not installed, may require the Engineer to visit the Contractors place of storage for verification of all items on the Contractor's certificate. He shall certify that the items are in agreement with the specifications and approved their incorporation into the project.

11. See Section 01 20 00 – Price & Payment Procedures for additional information

D. Progress Schedule:

The Progress Schedule required by the Owner shall be based on starting construction within 7 days after the notification of the award of the contract and completion of the Project as stipulated in the Contract. After contract is awarded, a meeting shall be held, to be attended by representatives of the General Contractor and all affected Subcontractors, the Engineer, and the Owner's Representative, to work out a definite schedule to be followed for starting and completing each Phase of the work.

1.08 CONTACTS:

In order to assist those invited to submit a proposal and their prospective subcontractors, the following sources are available for consultation:

a)	D. Joey Shope	Business Manager (City of Dayton)	(937) 333-4017
b)	Phillip Haley	Project Manager (O&S)	(614) 469-1988

1.09 BID AND PERFORMANCE BOND:

A Bid Bond is required. Prior to signing the contract, the Owner requires that the selected contractor secure and post a Performance and Payment Bond in the amount of 10% of the base contract price and any accepted alternates, and in a form approved by the Owner. All such bonds shall be issued by the surety acceptable by the Owner. Include the cost of the bond in the proposed contract sum as noted. The Contractor is also required to submit a two year corrective certificate (warranty) for all the work performed under this contract.

END OF SECTION

SECTION 07.57.50
TRAFFIC MEMBRANE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and Contract Documents, including General and Supplementary Conditions included in the Contract and Division 1 Specification Sections, apply to work of this Section.

1.02 SECTION INCLUDES

A. Waterproofing of concrete supported slabs with a traffic bearing waterproofing membrane. This work shall consist of shotblasting of horizontal concrete surfaces, sandblast cleaning vertical surfaces, and installation of a thin waterproofing membrane system as specified. No substitutions other than the waterproofing membrane specified hereinafter shall be allowed unless approved in writing by the Engineer.

B The work of this Section includes, but is not limited to, surface preparation, installation of a liquid applied elastomeric membrane to provide waterproofing and a chemical and abrasion resistant non-skid traffic bearing topping.

C Examine existing surfaces and verify existing conditions. Determine acceptability of the concrete surfaces and in writing notify the Engineer of acceptance. Verify dimensions as no extras will be allowed for inconsistency in dimensions.

D Cleaning and preparation of existing surfaces to receive materials shall be the Contractor's responsibility. Prepare surfaces as specified hereinafter and as recommended by manufacturer of the material selected.

E Provide and maintain barricades and traffic control at special coating areas during installation and curing period for vehicular and pedestrian traffic.

1.03 REFERENCES

A. ASTM D412 - Rubber Properties in Tension.

B. ASTM D903 - Peeling or Stripping Strength of Adhesive Bond.

C. ASTM D1044 - Resistance of Transparent Plastic Materials to Abrasion.

D. ASTM E84 - Test Method for Surface Burning Characteristics of Building Materials.

E. ASTM E96 - Water Vapor Transmission of Materials.

F. ASTM E119 - Fire Tests of Building Construction and Materials.

G. ASTM D2240 - Test for Indentation Hardness of Rubber and Plastics by Means of a Durometer.

1.04 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum five years documented experience.

B. Traffic membrane Work shall be performed by and be the responsibility of the Installation Contractor authorized, approved and qualified by the manufacturer of materials used; having necessary equipment and facilities to fulfill requirements of the manufacturer and this section.

C. Installation Contractor shall submit with bid evidence of manufacturer's authorization, approval and qualification, including listing of three (3) or more installation and a minimum of five (5) years of installation experience where materials and methods similar to herein specified were used.

D. Contractor shall submit a list of materials from one manufacturer, which shall include test and technical data to substantiate conformance to specifications. The burden of proof for conformance shall be Contractor's responsibility and shall be submitted upon request by Engineer.

1.05 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Include product characteristics, limitations, and identify dissolving solvents, fuels, and potential destructive compounds.

C. Manufacturer's Installation Instructions: Include special environmental conditions required to install the Product and potential incompatibilities with adjacent materials.

D. Maintenance Data: Include procedures for stain removal, repairing surface, and cleaning.

E. Submit one copy with bid of manufacturer's authorization, experience, previous installations, materials conformance per Paragraph 1.04B and 1.04C herein before. Submit 1 copy of Warranty specified hereinafter to Engineer prior to final payment.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect, and handle products to site under provisions of Section 01600.

B. Maintain ambient temperature of 55 degrees F.

C. Keep away from fire or open flame.

D. Deliver materials to project site in sealed, original packages or containers bearing name and brand of manufacturer. Each container shall have manufacturer's printed label. Materials shall be stored in the area designated by the Engineer.

E. Store materials in single place designated by Engineer. Keep storage place neat and clean. Cleaning rags and waste materials shall be deposited in metal containers having tight covers or removed from the garage each night. Every precaution shall be taken to avoid danger of fire. Provide dry chemical or CO2 fire extinguishers in areas. Allow no smoking or open containers or solvents. Store solvents in safety cans.

F. Empty containers used on job shall have labels canceled and shall be marked as to reuse.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Do not install materials when temperature is below 50 degrees F or above 90 degrees F.
B. Maintain this temperature range, 24 hours before, during and 72 hours after application.
C. Restrict traffic from area where materials are being installed or are curing.
D. Follow manufacturer's written directions. Maintain humidity at recommended level during application and curing. Protection required for proper installation and curing shall be the responsibility of the Coating Contractor and shall be reflected in Bid.
E. Protect adjacent surfaces and materials with covering, masking, drop cloths as required to keep adjacent surfaces free of coating. Upon completing, remove protection and clean. Surfaces soiled or damaged by special coating shall be cleaned or replaced at no extra cost to Owner.

1.08 WARRANTY

A. Materials Manufacturer and Special Coating Contractor shall be jointly responsible and shall submit an affidavit signed by both parties warranting the installed system for a period of two years from date of final completion.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Membrane: Fluid applied urethane waterproof membrane. conforming to the following:

Physical Property	Base Membrane	Wear Course	Test Method
Elongation	900%	250%	ASTM D412
Tensile Strength	3,400 psi	3,000 psi	ASTM D412
Hardness	-	70-92	ASTM D2240
Adhesion	400 psi	N/A	ASTM D4541
Adhesion in peel	14 pli	5 pli	ASTM C957
Abrasion Resistance	100mg		ASTM D4060
Crack Bridging	Pass		ASTM C957

B. The waterproofing membrane system shall be a complete system of compatible materials in compliance with Volatile Organic Compounds requirements of the State of Ohio, designed by the manufacturer to produce a waterproofing, traffic-bearing and chemical resistance surface.

2.02 APPROVED SYSTEMS

Systems approved for use under this section shall be:

A. BASE BID: Masterseal 2500 as manufactured by BASF building systems.
B. ALTERNATE AT RAMPS: Masterseal 2530 as manufactured by BASF building systems.
C. Substitutions: Approved equal by reputable manufacturer may be submitted to the engineer for approval.

Engineer reserves the right to deny any and all substitutions.

Sample Coating Schedule (Wet Mils):

<u>BASE BID – Masterseal 2500</u>

“EXTRA HEAVY DUTY” SYSTEM FOR USE AT RAMPS:
Primer: 5-8 Mils MasterSeal P 255
Base Course: 25 Mils MasterSeal M 265
Intermediate Course: 25 Mils MasterSeal TC 275/TC 295, Broadcast with Aggregate to Refusal
Top Coat: 20 Mils MasterSeal TC 295, Broadcast with Aggregate 3 – 5 lb/100 sf

“HEAVY DUTY” SYSTEM FOR USE AT ROOF LEVEL/5TH FLOOR SLAB:
Primer: 5-8 Mils MasterSeal P 255
Base Course: 25 Mils MasterSeal M 265
Intermediate Course: 15 Mils MasterSeal TC 275/TC 295, Broadcast with Aggregate to Refusal
Top Coat: 15 Mils MasterSeal TC 295, Broadcast with Aggregate 3 – 5 lb/100 sf

<u>ALTERNATE AT RAMPS – Masterseal 2530</u>

“EXTRA HEAVY DUTY” SYSTEM:
Primer: 4 Mils MasterSeal P 255
Base Course: 25 Mils MasterSeal M 265
Intermediate Course #1: 40 Mils MasterSeal 350, Broadcast with Aggregate to Refusal
Intermediate Course #2: 40 Mils MasterSeal 350, Broadcast with Aggregate to Refusal
Top Coat: 20 Mils MasterSeal TC 295

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that substrate is ready to receive work, surface is clean, dry and free of substances which could affect bond. The concrete surface is free of ridges and sharp projections.

B. Do not begin work until concrete substrate has cured 28 days, minimum, and measured moisture content is not greater than accepted by the manufacturer.

3.02 SURFACE PREPARATION

A. Entire area shall be shotblasted/sandblasted and cleaned to remove traffic lines, oil, grease, dirt, etc., and shall be prepared according to manufacturer's written directions. Grind smooth existing rough finish areas and if necessary, provide a smooth surface using patching materials to meet manufacturer's requirements for membrane installation. Submit materials and method to be used for cleaning for review prior to surface preparation.

B. The entire concrete surfaces to receive waterproofing shall be checked for hollow or loose concrete. The contractor shall use an approved steel sounding device that will sound the hollow or loose concrete surfaces. A full and complete check of surfaces shall be done prior to any waterproofing application of waterproofing.

C. Existing exposed reinforcing steel shall be cleaned and free of rust by sandblasting or power tool cleaning and coated with grout as soon as possible to eliminate further development of rust.

3.03 INSTALLATION

A. Waterproofing Membrane (Base Coat): A light application of primer compatible with the elastomeric seal coat shall be applied onto the clean, dry concrete surface. The elastomeric seal coating shall be applied uniformly to the primed surface. The elastomeric sealing compound shall be applied to a minimum wet thickness of 25 Mils. The elastomeric seal coating shall be applied with a long handled squeegee or by spraying.
The coating shall be allowed to cure adequately. Special treatment shall be provided at all construction joints and at all cracks over 1/16" in width. The elastomeric seal coating shall also be applied at base of columns, walls and curbs to produce a 6" high base.

B. Total Minimum System Thickness

Minimum System Thickness of Urethane based systems, w/o Aggregate (Wet mils)

Min 55 Mils

C. Color of Wearing Course/Wearing Surface shall be approved by the owner.

D. Ventilation: Supplementary ventilation is to be provided by the Contractor during installation of the membrane to safely remove all fumes from the garage and prevent infiltration of fumes into adjacent buildings.

3.04 TESTING

After installation of membrane system, the system shall be water tested in the presence of the Engineer to verify water tightness. If leaks are observed, the areas shall be repaired by the Contractor to the satisfaction of the Engineer and the area shall be retested until satisfactory performance is obtained.

END OF SECTION

SECTION 07 91 00
EXPANSION JOINT SEALS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and Contract Documents, including General and Supplementary Conditions included in the contract and Division 1 Specification Sections, apply to work of this Section.

1.02 SCOPE OF WORK

A. Furnish labor, materials, equipment and supervision to install watertight, traffic bearing expansion joint seals in accordance with these specifications and as shown on drawings.

1.03 QUALITY ASSURANCE

A. The manufacturer and approved applicator shall provide a 2 year guarantee that the joint seal will not leak or fail from normal vehicular traffic. Any type of failure of the new joint seal, which occurs within the specified warranty period shall be repaired by the Contractor at no cost to the Owner.

B. Consult the Manufacturer's representative and establish the minimum provisions required to insure satisfactory work. A licensed applicator with a minimum of 5 year experience on similar joints shall install the specified joint seal.

1.04 SUBMITTALS BY THE CONTRACTOR

The Contractor shall submit shop drawings showing all the expansion joint details required for this particular project for approval by the Engineer in addition to Manufacturer's literature with an applicable portions deleted.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

All materials shall be delivered on the job and stored in a place protected from damage, moisture and exposure to the elements in exact accordance with manufacturer's instructions.

1.06 JOB CONDITIONS

Weather Conditions: Do not proceed with installation of expansion joints seals under adverse weather conditions, or when temperatures are below or above manufacturer's recommended limitations for installation. Proceed with the work only when forecast weather conditions are favorable for proper cure and strength development of the nosing material.

PART 2 - PRODUCTS

2.01 MATERIALS

A. The expansion joint seal system shall be a complete system of compatible materials designed and properly sized (Model #) for the project by the manufacturer to produce a waterproof, traffic-bearing expansion joint seal.

B. The elastomeric seal element shall be a continuous, factory molded/extruded unit for the entire length of the joint. L, T and + shaped transitions shall be factory molded and welded to straight lengths in the field. The seal shall be turned up a minimum of 6 inches (vertically) unless otherwise shown on plans and be recessed into the walls, columns and/or curbs at each end of the joint. The seal element shall not be mitered/jointed unless approved by the Engineer in writing and shall meet the following performance criteria.

C. Systems approved for use under this Section shall be as follows:

- WaboCrete Membrane System by BASF
- Iso-Flex Winged Expansion Joint – J Series by Lymtal International
- CR-Series by Erie Metal Specialties
- Thermaflex TCR System by EMSEAL
- Approved Equal

C. Design Criteria:

- Minimum & Maximum Joint width to be determined in the field and sized in accordance and approval of the manufacturer and the engineer.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Preparatory Work:

1. Any edge raveling at the joint opening or spalls shall be repaired with a suitable compound to provide a solid, square blockout.
2. The blockout substrate shall be sandblasted clean of all contaminants and impurities immediately prior to the system installation to assure proper adhesion.
3. The "L" and "T" shape joint seal configurations at the intersections of joints shall be factory molded. Heat weld splicing can occur at the field only on horizontal runs.
4. The membrane gland element shall be unpackaged and laid in a relaxed position to relieve any temporary set from shipment packaging prior to placement.
5. It is recommended that adjacent deck surfaces be taped off and protected to assure a clean, neat professional installation.

B. Installation:

The entire installation shall be made in strict accordance with the manufacturer's written instruction.

3.02 TESTING

All new expansion joint seals shall be tested by applying water at a minimum of 30 psi pressure and also by flooding for a minimum of 24 hours. Any leaking observed shall be rectified by the contractor and the joint shall be retested until no leakage is observed.

END OF SECTION

SECTION 07 91 50
EXPANSION JOINT SEALS
SILICONE FACED FOAM COMPRESSION SEAL

PART 1 - GENERAL

1.1 WORK INCLUDED

A. The work shall consist of furnishing and installing waterproof expansion joints in accordance with the details shown on the plans and the requirements of the specifications. Preformed sealant shall be silicone pre-coated, preformed, pre-compressed, self-expanding, sealant system.

B. Related Work:
  1. Division 3 - Cast-in-Place Concrete
  2. Division 7 - Thermal & Moisture Protection
  3. Division 7 - Sealants, Caulking and Waterproofing

1.2 SUBMITTALS

A. General – Submit the following according to Division 1 Specification Section.

B. Standard Submittal Package – Submit typical expansion joint drawing(s) indicating pertinent dimensions, general construction, expansion joint opening dimensions and product information.

C. Sample of material is required at time of submittal.

D. All products must be certified by independent laboratory test report to be free in composition of any waxes or wax compounds using FTIR and DSC testing.

E. All products shall be certified in writing to be: a) capable of withstanding 150°F (65°C) for 3 hours while compressed down to the minimum of movement capability dimension of the basis of design product (-50% of nominal material size) without evidence of any bleeding of impregnation medium from the material; and b) that the same material after the heat stability test and after first being cooled to room temperature will subsequently self-expand to the maximum of movement capability dimension of the basis-of-design product (+50% of nominal material size) within 24 hours at room temperature 68°F (20°C).

1.3 PRODUCT DELIVERY & STORAGE

A. Deliver products to site in Manufacturer’s original, intact, labeled containers. Handle and protect as necessary to prevent damage or deterioration during shipment, handling and storage. Store in accordance with manufacturer’s installation instructions.

1.4 BASIS OF DESIGN

A. All joints shall be designed to meet the specified performance criteria of the project as manufactured by: (USA & International) EMSEAL JOINT SYSTEMS, LTD 25 Bridle Lane, Westborough, MA 01581-2603, Toll Free: 800-526-8365. (Canada) EMSEAL, LLC 120 Carrier Drive, Toronto, Ontario, Canada M9W 5R1 Toll Free: 800-526-8365. www.emseal.com

B. Alternate manufacturers must demonstrate that their products meet or exceed the design criteria and must submit certified performance test reports performed by nationally recognized independent laboratories as called for in section 1.2 Submittals. Submittal of alternates must be made three weeks prior to bid opening to allow proper evaluation time.

1.5 QUALITY ASSURANCE

A. The General Contractor will conduct a pre-construction meeting with all parties and trades involved in the treatment of work at and around expansion joints including, but not limited to, concrete, mechanical, electrical, HVAC, landscaping, masonry, curtain wall, waterproofing, fire-stopping, caulking, flooring and other finish trade subcontractors. All superintendents and foremen with responsibility for oversight and setting of the joint gap must attend this meeting. The General Contractor is responsible to coordinate and schedule all trades and ensure that all subcontractors understand their responsibilities in relation to expansion joints and that their work cannot impede anticipated structural movement at the expansion joints, or compromise the achievement of watertightness or life safety at expansion joints in any way.

B. Joint Contractor-Manufacturer Warranty in accordance with section 01 74 00

C. LEED Building Performance Requirements: The VOC of the silicone must not exceed VO limits of the state in which it is being installed.

PART 2 - PRODUCT

2.1 GENERAL

A. Provide traffic durable, watertight, expansion joint by EMSEAL Joint Systems for expansion joints and isolation joints in decks. Typical locations include, but are not limited to the following: applications for joints over occupied space, below-grade, stair tower perimeters, elevator perimeters, stadium tread and risers, parking deck joints, treatment plant perimeters and covers, ice-floor perimeter joints, and structural expansion joints. System shall perform waterproofing, traffic bearing and movement-accommodation functions as the result of a single installation and without the addition of gutters, vapor barriers, bladders, or other devices suspended beneath or within the system in any way.

B. Provide DSM as manufactured by EMSEAL JOINT SYSTEMS LTD and as indicated on drawings for horizontal-plane expansion joint locations.

C. Sealant system shall be comprised of three components: 1) cellular polyurethane foam impregnated with hydrophobic 100% acrylic, water-based emulsion, factory coated with highway-grade, fuel resistant silicone; 2) field-applied epoxy adhesive primer, 3) field-injected silicone sealant bands.

D. Material shall be capable of movements of +50%, -50% (100% total) of nominal material size. Standard sizes from 1/2” (12mm) to 4” (100mm). Depth of seal as recommended by manufacturer.

E. Silicone coating to be highway-grade, low-modulus, jet-fuel resistant silicone applied to the impregnated foam sealant at a width greater than maximum allowable joint extension and which when cured and compressed will form a bellows.

F. DSM to be installed into manufacturer’s standard field-applied epoxy adhesive.

G. DSM is to be installed slightly recessed from the surface such that when the field-applied injection band of silicone is installed between the substrates and the foam-and-silicone-bellows, the system will be essentially flush with the substrate surface.

H. Select the sealant system model appropriate to the movement and design requirements at each joint location that meet the project specification or as defined by the structural engineer of record.

I. Manufacturer’s Checklist must be completed by expansion joint subcontractor and returned to manufacturer at time of ordering material.

2.2 FABRICATION

A. DSM by EMSEAL must be supplied precompressed to less than the joint size, packaged in shrink-wrapped lengths (sticks).

B. Directional changes and terminations into horizontal plane surfaces to be provided by factory-manufactured universal-90-degree single units containing minimum 12-inch long leg and 6-inch long leg or custom leg on each side of the direction change or through field fabrication in strict accordance with installation instructions.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Preparation of the Work Area

1. The contractor shall provide properly formed and prepared expansion joint openings constructed to the exact dimensions and elevations shown on manufacturer’s standard system drawings or as shown on the contract drawings. Deviations from these dimensions will not be allowed without the written consent of the engineer of record.
2. The contractor shall clean the joint opening of all contaminants immediately prior to installation of expansion joint system. Repair spalled, irregular or unsound joint surfaces using accepted industry practices for repair of the substrates in question. Remove protruding roughness to ensure joint sides are smooth. Ensure that there is sufficient depth to receive the full depth of the size of the DSM being installed. Refer to Manufacturers Installation Guide for detailed step-by-step instructions.
3. No drilling, or screwing, or fasteners of any type are permitted to anchor the sealant system into the substrate.
4. System to be installed by qualified sub-contractors only according to detailed published installation procedures and/or in accordance with job-specific installation instructions of manufacturer’s field technician.

3.2 CLEAN AND PROTECT

A. Protect the system and its components during construction. Subsequent damage to the expansion joint system will be repaired at the general contractor’s expense. After work is complete, clean exposed surfaces with a suitable cleaner that will not harm or attack the finish.

END OF SECTION