



RAU CONSTRUCTION COMPANY  
9101 WEST 110<sup>TH</sup> STREET SUITE 150  
OVERLAND PARK, KANSAS 66210  
Phone: 913-642-6000 Fax: 913-642-6031

## INVITATION TO BID

**Project Description:** Rau Construction Company is accepting bids for the renovation of the **Historic Federal Reserve** located at 925 Grand, Kansas City Missouri 64106. This will be renovated into a 284-room Embassy Suites Hotel. This work also includes the Parking Garage repairs and upgrades to the parking garage located at 10th and McGee. All bids need to be broken out into two separate numbers for tracking, the Hotel building, and the parking garage.

This work includes: Demolition, Saw cutting & coring, Abatement, Site utilities, landscaping, Asphalt Paving, Streetscape, Parking deck repairs and patching, parking and drive lane striping, Concrete, Structural Steel, Masonry, Historic Masonry restoration, Tuckpointing, Caulking, Waterproofing, Roofing, Sheetmetal, interior glass and glazing, Doors / Frames & hardware, specialty doors, Millwork, Flooring, Tile, Painting, Wallcoverings, Framing, Drywall, Ceilings, Insulation, specialties, signage, bathroom accessories, Mechanical, Plumbing, Fire Protection, Electrical, voice / data, low voltage

BID INFORMATION			
Project Name:	Federal Reserve		
Project Address:	925 Grand, Kansas City Missouri 64106		
<b>Bids Due no later than:</b>	Date:	<b>October 14<sup>th</sup>, 2020</b>	Time: <b>4:00pm</b>
Email all bids to:	<a href="mailto:patti@rauconstruction.com">patti@rauconstruction.com</a> , <a href="mailto:jason@rauconstruction.com">jason@rauconstruction.com</a> , <a href="mailto:gmeyer@rauconstruction.com">gmeyer@rauconstruction.com</a>		
Fax all bids to:	(913) 642-6031		

Rau Construction Project Contacts: Main point of contact will be Jason Meyer

Jason Meyer Phone: 913-642-6000 Email: [jason@rauconstruction.com](mailto:jason@rauconstruction.com)  
Gus Meyer Phone: 913-642-6000 Email: [gmeyer@rauconstruction.com](mailto:gmeyer@rauconstruction.com)

PLANS	
<b>Electronic Download</b>	We will send you a link to download plans electronically.
<b>Plan CD</b>	Available for you to pick-up at Rau's office. Please call front desk to reserve a copy
<b>Hard Set</b>	Available to view at Rau's office

### Instructions to Bidders:

1. Submitting Bids - All Bids must be FAXED to Rau Construction Co at (913)-642-6031 OR EMAILED to [patti@rauconstruction.com](mailto:patti@rauconstruction.com), [jason@rauconstruction.com](mailto:jason@rauconstruction.com)
2. MBE/WBE. There will be MBE/WBE goals on this project.
3. This project is NOT a tax-exempt project.
4. **Walkthrough:** Wednesday, September 30, 2020 at 10:00 am and Thursday, October 1, 2020 at 2:00 pm and Tuesday, October 6, 2020 at 10:00 am and Thursday, October 8, 2020 at 9:00 am  
**\*\*\*\*\* Due to Covid-19 we will not be having open site visits. Please contact Jason Meyer or Patti with Rau Construction to sign up for one or more of the site visits 913-642-6000**
5. Questions should be addressed to Jason Meyer at Rau Construction. 913-642-6000.



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**General Notes:**

Rau Construction Company reserves the right to waive minor deficiencies in any bid proposal. Rau Construction Company reserves the right to reject any and all bids. Rau Construction is an Equal Opportunity Employer and encourages the same guidelines from all sub-contractor / suppliers.

Please indicate whether or not you will be bidding this project by replying to this email or calling Patti Dailey or Jason Meyer at (913) 642-6000.

Federal Reserve Bid Documents

Please make sure you have copies of, or have access to all the bid documents:

- Plans: Reserve Bid Set
- Document: Reserve Bid Set – Specifications
- Document: Matchline Outline Specification \* this document has all the finishes in it
- Plans: Reserve Exterior Restoration
- Document: Reserve Exterior Restoration Specifications
- Plans: Reserve Parking Garage



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October 7, 2020

The Grand Reserve  
Addendum for Bidding #1

- 1) The interior buildout and finishes for the building tower will be bid in 2 phases. The current bid phase, Phase 1 is to include the buildout and finishes for the Hotel Units from floors 5 thru 19. There is work drawn in Phase 1 plans on other floors. This work on other floors is provided for Permitting of the project which is currently underway.

In addition to the Phase 1 plans, bidders should consult the specifications as well as the Matchline Finish Selections document for finish selections and directions.

Phase 1 Bids for interior trades should be limited to construction and finishes on the hotel room floors, floor 5 thru 19.

Additional information for MEP Trades. Note that Alternate Bids in each of these areas will be for future budgeting purposes. Base bids are for work on Floors 5 thru 19 and will be used to evaluate bidders for Phase #1.

- a) Plumbing
  - i) Base Bid
    - (1) Provide all new vertical risers as shown for water, waste and vent, roof drains from 5 thru 19. Continuations of these risers will be in Phase 2
    - (2) Provide all plumbing as shown for floors 5 thru 19
  - ii) Plumbing Alternate #1
    - (1) Provide plumbing as shown on balance of Phase 1 drawings on the Basement thru 4<sup>th</sup> Floors and 20<sup>th</sup> thru Roof.
- b) HVAC
  - i) Base Bid
    - (1) Provide all HVAC shown on the Phase 1 plans for floors 5 thru 19.
    - (2) Hydronic piping on floors 5 thru 19 starts from existing risers. Assume vertical CW and HW risers are existing and in usable condition.
  - ii) HVAC Alternate #1
    - (1) Provide HVAC as shown on the balance of the Phase 1 drawings on the Basement thru 4<sup>th</sup> Floors and 20<sup>th</sup> Floor.
    - (2) Assume vertical CW and HW hydronic mains in Main Building are existing and in usable condition. All other hydronic piping shown including horizontal mains to be new.
    - (3) Provide pricing for new major equipment as drawn and scheduled on the Basement thru 4<sup>th</sup> Floors and 20<sup>th</sup> Floor thru Roof

- c) Fire Sprinklers
  - i) Base Bid - Provide fire sprinkler pricing for fire sprinklers on floors 5 thru 19 including vertical mains on those floors.
  - ii) Fire Sprinkler Alternate #1 – Provide fire sprinkler pricing for base systems and fire sprinklers for areas shown to be included in Phase 1 on the Basement thru 4<sup>th</sup> Floors and 20<sup>th</sup> Floor thru Roof
- d) Electrical
  - i) Base Bid
    - (1) Reuse the Buss Duct in the Northeast corner of the tower to feed the North portion of Floors 5 thru 19 as shown. Provide feeds from DPT3B on the Tower Third Floor B to floor 5 thru 19 as shown including gear DPT3B. Feed to gear DPT3B to be in Phase 2
    - (2) Provide all Electrical as shown for floors 5 thru 19
  - ii) Electrical Alternate #1
    - (1) Provide Electrical as shown on balance of Phase 1 drawings on the Basement thru 4<sup>th</sup> Floors and 20<sup>th</sup> thru Roof.
    - (2) All work not shown on the Basement thru 4<sup>th</sup> Floors and 20<sup>th</sup> thru Roof including Data, Voice, MATC, Security, etc will be in Phase 2
    - (3) Provide 400 KW diesel generator on Third Floor roof.
  - iii) Electrical Alternate #2
    - (1) Provide allowance to feed MEP equipment as shown but not detailed to date.
- 2) Guest Rooms Questions
  - a) Do tubs get curved shower rods and showers get glass shower doors? Answer: Tubs get shower rods and Showers (ADA units) get shower doors.
  - b) Provide listing and specifications for Toilet Accessories. Answer:
    - i) Robe Hook to be Wingit Innovations (517-225-5225) model WMEGDRH Modern Elegance Grand Double Robe Hook, Polishes Stainless Steel. 2 per Guestroom Bath
    - ii) Towel Bar to be Delta Faucet (972-881-8757) model 77618 Stryke Towel Bar, 18” Towel Bar, Chrome. 1 per Guest Bath
    - iii) Decorative Tower Bar to be Wingit Innovations (517-225-5225) model WGB5XE Modern Elegance 24” OAL, Polished Stainless Steel. 1 per Guestroom Bath
    - iv) Toilet Paper Holder to be Delta Faucet (972-881-8757) model #77655 Stryke Tissue Holder, Chrome. 1 per Guest Bath
    - v) Soap Dish @ Tub/Shower to be Wingit Innovations (517-225-5225) model WCB2 Master Basket Corner, 8”, Polished Stainless Steel. 1 per Guest Bath.
  - c) How tall are the corner guards? Answer: Full height



- d) Per Section 08 14 16 – Flush Wood Doors Summary 1.2 says doors are Factory Finished. Section 2.7 implies the doors are primed for Opaque Finish (in the field). Are interior wooden doors, barn doors and wooden frames other than room entry doors to be factory finished? Answer: Flush wood doors including interior wood doors, barn doors and associated wood frames to be factory primed and field painted
  - e) Is there any waterproofing/ Crack Isolation required at bath/entry floors under the tile? If so, what is the product? Answer: Yes. Specifications will be provided but probably not until after the bid date. Products to comply with ANSI A118.10 and installation to ANSI A108.17.
  - f) Is there waterproofing required at shower walls? Answer: Yes. Specifications will be provided but probably not until after the bid date. Products to comply with ANSI A118.17 and installation to ANSI A108.13.
  - g) Is the grout for the tile standard Portland cement grout? Any specialty grouts? Answer: There are no specialty grouts in Phase 1. Grout in Phase 1 will be standard grout in one of manufacturers standard colors.
  - h) Is it OK to provide sealant at all tile vertical inside corners in lieu of grout? Answer: Grout corners.
  - i) Should TR03 tile termination be used at the shower outside corners? Answer: Correct, outside corner (edge) only
  - j) Does TR04 sit on top of the TB01 base? Answer: TR04 does sit on top of base and acts as a vertical transition of tub/shower wall tile and wallcovering.
- 3) Parking Garage
- a) Structural repairs should be bid as a “design/build” package including engineer fees to design, monitor and support repairs per General Note #20 on the Construction Documents – Garage Maintenance plans dated May 3, 2019
  - b) Refer to the Garage Repair Plans dated January 25, 2019 numbered S401-G thru S408-G for general areas of structural repairs. These areas include scopes of work for bidding purposes. These plans also have recommendations for possible repair details to be made to the CIP and hollow core panel systems. These possible repair details are for reference only and are not engineered solutions. Engineered solutions to be provided by Contractors Engineer.

- c) Bids should include Items listed Garage Key Repair Notes Items 1 thru 6 as noted on the January 25, 2019 plans. Quantities listed in Estimated Quantities in the bid matrix attached should be included in your bid. If you propose alternative quantities, please describe rationale for proposed alternative quantities. In addition to these items, Other Repairs as noted below should include repairs to curbs, wall cracks on level L & M, and other repairs that should be described in your bid.
  - d) Plans on Garage Level sheets have a 1/A2.11 callout typically around grid G-9. What is this? Answer: Please disregard this callout.
  - e) Overhead Doors GL100A and GL100B have note 21 which calls out to remove doors. Door schedule has these doors as Remain and Repair. Should these doors be removed? Answer: Price to remain and repair.
  - f) Key Note #15 calls to evaluate handrails and amend to meet code. If this is a repair package, does code require these changes? Answer: Since this is a repair package, these should not be required to be brought up to code. Please provide an alternate to replace the center handrail/guardrail system with a system that meets code.
  - g) Key Note #19 calls to remove and replace powered wayfinding signage. Any more information on this. Answer: Provide lighted system similar to existing. Price as an alternate.
- 4) Bid Date and Time
- a) The bid date shall be extended to Friday, October 16, 2020. Bid time shall remain at 4:00 pm.

Attachments  
Parking Garage Repair Plans dated January 25, 2019  
Parking Garage Repair Bid Form

The Grand Reserve  
Parking Garage  
Structural Repairs Bid Form

Plan Key

Repair Items	Description	Estimated Quantities	Units	Bid Amount	Unit Price Used For Bid Adjustments
	Mobilization/demobilization	1	lsum	\$	N/A
1	Surface Slab Spall	10,700	sf	\$	\$ /sf
2	Overhead Slab Spall	1,000	sf	\$	\$ /sf
3	Overhead Beam Spall	400	sf	\$	\$ /sf
4	Slab Full Depth/Deep Repair	350	sf	\$	\$ /sf
5	Expansion Joint Remove/Replace	68	lf	\$	\$ /sf
6	Traffic Coating (in 1, 4, 5 above)	11,186	sf	\$	\$ /sf
	Other Repairs	1	lsum	\$	N/A
	Engineering	1	lsum	\$	N/A
	Total Base Bid			\$	
Alt #1a	Remove/Replace balance of Traffic Coating (not in 1, 4 & 5 above) on Decks K & L		sf	\$	\$ /sf
Alt #1b	Remove/Replace balance of Traffic Coatings (not in 1, 4 & 5 above) on Decks A thru K		sf	\$	\$ /sf
Alt #2	Remove/Replace balance of expansion Joint along D line (not in 5 above)		lf	\$	\$ /lf



BROWNING  
DAY MULLINS  
DIERDORF

LEADERSHIP + DESIGN®

Browning Day Mullins Dierdorf Architects

Architecture  
Landscape Architecture  
Planning  
Interior Design  
626 North Illinois Street  
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Phone: (317) 635-5030  
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Delta Quad Holdings, LLC  
Owner

Rau Construction Co.  
Construction Manager  
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Phone: (913) 642-6000  
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Lawson Elser, Inc.  
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Hoss & Brown Engineers, Inc.  
MEP Engineer  
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SK Design Group, Inc.  
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Website: www.skdesigngroup.com

Matchline Design Group, LLC  
Interior Design  
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Dallas, TX 75231  
Phone: (972) 707-0568  
Website: www.matchlinedesign.com

Garage Repair Plans dated January 25, 2019 are for general areas of structural repairs. These areas include scopes of work for bidding purposes. These plans also have recommendations for possible repair details to be made to the CIP and hollow core panel systems. These possible repair details are for reference only and are not engineered solutions. Engineered solutions to be provided by Contractors Engineer.

CERTIFICATION  
GARAGE MAINTENANCE  
PACKAGE

The Grand Reserve

925 Grand Boulevard  
Kansas City, MO 64198

Project No.: LEI #1851  
Drawn By:  
Checked By: MJL  
Scale: See Drawing  
Issue Date: January 25, 2019

REVISION SCHEDULE		
Rev. #	Revision Description	Issue Date

GARAGE REPAIR  
LEVEL A & B  
S401-G

GARAGE REPAIR KEY NOTES

SEE TYPICAL PATCH BOUNDARY, REBAR UNDERCUTTING AND PATCH DETAILS  
1/S407-G, 2/S407-G, 3/S407-G

REPAIR ① SURFACE SLAB SPALL - 1/S408-G

EXAMINE THE SURFACE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF SLAB SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 1/S408-G.

REMOVE THE EXISTING TRAFFIC COATING OVER THE SPALLED AREA. REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS AND WWF. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE BELOW THE STRANDS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, PREPARE AND COAT THE NEWLY PATCHED AREA WITH NEW TRAFFIC COATING WITH A MIN 12" OVERLAP ONTO THE EXISTING COATING AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

REPAIR ② OVERHEAD SLAB SPALL - 2/S408-G

EXAMINE THE UNDERSIDE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF SLAB SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 2/S408-G.

REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE ABOVE THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, REPAIR THE REPAIR AREA WITH PAINT TO MATCH EXISTING IN COLOR AND TEXTURE. APPLY PRIMER AND FINISH COAT AS REQUIRED FOR A COMPLETE COATING.

REPAIR ③ OVERHEAD BEAM SPALL - 3/S408-G

EXAMINE THE UNDERSIDE OF THE BEAM WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF BEAM SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 3/S408-G.

REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE ABOVE THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, REPAIR THE REPAIR AREA WITH PAINT TO MATCH EXISTING IN COLOR AND TEXTURE. APPLY PRIMER AND FINISH COAT AS REQUIRED FOR A COMPLETE COATING.

REPAIR ④ SLAB FULL DEPTH REPAIR - 4/S408-G

EXAMINE THE SURFACE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF FULL DEPTH SLAB HOLES.

REMOVE WATER, DEBRIS AND SPALLED OR DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. FILL THE FORM VOID WITH STYROFOAM TO CONTAIN THE PATCH MATERIAL AND FORM THE UNDERSIDE OF THE PATCH. BLAST AND PREPARE THE EXPOSED REINFORCING BARS AND WWF. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE BELOW THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

AFTER THE REPAIRS ARE COMPLETED AND FULLY CURED, PREPARE AND COAT THE NEWLY PATCHED AREA WITH NEW TRAFFIC COATING WITH A MIN 12" OVERLAP ONTO THE EXISTING COATING AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

REPAIR ⑤ EXPANSION JOINT REMOVAL AND REPLACEMENT  
SEE ALTERNATE #2 - EXCEPT RAMPS BETWEEN LEVELS 'M' AND 'L'

REMOVE DAMAGED THE VERTICAL AND HORIZONTAL JOINT MATERIAL AND THOROUGHLY CLEAN THE JOINTS ACCORDING TO THE JOINT MATERIAL MANUFACTURER'S WRITTEN INSTRUCTIONS. ENSURE THAT THE CONCRETE ON EITHER SIDE AND AROUND THE JOINT IS SOUND, STABLE AND IN A CONDITION TO RECEIVE THE NEW JOINT MATERIAL. PLACE THE NEW JOINT MATERIAL ACCORDING TO THE JOINT MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING CLEANING, PRIMING, INSTALLATION AND CURING.

REPAIR ⑥ NEW TRAFFIC COATING

CLEAN THE DESIGNATED AREA OF EXISTING TRAFFIC COATING DOWN TO A STABLE CLEAN CONCRETE SURFACE. MAKE SLAB REPAIRS ACCORDING TO THE REPAIR KEY NOTES AS INDICATED ON THE DRAWINGS. APPLY PRIMER TO THE EXPOSED CONCRETE ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS. APPLY THE LAYERS OF TRAFFIC COATING ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE SPECIFICATIONS. OVERLAP THE NEW COATING ONTO THE EXISTING COATING MIN OF 12" AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

GARAGE REPAIR GENERAL NOTES

- THE GARAGE LAYOUT SHOWN ON THE REPAIR PLANS WAS TAKEN FROM EXISTING DRAWINGS AND MAY NOT ACCURATELY REFLECT AS-BUILT CONDITIONS. REPORT SIGNIFICANT VARIATIONS BETWEEN THE PLANS AND FIELD CONDITIONS TO THE ARCHITECT/ENGINEER.
- CONTRACTOR TO EXAMINE THE ENTIRE GARAGE PRIOR TO MAKING REPAIRS AND BECOME FAMILIAR WITH EXISTING CONDITIONS. CONTRACTOR TO REPORT TO THE ARCHITECT/ENGINEER IF CONDITIONS ARE FOUND THAT MAY PREVENT THE WORK FROM BEING PERFORMED ACCORDING TO THE DRAWINGS AND SPECIFICATIONS.
- CONTRACTOR TO COORDINATE THE WORK WITH THE PARKING GARAGE OWNER/OPERATOR REGARDING CLOSURE OF AREAS OF THE GARAGE AS REQUIRED TO MAKE THE REPAIRS. WORK SHALL BE PERFORMED ONLY AT NIGHT DURING OFF HOURS IF DESIGNATED BY THE OWNER/OPERATOR.
- THE GENERAL FLOOR DECK FRAMING OF THIS PARKING GARAGE CONSISTS OF CAST-IN-PLACE, POST-TENSIONED SLABS AND BEAMS. THE SLABS ARE APPROXIMATELY 25" DEEP WITH FORM VOIDS THAT CREATE 6" WIDE CONCRETE JOISTS AT APPROXIMATELY 26" TO 28" ON CENTER. THESE JOISTS ARE REINFORCED WITH CONVENTIONAL REBAR AND PIT STRANDS. THE BEAMS ARE ALSO REINFORCED WITH CONVENTIONAL REBAR AND PIT STRANDS. UNDER NO CIRCUMSTANCES ARE THE PIT STRANDS TO BE DISTURBED, CUT, NICKED OR DAMAGED. IF DAMAGE TO PIT STRANDS IS DISCOVERED DURING THE COURSE OF THE PROJECT, STOP WORK IN THE AREA OF THE DAMAGED STRANDS AND REPORT TO THE ARCHITECT/ENGINEER IMMEDIATELY.
- CONTRACTOR SHALL PROVIDE SHORING, DESIGNED BY A SHORING CONTRACTOR, FOR BEAM SPALL REPAIRS. SHORING SHALL EXTEND DOWN NO LESS THAN THREE LEVELS BELOW THE LEVEL OF THE BEAM UNDER REPAIR.
- REFER TO THE WRITTEN SPECIFICATIONS AND MANUFACTURER'S WRITTEN INSTRUCTIONS FOR APPLICATION OF EACH REPAIR MATERIAL. A TECHNICAL REPRESENTATIVE FROM EACH OF THE REPAIR MATERIAL MANUFACTURER'S SHALL VISIT THE SITE AND PROVIDE SITE SPECIFIC INSTRUCTIONS. OBSERVE THE AMBIENT TEMPERATURE LIMITATIONS FOR APPLICATION OF EACH MATERIAL.
- PROTECT THE GARAGE AND GARAGE CONTENTS THROUGHOUT THE COURSE OF THE WORK. DO NOT DAMAGE VEHICLES DURING THE COURSE OF THE WORK. SUCH DAMAGE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- FIELD LOCATE MECHANICAL EQUIPMENT, AIR INTAKE LOUVERS, EXHAUST LOUVERS OR OTHER HVAC EQUIPMENT THAT MAY BE DAMAGED BY DUST AND DEBRIS AND PROVIDE ADEQUATE FILTERS AND PROTECTION. DO NOT ALLOW DUST AND DEBRIS TO ENTER OCCUPIED SPACE IN THE BUILDINGS UNDER AND/OR ATTACHED TO THIS PARKING GARAGE. CONTAIN DUST AND DEBRIS FROM ESCAPING THE GARAGE AND INTO ADJACENT BUILDINGS OR THE PUBLIC ACCESS AROUND THE BUILDING.
- THIS PARKING GARAGE IS SITUATED OVER BASEMENT LEVELS THAT ARE BELOW GRADE. PROTECT THESE BASEMENT LEVELS FROM DAMAGE AS A RESULT OF THE REPAIR WORK. CONTRACTOR SHALL BECOME FAMILIAR WITH THE BASEMENT LEVELS AND TAKE PRECAUTIONS AS NEEDED TO PROTECT THE SAME.
- DO NOT USE EXCESSIVE WATER TO CLEAN, BLAST OR PRESSURE WASH THE GARAGE FLOORS THAT MAY LEAK INTO THE BASEMENTS BELOW. ENSURE THAT THE FLOOR DRAINS ARE CLEAN AND IN GOOD WORKING ORDER TO ENSURE THAT WATER, IF NEEDED, IS PROPERLY MANAGED.
- REPAINT STRIPING, DIRECTIONAL MARKINGS, HANDICAPPED MARKINGS AND OTHER FLOOR MARKINGS AS REQUIRED WHERE EXISTING MARKINGS ARE REMOVED OR DISTURBED BY THE SLAB REPAIR AND REPLACEMENT COATING WORK. OWNER/OPERATOR TO PROVIDE MARKINGS AS REQUIRED FOR OPERATION OF THE GARAGE.

ALTERNATES

ALTERNATE #1 - 100% REMOVAL AND REPLACEMENT OF THE TRAFFIC COATING

REMOVE AND REPLACE 100% OF THE EXISTING TRAFFIC COATING USING A METHOD APPROPRIATE TO THE EXISTING CONCRETE CONDITIONS AND WHICH WILL RESULT IN A SURFACE THAT IS ACCEPTABLE FOR APPLICATION OF A NEW TRAFFIC COATING AS DIRECTED BY THE COATING MANUFACTURER.

MAKE STRUCTURAL REPAIRS TO THE CONCRETE SLAB AS INDICATED ON THE DRAWINGS AND ACCORDING TO THE REPAIR KEY NOTES BEFORE PREPARATION AND APPLICATION OF THE NEW TRAFFIC COATING.

AFTER REPAIR AND PREPARATION AND CURING OF THE CONCRETE SURFACES, APPLY A NEW TRAFFIC COATING OVER 100% OF THE EXPOSED CONCRETE SLAB SURFACE AND 100% OF THE CURBS AND WALKWAYS. APPLY TO THE HORIZONTAL AND VERTICAL SURFACES OF THE CURBS AND WALKWAYS.

REPAINT STRIPING, DIRECTIONAL MARKINGS, HANDICAPPED MARKINGS AND OTHER MARKINGS AFTER THE NEW TRAFFIC COATING IS APPLIED AND COMPLETELY CURED.

ALTERNATE #2 - 100% REMOVAL AND REPLACEMENT OF THE RAMP EXPANSION JOINTS

SEE KEY NOTE 5. REMOVE AND REPLACE 100% OF THE EXISTING RAMP HORIZONTAL AND VERTICAL EXPANSION JOINTS AT ALL LEVELS. NOTE: REPLACEMENT OF EXPANSION JOINTS AT THE SKYWARD RAMPS BETWEEN LEVELS 'M' AND 'L' ARE TO BE CONSIDERED IN THE BASE BID.

SURFACE REPAIRS LEVEL A & B

3/32" = 1'-0"



OVERHEAD REPAIRS LEVEL A & B

3/32" = 1'-0"





Browning Day Mullins Dierdorf Architects

Architecture  
Landscape Architecture  
Planning  
Interior Design

625 North Illinois Street  
Indianapolis, Indiana 46204  
Phone: (317) 635-5030  
Website: www.bdmad.com

Delta Quad Holdings, LLC  
Owner

Rau Construction Co.  
Construction Manager

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Website: www.matchlinedesign.com

Garage Repair Plans dated January 25, 2019 are for general areas of structural repairs. These areas include scopes of work for bidding purposes. These plans also have recommendations for possible repair details to be made to the CIP and hollow core panel systems. These possible repair details are for reference only and are not engineered solutions. Engineered solutions to be provided by Contractors Engineer.

CERTIFICATION

## GARAGE MAINTENANCE PACKAGE

The Grand Reserve

925 Grand Boulevard  
Kansas City, MO 64198

Project No.: LEI #1851  
Drawn By:  
Checked By: MJL  
Scale: See Drawing  
Issue Date: January 25, 2019

REVISION SCHEDULE		
Rev. #	Revision Description	Issue Date

GARAGE REPAIR  
LEVEL C & D

**S402-G**

## GARAGE REPAIR KEY NOTES

SEE TYPICAL PATCH BOUNDARY, REBAR UNDERCUTTING AND PATCH DETAILS  
1/S407-G, 2/S407-G, 3/S407-G

### REPAIR ① SURFACE SLAB SPALL - 1/S408-G

EXAMINE THE SURFACE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF SLAB SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 1/S408-G.

REMOVE THE EXISTING TRAFFIC COATING OVER THE SPALLED AREA. REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS AND WWF. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE BELOW THE STRANDS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, PREPARE AND COAT THE NEWLY PATCHED AREA WITH NEW TRAFFIC COATING WITH A MIN 12" OVERLAP ONTO THE EXISTING COATING AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

### REPAIR ② OVERHEAD SLAB SPALL - 2/S408-G

EXAMINE THE UNDERSIDE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF SLAB SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 2/S408-G.

REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE ABOVE THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, REPAIR THE REPAIR AREA WITH PAINT TO MATCH EXISTING COLOR AND TEXTURE. APPLY PRIMER AND FINISH COAT AS REQUIRED FOR A COMPLETE COATING.

### REPAIR ③ OVERHEAD BEAM SPALL - 3/S408-G

EXAMINE THE UNDERSIDE OF THE BEAM WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF BEAM SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 3/S408-G.

REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE ABOVE THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, REPAIR THE REPAIR AREA WITH PAINT TO MATCH EXISTING COLOR AND TEXTURE. APPLY PRIMER AND FINISH COAT AS REQUIRED FOR A COMPLETE COATING.

### REPAIR ④ SLAB FULL DEPTH REPAIR - 4/S408-G

EXAMINE THE SURFACE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF FULL DEPTH SLAB HOLES.

REMOVE WATER, DEBRIS AND SPALLED OR DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. FILL THE FORM VOID WITH STYROFOAM TO CONTAIN THE PATCH MATERIAL AND FORM THE UNDERSIDE OF THE PATCH. BLAST AND PREPARE THE EXPOSED REINFORCING BARS AND WWF. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE BELOW THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS.

AFTER THE REPAIRS ARE COMPLETED AND FULLY CURED, PREPARE AND COAT THE NEWLY PATCHED AREA WITH NEW TRAFFIC COATING WITH A MIN 12" OVERLAP ONTO THE EXISTING COATING AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

### REPAIR ⑤ EXPANSION JOINT REMOVAL AND REPLACEMENT

SEE ALTERNATE #2 - EXCEPT RAMPS BETWEEN LEVELS 'M' AND 'L'

REMOVE DAMAGED THE VERTICAL AND HORIZONTAL JOINT MATERIAL AND THOROUGHLY CLEAN THE JOINTS ACCORDING TO THE JOINT MATERIAL MANUFACTURER'S WRITTEN INSTRUCTIONS. ENSURE THAT THE CONCRETE ON EITHER SIDE AROUND THE JOINT IS SOUND, STABLE AND IN A CONDITION TO RECEIVE THE NEW JOINT MATERIAL. PLACE THE NEW JOINT MATERIAL ACCORDING TO THE JOINT MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING CLEANING, PRIMING, INSTALLATION AND CURING.

### REPAIR ⑥ NEW TRAFFIC COATING

CLEAN THE DESIGNATED AREA OF EXISTING TRAFFIC COATING DOWN TO A STABLE CLEAN CONCRETE SURFACE. MAKE SLAB REPAIRS ACCORDING TO THE REPAIR KEY NOTES AS INDICATED ON THE DRAWINGS. APPLY PRIMER TO THE EXPOSED CONCRETE ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS. APPLY THE LAYERS OF TRAFFIC COATING ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS AND THE SPECIFICATIONS. OVERLAP THE NEW COATING ONTO THE EXISTING COATING MIN OF 12" AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

## GARAGE REPAIR GENERAL NOTES

- THE GARAGE LAYOUT SHOWN ON THE REPAIR PLANS WAS TAKEN FROM EXISTING DRAWINGS AND MAY NOT ACCURATELY REFLECT AS-BUILT CONDITIONS. REPORT SIGNIFICANT VARIATIONS BETWEEN THE PLANS AND FIELD CONDITIONS TO THE ARCHITECT/ENGINEER.
- CONTRACTOR TO EXAMINE THE ENTIRE GARAGE PRIOR TO MAKING REPAIRS AND BECOME FAMILIAR WITH EXISTING CONDITIONS. CONTRACTOR TO REPORT TO THE ARCHITECT/ENGINEER IF CONDITIONS ARE FOUND THAT MAY PREVENT THE WORK FROM BEING PERFORMED ACCORDING TO THE DRAWINGS AND SPECIFICATIONS.
- CONTRACTOR TO COORDINATE THE WORK WITH THE PARKING GARAGE OWNER/OPERATOR REGARDING CLOSURE OF AREAS OF THE GARAGE AS REQUIRED TO MAKE THE REPAIRS. WORK SHALL BE PERFORMED ONLY AT NIGHT DURING OFF HOURS IF DESIGNATED BY THE OWNER/OPERATOR.
- THE GENERAL FLOOR DECK FRAMING OF THIS PARKING GARAGE CONSISTS OF CAST-IN-PLACE, POST-TENSIONED SLABS AND BEAMS. THE SLABS ARE APPROXIMATELY 25" DEEP WITH FORM VOIDS THAT CREATE 6" WIDE CONCRETE JOISTS AT APPROXIMATELY 26" TO 28" ON CENTER. THESE VOIDS ARE REINFORCED WITH CONVENTIONAL REBAR AND PIT STRANDS. THE BEAMS ARE ALSO REINFORCED WITH CONVENTIONAL REBAR AND PIT STRANDS. UNDER NO CIRCUMSTANCES ARE THE PIT STRANDS TO BE DISTURBED, CUT, NICKED OR DAMAGED. IF DAMAGE TO PIT STRANDS IS DISCOVERED DURING THE COURSE OF THE PROJECT, STOP WORK IN THE AREA OF THE DAMAGED STRANDS AND REPORT TO THE ARCHITECT/ENGINEER IMMEDIATELY.
- CONTRACTOR SHALL PROVIDE SHORING, DESIGNED BY A SHORING CONTRACTOR, FOR BEAM SPALL REPAIRS. SHORING SHALL EXTEND DOWN NO LESS THAN THREE LEVELS BELOW THE LEVEL OF THE BEAM UNDER REPAIR.
- REFER TO THE WRITTEN SPECIFICATIONS AND MANUFACTURER'S WRITTEN INSTRUCTIONS FOR APPLICATION OF EACH REPAIR MATERIAL. A TECHNICAL REPRESENTATIVE FROM EACH OF THE REPAIR MATERIAL MANUFACTURER'S SHALL VISIT THE SITE AND PROVIDE SITE SPECIFIC INSTRUCTIONS. OBSERVE THE AMBIENT TEMPERATURE LIMITATIONS FOR APPLICATION OF EACH MATERIAL.
- PROTECT THE GARAGE AND GARAGE CONTENTS THROUGHOUT THE COURSE OF THE WORK. DO NOT DAMAGE VEHICLES DURING THE COURSE OF THE WORK. SUCH DAMAGE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- FIELD LOCATE MECHANICAL EQUIPMENT, AIR INTAKE LOUVERS, EXHAUST LOUVERS OR OTHER HVAC EQUIPMENT THAT MAY BE DAMAGED BY DUST AND DEBRIS AND PROVIDE ADEQUATE FILTERS AND PROTECTION. DO NOT ALLOW DUST AND DEBRIS TO ENTER OCCUPIED SPACE IN THE BUILDINGS UNDER AND/OR ATTACHED TO THIS PARKING GARAGE. CONTAIN DUST AND DEBRIS FROM ESCAPING THE GARAGE AND INTO ADJACENT BUILDINGS OR THE PUBLIC ACCESS AROUND THE BUILDING.
- THIS PARKING GARAGE IS SITUATED OVER BASEMENT LEVELS THAT ARE BELOW GRADE. PROTECT THESE BASEMENT LEVELS FROM DAMAGE AS A RESULT OF THE REPAIR WORK. CONTRACTOR SHALL BECOME FAMILIAR WITH THE BASEMENT LEVELS AND TAKE PRECAUTIONS AS NEEDED TO PROTECT THE SAME.
- DO NOT USE EXCESSIVE WATER TO CLEAN, BLAST OR PRESSURE WASH THE GARAGE FLOORS THAT MAY LEAK INTO THE BASEMENTS BELOW. ENSURE THAT THE FLOOR DRAINS ARE CLEAN AND IN GOOD WORKING ORDER TO ENSURE THAT WATER, IF NEEDED, IS PROPERLY MANAGED.
- REPAINT STRIPING, DIRECTIONAL MARKINGS, HANDICAPPED MARKINGS AND OTHER FLOOR MARKINGS AS REQUIRED WHERE EXISTING MARKINGS ARE REMOVED OR DISTURBED BY THE SLAB REPAIR AND REPLACEMENT COATING WORK. OWNER/OPERATOR TO PROVIDE MARKINGS AS REQUIRED FOR OPERATION OF THE GARAGE.

## ALTERNATES

### ALTERNATE #1 - 100% REMOVAL AND REPLACEMENT OF THE TRAFFIC COATING

REMOVE AND REPLACE 100% OF THE EXISTING TRAFFIC COATING USING A METHOD APPROPRIATE TO THE EXISTING CONCRETE CONDITIONS AND WHICH WILL RESULT IN A SURFACE THAT IS ACCEPTABLE FOR APPLICATION OF A NEW TRAFFIC COATING AS DIRECTED BY THE COATING MANUFACTURER.

MAKE STRUCTURAL REPAIRS TO THE CONCRETE SLAB AS INDICATED ON THE DRAWINGS AND ACCORDING TO THE REPAIR KEY NOTES BEFORE PREPARATION AND APPLICATION OF THE NEW TRAFFIC COATING.

AFTER REPAIR AND PREPARATION AND CURING OF THE CONCRETE SURFACES, APPLY A NEW TRAFFIC COATING OVER 100% OF THE EXPOSED CONCRETE SLAB SURFACE AND 100% OF THE CURBS AND WALKWAYS. APPLY TO THE HORIZONTAL AND VERTICAL SURFACES OF THE CURBS AND WALKWAYS. REPAINT STRIPING, DIRECTIONAL MARKINGS, HANDICAPPED MARKINGS AND OTHER MARKINGS AFTER THE NEW TRAFFIC COATING IS APPLIED AND COMPLETELY CURED.

### ALTERNATE #2 - 100% REMOVAL AND REPLACEMENT OF THE RAMP EXPANSION JOINTS

SEE KEY NOTE 5. REMOVE AND REPLACE 100% OF THE EXISTING RAMP HORIZONTAL AND VERTICAL EXPANSION JOINTS AT ALL LEVELS. NOTE: REPLACEMENT OF EXPANSION JOINTS AT THE SKYWARD RAMPS BETWEEN LEVELS 'M' AND 'L' ARE TO BE CONSIDERED IN THE **BASE BID**.

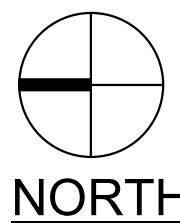
## SURFACE REPAIRS LEVEL C & D

3/32" = 1'-0"



## OVERHEAD REPAIRS LEVEL C & D

3/32" = 1'-0"





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CERTIFICATION

GARAGE MAINTENANCE  
PACKAGE

The Grand Reserve

925 Grand Boulevard  
Kansas City, MO 64198

Project No.: LEI #1851  
Drawn By:  
Checked By: MJL  
Scale: See Drawing  
Issue Date: January 25, 2019

REVISION SCHEDULE		
Rev. #	Revision Description	Issue Date

GARAGE REPAIR  
LEVEL E & F

S403-G

GARAGE REPAIR KEY NOTES

SEE TYPICAL PATCH BOUNDARY, REBAR UNDERCUTTING AND PATCH DETAILS  
1/S407-G, 2/S407-G, 3/S407-G

REPAIR ① SURFACE SLAB SPALL - 1/S408-G

EXAMINE THE SURFACE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF SLAB SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 2/S408-G.

REMOVE THE EXISTING TRAFFIC COATING OVER THE SPALLED AREA. REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS AND WWF. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE BELOW THE STRANDS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, PREPARE AND COAT THE NEWLY PATCHED AREA WITH NEW TRAFFIC COATING WITH A MIN 12" OVERLAP ONTO THE EXISTING COATING AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

REPAIR ② OVERHEAD SLAB SPALL - 2/S408-G

EXAMINE THE UNDERSIDE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF SLAB SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 2/S408-G.

REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE ABOVE THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, REPAINT THE REPAIR AREA WITH PAINT TO MATCH EXISTING IN COLOR AND TEXTURE. APPLY PRIMER AND FINISH COAT AS REQUIRED FOR A COMPLETE COATING.

REPAIR ③ OVERHEAD BEAM SPALL - 3/S408-G

EXAMINE THE UNDERSIDE OF THE BEAM WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF BEAM SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 3/S408-G.

REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE ABOVE THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

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REPAIR ④ SLAB FULL DEPTH REPAIR - 4/S408-G

EXAMINE THE SURFACE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF FULL DEPTH SLAB HOLES.

REMOVE WATER, DEBRIS AND SPALLED OR DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. FILL THE FORM VOID WITH STYROFOAM TO CONTAIN THE PATCH MATERIAL AND FORM THE UNDERSIDE OF THE PATCH. BLAST AND PREPARE THE EXPOSED REINFORCING BARS AND WWF. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE BELOW THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS.

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REPAIR ⑤ EXPANSION JOINT REMOVAL AND REPLACEMENT  
SEE ALTERNATE #2 - EXCEPT RAMPS BETWEEN LEVELS 'M' AND 'L'

REMOVE DAMAGED THE VERTICAL AND HORIZONTAL JOINT MATERIAL AND THOROUGHLY CLEAN THE JOINTS ACCORDING TO THE JOINT MATERIAL MANUFACTURER'S WRITTEN INSTRUCTIONS. ENSURE THAT THE CONCRETE ON EITHER SIDE AND AROUND THE JOINT IS SOUND, STABLE AND IN A CONDITION TO RECEIVE THE NEW JOINT MATERIAL. PLACE THE NEW JOINT MATERIAL ACCORDING TO THE JOINT MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING CLEANING, PRIMING, INSTALLATION AND CURING.

REPAIR ⑥ NEW TRAFFIC COATING

CLEAN THE DESIGNATED AREA OF EXISTING TRAFFIC COATING DOWN TO A STABLE CLEAN CONCRETE SURFACE. MAKE SLAB REPAIRS ACCORDING TO THE REPAIR KEY NOTES AS INDICATED ON THE DRAWINGS. APPLY PRIMER TO THE EXPOSED CONCRETE ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS. APPLY THE LAYERS OF TRAFFIC COATING ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS AND THE SPECIFICATIONS. OVERLAP THE NEW COATING ONTO THE EXISTING COATING MIN OF 12" AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

GARAGE REPAIR GENERAL NOTES

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- FIELD LOCATE MECHANICAL EQUIPMENT, AIR INTAKE LOUVERS, EXHAUST LOUVERS OR OTHER HVAC EQUIPMENT THAT MAY BE DAMAGED BY DUST AND DEBRIS AND PROVIDE ADEQUATE FILTERS AND PROTECTION. DO NOT ALLOW DUST AND DEBRIS TO ENTER OCCUPIED SPACE IN THE BUILDINGS UNDER AND/OR ATTACHED TO THIS PARKING GARAGE. CONTAIN DUST AND DEBRIS FROM ESCAPING THE GARAGE AND INTO ADJACENT BUILDINGS OR THE PUBLIC ACCESS AROUND THE BUILDING.
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ALTERNATES

ALTERNATE #1 - 100% REMOVAL AND REPLACEMENT OF THE TRAFFIC COATING

REMOVE AND REPLACE 100% OF THE EXISTING TRAFFIC COATING USING A METHOD APPROPRIATE TO THE EXISTING CONCRETE CONDITIONS AND WHICH WILL RESULT IN A SURFACE THAT IS ACCEPTABLE FOR APPLICATION OF A NEW TRAFFIC COATING AS DIRECTED BY THE COATING MANUFACTURER.

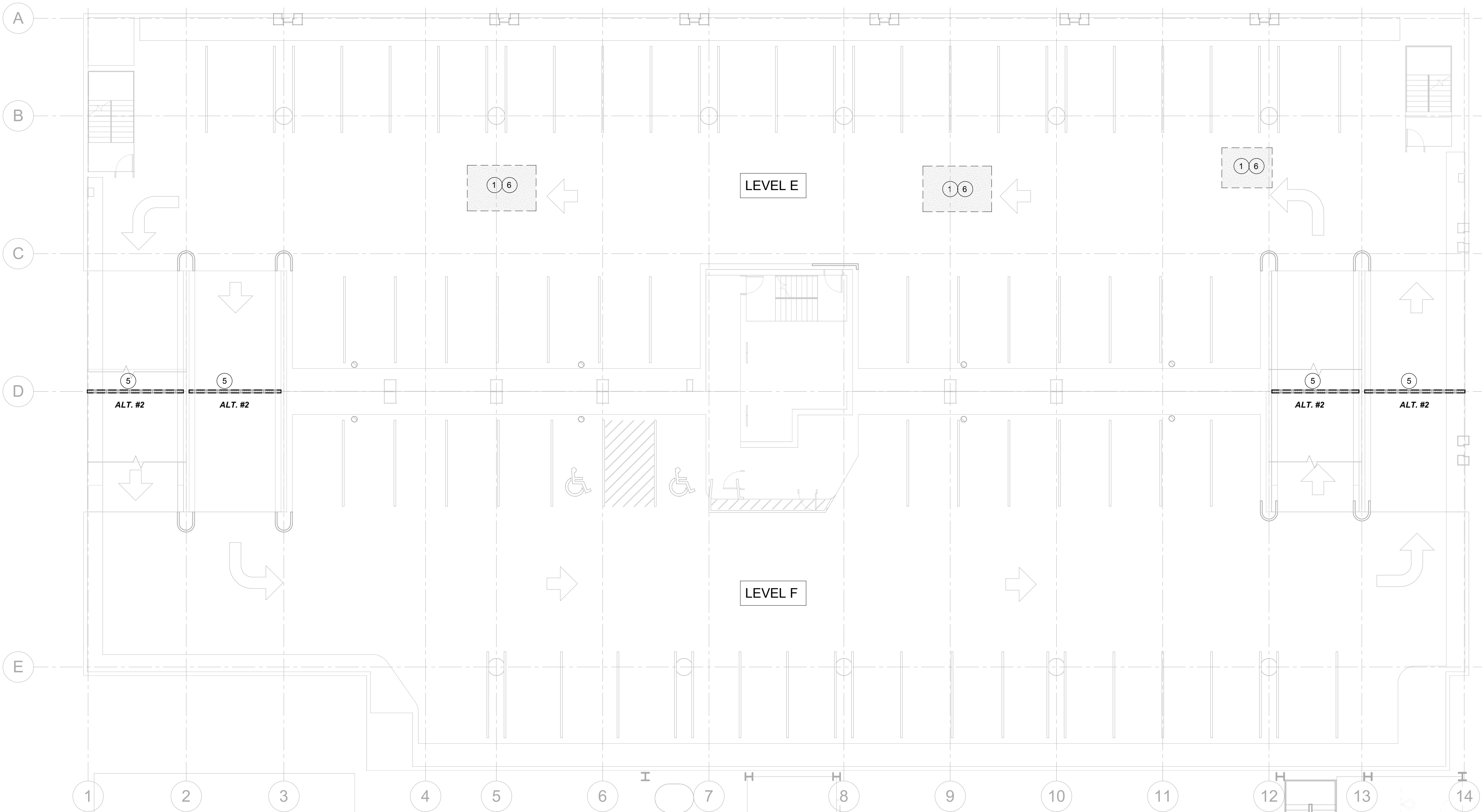
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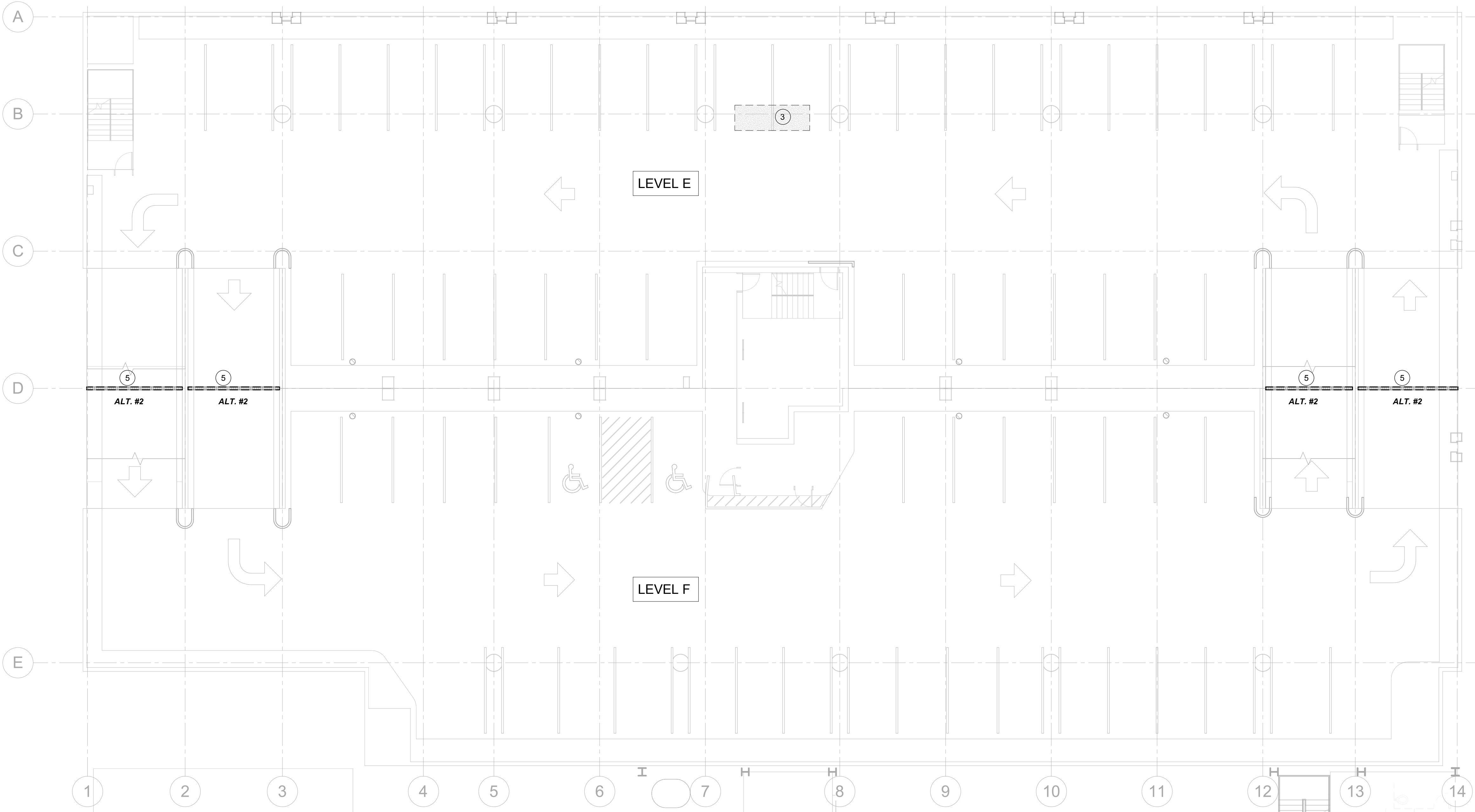
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ALTERNATE #2 - 100% REMOVAL AND REPLACEMENT OF THE RAMP EXPANSION JOINTS

SEE KEY NOTE 5. REMOVE AND REPLACE 100% OF THE EXISTING RAMP HORIZONTAL AND VERTICAL EXPANSION JOINTS AT ALL LEVELS. NOTE: REPLACEMENT OF EXPANSION JOINTS AT THE SKYWARD RAMPS BETWEEN LEVELS 'M' AND 'L' ARE TO BE CONSIDERED IN THE BASE BID.



SURFACE REPAIRS LEVEL E & F  
3/32" = 1'-0"



OVERHEAD REPAIRS LEVEL E & F  
3/32" = 1'-0"



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GARAGE REPAIR KEY NOTES

SEE TYPICAL PATCH BOUNDARY, REBAR UNDERCUTTING AND PATCH DETAILS  
1/8407-G, 2/8407-G, 3/8407-G

REPAIR ① SURFACE SLAB SPALL - 1/8408-G

EXAMINE THE SURFACE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF SLAB SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 1/8408-G.

REMOVE THE EXISTING TRAFFIC COATING OVER THE SPALLED AREA. REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS AND WWF. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE BELOW THE STRANDS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS. REPAIR AND APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, PREPARE AND COAT THE NEWLY PATCHED AREA WITH NEW TRAFFIC COATING WITH A MIN 12" OVERLAP ONTO THE EXISTING COATING AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

REPAIR ② OVERHEAD SLAB SPALL - 2/8408-G

EXAMINE THE UNDERSIDE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF SLAB SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 2/8408-G.

REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE ABOVE THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, REPAINT THE REPAIR AREA WITH PAINT TO MATCH EXISTING IN COLOR AND TEXTURE. APPLY PRIMER AND FINISH COAT AS REQUIRED FOR A COMPLETE COATING.

REPAIR ③ OVERHEAD BEAM SPALL - 3/8408-G

EXAMINE THE UNDERSIDE OF THE BEAM WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF BEAM SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 3/8408-G.

REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE ABOVE THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, REPAINT THE REPAIR AREA WITH PAINT TO MATCH EXISTING IN COLOR AND TEXTURE. APPLY PRIMER AND FINISH COAT AS REQUIRED FOR A COMPLETE COATING.

REPAIR ④ SLAB FULL DEPTH REPAIR - 4/8408-G

EXAMINE THE SURFACE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF FULL DEPTH SLAB HOLES.

REMOVE WATER, DEBRIS AND SPALLED OR DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. FILL THE FORM VOID WITH STYROFOAM TO CONTAIN THE PATCH MATERIAL AND FORM THE UNDERSIDE OF THE PATCH. BLAST AND PREPARE THE EXPOSED REINFORCING BARS AND WWF. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE BELOW THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

AFTER THE REPAIRS ARE COMPLETED AND FULLY CURED, PREPARE AND COAT THE NEWLY PATCHED AREA WITH NEW TRAFFIC COATING WITH A MIN 12" OVERLAP ONTO THE EXISTING COATING AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

REPAIR ⑤ EXPANSION JOINT REMOVAL AND REPLACEMENT

SEE ALTERNATE #2 - EXCEPT RAMPS BETWEEN LEVELS 'M' AND 'L'

REMOVE DAMAGED THE VERTICAL AND HORIZONTAL JOINT MATERIAL AND THOROUGHLY CLEAN THE JOINTS ACCORDING TO THE JOINT MATERIAL MANUFACTURER'S WRITTEN INSTRUCTIONS. ENSURE THAT THE CONCRETE ON EITHER SIDE AND AROUND THE JOINT IS SOUND, STABLE AND IN A CONDITION TO RECEIVE THE NEW JOINT MATERIAL. PLACE THE NEW JOINT MATERIAL ACCORDING TO THE JOINT MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING CLEANING, PRIMING, INSTALLATION AND CURING.

REPAIR ⑥ NEW TRAFFIC COATING

CLEAN THE DESIGNATED AREA OF EXISTING TRAFFIC COATING DOWN TO A STABLE CLEAN CONCRETE SURFACE. MAKE SLAB REPAIRS ACCORDING TO THE REPAIR KEY NOTES AS INDICATED ON THE DRAWINGS. APPLY PRIMER TO THE EXPOSED CONCRETE ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS. APPLY THE LAYERS OF TRAFFIC COATING ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE SPECIFICATIONS. OVERLAP THE NEW COATING ONTO THE EXISTING COATING MIN OF 12" AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

GARAGE REPAIR GENERAL NOTES

1. THE GARAGE LAYOUT SHOWN ON THE REPAIR PLANS WAS TAKEN FROM EXISTING DRAWINGS AND MAY NOT ACCURATELY REFLECT AS-BUILT CONDITIONS. REPORT SIGNIFICANT VARIATIONS BETWEEN THE PLANS AND FIELD CONDITIONS TO THE ARCHITECT/ENGINEER.
2. CONTRACTOR TO EXAMINE THE ENTIRE GARAGE PRIOR TO MAKING REPAIRS AND BECOME FAMILIAR WITH EXISTING CONDITIONS. CONTRACTOR TO REPORT TO THE ARCHITECT/ENGINEER IF CONDITIONS ARE FOUND THAT MAY PREVENT THE WORK FROM BEING PERFORMED ACCORDING TO THE DRAWINGS AND SPECIFICATIONS.
3. CONTRACTOR TO COORDINATE THE WORK WITH THE PARKING GARAGE OWNER/OPERATOR REGARDING CLOSURE OF AREAS OF THE GARAGE AS REQUIRED TO MAKE THE REPAIRS. WORK SHALL BE PERFORMED ONLY AT NIGHT DURING OFF HOURS IF DESIGNATED BY THE OWNER/OPERATOR.
4. THE GENERAL FLOOR DECK DECK FRAMING OF THIS PARKING GARAGE CONSISTS OF CAST-IN-PLACE, POST-TENSIONED SLABS AND BEAMS. THE SLABS ARE APPROXIMATELY 25" DEEP WITH FORM VOIDS THAT CREATE 6" WIDE CONCRETE JOISTS AT APPROXIMATELY 25" TO 26" ON CENTER. THESE VOIDS ARE REINFORCED WITH CONVENTIONAL REBAR AND P/T STRANDS. THE BEAMS ARE ALSO REINFORCED WITH CONVENTIONAL REBAR AND P/T STRANDS. UNDER NO CIRCUMSTANCES ARE THE P/T STRANDS TO BE DISTURBED, CUT, NICKED OR DAMAGED. IF DAMAGE TO P/T STRANDS IS DISCOVERED DURING THE COURSE OF THE PROJECT, STOP WORK, STOP THE AREA OF THE DAMAGED STRANDS AND REPORT TO THE ARCHITECT/ENGINEER IMMEDIATELY.
5. CONTRACTOR SHALL PROVIDE SHORING, DESIGNED BY A SHORING CONTRACTOR, FOR BEAM SPALL REPAIRS. SHORING SHALL EXTEND DOWN NO LESS THAN THREE LEVELS BELOW THE LEVEL OF THE BEAM UNDER REPAIR.
6. REFER TO THE WRITTEN SPECIFICATIONS AND MANUFACTURER'S WRITTEN INSTRUCTIONS FOR APPLICATION OF EACH REPAIR MATERIAL. A TECHNICAL REPRESENTATIVE FROM EACH OF THE REPAIR MATERIAL MANUFACTURER'S SHALL VISIT THE SITE AND PROVIDE SITE SPECIFIC INSTRUCTIONS. OBSERVE THE AMBIENT TEMPERATURE LIMITATIONS FOR APPLICATION OF EACH MATERIAL.
7. PROTECT THE GARAGE AND GARAGE CONTENTS THROUGHOUT THE COURSE OF THE WORK. DO NOT DAMAGE VEHICLES DURING THE COURSE OF THE WORK. SUCH DAMAGE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. FIELD LOCATE MECHANICAL EQUIPMENT, AIR INTAKE LOUVERS, EXHAUST LOUVERS OR OTHER HVAC EQUIPMENT THAT MAY BE DAMAGED BY DUST AND DEBRIS AND PROVIDE ADEQUATE FILTERS AND PROTECTION. DO NOT ALLOW DUST AND DEBRIS TO ENTER OCCUPIED SPACE IN THE BUILDINGS UNDER AND/OR ATTACHED TO THIS PARKING GARAGE. CONTAIN DUST AND DEBRIS FROM ESCAPING THE GARAGE AND INTO ADJACENT BUILDINGS OR THE PUBLIC ACCESS AROUND THE BUILDING.
9. THIS PARKING GARAGE IS SITUATED OVER BASEMENT LEVELS THAT ARE BELOW GRADE. PROTECT THESE BASEMENT LEVELS FROM DAMAGE AS A RESULT OF THE REPAIR WORK. CONTRACTOR SHALL BECOME FAMILIAR WITH THE BASEMENT LEVELS AND TAKE PRECAUTIONS AS NEEDED TO PROTECT THE SAME.
10. DO NOT USE EXCESSIVE WATER TO CLEAN, BLAST OR PRESSURE WASH THE GARAGE FLOORS THAT MAY LEAK INTO THE BASEMENTS BELOW. ENSURE THAT THE FLOOR DRAINS ARE CLEAN AND IN GOOD WORKING ORDER TO ENSURE THAT WATER, IF NEEDED, IS PROPERLY MANAGED.
11. REPAINT STRIPING, DIRECTIONAL MARKINGS, HANDICAPPED MARKINGS AND OTHER FLOOR MARKINGS AS REQUIRED WHERE EXISTING MARKINGS ARE REMOVED OR DISTURBED BY THE SLAB REPAIR AND REPLACEMENT COATING WORK. OWNER/OPERATOR TO PROVIDE MARKINGS AS REQUIRED FOR OPERATION OF THE GARAGE.

ALTERNATES

ALTERNATE #1 - 100% REMOVAL AND REPLACEMENT OF THE TRAFFIC COATING

REMOVE AND REPLACE 100% OF THE EXISTING TRAFFIC COATING USING A METHOD APPROPRIATE TO THE EXISTING CONCRETE CONDITIONS AND WHICH WILL RESULT IN A SURFACE THAT IS ACCEPTABLE FOR APPLICATION OF A NEW TRAFFIC COATING AS DIRECTED BY THE COATING MANUFACTURER.

MAKE STRUCTURAL REPAIRS TO THE CONCRETE SLAB AS INDICATED ON THE DRAWINGS AND ACCORDING TO THE REPAIR KEY NOTES BEFORE PREPARATION AND APPLICATION OF THE NEW TRAFFIC COATING.

AFTER REPAIR AND PREPARATION AND CURING OF THE CONCRETE SURFACES, APPLY A NEW TRAFFIC COATING OVER 100% OF THE EXPOSED CONCRETE SLAB SURFACE AND 100% OF THE CURBS AND WALKWAYS. APPLY TO THE HORIZONTAL AND VERTICAL SURFACES OF THE CURBS AND WALKWAYS.

REPAINT STRIPING, DIRECTIONAL MARKINGS, HANDICAPPED MARKINGS AND OTHER MARKINGS AFTER THE NEW TRAFFIC COATING IS APPLIED AND COMPLETELY CURED.

ALTERNATE #2 - 100% REMOVAL AND REPLACEMENT OF THE RAMP EXPANSION JOINTS

SEE KEY NOTE 5. REMOVE AND REPLACE 100% OF THE EXISTING RAMP HORIZONTAL AND VERTICAL EXPANSION JOINTS AT ALL LEVELS. **NOTE:** REPLACEMENT OF EXPANSION JOINTS AT THE SKYWARD RAMPS BETWEEN LEVELS 'M' AND 'L' ARE TO BE CONSIDERED IN THE **BASE BID**.

SURFACE REPAIRS LEVEL G & H

3/32" = 1'-0"



OVERHEAD REPAIRS LEVEL G & H

3/32" = 1'-0"





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GARAGE REPAIR KEY NOTES

SEE TYPICAL PATCH BOUNDARY, REBAR UNDERCUTTING AND PATCH DETAILS  
1/S407-G, 2/S407-G, 3/S407-G

REPAIR ① SURFACE SLAB SPALL - 1/S408-G

EXAMINE THE SURFACE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF SLAB SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 1/S408-G.

REMOVE THE EXISTING TRAFFIC COATING OVER THE SPALLED AREA. REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS AND WWF. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE BELOW THE STRANDS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, PREPARE AND COAT THE NEWLY PATCHED AREA WITH NEW TRAFFIC COATING WITH A MIN 12" OVERLAP ONTO THE EXISTING COATING AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

REPAIR ② OVERHEAD SLAB SPALL - 2/S408-G

EXAMINE THE UNDERSIDE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF SLAB SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 2/S408-G.

REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE ABOVE THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, REPAINT THE REPAIR AREA WITH PAINT TO MATCH EXISTING IN COLOR AND TEXTURE. APPLY PRIMER AND FINISH COAT AS REQUIRED FOR A COMPLETE COATING.

REPAIR ③ OVERHEAD BEAM SPALL - 3/S408-G

EXAMINE THE UNDERSIDE OF THE BEAM WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF BEAM SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 3/S408-G.

REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE ABOVE THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, REPAINT THE REPAIR AREA WITH PAINT TO MATCH EXISTING IN COLOR AND TEXTURE. APPLY PRIMER AND FINISH COAT AS REQUIRED FOR A COMPLETE COATING.

REPAIR ④ SLAB FULL DEPTH REPAIR - 4/S408-G

EXAMINE THE SURFACE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF FULL DEPTH SLAB HOLES.

REMOVE WATER, DEBRIS AND SPALLED OR DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. FILL THE FORM VOID WITH STYROFOAM TO CONTAIN THE PATCH MATERIAL AND FORM THE UNDERSIDE OF THE PATCH. BLAST AND PREPARE THE EXPOSED REINFORCING BARS AND WWF. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE BELOW THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS.

AFTER THE REPAIRS ARE COMPLETED AND FULLY CURED, PREPARE AND COAT THE NEWLY PATCHED AREA WITH NEW TRAFFIC COATING WITH A MIN 12" OVERLAP ONTO THE EXISTING COATING AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

REPAIR ⑤ EXPANSION JOINT REMOVAL AND REPLACEMENT

SEE ALTERNATE #2 - EXCEPT RAMPS BETWEEN LEVELS 'M' AND 'L'

REMOVE DAMAGED THE VERTICAL AND HORIZONTAL JOINT MATERIAL AND THOROUGHLY CLEAN THE JOINTS ACCORDING TO THE JOINT MATERIAL MANUFACTURER'S WRITTEN INSTRUCTIONS. ENSURE THAT THE CONCRETE ON EITHER SIDE AND AROUND THE JOINT IS SOUND, STABLE AND IN A CONDITION TO RECEIVE THE NEW JOINT MATERIAL. PLACE THE NEW JOINT MATERIAL ACCORDING TO THE JOINT MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING CLEANING, PRIMING, INSTALLATION AND CURING.

REPAIR ⑥ NEW TRAFFIC COATING

CLEAN THE DESIGNATED AREA OF EXISTING TRAFFIC COATING DOWN TO A STABLE CLEAN CONCRETE SURFACE. MAKE SLAB REPAIRS ACCORDING TO THE REPAIR KEY NOTES AS INDICATED ON THE DRAWINGS. APPLY PRIMER TO THE EXPOSED CONCRETE ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS. APPLY THE LAYERS OF TRAFFIC COATING ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS AND THE SPECIFICATIONS. OVERLAP THE NEW COATING ONTO THE EXISTING COATING MIN OF 12" AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

GARAGE REPAIR GENERAL NOTES

- THE GARAGE LAYOUT SHOWN ON THE REPAIR PLANS WAS TAKEN FROM EXISTING DRAWINGS AND MAY NOT ACCURATELY REFLECT AS-BUILT CONDITIONS. REPORT SIGNIFICANT VARIATIONS BETWEEN THE PLANS AND FIELD CONDITIONS TO THE ARCHITECT/ENGINEER.
- CONTRACTOR TO EXAMINE THE ENTIRE GARAGE PRIOR TO MAKING REPAIRS AND BECOME FAMILIAR WITH EXISTING CONDITIONS. CONTRACTOR TO REPORT TO THE ARCHITECT/ENGINEER IF CONDITIONS ARE FOUND THAT MAY PREVENT THE WORK FROM BEING PERFORMED ACCORDING TO THE DRAWINGS AND SPECIFICATIONS.
- CONTRACTOR TO COORDINATE THE WORK WITH THE PARKING GARAGE OWNER/OPERATOR REGARDING CLOSURE OF AREAS OF THE GARAGE AS REQUIRED TO MAKE THE REPAIRS. WORK SHALL BE PERFORMED ONLY AT NIGHT DURING OFF HOURS IF DESIGNATED BY THE OWNER/OPERATOR.
- THE GENERAL FLOOR DECK FRAMING OF THIS PARKING GARAGE CONSISTS OF CAST-IN-PLACE, POST-TENSIONED SLABS AND BEAMS. THE SLABS ARE APPROXIMATELY 25" DEEP WITH FORM VOIDS THAT CREATE 6" WIDE CONCRETE JOISTS AT APPROXIMATELY 25" TO 26" ON CENTER. THESE JOISTS ARE REINFORCED WITH CONVENTIONAL REBAR AND PIT STRANDS. THE BEAMS ARE ALSO REINFORCED WITH CONVENTIONAL REBAR AND PIT STRANDS. UNDER NO CIRCUMSTANCES ARE THE PIT STRANDS TO BE DISTURBED, CUT, NICKED OR DAMAGED. IF DAMAGE TO PIT STRANDS IS DISCOVERED DURING THE COURSE OF THE PROJECT, STOP WORK IN THE AREA OF THE DAMAGED STRANDS AND REPORT TO THE ARCHITECT/ENGINEER IMMEDIATELY.
- CONTRACTOR SHALL PROVIDE SHORING, DESIGNED BY A SHORING CONTRACTOR, FOR BEAM SPALL REPAIRS. SHORING SHALL EXTEND DOWN NO LESS THAN THREE LEVELS BELOW THE LEVEL OF THE BEAM UNDER REPAIR.
- REFER TO THE WRITTEN SPECIFICATIONS AND MANUFACTURER'S WRITTEN INSTRUCTIONS FOR APPLICATION OF EACH REPAIR MATERIAL. A TECHNICAL REPRESENTATIVE FROM EACH OF THE REPAIR MATERIAL MANUFACTURER'S SHALL VISIT THE SITE AND PROVIDE SITE SPECIFIC INSTRUCTIONS. OBSERVE THE AMBIENT TEMPERATURE LIMITATIONS FOR APPLICATION OF EACH MATERIAL.
- PROTECT THE GARAGE AND GARAGE CONTENTS THROUGHOUT THE COURSE OF THE WORK. DO NOT DAMAGE VEHICLES DURING THE COURSE OF THE WORK. SUCH DAMAGE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- FIELD LOCATE MECHANICAL EQUIPMENT, AIR INTAKE LOUVERS, EXHAUST LOUVERS OR OTHER HVAC EQUIPMENT THAT MAY BE DAMAGED BY DUST AND DEBRIS AND PROVIDE ADEQUATE FILTERS AND PROTECTION. DO NOT ALLOW DUST AND DEBRIS TO ENTER OCCUPIED SPACE IN THE BUILDINGS UNDER AND/OR ATTACHED TO THIS PARKING GARAGE. CONTAIN DUST AND DEBRIS FROM ESCAPING THE GARAGE AND INTO ADJACENT BUILDINGS OR THE PUBLIC ACCESS AROUND THE BUILDING.
- THIS PARKING GARAGE IS SITUATED OVER BASEMENT LEVELS THAT ARE BELOW GRADE. PROTECT THESE BASEMENT LEVELS FROM DAMAGE AS A RESULT OF THE REPAIR WORK. CONTRACTOR SHALL BECOME FAMILIAR WITH THE BASEMENT LEVELS AND TAKE PRECAUTIONS AS NEEDED TO PROTECT THE SAME.
- DO NOT USE EXCESSIVE WATER TO CLEAN, BLAST OR PRESSURE WASH THE GARAGE FLOORS THAT MAY LEAK INTO THE FLOOR DRAINS BELOW. ENSURE THAT THE FLOOR DRAINS ARE CLEAN AND IN GOOD WORKING ORDER TO ENSURE THAT WATER, IF NEEDED, IS PROPERLY MANAGED.
- REPAINT STRIPING, DIRECTIONAL MARKINGS, HANDICAPPED MARKINGS AND OTHER FLOOR MARKINGS AS REQUIRED WHERE EXISTING MARKINGS ARE REMOVED OR DISTURBED BY THE SLAB REPAIR AND REPLACEMENT COATING WORK. OWNER/OPERATOR TO PROVIDE MARKINGS AS REQUIRED FOR OPERATION OF THE GARAGE.

ALTERNATES

ALTERNATE #1 - 100% REMOVAL AND REPLACEMENT OF THE TRAFFIC COATING

REMOVE AND REPLACE 100% OF THE EXISTING TRAFFIC COATING USING A METHOD APPROPRIATE TO THE EXISTING CONCRETE CONDITIONS AND WHICH WILL RESULT IN A SURFACE THAT IS ACCEPTABLE FOR APPLICATION OF A NEW TRAFFIC COATING AS DIRECTED BY THE COATING MANUFACTURER.

MAKE STRUCTURAL REPAIRS TO THE CONCRETE SLAB AS INDICATED ON THE DRAWINGS AND ACCORDING TO THE REPAIR KEY NOTES BEFORE PREPARATION AND APPLICATION OF THE NEW TRAFFIC COATING.

AFTER REPAIR AND PREPARATION AND CURING OF THE CONCRETE SURFACES, APPLY A NEW TRAFFIC COATING OVER 100% OF THE EXPOSED CONCRETE SLAB SURFACE AND 100% OF THE CURBS AND WALKWAYS. APPLY TO THE HORIZONTAL AND VERTICAL SURFACES OF THE CURBS AND WALKWAYS.

REPAINT STRIPING, DIRECTIONAL MARKINGS, HANDICAPPED MARKINGS AND OTHER MARKINGS AFTER THE NEW TRAFFIC COATING IS APPLIED AND COMPLETELY CURED.

ALTERNATE #2 - 100% REMOVAL AND REPLACEMENT OF THE RAMP EXPANSION JOINTS

SEE KEY NOTE 5. REMOVE AND REPLACE 100% OF THE EXISTING RAMP HORIZONTAL AND VERTICAL EXPANSION JOINTS AT ALL LEVELS. NOTE: REPLACEMENT OF EXPANSION JOINTS AT THE SKYWARD RAMPS BETWEEN LEVELS 'M' AND 'L' ARE TO BE CONSIDERED IN THE BASE BID.

SURFACE REPAIRS LEVEL I & J

3/32" = 1'-0"



OVERHEAD REPAIRS LEVEL I & J

3/32" = 1'-0"



Garage Repair Plans dated January 25, 2019 are for general areas of structural repairs. These areas include scopes of work for bidding purposes. These plans also have recommendations for possible repair details to be made to the CIP and hollow core panel systems. These possible repair details are for reference only and are not engineered solutions. Engineered solutions to be provided by Contractors Engineer.

CERTIFICATION

GARAGE MAINTENANCE  
PACKAGE

The Grand Reserve

925 Grand Boulevard  
Kansas City, MO 64198

Project No.: LEI #1851  
Drawn By:  
Checked By: MJL  
Scale: See Drawing  
Issue Date: January 25, 2019

REVISION SCHEDULE		
Rev. #	Revision Description	Issue Date

GARAGE REPAIR  
LEVEL I & J

S405-G



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Garage Repair Plans dated January 25, 2019 are for general areas of structural repairs. These areas include scopes of work for bidding purposes. These plans also have recommendations for possible repair details to be made to the CIP and hollow core panel systems. These possible repair details are for reference only and are not engineered solutions. Engineered solutions to be provided by Contractors Engineer.

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GARAGE REPAIR  
LEVEL K & L

S406-G

### GARAGE REPAIR KEY NOTES

SEE TYPICAL PATCH BOUNDARY, REBAR UNDERCUTTING AND PATCH DETAILS  
1/S407-G, 2/S407-G, 3/S407-G

#### REPAIR ① SURFACE SLAB SPALL - 1/S408-G

EXAMINE THE SURFACE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF SLAB SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 1/S408-G.

REMOVE THE EXISTING TRAFFIC COATING OVER THE SPALLED AREA. REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS AND WWF. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE BELOW THE STRANDS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, PREPARE AND COAT THE NEWLY PATCHED AREA WITH NEW TRAFFIC COATING WITH A MIN 12" OVERLAP ONTO THE EXISTING STRIPING AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

#### REPAIR ② OVERHEAD SLAB SPALL - 2/S408-G

EXAMINE THE UNDERSIDE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF SLAB SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 2/S408-G.

REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE ABOVE THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, REPAINT THE REPAIR AREA WITH PAINT TO MATCH EXISTING IN COLOR AND TEXTURE. APPLY PRIMER AND FINISH COAT AS REQUIRED FOR A COMPLETE COATING.

#### REPAIR ③ OVERHEAD BEAM SPALL - 3/S408-G

EXAMINE THE UNDERSIDE OF THE BEAM WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF BEAM SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 3/S408-G.

REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE ABOVE THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

AFTER REPAIRS ARE COMPLETED AND FULLY CURED, REPAINT THE REPAIR AREA WITH PAINT TO MATCH EXISTING IN COLOR AND TEXTURE. APPLY PRIMER AND FINISH COAT AS REQUIRED FOR A COMPLETE COATING.

#### REPAIR ④ SLAB FULL DEPTH REPAIR - 4/S408-G

EXAMINE THE SURFACE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF FULL DEPTH SLAB HOLES.

REMOVE WATER, DEBRIS AND SPALLED OR DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. FILL THE FORM VOID WITH STYROFOAM TO CONTAIN THE PATCH MATERIAL AND FORM THE UNDERSIDE OF THE PATCH. BLAST AND PREPARE THE EXPOSED REINFORCING BARS AND WWF. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE BELOW THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS.

AFTER THE REPAIRS ARE COMPLETED AND FULLY CURED, PREPARE AND COAT THE NEWLY PATCHED AREA WITH NEW TRAFFIC COATING WITH A MIN 12" OVERLAP ONTO THE EXISTING COATING AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

#### REPAIR ⑤ EXPANSION JOINT REMOVAL AND REPLACEMENT SEE ALTERNATE #2 - EXCEPT RAMPS BETWEEN LEVELS 'M' AND 'L'

REMOVE DAMAGED THE VERTICAL AND HORIZONTAL JOINT MATERIAL AND THOROUGHLY CLEAN THE JOINTS ACCORDING TO THE JOINT MATERIAL MANUFACTURER'S WRITTEN INSTRUCTIONS. ENSURE THAT THE CONCRETE ON EITHER SIDE AND AROUND THE JOINT IS SOUND, STABLE AND IN A CONDITION TO RECEIVE THE NEW JOINT MATERIAL. PLACE THE NEW JOINT MATERIAL ACCORDING TO THE JOINT MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING CLEANING, PRIMING, INSTALLATION AND CURING.

#### REPAIR ⑥ NEW TRAFFIC COATING

CLEAN THE DESIGNATED AREA OF EXISTING TRAFFIC COATING DOWN TO A STABLE CLEAN CONCRETE SURFACE. MAKE SLAB REPAIRS ACCORDING TO THE REPAIR KEY NOTES AS INDICATED ON THE DRAWINGS. APPLY PRIMER TO THE EXPOSED CONCRETE ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS. APPLY THE LAYERS OF TRAFFIC COATING ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE SPECIFICATIONS. OVERLAP THE NEW COATING ONTO THE EXISTING COATING MIN OF 12" AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

### GARAGE REPAIR GENERAL NOTES

- THE GARAGE LAYOUT SHOWN ON THE REPAIR PLANS WAS TAKEN FROM EXISTING DRAWINGS AND MAY NOT ACCURATELY REFLECT AS-BUILT CONDITIONS. REPORT SIGNIFICANT VARIATIONS BETWEEN THE PLANS AND FIELD CONDITIONS TO THE ARCHITECT/ENGINEER.
- CONTRACTOR TO EXAMINE THE ENTIRE GARAGE PRIOR TO MAKING REPAIRS AND BECOME FAMILIAR WITH EXISTING CONDITIONS. CONTRACTOR TO REPORT TO THE ARCHITECT/ENGINEER IF CONDITIONS ARE FOUND THAT MAY PREVENT THE WORK FROM BEING PERFORMED ACCORDING TO THE DRAWINGS AND SPECIFICATIONS.
- CONTRACTOR TO COORDINATE THE WORK WITH THE PARKING GARAGE OWNER/OPERATOR REGARDING CLOSURE OF AREAS OF THE GARAGE AS REQUIRED TO MAKE THE REPAIRS. WORK SHALL BE PERFORMED ONLY AT NIGHT DURING OFF HOURS IF DESIGNATED BY THE OWNER/OPERATOR.
- THE GENERAL FLOOR DECK FRAMING OF THIS PARKING GARAGE CONSISTS OF CAST-IN-PLACE, POST-TENSIONED SLABS AND BEAMS. THE SLABS ARE APPROXIMATELY 25" DEEP WITH FORM VOIDS THAT CREATE 6" WIDE CONCRETE JOISTS AT APPROXIMATELY 25" TO 26" ON CENTER. THESE JOISTS ARE REINFORCED WITH CONVENTIONAL REBAR AND P/T STRANDS. THE BEAMS ARE ALSO REINFORCED WITH CONVENTIONAL REBAR AND P/T STRANDS. UNDER NO CIRCUMSTANCES ARE THE P/T STRANDS TO BE DISTURBED, CUT, NICKED OR DAMAGED. IF DAMAGE TO P/T STRANDS IS DISCOVERED DURING THE COURSE OF THE PROJECT, STOP WORK IN THE AREA OF THE DAMAGED STRANDS AND REPORT TO THE ARCHITECT/ENGINEER IMMEDIATELY.
- CONTRACTOR SHALL PROVIDE SHORING, DESIGNED BY A SHORING CONTRACTOR, FOR BEAM SPALL REPAIRS. SHORING SHALL EXTEND DOWN NO LESS THAN THREE LEVELS BELOW THE LEVEL OF THE BEAM UNDER REPAIR.
- REFER TO THE WRITTEN SPECIFICATIONS AND MANUFACTURER'S WRITTEN INSTRUCTIONS FOR APPLICATION OF EACH REPAIR MATERIAL. A TECHNICAL REPRESENTATIVE FROM EACH OF THE REPAIR MATERIAL MANUFACTURER'S SHALL VISIT THE SITE AND PROVIDE SITE SPECIFIC INSTRUCTIONS. OBSERVE THE AMBIENT TEMPERATURE LIMITATIONS FOR APPLICATION OF EACH MATERIAL.
- PROTECT THE GARAGE AND GARAGE CONTENTS THROUGHOUT THE COURSE OF THE WORK. DO NOT DAMAGE VEHICLES DURING THE COURSE OF THE WORK. SUCH DAMAGE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- FIELD LOCATE MECHANICAL EQUIPMENT, AIR INTAKE LOUVERS, EXHAUST LOUVERS OR OTHER HVAC EQUIPMENT THAT MAY BE DAMAGED BY DUST AND DEBRIS AND PROVIDE ADEQUATE FILTERS AND PROTECTION. DO NOT ALLOW DUST AND DEBRIS TO ENTER OCCUPIED SPACE IN THE BUILDINGS UNDER AND/OR ATTACHED TO THIS PARKING GARAGE. CONTAIN DUST AND DEBRIS FROM ESCAPING THE GARAGE AND INTO ADJACENT BUILDINGS OR THE PUBLIC ACCESS AROUND THE BUILDING.
- THIS PARKING GARAGE IS SITUATED OVER BASEMENT LEVELS THAT ARE BELOW GRADE. PROTECT THESE BASEMENT LEVELS FROM DAMAGE AS A RESULT OF THE REPAIR WORK. CONTRACTOR SHALL BECOME FAMILIAR WITH THE BASEMENT LEVELS AND TAKE PRECAUTIONS AS NEEDED TO PROTECT THE SAME.
- DO NOT USE EXCESSIVE WATER TO CLEAN. BLAST OR PRESSURE WASH THE GARAGE FLOORS THAT MAY LEAK INTO THE BASEMENTS BELOW. ENSURE THAT THE FLOOR DRAINS ARE CLEAN AND IN GOOD WORKING ORDER TO ENSURE THAT WATER, IF NEEDED, IS PROPERLY MANAGED.
- REPAINT STRIPING, DIRECTIONAL MARKINGS, HANDICAPPED MARKINGS AND OTHER FLOOR MARKINGS AS REQUIRED WHERE EXISTING MARKINGS ARE REMOVED OR DISTURBED BY THE SLAB REPAIR AND REPLACEMENT COATING WORK. OWNER/OPERATOR TO PROVIDE MARKINGS AS REQUIRED FOR OPERATION OF THE GARAGE.

### ALTERNATES

#### ALTERNATE #1 - 100% REMOVAL AND REPLACEMENT OF THE TRAFFIC COATING

REMOVE AND REPLACE 100% OF THE EXISTING TRAFFIC COATING USING A METHOD APPROPRIATE TO THE EXISTING CONCRETE CONDITIONS AND WHICH WILL RESULT IN A SURFACE THAT IS ACCEPTABLE FOR APPLICATION OF A NEW TRAFFIC COATING AS DIRECTED BY THE COATING MANUFACTURER.

MAKE STRUCTURAL REPAIRS TO THE CONCRETE SLAB AS INDICATED ON THE DRAWINGS AND ACCORDING TO THE REPAIR KEY NOTES BEFORE PREPARATION AND APPLICATION OF THE NEW TRAFFIC COATING.

AFTER REPAIR AND PREPARATION AND CURING OF THE CONCRETE SURFACES, APPLY A NEW TRAFFIC COATING OVER 100% OF THE EXPOSED CONCRETE SLAB SURFACE AND 100% OF THE CURBS AND WALKWAYS. APPLY TO THE HORIZONTAL AND VERTICAL SURFACES OF THE CURBS AND WALKWAYS.

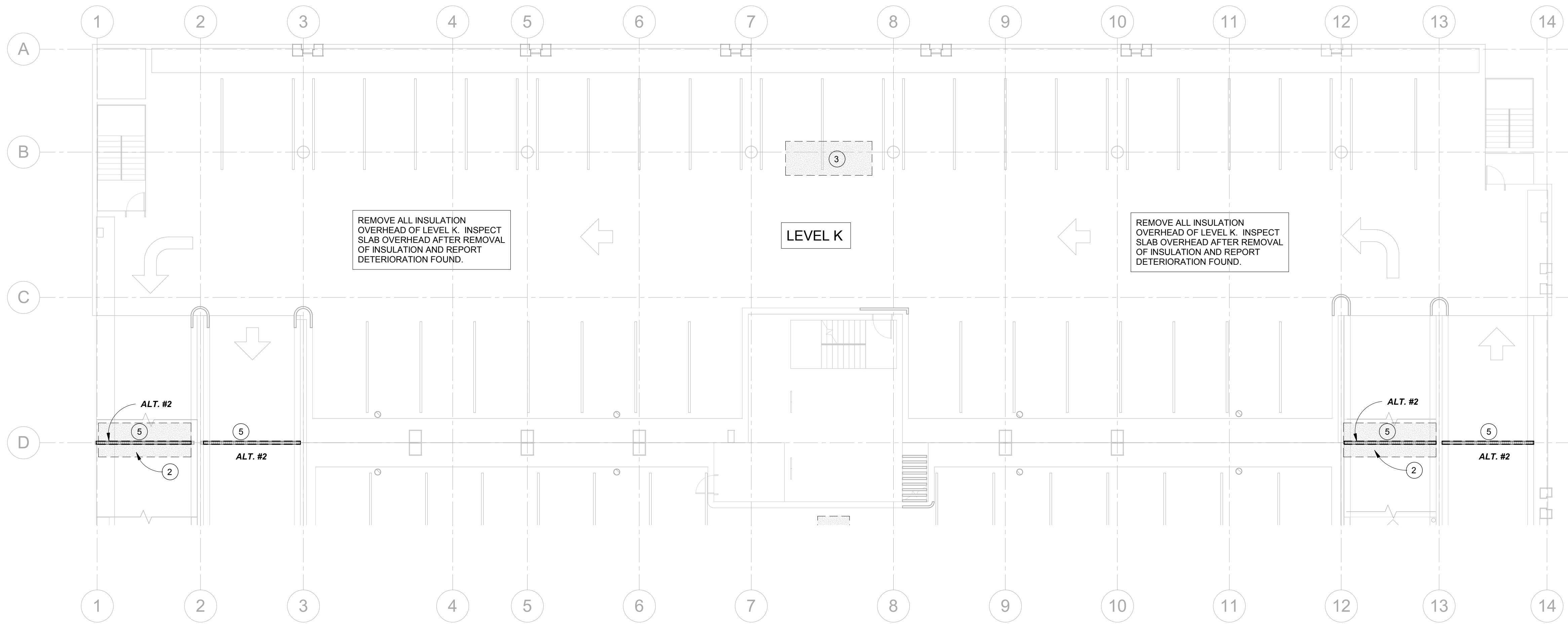
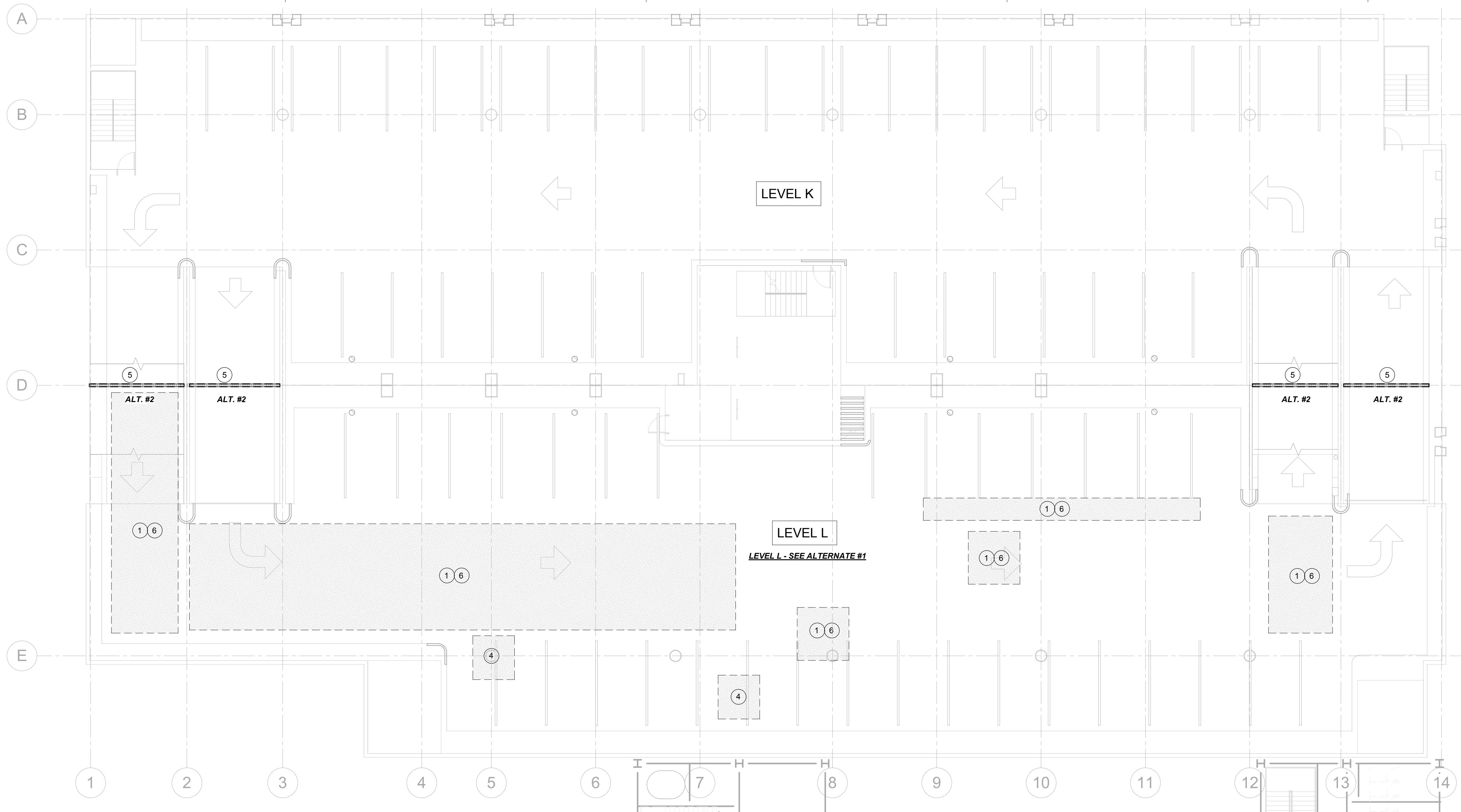
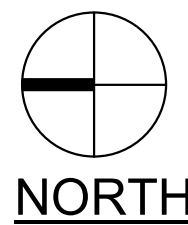
REPAINT STRIPING, DIRECTIONAL MARKINGS, HANDICAPPED MARKINGS AND OTHER MARKINGS AFTER THE NEW TRAFFIC COATING IS APPLIED AND COMPLETELY CURED.

#### ALTERNATE #2 - 100% REMOVAL AND REPLACEMENT OF THE RAMP EXPANSION JOINTS

SEE KEY NOTE 5. REMOVE AND REPLACE 100% OF THE EXISTING RAMP HORIZONTAL AND VERTICAL EXPANSION JOINTS AT ALL LEVELS. NOTE: REPLACEMENT OF EXPANSION JOINTS AT THE SKYWARD RAMPS BETWEEN LEVELS 'M' AND 'L' ARE TO BE CONSIDERED IN THE **BASE BID**.

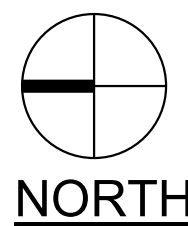
### SURFACE REPAIRS LEVEL K & L

3/32" = 1'-0"



### OVERHEAD REPAIRS LEVEL K

3/32" = 1'-0"





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## GARAGE REPAIR KEY NOTES

SEE TYPICAL PATCH BOUNDARY, REBAR UNDERCUTTING AND PATCH DETAILS  
1/5407-G, 2/5407-G, 3/5407-G

### REPAIR ① SURFACE SLAB SPALL - 1/5408-G

EXAMINE THE SURFACE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF SLAB SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 1/5408-G.

REMOVE THE EXISTING TRAFFIC COATING OVER THE SPALLED AREA. REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS AND WWF. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE BELOW THE STRANDS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS.

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### REPAIR ② OVERHEAD SLAB SPALL - 2/5408-G

EXAMINE THE UNDERSIDE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF SLAB SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 2/5408-G.

REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE ABOVE THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS.

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### REPAIR ③ OVERHEAD BEAM SPALL - 3/5408-G

EXAMINE THE UNDERSIDE OF THE BEAM WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF BEAM SPALLING. DETERMINE IF THE SPALL IS SHALLOW OR DEEP AS DEFINED ON 3/5408-G.

REMOVE SPALLED AND DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. BLAST AND PREPARE THE EXPOSED REINFORCING BARS. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE ABOVE THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS. REPAIR INCIDENTAL DAMAGE TO THE STRAND SHEATHING WITH WATERPROOF TAPE DESIGNED SPECIFICALLY FOR SHEATHING REPAIR AND APPLY ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS.

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### REPAIR ④ SLAB FULL DEPTH REPAIR - 4/5408-G

EXAMINE THE SURFACE OF THE SLAB WITHIN THE DESIGNATED AREA AND IDENTIFY INSTANCES OF FULL DEPTH SLAB HOLES.

REMOVE WATER, DEBRIS AND SPALLED OR DELAMINATED CONCRETE TO A SOUND SUBSTRATE AND PREPARE THE EXPOSED CONCRETE SURFACE. FILL THE FORM VOID WITH STYROFOAM TO CONTAIN THE PATCH MATERIAL AND FORM THE UNDERSIDE OF THE PATCH. BLAST AND PREPARE THE EXPOSED REINFORCING BARS AND WWF. DO NOT DISTURB POST-TENSIONING STRANDS OR REMOVE CONCRETE BELOW THE STRANDS. APPLY PRIMER TO THE CONCRETE SURFACE AND ANTI-CORROSION COATING TO THE REBAR. APPLY THE SPECIFIED PATCH MATERIAL TO THE PREPARED AREA ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS.

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### REPAIR ⑤ EXPANSION JOINT REMOVAL AND REPLACEMENT

SEE ALTERNATE #2 - EXCEPT RAMPS BETWEEN LEVELS 'M' AND 'L'

REMOVE DAMAGED THE VERTICAL AND HORIZONTAL JOINT MATERIAL AND THOROUGHLY CLEAN THE JOINTS ACCORDING TO THE JOINT MATERIAL MANUFACTURER'S WRITTEN INSTRUCTIONS. ENSURE THAT THE CONCRETE ON EITHER SIDE AND AROUND THE JOINT IS SOUND, STABLE AND IN A CONDITION TO RECEIVE THE NEW JOINT MATERIAL. PLACE THE NEW JOINT MATERIAL ACCORDING TO THE JOINT MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING CLEANING, PRIMING, INSTALLATION AND CURING.

### REPAIR ⑥ NEW TRAFFIC COATING

CLEAN THE DESIGNATED AREA OF EXISTING TRAFFIC COATING DOWN TO A STABLE CLEAN CONCRETE SURFACE. MAKE SLAB REPAIRS ACCORDING TO THE REPAIR KEY NOTES AS INDICATED ON THE DRAWINGS. APPLY PRIMER TO THE EXPOSED CONCRETE ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS. APPLY THE LAYERS OF TRAFFIC COATING ACCORDING TO THE MANUFACTURE'S WRITTEN INSTRUCTIONS AND THE SPECIFICATIONS. OVERLAP THE NEW COATING ONTO THE EXISTING COATING MIN OF 12" AROUND THE PERIMETER OF THE REPAIR AREA. RE-PAINT STRIPING AND/OR TRAFFIC MARKINGS AS REQUIRED.

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## ALTERNATES

### ALTERNATE #1 - 100% REMOVAL AND REPLACEMENT OF THE TRAFFIC COATING

REMOVE AND REPLACE 100% OF THE EXISTING TRAFFIC COATING USING A METHOD APPROPRIATE TO THE EXISTING CONCRETE CONDITIONS AND WHICH WILL RESULT IN A SURFACE THAT IS ACCEPTABLE FOR APPLICATION OF A NEW TRAFFIC COATING AS DIRECTED BY THE COATING MANUFACTURER.

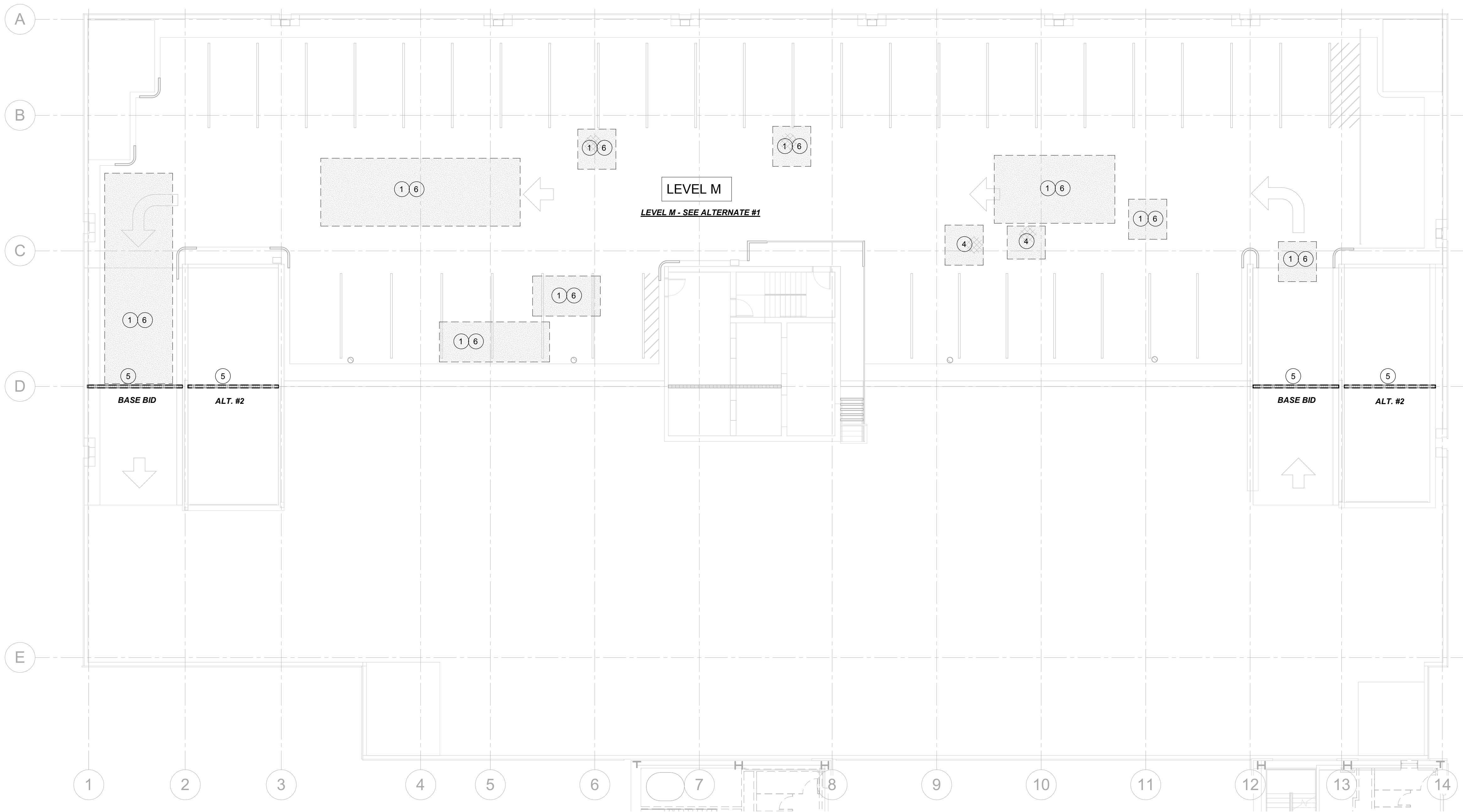
MAKE STRUCTURAL REPAIRS TO THE CONCRETE SLAB AS INDICATED ON THE DRAWINGS AND ACCORDING TO THE REPAIR KEY NOTES BEFORE PREPARATION AND APPLICATION OF THE NEW TRAFFIC COATING.

AFTER REPAIR AND PREPARATION AND CURING OF THE CONCRETE SURFACES, APPLY A NEW TRAFFIC COATING OVER 100% OF THE EXPOSED CONCRETE SLAB SURFACE AND 100% OF THE CURBS AND WALKWAYS. APPLY TO THE HORIZONTAL AND VERTICAL SURFACES OF THE CURBS AND WALKWAYS.

REPAINT STRIPING, DIRECTIONAL MARKINGS, HANDICAPPED MARKINGS AND OTHER MARKINGS AFTER THE NEW TRAFFIC COATING IS APPLIED AND COMPLETELY CURED.

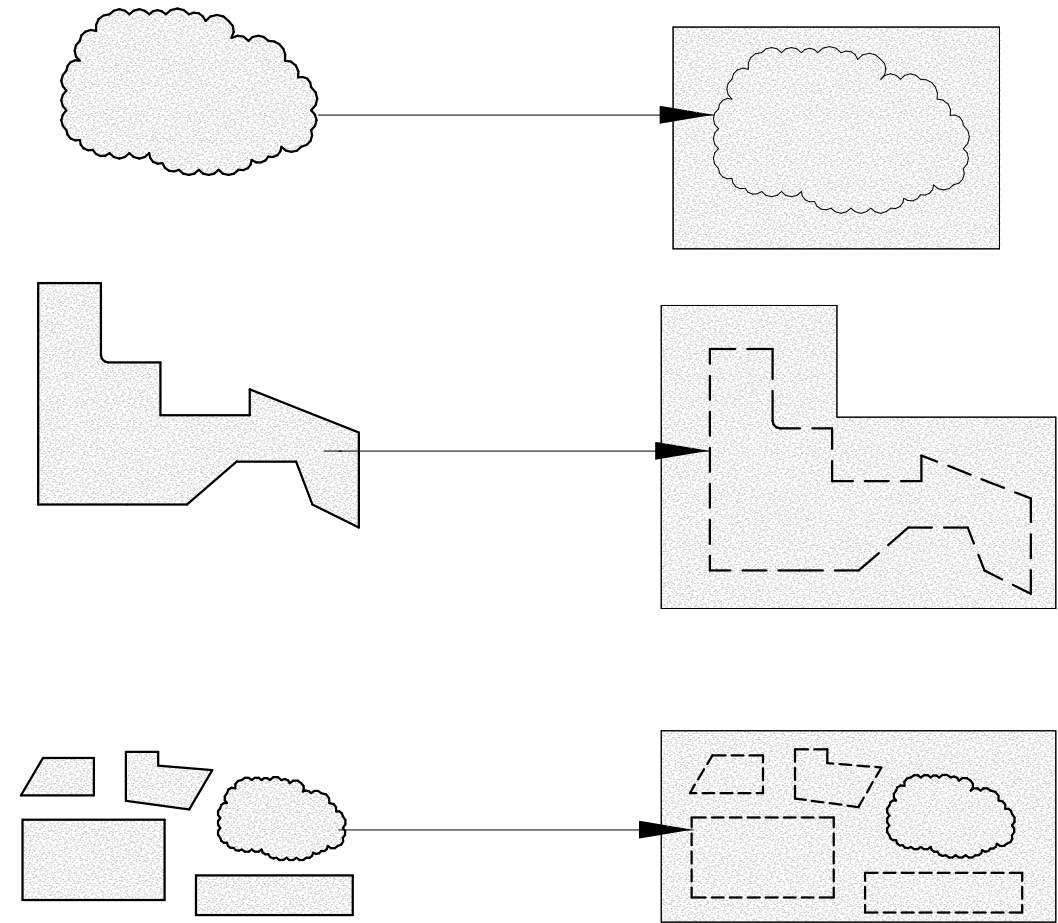
### ALTERNATE #2 - 100% REMOVAL AND REPLACEMENT OF THE RAMP EXPANSION JOINTS

SEE KEY NOTE 5. REMOVE AND REPLACE 100% OF THE EXISTING RAMP HORIZONTAL AND VERTICAL EXPANSION JOINTS AT ALL LEVELS. **NOTE:** REPLACEMENT OF EXPANSION JOINTS AT THE SKYWARD RAMPS BETWEEN LEVELS 'M' AND 'L' ARE TO BE CONSIDERED IN THE **BASE BID**.



## SURFACE REPAIRS LEVEL M

3/32" = 1'-0"



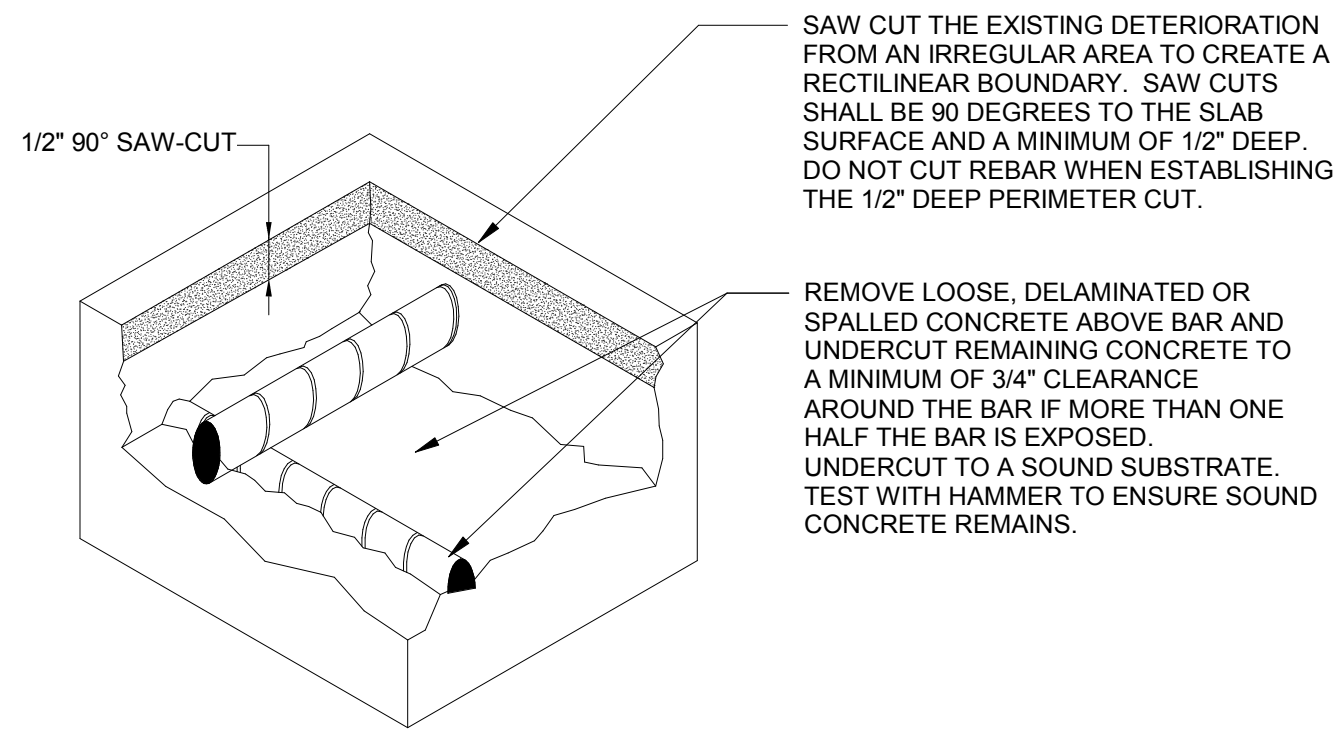
TYPICAL EXISTING BOUNDARY OF LOOSE, DELAMINATED OR SPALLED CONCRETE

TYPICAL EXAMPLE OF RECTILINEAR BOUNDARY FOR A SAW CUT AROUND REPAIR AREA.

1

## TYPICAL SAW CUT BOUNDARY AREAS

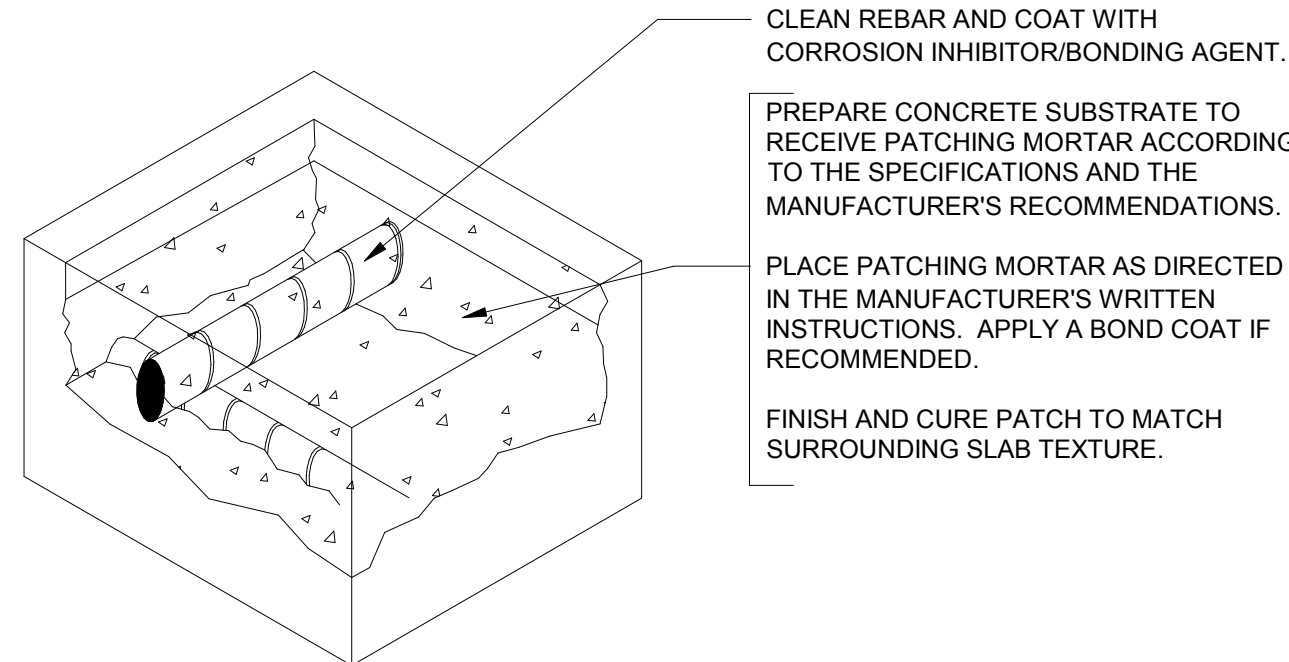
N.T.S.



2

## EXPOSING & UNDERCUTTING OF REINFORCING STEEL

N.T.S.



3

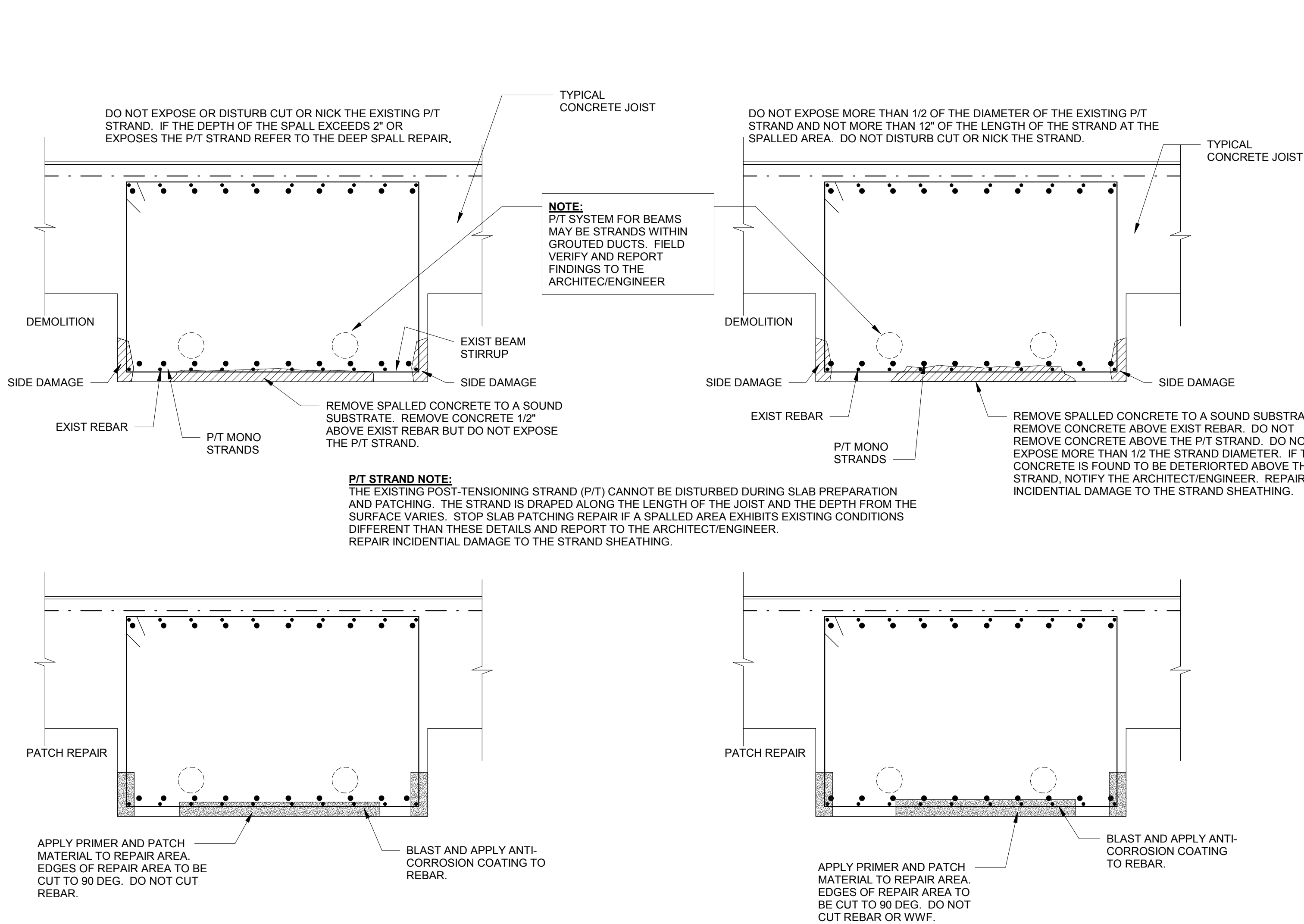
## TYPICAL INSTALLATION OF SURFACE PATCH

N.T.S.

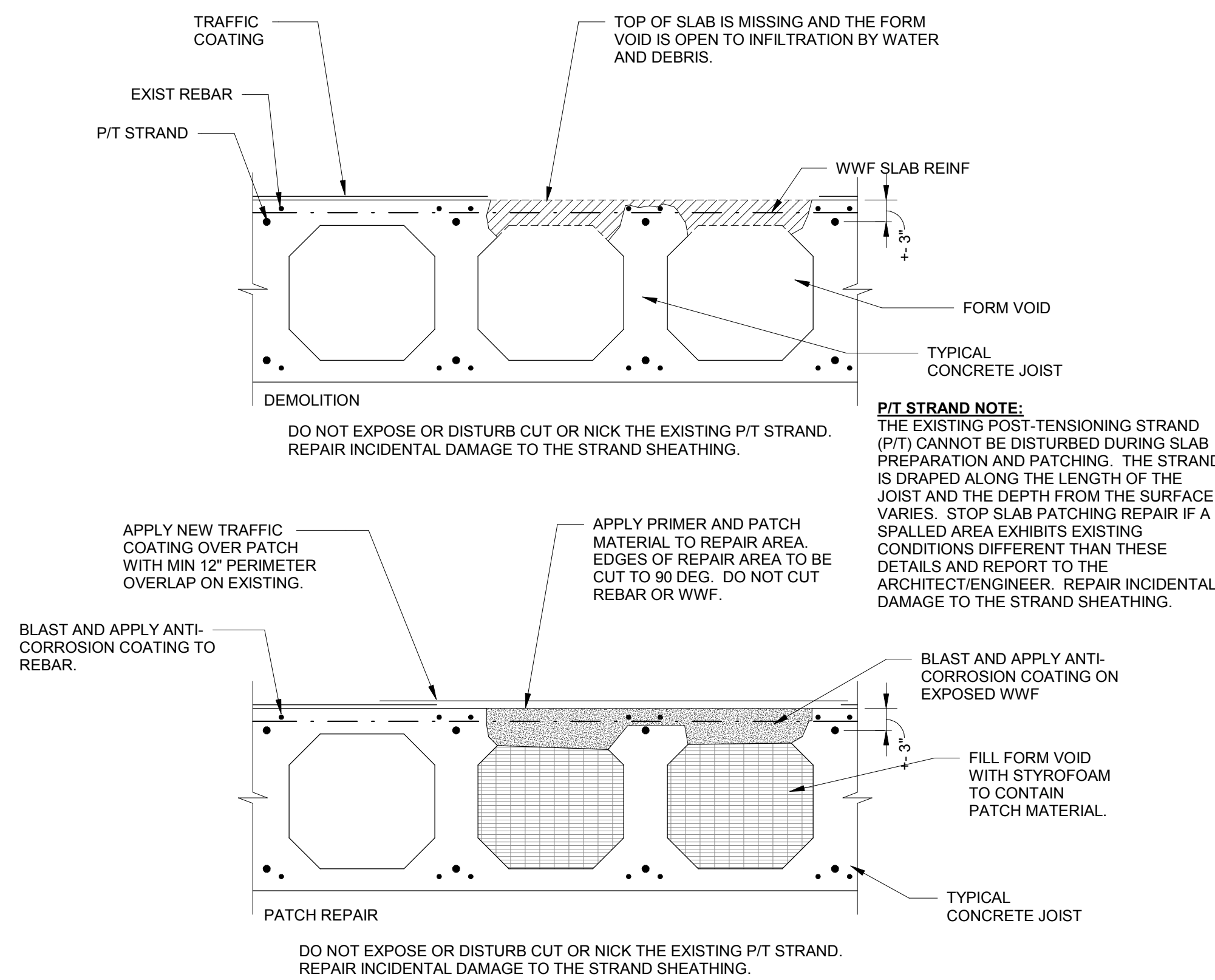


Garage Repair Plans dated January 25, 2019 are for general areas of structural repairs. These areas include scopes of work for bidding purposes. These plans also have recommendations for possible repair details to be made to the CIP and hollow core panel systems. These possible repair details are for reference only and are not engineered solutions. Engineered solutions to be provided by Contractors Engineer.

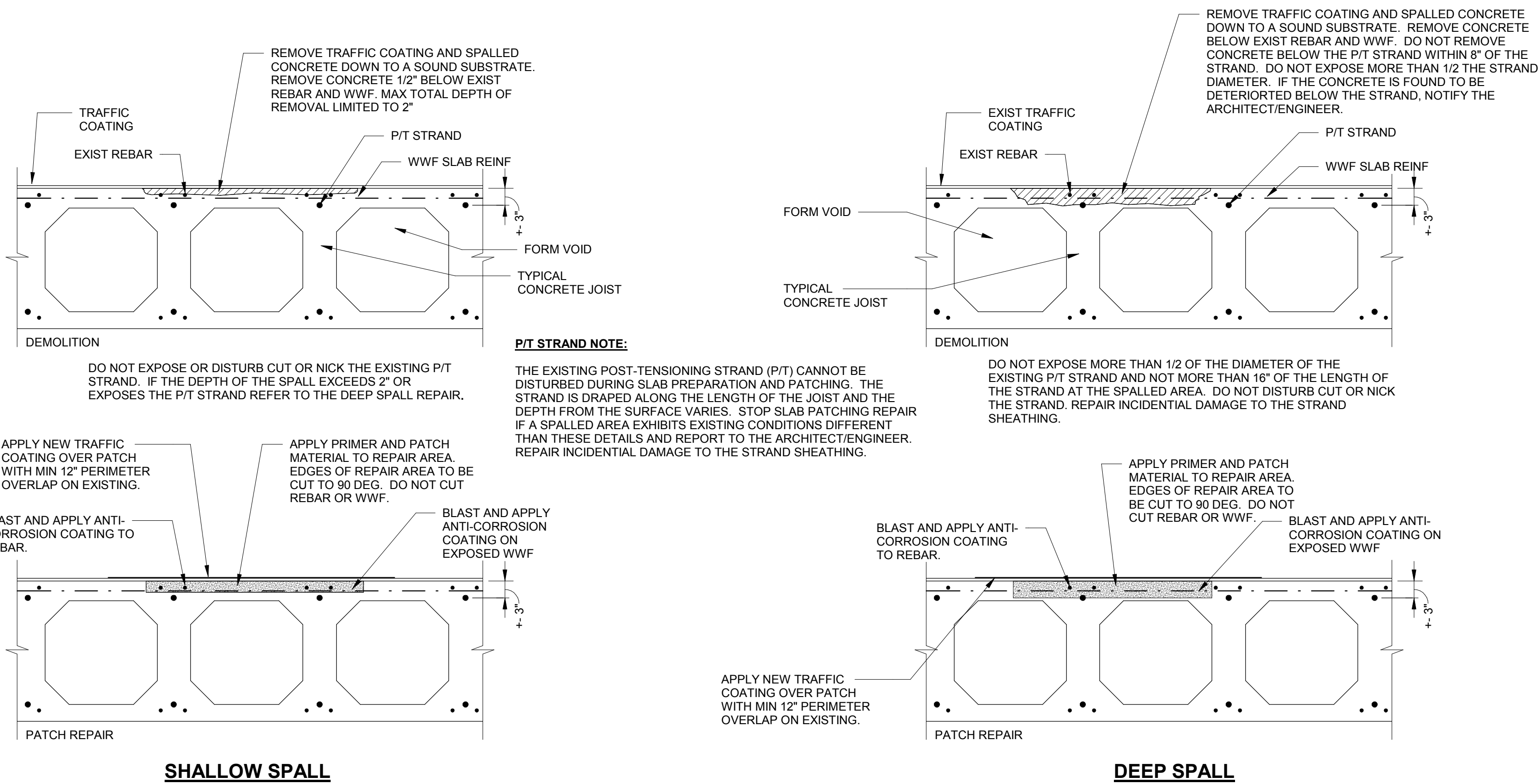
REVISION SCHEDULE		
Rev. #	Revision Description	Issue Date



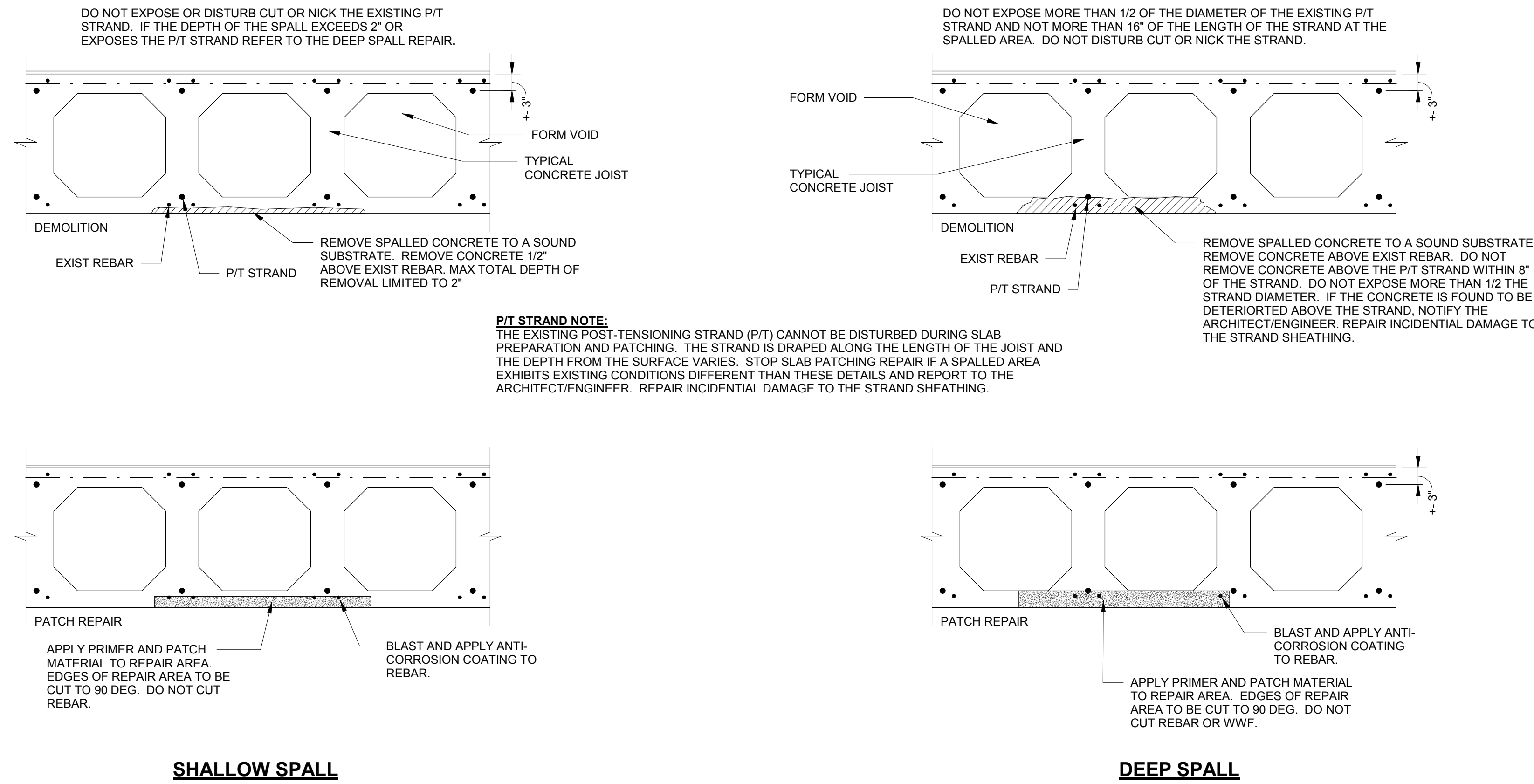
3 REPAIR 3 - OVERHEAD BEAM SPALL  
SCALE: 3/4" = 1'-0"



4 REPAIR 4 - SLAB FULL DEPTH  
SCALE: 3/4" = 1'-0"



1 REPAIR 1 - SURFACE SLAB SPALL  
SCALE: 3/4" = 1'-0"



2 REPAIR 2 - OVERHEAD SLAB SPALL  
SCALE: 3/4" = 1'-0"