

# ABBREVIATION LEGEND:

A.A.	ADDITIVE ALTERNATE	EXIST.	EXISTING	OPP.	OPPOSITE
AFF	ABOVE FINISHED FLOOR	EXP.	EXPANSION	OTC	ONE TECHNOLOGY CENTER
ALT.	ALTERNATE	EXT.	EXTERIOR	PT	POST TENSIONED
APPROX.	APPROXIMATE	FAB	FABRICATION	QTY.	QUANTITY
BLDG	BUILDING	F.F.	FINISH FLOOR	RE.	REFERENCE
BM	BEAM	FLG	FLANGE	REQ'D	REQUIRED
BTM	BOTTOM	FS	FAR SIDE	S	SOUTH
C.F.	CUBIC FOOT	GAL.	GALLON	SE	SOUTHEAST
C.I.P.	CAST-IN-PLACE	GEN	GENERAL	S.F.	SQUARE FEET
C.J.	CONSTRUCTION JOINT	GPR	GROUND PENETRATING RADAR	SHT.	SHEET
C.L.	CENTERLINE	HORIZ.	HORIZONTAL	SIM.	SIMILAR
CLR.	CLEAR	*GPR	GROUND PENETRATING RADAR	SPEC.	SPECIFICATION
COL	COLUMN	INT.	INTERIOR	SS	STAINLESS STEEL
CONC.	CONCRETE	JT(S).	JOINT(S)	SLAB	SLAB ON GRADE
CONN.	CONNECTION	LV	LEVEL	SW	SOUTHWEST
CONT.	CONTINUOUS	LB	POUND	TL	TOTAL QUANTITY
C.O.T.	CITY OF TULSA	LF	LINEAR FOOT	T.O.	TOP OF
C.P.	COVER DECK PATCHES (OLD & NEW)	LS	LUMP SUM	T.O.C.	TOP OF CONCRETE
C.Y.	CUBIC YARD	MAX.	MAXIMUM	TOP.	TOPPING
DELAM.	DELAMINATED	MDFT	MIN. DRY FILM THICKNESS	T.W. TOP	TOP OF WALL
DIA.	DIAMETER	MIN.	MINIMUM	T.S.	TROUBLE SHOOTING
DT	DOUBLE TEE	N	NORTH	TYP.	TYPICAL
E	EAST	NE	NORTHEAST	U.N.W.	UNLESS NOTED OTHERWISE
EA.	EACH	NO.	NUMBER	VERT.	VERTICAL
E.F.	EACH FACE	NS	NEAR SIDE	V.F.	VERTICAL FACE
ELEV.	ELEVATION	N-S	NORTH TO SOUTH	W	WEST
EST.	ESTIMATE	NW	NORTHWEST	W/	WITH
E.	EACH WAY	O.C.	ON CENTER	WWF	WELDED WIRE FABRIC
E-W	EAST TO WEST	O.H.	OVERHEAD		

## GENERAL NOTES

ALL CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE CURRENT CITY OF TULSA CODES AND ORDINANCES, ENGINEERING SERVICES STANDARDS AND SPECIFICATIONS. (CITY OF TULSA ORDINANCES AND CODE AMENDMENTS SUPERCEDE NATIONAL CODES.)

CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL STRUCTURES, LANDSCAPING, PAVING AND ANY OTHER ITEMS LOCATED WITHIN AND OUTSIDE THE WORK AREA. ANY DAMAGE TO PERMANENT ITEMS INCURRED BY THE CONTRACTOR THROUGH HIS WORK IN THIS CONTRACT SHALL BE REPAIRED TO ORIGINAL CONDITION BY THE CONTRACTOR AT HIS OWN EXPENSE.

CONTRACTORS WILL COORDINATE WITH IDENTIFIED MAINTENANCE OPERATIONS PERSONNEL FOR APPLICATION, SHUT OFF AND REMOVAL OF ALL UTILITIES.

## 2022 PARKING GARAGE REPAIRS TULSA AUTHORITY FOR ECONOMIC OPPORTUNITY PROJECT NO. SP 22-02 ACCOUNT NO: 7619741-541101 ENGINEERING SERVICES DEPARTMENT CITY OF TULSA, OKLAHOMA

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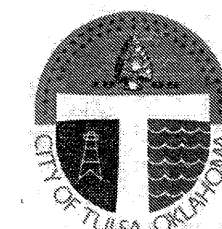
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### PLANS PREPARED BY



wallace  
design  
collective

wallace design collective, pc  
structural-civil-landscape-survey  
123 north martin luther king jr. boulevard  
tulsa, oklahoma 74103  
918.584.5858 • 800.364.5858



ENGINEERING SERVICES  
DEPARTMENT  
CITY OF TULSA, OKLAHOMA

APPROVED BY:

*[Signature]*  
CITY ENGINEER

04.28.22  
DATE

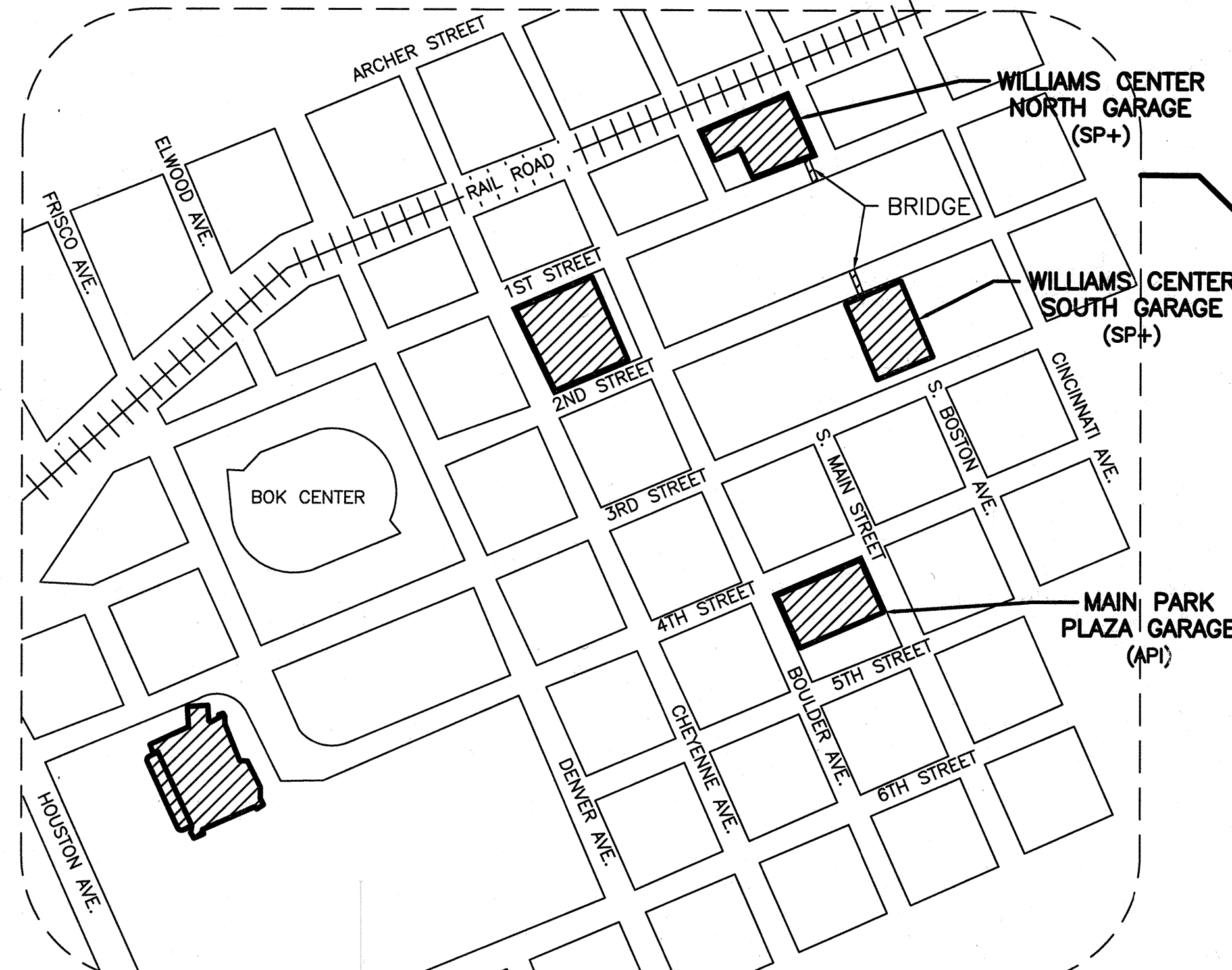
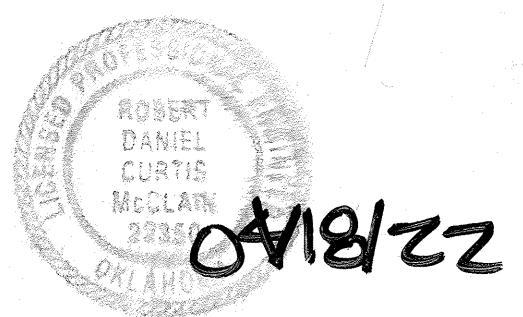
*[Signature]*  
TACO EXECUTIVE DIRECTOR

04.27.22  
DATE

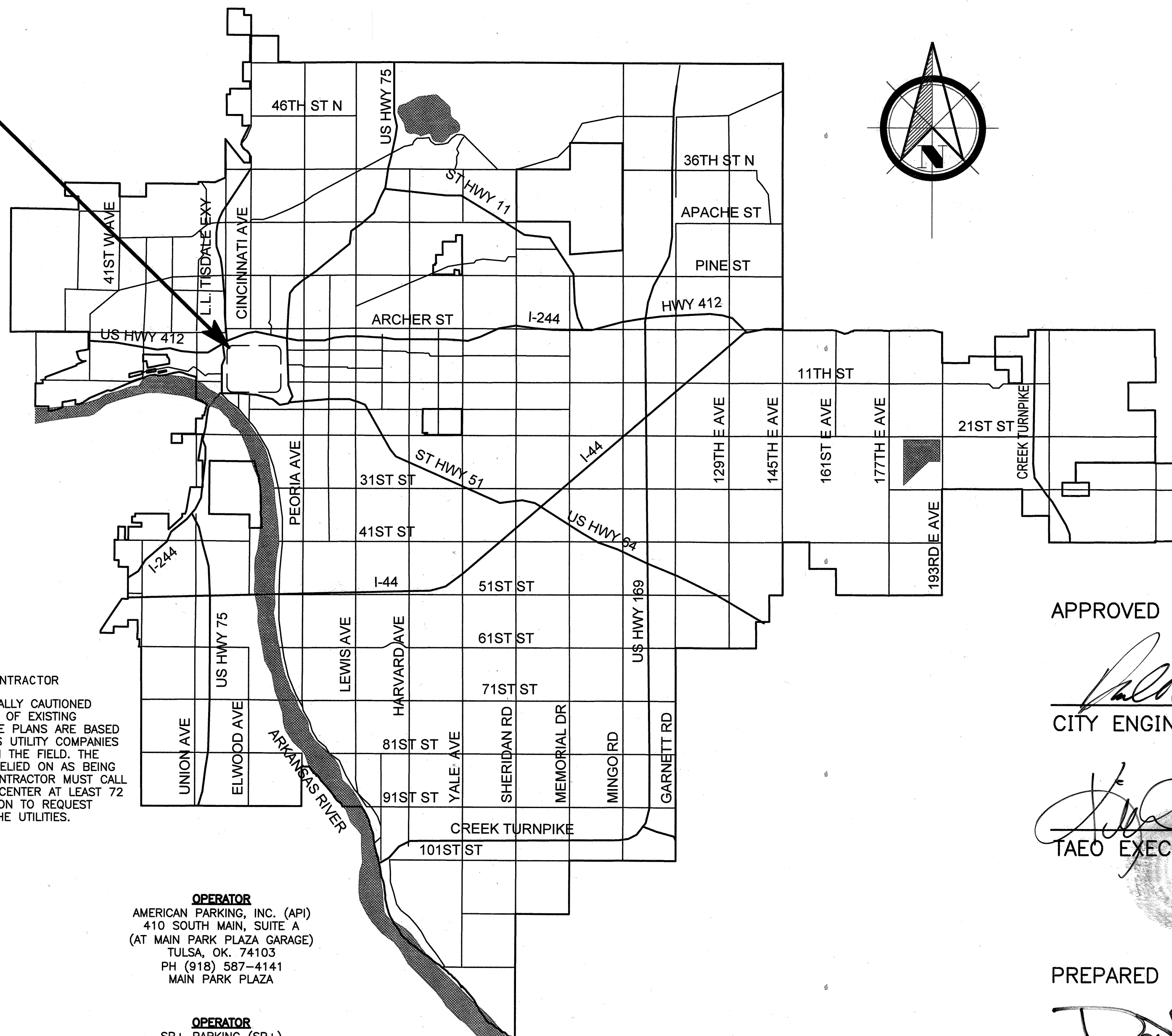
PREPARED BY:

*[Signature]*

DANIEL C. McCLAIN, OK, S.E., P.E. No. 22350  
Oklahoma Certificate of Authorization #1460  
Expiration Date: 6/30/23



LOCATION MAP



VICINITY MAP  
NOT TO SCALE

### CAUTION NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES.

THE ENTIRE PROJECT IS WITHIN CORPORATE LIMITS OF CITY OF TULSA (COT)

THE PROJECT COMPLIES WITH ALL OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REQUIREMENTS.

OPERATOR  
AMERICAN PARKING, INC. (API)  
410 SOUTH MAIN, SUITE A  
(AT MAIN PARK PLAZA GARAGE)  
TULSA, OK. 74103  
PH (918) 587-4141  
MAIN PARK PLAZA

OPERATOR  
SP+ PARKING (SP+)  
20 EAST 2ND STREET  
(AT WILLIAMS CENTER SOUTH GARAGE)  
TULSA, OK. 74103  
PH (918) 582-6515  
WILLIAMS CENTER NORTH  
WILLIAMS CENTER SOUTH

### UTILITY COORDINATION

UTILITY/DEPARTMENT	NUMBER
OKLAHOMA ONE-CALL SYSTEM, INC.	1-800-522-6543
CITY OF TULSA ENGINEERING SERVICES DEPARTMENT	
SPECIAL PROJECTS DESIGN:	918-596-9582
WATER DESIGN	918-596-9566
WASTEWATER DESIGN	918-596-9564
TRANSPORTATION DESIGN	918-596-9636
TRAFFIC ENGINEERING DESIGN	918-596-9741
COT TRAFFIC ENGINEER	918-596-9749
STORMWATER DESIGN	918-596-9498
OKLAHOMA NATURAL GAS	918-831-8261
AT&T	918-596-6702
AEP/PSQ	918-599-2757
MCI	1-800-762-1709
COX COMMUNICATIONS	918-699-4866



SP22-02 TAO GARAGE REPAIR (2022)							
SCHEDULE OF PAY QUANTITIES - BASE BID							
PAY ITEM	REFERENCE	UNITS	PAY ITEM DESCRIPTION	MPP	WCN	WCS	BASE BID
NUMBER	(DETAIL/ SHEET # OR NOTE/ SHEET #)						QUANTITY
1a	DETAIL 1a/13	LF	ROUTE AND SEAL	10	0	1,770	1,780
1b	DETAIL 1b/13	LF	FILL CRACKS / JOINTS WITH CRACK FILLER FOR SLAB ON GRADE	0	0	10	10
2a	NOTE D/4	LF	EPOXY INJECTION - TYPICAL AT BEAMS, COLUMNS, SLAB, WALLS	1,016	0	690	1,706
2b	NOTE L/4	LF	EPOXY INJECTION - EXT. WALL W/ PAINT OR COATING ON EXT.	0	0	520	520
3b	DETAIL 3b/13	SF	STRUCTURAL SLAB - PARTIAL DEPTH PATCH	2,318	0	328	2,646
3d	DETAIL 3d/13, NOTE C/4	SF	STRUCTURAL SLAB - FULL DEPTH REPAIR	183	0	0	183
3e	DETAIL 3e/14	SF	SLAB-ON-GRADE - PARTIAL DEPTH PATCH	1,535	0	19	1,554
3g	DETAIL 3g/14	SF	CURB NOSE REPAIR	2	0	0	2
3j	DETAIL 3b/13, NOTE M/4	SF	STRUCTURAL SLAB - PARTIAL DEPTH PATCH	233	0	0	233
4	DETAIL 4/15	SF	VERTICAL SURFACE / WALL / COLUMN PATCH - PARTIAL DEPTH	58	0	27	85
5a	DETAIL 5a/15	SF	OVERHEAD PATCH - BOTTOM OF SLAB	139	0	200	339
5b	DETAIL 5b/15	SF	OVERHEAD PATCH - BEAM SIDE, SLAB EDGE	22	0	8	30
5e	DETAIL 5e/15	SF	OVERHEAD PATCH - RIB	0	0	8	8
5g	NOTE 10/10 DETAIL 5a/15	SF	OVERHEAD PATCH - BOTTOM OF SLAB - MEGAMIX II - XYPEX	0	0	61	61
5h	NOTE 11/10	SF	OVERHEAD PARGE COAT - MEGAMIX I - XYPEX	0	0	95	95
18	NOTE 4/7	LF	REMOVE EXISTING INJECTION PORTS AND SURFACE SEAL	15	0	0	15
20b	REPAIR NOTE I/4	SF	ELASTOMERIC DECK COATING - REPAIR EXISTING	100	0	274	374
29	DETAIL 29/17	EA	LEVEL M TENDON REPAIR (REPAIR INCLUDES (2) TENDONS)	1	0	0	1
30	DETAIL 30a, 30b, 30c/16	EA	BEAM REPAIR AND NEW CORBEL (WCS)	0	1	0	1
31	DETAIL 31/16	LF	SPlice DETAIL *	30	0	30	60
33	NOTE N/4	EA	INSTALL CRACK MONITORS	0	0	4	4
34	NOTE K/4	SF	WALL TEST AREA - CURTAIN INJECTION	0	0	300	300
35	NOTE L/4 AND NOTE 1/11 & 3/11	LF	OVERHEAD LEAK INJECTION AT CONTROL JOINTS	0	0	217	217
36	DETAIL 36/14	EA	WALL TEST AREA - PRESSURE RELIEF DRAINS	0	0	5	5
40	SPEC 012100	ALLOW	OWNER'S ALLOWANCE	--	--	--	1
41	NOTE 18/SHT. 3	EA	PORTABLE DUST CONTAINMENT BARRIERS REQ'D WITHIN 20 FEET OF CARS	--	--	--	1

\* BASE BID ITEM QUANTITIES AND LOCATIONS ARE ESTIMATED. THE BASE BID QUANTITIES PROVIDED AND MARKED WITH \* ARE FOR BIDDING PURPOSES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY THESE CONDITIONS IN THE FIELD DURING REPAIRS AND APPLY THE CORRECT REPAIR DETAIL ACCORDINGLY.

SCHEDULE OF PAY QUANTITIES - ADDITIVE ALTERNATES							
PAY ITEM	REFERENCE	UNIT	PAY ITEM DESCRIPTION	MPP	WCN	WCS	ADD ALT BID
NUMBER	(DETAIL/ SHEET # OR NOTE/ SHEET #)						QUANTITY
ADD ALT #1	MAIN PARK PLAZA		ADDITIVE ALTERNATE (#1) FOR MPP				
A32	DETAIL 32/18	EA	SLAB REPAIR AT PT ANCHORAGE ZONE *	45			45
ADD ALT #2	WILLIAMS CENTER SOUTH		ADDITIVE ALTERNATE (#2) FOR WCS				
A20b	REPAIR NOTE I/4	SF	ELASTOMERIC DECK COATING - REPAIR EXISTING			4950	4950

\* BASE BID ITEM QUANTITIES AND LOCATIONS ARE ESTIMATED. THE BASE BID QUANTITIES PROVIDED AND MARKED WITH \* ARE FOR BIDDING PURPOSES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY THESE CONDITIONS IN THE FIELD DURING REPAIRS AND APPLY THE CORRECT REPAIR DETAIL ACCORDINGLY.

SPECIAL INSPECTIONS

- THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS PER SECTION 1704 AND 1705 OF THE IBC. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR THE INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO COMPLETION OF THAT PHASE OF WORK. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON BY THE PERMIT APPLICANT AND THE BUILDING OFFICIAL PRIOR TO THE START OF WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE SPECIAL INSPECTOR REGARDING INDIVIDUAL INSPECTION FOR ITEMS LISTED ON THE STATEMENT OF SPECIAL INSPECTIONS AND AS NOTED ON THE BUILDING DEPARTMENT APPROVED PLANS. ADEQUATE NOTICE AND ACCESS TO APPROVED PLANS SHALL BE PROVIDED SO THAT THE SPECIAL INSPECTOR HAS TIME TO BECOME FAMILIAR WITH THE PROJECT.

STATEMENT OF SPECIAL INSPECTIONS (IBC 2015)

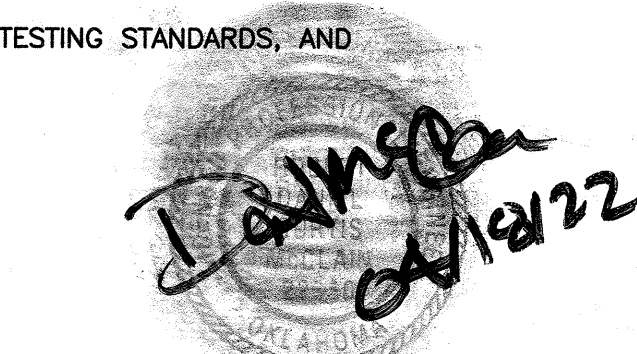
REQUIRED VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC
CONCRETE CONSTRUCTION (IBC TABLE 1705.3)		
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS AND PLACEMENT.	---	X
2. INSPECT ANCHORS CAST IN CONCRETE.	---	X
3. INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE MEMBERS. A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST TENSION LOADS. B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A.	X --- ---	--- X
4. VERIFYING USE OF REQUIRED DESIGN MIX AND SPECIFIED REPAIR PRODUCTS.	---	X
5. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	---
6. INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	---
7. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	---	X
8. INSPECT CONCRETE FOR: A. APPLICATION OF PRESTRESSING FORCES	X ---	--- X
9. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	---	X
10. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	---	X

CONCRETE SURFACE BOND TESTING

- THE OWNER SHALL EMPLOY ONE OR MORE TESTING COMPANIES TO PROVIDE TESTING DURING CONSTRUCTION ON THE TYPES OF WORK LISTED BELOW. THE TESTING COMPANY SHALL BE QUALIFIED TO PERFORM THE LISTED TESTING STANDARDS AND DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL.
- TESTING COMPANY SHALL KEEP RECORDS OF SAMPLING AND TESTING. TESTING COMPANY SHALL FURNISH TESTING REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THE MATERIAL SAMPLED AND TESTING RESULTS PER THE ASTM STANDARDS LISTED.
- THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE TESTING COMPANY REGARDING INDIVIDUAL SAMPLING FOR ITEMS LISTED. ADEQUATE NOTICE AND ACCESS TO THE SITE.
- REFER TO SPECIFICATION 030131 FOR TESTING COMPANY QUALIFICATIONS, TESTING STANDARDS, AND TESTING/SAMPLING RATES.
- TESTING LOCATIONS WILL BE DETERMINED BY ENGINEER AT THE TIME OF CONSTRUCTION.

CONCRETE MATERIAL TESTING

- THE OWNER SHALL EMPLOY ONE OR MORE TESTING COMPANIES TO PROVIDE TESTING DURING CONSTRUCTION ON THE TYPES OF WORK LISTED BELOW. THE TESTING COMPANY SHALL BE QUALIFIED TO PERFORM THE LISTED TESTING STANDARDS AND DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL.
- TESTING COMPANY SHALL KEEP RECORDS OF SAMPLING AND TESTING. TESTING COMPANY SHALL FURNISH TESTING REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THE MATERIAL SAMPLED AND TESTING RESULTS PER THE ASTM STANDARDS LISTED.
- THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE TESTING COMPANY REGARDING INDIVIDUAL SAMPLING FOR ITEMS LISTED. ADEQUATE NOTICE AND ACCESS TO THE SITE.
- REFER TO SPECIFICATION 030131 AND 033000 FOR TESTING COMPANY QUALIFICATIONS, TESTING STANDARDS, AND TESTING/SAMPLING RATES.
- TESTING LOCATIONS WILL BE DETERMINED BY ENGINEER AT THE TIME OF CONSTRUCTION.



Oklahoma Certificate of Authorization #1460  
Expiration Date: 6/30/23

REVISION	BY	DATE	PLAN SCALE:	DRAWN		APPROVED:
				DESIGNED		
				SURVEY		
			PROFILE SCALE:	PROJ. MGR.		
			HORIZONTAL:	LEAD ENGR.	<i>[Signature]</i> 4/22	
			VERTICAL:	FIELD MGR.	<i>[Signature]</i> 4/22	
				RECOMMENDED:	<i>[Signature]</i> 4-22	
				DESIGN MANAGER		
			FILE:	DRAWING:		DATE:
			ATLAS PAGE NO.:	8		SHEET 2 OF 18 SHEETS

SUMMARY OF PAY QUANTITIES  
SPECIAL INSPECTIONS & TESTING

PROJECT SP22-02  
2022 GARAGE REPAIRS  
TULSA AUTHORITY FOR  
ECONOMIC OPPORTUNITY

wallace design collective, pc  
structural - civil - landscape - survey  
123 north martin luther king jr. boulevard  
tulsa, oklahoma 74103  
918.584.5858 - 800.364.5858

APPROVED:  
*[Signature]*  
CITY ENGINEER



1.0 BIDDING GENERAL NOTES

1. THE BASE BID SHALL BE A UNIT PRICE CONTRACT WHICH SHALL INCLUDE ALL THE REPAIR ITEMS LISTED ON THE SCHEDULE OF PAY QUANTITIES—BASE BID AND AS SHOWN ON THE CONTRACT DRAWINGS. ADDITIONAL QUANTITIES OF SOME REPAIR TYPES ARE PRESENTED AS ADDITIVE ALTERNATES.
- A. REPAIR ITEMS NOT SHOWN, OR QUANTITIES BEYOND THOSE DEFINED OR SHOWN ON THE CONTRACT DRAWINGS, SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER / ENGINEER FOR EVALUATION AND APPROVAL OF THE REPAIR AND THE UNIT COST BEFORE BEGINNING THAT REPAIR.
- B. IF THE ADDITIVE ALTERNATE OF THE SAME REPAIR ITEM TYPE PROVIDED IN THE BASE BID IS NOT ACCEPTED, ADDITIONAL QUANTITIES OF REPAIR AUTHORIZED BY THE OWNER, ABOVE THE BASE BID QUANTITY, SHALL BE PROVIDED AT THE BASE BID UNIT PRICE.
2. UNIT PRICES
- A. UNIT PRICES AS DEFINED FOR BIDDING WILL BE USED FOR PAYMENT.
- B. A UNIT BID PRICE FOR A TYPE OF REPAIR TYPICALLY INCLUDES ALL MATERIALS AND WORK NEEDED TO COMPLETE THAT REPAIR UNLESS SPECIFICALLY NOTED OTHERWISE.
- C. REPAIR OR REPLACEMENT OF TOPPING SLAB, (OVER A PRECAST MEMBER), SHALL BE CONSIDERED A PARTIAL DEPTH REPAIR. ANY PORTION OF THE TOPPING SLAB REPAIR THAT INCLUDES REPAIR 1" OR DEEPER INTO THE PRECAST FLANGE BELOW WILL BE CONSIDERED STRUCTURAL SLAB FULL DEPTH REPAIR.
- D. UNIT PRICE FOR EPOXY INJECTION AT EXTERIOR FACE OF WALL SHALL INCLUDE THE COST FOR ACCESSING THE EXTERIOR FACE OF THE WALL OR MEMBER, U.N.O.
- E. UNIT PRICE FOR EPOXY DECK SEALER OR OTHER DECK COATING SHALL INCLUDE RESTRIPING THE DECK WITH AN APPROVED STRIPING PAINT, WITH THE STRIPING LAYOUT AND COLOR TO MATCH EXISTING.
- F. FOR PURPOSE OF BIDDING, UNLESS OTHERWISE NOTED WITH LARGER TOTAL QUANTITIES ON THE GARAGE SCHEDULES, THE TOTAL QUANTITY OF FULL DEPTH REPAIR OF STRUCTURAL SLAB AND OF SLAB-ON-GRADE SHALL BE ASSUMED AS 100 SQ. FT TOTAL FOR EACH PAY ITEM.
3. MEASUREMENT AND RECORDING PROCEDURES
- A. KEEP DAILY LOG OF REPAIRS BY FLOOR LEVEL, LOCATION, TYPE AND QUANTITY OF EACH REPAIR MADE. SUBMIT A COPY WITH REQUESTS FOR PAYMENT IF REQUIRED BY OWNER.
- B. RECORD AND MARK ALL REPAIRS BY TYPE AND QUANTITY ON A SET OF PLANS TO BE SUBMITTED TO THE OWNER AT THE END OF THE PROJECT. THESE SHALL MATCH PAY REQUEST SUBMITTALS.
- C. AREAS OF SLAB REPAIRS AND FULL DEPTH SLAB REPLACEMENT WILL BE MEASURED BY THE PROJECTED PLAN AREA OF THE SURFACE REPAIRED OR REPLACED.
- D. SURFACE CRACK FILLER REPAIRS AND SEALANT REPAIRS WILL BE MEASURED BY THE LINEAR FEET OF REPAIR PROVIDED ON ALL EXPOSED FACES OF A MEMBER UNLESS OTHERWISE NOTED. SLAB CRACK FILLER REPAIRS SHALL BE MEASURED FOR PAYMENT AS THE LENGTH ON THE TOP SURFACE ONLY, AND WILL NOT BE CONSIDERED AS TWO CRACKS UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS. EVEN IF THE BOTTOM SURFACE NEEDS TO BE SEALED TO CONTAIN THE CRACK FILLER RESIN.
- E. BID NOTES FOR EPOXY INJECTION:
1. PAY QUANTITY FOR EPOXY INJECTION REPAIRS WILL BE MEASURED BY THE LINEAR FEET OF EPOXY SURFACE SEAL INSTALLED ON CONCRETE SURFACES FOR THE REPAIR OF SIGNIFICANT CRACKS AS DEFINED BY THE BID QUANTITIES PROVIDED ON THE DRAWINGS. FOR EXAMPLE, THE PAY QUANTITY FOR INJECTION REPAIR OF A BEAM CRACKS ON TWO VERTICAL FACES AND THE BOTTOM OF BEAM WILL INCLUDE SURFACE SEAL ON ALL THREE FACES.
2. SURFACE SEAL ADJACENT FINE ("SPIDER") CRACKS TO CONTROL MINOR LEAKS – THIS IS NOT TO BE COUNTED AS CRACK REPAIR LINEAR FOOTAGE AND WILL NOT BE INCLUDED AS A PAY QUANTITY.
3. CONTRACTOR SHALL PROVIDE A WRITTEN ESTIMATE OF LINEAR FEET OF INJECTION PAY QUANTITIES FOR APPROVAL TO THE OWNER.
4. INSTALLED QUANTITIES FOR PAYMENT OF EPOXY INJECTION SHALL NOT EXCEED THE BID QUANTITIES PROVIDED ON THE DRAWINGS BY MORE THAN 10 PERCENT WITHOUT WRITTEN APPROVAL OF THE OWNER INSPECTOR.
- F. SLAB SURFACE REPAIRS, WATER REPELLANT SEALERS, DECK SEALERS AND DECK COATINGS NOTED AS A SEPARATE UNIT BID PRICE, WILL BE MEASURED BY THE PROJECTED PLAN AREA OF THE SURFACE. VARIATIONS IN SURFACES SHALL NOT BE CONSIDERED. FOR STAIRS, ALSO COAT THE RISERS AND THE EXPOSED VERTICAL FACE ALONG THE INSIDE EDGE OF STAIRS, FOR NO ADDED PAY QUANTITY.
- G. COATINGS, SEALERS, SPRAY APPLICATION REPAIRS ON WALLS OR WALL REPAIRS NOTED AS A SEPARATE UNIT BID PRICE WILL BE MEASURED BY THE SURFACE AREA COVERED.
4. THE WIDTH OR SIZE OF EXISTING CRACKS NOTED FOR EPOXY INJECTION HAVE NOT BEEN VERIFIED AS INJECTABLE. CONTRACTOR SHALL FIELD DETERMINE AND DEMONSTRATE THAT CRACKS ARE OF ADEQUATE SIZE TO BE INJECTED, AS EVIDENCED BY CONTINUED FLOW OF EPOXY FROM ONE INJECTION PORT TO THE NEXT. IF FLOW IS NOT ACHIEVED, THE CRACK QUANTITY IN QUESTION IS NOT ACCEPTED FOR PAYMENT.
5. FOR ALL CRACK INJECTION, CONTRACTOR SHALL SEAL THE OPPOSITE FACE AS REQUIRED, AND SHALL REMOVE ALL PORTS, EPOXY SEALER GEL AND EXCESS EPOXY FROM THAT SURFACE UPON COMPLETION OF THE REPAIR.
6. CRACK INJECTION IN THE SURFACE OF EXISTING COATED DECK SHALL BE COATED WITH NEW DECK COATING AS PART OF THE INJECTION REPAIR, FOR NO ADDED COST TO OWNER.
7. PAINT RESTRIPING OF PARKING STALLS AND TRAFFIC LINES DAMAGED DURING A REPAIR SHALL BE CONSIDERED AS INCIDENTAL TO THAT REPAIR WITHOUT ADDED COST TO THE OWNER.
8. CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND VERIFYING ALL QUANTITIES WITH OWNER'S INSPECTOR BEFORE SUBMITTAL OF PAY REQUEST FOR THOSE QUANTITIES.
9. IN GENERAL, QUANTITIES ARE ESTIMATED FOR BID. FIELD DETERMINE ACTUAL QUANTITIES FOR REPAIR. OBTAIN OWNER APPROVAL TO EXCEED BID QUANTITIES BY MORE THAN 10%.

2.0 GENERAL NOTES:

1. CONFIGURATIONS AND DIMENSIONS OF THE STRUCTURE WERE OBTAINED FROM ORIGINAL CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY AS NECESSARY FOR HIS PURPOSES. THE TYPE OF ORIGINAL CONSTRUCTION AND SLAB INFORMATION, INCLUDING SLAB REINFORCING, IS PROVIDED FROM THE ORIGINAL DOCUMENTS WHERE IT WAS AVAILABLE ON THOSE DOCUMENTS.
2. THE DETERIORATION AND DAMAGE SHOWN ON THESE DRAWINGS, INCLUDING SPALLS, CRACKS, DELAMINATIONS, ETC., WERE DETECTED AND RECORDED DURING CONDITION SURVEYS CONDUCTED IN MAY OF 2021. THE QUANTITIES, SIZES AND LOCATIONS OF DETERIORATION AND DAMAGE SHOWN ARE CONSIDERED ACCURATE, BUT MUST BE FIELD VERIFIED BY THE CONTRACTOR DURING HIS PRE-CONSTRUCTION SURVEY.
3. CONTRACTOR SHALL PERFORM A PRE-CONSTRUCTION SURVEY OF EACH FLOOR LEVEL OF EACH GARAGE TO LOCATE THE DEFINED DETERIORATION TO BE REPAIRED AND TO VERIFY THE DETERIORATION TYPE AND QUANTITIES TO BE REPAIRED. MARK THE BOUNDARIES OF THE ACTUAL REPAIRS TO BE PERFORMED AND ESTIMATE THE QUANTITIES OF REPAIR FOR REVIEW AND APPROVAL BY THE OWNER / ENGINEER BEFORE BEGINNING THE REPAIRS. DETERIORATION NOT SHOWN IN THESE DRAWINGS, BUT DETECTED DURING THE CONTRACTOR'S PRECONSTRUCTION SURVEY OR DURING CONSTRUCTION, SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER / ENGINEER FOR EVALUATION OF REPAIR. DO NOT REPAIR ITEMS WHICH ARE NOT PRESENTLY NOTED FOR REPAIR, NOR QUANTITIES THAT EXCEED THE BID AMOUNTS, UNLESS SPECIFICALLY AUTHORIZED BY THE OWNER.

2.0 GENERAL NOTES CONT.:

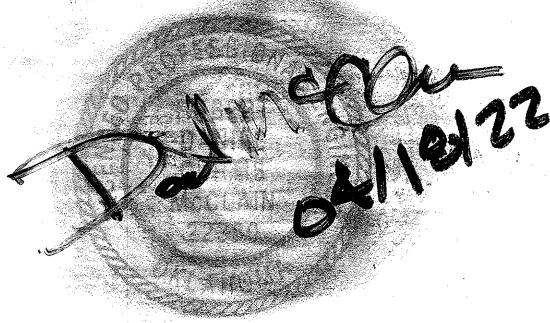
4. SHORE THE STRUCTURE TEMPORARILY AS INDICATED, OR AS OTHERWISE NECESSARY TO PERFORM THE REPAIRS. WHERE SHORING IS NEEDED, SUBMIT A SHORING PLAN FOR APPROVAL PRIOR TO BEGINNING WORK, WITH CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OKLAHOMA. SUBMIT A PLAN TO THE OWNER / ENGINEER THAT PROVIDES FOR TEMPORARY SAFE SUPPORT OF ALL STRUCTURAL LOADS BY SHORING. UNLESS OTHERWISE APPROVED, SHORING LOADS SHALL BE TAKEN DOWN TO GROUND LEVEL. SHORING PLANS SHALL PROVIDE THE LOCATIONS AND SPECIFIC SHORING MEMBERS TO BE UTILIZED, INCLUDING THEIR RATED CAPACITIES. SHIM TOP AND BOTTOM BEARING PLATES AS REQUIRED FOR UNIFORM BEARING. DO NOT REMOVE SHORING UNTIL STRUCTURAL REPAIRS OF THE SUPPORTED ELEMENT(S) ARE COMPLETE AND REPAIR MATERIALS HAVE REACHED DESIGN STRENGTH.
5. PROVIDE PROTECTION FROM FALLING CONCRETE DURING CONSTRUCTION. WHERE SAND, SHOT OR ABRASIVE BLASTING IN A WORK AREA IS PERMITTED, ERECT PROTECTIVE BARRIERS AND WARNING SIGNS AT A SUITABLE DISTANCE TO PROTECT CITIZENS, VEHICLES, AND BUILDING ELEMENTS FROM HAZARDS ASSOCIATED WITH THE OPERATION. COLLECT AND REMOVE ALL BLAST MATERIALS, RESIDUE AND DUST FOLLOWING THE WORK IN EACH AREA BEFORE OPENING IT UP TO PUBLIC USE. COMPLY WITH LOCAL, STATE AND FEDERAL REQUIREMENTS FOR CONTROL, COLLECTION AND DISPOSAL OF DUST AND DEBRIS.
6. COORDINATE ALL REPAIR WORK WITH THE OWNER AND WITH THE GARAGE PROPERTY MANAGER (OPERATOR). PROVIDE A PLAN OF WORK AND CALENDAR SCHEDULE FOR APPROVAL BY THE OWNER AND OPERATOR WHICH DELINEATES SPECIFIC ZONES OR AREAS OF WORK IN EACH LEVEL, AND THE SEQUENCE PROPOSED. DO NOT BLOCK OFF AREAS FOR WORK, OR BEGIN WORK, WITHOUT APPROVAL. PROVIDE A MINIMUM 48 HOURS NOTICE TO BOTH OWNER AND OPERATOR BEFORE BEGINNING CONSTRUCTION ON ANY AREA.
7. NORMAL WORKING HOURS FOR THIS CONSTRUCTION WILL BE 6 PM TO 6 AM MONDAY THROUGH FRIDAY, AND 6 PM FRIDAY UNTIL 6 AM FOLLOWING MONDAY OVER WEEKENDS, UNLESS A SPECIAL EVENT IS SCHEDULED. THE OWNER / OPERATOR WILL PROVIDE A SCHEDULE OF SPECIAL EVENTS PLANNED FOR THE PERIOD OF CONSTRUCTION DURING WHICH REPAIR ACTIVITIES MAY NOT BE ALLOWED OR MAY BE RESTRICTED. CONTRACTOR WILL ADJUST HIS SCHEDULE FOR THESE SPECIAL EVENTS FOR NO EXTRA COST TO OWNER.
8. WITH APPROVAL OF THE GARAGE PROPERTY MANAGER (OPERATOR), FOR COMPLETION OF A REPAIR OR FOR ADDITIONAL CURING TIME FOR REPAIR MATERIALS, CONTRACTOR MAY BLOCK OFF UP TO 8 CONTIGUOUS PARKING SPACES WHICH ARE NOT NOTED AS "RESERVED" FOR UP TO 24 HOURS DURING THE NORMAL WEEK FOR MONDAY THROUGH FRIDAY. IF ANY OF THE SPACES ARE INDICATED AS "RESERVED", CONTRACTOR MUST NOTIFY THE PROPERTY MANAGER AT LEAST 48 HOURS IN ADVANCE OF BLOCKING THAT SPACE(S) OFF. CONTRACTOR MAY USE UP TO TWO (2) PARKING SPACES ON THE ROOF OF THE GARAGE, OR WHERE OTHERWISE APPROVED BY THE PROPERTY MANAGER, FOR TEMPORARY STORAGE OF EQUIPMENT AT HIS OWN RISK. (CORNER SPACES WILL PROVIDE THE GREATEST USEABLE AREA.) CONTRACTOR MUST IDENTIFY AND SECURE HIS EQUIPMENT AT HIS OWN RISK. DO NOT STORE MATERIALS IN EXCESS OF 40 PSF ON GARAGE DECKS ABOVE THE FIRST LEVEL SLAB-ON-GRADE.
9. CONTRACTOR SHALL PROVIDE AN EXIT LANE FROM THE GARAGE AT ALL TIMES FOR VEHICLES PARKED IN THE GARAGE, UNLESS OTHERWISE APPROVED BY THE OWNER FOR VEHICLES PARKED LONG TERM. VEHICLES PARKED IN THE GARAGE MAY NOT BE BLOCKED FROM LEAVING THE GARAGE UNLESS THEY ARE SPECIFICALLY IDENTIFIED AND APPROVED BY GARAGE PROPERTY MANAGER (OPERATOR). CONTRACTOR SHALL REQUEST THE GARAGE PROPERTY MANAGER (OPERATOR) CONTACT THE OWNER(S) OF SPECIFIC VEHICLE(S) THAT NEED MOVED FOR REPAIRS AT LEAST 48 HOURS IN ADVANCE. CONTRACTOR SHALL IDENTIFY EACH VEHICLE AND LICENSE TAG NUMBER BY FLOOR LEVEL AND LOCATION.
10. PROVIDE A TRAFFIC CONTROL PLAN (TCP) FOR EACH GARAGE, PRIOR TO BEGINNING WORK ON THAT PARTICULAR GARAGE, FOR OWNER AND GARAGE PROPERTY MANAGER (OPERATOR) APPROVAL, WHEN AN AREA IS TO BE BLOCKED OFF, OR TRAVEL BY PEDESTRIANS OR VEHICLES IS TO BE RESTRICTED OR DIVERTED BECAUSE OF REPAIRS. DEFINE ALL BARRIERS, SIGNAGE, AND TEMPORARY TRAFFIC CONTROL DEVICES TO BE PROVIDED AND USED. PROVIDE AND MAINTAIN ALL TEMPORARY TRAFFIC CONTROL DEVICES DENOTED IN THE APPROVED TCP. THE BASIS FOR CONSTRUCTION TRAFFIC CONTROL SHALL BE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), CURRENT EDITION. PROVIDE LIGHTED BARRICADES AND SIGNS FOR AREAS BLOCKED OFF OVER NIGHT.
11. FURNISH THE OWNER WITH THE NAME AND PHONE NUMBER OF A CONTACT RESPONSIBLE FOR MAINTENANCE OF THE TRAFFIC CONTROL DEVICES. THE CONTACT MUST BE AVAILABLE 24 HOURS A DAY, SEVEN DAYS A WEEK DURING THE DURATION OF THE PROJECT.
12. REMOVE AND REINSTALL EXISTING SIGNS ONLY AS REQUIRED DURING CONSTRUCTION. REINSTALL SIGNS TO THEIR ORIGINAL POSITIONS MOUNTED TO WALLS OR COLUMNS WITH NON-CORROSIVE FASTENERS MATCHING THE LOCATION, SIZE AND QUANTITY OF THE ORIGINAL CONNECTIONS. REPAINT ANY EXISTING PAINTED MARKINGS, NUMBERS, LETTERS, AND COLOR BANDS ON COLUMNS AND WALLS WHICH ARE DISTURBED BY CONSTRUCTION ACTIVITIES. INCLUDE THIS ACTIVITY IN THE UNIT COST FOR THE PAY ITEM PERFORMED THAT CAUSED THIS WORK.
13. WHERE STRIPING IS DAMAGED OR COVERED BY NEW CONSTRUCTION MATERIALS, RESTRIPE DRIVES AND PARKING AREAS TO MATCH THE EXISTING LINES, PATTERNS AND COLORS, EXCEPT WHERE REVISED BY THE REPAIRS, OR ADDITIONAL STRIPING IS INDICATED TO BE INSTALLED. MATCH EXISTING STRIPING CONFIGURATION. INCLUDE THIS ACTIVITY IN THE UNIT COST FOR THE PAY ITEM THAT CAUSED THIS WORK.
14. PROTECT EXISTING UTILITIES AND DRAIN PIPES DURING CONSTRUCTION, AND RESTORE ANY THAT ARE DAMAGED DURING CONSTRUCTION ACTIVITIES BACK TO ORIGINAL CONDITION WITHOUT CLAIM FOR ADDITIONAL FEES. REPORT TO THE OWNER ANY DAMAGE OBSERVED PRIOR TO THE START OF CONSTRUCTION.
15. TAKE SPECIAL PRECAUTIONS WHEN PERFORMING REPAIRS ON SLAB, BEAMS AND OTHER MEMBERS WHICH CONTAIN TENSIONED CABLES, WHICH MAY BE PRE-TENSIONED BONDED CABLES FOR PRECAST MEMBERS, OR MAY BE POST-TENSIONED UNBONDED CABLES FOR CAST-IN-PLACE CONCRETE SLABS AND BEAMS. ACCURATELY LOCATE THE CABLES / TENDONS IN THE SLAB AND IN CONCRETE MEMBERS BEFORE STARTING REPAIRS, BOTH FOR THE SAFETY OF WORKERS, OTHER PERSONNEL, AND FOR THE STRUCTURE. SEE THE CONCRETE REPAIR NOTES FOR ADDITIONAL REQUIREMENTS.
16. RETAIN STORED MATERIALS AND EQUIPMENT WHERE APPROVED BY THE OWNER AND GARAGE OPERATOR IN AN ORDERLY ARRANGEMENT ALLOWING MAXIMUM ACCESS AND NOT IMPEDING TRAFFIC OR DRAINAGE. DO NOT ALLOW ACCUMULATION OF SCRAP, DEBRIS, WASTE MATERIALS AND OTHER ITEMS NOT REQUIRED FOR CONSTRUCTION OF THIS PROJECT. STORE ALL WASTE AND DEBRIS IN SECURED STEEL STORAGE CONTAINERS WHILE ON SITE. LOCATE THESE CONTAINERS ONLY ON APPROVED SLAB-ON-GRADE AREAS, NOT ON STRUCTURAL DECK. DO NOT STORE MATERIALS IN EXCESS OF 40 PSF ON GARAGE DECKS ABOVE THE FIRST LEVEL SLAB-ON-GRADE.
17. COLLECT AND REMOVE CONCRETE DEBRIS, REINFORCING, AND OTHER CONSTRUCTION DEBRIS FROM THE SITE ON A REGULAR BASIS. THIS INCLUDES VACUUMING AND OTHER MEANS TO CAPTURE CONSTRUCTION DUST AND DEBRIS FOLLOWING CONSTRUCTION ACTIVITIES. REMOVAL SHALL OCCUR AT LEAST ONCE A MONTH OR AT THE COMPLETION OF EACH FLOOR OR AREA OF WORK, WHICHEVER OCCURS FIRST. AREAS TO BE RETURNED TO SERVICE MUST BE CLEANED UP, READY TO USE BY 6 AM OF WEEKDAYS, WITH ALL DEBRIS AND DUST REMOVED AND UNUSED MATERIALS AND EQUIPMENT RETURNED TO STORAGE.
18. PROTECT PARKED VEHICLES, PEDESTRIANS AND THE FACILITY FROM DUST AND DEBRIS RESULTING FROM THE REMOVAL OF EXISTING CONCRETE OR FROM CONSTRUCTION ACTIVITIES; FROM DRIPPING, OVERSPRAY, OR FUMES FROM THE APPLICATION OF PRODUCTS; FROM ALL OTHER NORMAL CONSTRUCTION ACTIVITIES SUCH AS THE MOVEMENT OF EQUIPMENT AND SHORING. UTILIZE EQUIPMENT WITH DUST COLLECTION ATTACHMENTS. PROVIDE A MINIMUM 20 FOOT CLEAR BUFFER AREA AROUND THE EDGES OF CONSTRUCTION DURING SUCH CONSTRUCTION ACTIVITIES. PROVIDE DUST WALLS OR BARRIERS WHEN VEHICLES, MOVING OR PARKED, ARE CLOSER THAN 20 FEET.
19. WHEN WORKING ABOVE A LOWER LEVEL WITH A REPAIR DEMOLITION, OR A PROCEDURE OR MATERIAL THAT MAY LEAK OR DROP MATERIALS TO THE AREA BELOW, CONTRACTOR SHALL BLOCK OFF THE LOWER LEVEL AREA UNTIL THAT ACTIVITY IS COMPLETE AND NO HAZARD EXISTS. THIS INCLUDES FULL DEPTH DECK REPAIRS, JOINT SEALANT REPAIRS, COATINGS AND EPOXY INJECTION. OBTAIN APPROVAL OF GARAGE OPERATOR BEFORE BLOCKING OFF ANY AREA.
20. CONTRACTOR SHALL UTILIZE EFFECTIVE DUST-CAPTURING EQUIPMENT DURING ANY DEMOLITION OR OTHER CONSTRUCTION ACTIVITIES THAT COULD INCREASE THE AMOUNT OF DUST IN THE AIR. PROVIDE VENTILATION AND FILTRATION FOR FUMES AS REQUIRED.
21. CONTRACTOR SHALL PROVIDE AND ALLOW SAFE ACCESS FOR THE OWNER'S INSPECTOR(S) AND ENGINEERS TO VIEW THE ONGOING WORK, INCLUDING TEMPORARY USE OF CONTRACTOR EQUIPMENT FOR SAFE ACCESS TO REPAIRS ON THE EXTERIOR FACE OF STRUCTURES AS NECESSARY.
22. AT THE COMPLETION OF REPAIRS ON EACH LEVEL, CONTRACTOR SHALL CLEAN THE ENTIRE DECK SURFACE OF THAT LEVEL TO REMOVE ALL DIRT, DEBRIS AND SAND, PARTICULARLY FROM THE SEALANT JOINTS, IF APPLICABLE. DO NOT DAMAGE EXISTING SEALANT JOINTS. FILTER OUT, CAPTURE, REMOVE AND DISPOSE OF CONSTRUCTION DEBRIS SO IT DOES NOT ENTER THE BUILDING STORM DRAIN SYSTEM.

3.0 MATERIAL NOTES AND SPECIFICATIONS

- A. PRODUCT AND MATERIAL DATA
1. SUBMIT SEVEN (3) SETS OF MANUFACTURER'S LITERATURE FOR EACH PRODUCT FOR APPROVAL. INCLUDE:
- A. NAME OF MANUFACTURER, REPRESENTATIVE, AND PHONE NUMBER.
- B. MATERIAL SAFETY DATA SHEETS
- C. MECHANICAL PROPERTIES
- D. INSTALLATION / PREPARATION REQUIREMENTS AND PROCEDURES
- E. APPLICATION DETAILS SPECIFIC TO THIS PROJECT
- B. QUALITY ASSURANCE SUBMITTALS (3 COPIES EACH)
1. SUBMIT A WORK PLAN DETAILING, BUT NOT LIMITED TO, ALL MATERIALS TO BE USED, SURFACE PREPARATION TECHNIQUES, ENVIRONMENTAL RESTRICTIONS, HAZARDS AND INSTALLATION PROCEDURES.
2. SUBMIT A WORK PLAN WITH PROCEDURES TO CONTROL, COLLECT AND DISPOSE OF ALL DEBRIS GENERATED BY THIS REPAIR PROJECT.
3. PROVIDE A COPY OF, AND STRICTLY FOLLOW, PRODUCT MANUFACTURER'S DIRECTIONS FOR EACH PRODUCT USED.
- C. CLOSE-OUT SUBMITTAL (2 COPIES)
1. PROVIDE NOTARIZED AND DATED COPIES OF WARRANTY FOR EACH PRODUCT.
2. BIND WARRANTIES INTO A THREE-RING BINDER WITH TABS SEPARATING EACH PRODUCT.
3. PROVIDE A COMPLETE SET OF PROJECT RECORD DRAWINGS, PLUS ONE ADDITIONAL COLOR COPY, WITH RED MARKS ACCORDING TO SPECIFICATION 01 7700 "CLOSEOUT PROCEDURES", DEFINING ALL REPAIRS PERFORMED. THE QUANTITY AND SCOPE OF REPAIRS PERFORMED BY CONTRACTOR SHALL MATCH ACTUAL INSTALLED QUANTITIES PROVIDED AS RED MARKS BY CONTRACTOR ON THE SUMMARY OF PAY QUANTITIES TABLE ON SHEET 2.
4. FINAL PAYMENT WILL BE WITHHELD UNTIL CLOSE-OUT SUBMITTAL IS RECEIVED AND ACCEPTED.

3.0 MATERIAL NOTES AND SPECIFICATIONS CONT.

- D. PROTECTION OF ENVIRONMENT
1. PROTECT ADJACENT BUILDINGS, VEHICLES, AND PERSONNEL FROM DUST, FUMES, MATERIAL OVERSPRAY AND FALLING DEBRIS.
2. PROVIDE VENTILATION FOR DUST AND FUMES CREATED FROM REPAIR WORK. CONTROL HAZARDOUS AND TOXIC FUMES PER STATE AND FEDERAL REGULATIONS TO AVOID DAMAGE OR INJURY.
3. PROVIDE ENVIRONMENTAL CONDITIONS AS REQUIRED FOR INSTALLATION AND CURE OF REPAIR AND COATING PRODUCTS.
4. CAPTURE ALL SPOILS, DEBRIS OR OTHER CONTAMINANTS AND DISPOSE OF THEM IN THE APPROPRIATE MANNER AND TO AN AREA IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL LAWS.
- E. PRODUCTS
1. BONDING AGENT / REBAR ANTI-CORROSION COATING
- A. SIKA ARMATEC 110, BY SIK
- B. DURAL-~~PREP~~ A.C., BY EUCLID
2. BONDING AGENT – FAST SETTING
- A. SIKADUR 32 HI-MOD BY SIK
- B. DURAL 452 BY EUCLID
3. JOINT AND CRACK SEALANT – NON-SAG OR SELF-LEVELING DEPENDING ON APPLICATION (SPECIFICATION 07 9200)
- A. SEALANT TYPE NO. 2 – POLYURETHANE SEALANT, STANDARD COLOR TO MATCH ADJACENT WALL SURFACE
1. SIKAFLEX – 1CSL
2. SIKAFLEX – 1A
3. MASTERSEAL NP1 OR NP2 BY MASTER BUILDERS SOLUTIONS
4. POURTHANE BY WR MEADOWS
4. CONCRETE REPAIR MORTAR – POLYMER MODIFIED CEMENTITIOUS – (SEE SPECIFICATION 03 0131).
5. INJECTION EPOXY, (SPECIFICATION 03 0132)
- A. SIKADUR 35, HI-MOD LV INJECTION RESIN
- B. EUCO #452 EPOXY INJECTION SYSTEM, BY EUCLID
- C. PRO-POXY 50 INJECTION RESIN, BY DAYTON SUPERIOR
- D. MASTERINJECT 1380, BY MASTER BUILDERS SOLUTIONS
6. WATER REPELLENT SEALER – (SPECIFICATION 07 1900)
- A. CLEAR SILANE / SILOXANE BASE SEALER
- B. SOLIDS: 100% OR GREATER
7. DECK COATING ON TRAFFIC AREAS (SEE SPECIFICATION 07 5338). (DO NOT USE ON STAIRS, LANDINGS, ELEVATOR LOBBIES). COLOR TO MATCH EXISTING – NATURAL
- A. MASTER BUILDERS SOLUTIONS MASTERSEAL TRAFFIC 2500 TRAFFIC BEARING MEMBRANE. TWO COAT SYSTEM, HIGH SOLIDS POLYURETHANE WATERPROOFING SYSTEM (HEAVY TRAFFIC SYSTEM)
- B. SIK SIKALASTIC 720/745 AL, TWO COMPONENT ELASTOMERIC WATERPROOFING SYSTEM (HEAVY TRAFFIC SYSTEM)
8. TRAFFIC PAINT FOR RESTRIPING DAMAGED DECK AREAS. (NOT REQUIRED CLOSER THAN 1" TO NEW SEALANT REPAIR.)
- A. NEW PAINT MUST BE COMPATIBLE WITH EXISTING PAINT STRIPING IF OVERLAPPED. (ORIGINAL STRIPING WAS SPECIFIED TO BE CHLORINATED RUBBER TYPE PAINT. FIELD VERIFY AS REQUIRED).
- B. COLOR MUST MATCH ADJACENT EXISTING PAINT STRIPING.
- C. REFLECTANCE NOT REQUIRED.
- D. UNLESS OTHERWISE DETERMINED BY COMPATIBILITY OF ITEM A. ABOVE, MATERIAL SHALL BE A NON-BLEED QUICK DRYING, ALKYD PETROLEUM BASED PAINT SUITABLE FOR TRAFFIC BEARING SURFACES AND SHALL MEET FS-TTP-BSE.
- E. APPLY TWO COATS NOT TO EXCEED RATE OF 300 SQ. FT. PER GALLON TO CLEAN DECK. PROTECT STRIPING UNTIL DRY TO "NO PICKUP" PER MANUFACTURER'S RECOMMENDATIONS.
9. CRACK FILLER
- A. CRACK FILLER SHALL BE A TWO COMPONENT, VERY LOW VISCOSITY, EPOXY RESIN WITH A MINIMUM OF 100% SOLIDS.
- B. ACCEPTABLE PRODUCTS INCLUDE:
1. SIKADUR 55 SLV BY SIK A CORPORATION.
2. APPROVED EQUAL.
10. ANCHORAGE/REINFORCING ADHESIVE WHERE NOTED ON THE DRAWINGS; INSTALLED PER PRODUCT MANUFACTURER'S DIRECTIONS.
- A. ACCEPTABLE PRODUCTS INCLUDE:
1. HILTI HIT-RE 500 V3 EPOXY ADHESIVE.
2. NO SUBSTITUTIONS.



Oklahoma Certificate of Authorization #1460  
Expiration Date: 6/30/23

REVISION	BY	DATE

PLAN SCALE:	DRAWN			APPROVED:
	DESIGNED			
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			CITY ENGINEER
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
	RECOMMENDED:			
	DESIGN MANAGER			
FILE:	DRAWING:			DATE:
ATLAS PAGE NO.:	8			SHEET 3 OF 18 SHEETS



3.0 MATERIAL NOTES AND SPECIFICATIONS CONT.

- E. PRODUCTS - CONT.
11. SURFACE APPLIED CORROSION INHIBITOR
- A. PROTECTOSIL CIT BY EVONIK
- B. MASTERPROTECT 8500CI BY MASTER BUILDERS SOLUTIONS
- C. FERROGARD-908 BY SIKA
12. WALL COATING SYSTEM (SPECIFICATION 09-9800):
- A. PRIMER: BASIS-OF-DESIGN PRODUCT: SHERWIN WILLIAMS LOXON CONCRETE & MASONRY PRIMER, 1 COAT, 200 - 300 SQ. FT. / GALLON AT 2.1 - 3.2 MDT.
- B. COATING SYSTEM: BASIS-OF-DESIGN PRODUCT: SHERWIN WILLIAMS A-100 EXTERIOR LATEX, FLAT
1. TOP COAT COLOR(S): MATCH EXISTING COLOR(S) AT THE DIFFERENT GARAGES WHERE WALL COATING / PAINTING IS REQUIRED. WHERE NEW PAINT COATING IS SPECIFIED ON EXISTING UNPAINTED SURFACES, PROVIDE A GRAY OR OFF-WHITE COLOR THAT CLOSELY MATCHES ADJACENT NATURAL CONCRETE COLOR. OBTAIN ALL COLOR APPROVAL BY OWNER FROM MANUFACTURER'S COLOR RANGE.
2. COATING APPLICATION: 350-400 SQ. FT. / GALLON AT 1.2 MDT PER COAT, TYPICAL, UNLESS OTHERWISE RECOMMENDED BY MANUFACTURER.
13. CHEMICAL GROUT - CURTAIN WALL INJECTION OR CRACK AND JOINT INJECTION
- A. MASTERROC MP 300, BY MASTER BUILDERS SOLUTIONS
14. REPAIR MORTAR AT REPAIR DETAIL 32
- A. MASTEREMACO 1060EX, BY MASTER BUILDERS SOLUTIONS
15. REPAIR MORTAR - MEGAMIX II, BY XYPEX
16. OVERHEAD PARGEcoat - MEGAMIX I, BY XYPEX
17. CRACK MONITORS - BASIS-OF-DESIGN PRODUCT: HUMBOLDT CONCRETE CRACK GAUGE, PLUS (EXTERIOR GRADE)
18. MASTEREMACO S 440 SELF CONSOLIDATING CONCRETE PRE BLENDED MORTAR, BY MASTER BUILDERS SOLUTIONS

4.0 CONCRETE REPAIR NOTES

- A. SURFACE PREPARATION FOR CONCRETE REPAIRS
1. PERFORM SURFACE PREPARATION FOR CONCRETE REPAIRS IN COMPLIANCE WITH INTERNATIONAL CONCRETE REPAIR INSTITUTE (ICRI) TECHNICAL GUIDELINE NO. 310.1R-2008, "GUIDE FOR SURFACE PREPARATION FOR THE REPAIR OF DETERIORATED CONCRETE RESULTING FROM REINFORCING STEEL CORROSION." REMOVE ALL UNSOUND OR DELAMINATED CONCRETE PROVIDING A MINIMUM 1/4-INCH SUBSTRATE PROFILE AND 3/4-INCH CLEARANCE BEHIND CORRODED REINFORCING STEEL.
2. BLAST CLEAN TO REMOVE ALL OXIDATION AND SCALE FROM EXPOSED REINFORCING STEEL TO WHITE METAL IN ACCORDANCE WITH ICRI NO. 310.1R-2008. COAT ALL EXISTING EXPOSED REINFORCING WITH REBAR ANTI-CORROSION COATING JUST PRIOR TO PLACING REPAIR MATERIAL.
3. PERFORM SURFACE PREPARATION FOR SURFACE SEALERS AND COATING IN COMPLIANCE WITH ICRI TECHNICAL GUIDELINE NO. 310.2R-2013, "SELECTING AND SPECIFYING CONCRETE SURFACE PREPARATION FOR SEALERS, COATINGS, AND POLYMER OVERLAYS." THE CONCRETE SURFACE PROFILE PROVIDED SHALL COMPLY WITH RECOMMENDATIONS OF THE ICRI, OF THE PRODUCT MANUFACTURER, AND WITH ICRI SURFACE PROFILE CHIPS.
- B. SURFACE SPALLS AND DELAMINATIONS ON ALL SURFACES EXCEPT FOR FULL DEPTH SLAB REPAIRS
1. REPAIR SLAB SPALLS, DELAMINATIONS AND OTHER DAMAGE NOTED ON THE GARAGE PLANS ACCORDING TO THESE NOTES, DRAWING DETAILS AND SPECIFICATION 03 0131.
2. DEFINE AND OUTLINE THE AREA OF DAMAGE FOR REPAIR. (THIS MAY INCLUDE PART OR ALL OF A PRIOR PATCH / REPAIR.) CONTRACTOR MUST LOCATE AND PROTECT ALL HIGH STRENGTH, STRESSED TENDON REINFORCING IN AREAS OF REPAIR.
3. SAWCUT 1/2-INCH DEEP AROUND THE AREA OF DAMAGE. KEEP SAWCUT LINES STRAIGHT. DO NOT OVERCUT ENDS. DRILL CORNERS TO PROVIDE FULL 1/2" DEPTH.
4. EXCEPT FOR REPAIRS WHERE TOTAL REMOVAL MAY BE REQUIRED, REMOVE DETERIORATED MATERIAL UNTIL SOUND CONCRETE IS REACHED. REMOVE TO A MINIMUM DEPTH OF 3/4-INCH ON ALL VERTICAL SURFACES AND ON THE UNDERSIDE OR BOTTOM OF SLABS. REMOVE TO A MINIMUM DEPTH OF 3/4-INCH ON THE TOP OF SLAB SURFACE REPAIRS. AT A GARAGE SLAB WITH A TOPPING SLAB OVER PRECAST MEMBER, REMOVE TOPPING SLAB DOWN TO THE TOP OF PRECAST SLAB / FLANGE IF REQUIRED BY THE DETERIORATION. DO NOT DAMAGE OR REMOVE THE PRECAST MEMBER BELOW UNLESS REVIEWED AND APPROVED BY OWNER OR ENGINEER. (TOPPING SLABS ESTIMATED AS 3.0 TO 6.0 INCHES). USE ELECTRIC CHIPPING GUNS, OR MAXIMUM OF 15-POUND HAMMERS OR LIGHTER. AVOID METHODS OF DEMOLITION THAT PROPAGATE CRACKS IN CONCRETE, SUCH AS HOLDING A HAMMER VERTICAL OR AGAINST REBAR.
5. REMOVE CONCRETE TO A MINIMUM OF 3/4-INCH CLEAR ALL AROUND CORRODED REINFORCING AND TO ONE (1) INCH BEYOND CORROSION ON REBAR.
6. REMOVE CORROSION ON REINFORCING BAR TO WHITE METAL.
7. REMOVE DUST AND DEBRIS FROM AREA OF PATCH WITH HIGH SUCTION VACUUM FOLLOWED BY HIGH PRESSURE AIR, OR BY WATER BLAST.
8. SAND OR SHOT BLAST, OR HYDROBLAST CONCRETE REPAIR SURFACE.
9. REPORT CORRODED REINFORCING WHICH HAS A MEASURED AREA OF LOSS GREATER THAN 25% TO THE OWNER/ENGINEER FOR EVALUATION OF REPAIR.
10. FOR CEMENTITIOUS PATCH REPAIRS, FLUSH THE CONCRETE SURFACE WITH CLEAN WATER TO CREATE A SATURATED SURFACE DRY CONDITION. FOR PATCH MATERIALS USING AN EPOXY BONDING AGENT, PROVIDE A CLEAN DRY SURFACE.
11. APPLY BONDING AGENT / REBAR ANTI-CORROSION COATING TO FULLY COAT ALL REINFORCING AND PATCH CONCRETE SURFACES. FOR POLYMER RESIN AND FAST CURE REPAIR MATERIALS, ALLOW THE ANTI-CORROSION COATING TO FULLY DRY BEFORE INSTALLING THE PATCH MATERIALS, OR USE AN EPOXY BONDING AGENT TO FULLY COAT THE EXPOSED REINFORCING.
12. WORK A SLURRY OF REPAIR MORTAR OR NEW CONCRETE INTO THE PATCH SURFACES USING A STIFF BRUSH, OR OTHERWISE PREPARE THE SURFACE AS RECOMMENDED BY THE REPAIR MORTAR MANUFACTURER. SELECT A FAST SET / FAST CURE REPAIR MORTAR IF REQUIRED FOR THE SUBSEQUENT APPLICATION OF AN EPOXY DECK SEALER OR FOR QUICK RE-USE OF THE REPAIR AREA.
13. APPLY THE BALANCE OF REPAIR MORTAR, WORKING THE MATERIAL INTO THE EDGES OF PATCH WITH FIRM PRESSURE. DO NOT LEAVE ANY VOIDS.
14. FINISH THE SURFACE OF REPAIR TO MATCH THE EXISTING FINISH - TYPICALLY, A MEDIUM BROOM FINISH FOR DECK DRIVING SURFACES, A LIGHT BROOM FINISH FOR SIDEWALKS AND ISLANDS, A SMOOTH TROWEL FINISH FOR CURBS, BEAMS, COLUMNS, WALLS AND BOTTOM OF SLAB. THE SURFACE PROFILE OF PATCHES SHALL BE FLUSH WITH THE EXISTING ADJACENT SURFACE ON ALL REPAIRS EXCEPT DRIVING DECK REPAIRS SHALL BE FINISHED APPROXIMATELY 1/8-INCH HIGHER THAN THE ADJACENT SURFACE AND TAPERED DOWN ALONG THE EDGES. DECK REPAIRS CAN NOT BE CONCAVE.
15. WET CURE NEW CEMENTITIOUS REPAIR MATERIALS UNLESS THE PRE-MANUFACTURED REPAIR MORTAR SPECIFICALLY ALLOWS MEMBRANE CURING.
16. AFTER THE REPAIR MATERIAL IS FULLY CURED, AND AFTER THE REMOVAL OF CURING COMPOUND AND OTHER MATERIALS THAT MIGHT PREVENT SURFACE PENETRATION, COMPLETE THE REPAIR WITH APPLICATION OF WATER REPELLANT SEALER OR DECK COATING TO MATCH THE ORIGINAL AND ADJACENT SURFACES.
17. RESTRIPE EXISTING TRAFFIC AND PARKING STALL STRIPING AND DIRECTION ARROWS THAT ARE DAMAGED OR INTERRUPTED BY A NEW DECK PATCH AFTER REPAIR IS COMPLETE AND SEALER / COATING HAS BEEN APPLIED.
18. ALLOW VEHICULAR TRAFFIC ON SLAB AND BEAM REPAIRS ONLY AFTER THE PATCH MATERIAL HAS REACHED A COMPRESSIVE STRENGTH OF AT LEAST 3000 PSI.
- C. FULL DEPTH SLAB REPAIRS
1. REPAIR SLAB SPALLS, DELAMINATIONS AND OTHER DAMAGE NOTED ON THE GARAGE PLANS ACCORDING TO THESE NOTES, DRAWING DETAILS AND SPECIFICATION 03 0131.
2. SLAB DAMAGE THAT EXCEEDS 70% OF THE THICKNESS OF THE SLAB SHALL BECOME A FULL DEPTH REPAIR FOR THE AREA OF DAMAGE. THIS MAY BE ONLY A PORTION OF A LARGER PARTIAL DEPTH SLAB REPAIR AREA.
3. FORM FULL DEPTH AREAS AND SHORE AS REQUIRED BY THE SIZE OF THE REPAIR.
4. SIMILAR TO THE PARTIAL DEPTH REPAIR ABOVE: DEFINE THE DAMAGE, LOCATE AND PROTECT ALL STEEL TENSIONED TENDONS IN THE SLAB; SAW CUT THE PERIMETER; REMOVE ALL DETERIORATION AND CORROSION TO SOUND MATERIALS; BLAST CLEAN THE REPAIR AREA, INCLUDING ALL SIDES OF REPAIR AREA; REPAIR CORRODED REBAR IF REQUIRED; APPLY BONDING AGENT AND REBAR ANTI-CORROSION COATING; INSTALL REPAIR MORTAR TO PROPER FINISH AND PROFILE; CURE THE PATCH, FINISH WITH APPLICATION OF DECK COATING OR WATER REPELLANT SEALER TO MATCH ADJACENT SURFACE.
5. DO NOT CUT OUT EXISTING REINFORCING, EVEN IF IT HAS LOST SIGNIFICANT AREA TO CORROSION, UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.

4.0 CONCRETE REPAIR NOTES CONT.

- D. CRACK INJECTION REPAIR
1. PROVIDE CRACK INJECTION REPAIR WHERE INDICATED ON THE DRAWINGS PER SPECIFICATION SECTION 03 0132 FOR THE PURPOSE OF PERMANENTLY REBONDING CRACKED CONCRETE.
2. LOCATE, IDENTIFY AND DEFINE THE CRACK(S) TO BE REPAIRED. CLEAN THE AREA OF DETERIORATED CONCRETE, LOOSE SURFACE COATINGS AND BUILD-UP OF EFFLORESCENCE.
3. SET AND SEAL INJECTIONS PORTS. SEAL THE CRACK SURFACE WITH EPOXY SEALER AS RECOMMENDED BY PRODUCT MANUFACTURER.
4. INJECT EPOXY RESIN UNTIL THE CRACK IS COMPLETELY FILLED, HOLDING CONSTANT PRESSURE FOR AT LEAST 5 MINUTES.
5. AT THEIR OPTION, THE OWNER MAY ELECT TO VERIFY PENETRATION OF EPOXY INTO CRACKS WITH TEST CORES AT INJECTED CRACKS. ACCEPTABLE PENETRATION IS 90% OF CRACK DEPTH.
6. AT FULL THICKNESS WALL (OR STEM) CRACKS, SEAL THE CRACK(S) AND SET INJECTION PORTS ON BOTH FACES OF WALL. VERIFY FULL DEPTH PENETRATION EITHER BY INJECTING EPOXY FROM BOTH FACES OF WALL, OR BY INJECTING FROM ONLY ONE SIDE, BUT FOR THIS CASE, EPOXY MUST APPEAR AT ALL PORTS ON THE OPPOSITE FACE.
7. AFTER THE EPOXY HAS CURED, REMOVE PORTS AND GRIND SURFACES SMOOTH. REMOVE ALL SEALING PASTE FROM SURFACE. IF THE SURFACES WERE COATED, RECOAT THEM TO COVER ANY DAMAGE TO THE ORIGINAL COATING CAUSED BY THIS INJECTION.
- E. EXISTING PRESTRESSED CABLE / TENDON REINFORCING
1. LOCATE ALL CABLE / TENDON REINFORCING IN THE AREA OF A REPAIR BEFORE BEGINNING ANY DEMOLITION, SAWCUTTING OR GRINDING IN THAT AREA. POSITIVELY LOCATE CABLES / TENDON REINFORCING USING GPR OR X-RAY. LOCATING CABLES / TENDON REINFORCING WITH METAL DETECTION EQUIPMENT, R-METER OR PACHOMETER IS NOT ADEQUATE.
2. MAXIMUM DEPTH OF SAWCUT OR GRINDING SHALL BE 1/2-INCH UNLESS THE CONTRACTOR HAS LOCATED MILD STEEL REINFORCING AND CABLE / TENDON REINFORCING, AND VERIFIED THEM AT A GREATER DEPTH.
3. PROTECT EXISTING CABLES AND TENDONS DURING REPAIRS SO THEY ARE NOT DAMAGED. DO NOT SAW CUT PARALLEL TO A CABLE CLOSER THAN TWO (2) INCHES FROM THE CENTER LINE OF DETECTED CABLE. DO NOT CHIP OR HAMMER DIRECTLY AGAINST ANY CABLE OR TENDON.
4. REPORT WHEN CABLES OR TENDONS ARE VISUALLY EXPOSED. REPORT ANY EXISTING OR NEW DAMAGE TO THE OWNER / ENGINEER AS SOON AS DISCOVERED, INCLUDING ANY DAMAGE TO THE CABLE / TENDON SHEATHING.
5. WHEN DEMOLISHING CONCRETE AROUND A CABLE / TENDON, KEEP OTHER WORKERS AND OTHER PERSONNEL CLEAR OF THE AREA ABOVE THE CABLE, TO AVOID POTENTIAL INJURY IF THE CABLE BREAKS.

- F. WATER REPELLENT SEALER
1. PROVIDE WATER REPELLENT SEALER IN AREAS INDICATED PER SPEC. SECTION 07 1900.
2. PERFORM ALL OTHER DECK AND ADJACENT WALL REPAIRS IN THIS CONTRACT BEFORE APPLYING THE WATER REPELLENT SEALER. MATERIALS MUST CURE THE MINIMUM TIME RECOMMENDED BY THE SEALER MANUFACTURER FOR THE REPAIR MATERIAL UTILIZED. REMOVE RESIDUE FROM SURFACE APPLIED CORROSION INHIBITOR AND CURING AGENT AT PATCH REPAIRS.
3. SEALER SHALL BE APPLIED FROM GRADE TO FOUR FEET ABOVE GRADE ON ALL WALLS ADJACENT TO AREAS INDICATED ON PLAN. SEALER SHALL BE APPLIED TO ALL CURBS AND AT ALL EXPOSED STAIRWELLS ADJACENT TO AREAS INDICATED ON PLAN.
4. SEALER SHALL NOT BE APPLIED TO SURFACES WHERE ELASTOMERIC MEMBRANES EXIST, NOR AREAS WHERE NEW EPOXY DECK SEALER HAS BEEN PLACED. THESE AREAS HAVE NOT BEEN INCLUDED IN THE WATER REPELLENT SEALER QUANTITIES.

- G. SLAB CRACK FILLER
1. CRACK FILLER SHALL BE USED TO FILL EXISTING CRACKS AND JOINTS IN THE CONCRETE DECK WHERE NOTED ON THE PROJECT DRAWINGS. QUANTITIES FOR THIS REPAIR SHALL BE LINEAR FEET FOR THE CRACK OR JOINT LENGTH ON THE TOP SURFACE OF DECK.
2. CLEAN ALL CRACKS OF LOOSE MATERIAL AND DEBRIS. BLOW OUT WITH OIL FREE HIGH PRESSURE COMPRESSED AIR. CRACKS MUST BE COMPLETELY DRY AT TIME OF TREATMENT.
3. KEEP ALL CRACKS FREE AND DRY BEFORE INSTALLATION.
4. SEAL THE UNDERSIDE OF FULL THICKNESS CRACKS TO CONTAIN CRACK FILLER RESIN.
5. COMPLY WITH PRODUCT MANUFACTURER'S DIRECTIONS FOR PREPARATION, INSTALLATION AND FINISHING FILLED CRACK SURFACES.
6. PREPARE THE TOP OF CRACK AS NECESSARY FOR FILLING. USE A WIRE WHEEL TO REMOVE LOOSE DEBRIS ON SURFACE. USE A DIAMOND V-BLADE ON GRINDER TO PREPARE TOP OF NARROW CRACKS.
7. FILL CRACKS WITH MULTIPLE PASSES OF CRACK FILLER UNTIL COMPLETELY FULL, LEAVING NO INDENTATION ON THE SURFACE. GRIND OR SHAVE THE TOP OF CURED RESIN TO LEAVE FINAL CRACK LEVEL WITH ADJACENT SURFACE; A SLIGHT CONVEX SHAPE IS ACCEPTABLE IN DRIVE LANES ONLY. A CONCAVE SHAPE IS NOT ACCEPTABLE AND REQUIRES FURTHER FILLING.
8. FOR CRACKS MORE THAN 3/16" WIDE OR DEEP, FILL WITH 8/20 OVEN DRY SILICA SAND, OR CLEAN FINE SAND AS SPECIFIED BY PRODUCT MANUFACTURER BEFORE FILLING WITH CRACK FILLER RESIN.
9. FOR CRACKS WIDER THAN 3/8-INCH, APPLY FINE CLEAN SAND TO THE TOP SURFACE OF THE FINAL FILL PASS OF RESIN TO PROVIDE A TEXTURED SURFACE.

- H. WALL COATING
1. PROVIDE WALL COATINGS WHERE NOTED ON THE DRAWINGS PER SPEC. SECTION 09 9800.
- I. ELASTOMERIC COATING
1. PROVIDE ELASTOMERIC COATING IN AREAS INDICATED ON THE DRAWINGS PER SPEC. SECTION 07 5338.
2. PERFORM ALL DECK AND ADJACENT WALL REPAIRS BEFORE APPLYING THE NEW OR REPAIR DECK COATING. REPAIR MATERIALS MUST CURE THE MINIMUM TIME RECOMMENDED BY THE PRODUCT MANUFACTURER FOR THE REPAIR MATERIAL UTILIZED.
3. CLEAN AND REMOVE ALL MATERIALS FROM SURFACE THAT COULD PREVENT COATING ADHESION, INCLUDING CURING COMPOUND.
4. EXTEND REPAIR COATING AT LEAST 2 INCHES ONTO ADJACENT SOUND COATING SURFACE AFTER CLEANED AND PREPARED. SAWCUT 1/4"x1/4" KEYWAY AT COATING EDGE AND TERMINATE THE COATING INTO THE KEYWAY.
5. TAPE ALONG EDGES OF NEW COATING TO PROVIDE STRAIGHT LINE EDGES.
6. EXTEND COATING UP 4 INCHES MIN. AT ADJACENT VERTICAL SURFACES. REFER TO 14b/24 FOR 1/2" SEALANT COVE JOINT BEHIND COATING IF CORNER DOES NOT ALREADY HAVE ONE.

- J. SURFACE APPLIED CORROSION INHIBITOR
1. AFTER DAMAGED AREAS ARE DEFINED, REPAIRED AND CURED, APPLY CORROSION INHIBITOR TO PATCH SURFACES AND THE PERIMETER OF AREAS TO BE REPAIRED, INCLUDING OVERHEAD AND VERTICAL REPAIRS, FOR AT LEAST 24 INCHES BEYOND THE EDGE OF THE REPAIR AREA, EACH SIDE.
2. AFTER A PATCH HAS CURED, BLAST CLEAN THE SURFACES OF BONDING AGENT, CURING COMPOUND OR OTHER MATERIAL OR COATINGS THAT MIGHT PREVENT PENETRATION OF THE CORROSION INHIBITOR. THEN APPLY TWO OR MORE COATS TO THE PATCH AND THE SURROUNDING AREA BEYOND TO ACHIEVE THE MANUFACTURER'S SPECIFIED COVERAGE RATE PER GALLON, INCLUDING OVERHEAD AND VERTICAL REPAIRS.
3. FOLLOW PRODUCT MANUFACTURER'S SPECIFIC INSTRUCTIONS FOR SURFACE PREPARATION, METHOD OF APPLICATION AND RATE.
4. PROCEED WITH REPAIR PROCEDURES OUTLINED ABOVE.
5. APPLY FINAL COATING TO THE REPAIRED AREA, INCLUDING PAINT AND DECK COATINGS, PAINT STRIPING OR DECK SEALER, NO SOONER THAN 24-HOURS FOLLOWING APPLICATION OF CORROSION INHIBITOR.

4.0 CONCRETE REPAIR NOTES CONT.

- K. CURTAIN WALL CHEMICAL GROUTING
1. PURPOSE OF REPAIR IS TO CREATE A POSITIVE SIDE WATERPROOFING MEMBRANE SYSTEM WHILE FILLING VOIDS. INJECTION MATERIAL CREATES A POSITIVE SIDE WATERPROOFING MEMBRANE THAT IS INJECTED FROM THE INSIDE OF THE STRUCTURE, WITHOUT EXCAVATION.
2. REFER TO SPECIFICATION 030133 - CHEMICAL GROUT INJECTION.
3. REFER TO MATERIAL NOTE 13.
4. THE CHEMICAL GROUTING WORK SHALL BE PERFORMED BY A QUALIFIED CONTRACTOR WITH A MINIMUM OF FIVE (5) YEARS RECENT EXPERIENCE IN PERFORMING CHEMICAL GROUTING WORK IN SIMILAR CONDITIONS.
5. INSTALL PRODUCT PER MANUFACTURER'S SPECIFICATIONS.
- L. CRACK AND JOINT INJECTION USING CHEMICAL GROUT
1. PURPOSE OF REPAIR IS TO STOP WATER INTRUSION THROUGH ROOF CRACKS.
2. REFER TO SPECIFICATION 030133 - CHEMICAL GROUT INJECTION.
3. REFER TO MATERIAL NOTE 13.
4. THE CHEMICAL GROUTING WORK SHALL BE PERFORMED BY A QUALIFIED CONTRACTOR WITH A MINIMUM OF FIVE (5) YEARS RECENT EXPERIENCE IN PERFORMING CHEMICAL GROUTING WORK IN SIMILAR CONDITIONS.
5. INSTALL PRODUCT PER MANUFACTURER'S SPECIFICATIONS.
- M. PARTIAL/FULL DEPTH SLAB REPAIR AT OR NEAR POUR STRIP EDGE / POST TENSION ANCHORAGE ZONE EDGE
1. CONTRACTOR SHALL SOUND AND MARK USING CHALK ALL SLAB DELAMINATIONS IN THE DEFINED AREAS ON THE PLANS. IN COMBINATION WITH THE SOUNDING SURVEY, CONTRACTOR SHALL LOCATE EXISTING POST TENSION STRANDS IN THE AREA USING GPR OR SIMILAR SURVEYING SYSTEM. CONTACT CITY INSPECTOR AND ENGINEER TO REVIEW ANTICIPATED REPAIR AREAS PRIOR TO PERFORMING WORK. FINAL REPAIR AREAS WILL BE DETERMINED AND DIRECTED BY ENGINEER BASED ON THIS SLAB SURVEY.
2. IF REPAIR LOCATION IS NOT IN THE ANCHORAGE ZONE, REPAIR AS A PARTIAL DEPTH PATCH PER REPAIR DETAIL 3b.
3. IF REPAIR AREA IS IN ANCHORAGE ZONE OF A POST TENSION STRAND, REFER TO REPAIR DETAIL 32 SHEET 18 (ADD ALT #1) FOR TENDON DESTRESSING DURING REPAIRS.

- N. CRACK MONITOR INSTALLATION
1. INSTALL CRACK MONITORS AT LOCATIONS FIELD DIRECTED BY ENGINEER. SOME INSTALLATIONS MAY BE HIGHER THAN 15 FEET. PROVIDE ANY REQUIRED ACCESS FOR PROPER INSTALLATION. CRACK MONITORS SHALL BE EXTERIOR GRADE.

*D. King*  
04/18/22

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REVISION	BY	DATE	PLAN SCALE: DRAWN
			DESIGNED
			SURVEY
			PROFILE SCALE: PROJ. MGR.
			HORIZONTAL: LEAD ENGR. <i>[Signature]</i> 4/22
			FIELD MGR. <i>[Signature]</i> 4/22
			RECOMMENDED: HAS 4-22
			DESIGN MANAGER
			FILE: DRAWING: DATE:
ATLAS PAGE NO.: 8			SHEET 4 OF 18 SHEETS

MATERIAL AND REPAIR NOTES

PROJECT SP22-02  
2022 GARAGE REPAIRS

TULSA AUTHORITY FOR  
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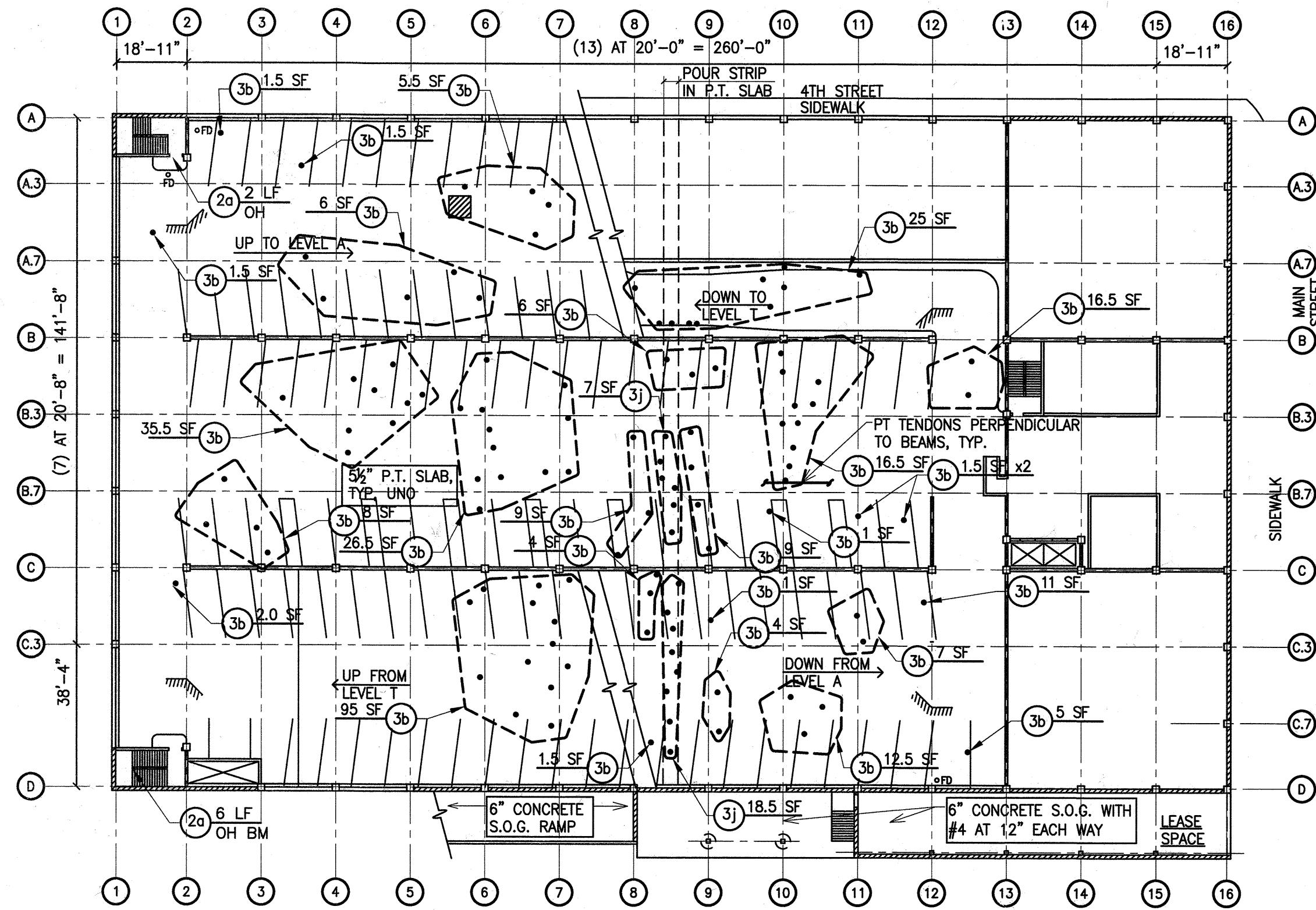
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CITY ENGINEER

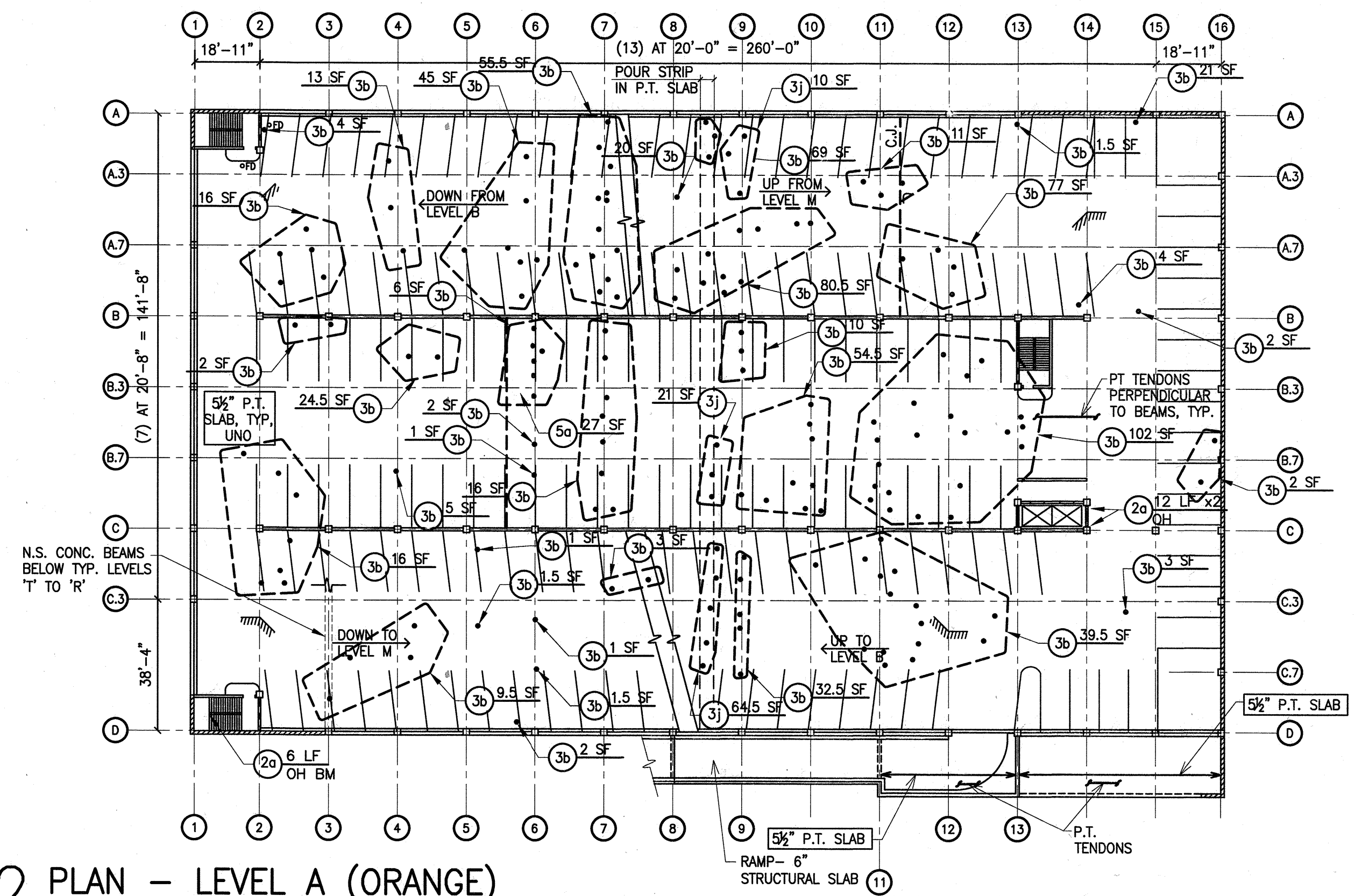




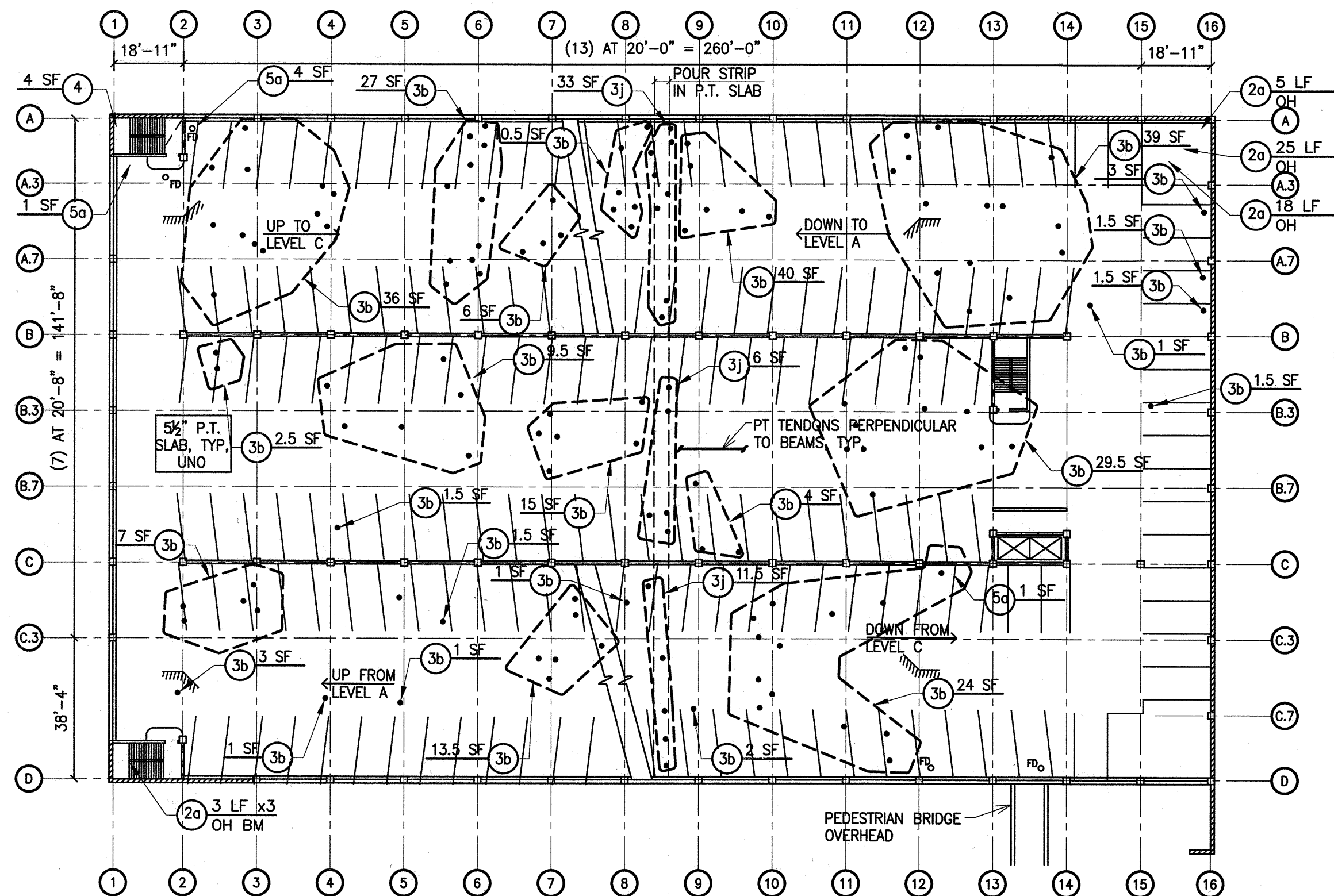




1 PLAN - LEVEL M (BLUE)  
1" = 30'-0"

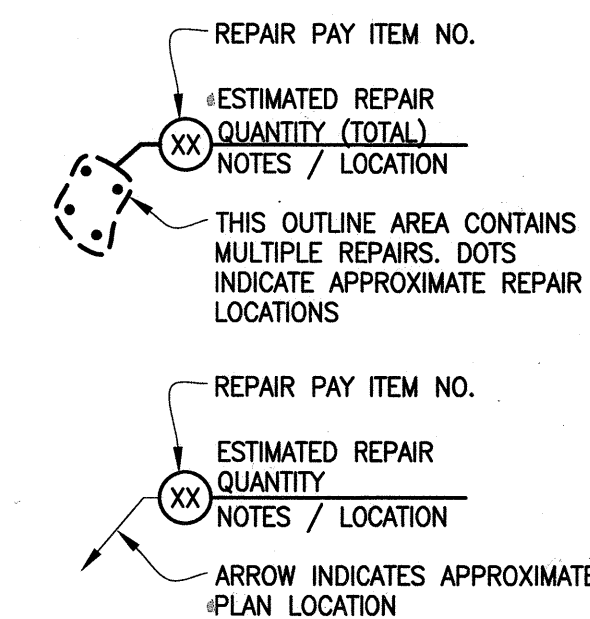


2 PLAN - LEVEL A (ORANGE)  
1" = 30'-0"



3 PLAN - LEVEL B (GREEN)  
1" = 30'-0"

- NOTES:
- SEE SHEET 5 FOR MAIN PARK PLAZA SCHEDULE AND NOTES FOR REPAIR PAY ITEM DESCRIPTIONS AND QUANTITIES PER FLOOR LEVEL.
  - REPAIR 3b - CONTRACTOR SHALL SOUND AND MARK USING CHALK ALL SLAB DELAMINATIONS IN THE DEFINED AREAS ON THE PLANS. CONTACT CITY INSPECTOR AND ENGINEER TO REVIEW ANTICIPATED REPAIR AREAS PRIOR TO PERFORMING WORK. FINAL REPAIR AREAS WILL BE DETERMINED BASED ON THIS SLAB SURVEY.
  - REPAIR 3i - CONTRACTOR SHALL SOUND AND MARK USING CHALK ALL SLAB DELAMINATIONS IN THE DEFINED AREAS ON THE PLANS. IN COMBINATION WITH THE SOUNDING SURVEY, CONTRACTOR SHALL LOCATE EXISTING POST TENSION STRANDS IN THE AREAS OF DELAMINATION USING GPR OR SIMILAR SURVEYING SYSTEM. CONTACT CITY INSPECTOR AND ENGINEER TO REVIEW ANTICIPATED REPAIR AREAS PRIOR TO PERFORMING WORK. FINAL REPAIR AREAS WILL BE DETERMINED BASED ON THIS SLAB SURVEY AND IF THE USE OF REPAIR A32 IS WARRANTED.



REPAIR IDENTIFICATION SYMBOL  
(SEE PLANS)

Oklahoma Certificate of  
Authorization #1460  
Expiration Date: 6/30/23

REVISION	BY	DATE	PLAN SCALE:	DRAWN	APPROVED:
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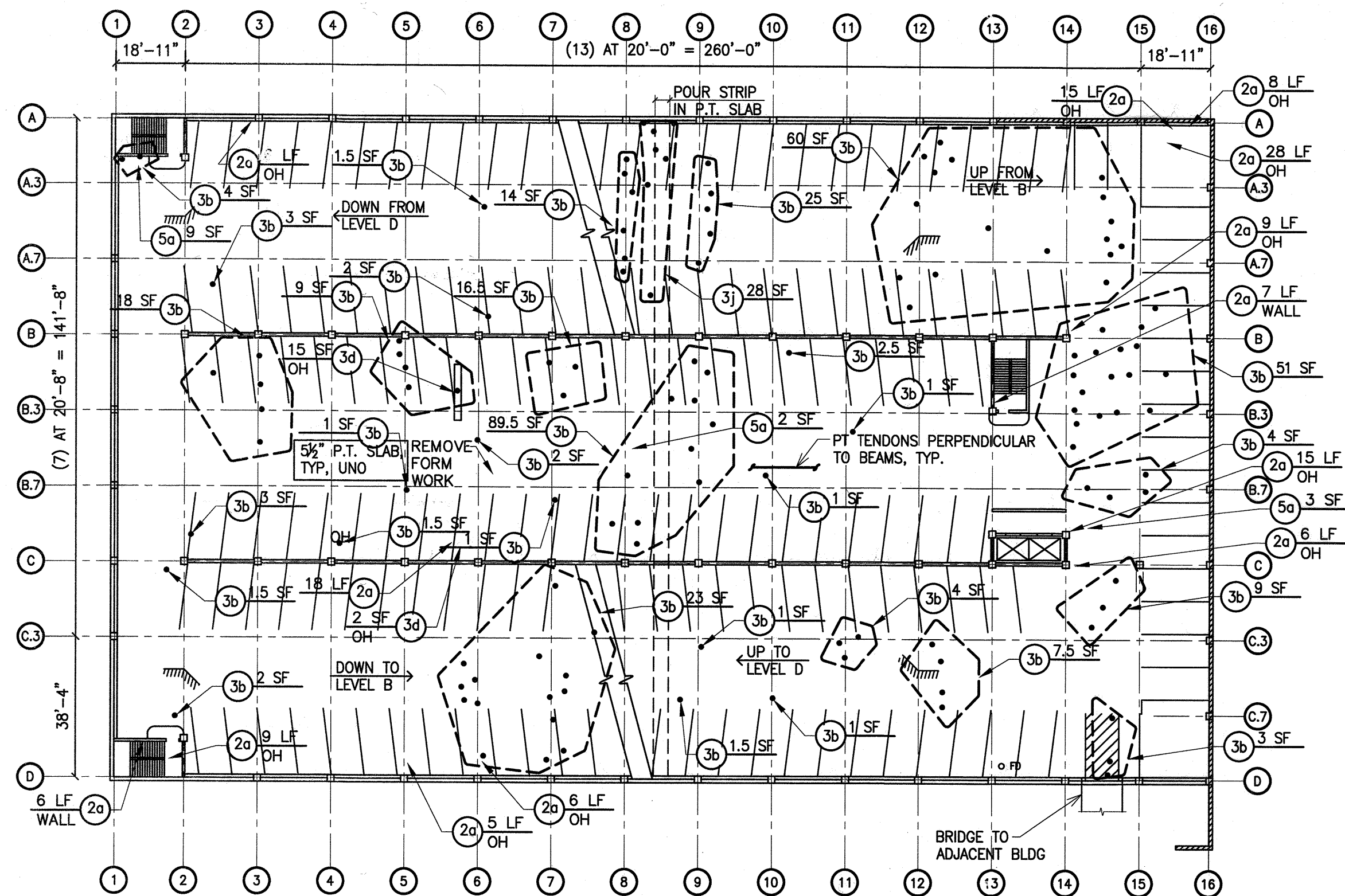
MAIN PARK PLAZA  
LEVELS M, A AND B

PROJECT SP22-02  
2022 GARAGE REPAIRS  
TULSA AUTHORITY FOR  
ECONOMIC OPPORTUNITY

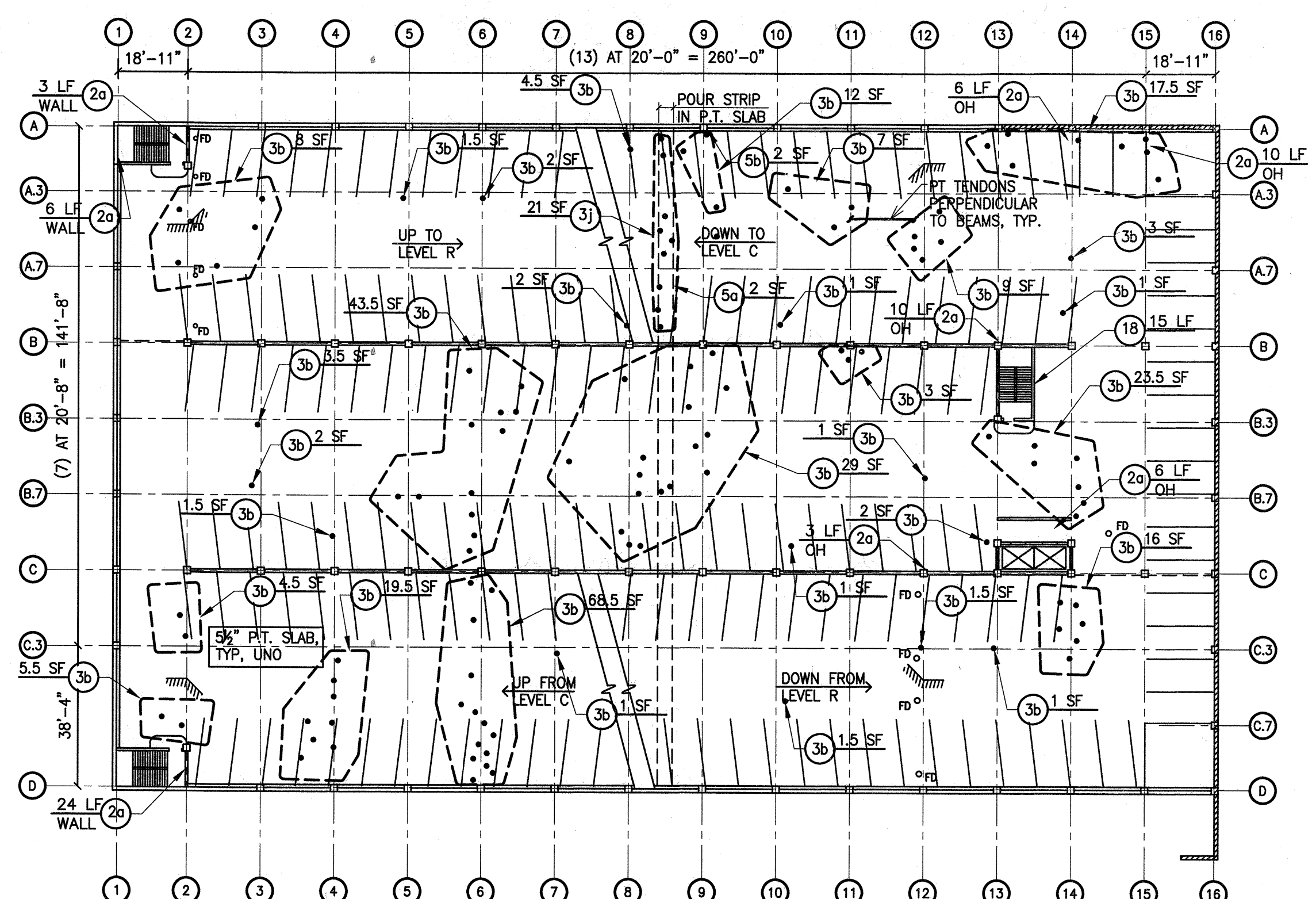
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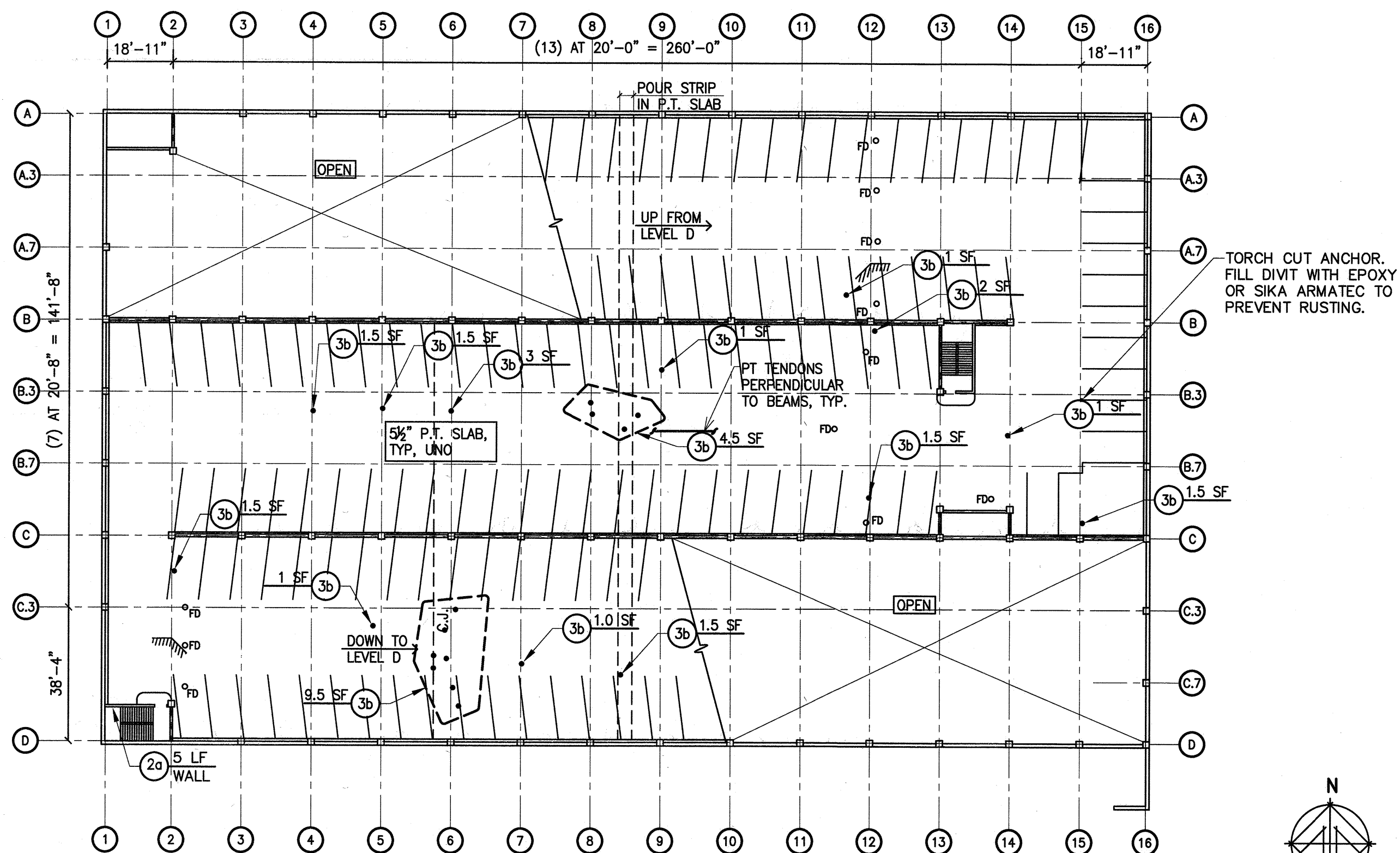




1 PLAN - LEVEL C (RED)  
1" = 30'-0"



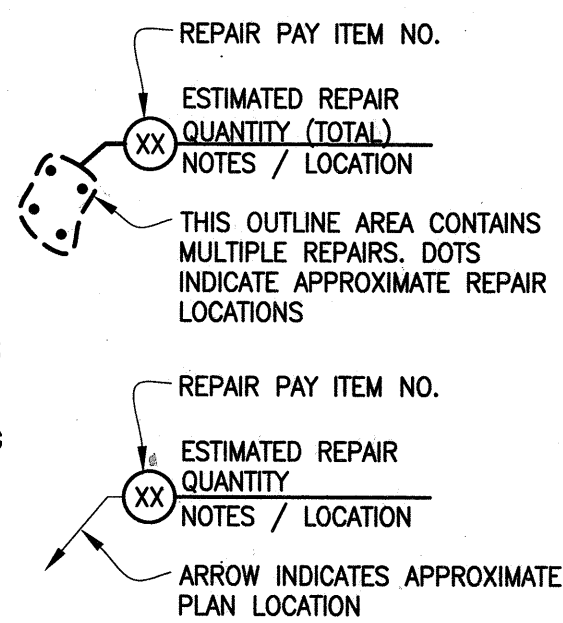
2 PLAN - LEVEL D (PURPLE)  
1" = 30'-0"



3 PLAN - LEVEL R (WHITE)  
1" = 30'-0"

#### NOTES:

- SEE SHEET 5 FOR MAIN PARK PLAZA SCHEDULE AND NOTES FOR REPAIR PAY ITEM DESCRIPTIONS AND QUANTITIES PER FLOOR LEVEL.
- REPAIR 30 - CONTRACTOR SHALL SOUND AND MARK USING CHALK ALL SLAB DELAMINATIONS IN THE DEFINED AREAS ON THE PLANS. CONTACT CITY INSPECTOR AND ENGINEER TO REVIEW ANTICIPATED REPAIR AREAS PRIOR TO PERFORMING WORK. FINAL REPAIR AREAS WILL BE DETERMINED BASED ON THIS SLAB SURVEY.
- REPAIR 31 - CONTRACTOR SHALL SOUND AND MARK USING CHALK ALL SLAB DELAMINATIONS IN THE DEFINED AREAS ON THE PLANS. IN COMBINATION WITH THE SOUNDING SURVEY, CONTRACTOR SHALL LOCATE EXISTING POST TENSION STRANDS IN THE AREAS OF DELAMINATION USING GPR OR SIMILAR SURVEYING SYSTEM. CONTACT CITY INSPECTOR AND ENGINEER TO REVIEW ANTICIPATED REPAIR AREAS PRIOR TO PERFORMING WORK. FINAL REPAIR AREAS WILL BE DETERMINED BASED ON THIS SLAB SURVEY AND IF THE USE OF REPAIR A32 IS WARRANTED.
- REPAIR 18 - REMOVE ALL EXISTING OVERHEAD EPOXY INJECTION PORTS AND SURFACE SEALER AT NOTED AREAS. GRIND SURFACE SMOOTH FULL LENGTH (LF).



REPAIR IDENTIFICATION SYMBOL  
(SEE PLANS)

*Handwritten signature and date: 04/18/22*

Oklahoma Certificate of  
Authorization #1460  
Expiration Date: 6/30/23

REVISION				BY	DATE

PLAN SCALE:	DRAWN			APPROVED:
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PROFILE SCALE:	PROJ. MGR.			
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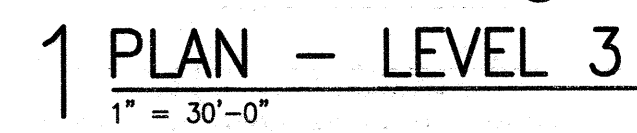


Diagram illustrating the components of a repair item label:

- REPAIR PAY ITEM NO.
- ESTIMATED REPAIR QUANTITY
- NOTES / LOCATION
- ARROW INDICATES APPROXIMATE PLAN LOCATION

12/18/22

<h1 style="margin: 0;">WILLIAMS CENTER NORTH LEVEL 3</h1>			
<h2 style="margin: 0;">PROJECT SP22-02 2022 GARAGE REPAIRS</h2>			
<h2 style="margin: 0;">TULSA AUTHORITY FOR ECONOMIC OPPORTUNITY</h2>			
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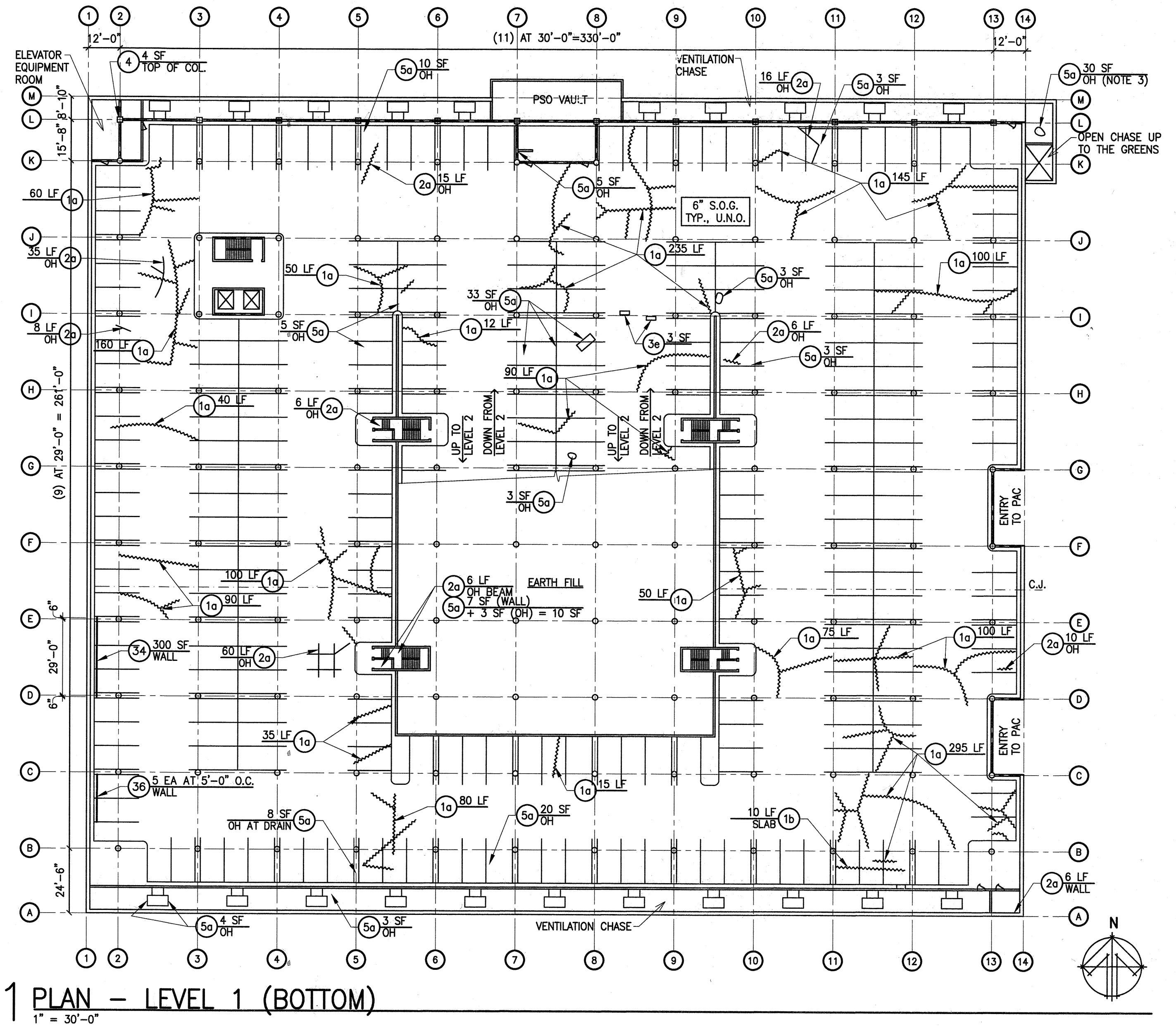
WILLIAMS CENTER SOUTH GARAGE REPAIR (2022)								
SCHEDULE OF PAY QUANTITIES - BASE BID								
PAY ITEM NUMBER	REFERENCE (DETAIL/ SHEET # OR NOTE/ SHEET #)	UNITS	PAY ITEM DESCRIPTION	LEVEL 1	LEVEL 2	LEVEL 3	THE GREENS	BASE BID QUANTITY
1a	DETAIL 1a/13	LF	ROUTE AND SEAL	1732	26	12	0	1770
1b	DETAIL 1b/13	LF	FILL CRACKS / JOINTS WITH CRACK FILLER	10	0	0	0	10
2a	NOTE D/4	LF	EPOXY INJECTION - TYPICAL AT BEAMS, COLUMNS, SLAB, WALLS	178	448	64	0	690
2c	NOTE I/4	LF	LEAK INJECTION WITH CHEMICAL GROUT	0	0	520	0	520
3b	DETAIL 3b/13	SF	STRUCTURAL SLAB - PARTIAL DEPTH PATCH	0	145	183	0	328
3e	DETAIL 3e/14	SF	SLAB-ON-GRADE - PARTIAL DEPTH PATCH	3	16	0	0	19
4	DETAIL 4/15	SF	VERTICAL SURFACE / WALL / COLUMN PATCH - PARTIAL DEPTH	4	8	15	0	27
5a	DETAIL 5a/15	SF	OVERHEAD PATCH - BOTTOM OF SLAB	140	57	3	0	200
5b	DETAIL 5b/15	SF	OVERHEAD PATCH - BEAM SIDE, SLAB EDGE	0	0	8	0	8
5e	DETAIL 5e/15	SF	OVERHEAD PATCH - RIB	0	0	8	0	8
5g	NOTE 10/10 DETAIL 5a/15	SF	OVERHEAD PATCH - BOTTOM OF SLAB - MEGAMIX II - XYPEX	0	0	61	0	61
5h	NOTE 11/10	SF	OVERHEAD PARGE COAT - MEGAMIX I - XYPEX	0	0	95	0	95
20b	REPAIR NOTE I/4	SF	ELASTOMERIC DECK COATING - REPAIR EXISTING	0	64	210	0	274
31	DETAIL 31/16	LF	SPLICE DETAIL	*	*	*	*	30
33	NOTE N/4	EA	INSTALL CRACK MONITORS	0	0	4	0	4
34	NOTE K/4	SF	WALL TEST AREA - CURTAIN INJECTION	300	0	0	0	300
35	NOTE I/4 AND NOTE 1/11 & 3/11	LF	OVERHEAD LEAK INJECTION AT CONTROL JOINTS	0	0	217	0	217
36	DETAIL 36/14	EA	WALL TEST AREA - PRESSURE RELIEF DRAINS	5	0	0	0	5

\* BASE BID ITEM QUANTITIES AND LOCATIONS ARE ESTIMATED. THE BASE BID QUANTITIES PROVIDED AND MARKED WITH \* ARE FOR BIDDING PURPOSES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY THESE CONDITIONS IN THE FIELD DURING REPAIRS AND APPLY THE CORRECT REPAIR DETAIL ACCORDINGLY.

SCHEDULE OF PAY QUANTITIES - ADDITIVE ALTERNATES								
PAY ITEM NUMBER	REFERENCE (DETAIL/ SHEET # OR NOTE/ SHEET #)	UNIT	PAY ITEM DESCRIPTION	LEVEL 1	LEVEL 2	LEVEL 3	THE GREENS	BASE BID QUANTITY
ADD ALT #2	WILLIAMS CENTER SOUTH		ADDITIVE ALTERNATE (#2) FOR WCS					
A20b	REPAIR NOTE I/4	SF	ELASTOMERIC DECK COATING - REPAIR EXISTING	0	0	4950	0	4950

#### PLAN NOTES

- NOT ALL LOCATIONS OF THE PARTICULAR PAY ITEM ARE SHOWN OR LOCATED ON THIS PLAN. REPRESENTATIVE AREAS AND QUANTITIES ARE SHOWN. THE BID QUANTITY FOR THE PAY ITEM FOR THIS PLAN LEVEL IS NOTED IN THE SCHEDULE OF PAY QUANTITIES - BASE BID. CONTRACTOR SHALL LOCATE AND MARK THE WIDEST/WORST CRACKS FOR REPAIR AND FOR INSPECTOR APPROVAL, WITH THE REPAIR QUANTITY NOT TO EXCEED THE BID QUANTITY UNLESS APPROVED BY OWNER.
- WHERE NOTED, REMOVE SHALLOW DELAMINATION(S) ADJACENT TO, OR INTEGRAL WITH, OTHER NOTED PAY QUANTITY REPAIR. NO ADDITIONAL REPAIR AT DELAMINATION AREA IS REQUIRED UNLESS OTHERWISE DIRECTED BY OWNER OR ENGINEER. NOT A SEPARATE PAY ITEM BUT CONSIDERED PART OF THE NOTED PAY ITEM AT THIS LOCATION.
- LEVEL 1 - NORTHEAST CORNER CHASE AREA EAST OF GRID 14. CONTRACTOR SHALL ACCESS AND FIELD VERIFY THE INDICATED OH BOTTOM OF SLAB SPALL DAMAGE 50 TO OWNER BEFORE BEGINNING THE ACTUAL REPAIR.



1 PLAN - LEVEL 1 (BOTTOM)  
1" = 30'-0"

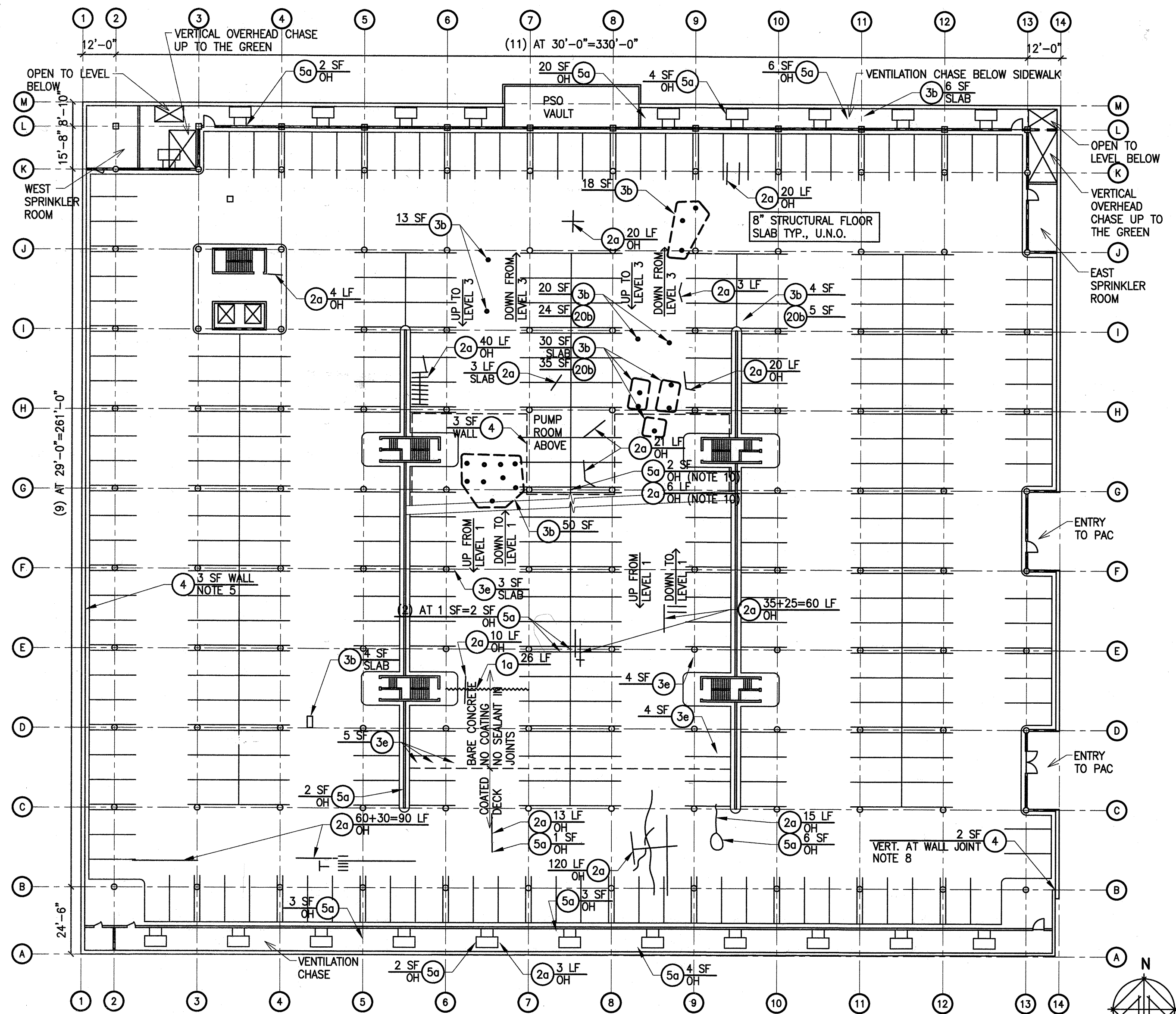
REPAIR PAY ITEM NO.  
ESTIMATED REPAIR QUANTITY  
NOTES / LOCATION  
ARROW INDICATES APPROXIMATE PLAN LOCATION

REPAIR IDENTIFICATION SYMBOL  
(SEE PLANS)

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REVISION	BY	DATE	PLAN SCALE:	DRAWN			APPROVED:
				DESIGNED			
				SURVEY			
			PROFILE SCALE:	PROJ. MGR.			
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				FIELD MGR.	7/24/22	4/22	
			VERTICAL:	RECOMMENDED:	HAS	4.22	
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			ATLAS PAGE NO.:	8			SHEET 9 OF 18 SHEETS



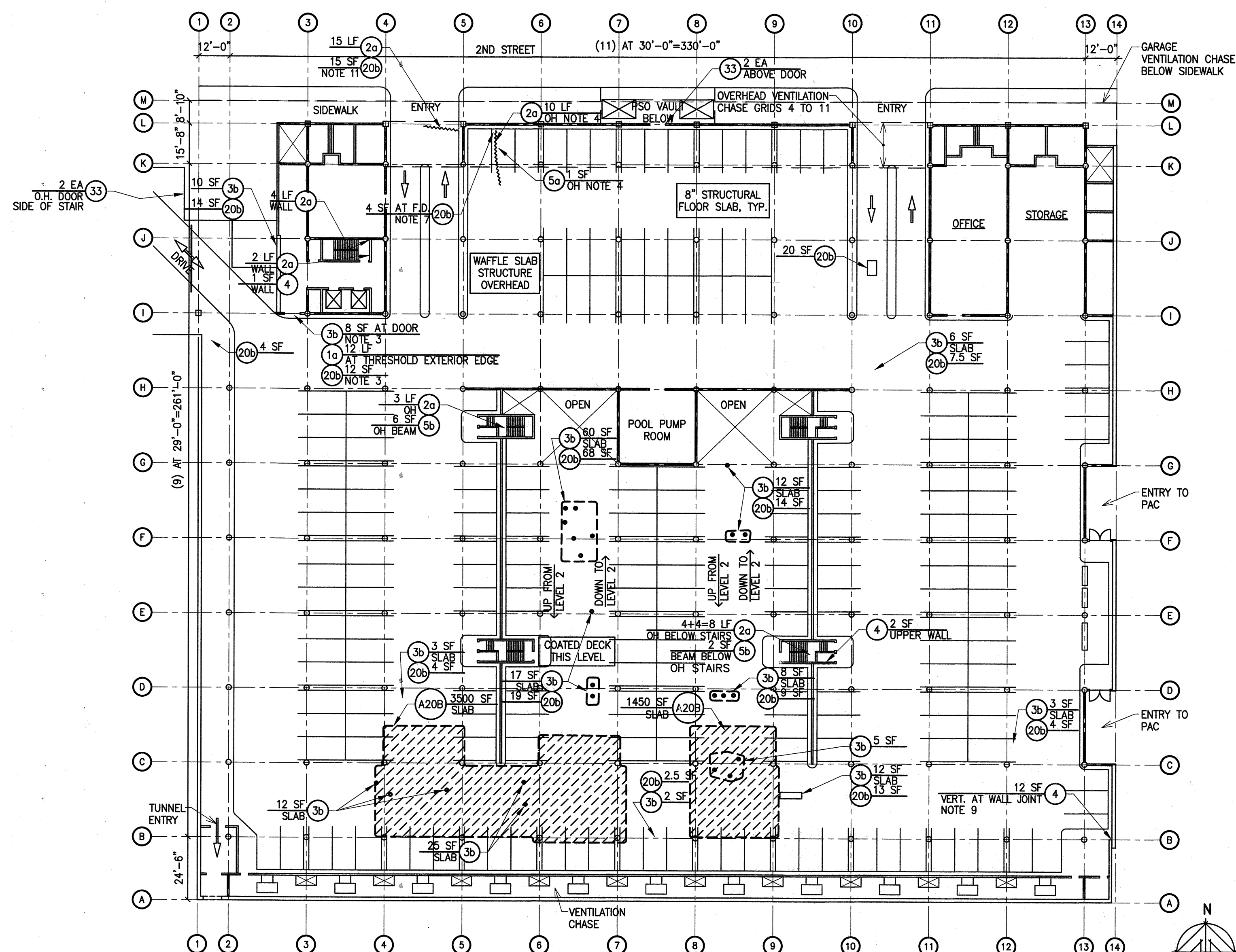


1 PLAN - LEVEL 2

1" = 30'-0"

NOTES:

- SEE WILLIAMS CENTER SOUTH SCHEDULE, SHEET 9, FOR NOTES TO THIS GARAGE.
- REPAIR EXISTING DAMAGED AND MISSING AREAS OF ELASTOMERIC COATING WITH COMPATIBLE PRODUCT, SIMILAR IN COLOR AND TEXTURE. REPAINT EXISTING DECK STRIPING DAMAGED BY THIS REPAIR. SEE MATERIAL AND INSTALLATION NOTES ON SHEETS 3 AND 4.
- LEVEL 3 - AT THE NOTED GARAGE DOOR INTO NW ELEVATOR AREA, AT GRIDS 3/1, AFTER SLAB SPALL REPAIR IS COMPLETED, EXTEND THE NEW ELASTOMERIC COATING 1-INCH ONTO CLEANED THRESHOLD FULL WIDTH OF DOORWAY, OVER NEW POLYURETHANE CAULK, EXTERIOR SIDE OF DOOR.
- LEVEL 3 - THE NOTED REPAIRS ARE ON THE BOTTOM OF THE OVERHEAD CHASE.
- LEVEL 2 - AT THE NOTED SPALL LOCATION ALONG THE TOP OF WEST WALL, CONTRACTOR SHALL REMOVE AS MUCH OF THE LOOSE CONCRETE AS POSSIBLE AROUND AND BEHIND THE ELECTRIC BOX WITHOUT REMOVING OR AFFECTING ADJACENT ELECTRICAL OR PLUMBING ELEMENTS, AND WITHOUT PLACING NEW REPAIR MORTAR. THIS WILL ALLOW ENGINEER AND OWNER TO EVALUATE IF ANY FURTHER REPAIR IS REQUIRED.
- ALL SLAB REPAIRS IN AREAS WITH AN ELASTOMERIC COATING, SHALL BE RECOATED PER NOTE 2 ABOVE, OVERLAPPING THE EXISTING COATING (CLEANED BY CONTRACTOR) ALL AROUND THE SLAB REPAIR, PER MATERIAL INSTALLATION NOTES.
- LEVEL 3 - AT NOTED FLOOR DRAIN, REMOVE THE GRATE AND DETERIORATED ELASTOMERIC COATING ALL AROUND. CLEAN THE INTERIOR OF DRAIN BELOW, INCLUDING FITTING SEAMS OR GAPS. VERIFY THE DRAIN AND PIPE COMPONENTS BELOW ARE IN GOOD CONDITION. REPAIR THE COATING AROUND THE DRAIN AND EXTEND COATING DOWN INTO THE DRAIN APPROXIMATELY 3-INCHES TO COAT AND SEAL ANY DRAIN JOINTS, TO PREVENT FUTURE WATER LEAKAGE BELOW. DO NOT CLOG THE DRAIN WITH THIS INSTALLATION. REPLACE DRAIN GRATES WITH ALL BOLTS ORIGINALLY INTENDED. PROVIDE ADDITIONAL NEW SS BOLTS / SCREWS IF NECESSARY.
- LEVEL 2 - THE VERTICAL WALL JOINT REPAIR AT SOUTHEAST WALL CORNER AT GRID B/14 WAS INCORRECTLY FILLED WITH MORTAR DURING ORIGINAL CONSTRUCTION OR PRIOR REPAIRS. REMOVE MORTAR FULL HEIGHT OF THE JOINT THIS LEVEL TO MATCH THE WIDTH OF JOINT ABOVE / BELOW. REPAIR SPALLS SIMILAR TO DETAIL 4/15 BY REMOVING LOOSE, CRACKED CONCRETE. SAWCUT THE EDGE ALONG SPALLS 1/4-INCH OR DEEPER TO ALLOW PLACEMENT OF REPAIR MORTAR OVER BONDING AGENT TO PROVIDE A SMOOTH FINAL SURFACE. BEFORE PLACEMENT OF REPAIR MORTAR, INSTALL CONTINUOUS CLOSED CELL RIGID FOAM SHEET BACK INTO THE JOINT AS BOND BREAKER AND SEPARATOR FROM THE ADJACENT EAST WALL. EXTEND THE FOAM SHEET CONTINUOUSLY VERTICAL AT THE JOINT GAP, FLUSH TO THE FACE OF WALL TO BE REPAIRED. USE AT LEAST 1/4-INCH THICK FOAM SHEET, BUT THICKER IS DESIRED, MATCHING THE GAP FURTHER SOUTH BETWEEN THE WALLS. CLEAN AND COAT ANY EXPOSED REBAR. USE A DRY PACK REPAIR METHOD, TOOLED SMOOTH TO AVOID FORMS AND POTENTIAL FLOW OF FLUID GROUT INTO THE ISOLATION JOINT. AFTER MORTAR IS CURED AT LEAST 14 DAYS, REMOVE THE FOAM SHEET AND COAT THE REPAIR SURFACES, INCLUDING THE JOINT WITH 2 COATS OF CORROSION INHIBITOR AT LEAST 12' BEYOND THE ENTIRE REPAIR AREA. CORROSION INHIBITOR SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT COST FOR THIS REPAIR.
- LEVEL 3 - THE VERTICAL ISOLATION / EXPANSION JOINT AT THE SOUTHEAST WALL CORNER AT GRID B/14 WAS INCORRECTLY FILLED WITH CONCRETE OR MORTAR IN THE PAST AND THEN COATED. REPAIR AS FOLLOWS: VERTICALLY SAWCUT OR GRIND AND CHIP TO REMOVE THE MORTAR AND UNSOUND / SPALLED MATERIAL FROM THE JOINT. MATCH THE WIDTH OF ADJACENT JOINT OVERHEAD AND BELOW. INSTALL RIGID CLOSED CELL FOAM INTO THE OPEN JOINT FLUSH WITH THE NORTH FACE OF WEST WALL. PATCH THE SPALLED SURFACES ON SOUTH FACE OF WEST WALL UP THE VERTICAL JOINT SIMILAR TO DETAIL 4/15 TO PRESENT A SMOOTH FINAL SURFACE. AFTER REPAIR MORTAR HAS CURED, COAT THOSE SURFACES WITH 2 COATS OF ACRYLIC PAINT COMPATIBLE WITH CONCRETE, MATCHING THE EXISTING ADJACENT PAINT COLOR AND SHEEN TO THE EXTENT POSSIBLE. NO SEALANT WILL BE INSTALLED IN THE JOINT. PROTECT THE ISOLATION JOINT FROM REPAIR PRODUCTS. PAINT COATING SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT COST OF THE REPAIR.
- LEVEL 2 - NOTED REPAIRS ARE OH ON BOTTOM OF PUMP ROOM SLAB.
- LEVEL 3 - NOTED REPAIR AT WEST ENTRY DRIVE, REMOVE ELASTOMERIC ABOVE CRACK TO REPAIR.



2 PLAN - LEVEL 3

1" = 30'-0"

(SEE SHEET 11 FOR REFLECTED CEILING PLAN OF LEVEL 3)

- REPAIR PAY ITEM NO. (XX) ESTIMATED REPAIR QUANTITY (TOTAL) NOTES / LOCATION
- THIS OUTLINE AREA CONTAINS MULTIPLE REPAIRS. DOTS INDICATE APPROXIMATE REPAIR LOCATIONS
- REPAIR PAY ITEM NO. (XX) ESTIMATED REPAIR QUANTITY (TOTAL) NOTES / LOCATION
- ARROW INDICATES APPROXIMATE PLAN LOCATION

REPAIR IDENTIFICATION SYMBOL (SEE PLANS)

*James*  
04/10/22

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Expiration Date: 6/30/23

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PLAN SCALE:	DRAWN		
	DESIGNED		
	SURVEY		
PROFILE SCALE:	PROJ. MGR.		
HORIZONTAL:	LEAD ENGR.		
	FIELD MGR.		
	RECOMMENDED:		
	DESIGN MANAGER		
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ATLAS PAGE NO.:	8		

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CITY ENGINEER	
DATE:	
SHEET	10 OF 18 SHEETS

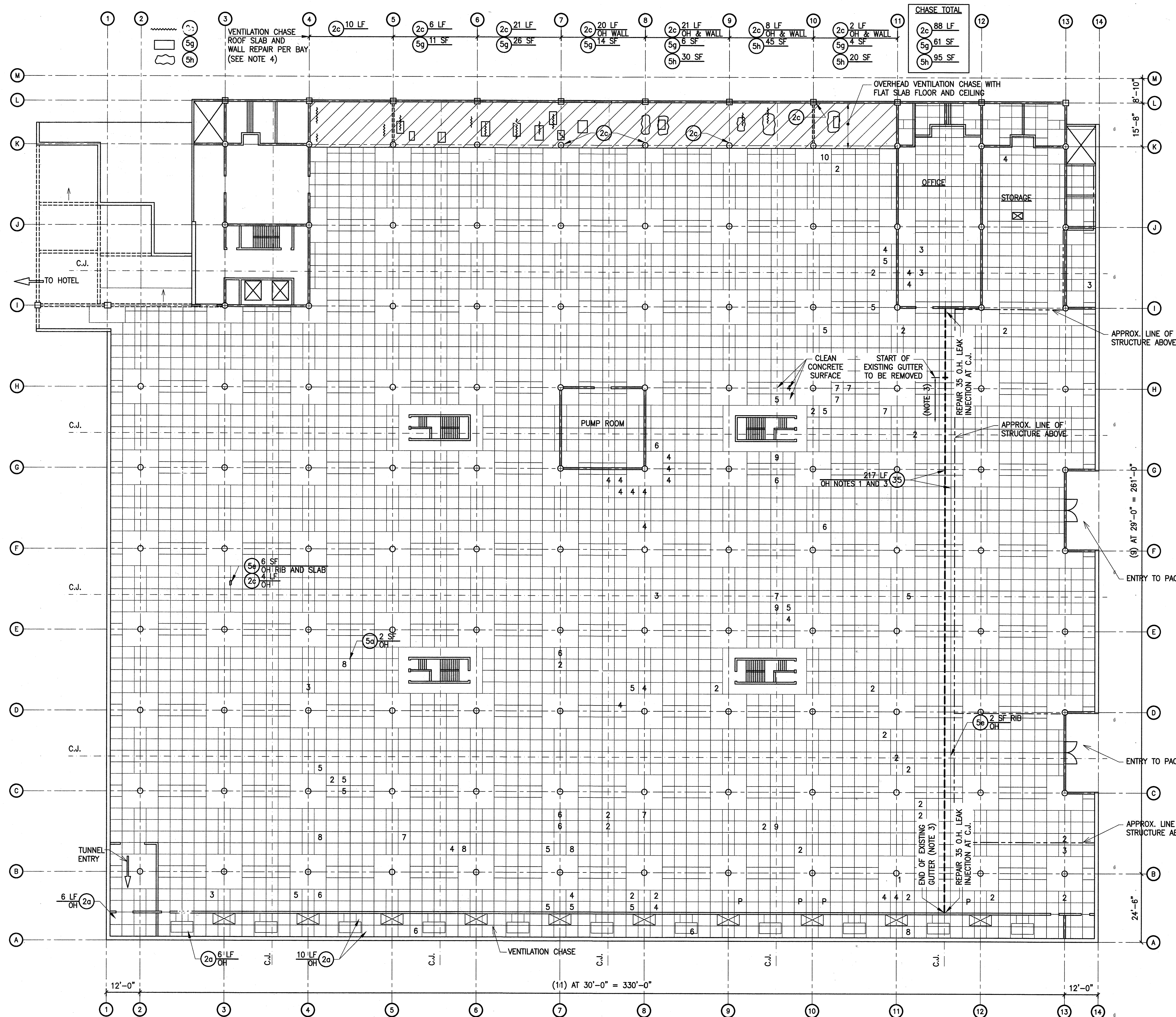
WILLIAMS CENTER SOUTH  
LEVELS 2 AND 3

PROJECT SP22-02  
2022 GARAGE REPAIRS

TULSA AUTHORITY FOR  
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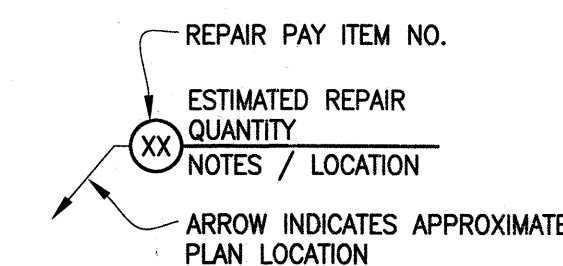
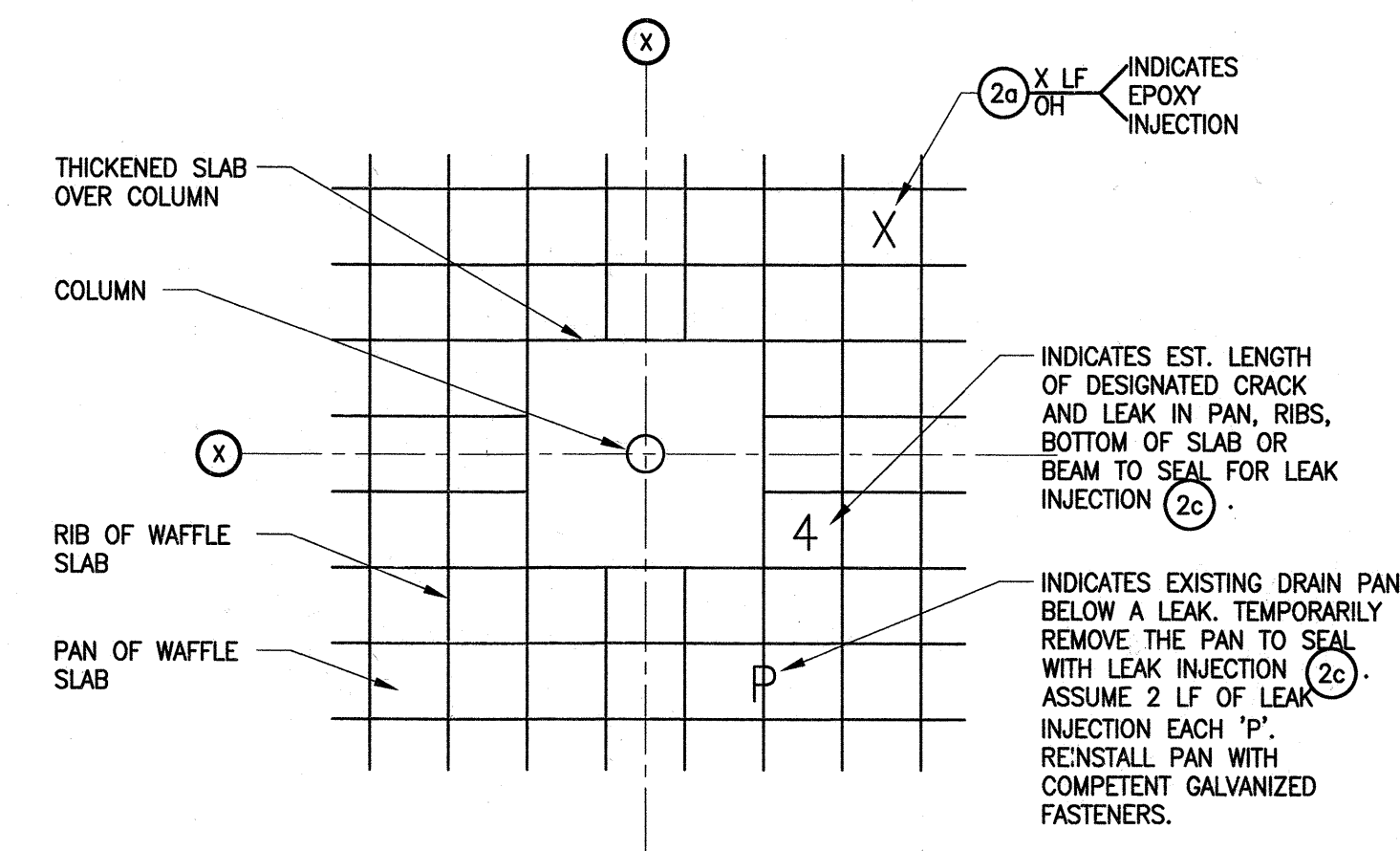
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## 2 LEGEND-OVERHEAD LEAK AND CRACK INJECTION

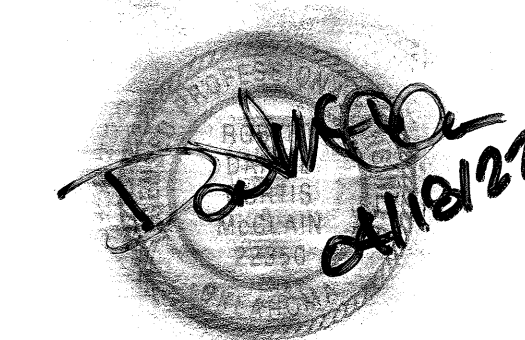
1" = 10'-0"



REPAIR IDENTIFICATION SYMBOL  
(SEE PLANS)

### NOTES

1. A. THE PRIMARY INTENT OF LEVEL 3 OVERHEAD LEAK INJECTION IS TO STOP ROOF LEAKS. SEE THE LEVEL 3 - REFLECTED CEILING PLAN (RCP) FOR THE LOCATION AND ESTIMATED LENGTH OF CRACKS AND LEAKS TO INJECT IN THE WAFFLE SLAB AND RIBS. NOT ALL OVERHEAD CRACKS ARE TO BE INJECTED, BUT ONLY LEAKS AND SIGNIFICANTLY SIZED CRACKS WHERE NOTED ON RCP. SEAL OFF SMALL, FINE INTERSECTING CRACKS AS REQUIRED TO CONTROL LEAKAGE OF INJECTION MATERIAL. PROTECT AND COVER THE FLOOR AS NECESSARY TO CONTROL OVERFLOW INJECTION MATERIAL. SEE MATERIAL AND REPAIR NOTES ON SHEETS 3 AND 4.
- B. CONTRACTOR SHALL LOCATE AND LAYOUT THE AREA/LENGTH OF INJECTION AS GIVEN ON THE PLANS. OBTAIN OWNER INSPECTOR APPROVAL OF THE SELECTED LEAKS AND CRACKS BEFORE PLACING CAP SEAL, INJECTION PORTS, OR PACKERS.
- C. AFTER INJECTION LOCATIONS ARE APPROVED, BLAST CLEAN THE AREA TO REMOVE EXISTING EFFLORESCENCE AND STAIN ALONG THE INJECTION AREA.
- D. AFTER LEAK INJECTION IS COMPLETE, CLEARLY MARK ON THE STRUCTURE AT INJECTED LEAKS AND CRACKS WITH PERMANENT BLACK MARKER AS A RECORD OF THE INJECTION AND AS VERIFICATION FOR PAYMENT. MARK EACH PAN INJECTED WITH THE APPROVED PAY QUANTITY AND THE NO. '22' INDICATING THE YEAR 2022.
2. EXCEPT WHERE NOTED AS A SEPARATE PAY ITEM, REMOVE SHALLOW DELAMINATION(S) ADJACENT TO, OR INTEGRAL WITH OTHER NOTED PAY QUANTITY REPAIRS. NO ADDITIONAL REPAIR AT THE SHALLOW DELAMINATED AREA IS REQUIRED UNLESS OTHERWISE DIRECTED BY OWNER OR ENGINEER. NOT A SEPARATE PAY ITEM BUT CONSIDERED ANCILLARY TO THE NOTED PAY ITEM.
3. REPAIR (39) - REMOVE EXISTING GUTTER AND INSTALL OVERHEAD LEAK INJECTION FROM SOUTH WALL TO OFFICE WALL AS NOTED ON PLAN. REMOVE THE ENTIRE EXISTING STEEL GUTTER AND DOWNSPOUT BELOW THE CEILING AND STORE FOR THE OWNER AT A DESIGNATED AREA. PREPARE THE STRUCTURE AREA AS REQUIRED TO REPAIR THE ENTIRE LENGTH OF CONSTRUCTION JOINT AS NOTED ON PLAN. (SEE MATERIAL AND INSTALLATION NOTES ON SHEETS 3 AND 4). DO NOT REPLACE OR REINSTALL THE GUTTER.
4. NORTH OVERHEAD VENTILATION CHASE REPAIRS.
  - A. THE REPAIRS SHOWN ON THE LEVEL 3 RCP DRAWING ARE ON THE ROOF SLAB AND THE SOUTH WALL OF THE OVERHEAD CHASE.
  - B. ACCESS TO THE OVERHEAD CHASE IS THROUGH A LOUVER OPENING IN THE FLOOR SLAB OF THE CHASE AT A NON-OPERATING VENTILATION FAN. GARAGE OPERATOR WILL DEFINE THE ACCESS POINT FOR CONTRACTOR. THE HEIGHT TO THE CHASE ABOVE THE LEVEL 3 SLAB IS APPROXIMATELY 12 FT.
  - C. NOT ALL REPAIRS ARE DEPICTED ON THE REPAIR PLAN, WITH ONLY REPRESENTATIVE SAMPLES AND LOCATIONS NOTED. CONTRACTOR SHALL FIELD LOCATE THE REPAIRS FOR OWNER APPROVAL TO REPAIR ALL 2c AND 5c DAMAGE ARE TO BE REPAIRED TO THE EXTENT OF DEFINED QUANTITIES, AS AUTHORIZED BY OWNER. FOR 5H DAMAGE AND REPAIRS, HOWEVER, UNLESS OTHERWISE APPROVED AND DIRECTED BY THE OWNER, THE INTENT IS TO ONLY REPAIR TYPE 5H DAMAGE IN THE 3 EAST BAYS OF THE CHASE, AND NOT TO PROCEED WITH 5H REPAIRS IN THE FOUR BAYS TO THE WEST AT THIS TIME, THEREFORE NO QUANTITY OF 5H DAMAGE IS NOTED IN THOSE FOUR BAYS FOR THIS PHASE OF WORK.



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WILLIAMS CENTER SOUTH  
LEVEL 3 RCP

PROJECT SP22-02  
2022 GARAGE REPAIRS  
TULSA AUTHORITY FOR  
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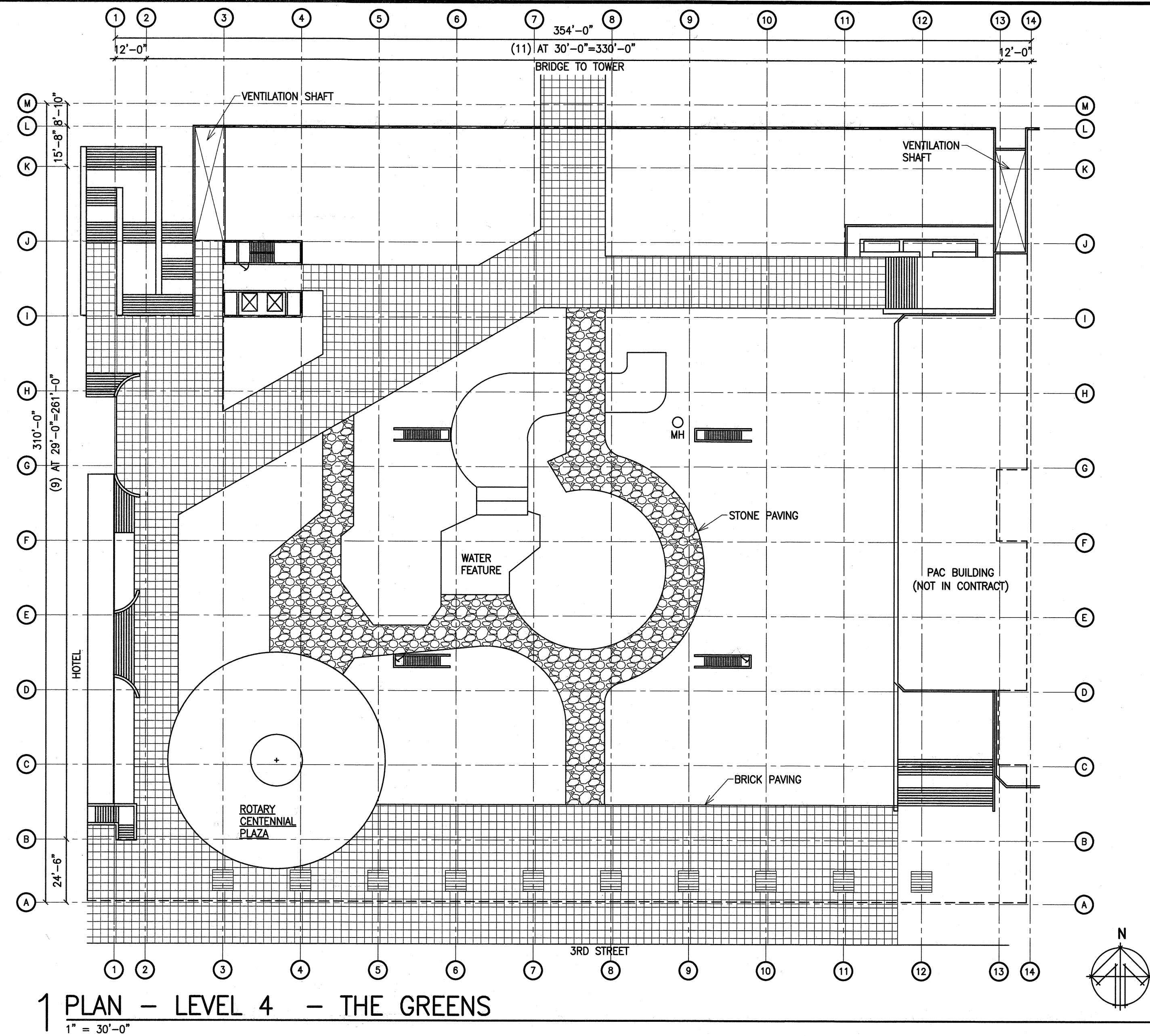
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			PROFILE SCALE:		
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			ATLAS PAGE NO.: 8		SHEET 11 OF 18 SHEETS

## 1 PLAN - LEVEL 3 REFLECTED CEILING PLAN (RCP) OF WAFFLE SLAB ROOF

1" = 20'-0"





NO REPAIRS  
THIS LEVEL

REPAIR PAY ITEM NO.  
ESTIMATED REPAIR  
QUANTITY  
NOTES / LOCATION  
ARROW INDICATES APPROXIMATE  
PLAN LOCATION

REPAIR IDENTIFICATION SYMBOL  
(SEE PLANS)

*DAVID*  
04/18/22

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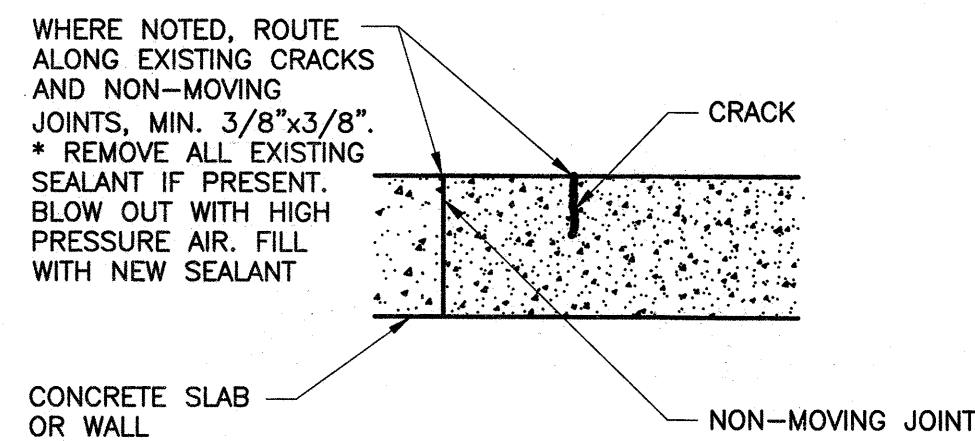
WILLIAMS CENTER SOUTH  
LEVEL 4 - THE GREENS

PROJECT SP22-02  
2022 GARAGE REPAIRS

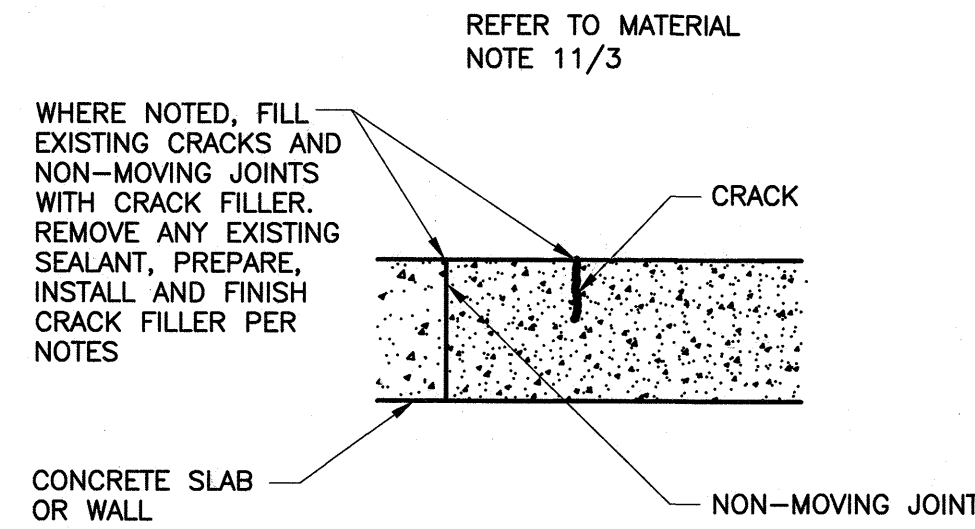
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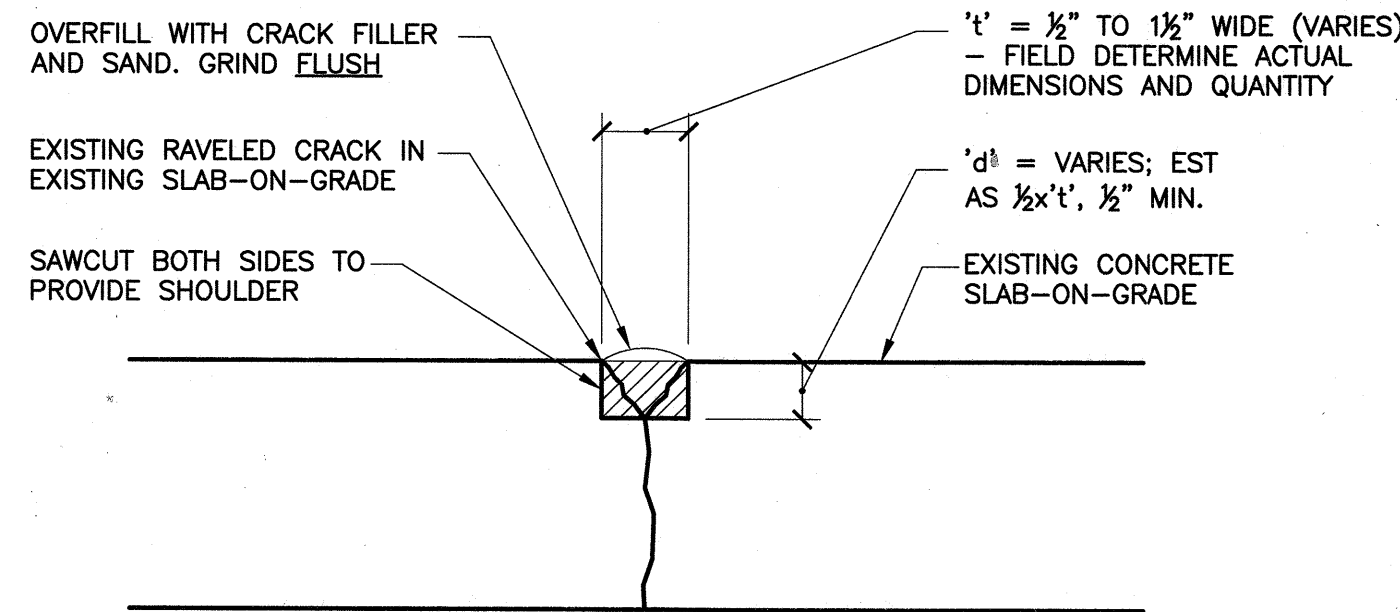




\* MAX. DEPTH OF ROUTING SHALL NOT EXCEED 1/2" IN STRUCTURAL SLABS WITH POST-TENSION CABLES.  
FOR CRACKS GREATER THAN 0.08" WIDE, REFER TO REPAIR 1c.



\* MAX. DEPTH OF ROUTING SHALL NOT EXCEED 1/2" IN STRUCTURAL SLABS WITH POST-TENSION CABLES.  
FOR CRACKS GREATER THAN 0.08" WIDE, REFER TO REPAIR 1c.

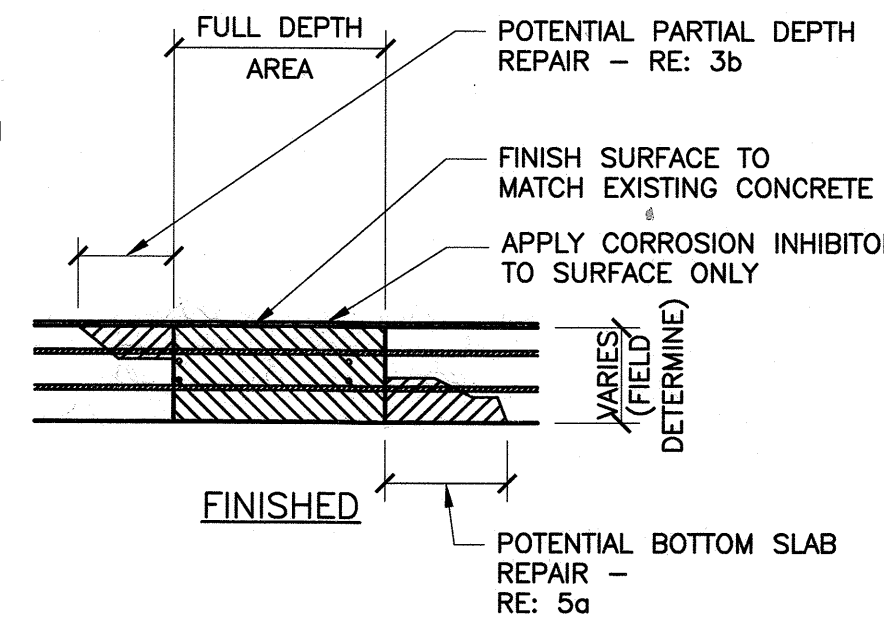
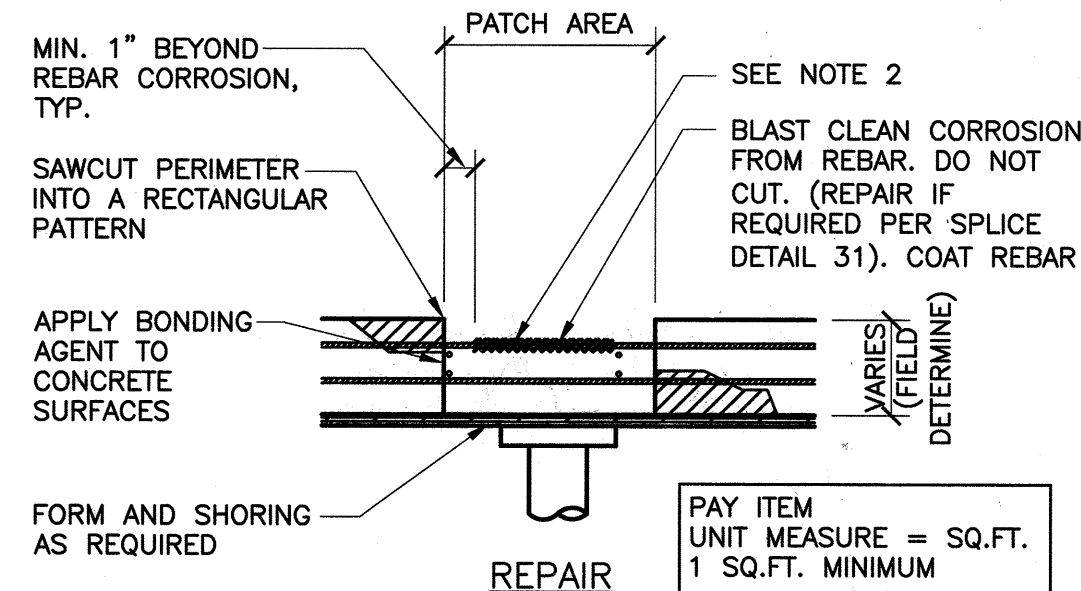
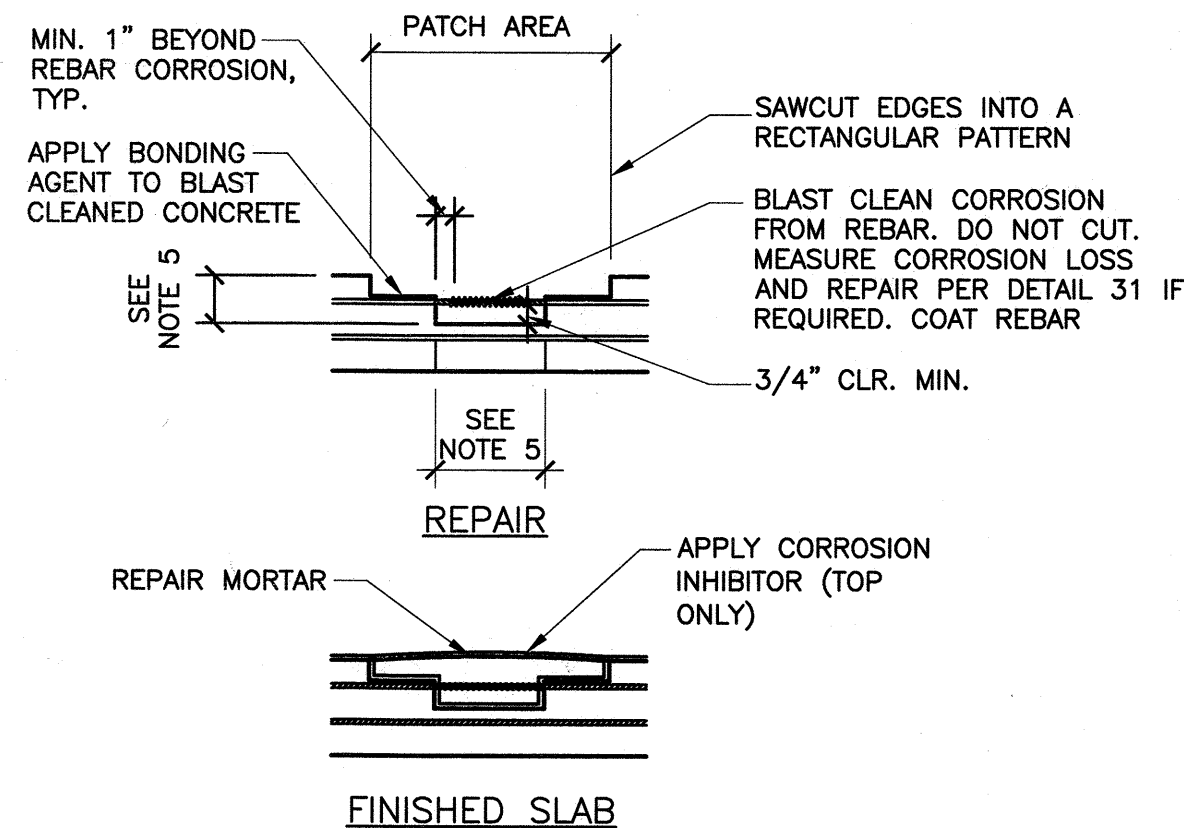
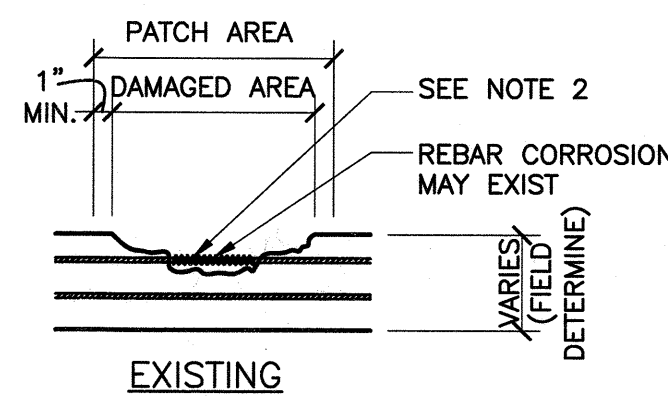


NOTES  
1. LOCATE AND DEFINE CRACKS TO BE REPAIRED FOR APPROVAL. DO NOT PROCEED WITHOUT OWNER APPROVAL.  
2. ROUTE OR SAW CUT VERTICAL SIDES ALONG CRACK TO DEPTH 'd'.  
3. BLOW OUT CRACK WITH COMPRESSED AIR AND OTHERWISE PREPARE AS RECOMMENDED BY CRACK FILLER PRODUCT MANUFACTURER.  
4. APPLY CRACK FILLER RESIN TO BOTTOM OF GROOVE TO FEED AND FILL LOWER CRACK.  
5. OVERFILL GROOVE WITH RESIN MORTAR USING CLEAN QUARTZ OR SILICA SAND OF GRIT/GRADATION AND MIX RATIO RECOMMENDED BY CRACK FILLER MANUFACTURER.  
6. AFTER CRACK FILLER HAS CURED, GRIND OFF OVERFILL SO APPROXIMATELY LEVEL WITH ADJACENT SLAB. INDENTATION OR GROOVE/RECESS IS NOT ACCEPTABLE FINISH.

### 1a SEALANT-ROUTE AND SEAL

### 1b CRACK FILLER/JOINTS

### 1c REPAIR OF WIDE CRACKS IN SLAB-ON-GRADE



### 3b STRUCTURAL SLAB REPAIR - PARTIAL DEPTH (SEE REPAIR 3i FOR SHALLOW POP-OUTS ≤ 6" WIDE)

### 3d STRUCTURAL SLAB - FULL DEPTH CONCRETE REPAIR

DETAILS 3b AND 3d NOTES:  
1. SEE GENERAL NOTES AND REPAIR NOTES SHEETS FOR ADDITIONAL INFO.  
2. IF A PT CABLE IS EXPOSED OR DAMAGED, ALERT OWNER/ENGINEER IMMEDIATELY TO REQUEST DIRECTION ON HOW TO PROCEED.  
3. AT GARAGE WITH POST-TENSION CABLES IN THE STRUCTURAL SLAB, CONTRACTOR MUST LOCATE CABLES BEFORE STARTING DEMOLITION WORK.  
4. IF THE DAMAGE IN PRECAST SLAB OCCURS ALONG THE EDGE OR JOINT OF PRECAST MEMBER, NOTIFY ENGINEER TO EVALUATE ANY EXPOSED PRECAST CONNECTIONS BEFORE PROCEEDING WITH THIS REPAIR.  
5. CONSIDER THIS PORTION OF PATCH AS FULL DEPTH REPAIR WHEN IT INCLUDES BOTH TOPPING SLAB AND PRECAST FLANGE.  
6. IF THE DEPTH OF REPAIR EXCEEDS HALF THE THICKNESS OF THE TOTAL SLAB, OR EXCEEDS 3 INCHES, CHANGE THAT PORTION OF THE PATCH TO A FULL DEPTH STRUCTURAL SLAB REPAIR.  
7. SEE REPAIR DETAIL 3e FOR SIDEWALK REPAIRS ON GRADE WITHOUT PAVEMENT BELOW.  
8. WHEN REPAIR 3b OCCURS DIRECTLY ABOVE REPAIR 5a, THE MAXIMUM PAYMENT FOR THE COMBINED REPAIRS SHALL NOT EXCEED THE UNIT PRICE FOR A FULL DEPTH REPAIR.

*Handwritten signature and date: 6/18/22*

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ATLAS PAGE NO.:	8					SHEET 13 OF 18 SHEETS

DETAIL SHEET 1

PROJECT SP22-02  
2022 GARAGE REPAIRS  
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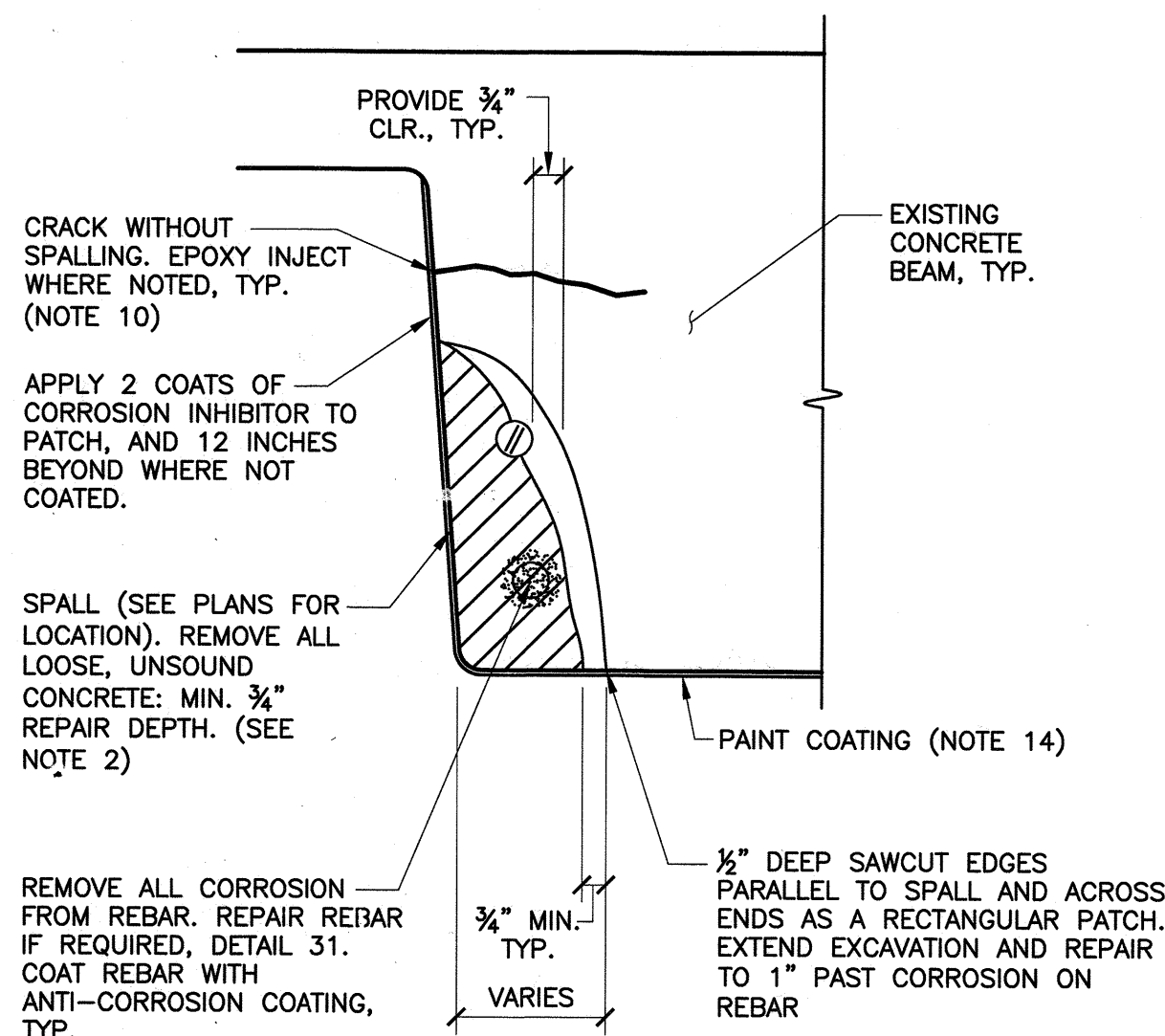
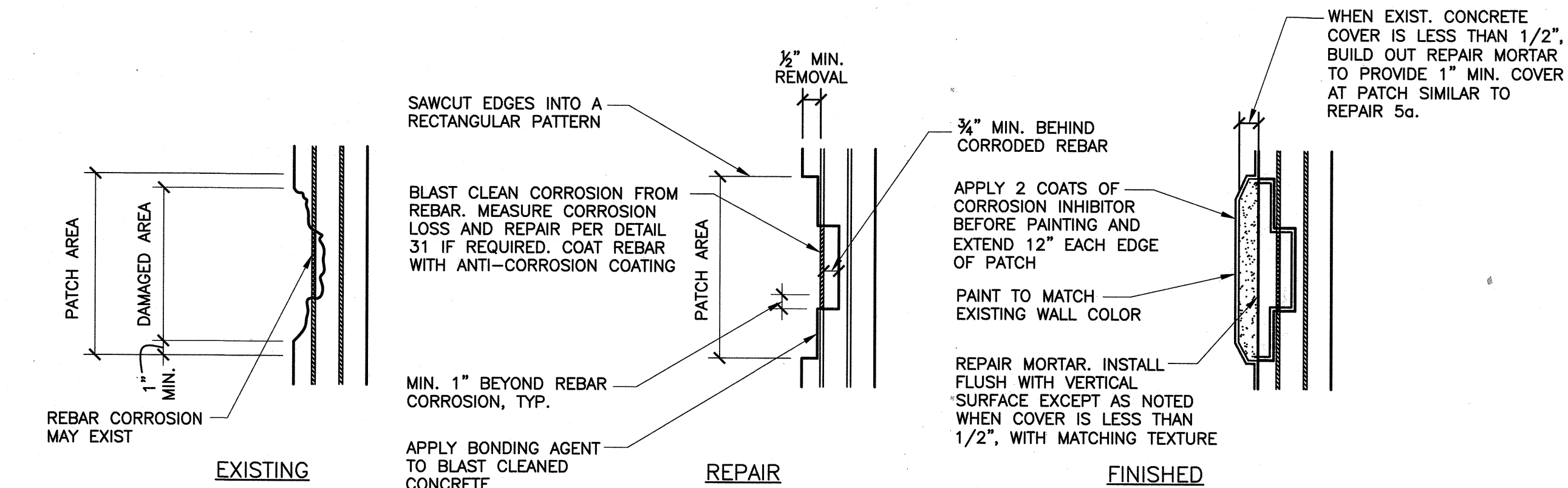




DETAIL 5 - OVERHEAD CONCRETE REPAIRS

- PERFORM THESE REPAIRS AFTER TOP OF SLAB REPAIRS HAVE BEEN COMPLETED SINCE SOME BOTTOM SPALLS AREAS MAY BE REMOVED BY FULL DEPTH SLAB REPAIRS.
- OUTLINE AND MARK THE AREA OF PATCH. DETERMINE IF THE OVERHEAD SLAB OR BEAM CONTAINS POST-TENSIONED (PT) CABLES. LOCATE ALL REINFORCING AND CABLES THAT RUN THROUGH THE AREA OF PATCH AND MARK THOSE LOCATIONS ON THE CONCRETE SURFACE.
- CAREFULLY REMOVE LOOSE CONCRETE AND CHIP OUT CONCRETE AROUND REINFORCING TO AVOID DAMAGE TO ANY REINFORCING CABLES AND BARS. AFTER REINFORCING IS LOCATED AND IDENTIFIED, OR THE DEPTH OF REINFORCING IS VERIFIED AS GREATER THAN THE DEPTH OF PATCH, SAWCUT OR GRIND 1/2-INCH DEEP AROUND THE PATCH IN A RECTANGULAR SHAPE. PROTECT / DO NOT CUT REINFORCING.
- EXPOSE AND REMOVE CORROSION FROM REINFORCING THAT IS NOT A PT CABLE, TO A POINT AT LEAST 1-INCH BEYOND CORROSION. PROTECT ANY PT CABLE AND ALERT THE OWNER'S REPRESENTATIVE FOR EVALUATION AND POTENTIAL FURTHER REPAIR. (ANY NEW DAMAGE TO PT CABLES CAUSED BY THE CONTRACTOR WILL BE REPAIRED AT HIS EXPENSE.)
- PREPARE THE CLEANED SURFACE TO RECEIVE CONCRETE REPAIR MORTAR WITH BLAST CLEANING TO 1/8-INCH RELIEF. (PROTECT PT CABLES). BLOW OFF SURFACES WITH COMPRESSED AIR AND FLUSH WITH CLEAN WATER. PROVIDE A SATURATED SURFACE DRY (SSD) CONDITION FOR THE PATCH UNLESS EPOXY BONDING AGENT IS USED.
- INSTALL MECHANICAL SCREW ANCHORS TO THE BOTTOM OF SLAB REPAIR PATCHES AND BEAM PATCHES OVER 0.3 SQUARE FEET IN AREA.
  - FOR SMALL PATCHES LESS THAN 1.5 SQUARE FEET IN AREA, INSTALL TWO (2) 3/16" DIA. STAINLESS STEEL CONCRETE SCREW ANCHORS (TAPCON OR EQUAL) AT APPROX. CENTER OF PATCH WITH 1-INCH EMBEDMENT AND 1/4-INCH OF COVER TO BOTTOM OF REPAIR MORTAR.
  - FOR PATCHES OVER 1.5 SQ. FEET IN AREA, PROVIDE SCREWS AT 12 INCHES ON CENTER EACH WAY, WITH A MINIMUM OF 4 SCREWS. INSTALL #16 GAGE GALV. WIRE TIGHTLY STRUNG BETWEEN ALL SCREWS, WRAPPED AROUND THE SCREW HEADS.
- APPLY BONDING AGENT TO SPALL REPAIR SURFACES.
- INSTALL REPAIR MORTAR, SCRUBBING IT INTO THE SURFACES, REMOVING ALL VOIDS, FIRMLY CONSOLIDATING IN PLACE. APPLY CURING COMPOUND.
- FOR ALL SLAB REPAIRS AND FOR REPAIRS ON THE BOTTOM OF BEAMS OVER 1.0 SQ. FT., INSTALL TEMPORARY FORM TO HOLD THE REPAIR MATERIAL IN PLACE DURING CURING. INSTALL THE TEMPORARY FORM PRESSED TIGHTLY AGAINST THE BOTTOM OF PATCH TO PREVENT THE DELAMINATION OF PATCH MATERIAL CAUSED BY TRAFFIC VIBRATIONS. REMOVE TEMPORARY FORM ONLY AFTER PATCH IS CURED TO AT LEAST 75% OF DESIGN STRENGTH OR 3500 PSI.
- FOR A TIGHT CRACK ON ONE SURFACE OF BEAM, EPOXY INJECT THE CRACK AS SEPARATE 2a REPAIR.
- DO NOT REMOVE EXISTING CONCRETE AT THE TOP OF A BEAM LEDGE THAT IS LOCATED BELOW, OR WITHIN 3 INCHES OF A BEARING SEAT BELOW A DOUBLE TEE WEB. EPOXY INJECT EXISTING CRACKS IN BEAM LEDGE IN THIS AREA. IF THIS IS NOT POSSIBLE, ALERT THE ENGINEER FOR FIELD REVIEW BEFORE PROCEEDING.
- AFTER REPAIRS ARE COMPLETE TO THE PRECAST BEAM, THE OVERHEAD SLAB AND ADJACENT DOUBLE TEE'S, BLAST CLEAN AND COAT THE TOP SURFACE AND FACE OF THE BEAM LEDGE AT REPAIR AREAS WITH TWO COATS OF EPOXY DECK SEALER, TO EXTEND 6 INCHES PAST LEDGE REPAIRS. CONTROL AND FINISH THE EDGES OF DECK SEALER IN A NEAT, STRAIGHT LINE.
- CURE, CLEAN AND PREPARE SURFACES OF NEW PATCHES NOT COATED WITH EPOXY AND ADJACENT CONCRETE AS REQUIRED FOR APPLICATION OF CORROSION INHIBITOR. APPLY 2 COATS OF CORROSION INHIBITOR WHERE NOTED PER PRODUCT MANUFACTURER'S DIRECTIONS.
- AFTER REPAIRS ARE COMPLETE, REPAIR MORTAR HAS CURED, AND SURFACE APPLIED CORROSION INHIBITOR HAS DRIED - APPLY 2 COATS OF NEW COLOR MATCHING ACRYLIC PAINT TO CONCRETE SURFACES THAT ARE PRESENTLY COATED. USE A "TIE COAT" AT EDGES IF REQUIRED FOR BOND COMPATIBILITY WITH EXISTING COATING. USE EXTERIOR GRADE PAINT WITH UV RESISTANCE.

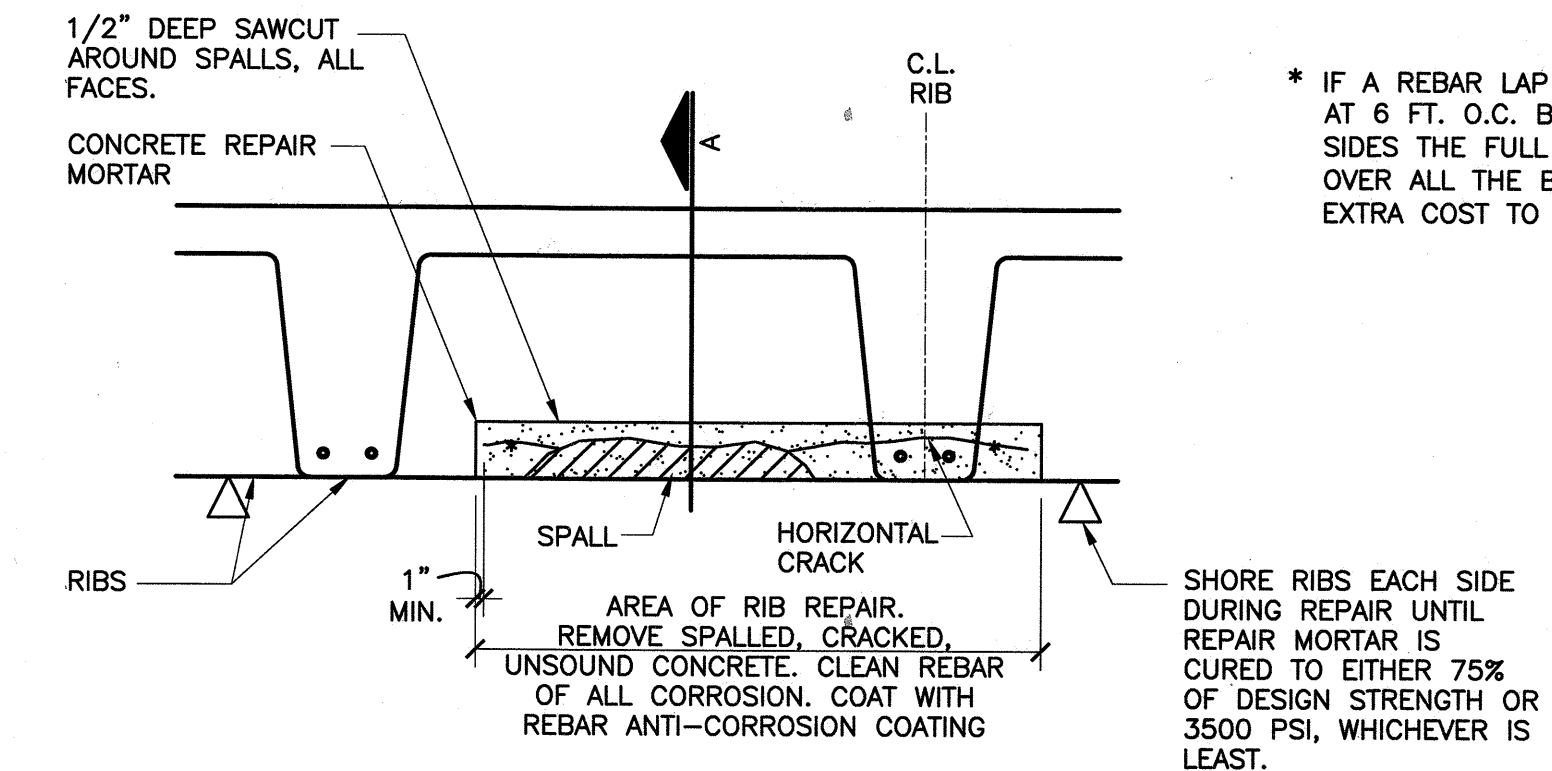
4 VERTICAL SURFACE/WALL/COLUMN/BEAM FACE PATCH - PARTIAL DEPTH



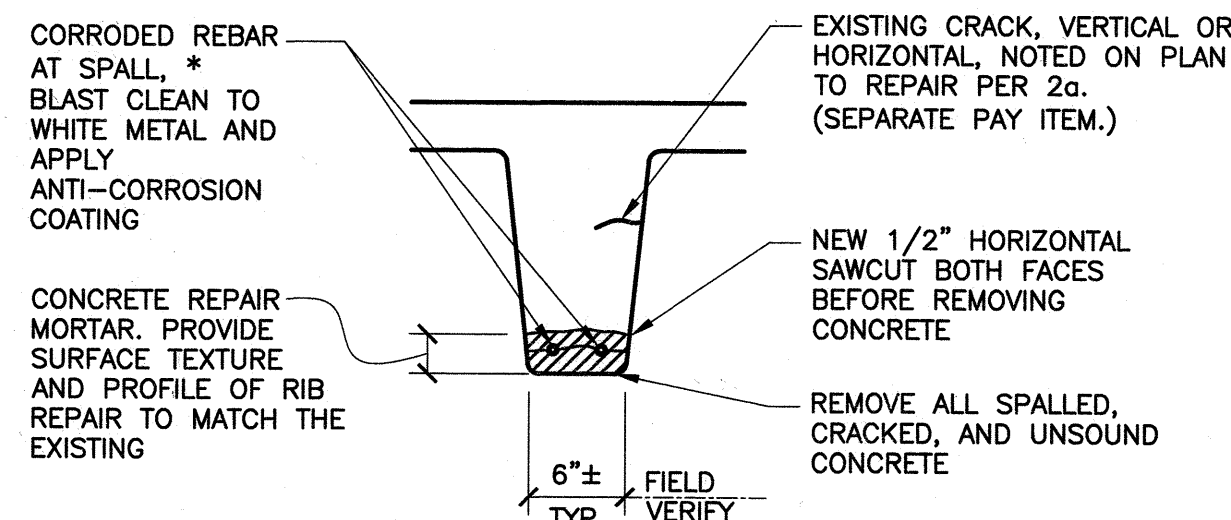
5b BEAM EDGE OR SIDE REPAIR

NTS RIB AND SLAB EDGE SIMILAR

5e RIB REPAIR

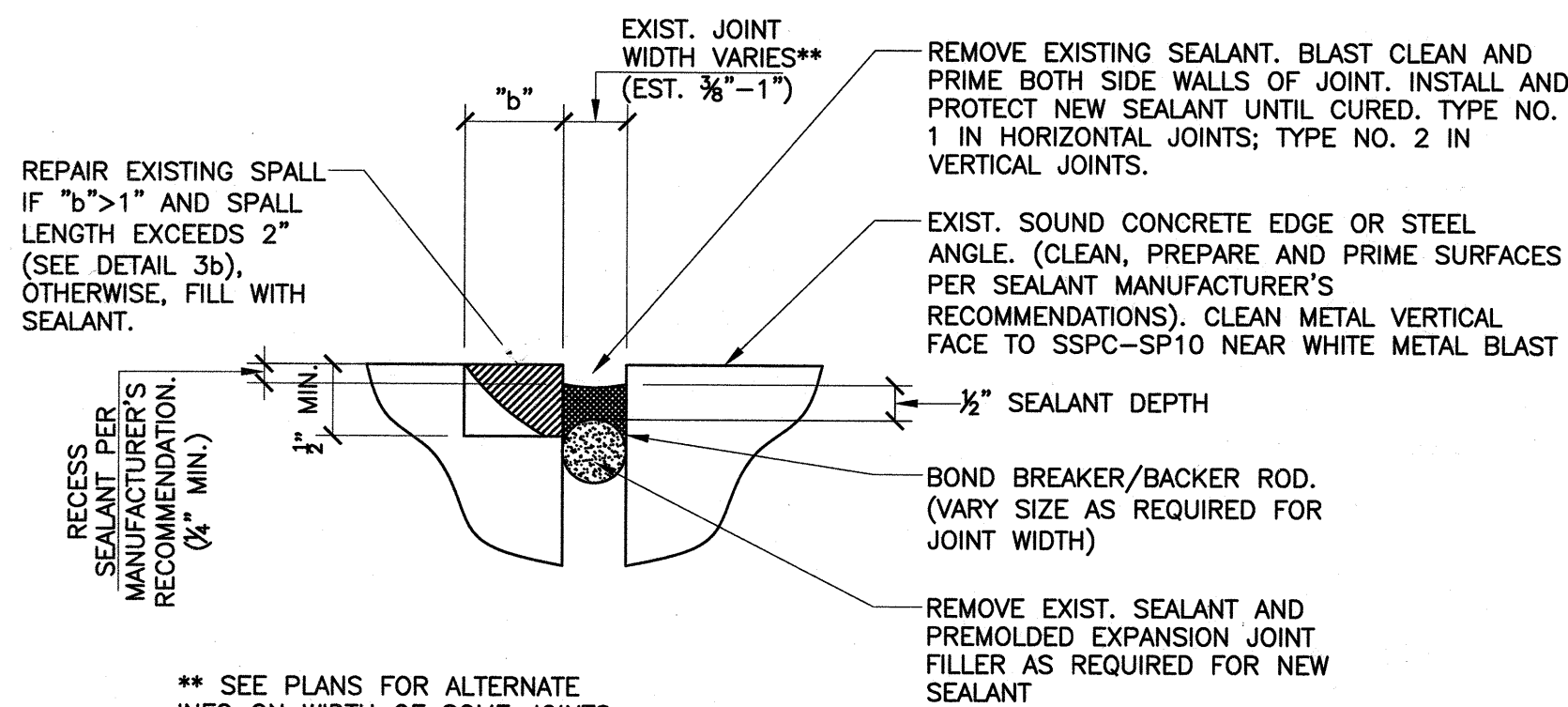


\* IF A REBAR LAP IS EXPOSED, SHORE ALONG THE AFFECTED RIB EACH END OF THE SPALLED AREA AT 6 FT. O.C. BEFORE REMOVAL OF CONCRETE AND SUBSEQUENT REPAIR. WIDEN THIS RIB BOTH SIDES THE FULL LENGTH OF THE SPALL REPAIR IF NECESSARY TO OBTAIN AT LEAST 1" COVER OVER ALL THE BARS. (INCLUDE ALLOWANCE FOR THIS CONDITION IN TYPICAL UNIT PRICE WITH NO EXTRA COST TO THE OWNER).



5a BOTTOM OF SLAB REPAIR

NTS SEE 5c FOR SMALL REPAIRS



\*\* SEE PLANS FOR ALTERNATE INFO ON WIDTH OF SOME JOINTS.

14a NEW OR REPLACEMENT OF SEALANT JOINT

NTS

DETAIL SHEET 3

PROJECT SP22-02  
2022 GARAGE REPAIRS  
TULSA AUTHORITY FOR  
ECONOMIC OPPORTUNITY

wallace design collective, pc  
structural · civil · landscape · survey  
123 north martin luther king jr. boulevard  
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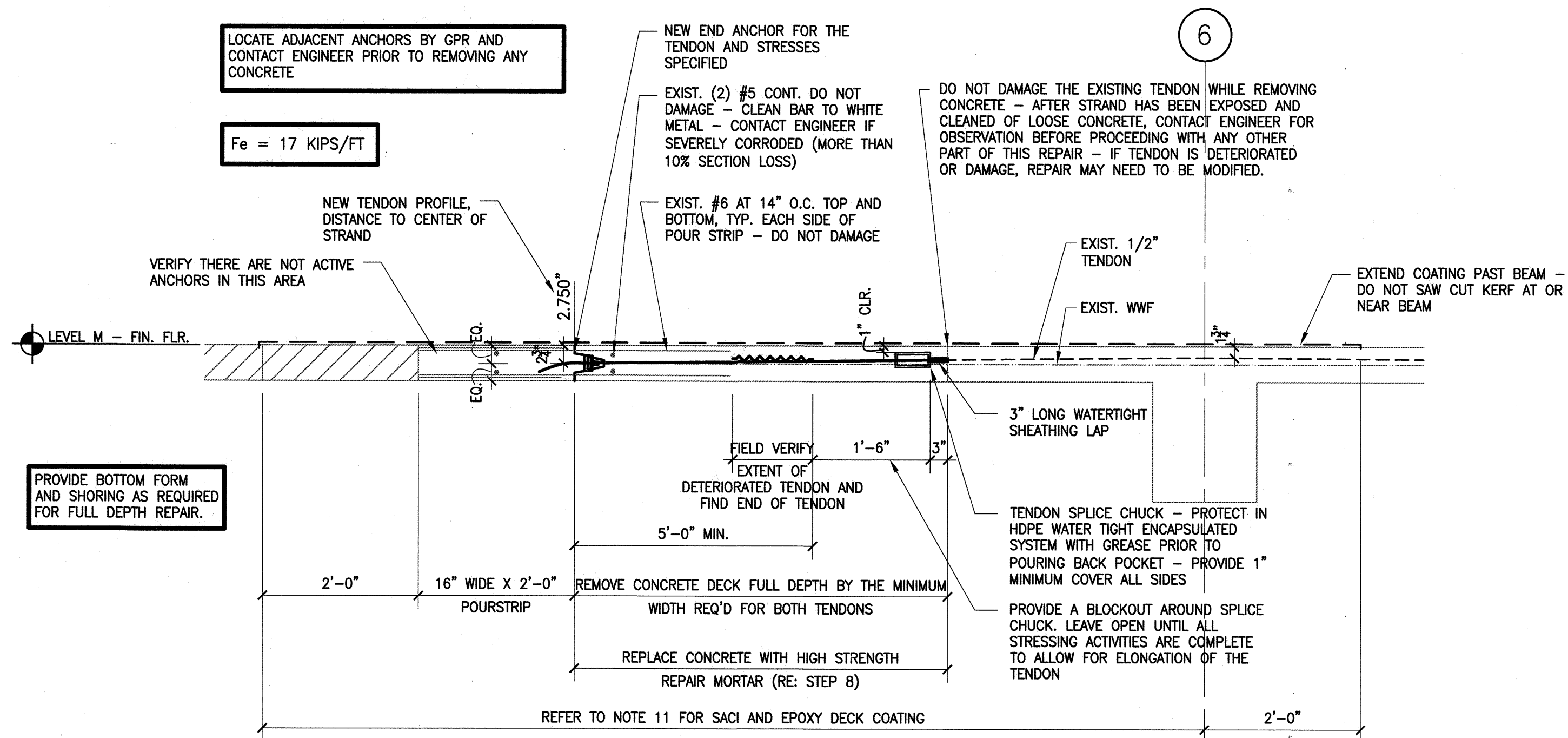
Oklahoma Certificate of  
Authorization #1460  
Expiration Date: 6/30/23

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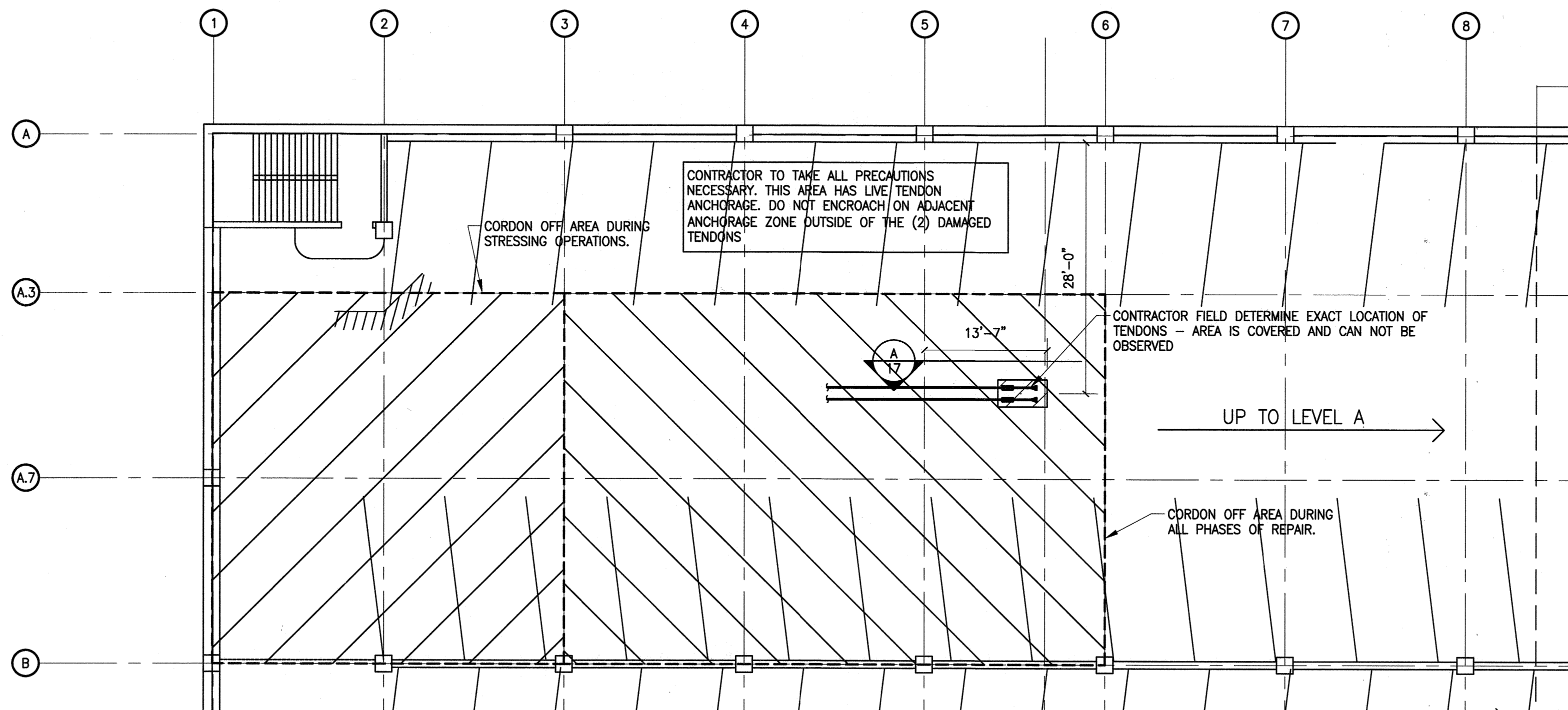
**MPP - LEVEL M NORTH RAMP REPAIR TWO TENDONS**  
3/4" = 1'-0"

#### TENDON REPAIR DETAIL

- PRIOR TO ANY WORK ON THIS REPAIR - COORDINATE REPAIR SEQUENCE AND WORK SCHEDULE WITH AMERICAN PARKING AND TENANT SPACE BELOW. PROVIDE PLAN OF REPAIR AND DISCUSS ANY WORK THAT MAY IMPACT OCCUPANCY OF THE AREA BELOW REPAIR. NO WORK SHALL PROCEED UNTIL AMERICAN PARKING HAS APPROVED THE PLAN AND COORDINATED EFFORTS WITH TENANT SPACE. PROTECT TENANT SPACE BELOW DURING ALL PHASES OF WORK. PROVIDE DUST CONTAINMENT.
- CLOSE OFF ALL VEHICLE PARKING ON LEVEL M BETWEEN GRIDS 3-6 AND A.3-B DURING STRESSING OPERATIONS, UNTIL OTHERWISE APPROVED TO RE-OPEN TO VEHICLE ACCESS. OBTAIN APPROVAL OF THE GARAGE OPERATOR & OWNER PRIOR TO TEMPORARY CLOSURE OF ADDITIONAL PARKING AND DRIVE AREAS OF THE GARAGE FOR THIS REPAIR.
- FIELD LOCATE NEXT ADJACENT TENDON EACH SIDE OF THE DAMAGED TENDONS. REMOVE EXISTING PATCH CONCRETE TO EXPOSE THE DAMAGE STRAND AREA. FIELD VERIFY AND DETERMINE THE FULL EXTENT OF THE DETERIORATED TENDON USING SLOW DEMOLITION FROM THE ORIGIN POINT AND WORKING OUT, REMOVING ENOUGH CONCRETE TO BE ABLE TO VISUALLY OBSERVE THE TENDON. DOCUMENT EXTENT OF DETERIORATION. DO NOT DAMAGE ANY EXISTING MILD REINFORCEMENT. CAREFULLY REMOVE LOOSE CONCRETE AND CHIP OUT CONCRETE AROUND REINFORCING TO AVOID DAMAGE TO ANY REINFORCING TENDONS, BARS, AND/OR W.W.F.. PROTECT AREA BELOW
- AFTER TENDON DAMAGE HAS BEEN IDENTIFIED - SLOW DEMO FULL DEPTH AND REMOVE CONCRETE IN THE AREAS IDENTIFIED IN THE REPAIR DETAIL. DO NOT DAMAGE ANY EXISTING MILD REINFORCEMENT. CAREFULLY REMOVE LOOSE CONCRETE AND CHIP OUT CONCRETE AROUND REINFORCING TO AVOID DAMAGE TO ANY REINFORCING CABLES AND BARS.
- OPEN FULL DEPTH AREA FOR CONNECTION, SPLICING AND STRESSING AREA. INSPECT AND CLEAN EXPOSED REINFORCING. COAT ALL EXPOSED MILD REINFORCING AND W.W.F. WITH SIKA ARMATEC 110 EPOXY.
- REPLACE TENDON ANCHOR IF EXISTING SHOWS ANY SIGNS OF CORROSION.
- INSTALL NEW 1/2" DIA. SHEATHED AND GREASED TENDON. TENDONS SHALL BE UN-BONDED AND SHALL MEET THE REQUIREMENTS OF ASTM A416 FOR SEVEN WIRE STEEL STRAND WITH AN ULTIMATE TENSILE STRENGTH (FU) OF 270 KSI. MATCH STRAND PROFILE IN THE DETAIL, NOTIFY ENGINEER IF THIS PROFILE DOES NOT MATCH THE EXISTING PROFILE.
- PROVIDE FORMWORK AS NECESSARY TO REPLACE CONCRETE IN AREA SHOWN. REPAIR MORTAR TO BE HIGH EARLY STRENGTH, SHRINKAGE COMPENSATED (USE MASTER BUILDERS SOLUTIONS-MASTEREMACO T 1060EX). DO NOT USE ANY CURING OR ADMIXTURES THAT WILL CONFLICT WITH THE SAKI AND THE EPOXY DECK COATING. LEAVE POUR STRIP OPEN AND PROVIDE BLOCKOUT AROUND SPLICE CHUCK ALLOWING FOR 2" MOVEMENT DURING STRESSING ACTIVITIES.
- DURING ALL STRESSING ACTIVITIES - CLOSE OFF VEHICLE ACCESS ON LEVEL M BETWEEN GRIDS 1-3 AND A.3-B DURING THIS REPAIR, UNTIL OTHERWISE APPROVED TO RE-OPEN TO VEHICLE ACCESS. OBTAIN APPROVAL OF THE GARAGE OPERATOR & OWNER PRIOR TO TEMPORARY CLOSURE OF ADDITIONAL PARKING AND DRIVE AREAS OF THE GARAGE FOR THIS REPAIR.
- MINIMUM COMPRESSIVE STRENGTH OF CONCRETE AT TIME OF INITIAL STRESSING SHALL BE 3,000 PSI MINIMUM. STRESSING OF TENDONS SHALL OCCUR WITHIN 96 HOURS OF PLACING CONCRETE.
  - ALL TENDONS SHALL BE UNBONDED AND SHALL MEET THE REQUIREMENTS OF ASTM A416 FOR SEVEN WIRE STEEL STRAND WITH AN ULTIMATE TENSILE STRENGTH (FU) OF 270 KSI.
  - MAXIMUM STRESS IN TENDONS SHALL NOT EXCEED 0.8 FU = 216 KSI DUE TO TENDON JACKING OR 0.7 FU = 189 KSI IMMEDIATELY AFTER TENDON ANCHORAGE.
  - THE POST-TENSION FORCE NOTED ON THE DRAWINGS (FE) IS THE EFFECTIVE PRE-STRESS FORCE AFTER ALL LOSSES, DUE TO CREEP, SHRINKAGE, FRICTION, TENDON ELONGATION, ANCHORAGE SLIP, AND ELASTIC SHORTENING.
  - POST-TENSIONING CONTRACTOR SHALL REVIEW ALL STRESSING RECORDS FOR EACH STRESSING SEQUENCE. POST-TENSIONING CONTRACTOR SHALL CERTIFY TO THE STRUCTURAL ENGINEER OF RECORD IN WRITING THAT ALL REQUIRED EFFECTIVE PRESTRESS AS NOTED ON THE DRAWINGS HAS BEEN TRANSFERRED TO THE TENDONS. THE WRITTEN CERTIFICATION SHALL BEAR THE SEAL OF A REGISTERED STRUCTURAL ENGINEER, LICENSED IN OKLAHOMA. ADDRESS ANY TENDONS OUTSIDE OF THE SPECIFICATION AND MAKE RECOMMENDATIONS TO THE GENERAL CONTRACTOR FOR BRINGING DEFICIENT TENDONS WITHIN THE ALLOWABLE SPECIFICATIONS. PRIOR TO CUTTING ANY TENDON TAILS, THE WRITTEN CERTIFICATION PREPARED BY THE POST-TENSIONING CONTRACTOR SHALL BE REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. A REGISTERED STRUCTURAL ENGINEER REPRESENTATIVE OF THE STRESSING CONTRACTOR SHALL BE ON SITE DURING ALL STRESSING OPERATIONS.
  - STRESSING POCKETS (POUR STRIP AND SPLICE CHUCK POCKET) SHALL BE FILLED WITH SAME CONCRETE MATERIAL AS THE STRANDS. VERIFY EXPOSED REINF. IS CLEANED AND COATED PRIOR TO POUR BACK.
- COAT TOP OF SLAB AFTER THIS AND ALL OTHER REPAIRS IN THIS IMMEDIATE AREA HAVE BEEN MADE AND CURED.
  - CLEAN TOP OF SLAB AS REQUIRED IN LENGTH SHOWN FROM POUR STOP TO GRID 6 AND 5 FT WIDE AND PLACE TWO COATS OF NEW SURFACE APPLIED CORROSION INHIBITOR (SACI) OVER THE SLAB REPAIR AREA. ADJUST WIDTH TO INCLUDE ANY SURFACE REPAIRS PLUS 1 FOOT EACH SIDE.
  - PREPARE SLAB SURFACE AND INSTALL A NEW ELASTOMERIC DECK COATING AS SHOWN AND 5 FT WIDE. INSTALL A 1/4-INCH X 1/4-INCH SAW KERF, CONTINUOUS NORTH TO SOUTH, ALONG THE EAST AND WEST EDGES OF NEW DECK COATING, TO ANCHOR THE EDGES OF COATING AS RECOMMENDED BY PRODUCT MANUFACTURER.
  - RE-STRIPE ALL REPAIRED AREAS TO MATCH ORIGINAL.

#### POST-TENSION CONTRACTOR NOTES

- POST-TENSIONING CONTRACTOR SHALL HAVE A MINIMUM OF 5 YEARS EXPERIENCE WORKING WITH POST TENSIONING STRESSING AND DE-STRESSING AND REPAIR OF POST-TENSION SYSTEMS.
- POST-TENSIONING CONTRACTOR SHALL SUBMIT FOR REVIEW THEIR PROPOSED DESTRESSING PROCESS, RESTRESSING PROCESS AND MATERIAL SUBMITTALS (ALL ANCHORAGE DEVICES).



**MPP - LEVEL M ACCESSIBLE AREA PLAN**  
3/32" = 1'-0"

Oklahoma Certificate of Authorization #1460  
Expiration Date: 6/30/23

REVISION			BY	DATE

PLAN SCALE:	DRAWN					APPROVED:
	DESIGNED					
	SURVEY					
PROFILE SCALE:	PROJ. MGR.					
HORIZONTAL:	LEAD ENGR.					
	FIELD MGR.					
	RECOMMENDED:					
	DESIGN MANAGER					
FILE:	DRAWING:					DATE:
ATLAS PAGE NO.:	8					SHEET 17 OF 18 SHEETS

REPAIR 29-MPP LEVEL M NORTH RAMP-(2) BROKEN TENDONS

PROJECT SP22-02  
2022 GARAGE REPAIRS

TULSA AUTHORITY FOR  
ECONOMIC OPPORTUNITY

wallace design collective, pc  
structural · civil · landscape · survey  
123 north martin luther king jr. boulevard  
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918.584.5858 · 800.364.5858

CITY ENGINEER



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						DESIGNED			
						SURVEY			
					PROFILE SCALE:	PROJ. MGR.			
					HORIZONTAL:	LEAD ENGR.	<i>Handwritten initials</i>	<i>6/20</i>	
					VERTICAL:	FIELD MGR.	<i>Handwritten initials</i>	<i>4/22</i>	
						RECOMMENDED:	<i>Handwritten initials</i>	<i>4-22</i>	
						DESIGN MANAGER	<i>Handwritten initials</i>		<i>Handwritten signature</i> CITY ENGINEER
					FILE:	DRAWING:			DATE:
					ATLAS PAGE NO.:	8			SHEET 18 OF 18 SHEETS