WAYNE STATE UNIVERSITY

2016 PARKING STRUCTURE 1 RESTORATION

WSU PROJECT No. : 051-278266

DETROIT, MICHIGAN

BIDDING AND CONSTRUCTION - 03/08/16

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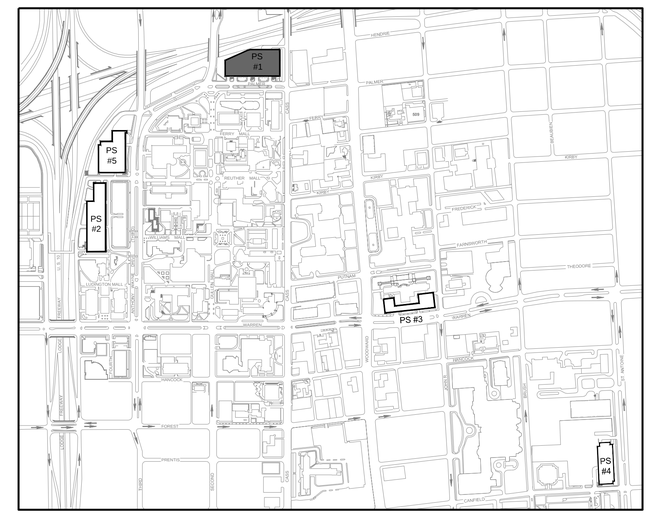

SITE PLAN

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GENERAL NOTES

A. Construction

1. Construction shall be in accordance with all applicable Federal, State of Michigan and City of Detroit codes and ordinances, including Fire Codes.
2. All material properties shall be as noted in Specifications.
3. Prior to fabrication of any material or placement of concrete, FIELD VERIFY ALL EXISTING dimensions and conditions shown on Drawings. Report all discrepancies to the Engineer immediately.
4. Do Not Scale Drawings.

B. Construction Documents

1. Construction Documents entitled "WAYNE STATE UNIVERSITY - 2016 PARKING STRUCTURE 1 RESTORATION" includes these Drawings and separately bound Specifications. For purposes of performing the work, Drawings and Specifications shall be a single unit.
2. Dimensions shown on plans are based on original construction documents. The contractor is required to field verify all conditions for the purpose of preparing the bid and performing the work.
3. Refer to Specification section 020010 for scope, description and requirements of work.

C. Details and Symbols

1. Where the Work Item bubble is noted "TYP," it means the work item occurs at all locations where the applicable deterioration or designation symbol occurs on that plan.
2. Where "T.A.R." is noted, it means there may be areas of this work in addition to the particular designated areas. Verify in field with Engineer.
3. Where two or more Work Item Bubbles are grouped together, it means any or all of the designated work items may be applicable. Coordination of Work Items is Contractor's responsibility.
4. When a Work Item or Detail is listed as incidental, this work is included in the pay unit of other work items and does not have a separate price.
5. When a Detail is labeled (FOR REFERENCE ONLY) it provides information only about incidental work and does not have a pay unit.
6. Contractor is responsible for determining actual extent and locations of repair areas in accordance with the specifications; work item is shown only to represent the types of deterioration and general locations.
7. See work item specification information regarding details.

D. Concrete Protection for Reinforcement:

1. The minimum concrete protection for reinforcement shall be per ACI 318-08, Section 7.7.
2. Minimum cover for reinforcing in non-pre-stressed concrete and non-post-tensioned members.

Concrete Cover (inches)

a.	Slab top reinforcement	2
b.	Slab bottom reinforcement	3/4
c.	Beam top reinforcement, U.N.	3 *
d.	Beam stirrups at sides and bottom of beam	1-1/2
e.	Beam stirrups at top of beam	2-1/2
f.	Column ties	1-1/2

* Or 3X bar diameter, whichever is greater.

E. Epoxy coating for reinforcement and anchors.

1. Epoxy coat all reinforcement, except welded wire reinforcement, in cast in place concrete.

F. Shoring and Bracing

1. Contractor shall provide all shoring, bracing, sheeting, soil retention, etc. required for safety and proper execution of the work.
2. Contractor is solely responsible to prepare shop drawings for bracing / shoring members and soil retention system designed and stamped/sealed by a registered professional engineer (registered in State of Michigan) and submit them to the Engineer for record.

G. Existing Services and Utilities

1. Contractor shall review all existing conditions to determine all Electrical and Mechanical services and Utilities affected by the repair work. Make necessary temporary connections to maintain existing services to all areas of the parking garage or other areas (Not In Contract) affected by the work. The contractor shall submit the methods and schedule of connections for the owner's approval prior to commencement.
2. Prior to start of work, verify and document status of existing security system (i.e. identify any non-functional cameras/component's). Also identify and document any non-functioning light fixtures. Provide written documentation and photos/video of existing conditions to owner.
3. Prior to start of work, verify and document status of all elevators. Provide written documentation and photos/video of existing conditions to owner.
4. Contractor shall document all existing conditions within and nearby structure prior to start of work. Provide written documentation and photos/video to owner.
5. Contractor shall be responsible to provide and maintain dust/water/debris protection at all elevators (including protection of smoke alarms as required by owner). Contractor shall be responsible for all cleaning and/or repair necessary to restore elevators to clean/functional condition.

H. Construction Phasing, Sequencing and Traffic Maintenance

1. Work sequence shall be coordinated with the Owner's representative and all identified project representatives and shall be per requirements of R-003
2. Owner will continue to use structure during restoration. Contractor must phase and arrange work so as to maintain access at all times to all areas that are not under construction for both vehicles and pedestrians.
3. Contractor shall continuously clean and maintain all sidewalks adjacent to structure throughout entire project (including the sidewalk across the drive lane access to the main contractor staging area at the Northeast corner).
4. Provide temporary signage and barriers per W.I.'s 1.5 & 1.6 prior to start of work. Refer to section 020010 for specific requirements.
5. Working Hours:
   Demolition/Construction Activities: 7:00am thru 7:00pm, Mon thru Sat.
   Cleanup only (No Demolition/Construction Activities): 7:00 pm thru 9:00pm Mon thru Sat.
   a) Cleanup (non-noise activities) allowed only with owner review / approval of sound levels to adjacent residences remaining within an acceptable limit.
   No work of any kind allowed on Sundays, and 9:00pm thru 7:00am, Mon thru Sat.

I. General Concrete Requirements

1. Refer to Section 020010 for specific uses.
2. Refer to Section "Cast-in-Place Repair Mortar" and Section "Shotcrete" for other repair material requirements.

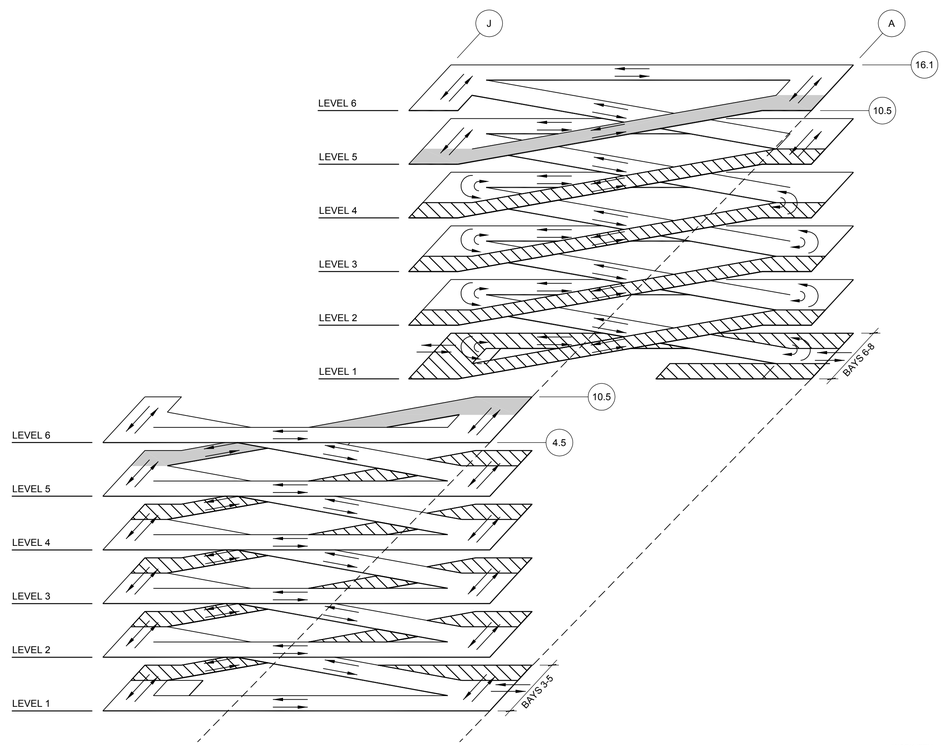
CAST-IN-PLACE CONVENTIONAL CONCRETE (Section 033000)

	OVERLAY REPAIRS (W.I. 3.7)	OTHER CONCRETE REPAIRS
COMPRESSIVE STRENGTH	6000 PSI @ 28 DAYS	5000 PSI @ 28 DAYS
WATER-CEMENT RATIO	0.38 - 0.40 MAX.	0.40 MAX.
MAX. SIZE AGGREGATE	3/4 IN.	3/4 IN. (1/2" FOR THIN SECTIONS, V.I.F W/ ENGINEER)
SLUMP (MAXIMUM)	6" W/ SUPERPLASTICIZER (AFTER WATER REDUCER ADDITION)	6" W/ SUPERPLASTICIZER (AFTER WATER REDUCER ADDITION)
AIR CONTENT	7%, = +/-1 ½%	7%, +/- 1 ½%
CEMENTITIOUS CONTENT	658 LB./C.Y. MIN.	658 LB./C.Y. MIN.
CORROSION INHIBITOR	3 GAL./C.Y.	3 GAL./C.Y.

NOTE: Cementitious material includes cement, slag cement, silica fume, and fly ash. Refer to section "Cast-in-Place Concrete" for specific requirements.

J. Abbreviations

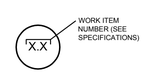
1.	APPROX	=	Approximately
2.	AFF	=	Above Finished Floor
3.	AGG	=	Aggregate
4.	B	=	Bottom
5.	BM	=	Beam
6.	B.O.	=	Bottom Of
7.	BOT	=	Bottom
8.	CIP	=	Cast in Place
9.	CJ	=	Construction Joint/Control Joint
10.	CLR	=	Clearance
11.	COL	=	Column
12.	CONC	=	Concrete
13.	DET	=	Detail
14.	EA	=	Each
15.	EJ	=	Expansion Joint
16.	EXIST	=	Existing
17.	FIN	=	Finished
18.	FD	=	Floor Drain
19.	FL	=	Floor
20.	HDG	=	Hot-Dip Galvanized
21.	IN	=	Inches
22.	INC	=	Incidental
23.	LF	=	Linear Foot
24.	LS	=	Lump Sum
25.	MAX	=	Maximum
26.	MIN	=	Minimum
27.	N/A	=	Not Applicable
28.	OC	=	On Center
29.	OH	=	Opposite Hand
30.	P/C	=	Precast
31.	REINF	=	Reinforcement
32.	REQ'D	=	Required
33.	SF	=	Square Foot
34.	SIM	=	Similar
35.	SOG	=	Slab on Grade
36.	SPEC	=	Specification
37.	SUPT	=	Supported
38.	TAR	=	Typical as Required
39.	T.O.	=	Top Of
40.	TYP	=	Typical
41.	UN or UNO	=	Unless Noted Otherwise
42.	WI	=	Work Item
43.	WWR	=	Welded Wire Reinforcement



W.I. 3.7 WORK AREA

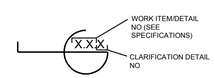
CLOSED

REFER TO WORK SCHEDULE AND PHASING REQUIREMENTS ON DRAWING R-003



WORK ITEM IDENTIFICATION

(FOR WORK ITEMS WITHOUT DETAILS)



WORK ITEM / DETAIL IDENTIFICATION

(FOR WORK ITEMS WITH DETAILS)

WORK ITEM SCHEDULE

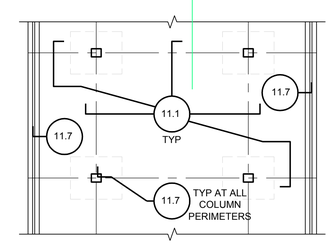
Base Bid Work Items

WORK ITEM	DESCRIPTION	UNITS	QUANTITY
1.1	Project Mobilization	L.S.	1
1.5	Temporary Signage	L.S.	1
1.6	Temporary Barriers	L.S.	1
2.1	Professional Surveying - Elevations	L.S.	1
3.2	Floor Repair - Partial Depth	S.F.	500
3.4	Floor Repair - Full Depth at Expansion Joint	S.F.	300
3.5	Floor Repair - Curbs	S.F.	50
3.7	Floor Repair - Overlay Strip Patching	S.F.	15,000
3.8	Floor Repair - Full Depth - Additional Removals	S.F.	1,500
3.9	Supplemental Epoxy-Coated Steel	Lb.	20,000
3.11	Floor Repair - Additional Depth	S.F.	2,500
3.12	Floor Repair - Slab Edge	S.F.	50
4.1	Ceiling Repair - Partial Depth	S.F.	500
6.1	Column Repair - Partial Depth	S.F.	50
6.2	Column Repair - Partial Depth at Expansion Joint	S.F.	50
10.3	Expansion Joint - Elastomeric Conc. Edged	L.S.	1
11.1	Overlay Control Joint Sealant	Incidental to W.I. 3.7	
11.2	Seal Floor Cracks	L.F.	500
11.7	Cove Sealant	Incidental to W.I. 3.7	
16.1	Traffic Topping - New System	L.S.	1
16.9	Scaled Surface Repair (Epoxy/Sand)	S.F.	2,000
18.1	Temporary Shoring/Reshoring (for W.I. 3.7)	L.S.	1
18.2	Temporary Shoring/Reshoring (for floor and column repairs not associated with W.I. 3.7)	Ea.	50
25.1	Mechanical / Electrical Allowance	Allowance	1
25.2	Mechanical - Replacement Floor Drains	Ea.	4
25.3	Mechanical - Pipe & Hangers	L.F.	50
41.1	Stair Repair - Landings	S.F.	100
41.3	Stair Repair - Tread Nosings	Ea.	200
45.1	Paint - Traffic Markings	L.S.	1

Alternate Work Items

WORK ITEM	DESCRIPTION	UNITS	QUANTITY
3.1A	Concrete Removal Method (circle either: Add or Deduct)	L.S.	1
4.1	Ceiling Repair - Partial Depth	S.F.	2,000
6.1	Column Repair - Partial Depth	S.F.	100
6.2	Column Repair - Partial Depth at Expansion Joint	S.F.	100
41.1	Stair Repair - Landings	S.F.	300
41.3	Stair Repair - Tread Nosings	Ea.	100

Additional Temporary Signage, Temporary Barriers, and Traffic Markings required to perform any Alternate Work Items shall be incidental.



NOTES:
1. PROVIDE CONTROL JOINTS PER WI 11.1 CENTERED ON COLUMN LINES IN WI 3.7 WORK AREAS PER TYPICAL LAYOUT SHOWN.
2. PROVIDE CONTROL JOINTS PER WI 11.1 DIRECTLY ABOVE ALL EXISTING CONSTRUCTION JOINTS IN WI 3.7 WORK AREAS.
3. BULKHEADS (IF REQUIRED) SHALL BE PROVIDED BETWEEN CONCRETE POURS AT SLAB SPAN MID POINT. PROVIDE JOINT PER WI 11.1.
4. INSTALL COVE SEALANT PER WI 11.7 AROUND PERIMETER OF BAYS AND ALL COLUMNS IN ALL W.I. 3.7 AREAS.
5. WI 11.1 AND 11.7 ARE INCIDENTAL TO WI 3.7.

1 TYPICAL CONTROL JOINT PATTERN AND OTHER JOINT REQUIREMENTS

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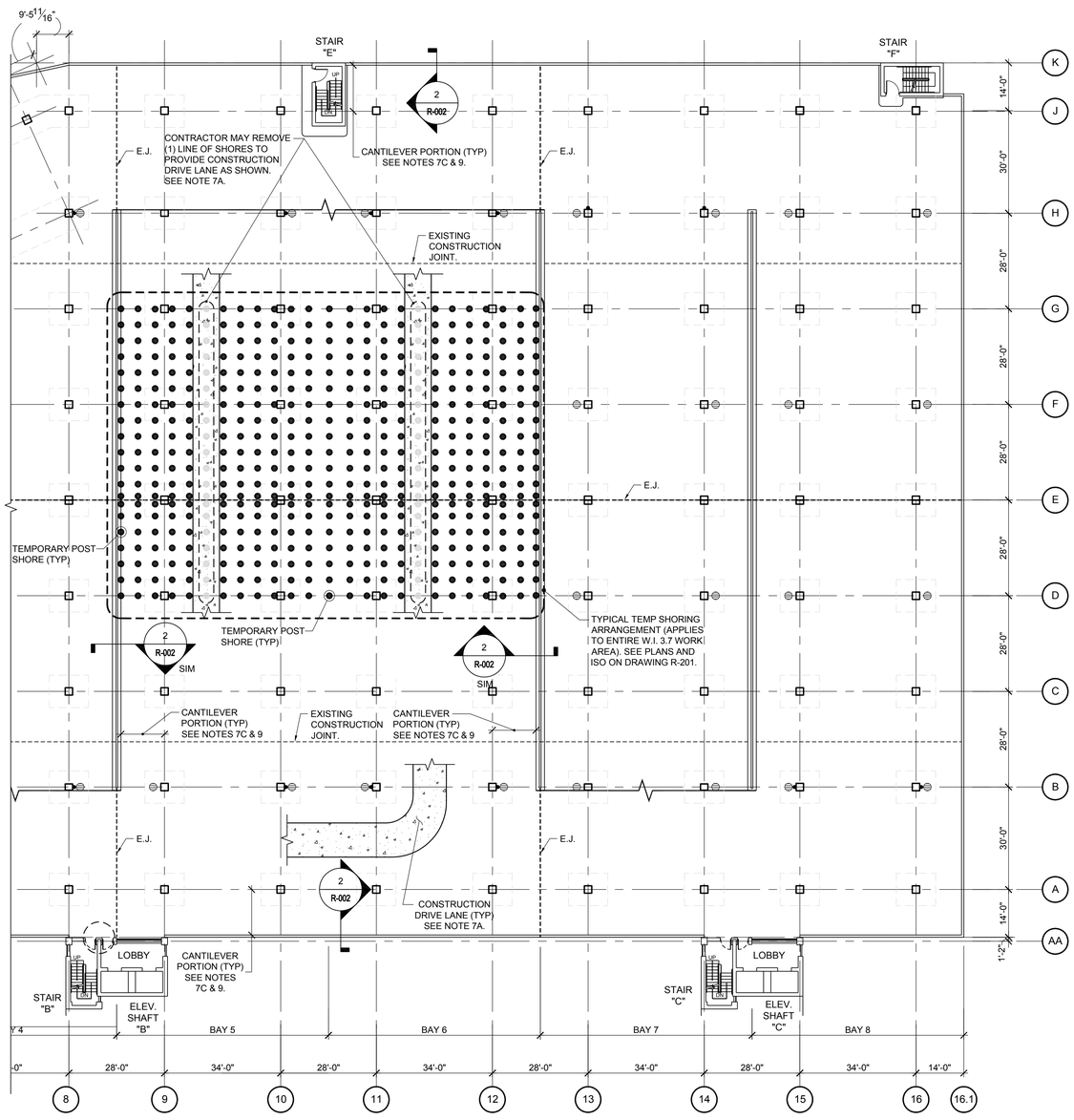
MARK	DATE	DESCRIPTION
	03/08/16	BIDDING AND CONSTRUCTION

ISSUE:

PROJECT NO: 20-1654.00
DRAWN BY: MKA
CHECKED BY: DJP

SHEET TITLE:
GENERAL NOTES, ISO, LEGEND AND W.I. LIST

R-001



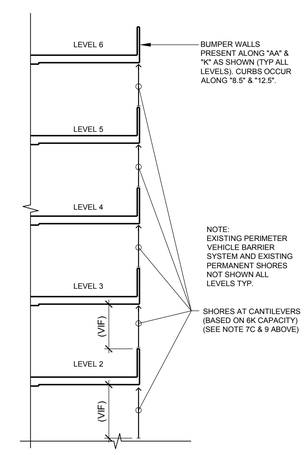
ABSOLUTELY NO CONSTRUCTION LOADS OR OTHER LOADS ALLOWED ON CANTILEVERS AFTER NEW OVERLAY PLACEMENT UNTIL 28-DAY DESIGN COMPRESSION STRENGTH IS ACHIEVED.

NOTES:
1. TEMPORARY SHORING REQUIRED ON THIS SHEET SHALL BE INSTALLED (2) LEVELS BELOW HYDRO-DEMOLITION WORK AREA.
2. TEMPORARY SHORING MUST BE INSTALLED PRIOR TO START OF HYDRO-DEMOLITION.
3. SEE DRAWING R-201 FOR PLAN AND ISO VIEWS OF ALL FLOOR AREAS REQUIRING TEMPORARY SHORING.
4. TEMPORARY SHORING SHALL BEAR ON EXISTING FOUNDATION /SLAB ON GRADE ALONG CANTILEVERED EDGES. VERIFY IN FIELD WITH ENGINEER.

1 TYPICAL LEVEL PLAN VIEW

NORTH

TEMPORARY SHORING/RESHORING NOTES:
1. INSTALL TEMPORARY SHORING/RESHORING PER W.I. 18.1 AND AS REQUIRED ON THIS SHEET. TYPICAL TEMPORARY SHORING/RESHORING LAYOUT PER W.I. 18.1 SHOWN ON THIS PLAN APPLIES TO ENTIRE BAYS WHERE OVERLAY STRIP PATCH REPAIRS (W.I. 3.7) ARE TO BE PERFORMED. SEE SHEET R-201 FOR FLOOR AREAS REQUIRING TEMPORARY SHORING.
2. RESHORING REQUIRED AT CANTILEVER EDGE (NOTE 7C) IS MINIMUM REQUIREMENTS AND IS BASED ON 25 PSF CONSTRUCTION LIVE LOAD AT ONE LEVEL AND TWO LEVELS OF DEAD LOAD.
3. INTERIOR SHORING/RESHORING SHOWN IS MINIMUM REQUIREMENTS AND IS BASED ON 25 PSF CONSTRUCTION LIVE LOAD AT ONE LEVEL PLUS DEAD LOAD AT ONE LEVEL.
4. ADDITIONAL SHORING/RESHORING REQUIRED AT CANTILEVERS AND INTERIORS TO SUPPORT EQUIPMENT, MATERIALS, FORMWORK, OR OTHER CONSTRUCTION LOADS SHALL BE PROVIDED BY CONTRACTOR AND INCLUDED IN THIS WORK. ADDITIONAL SHORING AT FULL DEPTH REPAIR AREAS OR OTHER AREAS AS DIRECTED BY ENGINEER TO COMPLETE W.I. 3.7 AND 3.8 AND ASSOCIATED WORK SHALL BE INCLUDED IN THIS WORK.
5. REFER TO "TYPICAL WORK SEQUENCE NOTES FOR OVERLAY REPAIR" AND "WORK SCHEDULE" ON R-003 FOR COORDINATION OF WORK.
6. MINIMUM SHORE CAPACITY SHALL BE 6,000 LB AT REQUIRED HEIGHT (TYP).
7. TEMPORARY SHORES TO BE INSTALLED AS FOLLOWS:
   a. 5'-0" O.C. EACH WAY (2) LEVELS BELOW HYDRO-DEMOLITION WORK AREA. CONTRACTOR MAY PROVIDE (1) 10' WIDE DRIVE LANE BY REMOVING (1) LINE OF SHORES AND PROVIDING ADDITIONAL SHORING AND HEADER BEAMS AS REQUIRED TO SUPPORT ALL LOADS ABOVE. DRIVE LANE (IF USED) TO BE LOCATED BY CONTRACTOR.
   b. 5'-0" O.C. ALONG MID-SPAN OF CANTILEVERS (2) LEVELS BELOW HYDRO-DEMOLITION WORK AREA.
   c. INSTALL SHORES AT 5'-0" O.C. ALONG OUTSIDE EDGE OF CANTILEVERS BELOW HYDRO-DEMOLITION WORK AREA TO GRADE LEVEL. SEE NOTE 9b BELOW.
   d. SHORES ON CONSECUTIVE LEVELS SHALL BE PLUMB AND CONCENTRICALLY LOCATED WITH SHORES ABOVE AND BELOW.
8. DO NOT REMOVE SHORES BEFORE THE GREATER OF (1) WEEK OR 80% OF 28-DAY CONCRETE DESIGN COMPRESSIVE STRENGTH IS ACHIEVED. DO NOT REMOVE SHORES ALONG CANTILEVER EDGE PER NOTE 9b BELOW.
9. RESHORES AT CANTILEVER EDGES:
   a. TEMPORARY SHORES PER NOTE 7C ABOVE SHALL SERVE AS RESHORES.
   b. MAINTAIN RESHORES ALONG CANTILEVERED EDGES UNTIL 100% OF 28 DAY CONCRETE DESIGN COMPRESSIVE STRENGTH IS ACHIEVED.
   c. RESHORES DESIGNED TO CARRY 25 PSF CONSTRUCTION LIVE LOAD AND DEAD LOAD AT LEVEL BEING WORKED ON, PLUS DEAD LOAD OF LEVEL ABOVE.
   d. NO CONSTRUCTION LOAD OR OTHER LIVE LOADS PERMITTED IN CANTILEVER PORTION OF SLAB UNTIL 100% OF 28 DAY CONCRETE DESIGN COMPRESSIVE STRENGTH IS ACHIEVED.
10. CONTRACTOR SHALL SUBMIT SHORING/RESHORING DESIGN SEALED BY A PROFESSIONAL ENGINEER LICENSED IN MICHIGAN THAT COMPLIES WITH PERFORMANCE REQUIREMENTS ON THIS DRAWING AND THE SPECIFICATIONS.
11. INSTALL SHORES TIGHT TO FLOOR AND CEILING, AND SECURE AT TOP AND BOTTOM TO MAINTAIN REQUIRED POSITIONING.
12. REMOVE METAL JOINT COVERS ALONG STAIR/ELEVATOR TOWER (AS APPLICABLE) TO PROVIDE BEARING SURFACE ON CURB FOR SHORES. REMOVAL AND REPLACEMENT OF COVERS INCIDENTAL TO WI 18.1.



NOTES:
1. MECHANICALLY SECURE SHORES TOP & BOTTOM
2. THIS SECTION APPLIES TO ALL CANTILEVER EDGES WITHIN WORK AREAS (TYPICAL). ADJACENT BAY (AT INTERIOR CANTILEVERS) NOT SHOWN FOR CLARITY.

2 TEMPORARY SHORES/RESHORES AT CANTILEVER EDGES

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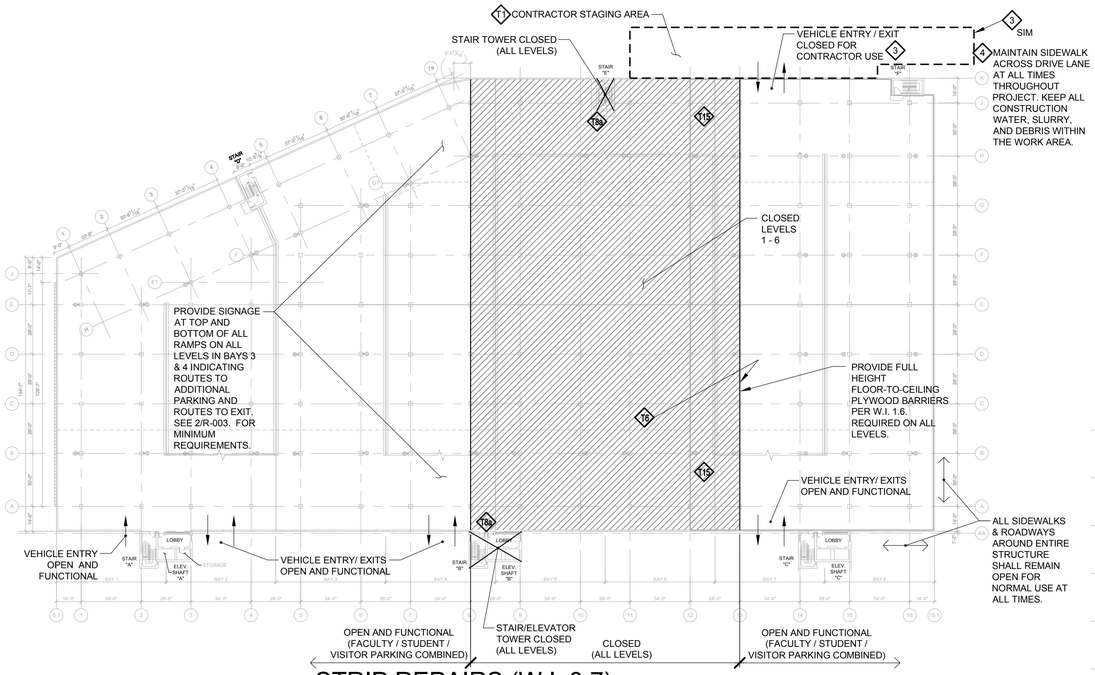
ISSUE:

PROJECT NO: 20-1654.00
DRAWN BY: MKA
CHECKED BY: DJP

SHEET TITLE:
TEMPORARY SHORING (W.I. 18.1)

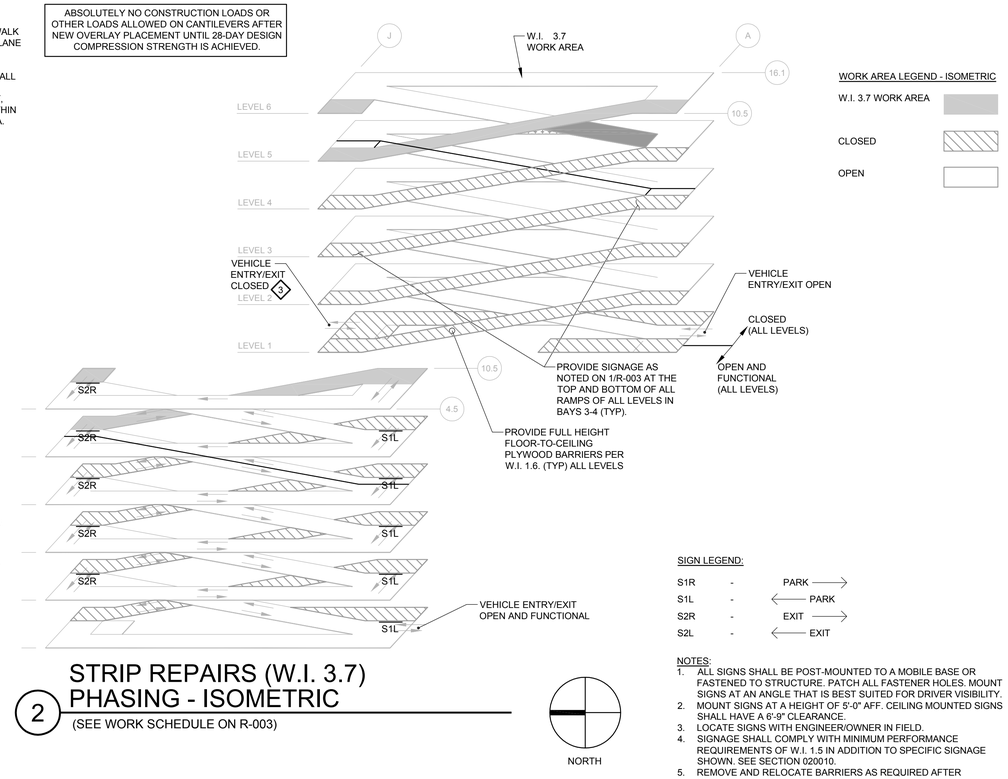
R-002



1 STRIP REPAIRS (W.I. 3.7) PHASING - TYPICAL PLAN

(SEE WORK SCHEDULE ON R-003)

ABSOLUTELY NO CONSTRUCTION LOADS OR OTHER LOADS ALLOWED ON CANTILEVERS AFTER NEW OVERLAY PLACEMENT UNTIL 28-DAY DESIGN COMPRESSION STRENGTH IS ACHIEVED.



2 STRIP REPAIRS (W.I. 3.7) PHASING - ISOMETRIC

(SEE WORK SCHEDULE ON R-003)

SIGN LEGEND:

S1R	-	PARK →
S1L	-	← PARK
S2R	-	EXIT →
S2L	-	← EXIT

NOTES:
1. ALL SIGNS SHALL BE POST-MOUNTED TO A MOBILE BASE OR FASTENED TO STRUCTURE. PATCH ALL FASTENER HOLES. MOUNT SIGNS AT AN ANGLE THAT IS BEST SUITED FOR DRIVER VISIBILITY.
2. MOUNT SIGNS AT A HEIGHT OF 5'-0" AFF. CEILING MOUNTED SIGNS SHALL HAVE A 6'-9" CLEARANCE.
3. LOCATE SIGNS WITH ENGINEER/OWNER IN FIELD.
4. SIGNAGE SHALL COMPLY WITH MINIMUM PERFORMANCE REQUIREMENTS OF W.I. 1.5 IN ADDITION TO SPECIFIC SIGNAGE SHOWN. SEE SECTION 020010.
5. REMOVE AND RELOCATE BARRIERS AS REQUIRED AFTER COMPLETED WORK AREAS ARE REOPENED.

PHASING NOTES:
1. STAIR AND ELEVATOR TOWERS "A", "C", "D", & "F" TO BE MAINTAINED OPEN AND FUNCTIONAL AT ALL TIMES. REFER TO DESCRIPTION OF W.I.'S 41.1 & 41.3 IN SECTION 020010 FOR ADDITIONAL PHASING REQUIREMENTS FOR STAIR TOWER REPAIRS.
2. PROVIDE BARRICADES TO PREVENT VEHICLE AND PEDESTRIAN ACCESS AROUND ALL WORK AREAS, CONTRACTOR STAGING / STORAGE AREAS, AND ACCESS ROUTES PER W.I. 1.6.
3. PROVIDE CONTINUOUS TEMPORARY STEEL BARRICADE ACROSS FULL WIDTH OF DRIVE LANES AT CLOSED VEHICLE ENTRY/EXITS WITH STENCILED SIGNAGE (6" TEXT) THAT READS "ENTRY CLOSED", SIGNAGE SHALL ALSO INDICATE WHICH ENTRY/EXITS REMAIN OPEN AND AVAILABLE. PLACE AT NORTH EDGE OF SIDEWALK.
4. ACCESSING THE CITY HYDRANT AT THE NORTHEAST CORNER OF THE STRUCTURE REQUIRES CROSSING THE SIDEWALK WITH PIPING. PROVIDE WALK-THOUGH SCAFFOLDING OR OTHER MEANS OF MAINTAINING SIDEWALKS OPEN FOR NORMAL USE AT ALL TIMES. (INCIDENTAL).

WORK SCHEDULE

PROJECT START DATE	HYDRO-DEMOLITION COMPLETION DATE	CONCRETE PLACEMENT COMPLETION DATE (Applies to W.I. 3.7)	SUBSTANTIAL COMPLETION DATE (Applies to all Work Items)
Monday, May 16, 2016	July 1, 2016	July 13, 2016	August 19, 2016

WORK SCHEDULE NOTES:
1. Contractor shall return work areas in a condition suitable for normal facility operation by specified Substantial Completion Date. This includes all waterproofing work/pavement markings/cleanup/etc.
2. WORKING HOURS: Demolition/Construction Activities: 7:00am thru 7:00pm, Mon. thru Sat. Cleanup Activities Only: 7:00pm thru 9:00pm, Mon. thru Sat. (with Owner review/approval). No Work Allowed on Sundays. No work/noise allowed outside these hours, no exceptions. Also see Note 4 below, and Drawing R-001.
3. Hydro-Demolition Completion Date, Concrete Placement Date, and Substantial Completion Date are all SUBJECT TO LIQUIDATED DAMAGES. See Specifications.
4. Contractor shall allow for (3) days of forced shutdown of NOISE-PRODUCING Operations due to nearby events taking place on campus. These mandatory shutdowns of NOISE-PRODUCING Operations shall not extend specified Completion Dates. Owner will notify Contractor in advance of such events. NON-NOISE-PRODUCING Work may still be performed on these days, only with advance approval from Owner.
5. Refer to Drawing R-003 for Phasing Requirements and corresponding work area closure requirements.

TRAFFIC CONTROL/PHASING NOTES: (◇ = KEYED NOTES)

T1. THROUGHOUT THE DURATION OF THE PROJECT, THE NORTH VEHICLE ENTRY/EXIT IN BAY 7 SHALL REMAIN CLOSED FOR CONTRACTOR ACCESS/STAGING. THE NORTHEAST DRIVEWAY IS AVAILABLE FOR CONSTRUCTION TRAILER, DUMPSTER'S AND EQUIPMENT DURING ALL PHASES.
T2. ALL HYDRO-DEMOLITION WORK AREAS AND ALL AREAS DIRECTLY BELOW THE STRIP PATCH REPAIR AREAS (WI 3.7) SHALL BE CLOSED AND COMPLETELY BARRICADED.
T3. WORK SCHEDULE AND TRAFFIC CONTROLS SHALL BE COORDINATED WITH OWNER.
T4. NOT USED
T5. CONTRACTOR PARKING/STAGING ALLOWED WITHIN DESIGNATED WORK AREAS ONLY.
T6. PROVIDE FULL HEIGHT BARRIERS ALONG ENTIRE STRIP PATCH (WI 3.7) WORK AREA PERIMETER AND ALL LEVELS BELOW PER W.I. 1.6, TO CONTAIN DEBRIS AND PREVENT PUBLIC ACCESS. AS MINIMUM PROVIDE PLYWOOD BARRIERS AT LEVELS WHERE HYDRO-DEMOLITION OPERATIONS OCCUR AND ALL LEVELS BELOW. AT ROOF LEVEL, PROVIDE MIN. 8' TALL PLYWOOD BARRIER AT PERIMETER OF WORK AREA. SEE DETAIL SERIES 3.7/R-501 FOR FURTHER REQUIREMENTS.
T7. PROVIDE BARRICADES, DUST BARRIERS AND SIGNAGE AS REQUIRED PER W.I.'S 1.5 AND 1.6 TO COMPLETE WORK WHILE ALLOWING NORMAL TRAFFIC FLOW THROUGH THE AREAS IN THE STRUCTURE DESIGNATED TO REMAIN OPEN, AND MAINTAINING COMPLETE SEPARATION BETWEEN WORK AREAS AND AREAS REMAINING OPEN TO PUBLIC USE.
T8. CONTRACTOR SHALL MAINTAIN STAIR AND ELEVATOR ACCESS AT ALL TIMES, EXCEPT AS OTHERWISE NOTED (SEE NOTE T8a), AND SHALL PROVIDE SAFETY AND DUST BARRIERS AS REQUIRED TO MAINTAIN SAFE AND CONVENIENT ACCESS WITHIN OPEN AREAS OF STRUCTURE FOR BOTH VEHICULAR AND PEDESTRIAN PATRONS.
T8a. BARRICADE STAIR AND ELEVATOR TOWER DOORWAYS AS NECESSARY TO PREVENT PUBLIC ACCESS TO WORK AREAS. COORDINATE WITH WSU.
T9. CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT PROJECT TO PREVENT PEDESTRIAN ACCESS IN ANY OF THE WORK AREAS.
T10. PLACEMENT OF PEDESTRIAN AND VEHICLE BARRIERS, AS REQUIRED, TO PROTECT VEHICLES AND PATRONS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE INCIDENTAL.
T11. PROVIDE TRAFFIC CONTROL SIGNS AND NECESSARY SAFETY AND WARNING SIGNS PER W.I. 1.5 TO PREVENT PEDESTRIAN AND VEHICLE ACCESS INTO WORK AREAS.
T12. PERFORM REPAIRS IN A MANNER THAT ALLOWS MAINTAINING AS MANY PARKING SPACES AS POSSIBLE TO NORMAL OPERATIONS, WITHOUT CREATING DEAD ENDS.
T13. COVER ALL EXISTING SIGNS THAT CONTRADICT CONSTRUCTION SIGNAGE, AND REMOVE COVERS AT END OF PROJECT (INCIDENTAL).
T14. PROTECT ALL EXISTING PARKING EQUIPMENT & SECURITY CAMERAS. REMOVE AND REINSTALL EQUIPMENT IF REQUIRED TO FACILITATE WORK (INCIDENTAL). USE OWNERS PREFERRED CONTRACTOR FOR EQUIPMENT REMOVAL/REINSTALLATION WITH PRIOR APPROVAL FROM OWNER.
T15. REMOVAL / RE-INSTALLATION OF EXISTING REMOVABLE BOLLARDS (ALL LEVELS) IF NECESSARY OR AS DIRECTED BY OWNER/ENGINEER SHALL BE CONSIDERED INCIDENTAL. INSTALL CAPS PROVIDED BY OWNER AT ADJACENT RACKS, AND STORE AND LOCK BOLLARDS ON RACKS.
T16. PROVIDE AND MAINTAIN SIGNAGE FOR MAIN PEDESTRIAN ROUTES TO ADJACENT LOCATIONS (LAW SCHOOL / AAB / ETC.)

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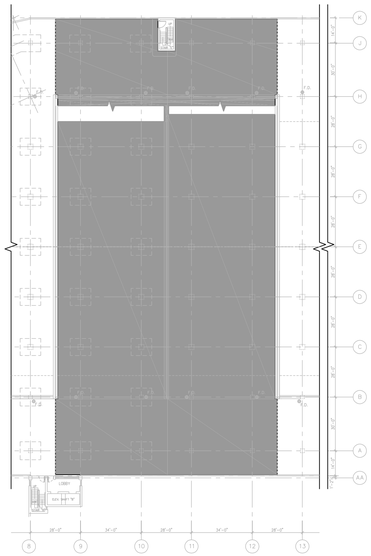
WAYNE STATE UNIVERSITY
2016 PARKING STRUCTURE 1 RESTORATION
DETROIT MICHIGAN

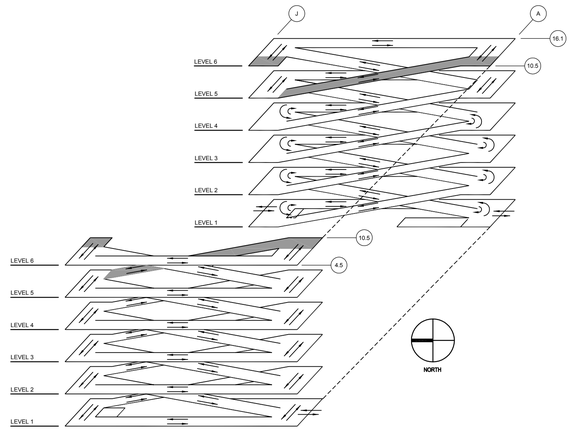
MARK	DATE	DESCRIPTION
	03/08/16	BIDDING AND CONSTRUCTION

ISSUE:

PROJECT NO: 20-1654.00
DRAWN BY: ECW
CHECKED BY: DJP
SHEET TITLE:
TRAFFIC CONTROL, PHASING, & SCHEDULE

R-003





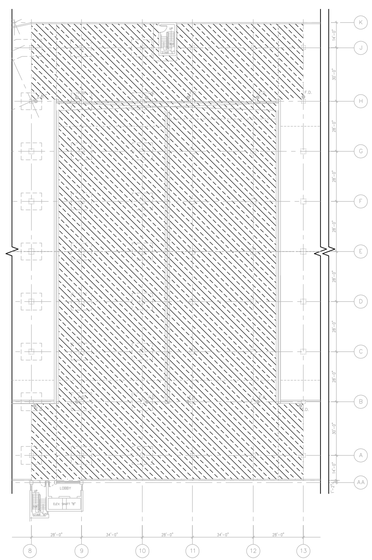
NOTE:
1. OVERLAP NEW TRAFFIC TOPPING 4" ONTO EXISTING COATING (TYP)

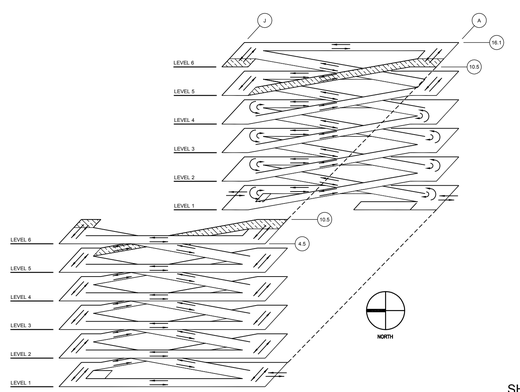
3 LEVEL 6 - FLOOR AREAS REQUIRING TRAFFIC TOPPING INSTALLATION

(W.I. 16.1)

GENERAL LEGEND

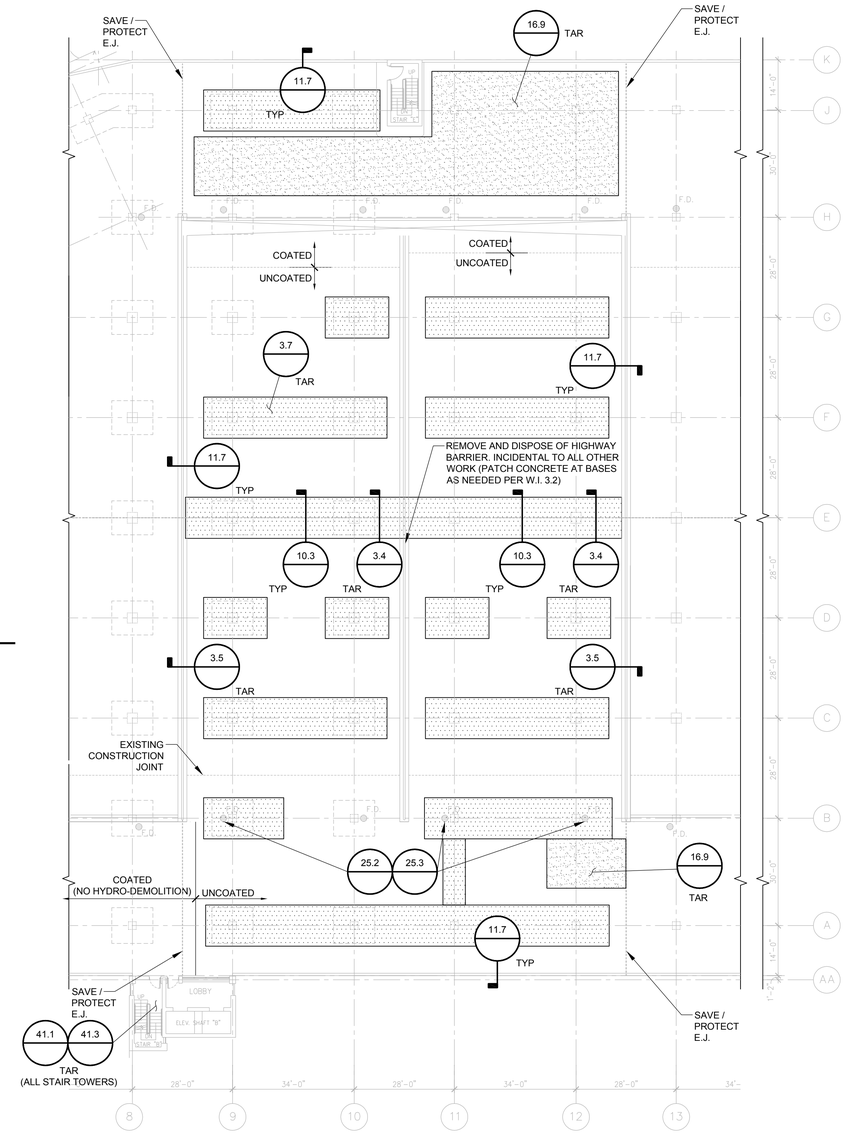
- FLOOR REPAIR - OVERLAY STRIP PATCHING (WI 3.7)
- TRAFFIC TOPPING (W.I. 16.1)
- SCALED SURFACE REPAIR (EPOXY/SAND) (WI 16.9)
- TEMPORARY SHORING (W.I. 18.1)
- FD EXISTING FLOOR DRAIN





2 LEVEL 6 - FLOOR AREAS REQUIRING TEMPORARY SHORING PER W.I. 18.1

(TEMPORARY SHORING REQUIRED (2 LEVELS) BELOW ENTIRE CROSS-HATCHED AREA)



1 LEVEL 6 PLAN VIEW

SHEET NOTES:

1. SEE SHEETS R-001 THRU R-003 FOR GENERAL NOTES, TRAFFIC CONTROL AND PHASING, WORK SCHEDULE, AND TEMPORARY SHORING REQUIREMENTS PER WI 18.1 FOR OVERLAY REPAIRS (WI 3.7).
2. REPLACE CONCRETE SLAB ALONG EXPANSION JOINT PER WI 3.4 WHERE DELAMINATIONS/SPALLS OCCUR AT SLAB TOP AND BOTTOM IN OVERLAY REPAIR AREAS (WI 3.7). PROVIDE BLOCKOUT FOR E.J. PER DETAILS 3.7.2 & 10.3.
3. APPLY NEW TRAFFIC MARKINGS IN BAYS 5 & 6 ON LEVELS 5 & 6 PER WI 45.1 AFTER ALL OTHER REPAIRS ARE COMPLETED TO REPLACE AND MATCH THE EXISTING TRAFFIC MARKINGS. ALSO INCLUDES ALL AREAS IN STRUCTURE OUTSIDE OF WORK AREAS WHERE MARKINGS ARE AFFECTED BY PROJECT. SEE SECTION 020010.
4. REPAIR CURBS PER WI 3.5 AS NEEDED ALONG GRIDS 8.5 & 12.5.
5. REPRESENTATIVE CONCRETE REPAIR LOCATIONS SHOWN. ACTUAL EXTENT AND LOCATIONS TO BE MARKED BY CONTRACTOR IN FIELD AND REVIEWED BY ENGINEER. CONTRACTOR TO COORDINATE.
6. TEMPORARY SHORING SHALL BE INSTALLED PER WI 18.1 AT HYDRO-DEMOLITION WORK AREAS PRIOR TO CONCRETE REMOVALS. REFER TO SHEET R-002.
7. VARY OVERLAY THICKNESS LINEARLY ALONG REQUIRED DRAINAGE PROFILE LINES FROM HIGH POINTS TO DRAINS AND AS REQUIRED TO MATCH EXISTING ELEVATIONS AT PATCH PERIMETERS (TYP).
8. PROVIDE CONTROL JOINTS IN NEW OVERLAY SURFACE ALONG GRID LINES AND AT EXISTING CONSTRUCTION JOINTS PER DETAIL 11.1 (INCIDENTAL TO WI 3.7). SEE TYPICAL LAYOUT, DETAIL 1/R-001.
9. INSTALL COVE SEALANT AT ALL WALLS, & CURBS IN OVERLAY REPAIR AREAS PER DETAIL 11.7 (INCIDENTAL TO W.I. 3.7).
10. MATCH EXISTING ELEVATIONS ALONG WORK AREA LIMITS AND PATCH PERIMETERS (TYP) NOTIFY ENGINEER OF ANY DISCREPANCIES.
11. COLLECT ALL HYDRO-DEMOLITION WATER. DO NOT ALLOW RUN OFF OUTSIDE WORK AREA LIMITS. FOLLOW ALL ENVIRONMENTAL REGULATIONS FOR DISCHARGE. SEE SPECIFICATION SECTION 025160 FOR FURTHER HYDRO-DEMOLITION REQUIREMENTS.
12. CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL EXISTING FEATURES FOR DURATION OF PROJECT INCLUDING, BUT NOT LIMITED TO: LIGHT FIXTURES, SWITCHES, SECURITY CAMERAS,ELEVATORS, CONDUIT, SIGNAGE, DRAINS, PIPING, PERIMETER RAILINGS ETC. ANY CONTRACTOR CAUSED DAMAGE SHALL BE REPAIRED/REPLACED TO SATISFACTION OF OWNER AT NO ADDITIONAL COST TO OWNER. REFER TO SECTION 020010 FOR DESCRIPTION OF WORK THAT MAY OR MAY NOT BE APPLIED TO M/E ALLOWANCE (WI 25.1)
13. MAINTAIN EXISTING ADA COMPLIANT SLOPED SURFACES AT STAIR/ELEV DOORWAYS WITHIN OVERLAY REPAIR AREAS (INCIDENTAL TO WI 3.7, AS APPLICABLE).
14. NO LOADS ALLOWED ON CANTILEVERS AFTER CONCRETE PLACEMENT UNTIL DESIGN STRENGTH IS ACHIEVED.
15. NEW FLOOR DRAIN ELEVATIONS SHALL BE SET AT OR BELOW EXISTING FLOOR DRAIN ELEVATIONS. LOWER DRAINS AS NECESSARY TO PROVIDE REQUIRED SLOPE AND SURFACE DRAINAGE, WHILE MAINTAINING 1½" MINIMUM CONCRETE COVER. NOTIFY ENGINEER OF ANY DISCREPANCIES.
16. PRIOR TO AND DURING CONCRETE PLACEMENT, PROFESSIONAL LICENSED SURVEYOR PER W.I. 2.1 SHALL VERIFY ELEVATIONS AT ALL DRAINAGE PROFILE LINES, HALFWAY POINTS, AND TOP OF DRAINS PER W.I. 2.1 TO ENSURE PROPER DRAINAGE.
17. PROVIDE 1 TO 2% SLOPE TO DRAINS.
18. INSTALL PROTECTION FOR FLOOR DRAINS (FILTERS AND OTHER MEANS OF PROTECTION AS NECESSARY) PRIOR TO START OF HYDRO-DEMOLITION TO ENSURE ALL DEBRIS/SLURRY IS PREVENTED FROM ENTERING DRAINAGE SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CLEANING AND/OR REPAIR NECESSARY TO RESTORE DRAINAGE SYSTEM (DRAINS & PIPES) TO EXISTING FUNCTIONAL CONDITION (INCLUDING UNDERGROUND PIPING).
19. RESTORE ALL LANDSCAPING FEATURES TO EXISTING CONDITION UPON COMPLETION OF REPAIRS (INCIDENTAL).
20. VERIFY STATUS OF EXISTING SECURITY SYSTEM (IE: IDENTIFY ANY NON-FUNCTIONAL CAMERAS/COMPONENTS) PRIOR TO START OF HYDRO-DEMOLITION WORK. COORDINATE WITH OWNER. ANY NON-FUNCTIONAL LIGHT FIXTURES SHALL ALSO BE DOCUMENTED PRIOR TO START OF HYDRO-DEMOLITION. PERFORM SIMILAR REVIEW OF ALL ELEVATORS PRIOR TO START OF WORK.
21. INSTALL PROTECTION FOR ELEVATOR TOWERS (WATER PROTECTION, SMOKE ALARM PROTECTION, ETC.) PRIOR TO START OF HYDRO-DEMOLITION TO ENSURE ALL DEBRIS / SLURRY / WATER / DUST IS PREVENTED FORM ENTERING ELEVATOR TOWERS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CLEANING AND / OR REPAIR NECESSARY TO RESTORE ELEVATORS TO CLEAN / FUNCTIONAL CONDITION.
22. REMAINING REPAIR ITEMS NOT SHOWN (SUCH AS W.I.'S 4.1, 6.1, 6.2) WILL TYPICALLY OCCUR IN BAYS 5 & 6 (ALL LEVELS). LOCATE IN FIELD WITH ENGINEER. IF AUTHORIZED BY OWNER, LOCALIZED PARKING SPACE CLOSURES MAY BE UTILIZED TO PERFORM THESE ITEMS AS NEEDED OUTSIDE OF BAYS 5 & 6.

NORTH

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WAYNE STATE UNIVERSITY
2016 PARKING STRUCTURE 1 RESTORATION
DETROIT MICHIGAN

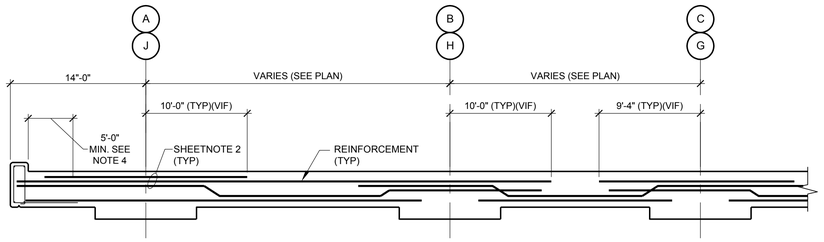
MARK	DATE	DESCRIPTION
	03/08/16	BIDDING AND CONSTRUCTION

ISSUE:

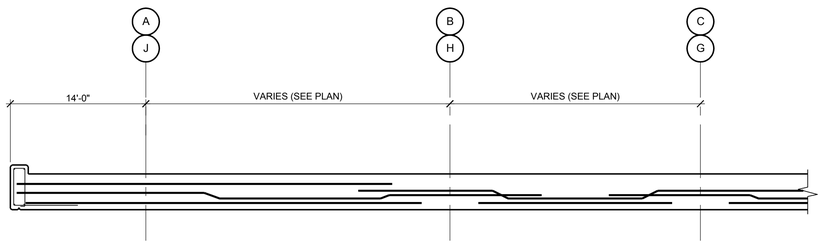
PROJECT NO: 20-1654.00
DRAWN BY: MKA
CHECKED BY: DJP

SHEET TITLE:
LEVEL 6
PLAN VIEW

R-201



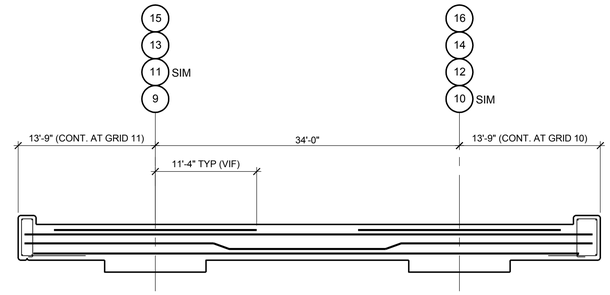
1 LONGITUDINAL COLUMN STRIP



NOTE:

1. SEE DETAIL SERIES 3.7 / R-501 FOR REMAINING INFO.

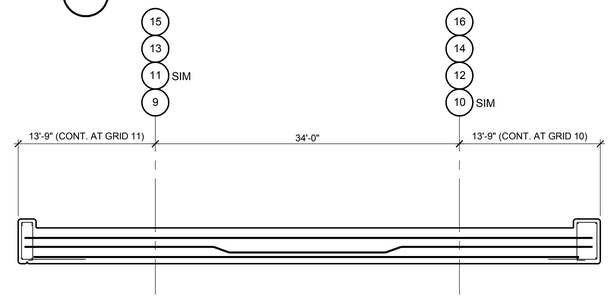
2 LONGITUDINAL MIDDLE STRIP



NOTE:

1. SEE DETAIL SERIES 3.7 / R-501 FOR REMAINING INFO.

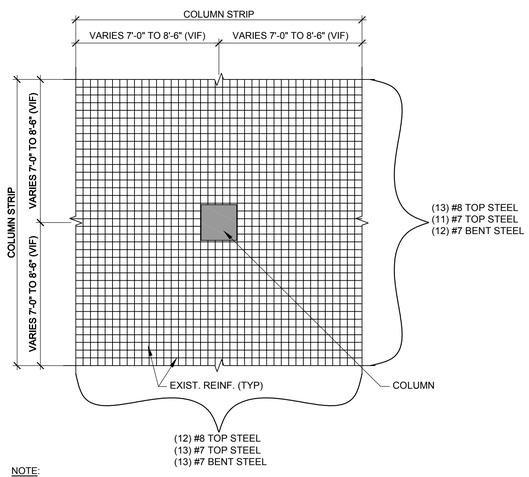
3 TRANSVERSE COLUMN STRIP



NOTE:

1. SEE DETAIL SERIES 3.7 / R-501 FOR REMAINING INFO.

4 TRANSVERSE MIDDLE STRIP



NOTE:

1. SEE DETAIL SERIES 3.7 / R-501 FOR CONCRETE REMOVAL REQUIREMENTS AROUND REINFORCING STEEL.
2. TOP MAT OF REINFORCEMENT TYPICALLY CONSISTS OF (3) LAYERS OF STEEL REINF. BARS NEAR COLUMNS. VERIFY IN FIELD.
3. THIS DETAIL IS FOR INFORMATIONAL PURPOSES ONLY, TO DEMONSTRATE AMOUNT OF CONGESTION OF EXISTING REINFORCEMENT AT COLUMNS. ACTUAL SIZE, SPACING, AND AMOUNT OF REBAR MAY VARY.

5 TYPICAL REINFORCING STEEL AT COLUMN STRIP INTERSECTION

SHEET NOTES:

1. SEE SHEET R-001 FOR GENERAL NOTES.
2. EXISTING REINFORCING STEEL TO REMAIN, EXCEPT SEVERELY CORRODED BARS.
3. REMOVE, REPLACE AND SUPPLEMENT DEFECTIVE REINFORCEMENT AS DIRECTED BY ENGINEER PER W.I. 3.9.
4. WHERE EXISTING REINFORCING STEEL REMOVAL IS REQUIRED, SAVE A MINIMUM 5'-0" FROM FACE OF WALL/COLUMN/CURB (TYP). LAP NEW REINFORCEMENT WITH EXISTING A MINIMUM OF 4'-0".
5. SAVE ALL EXISTING STEEL EXTENDING THROUGH COLUMNS. NO EXCEPTIONS.
6. CONTRACTOR SHALL NOT CUT ANY BARS EMBEDDED IN EXISTING CONCRETE (AT ANY POINT) WITHOUT OBTAINING APPROVAL FROM ENGINEER, ON A CASE-BY-CASE BASIS.
7. WHERE REPLACEMENT BAR LENGTH IS GREATER THAN 25'-0", LAP SPLICE SHALL BE LOCATED A MINIMUM OF 6'-0" FROM TRANSVERSE COLUMN LINE ON THE NON-CANTILEVER SIDE. ALL OTHER BARS SHALL BE CONTINUOUS.
8. DETAILS ON THIS SHEET SHOW TYPICAL EXISTING REINFORCING STEEL LAYOUT. ACTUAL FIELD CONDITIONS MAY VARY. REFER TO DETAIL SERIES 3.7 FOR CONCRETE REMOVAL REQUIREMENTS.

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WAYNE STATE UNIVERSITY
2016 PARKING STRUCTURE 1 RESTORATION
DETROIT MICHIGAN

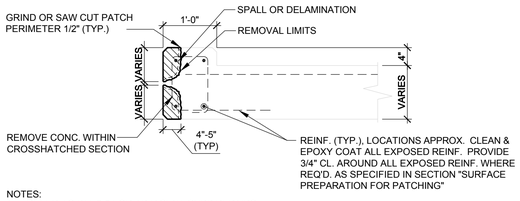
MARK	DATE	DESCRIPTION
	03/08/16	BIDDING AND CONSTRUCTION

ISSUE:

PROJECT NO: 20-1654.00
DRAWN BY: MKA
CHECKED BY: RGK

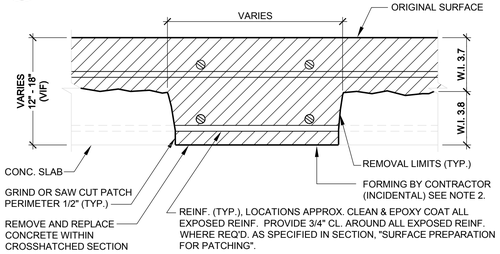
SHEET TITLE:
EXISTING REINFORCMENT

R-301



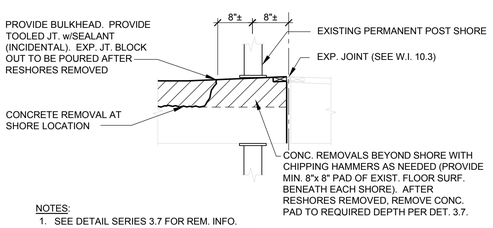
NOTES:
1. REFER TO W.I. 3.5 FOR ADJACENT CURB REPAIRS.

3.12 FLOOR REPAIR - SLAB EDGE



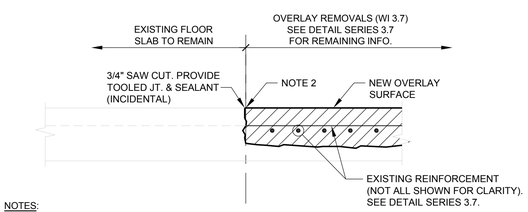
NOTES:
1. THIS WORK INCLUDES FULL DEPTH REMOVAL & REPLACEMENT OF CONC. SLAB BELOW THE REMOVAL LIMIT ESTABLISHED IN W.I. 3.7. REPAIRS SHALL BE PLACED MONOLITHIC WITH OVERLAY.
2. INSTALL FORMWORK TIGHT TO EXISTING CEILING SURFACES SO REPAIRS ARE FLUSH WITH ADJACENT SURFACES, AND VIBRATE DURING PLACEMENT TO ENSURE NO HONEY-COMBING (REPAIR AT NO COST TO OWNER).
3. REFER TO W.I. 3.4 FOR FULL DEPTH REPAIRS ALONG EXPANSION JOINTS.

3.8 FLOOR REPAIR - FULL DEPTH - ADDITIONAL REMOVALS



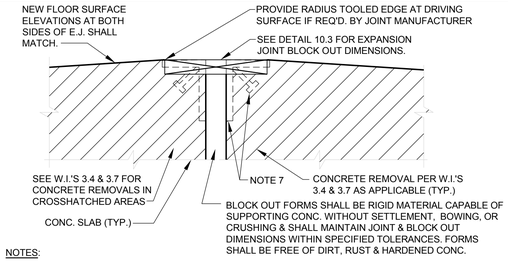
NOTES:
1. SEE DETAIL SERIES 3.7 FOR REM. INFO.
2. SEE DETAILS 3.4 & 10.3 FOR RELATEDWORK.
3. DETAIL APPLIES TO BOTH SIDES OF JOINT.
4. THIS DETAIL ALSO APPLIES TO HYDRO-DEMOLITION BEING PERFORMED ADJACENT TO BASE PLATES OF EXISTING PERMANENT SHORING & PERIMETER VEHICLE BARRIER SYSTEM, AS APPLICABLE

3.7.4 FLOOR REPAIR - OVERLAY STRIP-PATCHING
(AT EXPANSION JOINT)



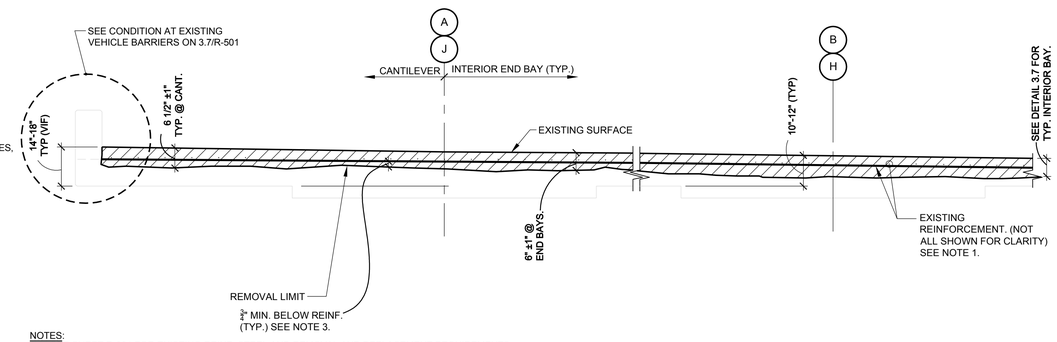
NOTES:
1. REMOVE/REPLACE CONCRETE IN CROSSHATCHED AREA.
2. NEW OVERLAY SURFACE ELEVATIONS SHALL MATCH EXISTING FLOOR SLAB.

3.7.3 FLOOR REPAIR - OVERLAY STRIP-PATCHING
(OVERLAY TERMINATION)



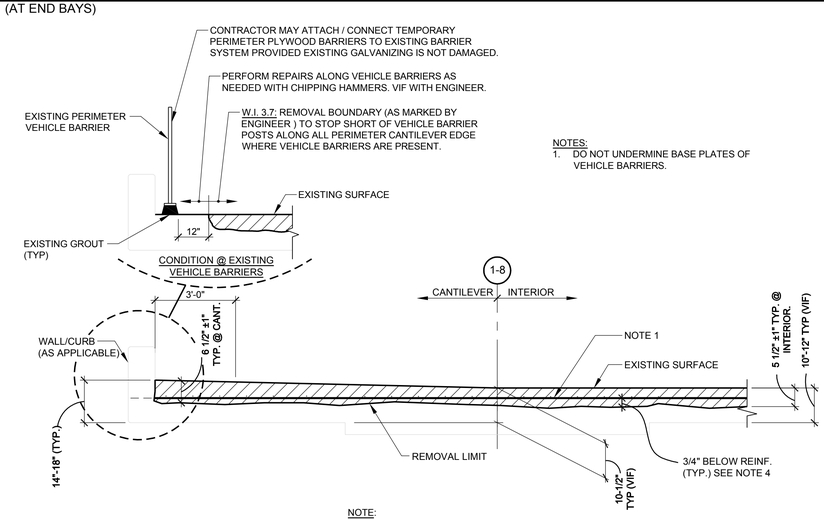
NOTES:
1. THIS DETAIL APPLIES TO EXPANSION JOINTS OCCURRING WITHIN HYDRO-DEMOLITION REPAIR AREAS, AND SHALL BE CONSIDERED INCIDENTAL TO W.I.'S 3.4 & 3.7 AS APPLICABLE.
2. REFER TO W.I. 10.3 FOR FURTHER EXPANSION JOINT INFORMATION.
3. MAINTAIN EXP. JT. OPENING CLEAR AS DIMENSIONED. VERTICAL SURFACE MUST BE PLUMB & SHALL NOT VARY MORE THAN 1/8" IN 12".
4. EDGE STRAIGHTNESS TOLERANCE SHALL NOT VARY MORE THAN 1/4" IN 10'-0".
5. FORMING OF JOINT SHALL BE APPROVED BY ENGINEER PRIOR TO CONCRETE PLACEMENT.
6. CONCRETE ELEVATIONS ON EACH SIDE OF JOINT SHALL MATCH.
7. REMOVE EXISTING EXPANSION JT. SYSTEM INCLUDING EMBEDDED STEEL ANGLES AND STUDS (BOTH SIDES OF JOINT). INSTALL TEMPORARY SHORES EACH SIDE OF E.J. PRIOR TO CONCRETE REMOVALS PER W.I.'S 3.4 & 3.7. SEE SHEET R-002 FOR FURTHER SHORING REQUIREMENTS.
8. SEE DETAILS 3.4 / 10.3 FOR RELATED WORK.

3.7.2 FLOOR REPAIR - OVERLAY STRIP-PATCHING
(E.J. BLOCKOUT)



NOTES:
1. SEE SHEET R-301 FOR EXISTING REINF. STEEL AND REMOVAL AND REPLACEMENT REQUIREMENTS.
2. REMOVE CONCRETE IN CROSSHATCHED AREA SHOWN ABOVE AT LOCATIONS MARKED IN FIELD BY ENGINEER.
3. REMOVAL DEPTHS SHOWN ARE BASED ON TYPICAL LOCATIONS OF REINFORCING STEEL. MINIMUM PERFORMANCE REQUIREMENT IS TO REMOVE ALL CONCRETE TO MINIMUM 3/4" BELOW BOTTOM BARS IN THE TOP MAT OF REINFORCEMENT. NO ADDITIONAL COMPENSATION WILL BE GIVEN FOR REMOVALS GREATER THAN ¾" BELOW BOTTOM REINFORCING BAR. REMOVAL OF EXISTING PATCH MATERIAL IS INCIDENTAL (NOT SHOWN).
4. PROVIDE 1-2% SLOPE TO DRAINS ON NEW OVERLAY SURFACE, AND MATCH EXISTING ELEVATIONS AT REPAIR PERIMETERS. NOTIFY ENGINEER OF ANY DISCREPANCIES.
5. PERIMETER VEHICLE BARRIERS AND PERMANENT SHORING NOT SHOWN FOR CLARITY.

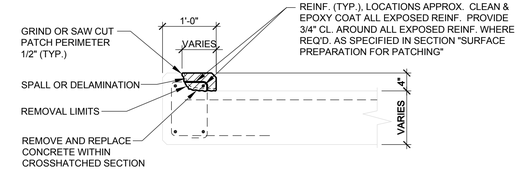
3.7.1 FLOOR REPAIR - OVERLAY STRIP-PATCHING
(AT END BAYS)



NOTES:
1. DO NOT UNDERMINE BASE PLATES OF VEHICLE BARRIERS.

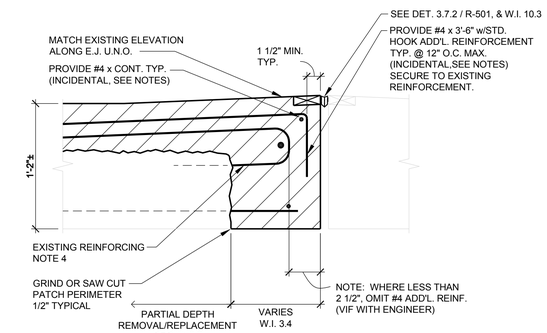
NOTE:
SEE "NOTES" ON DETAIL 3.7.1.

3.7 FLOOR REPAIR - OVERLAY STRIP-PATCHING
(AT FLAT/RAMP BAYS)



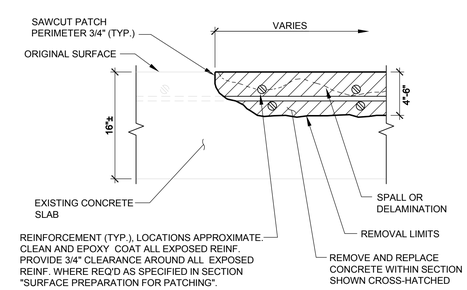
1. REFER TO W.I. 3.12 FOR ADJACENT SLAB EDGE REPAIRS.

3.5 FLOOR REPAIR - CURBS



NOTES:
1. PAY UNIT = SQUARE FOOT OF REPAIR PERFORMED ALONG E.J.
2. NEW REINFORCING STEEL SHALL BE EPOXY COATED.
3. DETAIL APPLIES TO BOTH SIDES OF JOINT (U.N.O.)
4. DO NOT CUT, DAMAGE OR REMOVE EXISTING REINFORCING ALONG JOINT WITHOUT ENGINEER APPROVAL.
5. THIS WORK ONLY OCCURS WHERE DELAMINATIONS ARE PRESENT ON TOPSIDE AND UNDERSIDE OF SLAB. DO NOT REMOVE SOUND CONCRETE.

3.4 FLOOR REPAIR - FULL DEPTH AT EXPANSION JOINT



3.2 FLOOR REPAIR - PARTIAL DEPTH

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2016 PARKING STRUCTURE 1 RESTORATION
DETROIT MICHIGAN

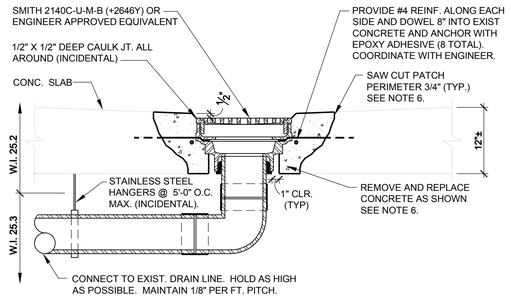
MARK	DATE	DESCRIPTION
	03/08/16	BIDDING AND CONSTRUCTION

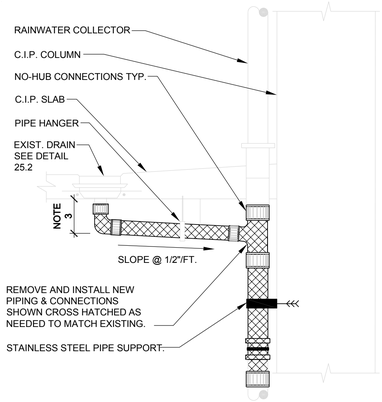
ISSUE:

PROJECT NO: 20-1654.00
DRAWN BY: MKA
CHECKED BY: DJP

SHEET TITLE:
REPAIR DETAILS

R-501

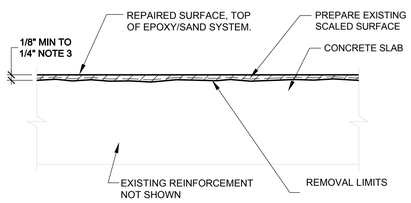




NOTES:
1. USE SERVICE WEIGHT CAST IRON PIPE. ALL MATERIAL SHALL BE IN ACCORDANCE WITH PREVAILING BUILDING ORDINANCES.
2. INSTALL ADJUSTABLE HANGERS AS REQ'D. VERIFY MIN. HEIGHT RESTRICTIONS OF PREVAILING BUILDING ORDINANCES PRIOR TO INSTALLATION.
3. KEEP PIPE TIGHT TO CEILING AT DRAIN WITH REQ'D. SLOPE TO R.W.C.
4. PROFESSIONAL SURVEYOR (PER WI 2.1) SHALL BE UTILIZED TO SET DRAIN ELEVATIONS PRIOR TO PLACING CONCRETE TO ENSURE PROPER DRAINAGE (INCIDENTAL).
5. CONCRETE WORK AND SUPPLEMENTAL REINFORCEMENT REQUIRED ON THIS DETAIL SHALL BE CONSIDERED INCIDENTAL TO WI'S 25.2 & 25.3, AND ARE NOT ELIGIBLE FOR PAYMENT UNDER ANY OTHER WORK ITEMS.
6. CONCRETE REMOVALS SHALL BE PERFORMED BY CONVENTIONAL CHIPPING HAMMERS. SAW-CUTTING THROUGH THE SLAB IS NOT ALLOWED. DO NOT CUT ANY EXISTING REINFORCMENT WITHOUT PRIOR WRITTEN APPROVAL FROM ENGINEER.

MECHANICAL - REPLACEMENT FLOOR DRAINS
MECHANICAL - PIPE AND HANGERS

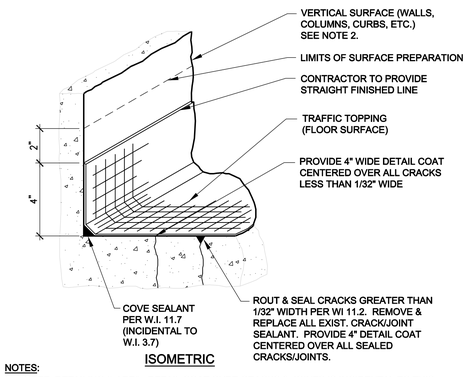
25.2 25.3



NOTES:
1. SURFACE PREPARATION SEQUENCE:
   a) SCARIFY EXISTING SCALED SURFACE TO REMOVE LOOSE / DELAMINATED / DETERIORATED CONCRETE.
   b) SHOT-BLAST SURFACE PER MATERIAL MANUFACTURER'S REQUIREMENTS. REVIEW PREPARED SURFACE TO VERIFY ALL LOOSE MATERIAL HAS BEEN REMOVED. WATER BLAST TO REMOVE LAITANCE.
2. PERFORM ADDITIONAL SURFACE PREPARATION AS RECOMMENDED BY MANUFACTURER PRIOR TO APPLICATION (INCIDENTAL).
3. INSTALL IN MULTIPLE LIFTS AS NECESSARY TO COMPLY WITH MANUFACTURER'S RECOMMENDATIONS.

SCALED SURFACE REPAIR (EPOXY/SAND)

16.9

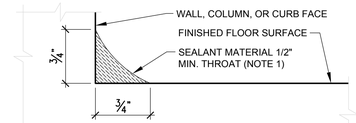


ISOMETRIC

NOTES:
1. VERT. DETAILING & ADD'L. DETAIL COAT OVER CRACKS & JOINTS IS INCIDENTAL TO THIS WORK.
2. TRAFFIC TOPPING SHALL BE INSTALLED ON VERTICAL AND HORIZONTAL SURFACES OF CURBS ALONG PERIMETER OF RAMP BAYS (INCIDENTAL).

TRAFFIC TOPPING - NEW SYSTEM

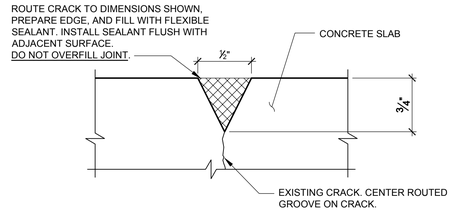
16.1



NOTE:
REMOVE EXISTING COVE SEALANT MATERIAL (INCIDENTAL). PREPARE SURFACE PER SPECIFICATIONS.

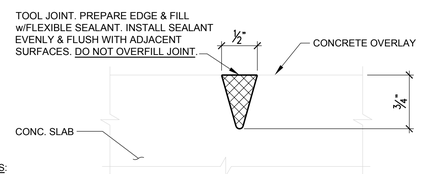
COVE SEALANT

11.7 (INCIDENTAL TO W.I. 3.7)



SEAL FLOOR CRACKS

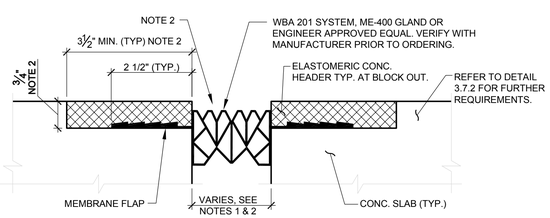
11.2



NOTES:
1. PLACE CONTROL JOINTS IN OVERLAY REPAIR AREAS PER TYPICAL LAYOUT ON 1/R-001.
2. ADDITIONAL OVERLAY CONTROL JOINTS WILL BE REQUIRED OVER ALL ORIGINAL CONSTRUCTION JOINTS (INCIDENTAL). CONTRACTOR SHALL LOCATE ALL SUCH JOINTS PRIOR TO OVERLAY INSTALLATION.
3. CONTROL JOINT (C.J.) MUST BE TOOLED IN PLASTIC CONCRETE AND DIMENSIONS, AS DETAILED, MAINTAINED IN SET CONCRETE. SAW CUTTING OF CONTROL JOINT IN HARDENED CONCRETE WILL NOT BE PERMITTED.

OVERLAY CONTROL JOINT SEALANT

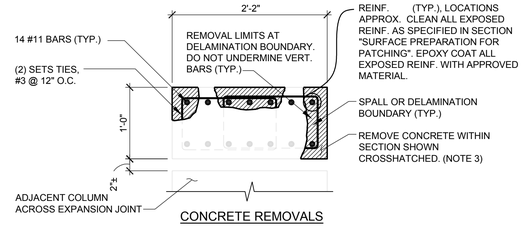
11.1 (INCIDENTAL TO W.I. 3.7)



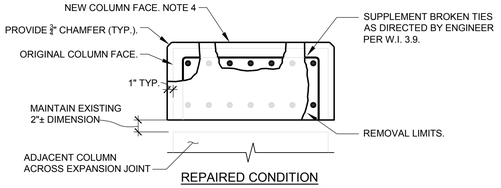
NOTES:
1. CONTRACTOR SHALL, WITH MANUFACTURER, VERIFY FIELD INSTALLATION WIDTH BASED ON TEMPERATURE CONDITIONS. TOTAL ANTICIPATED JOINT MOVEMENT = 1 1/4".
2. CONTRACTOR SHALL VERIFY BLOCKOUT WIDTH AND DEPTH REQUIREMENTS WITH MANUFACTURER PRIOR TO SUBMITTING BID. NO EXTRAS ALLOWED FOR DISCREPANCY BETWEEN TYPICAL BLOCKOUT DIMENSIONS SHOWN AND MANUFACTURERS REQUIREMENTS.
3. EXPANSION JOINT GLAND SHALL EXTEND INTO OPENING BETWEEN COLUMNS/WALLS AT ALL ENDS, AND SHALL BE TURNED UP 45°. (INCIDENTAL)

EXPANSION JOINT - ELASTOMERIC CONCRETE EDGED

10.3



CONCRETE REMOVALS

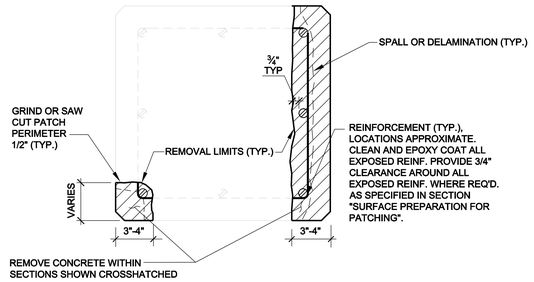


REPAIRED CONDITION

NOTES:
1. INSTALL SHORING AS REQUIRED BY ENGINEER PER W.I. 18.2.
2. REMOVE CONCRETE NO MORE THAN ½ THE HEIGHT OF THE COLUMN ON MAXIMUM 2 SIDES OF COLUMN. INSTALL REPAIR MATERIAL AND ALLOW CURING TO ACHIEVE 75% DESIGN COMPRESSIVE STRENGTH BEFORE PROCEEDING WITH REMAINING REPAIR (IF REQUIRED).
3. CONCRETE REMOVALS, PREPARATION, AND PATCHING MATERIAL PER W.I. 6.2.
4. EXTEND COLUMN FACE AS NEEDED TO PROVIDE 2" COVER (TYP).

COLUMN REPAIR - PARTIAL DEPTH AT EXPANSION JOINT

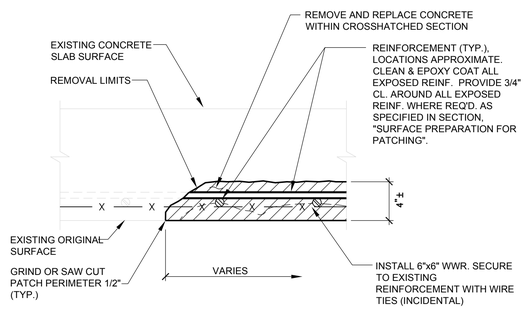
6.2



NOTES:
1. COLUMN TIES WHICH HAVE LOST MORE THAN 15% OF ORIGINAL CROSS SECTIONAL AREA SHALL BE SUPPLEMENTED AS ENGINEER DIRECTS PER W.I 3.9. VERIFY CONDITION WITH ENGINEER PRIOR TO PLACEMENT OF REPAIR MATERIAL.
2. NUMBER AND LOCATION OF REINFORCEMENT SHOWN MAY DIFFER FROM ACTUAL FIELD CONDITIONS.

COLUMN REPAIR - PARTIAL DEPTH

6.1



CEILING REPAIR - PARTIAL DEPTH

4.1

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WAYNE STATE UNIVERSITY
2016 PARKING STRUCTURE 1 RESTORATION
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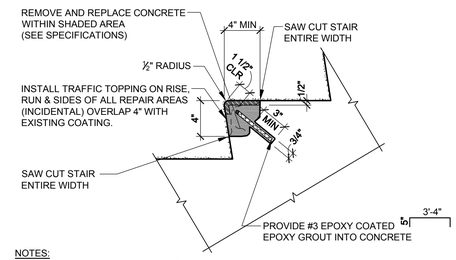
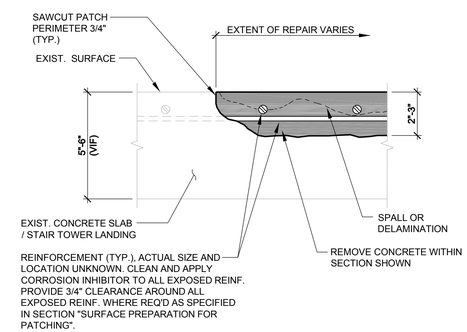
R-502



NOTES:
1. REMOVE EXISTING EMBEDDED NOSINGS AND ANCHOR DEVICES.
2. REMOVE AND REPLACE ALL SOUND AND UNSOUND CONCRETE WITHIN SECTION SHOWN SHADED.
3. PAINT CONTINUOUS 1 ½" WIDE DELINEATION STRIP AT EDGE OF NOSINGS (INCIDENTAL). VERIFY COLOR WITH OWNER.
4. PAYMENT IS PER EACH LOCATION (FULL WIDTH OF TREAD).

41.3 STAIR REPAIR - TREAD NOSINGS



41.1 STAIR REPAIR - LANDINGS

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