INDEX OF DRAWINGS

<table>
<thead>
<tr>
<th>SHT. #</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-001</td>
<td>GENERAL NOTES, ISO, LEGEND AND W.I. LIST</td>
</tr>
<tr>
<td>R-302</td>
<td>TEMPORARY SHORING LIR 10.1</td>
</tr>
<tr>
<td>R-301</td>
<td>TRAFFIC CONTROL, PARKING &amp; EQUIPMENT</td>
</tr>
<tr>
<td>R-301</td>
<td>LEVEL 6 PLAN VIEW</td>
</tr>
<tr>
<td>R-201</td>
<td>EXISTING REINFORCEMENT</td>
</tr>
<tr>
<td>R-003</td>
<td>REPAIR DETAILS</td>
</tr>
<tr>
<td>R-501</td>
<td>REPAIR DETAILS</td>
</tr>
<tr>
<td>R-502</td>
<td>REPAIR DETAILS</td>
</tr>
<tr>
<td>R-503</td>
<td>REPAIR DETAILS</td>
</tr>
</tbody>
</table>

SITE PLAN
NOTES:
1. PROVIDE CONTROL JOINTS PER WI 11.1 CENTERED ON COLUMN LINES IN WI 3.7 WORK AREAS.
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.

TYPICAL CONTROL JOINT PATTERN AND OTHER JOINT REQUIREMENTS

WORK ITEM SCHEDULE

<table>
<thead>
<tr>
<th>NO.</th>
<th>WORK ITEM / DETAIL IDENTIFICATION</th>
<th>X.X.X WORK ITEM/DETAIL NO (SEE SPECIFICATIONS)</th>
<th>CLARIFICATION DETAIL NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

TYPICAL CONTROL JOINT PATTERN AND OTHER JOINT REQUIREMENTS
1. Temporary shores/reshores required on this sheet shall be installed (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.

2. Temporary shores shall be positioned (VIF) based on 6k capacity.  Permanent shores present along "AA" & bumper walls along "8.5" & "12.5".

3. Keep all shores flush with existing concrete at top and bottom and extend (15") above finished concrete.

4. Shores shall be made of solid wood (minimum 6x6) or equivalent such as tubes, I-Beams, or other structural members.  Shores shall be mechanically secured top & bottom (tie wire or similar).  Shores shall be placed (2) levels below hydro-demolition work area.

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. Temporary shores per Note 7C above shall serve as reshores.
   - b. 5'-0" O.C. along mid-span of cantilevers (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.
   - 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. No construction load or other live loads permitted in cantilever portion of slab until 100% of 28 day concrete design compressive strength is achieved.

8. 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.  Permanent shores shall be provided at cantilever edges based on 25 psf construction live load and dead load at level being worked on, plus dead load of construction loads and other live loads as required.  Permanent shores shall be mechanically secured top & bottom (tie wire or similar).  Permanent shores shall be at least 6x6 in size.  Permanent shores to be maintained at (2) levels below hydro-demolition work area until 100% of 28 day concrete design compressive strength is achieved.  Permanent shores shall be placed (5') O.C. each way (2) levels below hydro-demolition work area.

9. Reshores at cantilever edges:
   - a. Temporarily reshores 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 construction loads and other live loads as required to support all loads above.  Drive lane (if used) to be located by contractor.
   - 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. Reshores to be removed in cantilever portion of slab at end of work at completion of work.

11. Maintenance truck to follow and close, and secure at top and bottom foundation required for reentry.

12. Temporary shores/reshores shall support all loads above, including vehicular loads or other live loads, required to support all loads above.  Shores shall be provided to support vehicular loads at top and bottom of slabs, at top of repair, and at top of drive lane.

13. Shores shall be placed (15") above finished concrete.  Shores shall be placed (2) levels below hydro-demolition work area.

14. All vehicular loads above hydro-demolition work area are nonstructural, and vehicular loads shall not exceed 25 psf.  Shores shall be placed (15") above finished concrete.  Shores shall be placed (2) levels below hydro-demolition work area.
PHASING NOTES:

3. PROVIDE CONTINUOUS TEMPORARY STEEL BARRICADE ACROSS FULL WIDTH OF DRIVE LANE.

2. PROVIDE BARRICADES TO PREVENT VEHICLE AND PEDESTRIAN ACCESS AROUND ALL WORK.

4. ACCESSING THE CITY HYDRANT AT THE NORTH EAST CORNER OF THE STRUCTURE REQUIRE PLACEMENT AT NORTH EDGE OF SIDEWALK.

MEANS OF MAINTAINING SIDEWALKS OPEN FOR NORMAL USE AT ALL TIMES. (INCIDENTAL).

AREAS, CONTRACTOR STAGING / STORAGE AREAS, AND ACCESS ROUTES PER W.I. 1.6.

ALL TIMES. REFER TO DESCRIPTION OF W.I.'S 41.1 & 41.3 IN SECTION 020010 FOR ADDITIONAL.
LEVEL 6 - FLOOR AREAS REQUIRING TEMPORARY SHORING PER W.I. 18.1

LEVEL 6 - FLOOR AREAS REQUIRING TRAFFIC TOPPING INSTALLATION

1. OVERLAP NEW TRAFFIC TOPPING 4" ONTO EXISTING COATING (TYP) (W.I. 16.1)

2. REPLACE CONCRETE SLAB ALONG EXPANSION JOINT PER W.I. 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.

4. TEMPORARY SHORING SHALL BE INSTALLED PER WI 18.1 AT HYDRO-DEMOLITION WORK AREAS PRIOR TO CONCRETE REMOVALS. REFER TO SHEET R-002.

5. REPRESENTATIVE CONCRETE REPAIR LOCATIONS SHOWN. ACTUAL EXTENT AND LOCATIONS TO BE MARKED BY CONTRACT OR IN FIELD AND REVIEWED BY ENGINEER. CONTRACTOR TO COORDINATE.

6. TEMPORARY SHORING (W.I. 18.1) TRAFFIC TOPPING (W.I. 16.1)

7. PROVIDE 1 TO 2% SLOPE TO DRAINS.

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. 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).

11. MATCH EXISTING ELEVATIONS ALONG WORK AREA LIMITS AND PATCH PERIMETERS (TYP) NOTIFY ENGINEER OF ANY DISCREPANCIES.

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 BARRIER. INCIDENTAL TO ALL OTHER AS NEEDED PER W.I. 3.2)

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. 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.

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 ELEVATOR TOWERS (WATER PROTECTION, SMOKE ALARM PROTECTION, ETC.) PRIOR TO START OF HYDRO-DEMOLITION TO ENSURE ALL DEBRIS / SLURRY / WATER / DUST IS PREVENTED FROM ENTERING ELEVATOR TOWERS.

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 REMOVED OR PROTECTED.

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 FROM ENTERING ELEVATOR TOWERS.

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
NOTE:

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

LONGITUDINAL COLUMN STRIP

TRANSVERSE COLUMN STRIP

LONGITUDINAL MIDDLE STRIP

TRANSVERSE MIDDLE STRIP

TYPICAL REINFORCING STEEL AT COLUMN STRIP INTERSECTION

Copyright 2016. All rights reserved. No part of this document may be reproduced in any form or by any means without permission from Walker Parking Consultants/Engineers, Inc.

www.walkerrestoration.com
525 Avis Drive Suite 1
Ann Arbor, MI 48108
734.663.1070 Ph 734.663.1717 Fax

WAYNE STATE UNIVERSITY
2016 PARKING STRUCTURE 1
RESTORATION

BIDDING AND CONSTRUCTION 03/08/16

PROJECT NO: SHEET NO: SHEET TITLE: DESCRIPTION: ISSUE: MARK DATE: DRAWN BY: CHECKED BY:
FLOOR REPAIR - SLAB EDGE

1. PROVIDE BULKHEAD. PROVIDE RESHORES REMOVED (INCIDENTAL). EXP. JT. BLOCK OUT TO BE POURED AFTER SHORE LOCATION CONCRETE REMOVAL AT 1. THIS WORK INCLUDES FULL DEPTH REMOVAL & REPLACEMENT OF CONC. SLAB BELOW THE REMOVAL LIMIT 3. REFER TO W.I. 3.4 FOR FULL DEPTH REPAIRS ALONG EXPANSION JOINTS.

NOTES:

2. CONCRETE SLAB REMOVE AND REPLACE GRIND OR SAW CUT PATCH WHERE VEHICLE BARRIERS ARE PRESENT.

FLOOR REPAIR - FULL DEPTH - ADDITIONAL REMOVALS

1. PROVIDE BULKHEAD. PROVIDE RESHORES REMOVED (INCIDENTAL). EXP. JT. BLOCK OUT TO BE POURED AFTER SHORE LOCATION CONCRETE REMOVAL AT 1. THIS WORK INCLUDES FULL DEPTH REMOVAL & REPLACEMENT OF CONC. SLAB BELOW THE REMOVAL LIMIT 3. REFER TO W.I. 3.4 FOR FULL DEPTH REPAIRS ALONG EXPANSION JOINTS.

NOTES:

2. CONCRETE SLAB REMOVE AND REPLACE GRIND OR SAW CUT PATCH WHERE VEHICLE BARRIERS ARE PRESENT.

FLOOR REPAIR - OVERLAY STRIP-PATCHING

1. PAY UNIT = SQUARE FOOT OF REPAIR PERFORMED ALONG E.J. 2. DETAIL APPLIES TO BOTH SIDES OF JOINT (U.N.O.) 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. 6. CONCRETE ELEVATIONS ON EACH SIDE OF JOINT SHALL MATCH.

NOTES:

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. 6. CONCRETE ELEVATIONS ON EACH SIDE OF JOINT SHALL MATCH.

FLOOR REPAIR - PARTIAL DEPTH

3. MAINTAIN EXP. JT. OPENING CLEAR AS DIMENSIONED. VERTICAL SURFACE MUST BE PLUMB & SHALL NOT VARY MORE THAN 1/4" IN 10'-0". 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.

NOTES:

3. MAINTAIN EXP. JT. OPENING CLEAR AS DIMENSIONED. VERTICAL SURFACE MUST BE PLUMB & SHALL NOT VARY MORE THAN 1/4" IN 10'-0". 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.

FLOOR REPAIR - FULL DEPTH

1. PROVIDE BULKHEAD. PROVIDE RESHORES REMOVED (INCIDENTAL). EXP. JT. BLOCK OUT TO BE POURED AFTER SHORE LOCATION CONCRETE REMOVAL AT 1. THIS WORK INCLUDES FULL DEPTH REMOVAL & REPLACEMENT OF CONC. SLAB BELOW THE REMOVAL LIMIT 3. REFER TO W.I. 3.4 FOR FULL DEPTH REPAIRS ALONG EXPANSION JOINTS.

NOTES:

2. CONCRETE SLAB REMOVE AND REPLACE GRIND OR SAW CUT PATCH WHERE VEHICLE BARRIERS ARE PRESENT.

FLOOR REPAIR - FULL DEPTH - ADDITIONAL REMOVALS

1. PROVIDE BULKHEAD. PROVIDE RESHORES REMOVED (INCIDENTAL). EXP. JT. BLOCK OUT TO BE POURED AFTER SHORE LOCATION CONCRETE REMOVAL AT 1. THIS WORK INCLUDES FULL DEPTH REMOVAL & REPLACEMENT OF CONC. SLAB BELOW THE REMOVAL LIMIT 3. REFER TO W.I. 3.4 FOR FULL DEPTH REPAIRS ALONG EXPANSION JOINTS.

NOTES:

2. CONCRETE SLAB REMOVE AND REPLACE GRIND OR SAW CUT PATCH WHERE VEHICLE BARRIERS ARE PRESENT.

FLOOR REPAIR - OVERLAY STRIP-PATCHING

1. PAY UNIT = SQUARE FOOT OF REPAIR PERFORMED ALONG E.J. 2. DETAIL APPLIES TO BOTH SIDES OF JOINT (U.N.O.) 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. 6. CONCRETE ELEVATIONS ON EACH SIDE OF JOINT SHALL MATCH.

NOTES:

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. 6. CONCRETE ELEVATIONS ON EACH SIDE OF JOINT SHALL MATCH.

FLOOR REPAIR - PARTIAL DEPTH

3. MAINTAIN EXP. JT. OPENING CLEAR AS DIMENSIONED. VERTICAL SURFACE MUST BE PLUMB & SHALL NOT VARY MORE THAN 1/4" IN 10'-0". 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.
EXTENT OF REPAIR VARIES

SAWCUT PATCH PERIMETER 3/4" (TYP.)
EXIST. SURFACE SPALL OR DELAMINATION

REMOVE CONCRETE WITHIN SECTION SHOWN REINFORCEMENT (TYP.), ACTUAL SIZE AND LOCATION UNKNOWN. CLEAN AND APPLY CORROSION INHIBITOR TO ALL EXPOSED REINF. PROVIDE 3/4" CLEARANCE AROUND ALL EXPOSED REINF. WHERE REQ'D AS SPECIFIED IN SECTION "SURFACE PREPARATION FOR PATCHING".

EXIST. CONCRETE SLAB / STAIR TOWER LANDING

STAIR REPAIR - LANDINGS

INSTALL TRAFFIC TOPPING ON RISE, RUN & SIDES OF ALL REPAIR AREAS (INCIDENTAL) OVERLAP 4" WITH EXISTING COATING.

STAIR REPAIR - TREAD NOSINGS

REMOVE AND REPLACE CONCRETE WITHIN SHADED AREA (SEE SPECIFICATIONS)

PROVIDE #3 EPOXY COATED EPOXY GROUT INTO CONCRETE

REMOVE AND REPLACE CONCRETE WITHIN SHADED AREA (SEE SPECIFICATIONS)

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 1/2" WIDE DELINEATION STRIP AT EDGE OF NOSINGS (INCIDENTAL). VERIFY COLOR WITH OWNER.
4. PAYMENT IS PER EACH LOCATION (FULL WIDTH OF TREAD).

Copyright 2016. All rights reserved. No part of this document may be reproduced in any form or by any means without permission from Walker Parking Consultants/Engineers, Inc.