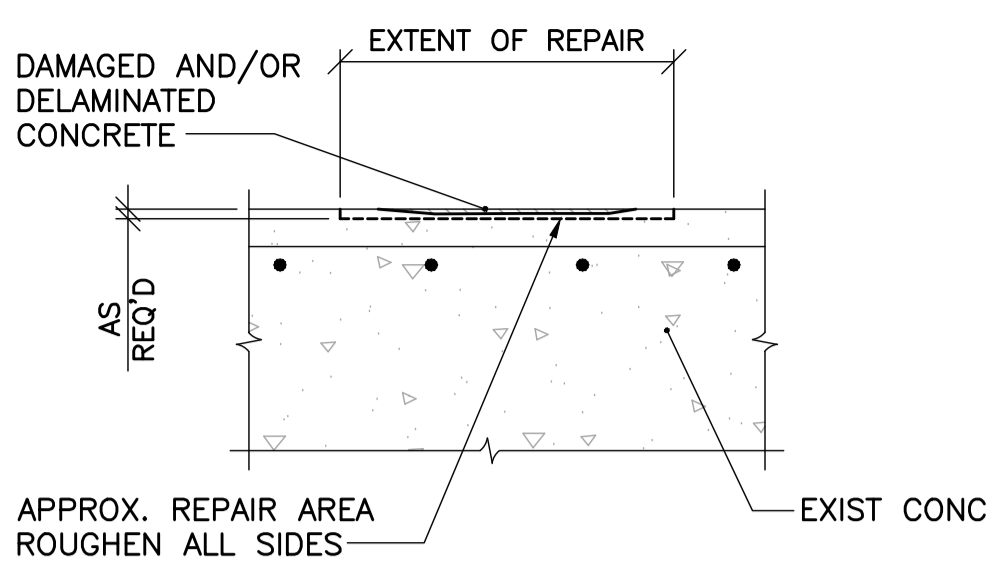
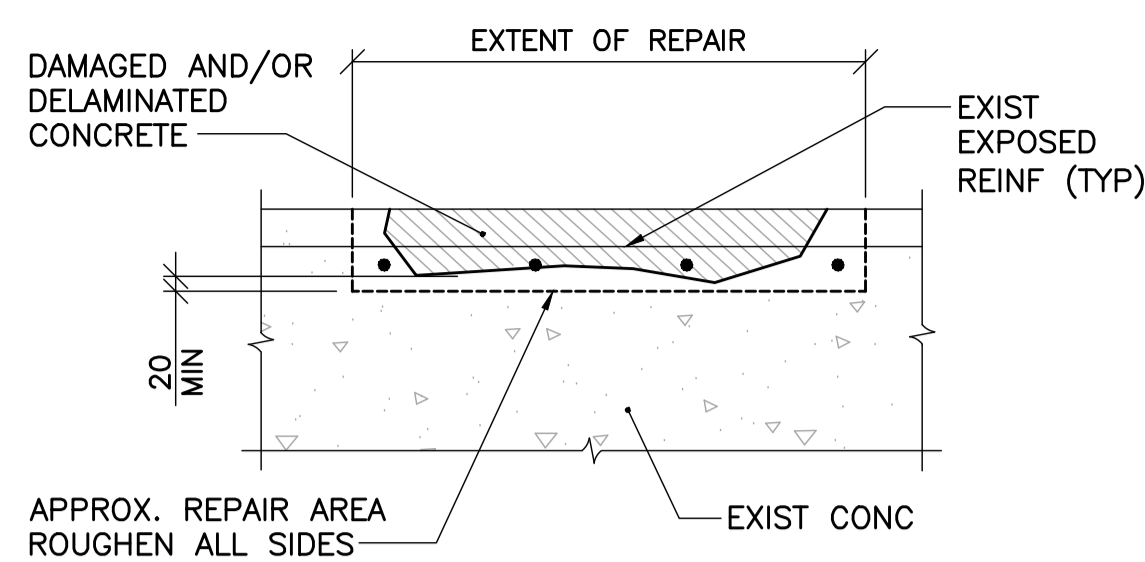


1 TYPICAL FULL DEPTH DECK REPAIR
1 : 10

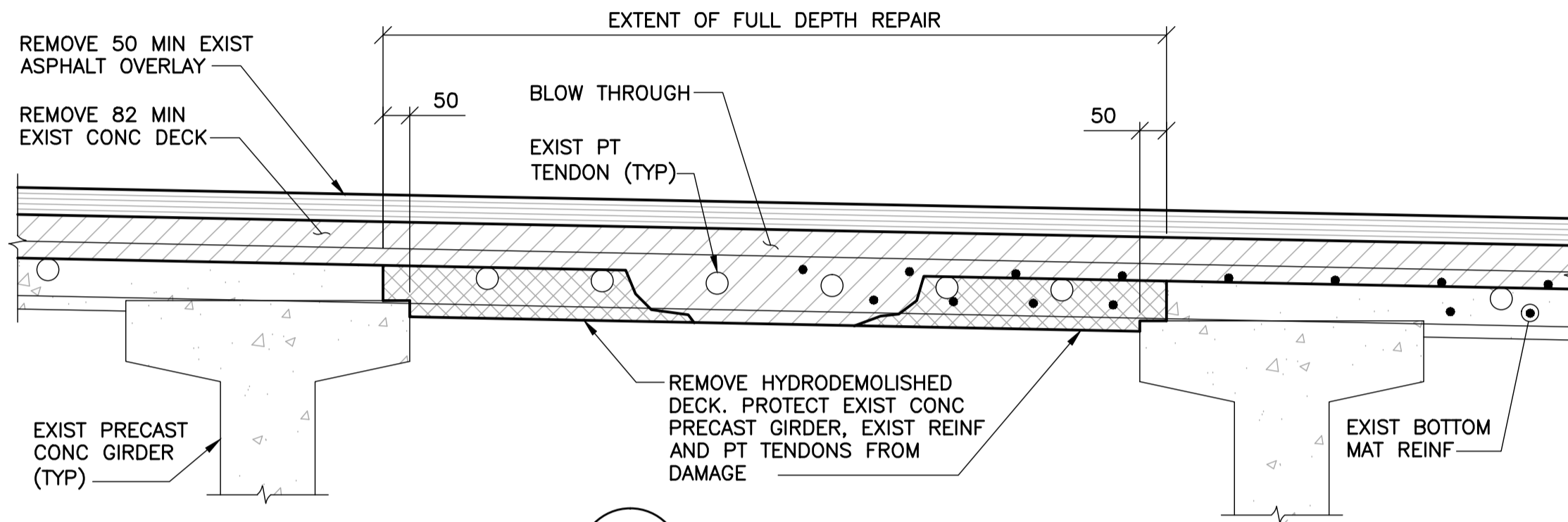
REMOVE DECK BY MEANS OF SAWCUTTING AND CHIP HAMMERING. PROTECT EXIST PRECAST CONC GIRDER, EXIST BOTTOM MAT OF DECK REINF AND EXIST PT TENDONS FROM DAMAGE



2 TYPICAL PARTIAL DEPTH REPAIR
1 : 10



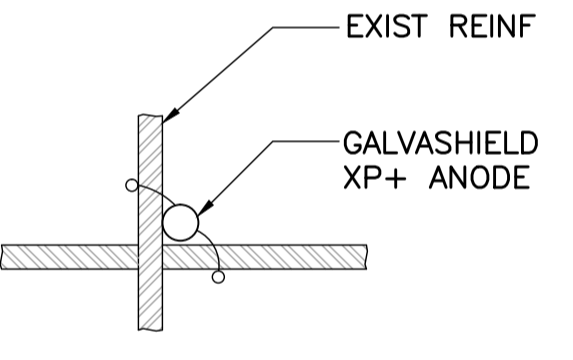
3 TYPICAL FULL DEPTH REPAIR
1 : 10



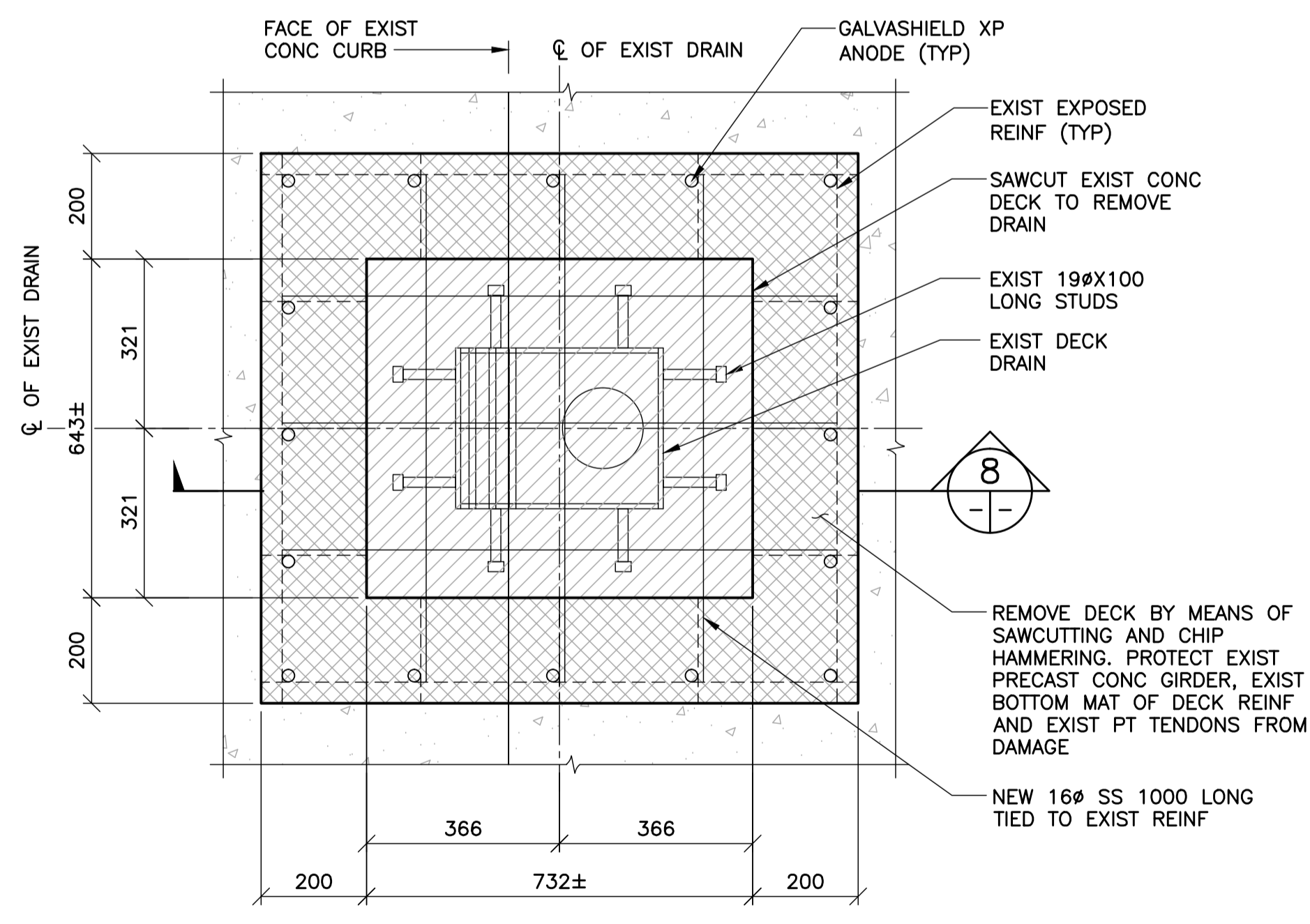
4 DETAIL
1 : 10
- FULL DEPTH DECK REPAIR



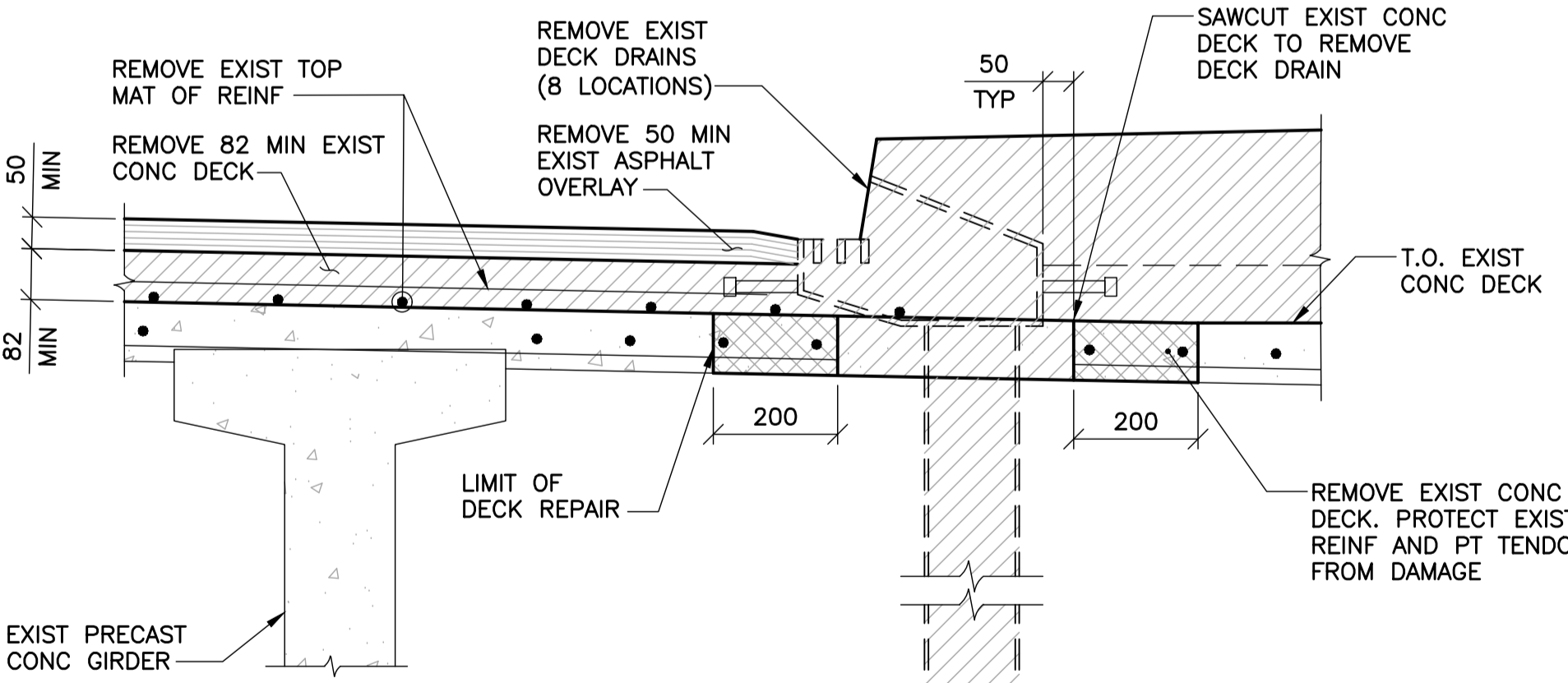
5 TYPICAL ANODE INSTALL BESIDE REINFORCING
1 : 5



6 TYPICAL ANODE INSTALL AT REINFORCING INTERSECTION
1 : 5



7 TYPICAL DECK DRAIN REPAIR
1 : 10



8 SECTION
1 : 10

MISCELLANEOUS CONCRETE REPAIR NOTES:

- REPAIR GUIDELINES AS PER ICRI NO. 03730 AND NO. 03731.
- MISCELLANEOUS CONCRETE REPAIR AREAS SHALL BE IDENTIFIED BY THE CONTRACT ADMINISTRATOR.
- AS THE DETERIORATION IS NOT UNIFORM, THE AREA REQUIRED FOR REPAIR SHALL BE EXTENDED TO A SIMPLE LAYOUT WITH SQUARE CORNERS.
- FOR PARTIAL AND FULL DEPTH REPAIR, THE DETERIORATED CONCRETE SHALL BE REMOVED USING A CHIPPING HAMMER NO HEAVIER THAN 20 LBS SO AS NOT TO DAMAGE THE REINFORCING STEEL.
- A REPAIR BOUNDARY SHALL BE SAW CUT AROUND THE AREA TO PREVENT FEATHER EDGE CONDITIONS. THIS PERIMETER SHALL BE CUT 90° INTO THE CONCRETE AT A DEPTH NO MORE THAN 25mm OR LESS AS REQUIRED TO AVOID CUTTING REINFORCING STEEL.
- FOR FULL DEPTH REPAIR:
 - CONC SHALL BE REMOVED TO A MINIMUM DEPTH OF 20mm PAST THE EXPOSED REINF STEEL.
 - ALL REINFORCING EXPOSED AND DISTURBED FROM THE REPAIR PROCESS SHALL BE FULLY EXPOSED AS IF THE REPAIR WAS A FULL DEPTH REPAIR.
 - ALL REINFORCING SHALL BE CLEANED OF RUST, SCALE, AND OTHER BOND INHIBITING MATERIALS USING AN ABRASIVE FREE OF CORROSION PRODUCING AGENTS.
 - SAND ABRASIVES ARE RECOMMENDED. SLAG ABRASIVE SHALL BE LESS THAN 0.1% OIL BY MASS.
 - REPLACE ALL DAMAGED REINFORCING STEEL AT THE DISCRETION OF THE CONTRACT ADMINISTRATOR.
- FOLLOWING THE COMPLETION OF CONCRETE REMOVALS, THE CONTRACTOR SHALL NOTIFY THE CONTRACT ADMINISTRATOR TO INSPECT THE WORK.
- FOLLOWING THE REMOVAL OF CONTAMINATED CONCRETE AND CONDITIONING OF REINFORCING STEEL, ABRASIVES SHALL BE USED TO REMOVE BOND INHIBITING MATERIALS FROM THE REPAIRED AREA(S) AND TO OPEN THE PORES OF THE EXISTING CONCRETE FOR REPAIR.
- ATTACH GALVASHIELD XP ANODES TO CLEAN REINFORCING STEEL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED METHODS. GALVASHIELD XP ANODES SHALL BE INSTALLED IN A GRID PATTERN WITH THE INTERIOR OF THE REPAIR AREA(S) WHEN CHLORIDE CONTAMINATED CONCRETE EXISTS IN CONTACT WITH THE REINFORCING STEEL.
- MINIMUM AMBIENT AIR TEMPERATURES DURING REPAIR WORK SHALL BE ABOVE 5°C.
- THE SURFACE TEMPERATURE OF THE CONCRETE SHALL BE ABOVE 5°C DURING REPAIR.
- REFER TO THE SPECIFICATIONS FOR APPROVED PATCHING MATERIALS.
- A BOND SHALL BE CREATED BETWEEN THE NEW CONCRETE MORTAR AND THE EXISTING SUBSTRATES. EXISTING CONCRETE SHALL BE SATURATED SURFACE DRY UPON APPLICATION OF BONDING GROUT. MORTAR SHALL BE APPLIED BY TROWELLING, PUMPING, SPRAYING, OR INTO FORMS ENSURING THAT ALL ENTRAPPED AIR IS REMOVED.
- UNFORMED CONCRETE SURFACES SHALL BE COVERED AND KEPT MOIST BY MEANS OF WET CURING BLANKETS FOR SEVEN (7) CONSECUTIVE DAYS IMMEDIATELY FOLLOWING FINISHING OPERATIONS AND SHALL BE MAINTAINED AT ABOVE 5°C FOR AT LEAST SEVEN (7) CONSECUTIVE DAYS THEREAFTER OR THROUGH THE APPLICATION CURING COMPOUND WHERE APPROVED. FORMED CONCRETE SURFACES SHALL HAVE FORMWORK INTACT OVER REPAIR AREAS FOR SEVEN (7) CONSECUTIVE DAYS THEREAFTER. IF FORMWORK IS REMOVED PRIOR TO THE ABOVE NOTED SEVEN (7) DAY PERIOD THEN CURING SHALL TAKE PLACE IN ACCORDANCE WITH CURING METHODS FOR UNFORMED SURFACES.
- ALL REPAIRED AREAS SHALL BE INSPECTED BY THE CONTRACT ADMINISTRATOR FOR BOND PRIOR TO ACCEPTANCE.

FULL DEPTH DECK REPAIR NOTES:

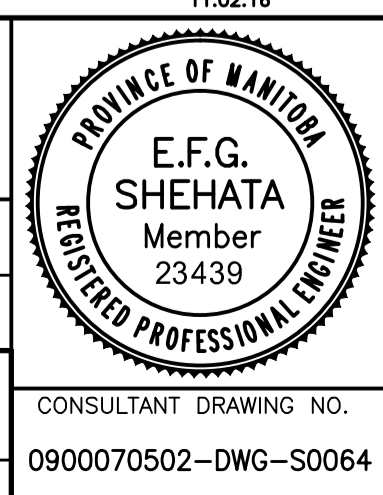
- FULL DEPTH DECK REPAIR AREAS SHALL BE IDENTIFIED BY THE CONTRACT ADMINISTRATOR.
- REMOVE EXISTING DECK CONCRETE BY MEANS OF SAWCUTTING AND CHIP HAMMERING. PROTECT EXISTING PRECAST CONCRETE GIRDER, EXISTING DECK REINFORCING STEEL AND EXISTING POST TENSIONING TENDONS.
- REPAIR GUIDELINES AS PER ICRI No. 03730 AND No. 03731.
- REPAIR AREAS SHALL BE EXTENDED TO A SIMPLE LAYOUT WITH SQUARE CORNERS.
- CONCRETE SHALL BE REMOVED USING A CHIPPING HAMMER NO HEAVIER THAN 20 LBS SO AS NOT TO DAMAGE THE REINFORCING STEEL.
- ALL REINFORCING SHALL BE CLEANED OF RUST, SCALE, AND OTHER BOND INHIBITING MATERIALS USING AN ABRASIVE FREE OF CORROSION PRODUCING AGENTS. SAND ABRASIVES ARE RECOMMENDED. SLAG ABRASIVES SHALL BE LESS THEN 0.1% OIL BY MASS.
- REPLACE ALL DAMAGES REINFORCING, AS DIRECTED BY THE CONTRACT ADMINISTRATOR.
- FOLLOWING THE COMPLETION OF CONCRETE REMOVALS, THE CONTRACTOR SHALL NOTIFY THE CONTRACT ADMINISTRATOR TO INSPECT THE WORK.
- FOLLOWING THE REMOVAL OF CONTAMINATED CONCRETE AND CONDITIONING OF THE REINFORCING STEEL, ABRASIVES SHALL BE USED TO REMOVE BOND INHIBITING MATERIALS FROM THE REPAIRED AREA(S) AND TO OPEN THE PORES OF THE EXISTING CONCRETE FOR REPAIR.
- ATTACH GALVASHIELD XP ANODES TO CLEAN REINFORCING STEEL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED METHODS. GALVASHIELD XP ANODES SHALL BE INSTALLED IN A GRID PATTERN WITH THE INTERIOR OF THE REPAIR AREA(S) WHEN CHLORIDE CONTAMINATED CONCRETE EXISTS IN CONTACT WITH THE REINFORCING STEEL.
- MINIMUM AMBIENT AIR TEMPERATURES DURING REPAIR WORK SHALL BE ABOVE 5°C.
- APPROVED PATCHING MATERIALS FOR FULL DEPTH REPAIR INCLUDE EMACO R350CI REPAIR MORTAR. ALTERNATIVELY, TYPE 2 CONCRETE MAY BE USED.
- A BOND SHALL BE CREATED BETWEEN THE NEW CONCRETE MORTAR AND THE EXISTING SUBSTRATES. EXISTING CONCRETE SHALL BE SATURATED SURFACE DRY UPON APPLICATION OF BONDING GROUT. MORTAR SHALL BE APPLIED BY TROWELLING, PUMPING, SPRAYING, OR INTO FORMS ENSURING THAT ALL ENTRAPPED AIR IS REMOVED.
- UNFORMED CONCRETE SURFACES SHALL BE COVERED AND KEPT MOIST BY MEANS OF WET CURING BLANKETS FOR SEVEN (7) CONSECUTIVE DAYS IMMEDIATELY FOLLOWING FINISHING OPERATIONS AND SHALL BE MAINTAINED AT ABOVE 5°C FOR AT LEAST SEVEN (7) CONSECUTIVE DAYS THEREAFTER. THE USE OF CURING COMPOUND SHALL NOT BE PERMITTED.
- ALL REPAIRED AREAS SHALL BE INSPECTED BY THE CONTRACT ADMINISTRATOR FOR BOND PRIOR TO ACCEPTANCE.

DECK DRAIN REPAIR NOTES:

- REMOVE EXISTING DECK DRAINS BY MEANS OF SAWCUTTING AND CHIP HAMMERING. PROTECT EXISTING PRECAST CONCRETE GIRDER, EXISTING DECK REINF STEEL AND EXISTING POST TENSIONING TENDONS.
- REPAIR GUIDELINES AS PER ICRI No. 03730 AND No. 03731.
- REPAIR AREAS SHALL BE EXTENDED TO A SIMPLE LAYOUT WITH SQUARE CORNERS.
- CONCRETE SHALL BE REMOVED USING A CHIPPING HAMMER NO HEAVIER THAN 20 LBS SO AS NOT TO DAMAGE THE REINFORCING STEEL.
- ALL REINFORCING SHALL BE CLEANED OF RUST, SCALE, AND OTHER BOND INHIBITING MATERIALS USING AN ABRASIVE FREE OF CORROSION PRODUCING AGENTS. SAND ABRASIVES ARE RECOMMENDED. SLAG ABRASIVES SHALL BE LESS THEN 0.1% OIL BY MASS.
- REPLACE ALL DAMAGED REINFORCING AS DIRECTED BY THE CONTRACT ADMINISTRATOR. INSTALL NEW STAINLESS STEEL REINFORCING AS SHOWN AND MATCH TO EXISTING REINFORCING STEEL.
- FOLLOWING THE COMPLETION OF CONCRETE REMOVALS, THE CONTRACTOR SHALL NOTIFY THE CONTRACT ADMINISTRATOR TO INSPECT THE WORK.
- FOLLOWING THE REMOVAL OF CONTAMINATED CONCRETE AND CONDITIONING OF THE REINFORCING STEEL, ABRASIVES SHALL BE USED TO REMOVE BOND INHIBITING MATERIALS FROM THE REPAIRED AREA(S) AND TO OPEN THE PORES OF THE EXISTING CONCRETE FOR REPAIR.
- ATTACH GALVASHIELD XP ANODES TO CLEAN REINFORCING STEEL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED METHODS. GALVASHIELD XP ANODES SHALL BE INSTALLED IN A GRID PATTERN WITH THE INTERIOR OF THE REPAIR AREA(S) WHEN CHLORIDE CONTAMINATED CONCRETE EXISTS IN CONTACT WITH THE REINFORCING STEEL.
- MINIMUM AMBIENT AIR TEMPERATURES DURING REPAIR WORK SHALL BE ABOVE 5°C.
- AN APPROVED PATCHING MATERIAL IS EMACO R350CI REPAIR MORTAR. ALTERNATIVELY, TYPE 2 CONCRETE MAY BE USED.
- EXISTING CONCRETE SHALL BE SATURATED SURFACE DRY UPON APPLICATION OF BONDING GROUT. MORTAR SHALL BE APPLIED BY TROWELLING, PUMPING, SPRAYING, OR INTO FORMS ENSURING THAT ALL ENTRAPPED AIR IS REMOVED.
- UNFORMED CONCRETE SURFACES SHALL BE COVERED AND KEPT MOIST BY MEANS OF WET CURING BLANKETS FOR SEVEN (7) CONSECUTIVE DAYS IMMEDIATELY FOLLOWING FINISHING OPERATIONS AND SHALL BE MAINTAINED AT ABOVE 5°C FOR AT LEAST SEVEN (7) CONSECUTIVE DAYS THEREAFTER. THE USE OF CURING COMPOUND SHALL NOT BE PERMITTED.
- ALL REPAIRED AREAS SHALL BE INSPECTED BY THE CONTRACT ADMINISTRATOR FOR BOND PRIOR TO ACCEPTANCE.



B.M. ELEV.	F.B.	WARDROP A TETRA TECH COMPANY	
		DESIGNED BY V.B.	CHECKED BY E.F.S.
		DRAWN BY B.M.	APPROVED BY R.H.W.
		HOR. SCALE: AS NOTED	RELEASED FOR CONSTRUCTION DATE
		VERTICAL: AS NOTED	ORIGINAL SIGNED 11.02.16
00	ISSUED FOR TENDER	11.02.18	EFS
NO.	REVISIONS	DATE	BY
		10.10.13	



THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

OSBORNE STREET BRIDGE
REHABILITATION & RELATED WORKS

BRIDGE DECK
PHASE 1 CONSTRUCTION

CITY DRAWING NUMBER
B109-11-069

SHEET **64** OF **131**

CONSULTANT DRAWING NO.
0900070502-DWG-S0064

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