GENERAL NOTES

GENERAL

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE REST OF THE DRAWINGS.
2. FEATURES OF CONSTRUCTION NOT FULLY SHOWN SHALL BE OF THE SAME CHARACTER AS SHOWN FOR SIMILAR CONDITIONS.
3. WHERE DOCUMENTS ARE REFERENCED IN THE GENERAL AND DESIGN NOTES, THEY SHALL BE THE LATEST EDITIONS, UNLESS OTHERWISE NOTED OR SHOWN.
4. READ STRUCTURAL DRAWINGS IN CONJUNCTION WITH SEPARATELY BOUND SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS.
5. BEFORE PROCEEDING WITH WORK, CHECK ALL THE DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS AGAINST ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND EXISTING SITE CONDITIONS. REPORT INCONSISTENCIES TO CONSULTANT BEFORE PROCEEDING WITH THE WORK.
6. CHECK AND VERIFY IN THE FIELD ALL SIZES AND DIMENSIONS INVOLVING THE EXISTING STRUCTURE AND COORDINATE WITH NEW CONSTRUCTION.
7. VERIFY AND OBTAIN PRIOR APPROVAL OF DIMENSIONS AND LOCATIONS OF ALL OPENINGS, PIPE SLEEVES, SLOTS, TRENCHES AND ELECTRICAL FLOOR DUCTS AS REQUIRED BY OTHER TRADES.
8. NO OPENINGS OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE THROUGH SLABS, BEAMS OR BEARING WALLS, UNLESS PRIOR APPROVAL IS OBTAINED FROM THE CONSULTANT.
9. DO NOT EXCEED DURING CONSTRUCTION LIVE LOADS OF 3.6 kPa, REDUCED AS NECESSARY UNTIL MATERIALS REACH DESIGN STRENGTH.
10. DIMENSIONS ARE IN MILLIMETRES (INCHES) UNLESS NOTED OTHERWISE. ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
11. SCALES NOTED ON DRAWINGS ARE FOR GENERAL INFORMATION ONLY.
12. DO NOT SCALE DRAWINGS.

CONSTRUCTION

1. THE CONTRACTOR SHALL PROPOSE A FULL METHODOLOGY FOR EXECUTING THE WORK
2. THE CONTRACTOR SHALL DEMONSTRATE THE STABILITY AND SAFETY OF ALL ELEMENTS OF THE BUILDING DURING EVERY STAGE OF CONSTRUCTION.
3. CONTRACTOR TO SUBMIT FULL SEQUENCE FOR EXECUTING THE WORK TO CONSULTANT FOR REVIEW BEFORE PROCEEDING, INCLUDING TEMPORARY SHORING AND COORDINATION WITH EXISTING IN-SERVICE MECHANICAL EQUIPMENT.
4. CONTRACTOR TO RELOCATE PIPES, CABLES, ETC AS REQUIRED TO CARRY OUT THE WORK.
5. ALL REPAIR MATERIALS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

MATERIALS

1. THE CONTRACTOR SHALL PROPOSE A FULL METHODOLOGY FOR EXECUTING THE WORK
2. SEE SPECIFICATIONS FOR CLASS OF CONCRETE AND OTHER REQUIREMENTS.

   CONCRETE STRENGTH:
   - SLABS AND BEAMS ..... 35 MPa
   - COLUMNS, WALLS..... 35 MPa
   - STRUCTURAL MEMBERS EXPOSED TO SALT ... 35 MPa (C-1)
   - OTHER..... 35 MPa
3. REINFORCEMENT: CONFORM TO CSA G30 SERIES, fy = 400 MPa FOR ALL CONCRETE REINFORCEMENT EXCEPT fy = 440 MPa FOR WELDED WIRE FABRIC. PROVIDE WELDED WIRE FABRIC IN FLAT SHEETS ONLY. ALL REINFORCEMENT IS TO BE 'BLACK' EXCEPT WHERE THE SUFFIX 'C' IS USED TO DESIGNATE EPOXY COATED REINFORCEMENT.
4. REINFORCING BAR AREAS ARE 100, 200, 300, 500, 700, 1000, 1500 AND 2500 sq. mm FOR BAR DESIGNATIONS 10, 15, 20, 25, 30, 35, 45 AND 55, RESPECTIVELY.
5. CORROSION PROTECTION ANODES HIGH GRADE ELECTROLYTIC ZINC, 99.99% PURE TO ASTM B-418 TYPE II, SUPPLIED WITH 5mm DIAMETER MINIMUM STEEL CORE WITH #8 TWH STRANDED CONNECTION WIRE OR BOLT-ON STRAP CONNECTION WHERE REQUIRED.

CONCRETE REPAIR

1. WHERE INDICATED ON THE DRAWINGS OR OBSERVED ON SITE, REMOVE AND REPLACE NEW REPAIR CONCRETE PER SPECIFICATIONS AS FOLLOWS:

   - IN LOCATIONS WHERE THERE IS DELAMINATION DETERMINE THE EXTENT OF THE DAMAGE BY REMOVING THE CONCRETE UNTIL THE EXPOSED REINFORCEMENT IS NO LONGER RUSTED.

   - ONCE THE EXTENT HAS BEEN DETERMINED REMOVE CONCRETE AROUND REINFORCEMENT UNTIL SOUND MATERIAL IS FOUND OR UP TO A MINIMUM OF 25mm BEYOND BARS.

   - SANDBLAST EXISTING REINFORCEMENT TO REMOVE ALL VISIBLE RUST FROM THE BARS.

   - HAVE CONCRETE SURFACES AND REBAR PLACEMENT INSPECTED BY THE CONSULTANT.

   - APPLY THE APPROVED BONDING AGENT TO THE CONCRETE REPAIR SURFACE AND REINFORCING STEEL. ONCE THE BONDING AGENT HAS BEEN APPLIED CLOSE THE FORMWORK AND INSTATE THE APPROVED FLOWABLE NON-SHRINK CONCRETE MIX.
2. CARE SHALL BE EXERCISED AS TO NOT DAMAGE ANY OF THE EXISTING REINFORCEMENT DURING THE REPAIR PROCEDURES PREVIOUSLY DESCRIBED.

FORMWORK

1. FORMWORK SHALL CONFORM TO THE REQUIREMENTS OF C.S.A. SPECIFICATION A23M AND A.C.I. SP.4.
2. FORMWORK AND SHORING SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER OF THE PROVINCE OF ONTARIO TO WITHSTAND ALL SUPERIMPOSED LOADS DURING CONSTRUCTION.
3. SHORING, RE-SHORING AND CONSTRUCTION LOADS SHALL BE CONTROLLED TO ENSURE THAT NO STRUCTURAL ELEMENT IS OVERSTRESSED.
4. THE CONTRACTOR SHALL MAKE NECESSARY ALLOWANCE FOR ANY VARIATION AND/OR ANY REVISIONS MADE ON ACCOUNT OF SUB-TRADES AND PRODUCT SELECTION FOR THE COMPLETION OF THE PROJECT.

TESTING AND INSPECTION

1. THE CONTRACTOR SHALL RETAIN AND ARRANGE FOR THE FOLLOWING ITEMS TO BE INSPECTED AND/OR TESTED BY AN INDEPENDENT THIRD-PARTY INSPECTION/TESTING AGENCY ACCEPTABLE TO THE OWNER AND THE CONSULTANT. COPIES OF ALL TEST REPORTS SHALL BE FORWARDED TO THE OWNER AND CONSULTANT ON THE SAME DAYS TESTS ARE MADE. THE ITEMS TO BE TESTED SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING.
2. CONCRETE:
   CONCRETE TO BE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF CSA A23.1 AND A23.2, INCLUDING THE REQUIREMENTS FOR AIR, SLUMP AND AGE PRIOR TO BEING USED. CONTRACTOR TO MAINTAIN RECORDS OF POUR DATES, TESTING PERFORMED, CLASS OF CONCRETE USED AND TEST RESULTS FOR ALL ITEMS POURED. RESULTS OF CYLINDER STRENGTH TESTING TO BE SENT TO OWNER AND CONSULTANT. ALL MIX DESIGNS TO BE REVIEWED AND APPROVED BY TESTING AGENCY.
3. REINFORCING STEEL:
   INSPECTION OF REBAR PLACEMENT, SIZES AND CONFORMANCE WITH REVIEWED SHOP DRAWINGS SHALL BE MADE BY AN INSPECTION AGENCY INCLUDING INSPECTION OF CORRODED REBAR AND DETERMINATION OF PERCENT SECTION LOSS. CONTRACTOR SHALL ADDITIONALLY ADVISE CONSULTANT OF MAIN PLANNED HOURS, AT LEAST 24 HOURS PRIOR TO CONCRETE PLACEMENT.

DESIGN AND ERECTION OF TEMPORARY WORK

1. DESIGN OF TEMPORARY WORK SHALL BE PREPARED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN ONTARIO WITH DEMONSTRATED EXPERIENCE IN SIMILAR SIZE AND SCOPE OF TEMPORARY WORKS.
2. SUBMIT DRAWINGS AND CALCULATIONS SEALED BY THE CONTRACTOR'S PROFESSIONAL ENGINEER SHOWING COMPLETE DESIGN INCLUDING TEMPORARY CONDITIONS, FINAL CONDITIONS AND SEQUENCE OF WORK.
3. PROTECTIVE MEASURES SHALL BE TAKEN TO ENSURE THE SAFETY OF THE TEMPORARY WORK DURING CONSTRUCTION ACTIVITIES. FULLY OPERATIONAL SITE.

CONCRETE REINFORCEMENT

1. DESIGN OF TEMPORARY WORK SHALL BE PREPARED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN ONTARIO WITH DEMONSTRATED EXPERIENCE IN SIMILAR SIZE AND SCOPE OF TEMPORARY WORKS.
2. UNLESS OTHERWISE NOTED, ALL DOWELS SHALL HAVE A MINIMUM EMBEDMENT EQUIVALENT TO THE STRAIGHT TENSION EMBEDMENT LENGTH CORRESPONDING TO THE SIZE OF BAR. DOWELS FROM WALLS TO SLABS SHALL HAVE A MINIMUM EMBEDMENT OF 600 mm INTO WALLS AND SLABS UNLESS OTHERWISE NOTED OR SHOWN.
3. TACK WELDING OF REINFORCEMENT IS NOT PERMITTED. WELDED SPLICES IN REINFORCING BARS WILL ONLY BE PERMITTED IF EXPLICITLY SHOWN ON THE STRUCTURAL DRAWINGS OR IF WRITTEN APPROVAL IS GIVEN BY THE CONSULTANT.
4. ALL REINFORCEMENT SHALL BE SECURELY HELD IN PROPER POSITION WHILE POURING CONCRETE. CHAIRS, TIES, SPACERS, ADDITIONAL BARS AND STIRRUPS SHALL BE PROVIDED BY THE CONTRACTOR TO FURNISH SUPPORT FOR ALL REINFORCEMENT.
5. OPENINGS, SLEEVES, EMBEDDED DUCTS:

   a) NO SLEEVES SHALL BE PLACED VERTICALLY OR HORIZONTALLY THROUGH BEAMS UNLESS REVIEWED AND APPROVED BY THE CONSULTANT.
   b) NO OPENINGS SHALL BE MADE IN FLAT PLATE OR FLAT SLAB COLUMN STRIPS EXCEPT AS SHOWN ON TYPICAL DETAIL AND PLANS OR UNLESS REVIEWED AND APPROVED BY THE CONSULTANT.
6. MINIMUM LAP OF WELDED WIRE FABRIC SHALL BE 150 mm (6") OR ONE FULL MESH, WHICHEVER IS GREATER.
7. COORDINATE AND INSTALL ALL REQUIRED EMBEDDED ITEMS, INSETS SLEEVES, POCKETS, ETC. AS REQUIRED PRIOR TO PLACEMENT OF CONCRETE.

STRUCTURAL STEEL

1. STRUCTURAL WIDE FLANGES AND WELDED WIDE FLANGE SHAPES (W, WWF) TO CONFORM TO CSA/CAN-G40.20/G40.21 GRADE 350W.
2. CHANNELS AND ANGLES (C.L) CSA/CAN-G40.20/G40.21 GRADE 300W.
3. ALL PLATE AND PLATE FABRICATED MEMBERS TO CONFORM TO CSA/CAN-G40.20/G40.21 GRADE 300W.
4. HOLLOW STRUCTURAL SECTIONS (HSS) TO CONFORM TO CSA/CAN-G40.20/G40.21 CLASS C OR H GRADE 350W UNLESS NOTED OTHERWISE.

TENSION DEVELOPMENT LENGTH AND TENSION LAP SPLICES (Fy = 400 MPa)

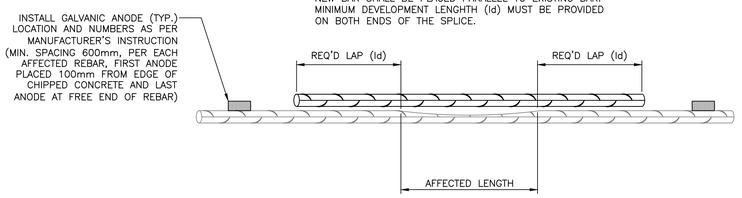
SPLICE / BAR	25 MPa		30 MPa		35 MPa		40 MPa		45 MPa		50 MPa		SPLICE / BAR
	CLASS A, Ld	CLASS B	CLASS A, Ld	CLASS B	CLASS A, Ld	CLASS B	CLASS A, Ld	CLASS B	CLASS A, Ld	CLASS B	CLASS A, Ld	CLASS B	
	TABLE 1: UNCOATED, OTHER THAN TOP BARS												
10	300	380	300	350	300	320	300	300	300	280	300	300	10
15	440	570	400	520	370	480	350	450	330	420	310	400	15
20	580	750	530	680	490	640	460	600	430	560	410	530	20
25	900	1170	830	1070	760	990	720	930	670	880	640	830	25
30	1080	1410	990	1290	920	1190	860	1110	810	1050	770	1000	30
35	1260	1640	1150	1500	1070	1390	1000	1300	940	1220	890	1160	35
	TABLE 2: UNCOATED, TOP BARS												
10	380	490	350	450	320	420	300	390	280	370	300	350	10
15	570	730	520	670	480	620	450	580	420	550	400	520	15
20	750	980	690	890	640	830	600	770	560	730	530	690	20
25	1170	1530	1070	1390	990	1290	930	1210	880	1140	830	1080	25
30	1410	1830	1290	1670	1190	1550	1110	1450	1050	1360	1000	1290	30
35	1640	2130	1500	1950	1390	1800	1300	1690	1220	1590	1160	1510	35
	TABLE 3: EPOXY-COATED BARS, OTHER THAN TOP BARS												
10	440	570	400	520	370	480	350	450	330	420	310	400	10
15	650	850	600	770	550	720	520	670	490	630	460	600	15
20	870	1130	790	1030	730	950	690	890	650	840	610	800	20
25	1350	1760	1240	1610	1140	1490	1070	1390	1010	1310	960	1240	25
30	1620	2110	1480	1930	1370	1780	1280	1670	1210	1570	1150	1490	30
35	1890	2460	1730	2250	1600	2080	1500	1950	1410	1840	1340	1740	35
	TABLE 4: EPOXY-COATED TOP BARS												
10	490	640	450	590	420	540	390	510	370	480	350	450	10
15	740	960	670	880	620	810	580	760	550	720	520	680	15
20	980	1280	900	1170	830	1080	780	1010	730	950	700	900	20
25	1530	1990	1400	1820	1300	1690	1210	1580	1140	1490	1090	1410	25
30	1840	2390	1680	2180	1560	2020	1460	1890	1370	1780	1300	1690	30
35	2150	2790	1960	2550	1810	2360	1700	2210	1600	2080	1520	1970	35

NOTES:

1. USE CLASS B TENSION LAP SPLICE LENGTHS UNLESS NOTED OTHERWISE ON DRAWINGS.
2. TENSION DEVELOPMENT LENGTHS, Ld, DENOTED AS TENSION LAP SPLICE CLASS A.
3. FOR COLUMNS, USE COLUMN TENSION SPLICE TYPICAL DETAIL.
4. TOP BARS ARE BARS WITH MORE THAN 300 OF CONCRETE CAST BELOW SPLICE.
5. CLEAR COVER NOT LESS THAN d_b , CLEAR SPACING NOT LESS THAN $2d_b$.
6. FOR STRUCTURAL LOW-DENSITY CONCRETE, INCREASE SPLICE LENGTHS BY 30%.
7. FOR STRUCTURAL SEMI-LOW-DENSITY CONCRETE, INCREASE SPLICE LENGTHS BY 20%.

NOTE

WHERE THERE IS MORE THAN 20% OF CROSS-SECTIONAL LOSS IN REINFORCING STEEL, PROVIDE SUPPLEMENTAL BARS (SAME SIZE AS EXIST) OVER ITS AFFECTED LENGTH. NEW BAR SHALL BE PLACED PARALLEL TO EXISTING BAR. MINIMUM DEVELOPMENT LENGHTH (ld) MUST BE PROVIDED ON BOTH ENDS OF THE SPLICE.



1 S01 TYPICAL REBAR REPAIR (LAP SPLICE)

C

0 10 20mm 40 60 80 100 120 140 160 180 200mm

RPPM B1 (1000x707)

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KEY PLAN / PLAN CLÉ

No.	Date	Revision	By/Par:
C	19 10 2022	100% REVIEW R2	HS
B	16 09 2022	100% REVIEW R1	HS
A	22 08 2022	100% REVIEW	HS

Date Printed DD MM YYYY / Date imprimée

- Verify all dimensions and site conditions and be responsible for same
- Vérifier toutes les dimensions et l'etat des liéux et en assumer la responsabilité

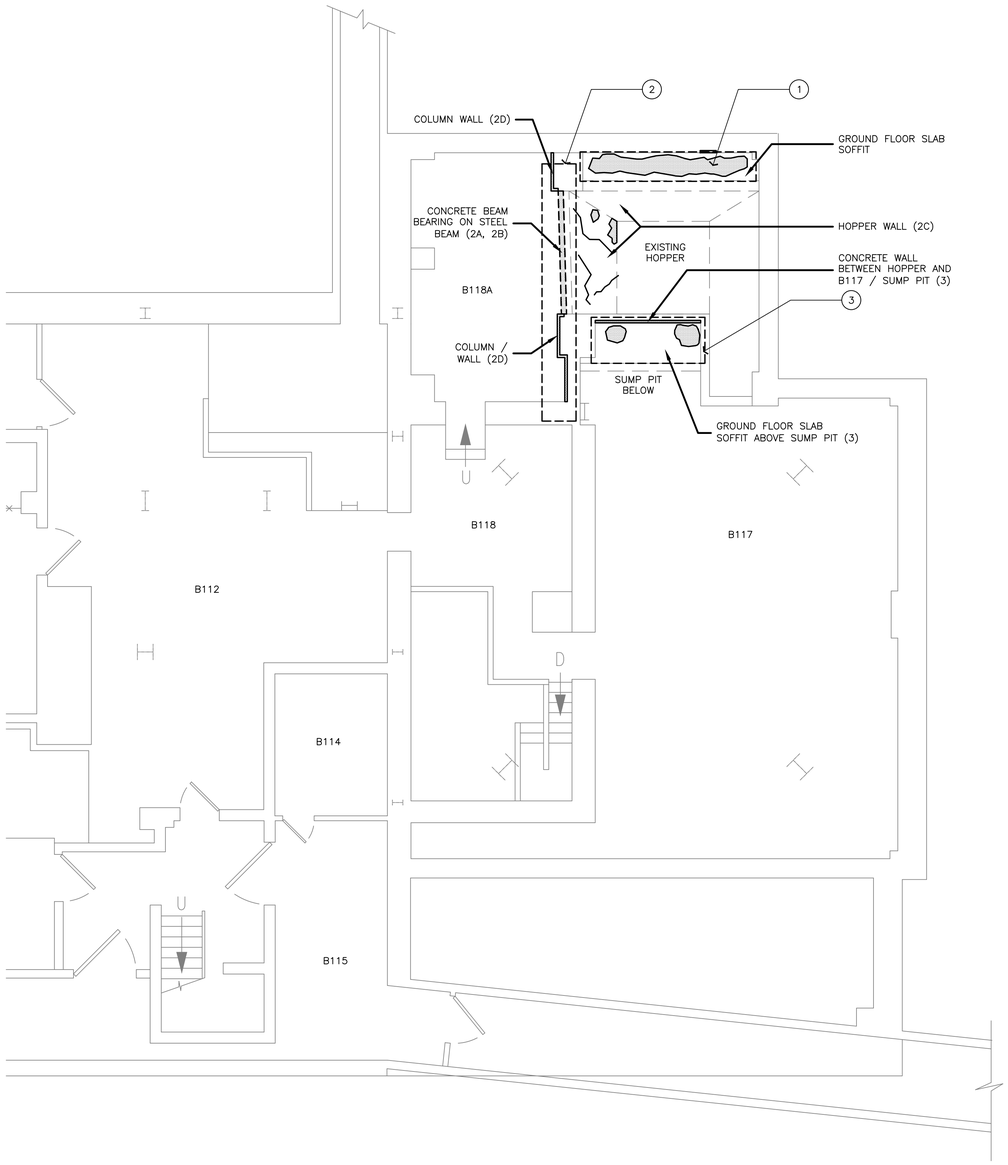
A Detail no. / No. du détail
B Location drawing no. sur dessin no.
C Drawing no. / dessin no.

project / projet
NRC M6 BUILDING STRUCTURAL REPAIRS
1200 Montreal Road, Ottawa, ON

drawing / dessin
GENERAL NOTES

designed / conçu	date / date
G. ALEXANDER	OCT 16, 2022
drawn / dessiné	scale / échelle
R. ENDAYA	NA
checked / vérifié	sheet / feuille
H. SAFFARINI	of/de
approved / approuvé	W.O.no. / D.T.no.

dwg.no. / dessin no.
6054-S01
ACAD file: / fichier CDAO:



NOTE:

DO NOT SCALE DRAWINGS, FIELD VERIFY EXISTING CONDITION FOR FULL SCOPE, ROOM SHAPE AND DIMENSION. EXTENTS SHOWN ARE ONLY INDICATIVE.

2 S03 BASEMENT PLAN – M6 BUILDING

SCALE : 1:50

0m 1m 2m 3m 4m 5m

SCOPE OF WORKS
SHEET S03 ONLY

1. SCOPE NO. 1 – GROUND FLOOR SLAB SOFFIT BETWEEN HOPPER WALL AND BASEMENT WALL – (PHOTO – 01):

   – WHERE CONCRETE DELAMINATIONS ARE OBSERVED TO THE SOFFIT OF GROUND FLOOR SLAB AND BASEMENT WALL, USE LIGHT MECHANICAL TOOLS AND CHIP OUT DELAMINATED / LOOSE CONCRETE UNTIL SOUND CONCRETE IS ENCOUNTERED. CHIP OUT CONCRETE TO EXPOSE RUSTED / CORRODED REBAR AND BEYOND UNTIL UNAFFECTED REBAR IS REVEALED. CLEAN CONCRETE SURFACE AND EXPOSE CORRODED REBARS, INSTALL / SPLICE NEW REBARS WHERE REBAR SECTION LOST AND GALVANIC ANODES TO CLEANED REBARS. FORM AND REINSTATE WITH NON–SHRINK CONCRETE (TYPICAL FOR ALL SCOPE), CARRY OUT TYPE – 2, TYPE –3, TYPE – 5, OR TYPE – 6 REPAIR AS REQUIRED AND APPLICABLE PER FOUND CONDITION.

   – PROVIDE TEMPORARY BARRIERS / HOARDING ABOVE AFFECTED AREA TO RESTRICT PEDESTRIAN TRAFFIC (TYPICAL FOR ALL SCOPE).
   – PROVIDE TEMPORARY SHORING TO EXISTING GROUND FLOOR SLAB (TYPICAL FOR ALL SCOPE).

2. SCOPE NO. 2 – CONCRETE BEAM BEARING ON STEEL BEAM, HOPPER WALL SPANNING TO CONCRETE / STEEL BEAM, CONCRETE COLUMN / WALL AT BOTH ENDS OF CONCRETE / STEEL BEAM – (PHOTO – 02, 03, 04, 06):

   2A – CONCRETE BEAM BEARING ON STEEL BEAM – (PHOTO – 02, 03, 06):

   – PROVIDE TEMPORARY SHORING TO EXISTING GROUND FLOOR SLAB / BEAM ON BOTH SIDES OF THE BEAM,
   – REMOVE SURFACE PAINT TO EXPOSE CONCRETE SURFACE AND REVEAL THE CRACKS AND DELAMINATIONS TO ALL SIDES OF CONCRETE / STEEL BEAM.
   – REMEDIATE CONCRETE SURFACE CRACKS BY CUTTING VEE GROOVE ALONG CRACK AND FILL WITH CRACK FILLER (TYPE – 1).
   – WHERE CONCRETE DELAMINATIONS ARE OBSERVED TO THE SIDES OF CONCRETE BEAM, CARRY OUT TYPE – 2, TYPE –3, TYPE – 4, TYPE – 5, OR TYPE – 6 REPAIR AS REQUIRED AND APPLICABLE PER FOUND CONDITION.

   2B – STEEL BEAM – (PHOTO – 02, 03, 06):

   – SURFACE CLEAN EXISTING W–STEEL BEAM BELOW CONCRETE BEAM, PREPARE STEEL SURFACE AND APPLY PROTECTION PAINT. CARRY OUT TYPE – 7 REPAIR.

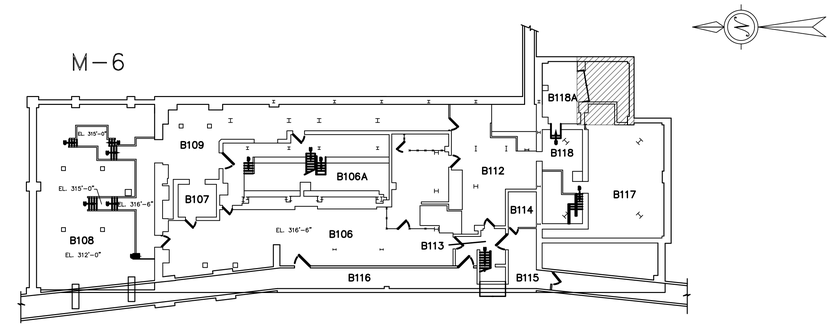
   2C – HOPPER WALL SPANNING TO BEAM – (PHOTO – 04):

   – REMOVE SURFACE PAINT TO EXPOSE CONCRETE SURFACE AND REVEAL THE CRACKS AND DELAMINATIONS.
   – REMEDIATE CONCRETE SURFACE CRACKS BY CUTTING VEE GROOVE ALONG CRACK AND FILL WITH CRACK FILLER (TYPE – 1).
   – WHERE CONCRETE DELAMINATIONS ARE OBSERVED TO HOPPER WALL, CARRY OUT TYPE – 2, OR TYPE – 3 AS REQUIRED AND APPLICABLE PER FOUND CONDITION.

   2D – CONCRETE COLUMN / WALL AT BOTH ENDS OF CONCRETE / STEEL BEAM – (PHOTO – 02, 03, 06):
   – REMOVE SURFACE PAINT TO EXPOSE CONCRETE SURFACE AND REVEAL THE CRACKS AND DELAMINATIONS.
   – REMEDIATE CONCRETE SURFACE CRACKS BY CUTTING VEE GROOVE ALONG CRACK AND FILL WITH CRACK FILLER (TYPE – 1).
   – WHERE CONCRETE DELAMINATIONS ARE OBSERVED TO THE CONCRETE COLUMN / WALL, CARRY OUT TYPE – 2, TYPE –3, OR TYPE – 4 REPAIR AS REQUIRED AND APPLICABLE PER FOUND CONDITION.

3. SCOPE NO. 3 – CONCRETE WALL AND GROUND FLOOR SLAB SOFFIT BETWEEN HOPPER AND ROOM #117 – (PHOTO – 05)

   – REMEDIATE CONCRETE SURFACE CRACKS BY CUTTING VEE GROVE ALONG CRACK AND FILL WITH CRACK FILLER (TYPE – 1)
   – WHERE CONCRETE DELAMINATIONS ARE OBSERVED TO THE SOFFIT OF GROUND FLOOR SLAB AND CONCRETE WALL (FULL HEIGHT OF WALL ABOVE SUMP PIT GRATING AND PORTION OF WALL BELOW GRATING WHERE CONCRETE DELAMINATIONS EXTEND FROM ABOVE THE GRATING) , CARRY OUT TYPE – 2, TYPE –3, OR TYPE – 5 REPAIR AS REQUIRED AND APPLICABLE PER FOUND CONDITION.
   – PROVIDE TEMPORARY BARRIERS / HOARDING ABOVE AFFECTED AREA TO RESTRICT PEDESTRIAN TRAFFIC.



1 S203 KEY PLAN

SCALE : 1:200

0m 5m 10m 15m 20m 25m

APPROXIMATED SIZE OF AREA FOR SCOPED CONCRETE REPAIR

1. SCOPE NO. 1:
   – SOFFIT OF SLAB, AREA FOR CONSIDERATION OF TYPE 2, TYPE 3 AND TYPE 6 REPAIR 3.30m x 0.80m.
   – WALL SURFACE, AREA FOR CONSIDERATION OF TYPE 1, TYPE 2 AND TYPE 3 REPAIR 3.30m x 0.20m HIGH.

2. SCOPE NO. 2:
   – 2A: CONCRETE BEAM (INCLUDING BEAM WIDTH AND DEPTH) – LENGTH OF BEAM FOR CONSIDERATION OF TYPE 2, TYPE 3, TYPE 4, TYPE 5 OR TYPE 6 REPAIR, 3.00m.
   – 2B: STEEL BEAM (ALL EXPOSED SURFACE), LENGTH OF CONSIDERATION OF TYPE 7 REPAIR, 3.00m LONG.
   – 2C: AFFECTED HOPPER WALL AREA FOR CONSIDERATION OF TYPE 1 REPAIR, 2.00m x 1.50m.
   AFFECTED HOPPER WALL AREA FOR CONSIDERATION OF TYPE 2 AND TYPE 3 REPAIR 2.00m x 0.20m.
   – 2D: CONCRETE COLUMN / WALL AREA FOR CONSIDERATION OF TYPE 2, TYPE 3 OR TYPE 4 REPAIR 6.00m x 2.00m HIGH.

3. SCOPE NO. 3:
   – AFFECTED SLAB SOFFIT AREA FOR CONSIDERATION OF TYPE 1 REPAIR, 2.00m x 1.00m.
   – AFFECTED SLAB SOFFIT AREA FOR CONSIDERATION OF TYPE 2 AND TYPE 3 REPAIR, 1,00m x 1.00m
   – AFFECTED WALL SOFFIT FOR CONSIDERATION OF TYPE 1 REPAIR, 1.00m x 2.40m
   – AFFECTED WALL SOFFIT FOR CONSIDERATION OF TYPE 2, TYPE 3 AND TYPE 4 REPAIR, 1.50m x 2.40m HIGH.

NOTE:
THE SCOPE AREA DIMENSION ARE PROVIDED ONLY FOR ESTIMATION PURPOSE OF EXTENTS AND QUANTITIES FOR EACH PARTICULAR TYPE OF REPAIR SEPARATELY THAT ARE TO BE FIELD VERIFIED.

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KEY PLAN PLAN CLÉ

No.	Date	Revision	By: Par:
C	19 10 2022	100% REVIEW R2	MS
B	16 09 2022	100% REVIEW R1	MS
A	22 08 2022	100% REVIEW	MS

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- Verify all dimensions and site conditions and be responsible for same
- Vérifier toutes les dimensions et l'etat des liéux et en assumer la responsabilité

A Detail no. No. du détail
B Location drawing no. sur dessin no.
C Drawing no. dessin no.

project / projet
NRC M6 BUILDING STRUCTURAL REPAIRS

1200 Montreal Road, Ottawa, ON

drawing / dessin
BASEMENT PLAN

designed / conçu	date / date
G. ALEXANDER	OCT 16, 2022
drawn / dessiné	scale / échelle
R. ENDAYA	1:50
checked / vérifié	sheet / feuille
H. SAFFARINI	of/de
approved / approuvé	W.O.no. / D.T.no.

dwg.no. / dessin no.
6054-S03
ACAD file / fichier CDAO:

RPPM B1 (1000x707)

C
0 10 20mm 40 60 80 100 120 140 160 180 200mm

GENERAL NOTES:

1. LOCATION OF EXIST CONSTRUCTION AND EQUIPMENT SHOWN IS APPROXIMATE AND FOR INFORMATION ONLY. CONTRACTOR TO VERIFY LOCATION AND SIZE OF ALL EXIST CONSTRUCTION AND EQUIPMENT.
2. EXTENT OF REPAIR TO BE MARKED BY THE CONTRACTOR AND APPROVED BY THE CONSULTANT.
3. ALL REPAIR AREAS APPROXIMATE FOR ORDER OF MAGNITUDE ESTIMATES ONLY. REFER TO SPECIFICATIONS FOR PROCEDURE FOR DETERMINING FINAL REPAIR AREA. GC TO INCLUDE IN CONTRACT ORDER OF MAGNITUDE ESTIMATED.
4. SIZE AND LOCATION OF REINFORCEMENT IS CONCEPTUAL ONLY. ALL REINFORCEMENT SIZES AND LOCATIONS TO BE VERIFIED IN FIELD. GC TO INCLUDE IN CONTRACT ORDER OF MAGNITUDE ESTIMATED.
5. WHERE REMOVAL OF CONCRETE IS REQUIRED, PROPER MEASURES SHALL BE EXERCISED SO AS TO AVOID CUTTING OR DAMAGING REINFORCING BARS.
6. DETAIL DOES NOT SUPERCEDE MANUFACTURER–SPECIFIC INSTRUCTIONS. WHERE CONFLICT EXISTS BETWEEN DETAIL AND MANUFACTURER'S INSTRUCTIONS NOTIFY CONSULTANT IMMEDIATELY FOR INSTRUCTION.
7. PROVIDE TEMPORARY SHORING TO EXISTING STRUCTURE AS REQUIRED BEFORE EXECUTING REPAIR WORKS WHICH ARE PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN ONTARIO.
8. SECTION ARE ONLY A GRAPHICAL REPRESENTATION FOR EXTENTS AND DOES NOT REPRESENT ACTUAL EXTENTS OF DELAMINATIONS THAT ARE ACTUAL FIELD CONDITIONS. EXTENTS OF REMEDIATION IS BASED ON REMOVING LOOSE CONCRETE UNTIL SOUND CONCRETE IS ENCOUNTERED. ALL QUANTITIES ARE TO BE ESTIMATED AND INCLUDED IN THE CONTRACT.

TYPE 7

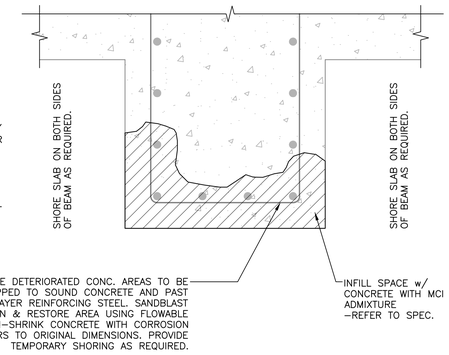
NOTES:

CLEAN AND REMEDIATE EXISTING STEEL BEAM: SURFACE CLEAN AND PREPARE EXISTING BEAMS EXPOSED SURFACE CONFORMING TO STEEL STRUCTURES PAINTING COUNCIL (SSPC.SP2, SSPC.SP3, SSPC. SP6) APPLY 1 COAT OF MACROPOXY 5000 PENETRATION PRIMER / SEALER @ 2mils dft (DRY FILM THICKNESS) FOLLOWED BY 1 COAT OF MACROPOXY 646 FAST CURE @4mils dft AS PER MANUFACTURERS INSTRUCTIONS WHERE SECTION LOSS DOES NOT EXCEED MORE THAN 15%. WHERE SECTION LOSS IS MORE THAN 15% WELD REINFORCING PLATES.

TYPICAL NOTE FOR ANY TYPES OF REMEDIATION WORKS:
ALL EXTENTS ARE TO BE ESTIMATED AND QUANTITIES ESTIMATED FOR ORDER OF MAGNITUDE AND INCLUDED IN CONTRACT BY GENERAL CONTRACTOR.

BEAM DELAMINATION/SPALLING REPAIR

1. WHERE BEAM DELAMINATION/SPALLING REPAIRS ARE SPECIFIED ON PLAN DRAWINGS, REMOVE LOOSE MATERIAL TO SOUND CONCRETE AS PER SITE CONDITION.
2. CLEAN CORRODED REINFORCING BY METHOD OF SANDBLASTING.
3. EXTEND CHIPPING CONCRETE MIN. 25mm BEYOND BARS.
4. INSPECT REINFORCEMENT FOR SECTION LOST. DRILL EPOXY GROUT / SPLICE WITH MECHANICAL COUPLERS NEW REBAR AS REQUIRED. REFER TO 1/S01, ITEM 3.5 OF 3A/S05.
5. CLEAN CONCRETE SURFACE IN SPALLED AREA.
6. INSTALL GALVANIC ANODE (TYP.) LOCATION AND NUMBERS AS PER MANUFACTURERS INSTRUCTIONS, REFER TO 1/S01.
7. APPLY APPROVED BONDING AGENT PER MANUFACTURER'S INSTRUCTIONS.
8. HAVE REBARS INSPECTED BY CONSULTANT BEFORE CONCRETE PLACEMENT.
9. RE–APPLY PAINT TO MATCH EXISTING COLOR.



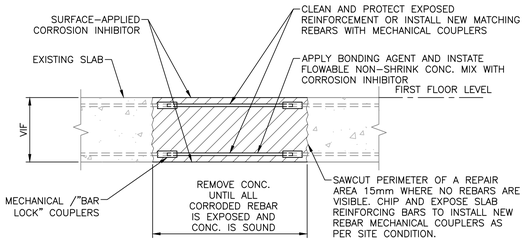
TYPE 5

5 / S05 BEAM REPAIR – SECTION

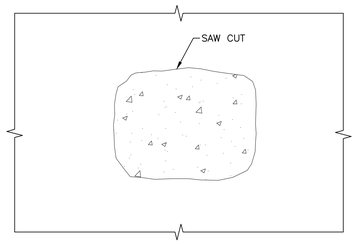
TYPE 6

NOTES:

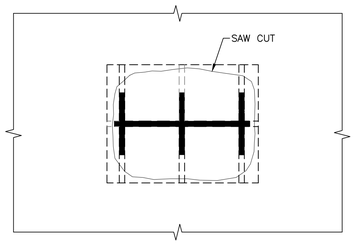
1. SIZE AND LOCATION OF REINFORCEMENT IS CONCEPTUAL ONLY. ALL REINFORCEMENT SIZES AND LOCATIONS TO BE VERIFIED IN FIELD.
2. WHERE REMOVAL OF CONCRETE IS REQUIRED, PROPER MEASURES SHALL BE EXERCISED SO AS TO NOT CUT OR DAMAGE REINFORCING BARS.
3. DETAIL DOES NOT SUPERCEDE MANUFACTURER SPECIFIC INSTRUCTIONS. WHERE CONFLICT EXISTS BETWEEN DETAIL AND MANUFACTURER'S INSTRUCTIONS NOTIFY CONSULTANT IMMEDIATELY FOR INSTRUCTION.



6 / S05 FULL DEPTH SLAB REPAIR

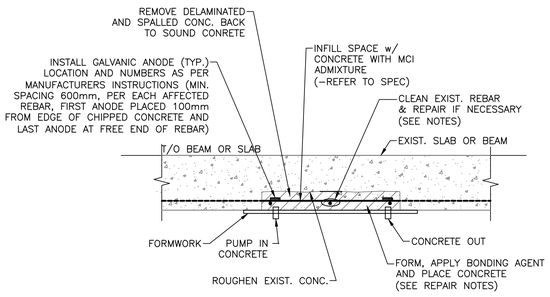


2 / S05 SLAB SOFFIT SHALLOW SPALLING – PLAN



TYPE 3

3 / S05 SOFFIT DEEP SPALLING – PLAN



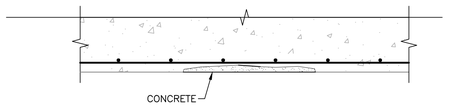
3A / S05 SOFFIT DEEP SPALLING – DETAIL

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

SLAB SOFFIT DEEP SPALL OUT REPAIR

1. REMOVE ALL DETERIORATED/LOOSE PAINT ON THE UNDERSIDE OF THE SLAB (SOFFIT).
2. DETERMINE THE DEPTH OF DETERIORATION BY REMOVING LOOSE CONCRETE.
3. SHOULD THE DEPTH OF CONCRETE SPALLING EXTEND TO OR PAST THE FIRST LAYER OF REBAR, REPAIR CONCRETE SOFFIT BY FOLLOWING REPAIR DETAIL:
   - 3.1. PROVIDE TEMPORARY SUPPORT FOR ANY EXISTING SERVICES, PIPES, DUCTS, ETC. WHERE NECESSARY TO CONDUCT REPAIR SERVICES WILL NEED TO BE DROPPED AND REINSTATED UPON COMPLETION OF REPAIR.
   - 3.2. PROVIDE TEMPORARY SHORING TO TRAFFIC ABOVE AS REQUIRED.
   - 3.3. CHIP REMOVE CONCRETE TO THE EXTENTS WHERE THE EXPOSED REINFORCEMENT IS NO LONGER CORRODED. EXTEND CHIPPING CONCRETE MIN. 25mm BEYOND REBARS AS PER SITE CONDITION.
   - 3.4. CLEAN CORRODED CONCRETE BY METHOD OF SANDBLASTING.
   - 3.5. INSPECT REINFORCEMENT FOR LOST SECTION. WHERE THERE IS MORE THAN 25% OF CROSS–SECTIONAL LOSS IN REINFORCING STEEL PROVIDE SUPPLEMENTAL REBAR (TO MATCH EXISTING) OVER ITS AFFECTED LENGTH. NEW BAR SHALL BE PLACED PARALLEL TO EXISTING PER TYPICAL DETAIL IN GENERAL NOTES. MINIMUM DEVELOPMENT LENGTH (ld) MUST BE PROVIDED ON BOTH ENDS OF THE SPLICE.
   - 3.6. CLEAN CONCRETE SURFACE IN SPALLED AREA.
   - 3.7. APPLY APPROVED BONDING AGENT PER MANUFACTURER'S INSTRUCTIONS.
   - 3.8. INSTALL GALVANIC ANODE (TYP.) LOCATION AND NUMBERS AS PER MANUFACTURERS INSTRUCTIONS, REFER TO 1/S01.
   - 3.9. HAVE REBARS INSPECTED BY CONSULTANT BEFORE CONCRETE PLACEMENT.
   - 3.10. FORM AND RESTORE SOFFIT USING FLOWABLE NON–SHRINK CONCRETE WITH CORROSION INHIBITORS.
   - 3.11. DO NOT REMOVE FORM UNTIL CONCRETE REACHES 30MPa IN STRENGTH.
   - 3.12. REINSTATE ALL SERVICES SUPPORTED BY THE SLAB/BEAM.
   - 3.13. REAPPLY PAINT TO MATCH EXISTING COLOR.
   - 3.14. ENSURE ALL ELECTRICAL SERVICES ARE UNDISTURBED.

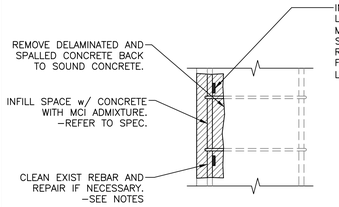


2A / S05 SLAB SOFFIT SHALLOW SPALLING – DETAIL

TYPE 2

SLAB SOFFIT SHALLOW SPALLING REPAIR

1. REMOVE ALL DETERIORATED/LOOSE PAINT ON THE UNDERSIDE OF THE SLAB (SOFFIT).
2. DETERMINE THE DEPTH OF DETERIORATION BY REMOVING LOOSE CONCRETE.
3. SHOULD THE DEPTH OF CONCRETE SPALLING NOT EXTEND PAST THE FIRST LAYER OF REINFORCING, REPAIR CONCRETE SOFFIT BY FOLLOWING REPAIR DETAIL:
   - 3.1. PROVIDE TEMPORARY SUPPORT FOR ANY EXISTING SERVICES, PIPES, DUCTS, ETC. WHERE NECESSARY TO CONDUCT REPAIR SERVICES WILL NEED TO BE DROPPED AND REINSTATED UPON COMPLETION OF REPAIR.
   - 3.2. PROVIDE TEMPORARY SHORING TO TRAFFIC ABOVE AS REQUIRED.
   - 3.3. EXTEND CHIP/REMOVE UP TO SOUND CONCRETE AS PER SITE CONDITION.
   - 3.4. CLEAN CONCRETE SURFACE IN THE SPALLED AREA.
   - 3.5. APPLY APPROVED BONDING AGENT PER MANUFACTURER'S INSTRUCTIONS.
   - 3.6. FILL CAVITY WITH NEW NON–SHRINK, NON–SAG CONCRETE WITH CORROSION INHIBITERS.
   - 3.7. REINSTATE ALL SERVICES SUPPORTED BY THE SLAB/BEAM.
   - 3.8. REAPPLY PAINT TO MATCH EXISTING COLOR.
   - 3.9. ENSURE ALL ELECTRICAL SERVICES REMAIN UNDISTURBED.

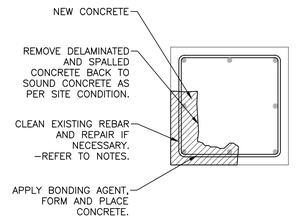


4B / S05 COLUMN REPAIR – ELEVATION

COLUMN REPAIRS

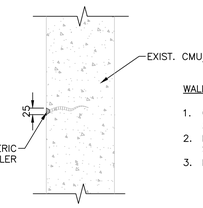
1. WHERE COLUMN REPAIRS ARE SPECIFIED ON PLAN DRAWINGS, REMOVE LOOSE MATERIAL TO SOUND CONCRETE AS PER SITE CONDITION.
2. CLEAN CORRODED REINFORCING BY METHOD OF SANDBLASTING.
3. EXTEND CHIPPING CONCRETE MIN. 25mm BEYOND BARS.
4. INSPECT REINFORCEMENT FOR SECTION LOST. DRILL AND EPOXY GROUT / SPLICE WITH MECHANICAL COUPLERS NEW REBAR AS REQUIRED. REFER TO 1/S01, ITEM 3.5 OF 3A/S05.Z
5. CLEAN CONCRETE SURFACE IN SPALLED AREA.
6. INSTALL GALVANIC ANODE (TYP.) LOCATION AND NUMBERS AS PER MANUFACTURERS INSTRUCTIONS, REFER TO 1/S01.
7. APPLY APPROVED BONDING AGENT PER MANUFACTURER'S INSTRUCTIONS.
8. HAVE REBARS INSPECTED BY CONSULTANT BEFORE CONCRETE PLACEMENT.
9. RE–APPLY PAINT TO MATCH EXISTING COLOR PER ARCH. SPECIFICATION.

TYPE 4



4A / S05 COLUMN REPAIR – PLAN
SIMILAR FOR WALL EDGES

TYPE 1



WALL CRACK REPAIR

1. CUT 25mm VEE GROOVE ALONG CRACK. CHIP AND SANDBLAST TO SOUND CONCRETE/CMU.
2. FILL WITH ELASTOMERIC CRACK FILLER AS SPECIFIED.
3. REAPPLY PAINT TO MATCH EXIST COLOUR.

1 / S05 WALL CRACK REPAIR – SECTION

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

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KEY PLAN / PLAN CLÉ

No.	Date	Revision	By: Par:
C	19 10 2022	100% REVIEW R2	HS
B	16 09 2022	100% REVIEW R1	HS
A	22 08 2022	100% REVIEW	HS

Date Printed DD MM YYYY / Date imprimée

- Verify all dimensions and site conditions and be responsible for same
- Vérifier toutes les dimensions et l'etat des liéux et en assumer la responsabilité

A Detail no. No. du détail
B Location drawing no. sur dessin no.
C Drawing no. dessin no.

project / projet: NRC M6 BUILDING STRUCTURAL REPAIRS

1200 Montreal Road, Ottawa, ON

drawing / dessin: DETAILS

designed / conçu	date / date
G. ALEXANDER	OCT 16, 2022
drawn / dessiné	scale / échelle
R. ENDAYA	N.T.S.
checked / vérifié	sheet / feuille
H. SAFFARINI	of/de
approved / approuvé	W.O.no. / D.T.no.

dwg.no. / dessin no.: 6054-S05
ACAD file: / fichier CDAO:

RPPM B1 (1000x707)

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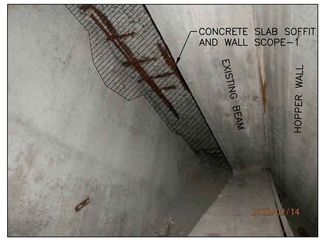
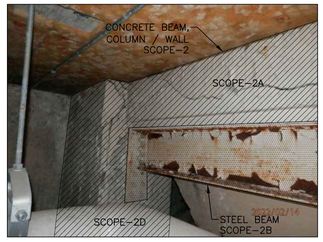


SCOPE NO. 1 – GROUND SLAB SOFFIT FOR DELAMINATION FROM BASEMENT LEVEL

1 S06 PHOTO – 01

SCALE : 1:1

0mm 10 20 30 40 50 60 70 80 90 100mm

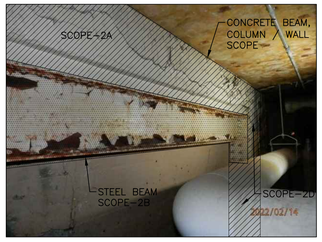


SCOPE NO. 2 – BASEMENT CONCRETE WALL / COLUMN GROUND FLOOR / SLAB BEAM AT BASEMENT LEVEL FOR DELAMINATION AND CRACKS. STEEL BEAM BELOW CONCRETE GROUND FLOOR BEAM FOR STEEL CORROSION.

1 S06 PHOTO – 02

SCALE : 1:1

0mm 10 20 30 40 50 60 70 80 90 100mm



SCOPE NO. 2 – BASEMENT CONCRETE WALL / COLUMN GROUND FLOOR / SLAB BEAM AT BASEMENT LEVEL FOR DELAMINATION AND CRACKS. STEEL BEAM BELOW CONCRETE GROUND FLOOR BEAM FOR STEEL CORROSION.

1 S06 PHOTO – 03

SCALE : 1:1

0mm 10 20 30 40 50 60 70 80 90 100mm

SCOPE NO. 2 – CONCRETE HOPPER WALLS AT BASEMENT LEVEL FOR DELAMINATION AND CRACKS.

1 S06 PHOTO – 04

SCALE : 1:1

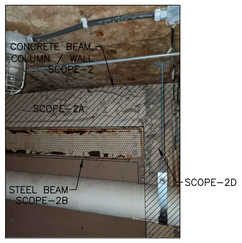
0mm 10 20 30 40 50 60 70 80 90 100mm

SCOPE NO. 3 – CONCRETE WALL, GROUND FLOOR / SLAB BEAM AT BASEMENT LEVEL FOR DELAMINATION AND CRACKS.

1 S06 PHOTO – 05

SCALE : 1:1

0mm 10 20 30 40 50 60 70 80 90 100mm



SCOPE NO. 2 – BASEMENT CONCRETE WALL / COLUMN GROUND FLOOR / SLAB BEAM AT BASEMENT LEVEL FOR DELAMINATION AND CRACKS. STEEL BEAM BELOW CONCRETE GROUND FLOOR BEAM FOR STEEL CORROSION.

1 S06 PHOTO – 06

SCALE : 1:1

0mm 10 20 30 40 50 60 70 80 90 100mm

RPPM B1 (1000x707)

C

0 10 20mm 40 60 80 100 120 140 160 180 200mm

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dwg.no. / dessin no.
6054-S06

ACAD file: / fichier CDAO: