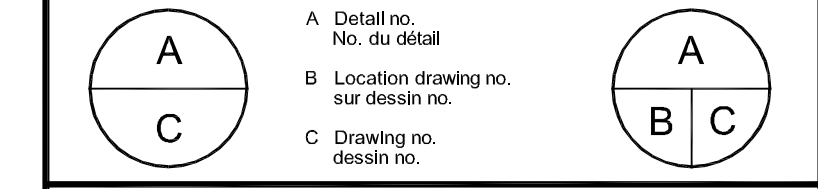




No.	Date	Revision	By:
8	MAY 14/13	ISSUED FOR TENDER	R.L.
7	APR 30/13	PUMP ROOM, ELECTRICAL ROOM AND ELECTRICAL PADS ADDED	R.L.
6	APR 19/13	ISSUED FOR TENDER	R.L.
5	FEB 15/13	TRENCH AND POST ADDED	R.L.
4	NOV 6/12	FOR CLIENT REVIEW	R.L.
3	MAY 30/08	ISSUED FOR TENDER	R.L.
2	APRIL 16/08	FOR CLIENT FINAL REVIEW	R.L.
1	FEB. 5/08	FOR CLIENT REVIEW	R.L.
0	JAN. 19/08	PRELIMINARY	R.L.

Date Printed: _____ Date imprimée: _____

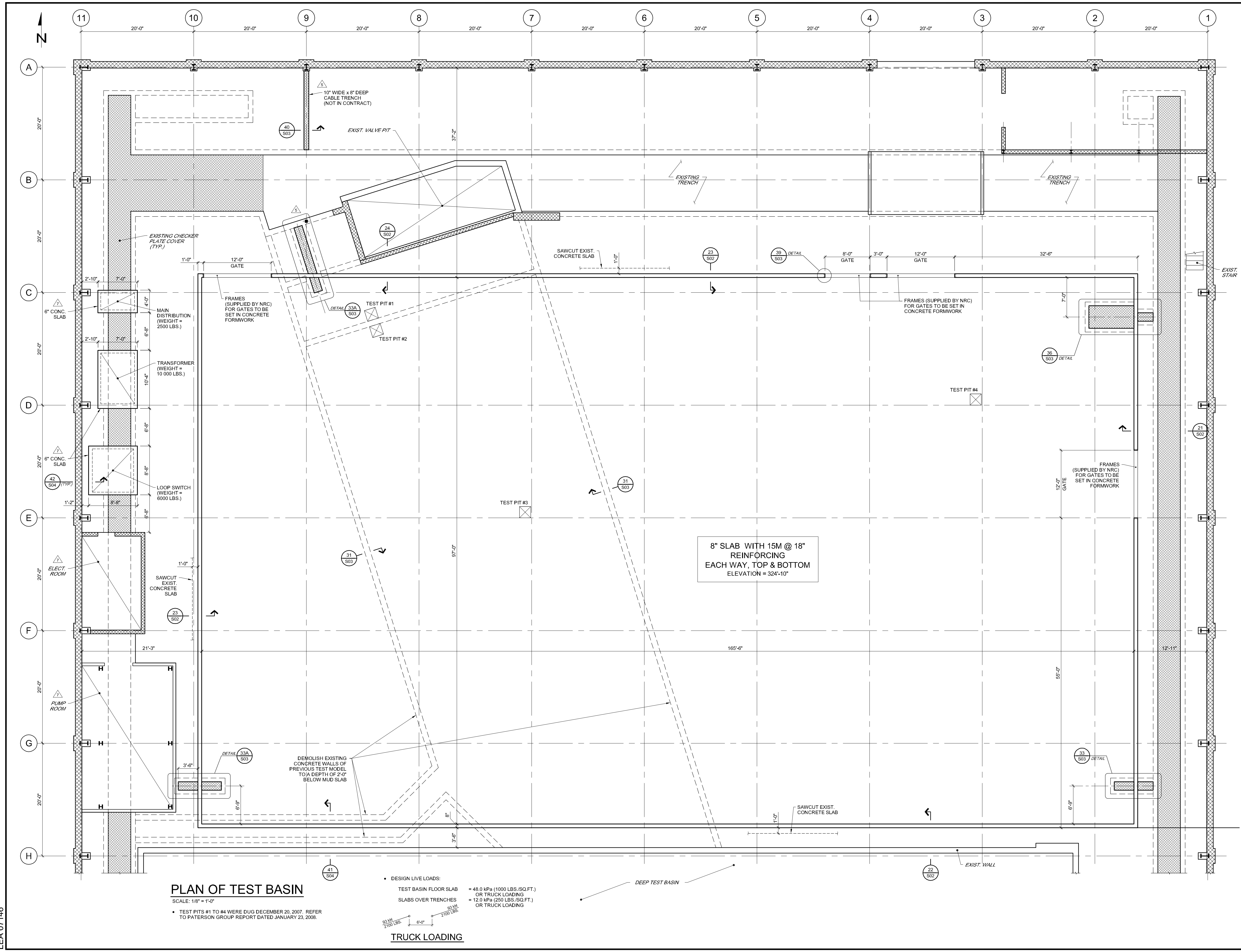
- Verify all dimensions and site conditions and be responsible for same
- Vérifier toutes les dimensions et l'état des lieux et en assumer la responsabilité



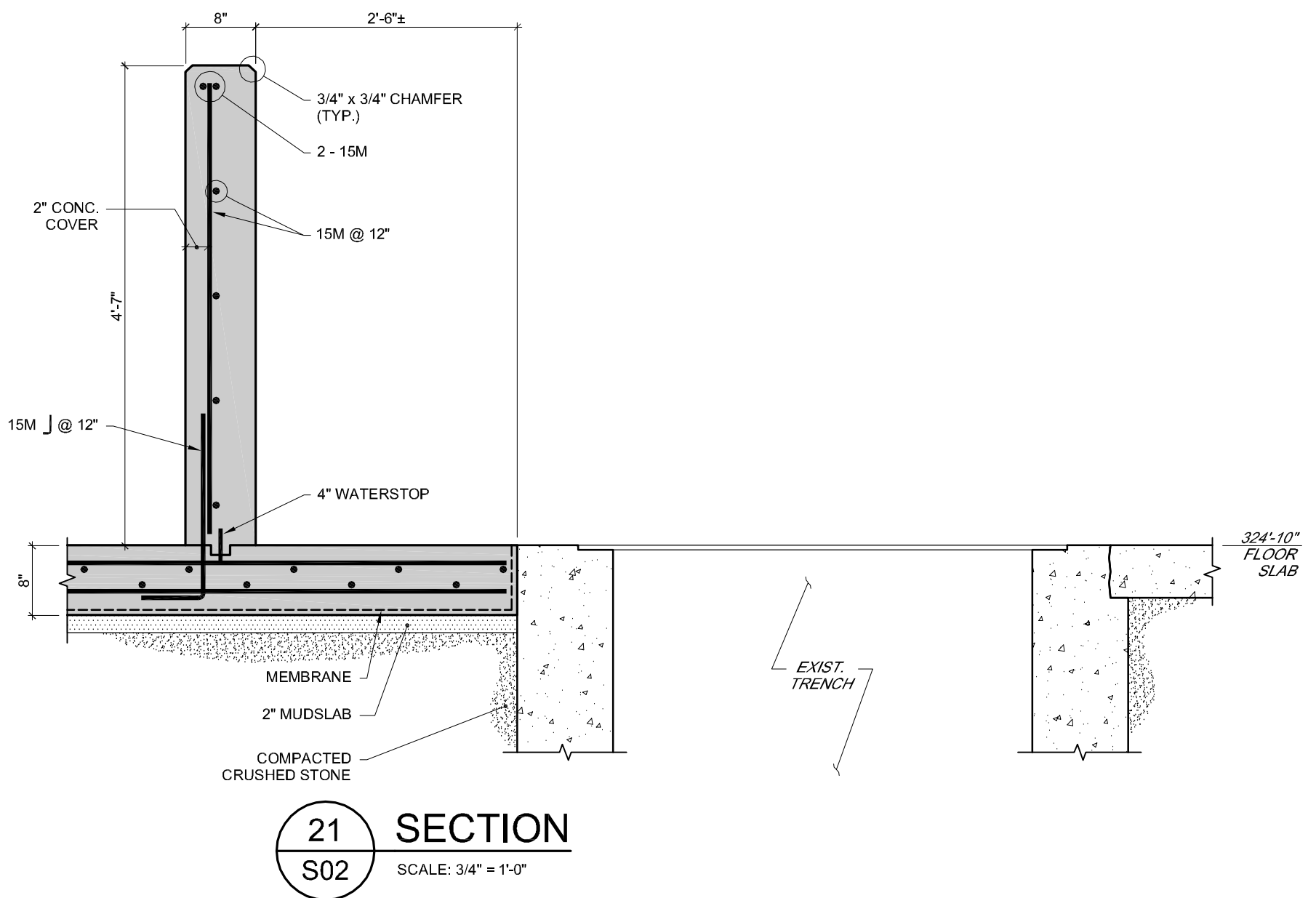
project: **BUILDING M-32 TEST BASIN REPLACEMENT**
 MONTREAL ROAD CAMPUS

drawing: **STRUCTURAL: PLAN OF TEST BASIN**

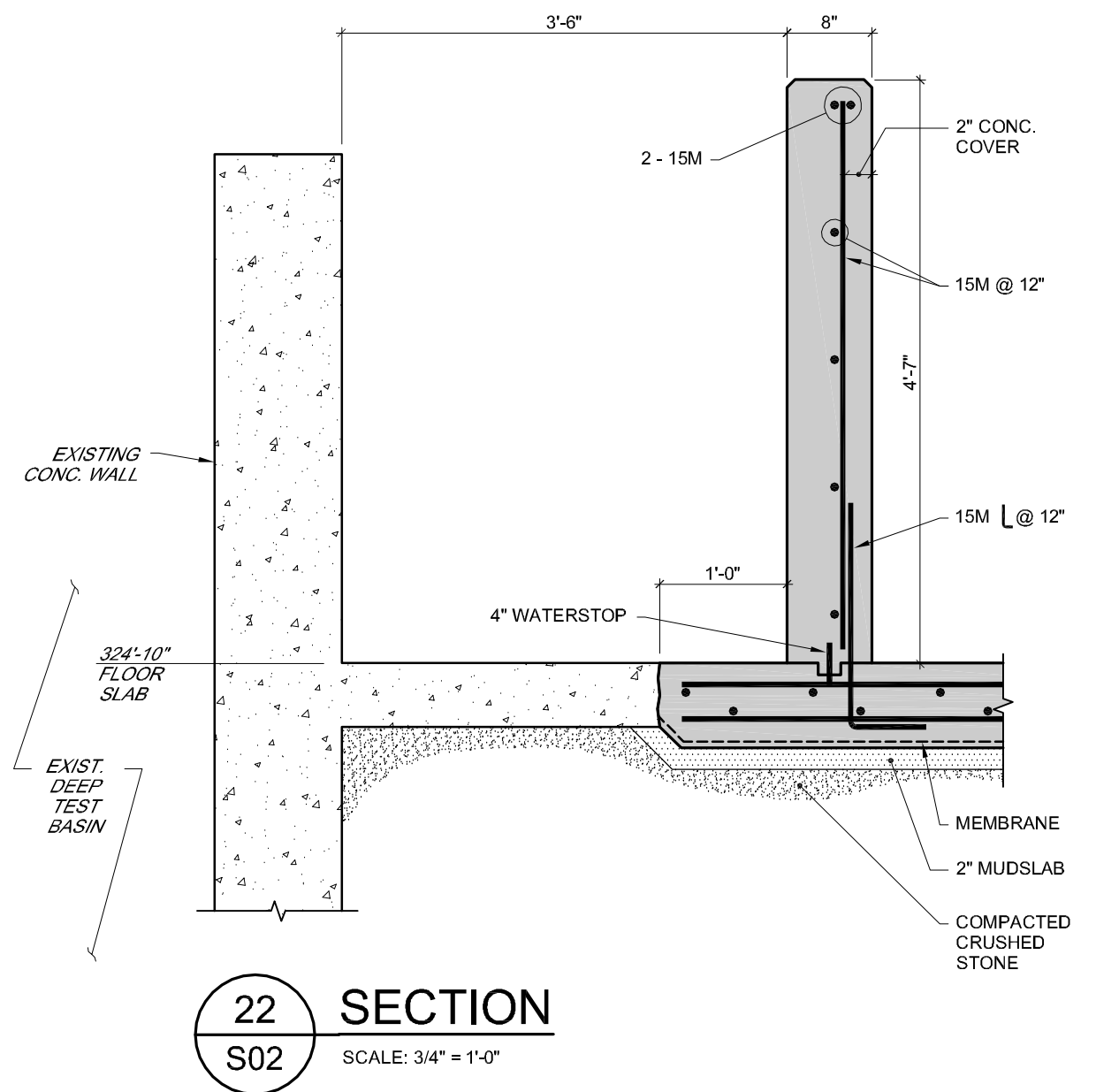
designed P. McC.	conçu SEPTEMBER, 2007	date	date
drawn D.M.D.	dessiné AS SHOWN	scale	échelle
checked R.L.	vérifié S01	sheet S05	feuille
approved	approuvé	W.O.no.	D.T.no.
dwg. no. D-3084-S01		dessin no.	



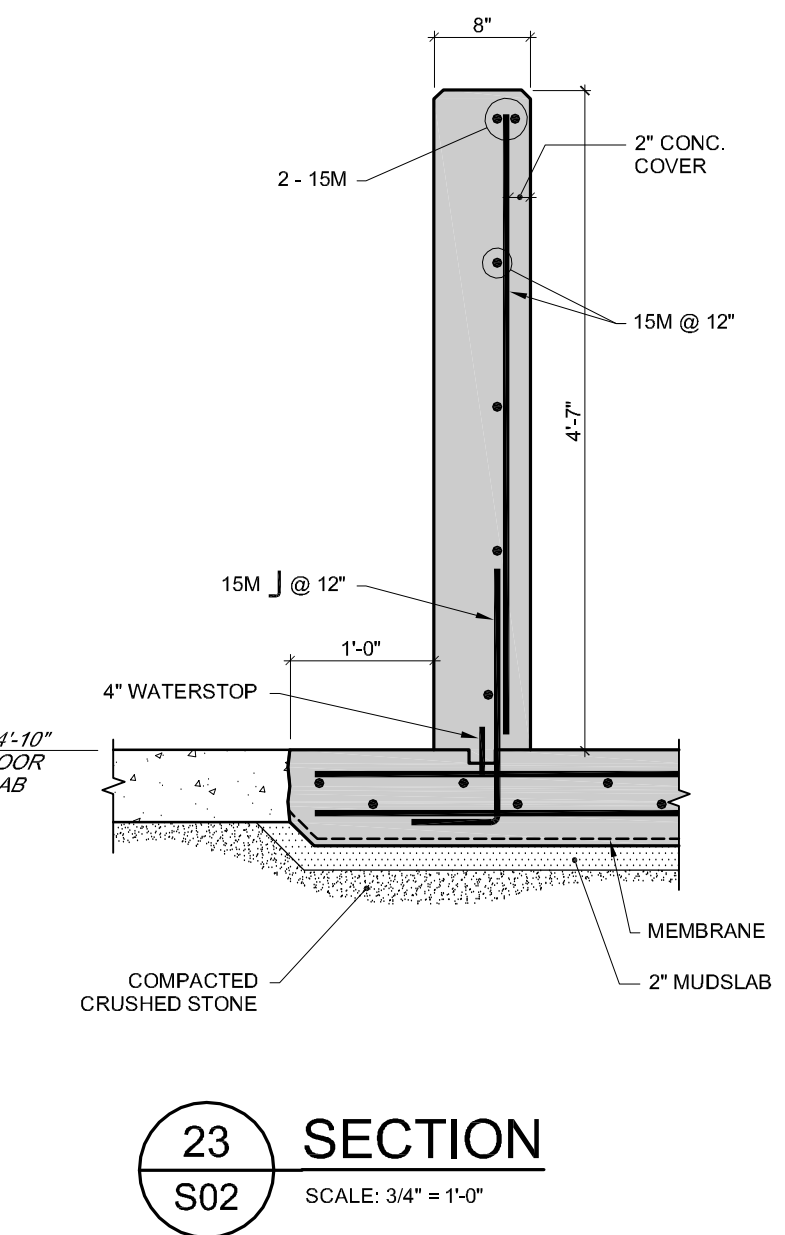
LEA 07146



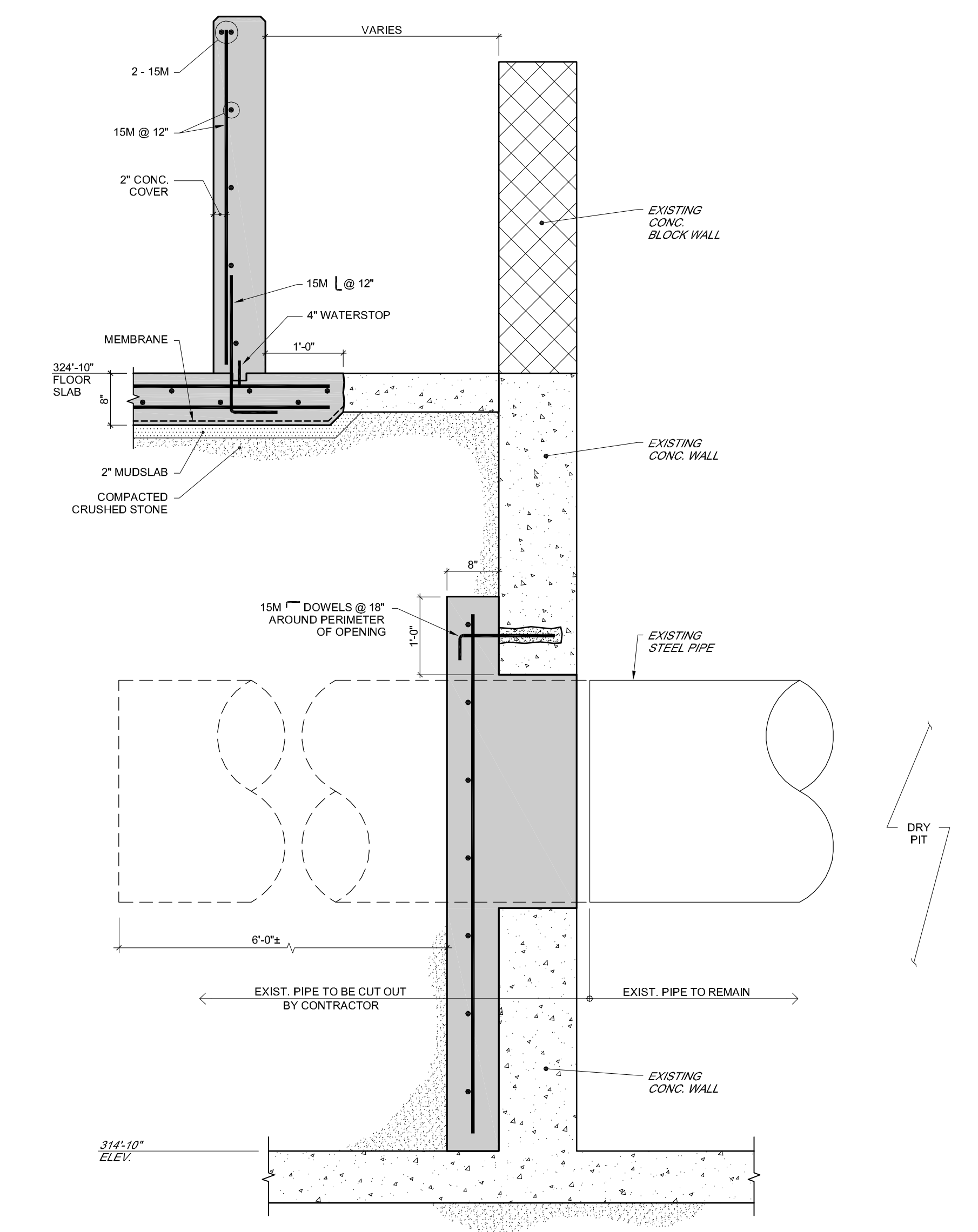
21 SECTION
S02 SCALE: 3/4" = 1'-0"



22 SECTION
S02 SCALE: 3/4" = 1'-0"



23 SECTION
S02 SCALE: 3/4" = 1'-0"



24 SECTION
S02 SCALE: 3/4" = 1'-0"

GENERAL NOTES:

- DEMOLITION:**
- DAMPEN CONCRETE DURING SAW-CUTTING FOR DUST CONTROL.
 - USE ONLY PROPANE AND/OR ELECTRIC-POWERED MACHINERY.
 - THE CONTRACTOR SHALL DEMOLISH AND DISPOSE OF OFF SITE:
 - THE 6" FLOOR SLAB OF THE EXISTING TEST BASIN
 - THE 8" CONCRETE WALLS AROUND THE EXISTING TEST BASIN
 - THE FLOOR OUTSIDE OF THE EXISTING TEST BASIN, AS SHOWN ON PLANS, SECTIONS AND DETAILS.
 - THE CONCRETE WALLS, EXISTING CONCRETE BLOCK, ETC., OF PREVIOUS TEST MODEL.
 - THE CONTRACTOR SHALL DEMOLISH ALL INTERIOR CONCRETE WALLS BELOW THE EXISTING FLOOR OF THE TEST BASIN TO A DEPTH OF 2'-0" BELOW THE NEW MUDSLAB.

- EXCAVATION AND BACKFILL:**
- ALL BACKFILL SHALL BE CRUSHED STONE, GRANULAR A OR B OR SAND. EXISTING CRUSHED STONE OR SAND MAY BE RE-USED PROVIDED IT IS NOT CONTAMINATED WITH DEMOLITION DEBRIS.
 - BELOW THE FLOOR OF THE NEW TEST BASIN, THE CONTRACTOR SHALL REMOVE 6" OF CRUSHED STONE, 6" OF SAND, 4" OF GLACIAL TILL AND PROOF ROLL THE SUBGRADE. HE SHALL THEN BACKFILL TO THE REQUIRED ELEVATION IN 8" LAYERS AND COMPACT THE BACKFILL TO 95% MODIFIED PROCTOR DRY DENSITY. REMOVE ALL WATER BEFORE BACKFILLING.
 - WITHIN THE EXISTING INTERIOR CONCRETE WALLS (REFER TO SECTION 31/S03), THE CONTRACTOR SHALL REMOVE ALL BACKFILL, CONCRETE BLOCK AND GROUT TO THE LEVEL OF THE CONCRETE SLAB. HE SHALL THEN BACKFILL IN 8" LAYERS AND COMPACT THE BACKFILL TO 95% MODIFIED PROCTOR DRY DENSITY.
 - AN INDEPENDENT INSPECTION COMPANY SHALL BE RETAINED BY THE NRC TO TEST SAMPLES OF ALL PROPOSED BACKFILL AND TO TEST THE FIELD DENSITY OF THE COMPACTED BACKFILL.

- CONCRETE WORK:**
- ALL CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 25 Mpa. THE CONCRETE MUD SLAB SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 20 Mpa.
 - REINFORCING STEEL SHALL CONFORM TO CSA G30.18-M92, GRADE 400.
 - CONCRETE COVER TO REINFORCING SHALL BE AS FOLLOWS:

WALLS	2"
SLABS (TOP AND BOTTOM)	2"
 - ALL WALL REINFORCING SHALL BE CONTINUOUS WITH CORNER BARS AND MINIMUM LAPS OF 18".
 - ALL REINFORCING STEEL SHALL BE RIGIDLY HELD IN PLACE DURING THE CONCRETE POUR. USE PLASTIC, PLASTIC-COATED OR PRECAST CHAIRS AND SPACERS, AS REQUIRED.
 - THE NRC SHALL RETAIN AN INDEPENDENT INSPECTION COMPANY TO TAKE 3 CONCRETE COMPRESSION CYLINDERS FOR EACH CONCRETE POUR. ONE SHALL BE TESTED AT 7 DAYS AND TWO AT 28 DAYS.
 - THE FLOOR SLAB SHALL BE THE THICKNESS SHOWN ON PLAN AND SHALL RECEIVE A STEEL-TROWELED FINISH AND SHALL BE WATER-CURED FOR A MINIMUM PERIOD OF 7 DAYS.
 - THE MUDSLAB SHALL BE 2" THICK AND SHALL RECEIVE A SURFACE FINISH SUITABLE FOR THE MEMBRANE.
 - FORM TIES SHALL CONSIST OF GALVANIZED SNAP-OFF METAL TIES WHICH SHALL SNAP CLEANLY AT LEAST 25 mm FROM CONCRETE SURFACE WITHOUT DAMAGE TO CONCRETE.
 - PLACE WATERSTOPS WHERE SHOWN ON DRAWINGS. INSTALL BEFORE CONCRETE POUR AND FOLLOW MANUFACTURER'S PRINTED INSTRUCTION PROVIDING CONTINUITY BY HEAT SEALING ENDS.
 - PROVIDE 2" x 3" KEY IN ALL VERTICAL CONSTRUCTION JOINTS IN WALL AND WATERSTOP JOINED TO HORIZONTAL WATERSTOP AT BOTTOM OF WALL.
 - PROVIDE 3/4" x 3/4" CHAMFERS AS NOTED ON DRAWINGS.
 - THE CONTRACTOR SHALL PLACE FRAMES FOR GATES IN CONCRETE FORMS BEFORE POURING CONCRETE. FRAMES WILL BE PROVIDED BY NRC.
 - ALL CONSTRUCTION JOINTS SHALL HAVE A SHEAR KEY AND DOWELS. LOCATION TO BE APPROVED BY ENGINEER.
 - CONCRETE WORK MUST MEET THE FOLLOWING TOLERANCES:

- CORNERS OF TEST BASIN 90°	= ± 0.5"
- HORIZONTAL DEVIATION OF WALL FROM STRAIGHT LINE	= ± 1/2"
- VERTICAL DEVIATION OF TOP OF WALLS	= ± 1/4"
- TOP OF SLAB	= ± 1/2"
 - THE CONTRACTOR SHALL SUBMIT IN WRITING THE PROCEDURES THAT HE PROPOSES TO MEET THESE TOLERANCES.
 - BEFORE ANY CONCRETE POUR, AN INDEPENDENT SURVEYER RETAINED BY THE NRC WILL CHECK FORMWORK FOR ABOVE TOLERANCES.
 - ALL CONCRETE WORK SHALL CONFORM TO CSA A23.1-00 AND CSA A23.2-00.
 - NOTIFY THE ENGINEER BEFORE EACH CONCRETE POUR.

- MISCELLANEOUS METAL:**
- PROVIDE ANGLE FRAMES AND COVER PLATES FOR PITS AND TRENCHES, AS SHOWN ON PLAN.
 - STEEL SHALL CONFORM TO CAN/CSA G40.21, GRADE 300W.
 - WELDING MATERIALS SHALL CONFORM TO CSA W48.01. WELDING SHALL CONFORM TO CSA W59-1989 (R2001).
 - ALL MISCELLANEOUS METAL SHALL BE GALVANIZED.
 - THE MISCELLANEOUS METAL CONTRACTOR SHALL VERIFY DIMENSIONS ON SITE AND SUBMIT SHOP DRAWINGS FOR REVIEW.

- MEMBRANE:**
- PROVIDE A MODIFIED RUBBERIZED ASPHALT MEMBRANE, "HYDROTECH MONOLITHIC MEMBRANE 6125", IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTION AND COVER IT WITH SUITABLE PROTECTION BOARDS. THE CONTRACTOR SHALL SUBMIT TECHNICAL LITERATURE FOR THE PROPOSED MEMBRANE AND PROTECTION BOARD.
 - THE INSTALLATION OF THE MEMBRANE SHALL BE PERFORMED BY A LICENSED APPLICATOR.
 - AN INDEPENDENT INSPECTION COMPANY, RETAINED BY THE NRC, SHALL PROVIDE DAILY INSPECTIONS DURING THE APPLICATION OF THE MEMBRANE AND SHALL PROVIDE WRITTEN REPORTS.
 - THE MEMBRANE MANUFACTURER SHALL PROVIDE A 5-YEAR WARRANTY FOR THE MEMBRANE.



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No.	Date	Revision	By:	Pr:
6	MAY 14/13	ISSUED FOR TENDER		R.L.
5	APR 19/13	ISSUED FOR TENDER		R.L.
4	NOV 6/12	FOR CLIENT REVIEW		R.L.
3	MAY 30/08	ISSUED FOR TENDER		R.L.
2	APRIL 16/08	FOR CLIENT FINAL REVIEW		R.L.
1	FEB. 5/08	FOR CLIENT REVIEW		R.L.
0	JAN. 19/08	PRELIMINARY		R.L.

Date Printed: _____ Date imprimée: _____

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- Vérifier toutes les dimensions et l'état des lieux et en assumer la responsabilité

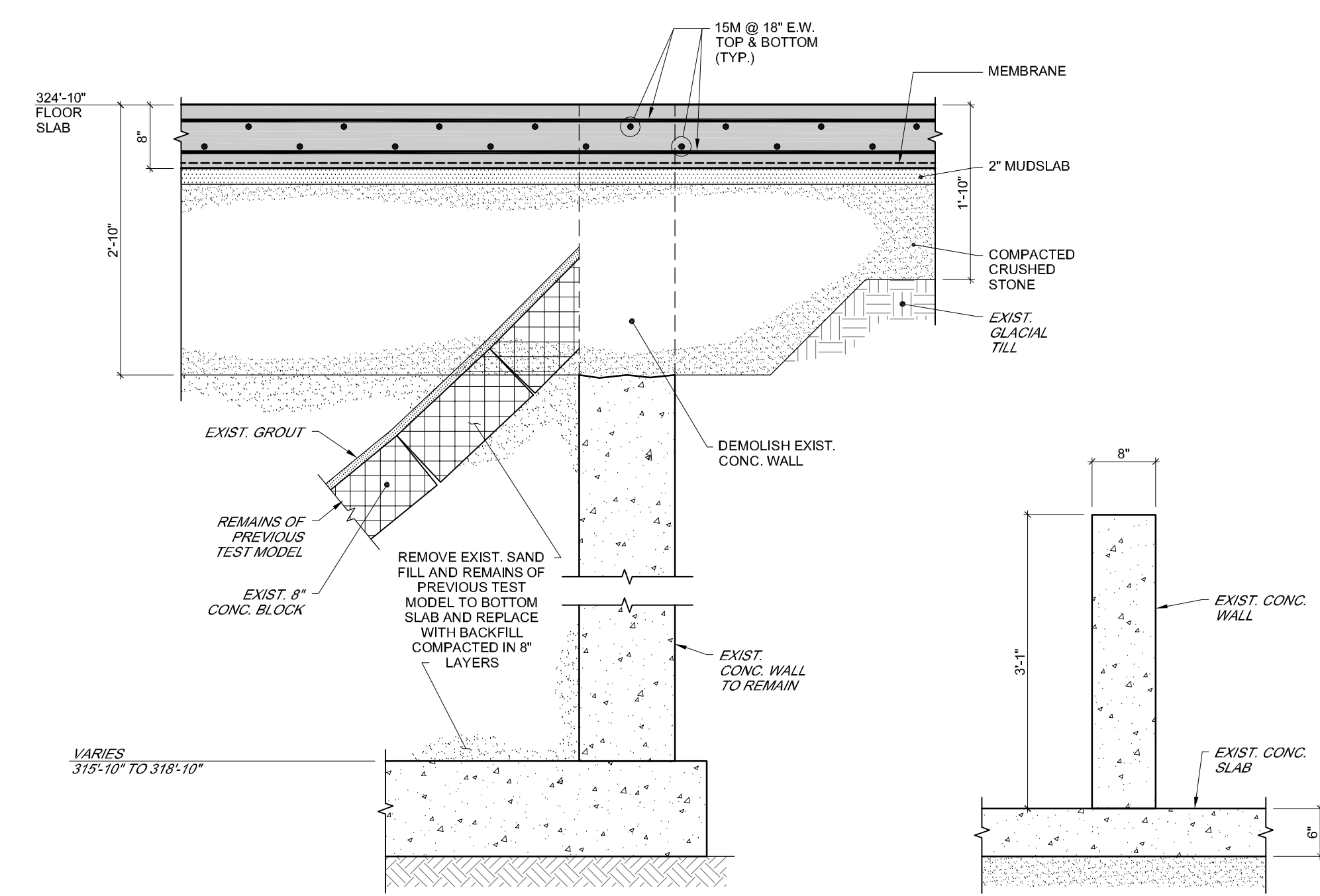
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B	B Location drawing no. / sur dessin no.	B C
C	C Drawing no. / dessin no.	

project: **BUILDING M-32 TEST BASIN REPLACEMENT**
MONTREAL ROAD CAMPUS

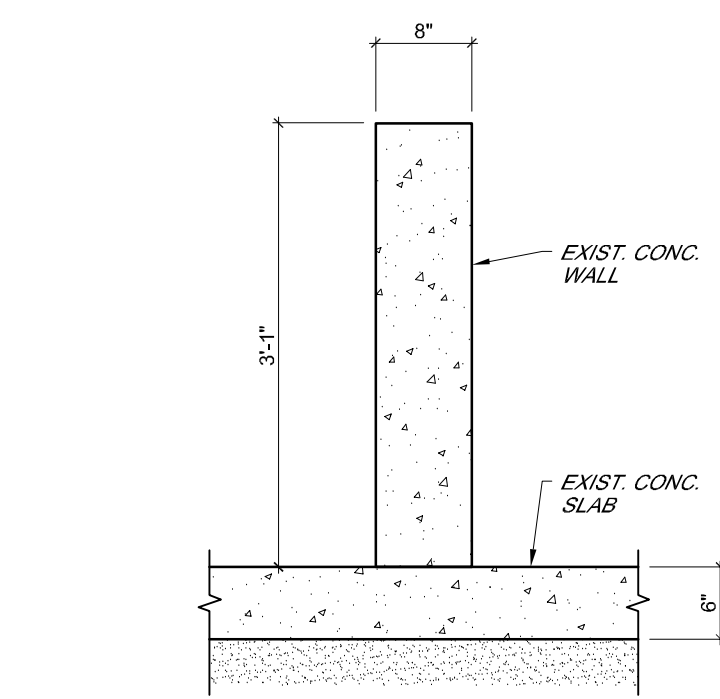
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designed	conçu	date	date
P. McC.		SEPTEMBER, 2007	
drawn	dessiné	scale	échelle
D.M.D.		AS SHOWN	
checked	vérifié	sheet	feuille
R.L.		S02 of/de	S05
approved	approuvé	W.O.no.	D.T.no.

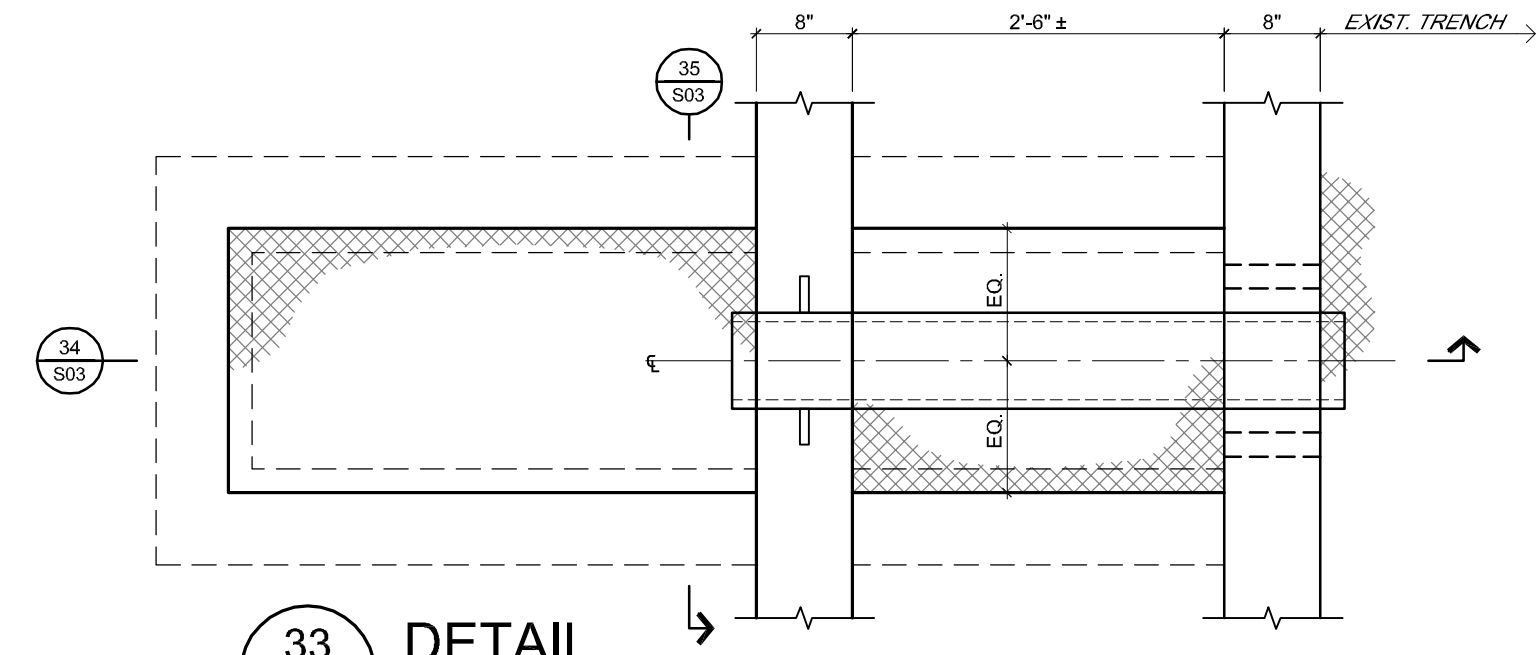
dwg. no. **D-3084-S02** dessin no. **D-3084-S02**



31 SECTION
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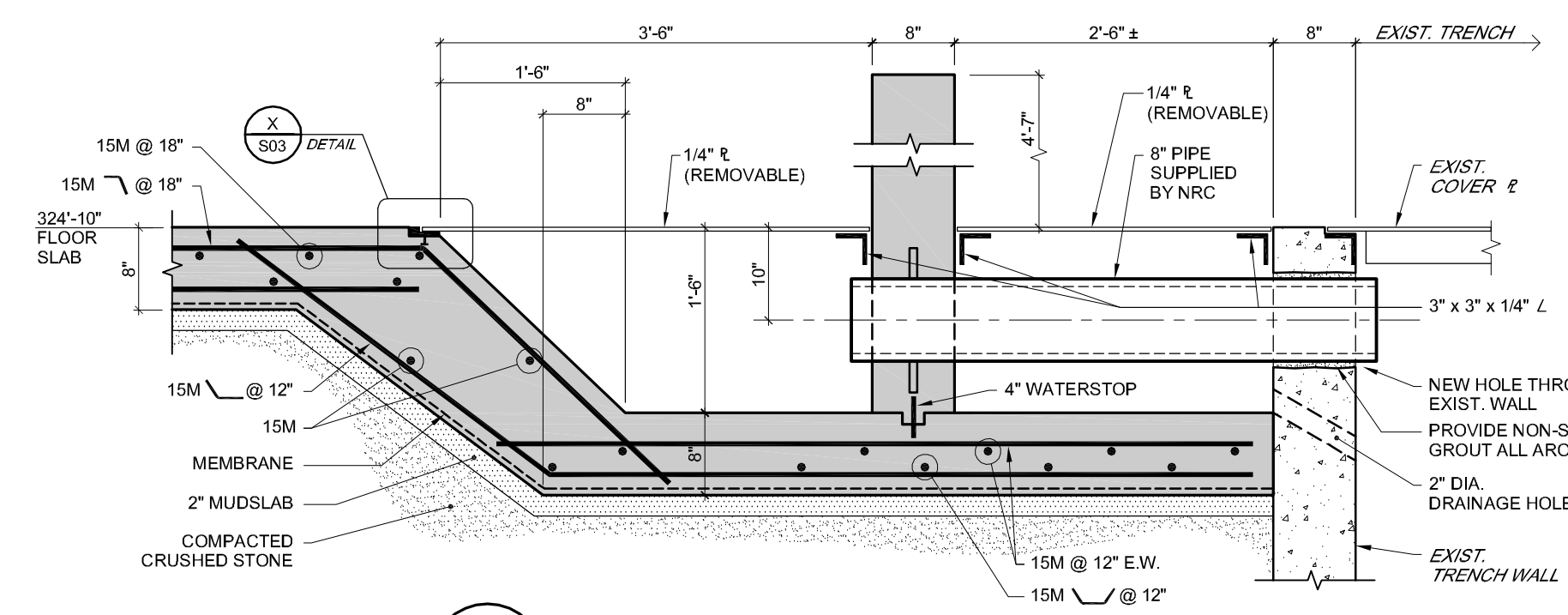


32 SECTION (DEMOLISH EXISTING WALL AND SLAB 4 SIDES OF EXISTING SHALLOW TEST BASIN)
 S03 SCALE: 3/4" = 1'-0"

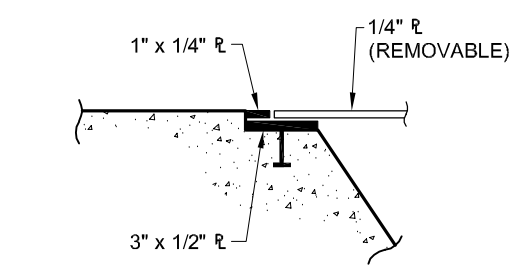


33 DETAIL
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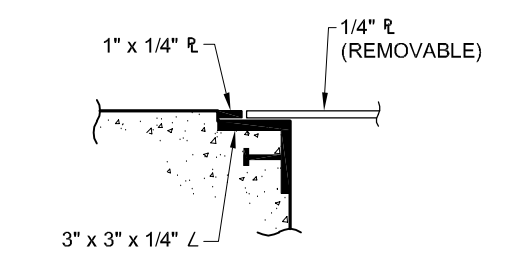
33A DETAIL (SIMILAR)
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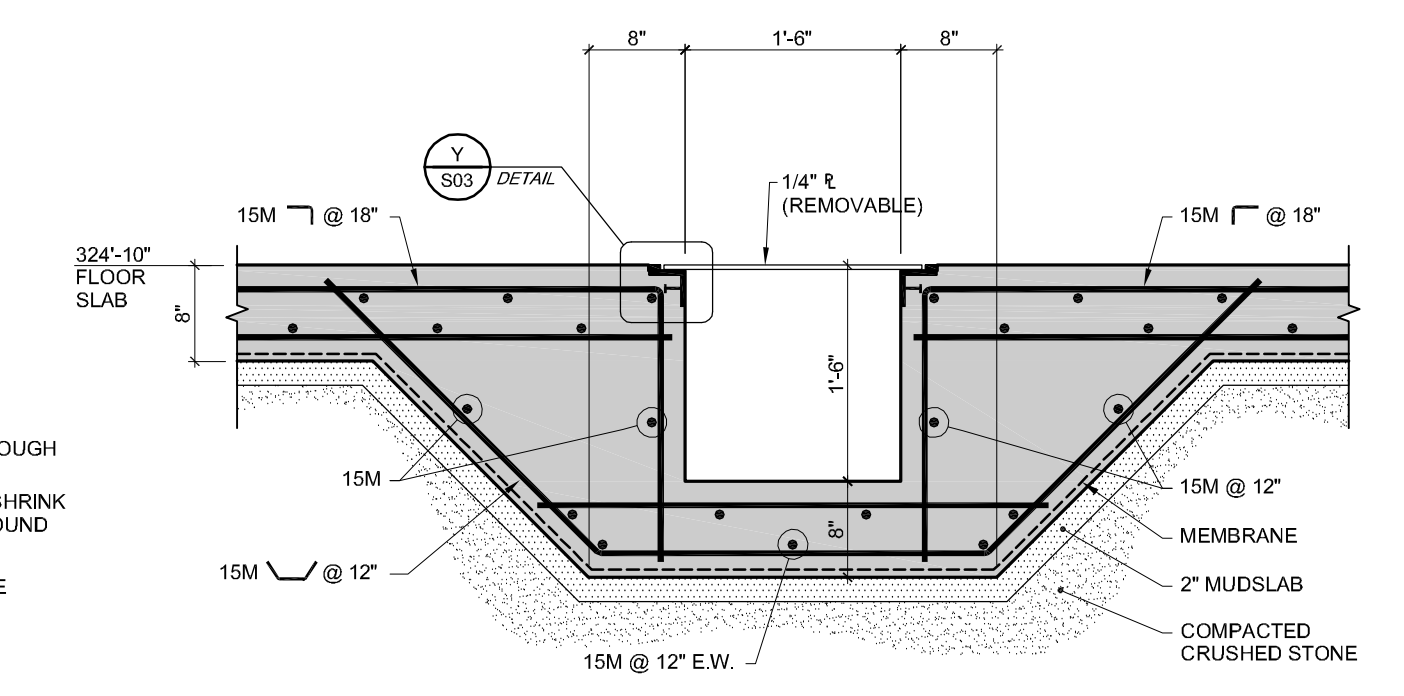
34 SECTION
 S03 SCALE: 3/4" = 1'-0"



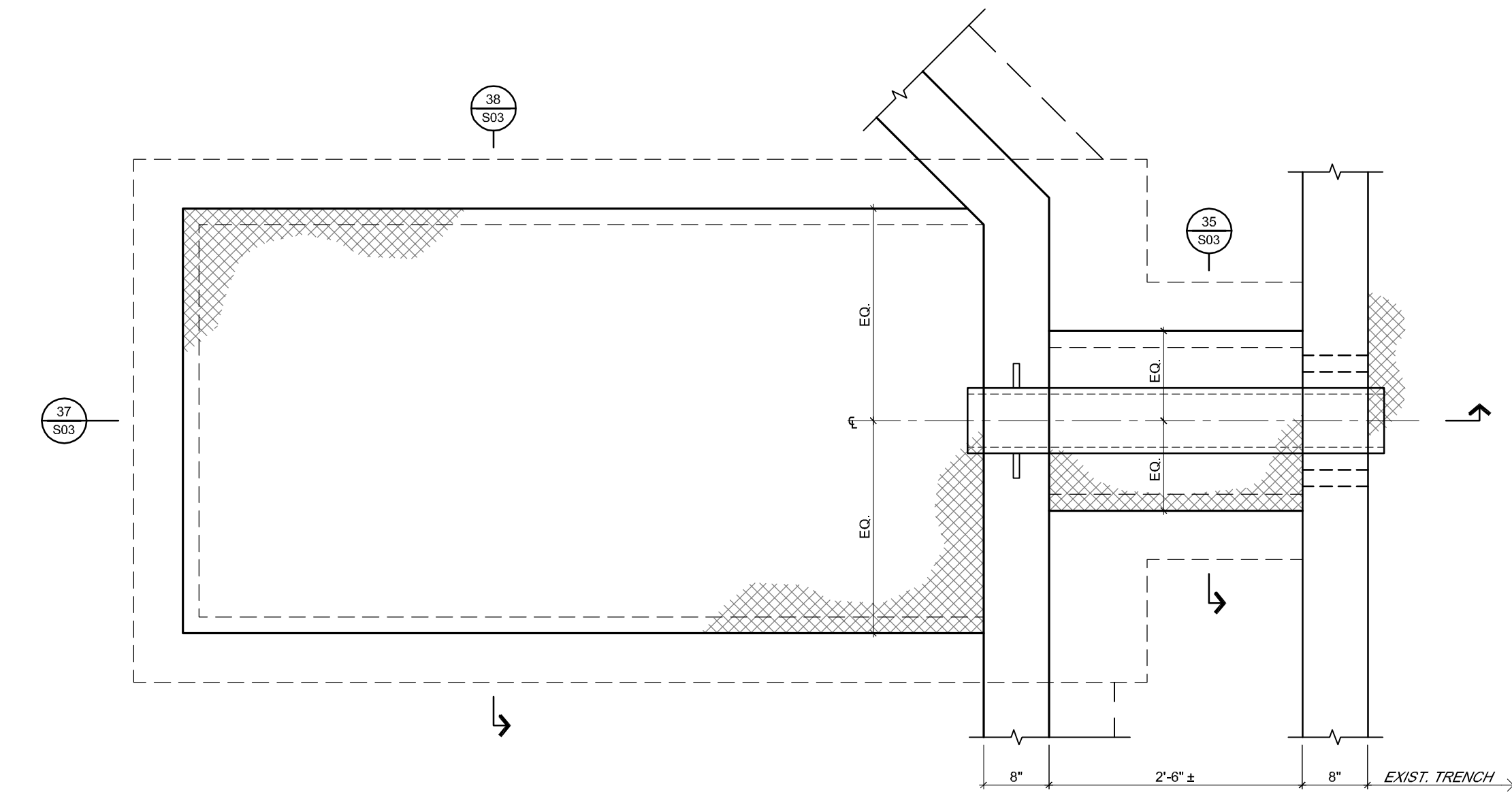
X DETAIL
 S03 SCALE: 1 1/2" = 1'-0"



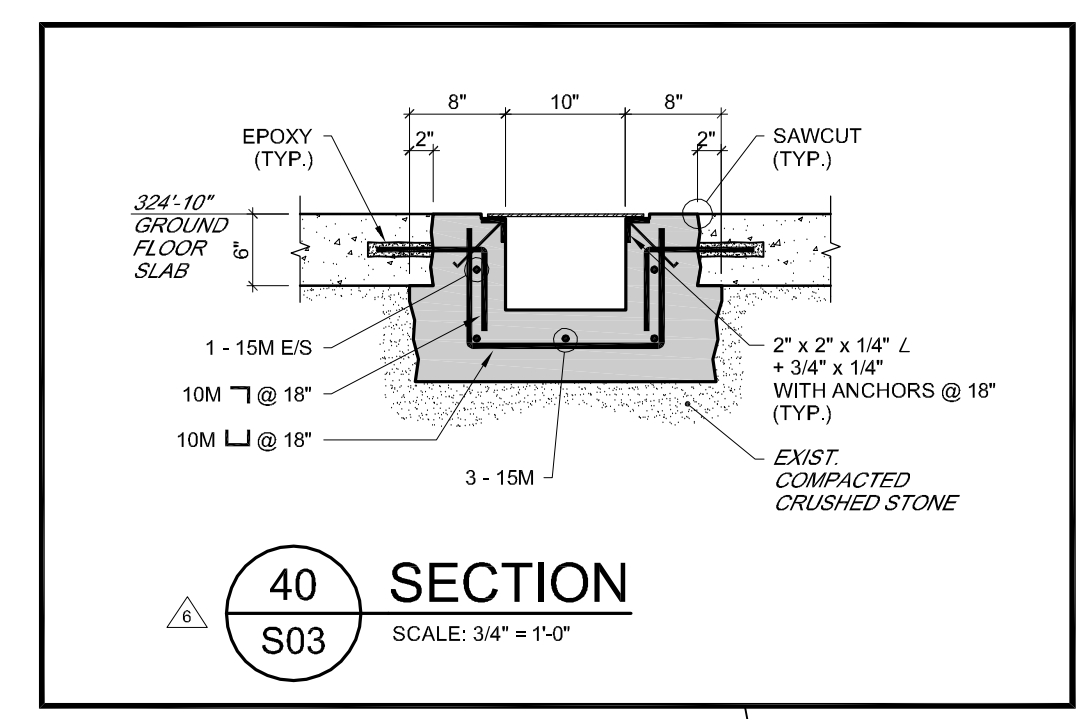
Y DETAIL
 S03 SCALE: 1 1/2" = 1'-0"



35 SECTION
 S03 SCALE: 3/4" = 1'-0"

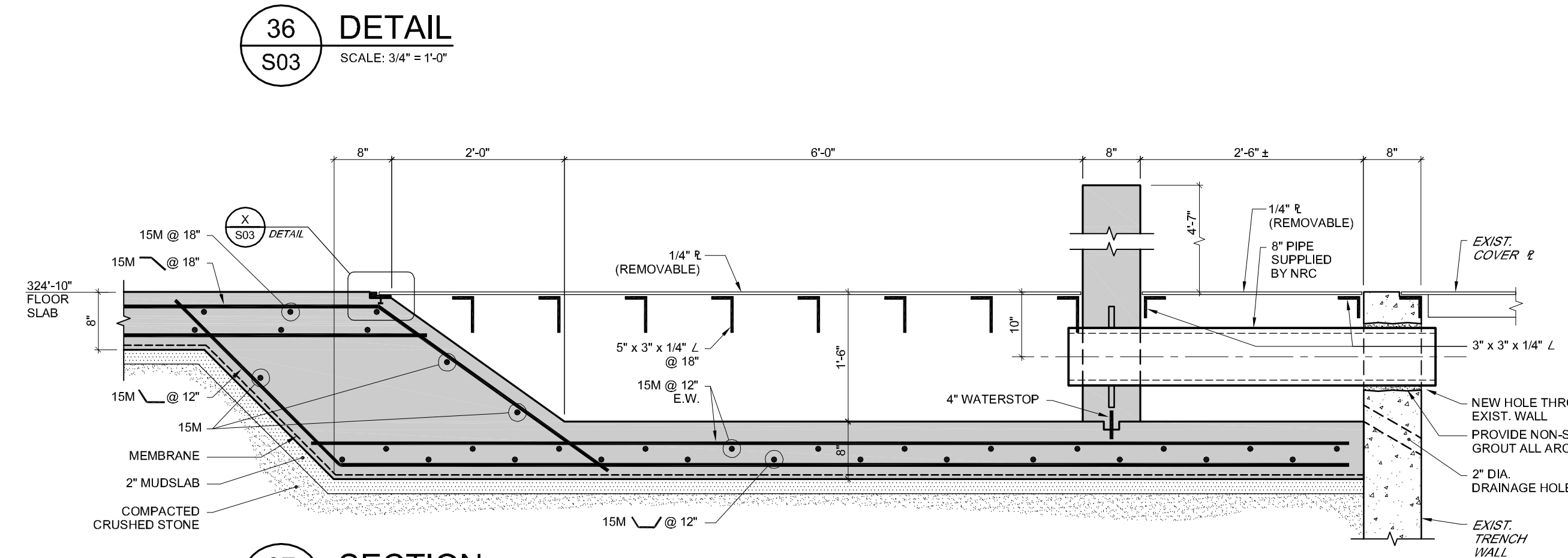


36 DETAIL
 S03 SCALE: 3/4" = 1'-0"

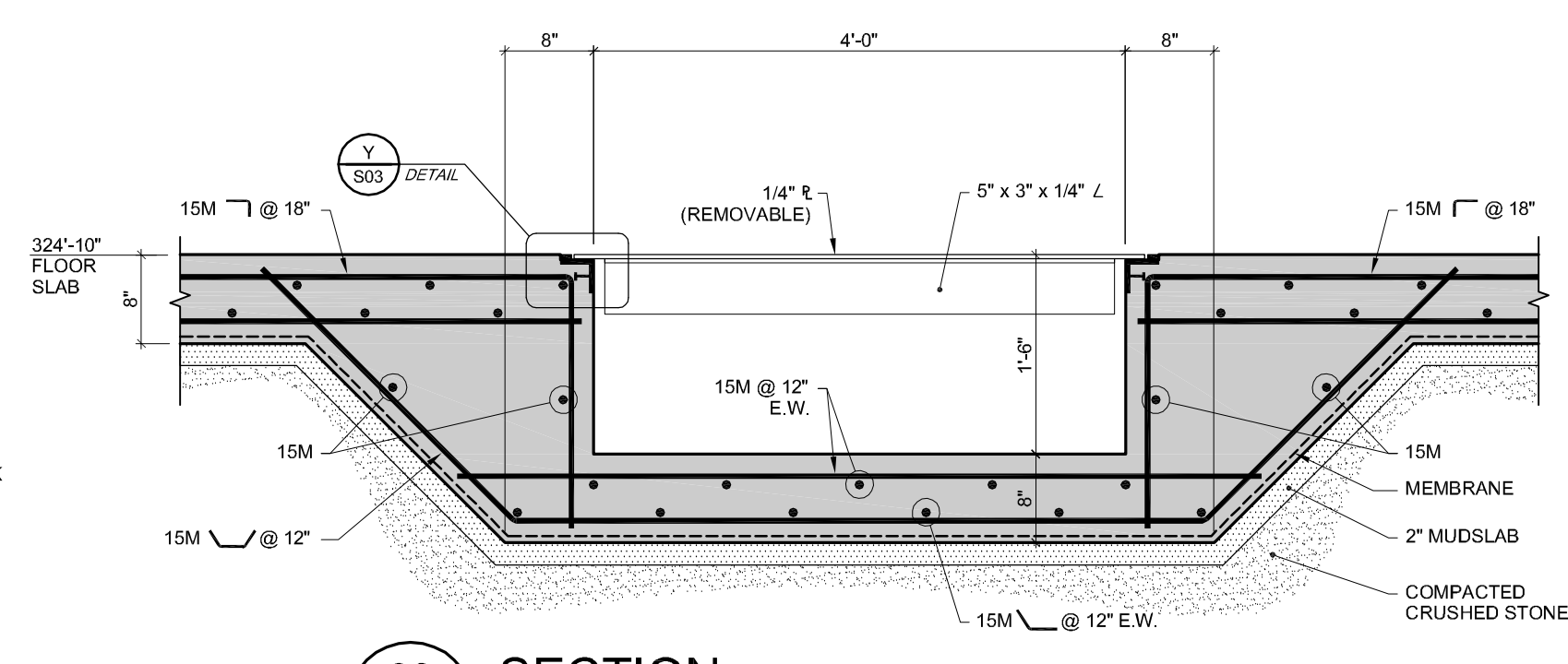


40 SECTION
 S03 SCALE: 3/4" = 1'-0"

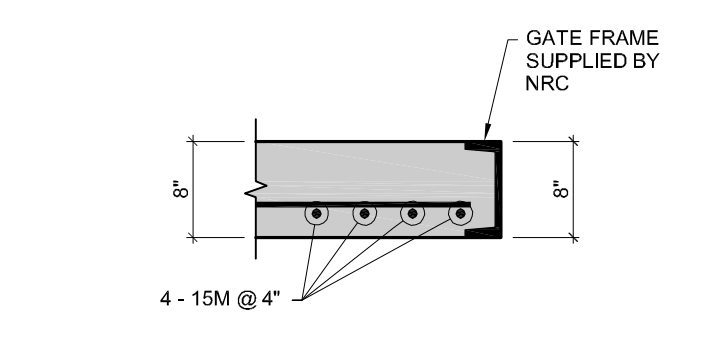
NOT IN CONTRACT (FOR INFORMATION ONLY)



37 SECTION
 S03 SCALE: 3/4" = 1'-0"



38 SECTION
 S03 SCALE: 3/4" = 1'-0"



39 SECTION (TYPICAL DETAIL EACH SIDE OF ALL GATES)
 S03 SCALE: 3/4" = 1'-0"

No.	Date	Revision	By:	Pir:
7	MAY 14/13	ISSUED FOR TENDER		R.L.
6	APR 30/13	TRENCH DETAIL ADDED		R.L.
5	APR 19/13	ISSUED FOR TENDER		R.L.
4	NOV 6/12	FOR CLIENT REVIEW		R.L.
3	MAY 30/08	ISSUED FOR TENDER		R.L.
2	APRIL 16/08	FOR CLIENT FINAL REVIEW		R.L.
1	FEB. 5/08	FOR CLIENT REVIEW		R.L.
0	JAN. 19/08	PRELIMINARY		R.L.

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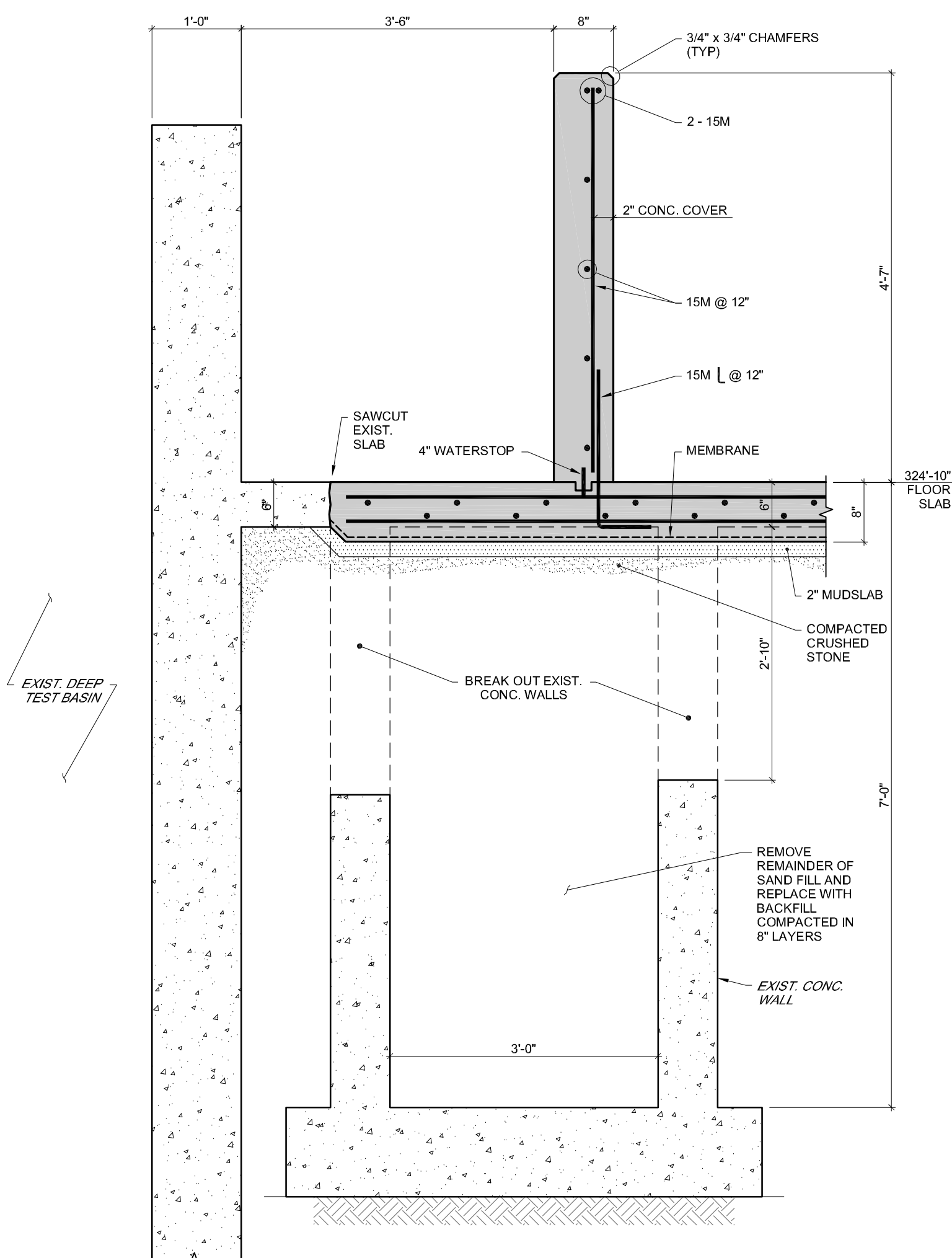
A	A Detail no. / No. du détail	A
C	B Location drawing no. / sur dessin no.	B C
	C Drawing no. / dessin no.	

project: **BUILDING M-32 TEST BASIN REPLACEMENT**
 MONTREAL ROAD CAMPUS

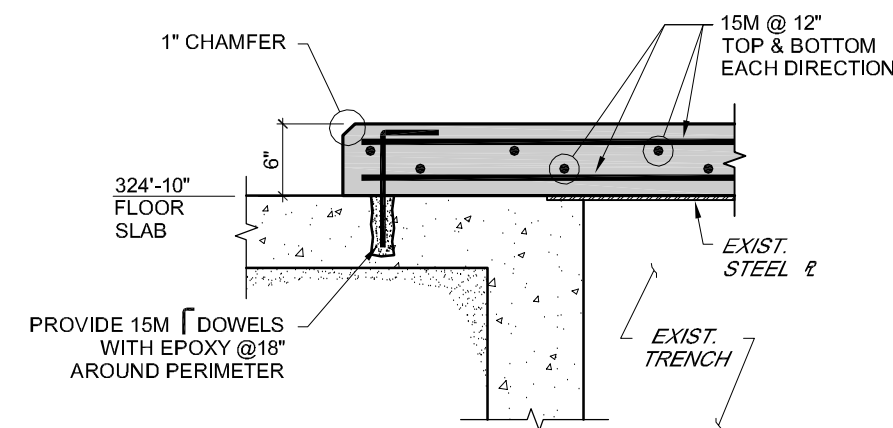
drawing: **STRUCTURAL: DETAILS 2**

designed	conçu	date	date
P. McC.		SEPTEMBER, 2007	
drawn	dessiné	scale	échelle
D.M.D.		AS SHOWN	
checked	vérifié	sheet	feuille
R.L.		S03 of/ de	S05
approved	approuvé	W.O.no.	D.T.no.

dwg. no.: **D-3084-S03**
 dessin no.: **D-3084-S03**



41 SECTION
 S04 SCALE: 3/4" = 1'-0"



42 SECTION
 S04 SCALE: 3/4" = 1'-0"

• CUT EXISTING STEEL PLATES IN SUCH A WAY AS TO MAKE THEM REMOVABLE AFTER POURING NEW CONCRETE SLABS.

BREAK OUT EXIST. CONC. WALLS

2" MUDSLAB
 COMPACTED CRUSHED STONE

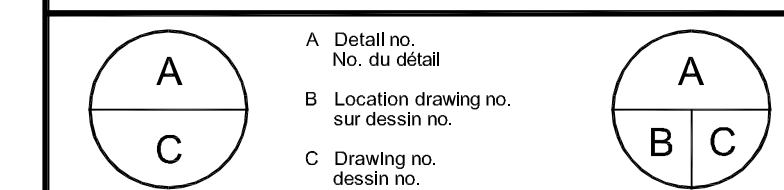
REMOVE REMAINDER OF SAND FILL AND REPLACE WITH BACKFILL COMPACTED IN 8" LAYERS

EXIST. CONC. WALL

No.	Date	Revision	By:	For:
5	MAY 14/13	ISSUED FOR TENDER	R.L.	
4	APR 19/13	ISSUED FOR TENDER	R.L.	
3	NOV 6/12	FOR CLIENT REVIEW	R.L.	
2	MAY 30/08	ISSUED FOR TENDER	R.L.	
1	APRIL 16/08	FOR CLIENT FINAL REVIEW	R.L.	
0	FEB. 5/08	FOR CLIENT REVIEW	R.L.	

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project: **BUILDING M-32 TEST BASIN REPLACEMENT**
 MONTREAL ROAD CAMPUS

drawing: **STRUCTURAL: DETAILS 3**

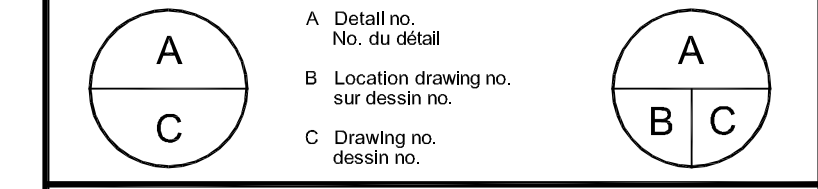
designed P. McC.	conçu P. McC.	date JANUARY, 2008	date JANUARY, 2008
drawn D.M.D.	dessiné D.M.D.	scale AS SHOWN	échelle AS SHOWN
checked R.L.	vérifié R.L.	sheet S04	feuille S05
approved	approuvé	W.O.no.	D.T.no.
dwg. no. D-3084-S04		dessin no. D-3084-S04	



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1	MAY 14/13	ISSUED FOR TENDER	R.L.
0	APR 19/13	ISSUED FOR TENDER	R.L.

Date Printed: _____ Date imprimée: _____

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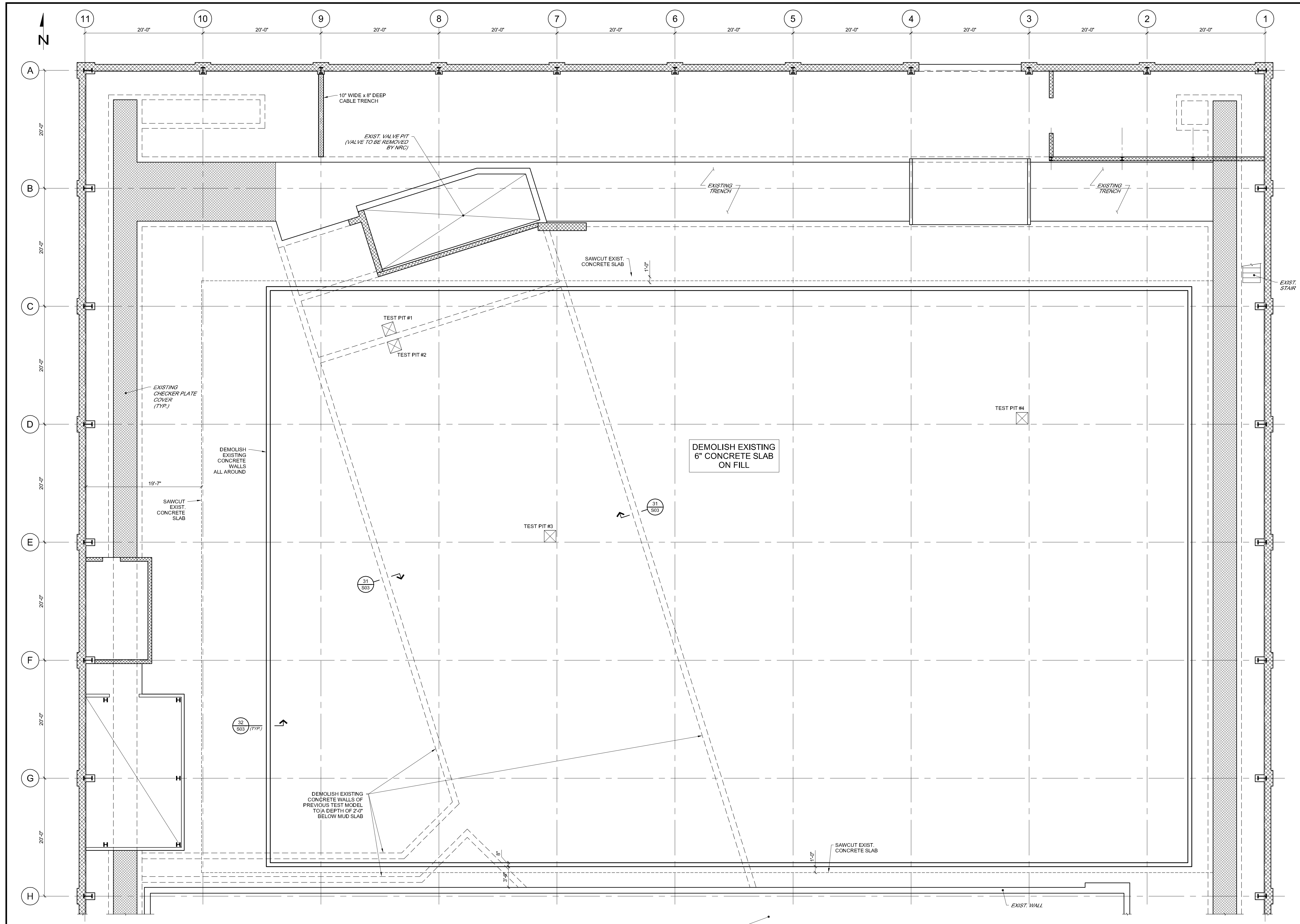


project: **BUILDING M-32**
TEST BASIN REPLACEMENT
 MONTREAL ROAD CAMPUS

drawing: **STRUCTURAL: DEMOLITION PLAN OF EXISTING TEST BASIN**

designed P. McC.	conçu P. McC.	date SEPTEMBER, 2007	date SEPTEMBER, 2007
drawn D.M.D.	dessiné D.M.D.	scale AS SHOWN	échelle AS SHOWN
checked R.L.	vérifié R.L.	sheet S05 of/de S05	feuille S05 of/de S05
approved	approuvé	W.O.no.	D.T.no.

dwg. no.: **D-3084-S05**
 dessin no.: **D-3084-S05**



PLAN OF EXISTING TEST BASIN
 SCALE: 1/8" = 1'-0"

• TEST PITS #1 TO #4 WERE DUG DECEMBER 20, 2007. REFER TO PATERSON GROUP REPORT DATED JANUARY 23, 2008.

FOR DEMOLITION NOTES, REFER TO DRAWING S02