



THE REGIONAL MUNICIPALITY
OF DURHAM
WORKS DEPARTMENT
DESIGN, CONSTRUCTION & ASSET MANAGEMENT



Q-303-2020-A-007
OSHAWA WATER SUPPLY PLANT
SEDIMENT TANK WALL REPAIR
1540 RITSON RD S, OSHAWA, ON L1J 3M3



DRAWING INDEX		
--	COVER SHEET	SHEET NO.
STRUCTURAL		
S-001	GENERAL NOTES	01
S-002	TYPICAL DETAILS	02
S-003	EXISTING CONDITION- PLAN AND ELEVATION	03
S-004	REMOVAL- PLAN AND ELEVATION	04
S-005	REMOVAL AND REINSTATEMENT- DETAIL	05

CONTRACT REVISIONS				
	1	22/09/23	ACL	ISSUED FOR TENDER
	0	21/04/13	ACL	90% DESIGN SUBMISSION
	NO.	DATE	NAME	REVISIONS
PROPERTY NO. WSP-E28-0010			FACILITY CODE WSP-0-001	
CONTRACT NO. Q-303-2020-A-007			FACILITIES PROJECT NO. WSP-0-001-20-01	

GENERAL NOTES

1. CHECK AND VERIFY ALL EXISTING SITE DIMENSIONS AND DETAILS AND REPORT ANY DISCREPANCIES TO THE CONSULTANT PRIOR TO PROCEEDING WITH THE WORK.
2. SCAN EXISTING CONCRETE SLAB AND WALLS AND LOCATE UTILITIES PRIOR TO CONSTRUCTION. DOCUMENT AND SUBMIT LOCATION OF UTILITIES TO THE CONSULTANT AND OWNER'S REPRESENTATIVE FOR REVIEW.
3. ANY DAMAGE TO EXISTING STRUCTURES, SERVICES, AND UTILITIES DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER AND AT NO COST TO THE PROJECT.
4. SMOOTH AND EVEN FINISHED SHALL BE APPLIED TO ALL CONCRETE REPAIR SURFACES.

CLASS OF CONCRETE

1. ALL CONCRETE35 MPa, EXPOSURE CLASS C-1

SCOPE OF REHABILITATION WORK

1. INSTALL, MAINTAIN, AND CONTROL TEMPORARY TRAFFIC SYSTEM DURING CONSTRUCTION. PROVIDE AS REQUIRED ALL TRAFFIC PROTECTION AND BARRIER TO DELINEATE THE CONSTRUCTION AREA FROM THE SURFACE DRIVE AISLE AND LOADING AREA.
2. INSTALL AND MAINTAIN WORK AREA AT FACILITY, TO CONTROL DUST, SLURRY, AND SURFACE RUN OFF DURING THE WORK AS REQUIRED.
3. EXCAVATE AND REINSTATE THE PERIMETER EMBANKMENT SOIL AT AREAS OF REPAIR AS REQUIRED. REMOVE AND REINSTATE THE PERIMETER WALL BUILDING ASSEMBLY SYSTEM (CLADDING, INSULATION, POLYETHYLENE SHEET AND GIRTS) TO EXPOSE THE EXISTING CONCRETE WALL SURFACE WHERE INDICATED ON THE DRAWINGS.
4. PREPARE AND INJECT ALL LEAKING AND NON-LEAKING STRUCTURAL CRACKS.
5. REPLACE ALL DAMAGED, MISSING, OR SEVERELY CORRODED REINFORCING STEEL. EXISTING TOP REINFORCING STEEL EXPOSED DURING CONCRETE REMOVAL SHALL BE ABRASIVE BLAST CLEAN AND FREE OF LAITEN CONCRETE AND CORROSION.
6. REMOVE AND REPAIR ALL UNSOUND/ DELAMINATED CONCRETE AREAS (SURFACE, VERTICAL.

REINFORCING STEEL

1. REINFORCING STEEL SHALL BE GRADE 400W, UNLESS OTHERWISE SPECIFIED.
2. UNLESS SHOWN OTHERWISE TENSION LAP SPLICES SHALL BE CLASS B.

CONSTRUCTION NOTES

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INFORM THEMSELVES OF THE EXACT LOCATION OF, AND ASSUME ALL LIABILITY FOR DAMAGE TO ALL UTILITIES, SERVICES AND STRUCTURES WHETHER ABOVE GROUND OR BELOW GRADE BEFORE COMMENCING THE WORK. SUCH INFORMATION IS NOT NECESSARILY SHOWN ON THE DRAWING, AND WHERE SHOWN, THE ACCURACY CANNOT BE GUARANTEED.
2. NO ELEVATION INDICATED OR ASSUMED HEREON IS TO BE USED AS A REFERENCE ELEVATION FOR ANY PURPOSE.
3. SAWCUTS IN CONCRETE, WHERE DESIGNATED, SHALL BE 1" (25mm) DEEP OR TO FIRST LAYER OF REINFORCING STEEL, WHICHEVER IS LESS.
4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS OF THE EXISTING WORK AND DETAILS ON THE SITE AGAINST THE PREPARED WORK AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
5. ALL CONCRETE TO BE REMOVED BY HAND CHIPPING. ALL REBAR SHOULD NOT BE DAMAGED. ANY REBAR DAMAGED BY THE CONTRACTOR IS TO BE REPLACED BY THE CONTRACTOR AT NO COST TO THE CLIENT. SEVERELY CORRODED REBAR SHALL BE REPORTED TO THE ENGINEER.
6. FOR ALL REPAIRS, CONTRACTOR TO STORE ALL EQUIPMENT, SUPPLIES, MATERIAL WITHIN HOARDING AREA OR REMOVED OFF SITE DAILY.
7. PROVIDE ADEQUATE PROTECTION AND ACCESS FOR ENGINEER TO INSPECT THE REPAIR WORK DURING CONSTRUCTION AND AT COMPLETION.
8. UTILITIES ARE TO BE TEMPORARILY RELOCATED AND PROTECTED AS REQUIRED. CONTRACTOR TO CONFIRM WITH THE OWNER PRIOR TO ANY UTILITIES WORK.

REFERENCE DRAWINGS

1. DETAILS OF THE EXISTING STRUCTURE HAVE BEEN DERIVED FROM DRAWINGS PREPARED BY THE REGIONAL MUNICIPALITY OF DURHAM - WORKS DEPARTMENT DESIGN, CONSTRUCTION AND ASSET MANAGEMENT DATED 1953.

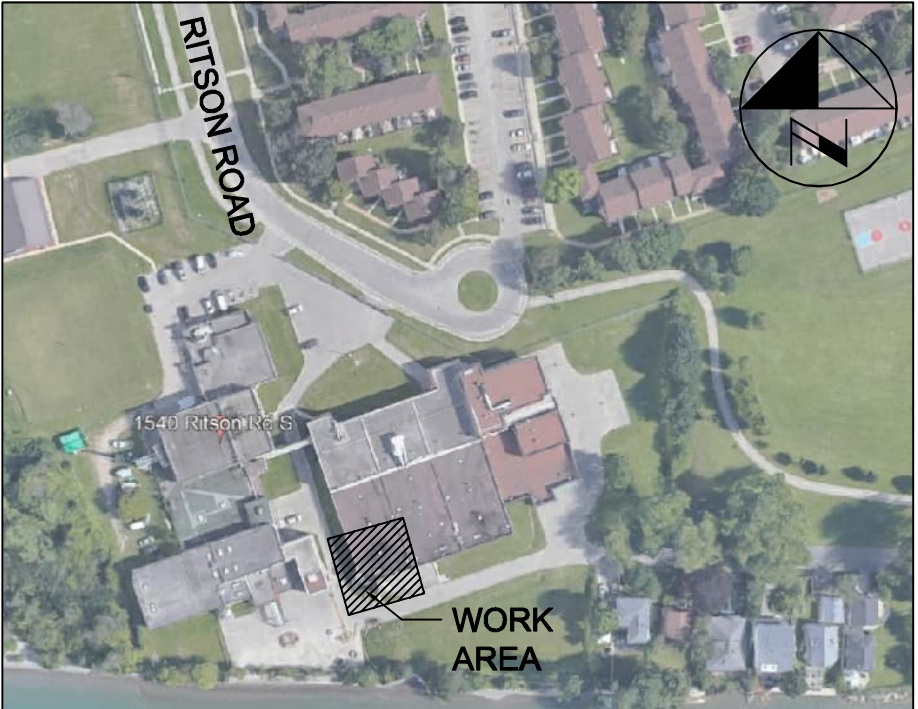
LEGEND

- EL. DENOTES ELEVATION
- N.T.S. DENOTES NOT TO SCALE
- N. DENOTES NORTH
- S. DENOTES SOUTH

APPLICABLE MTO STANDARD DRAWINGS AND SPECIFICATIONS

- OPSS 902 EXCAVATING AND BACKFILLING - STRUCTURES
- OPSS 905 STEEL REINFORCEMENT FOR CONCRETE
- OPSS 928 STRUCTURE REHABILITATION - CONCRETE REMOVAL
- OPSS 929 ABRASIVE BLAST CLEANING - CONCRETE CONSTRUCTION
- OPSS 930 STRUCURE REHABILITATION - CONCRETE PATCHES AND OVERLAYS


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KEY PLAN

CONSULTANT REVISIONS				
	NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT






SUB-CONSULTANT

DESIGN BY: — Y.H.	SCALE — AS NOTED
DRAWN BY: — A.C.	DATE: 2022-09-23
CHECKED BY: — H.H.	CONSULTANT PROJECT NO. 60642850
APPROVED BY: — K.D.	QUOTE NO. Q-303-2020-A-007-DCAM

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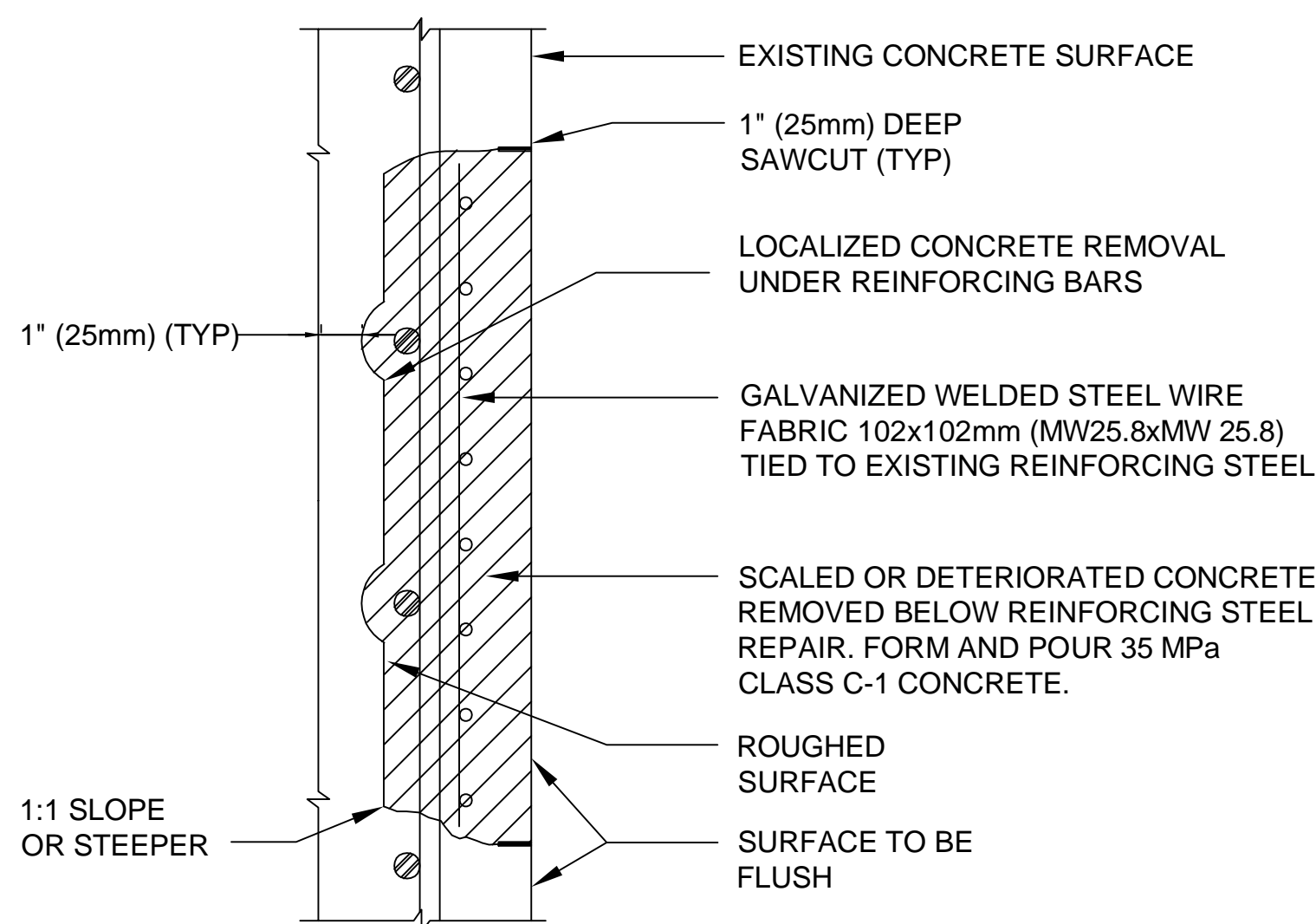
THE REGIONAL MUNICIPALITY OF DURHAM

WORKS DEPARTMENT

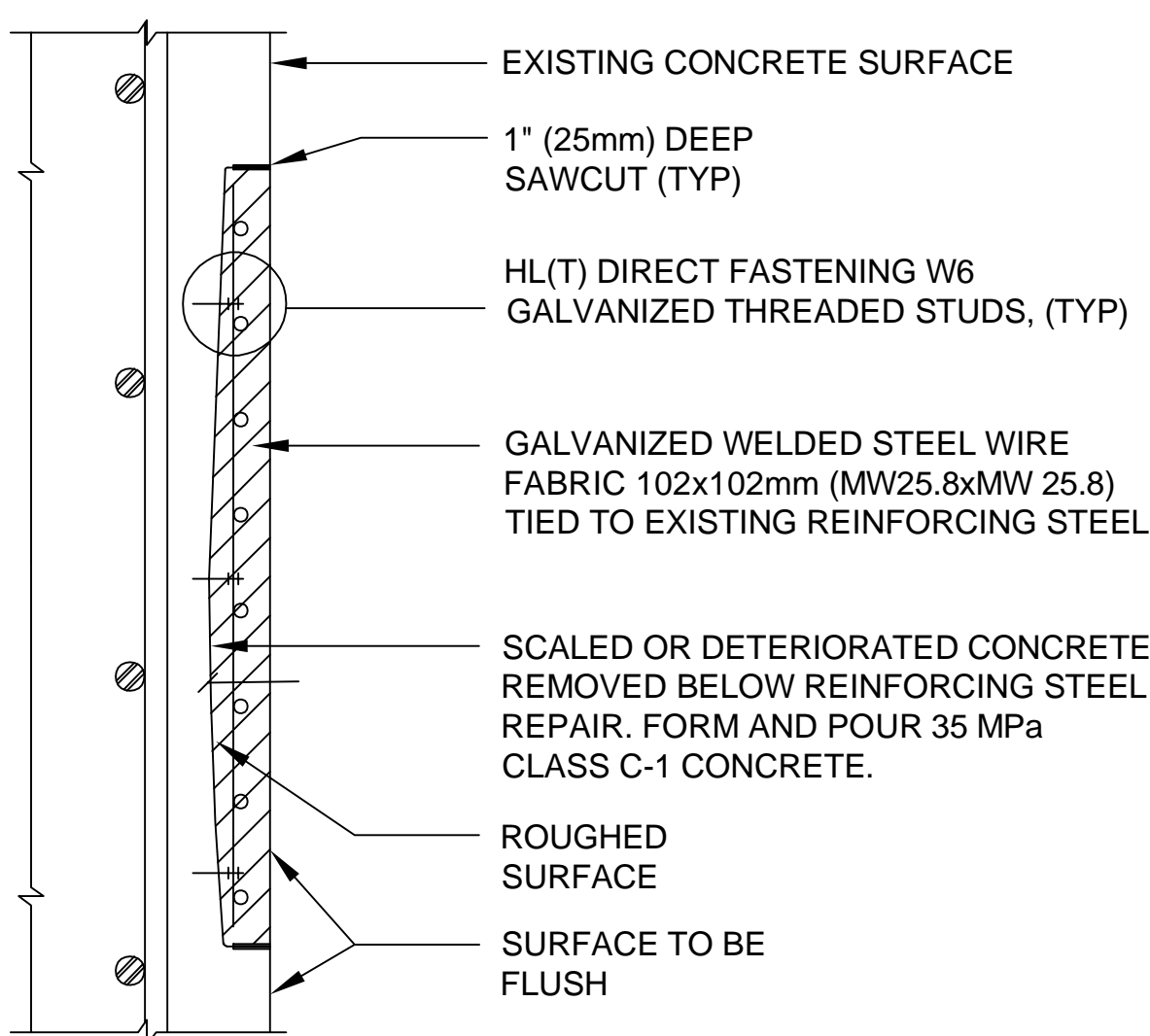
DESIGN, CONSTRUCTION & ASSET MANAGEMENT

OSHAWA WATER SUPPLY PLANT
SEDIMENT TANK WALL REPAIR
GENERAL NOTES

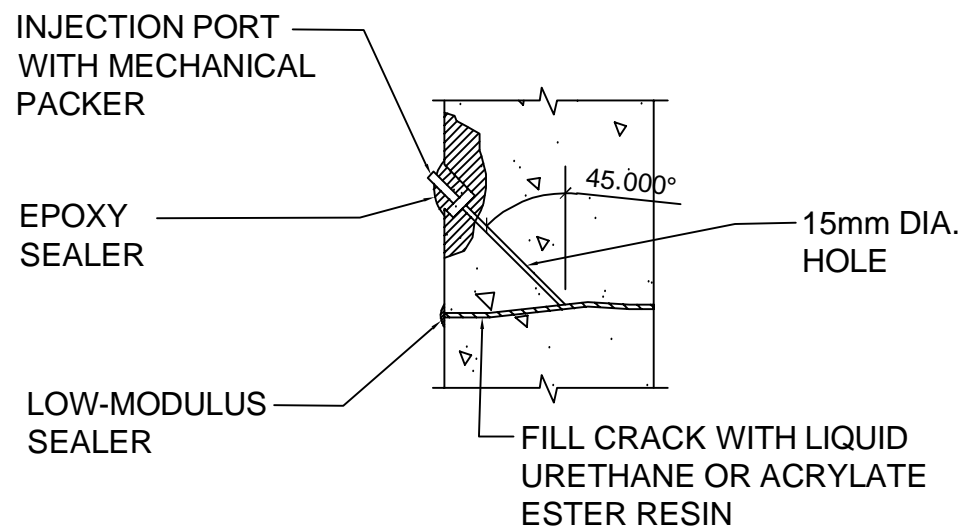
PROPERTY NO. WSP-E28-0010	FACILITY CODE WSP-O-001	FACILITIES PROJECT NO. WSP-O-001-20-01
CONTRACT NO. Q-303-2020-A-007	DRAWING NO. S- 001	SHEET NO. 01 OF 05



LOCAL CONCRETE REPAIR
DETAIL FOR EXISTING
CONCRETE COVER >= 50mm



LOCAL CONCRETE REPAIR
DETAIL FOR EXISTING
REBAR NOT EXPOSED



CRACK INJECTION DETAIL

N.T.S.

CONCRETE REPAIR NOTES

- CONFORM TO OPSD 932.
- SAW CUT PERIMETER TO A DEPTH OF 1" (25mm) OR TO TOP LAYER OF REINFORCING STEEL (WHICHEVER IS LESS).
- CHIP AND REMOVE ALL LOOSE AND DETERIORATED CONCRETE TO A MINIMUM DEPTH OF 1" (25mm) BELOW TOP LAYER OF REBAR.
- RE-TIE OR WELD EXPOSED REINFORCING STEEL AS REQUIRED. REINFORCE BADLY CORRODED OR DAMAGED REINFORCING STEEL OR BARS AS DIRECTED.
- ABRASIVE BLAST CLEAN CONCRETE AND REINFORCING STEEL PRIOR TO PLACEMENT OF NEW CONCRETE.
- PLACE WELDED STEEL WIRE FABRIC OF 102X102mm (MW 5.6x MW 5.6) CSA SPEC G30.6.
- COAT CONCRETE AND EXPOSED REINFORCING STEEL WITH BONDING AGENT.
- SUPPLY, PLACE, FINISH AND CURE 35 MPa LOW-SHRINK CONCRETE (10 mm MAX. SIZE AGGREGATE).
- SUPPLY, PLACE, FINISH AND CURE REPAIR MORTAR FOR VERTICAL SURFACE REPAIRS.
- REMOVE FORMWORK.

CRACK INJECTION NOTES

- CONFORM TO OPSD 932.
- REMOVE LOOSE MATERIAL FROM CRACK.
- DRILL 15mm DIA. INJECTION PORTS AT 45° ANGLE TO CRACK, AT 300mm c/c ALTERNATING SIDES.
- INSTALL MECHANICAL PACKER IN INJECTION PORT.
- SEAL SURFACE OF CRACK WITH LOW-MODULUS GEL IF CRACK IS ACTIVELY LEAKING.
- FLUSH CRACK WITH CLEAN WATER.
- FLUSH CRACK WITH AIR TO REMOVE ALL OF THE FREE WATER.
- INJECT LIQUID URETHANE OR ACRYLATE ESTER RESIN INTO LOWEST MECHANICAL PACKER WITH HAND OPERATED HYDRAULIC PUMP UNTIL GROUT CAN BE SEEN AT THE NEXT INJECTION PORT UP.
- REPEAT PROCESS UNTIL ENTIRE CRACK IS INJECTED.
- RE-GROUTING MAY BE PERFORMED FOR UP TO A WEEK AFTER INITIAL GROUTING.
- REMOVE INJECTION PORT, GRIND SMOOTH AND RE-PATCH TO MATCH EXISTING CONCRETE SURFACE.



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KEY PLAN

CONSULTANT REVISIONS				
	NO.	DATE	NAME	REVISIONS


PRIME CONSULTANT



SUB-CONSULTANT

DESIGN BY: — Y.H.	SCALE — AS NOTED
DRAWN BY: — A.C.	DATE: 2022-09-23
CHECKED BY: — H.H.	CONSULTANT PROJECT NO. 60642850
APPROVED BY: — K.D.	QUOTE NO. Q-303-2020-A-007-DCAM

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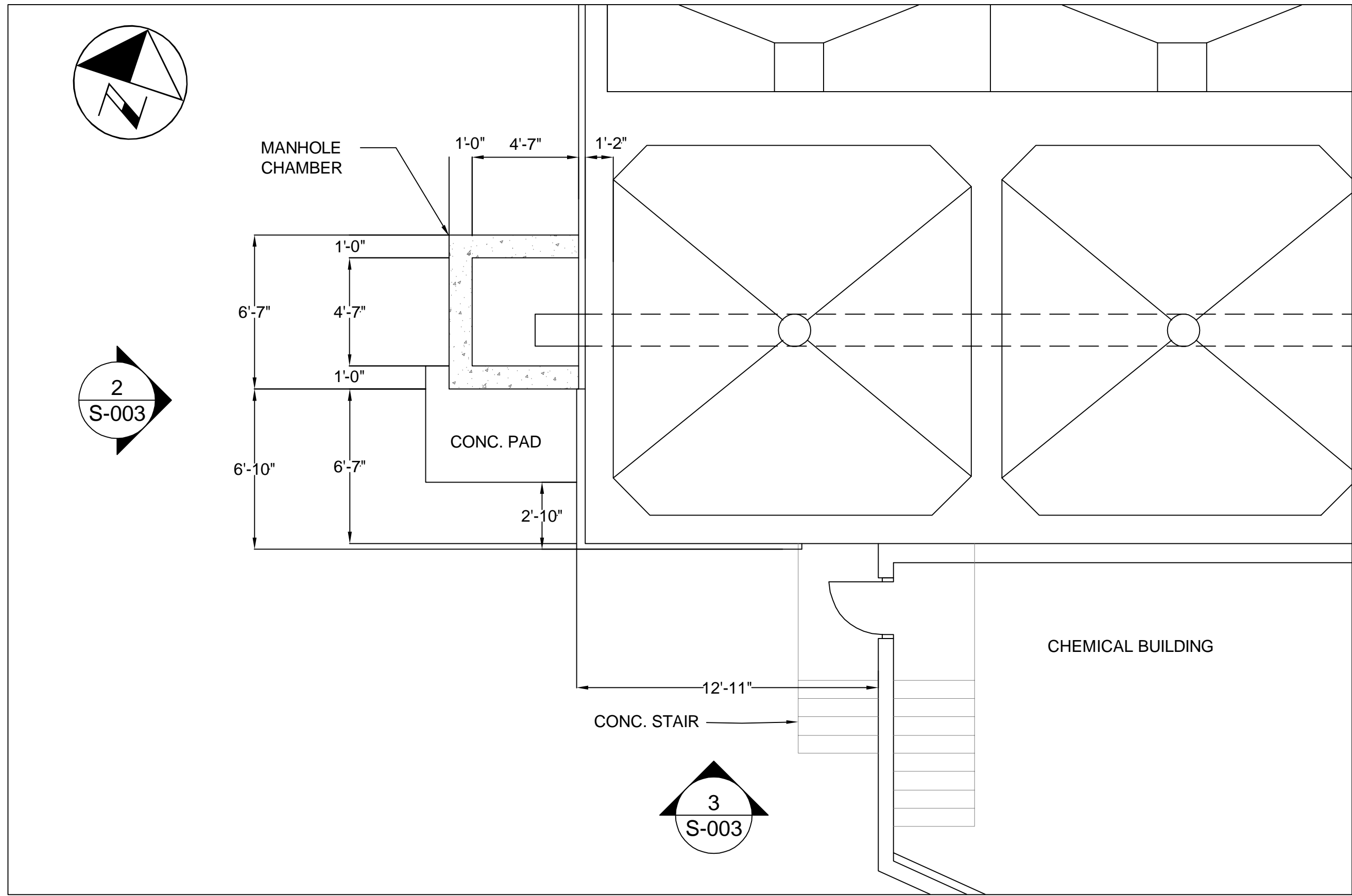
THE REGIONAL MUNICIPALITY
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DESIGN, CONSTRUCTION & ASSET MANAGEMENT

OSHAWA WATER SUPPLY PLANT
SEDIMENT TANK WALL REPAIR
TYPICAL DETAILS

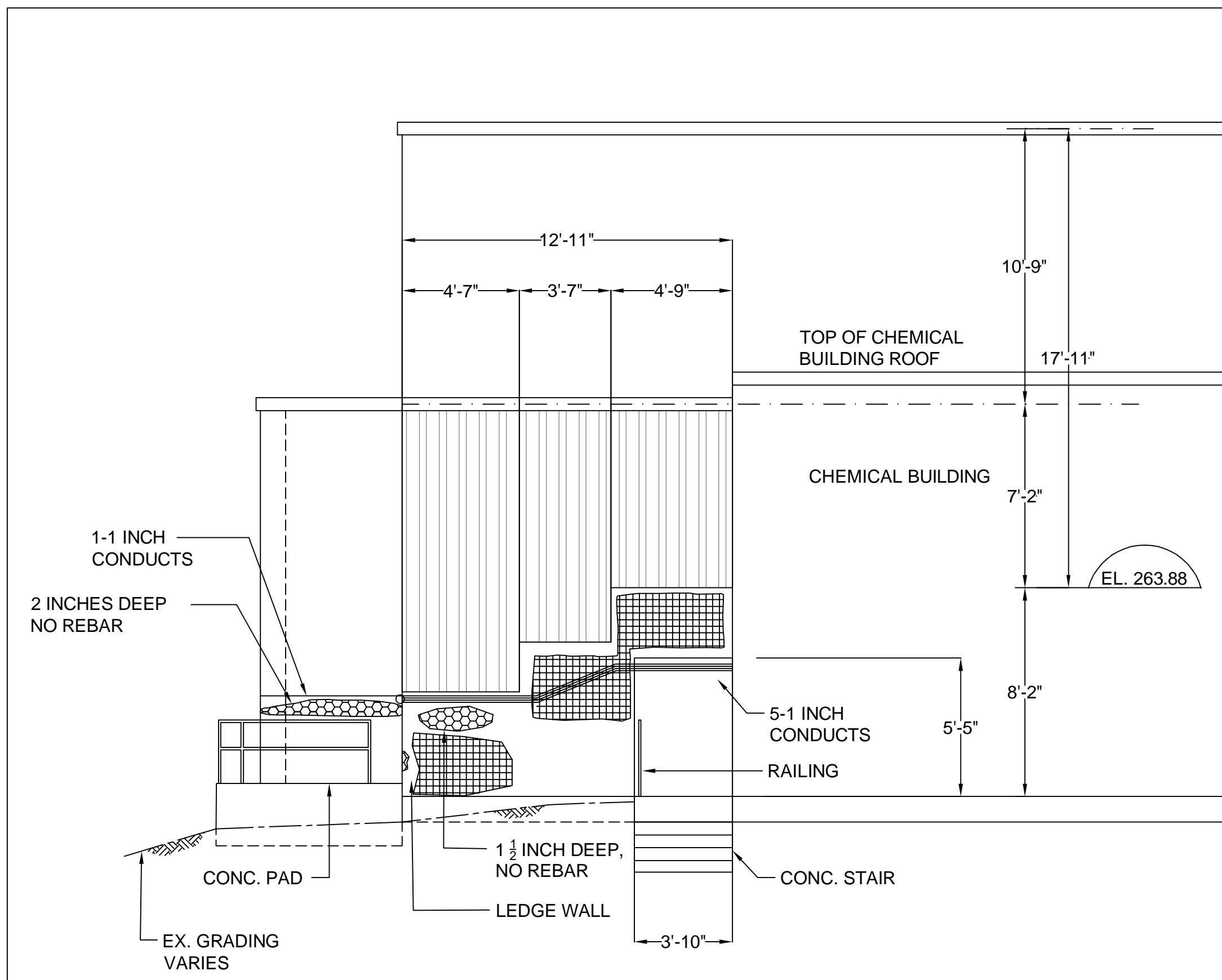
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CONTRACT NO. Q-303-2020-A-007	DRAWING NO. S- 002	SHEET NO. 02 OF 05



1 EXIST. - ENLARGED FLOOR PLAN

S-003

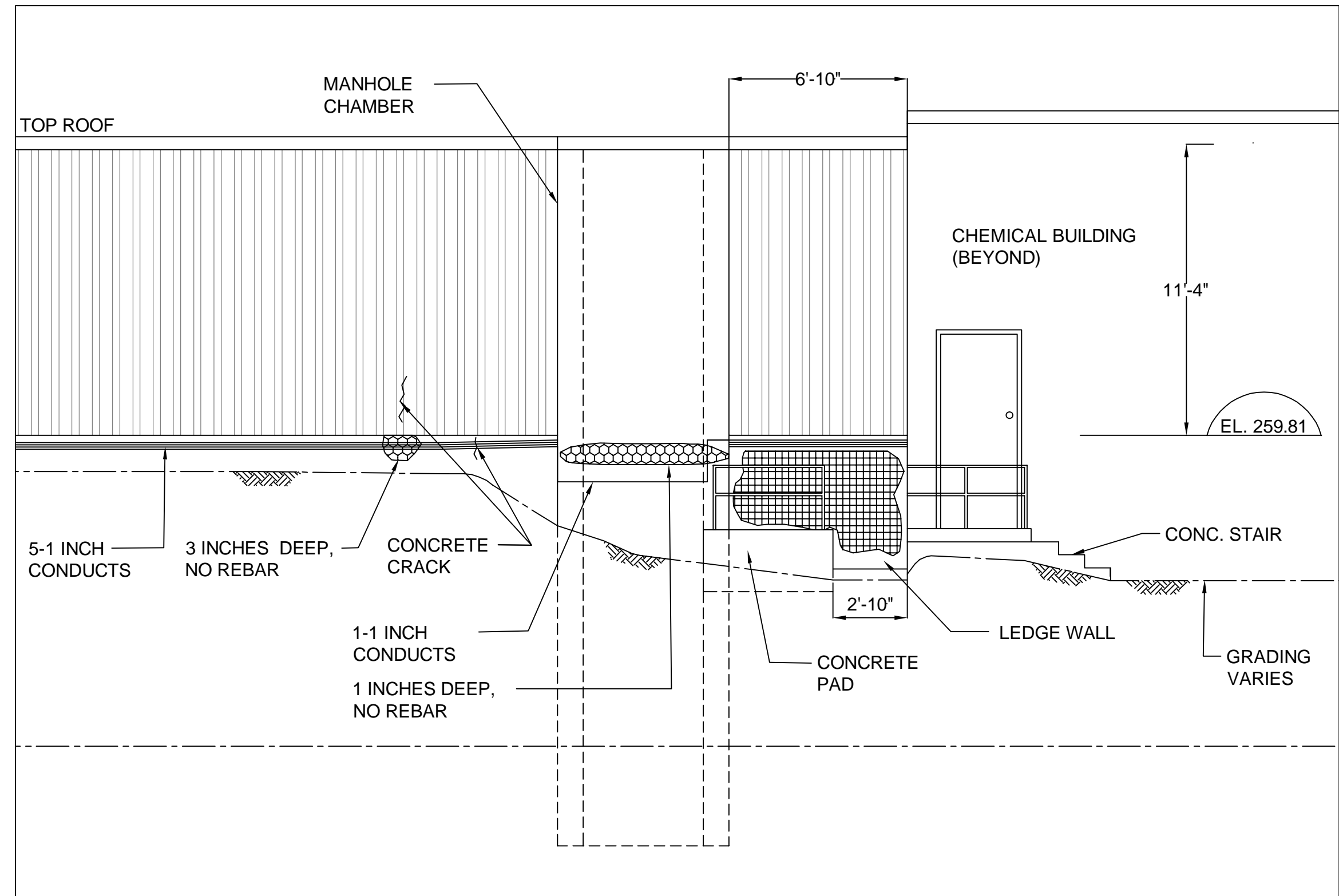
Scale: NTS



2 EXIST. - SOUTH ELEVATION

S-003

Scale: NTS



3 EXIST. - WEST ELEVATION

S-003

Scale: NTS

LEGENDS

- SPALL
- CONCRETE DELAMINATION
- CONCRETE CRACKS

NOTES:

- REFER TO S-002 FOR TYPICAL CONCRETE REPAIR DETAILS.
- THE CONTRACTOR TO REMOVE THE EXTERIOR WALL ASSEMBLY AS REQUIRED TO CONFIRM THE LOCATION OF CRACK REPAIRS DURING CONSTRUCTION AND TO BE CONFIRMED BY ENGINEER.
- CONDUITS TO BE PROTECTED OR RELOCATED PRIOR TO CONCRETE REPAIR WORK. CONTRACTOR TO VERIFY SITE CONDITIONS PRIOR TO START OF CONSTRUCTION.

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KEY PLAN

NO.	DATE	NAME	REVISIONS

PRIME CONSULTANT

AECOM

LICENCED PROFESSIONAL ENGINEER
K.T.D. DUONG
100055126
Sept. 23, 2022
PROVINCE OF ONTARIO

SUB-CONSULTANT	
----------------	--

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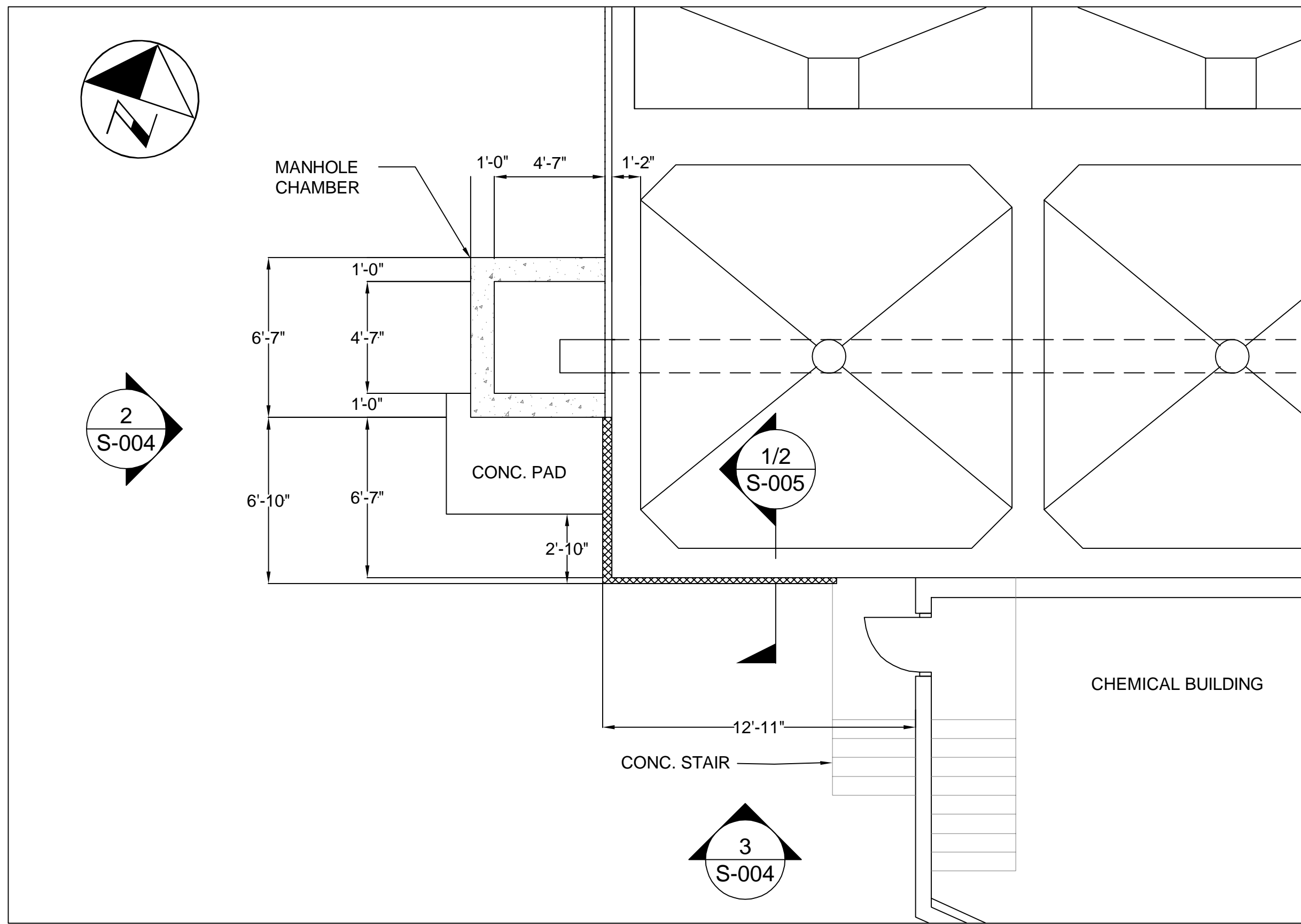
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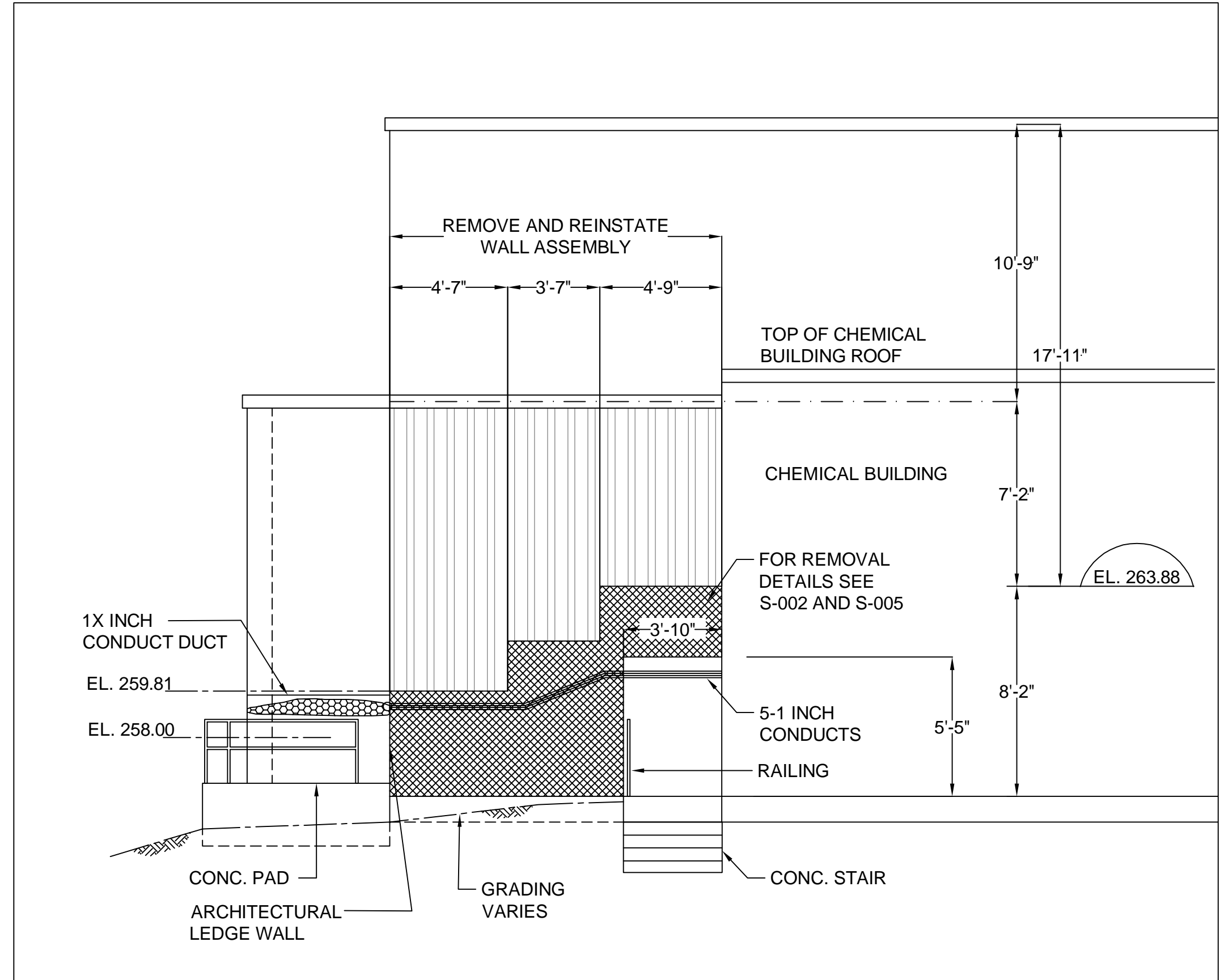
OSHAWA WATER SUPPLY PLANT
SEDIMENT TANK WALL REPAIR
EXISTING CONDITION—PLAN
AND ELEVATION

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CONTRACT NO. Q-303-2020-A-007	DRAWING NO. S-003	SHEET NO. 03 OF 05

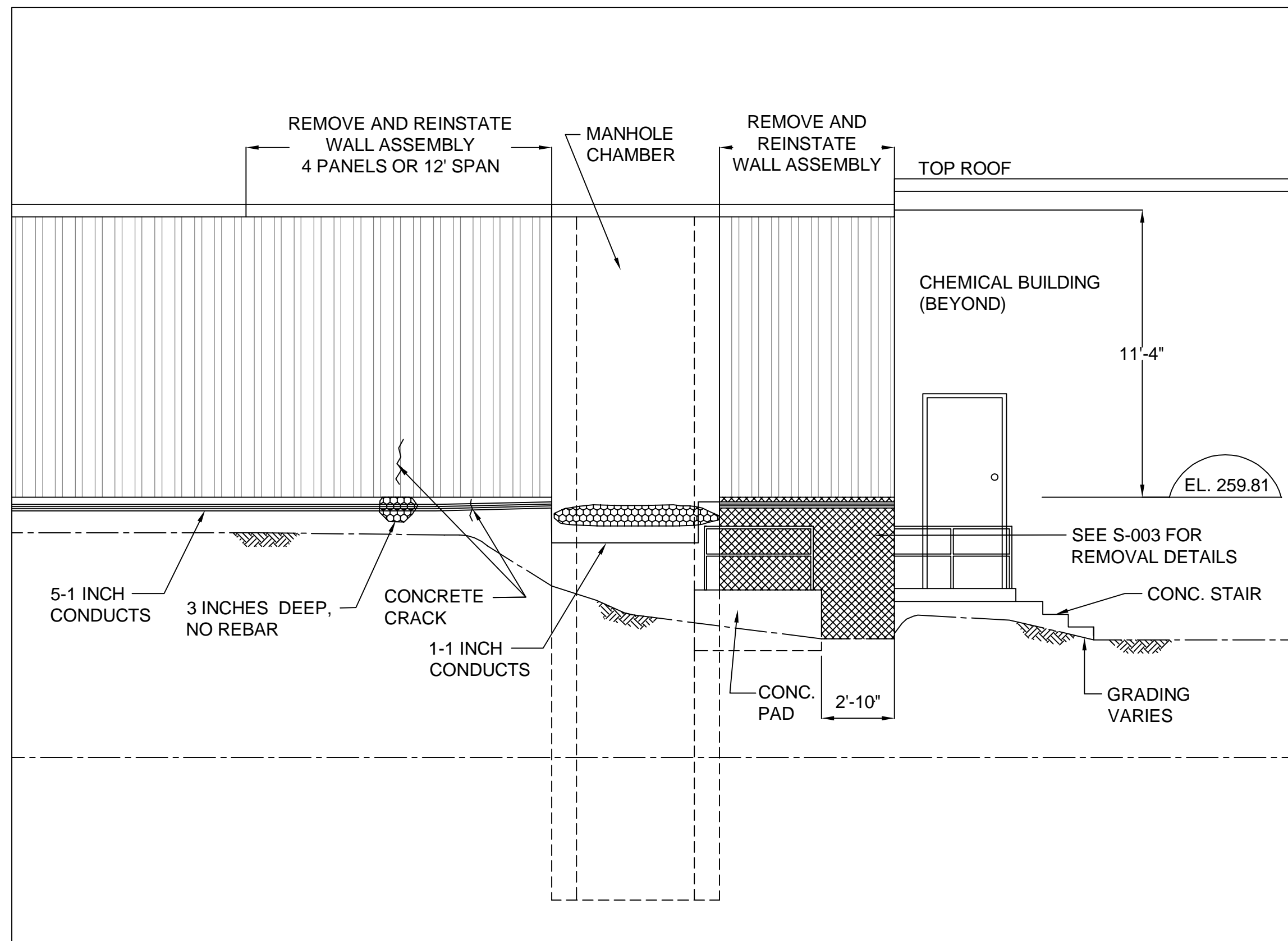
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1 | REMOVAL - ENLARGED FLOOR PLAN
S-004 Scale: NTS


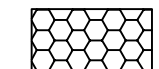
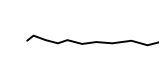


2 | REMOVAL - SOUTH ELEVATION
S-004 Scale: NTS



3 | REMOVAL - WEST ELEVATION
S-004 Scale: NTS

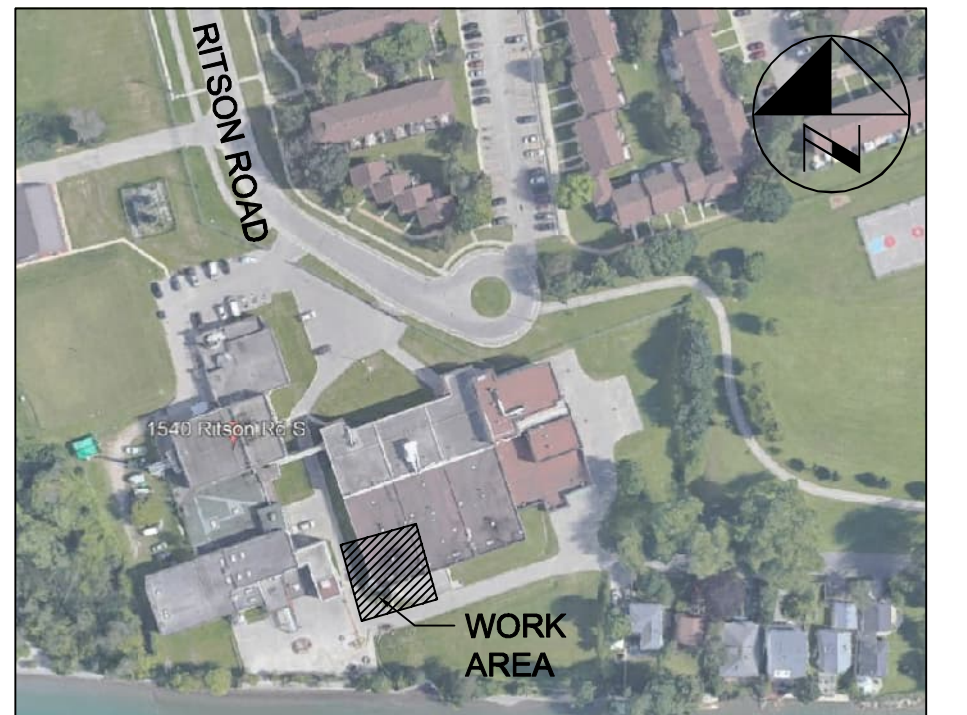
LEGENDS

-  PARTIAL DEPTH REMOVAL
-  SPALL
-  CONCRETE CRACKS

NOTES:

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3. CONDUITS TO BE PROTECTED OR RELOCATED PRIOR TO CONCRETE REPAIR WORK. CONTRACTOR TO VERIFY SITE CONDITIONS PRIOR TO START OF CONSTRUCTION.
4. REMOVE AND REINSTATE THE EXISTING BUILDING ASSEMBLY (CLADDING, GIRTS, INSULATION, POLYETHYLENE SHEET) AS REQUIRED TO EXPOSE THE CONCRETE SURFACE. PREPARE AND INJECT ALL NON-LEAKING AND LEAKING STRUCTURAL CONCRETE CRACKS.

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PRIME CONSULTANT


AECOM

LICENCED PROFESSIONAL ENGINEER
K.T.D. DUONG
100055126
Sept. 23, 2022
PROVINCE OF ONTARIO

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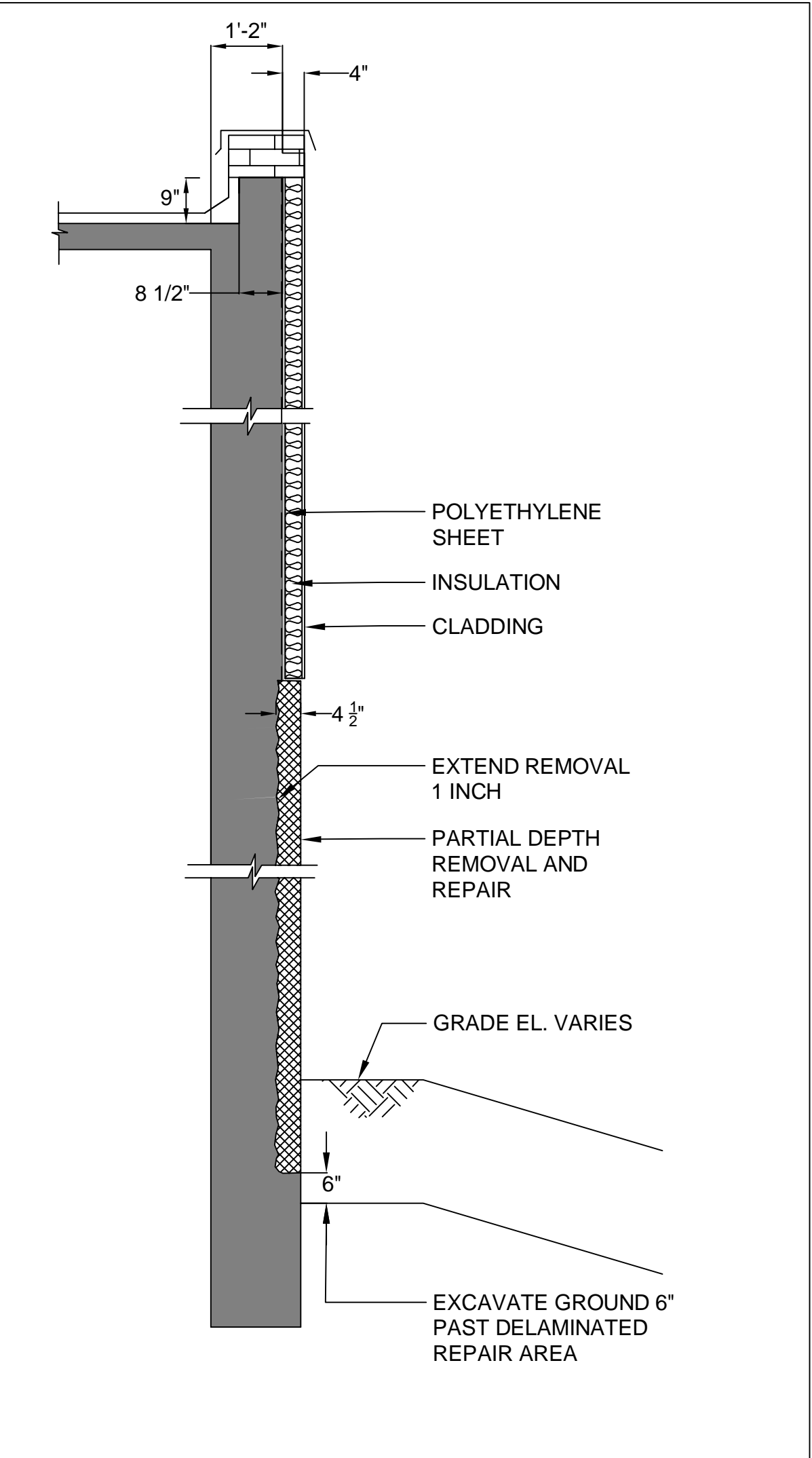
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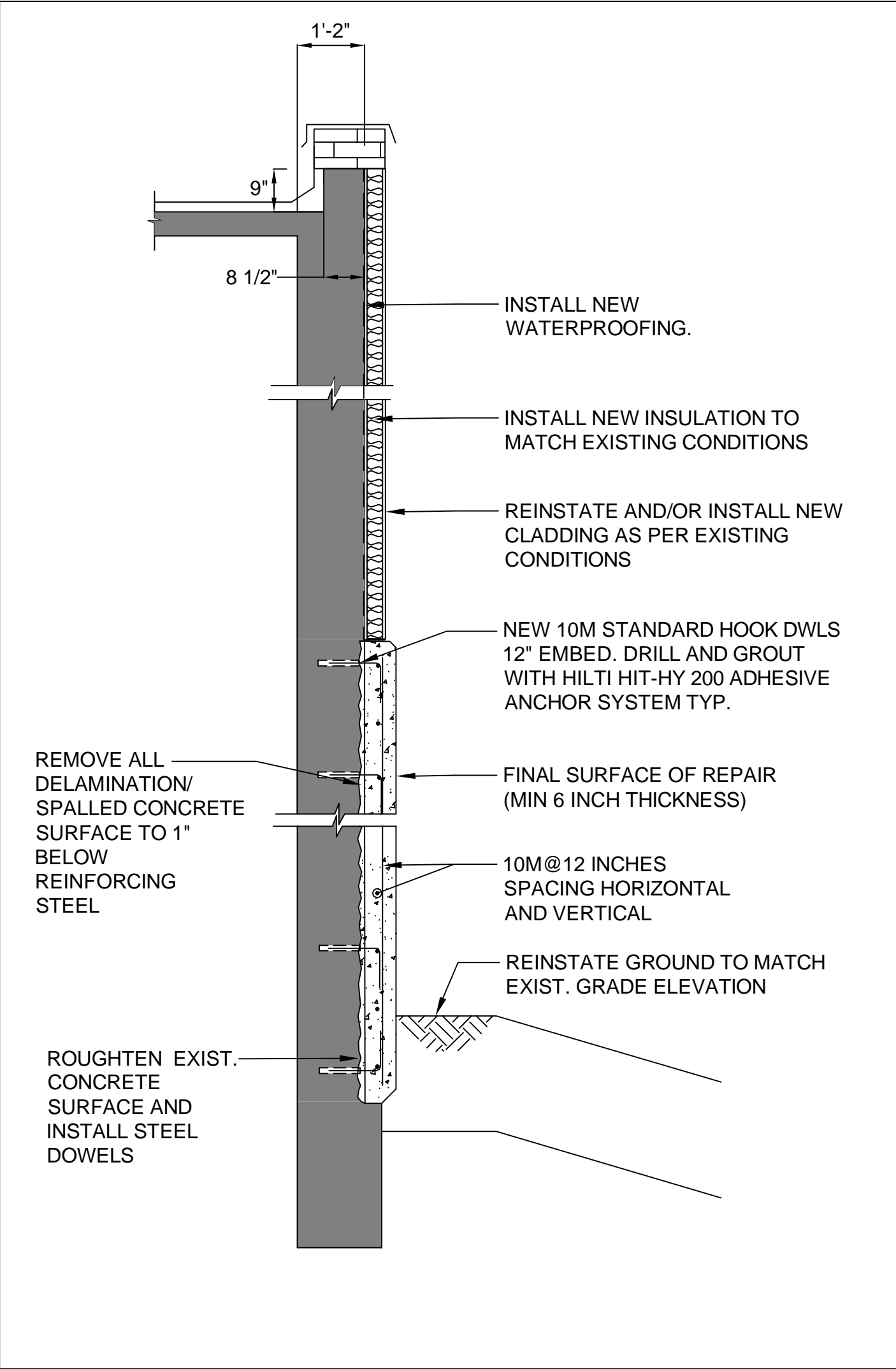
**OSHAWA WATER SUPPLY PLANT
SEDIMENT TANK WALL REPAIR
REMOVAL — PLAN AND
ELEVATION**

PROPERTY NO. WSP-E28-0010	FACILITY CODE WSP-O-001	FACILITIES PROJECT NO. WSP-O-001-20-01
CONTRACT NO. Q-303-2020-A-007	DRAWING NO. S- 004	SHEET NO. 04 OF 05

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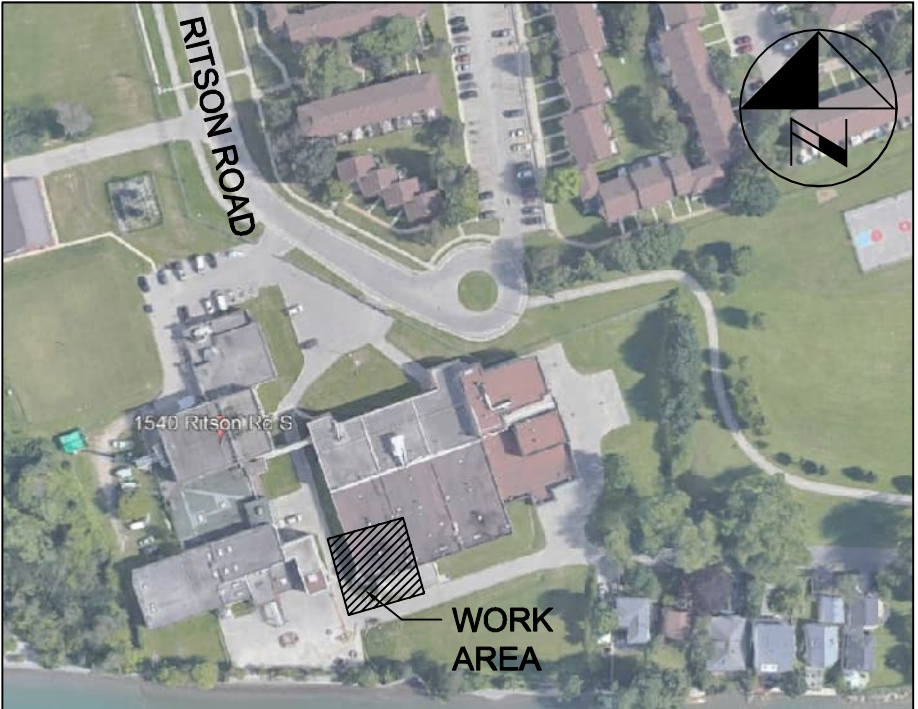
1 PARTIAL REMOVAL - DETAIL
S-004 Scale: NTS



2 REINSTATEMENT - DETAIL
S-004 Scale: NTS

LEGENDS
 PARTIAL REMOVAL



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OSHAWA WATER SUPPLY PLANT
SEDIMENT TANK WALL REPAIR
REMOVAL AND REINSTATEMENT-
DETAIL

PROPERTY NO. WSP-E28-0010	FACILITY CODE WSP-O-001	FACILITIES PROJECT NO. WSP-O-001-20-01
CONTRACT NO. Q-303-2020-A-007	DRAWING NO. S- 005	SHEET NO. 05 OF 05

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