

WESTERN PIEDMONT COMMUNITY COLLEGE CONCRETE MASONRY RETAINING WALL REPAIR DESIGN

DESIGN:

NOVA ENGINEERING & ENVIRONMENTAL
75 MADDOX ROAD, SUITE 102
BUFORD, GEORGIA 30518
770.904.7190
KURT W. HEINRICH, P.E.
KHEINRICH@USANOVA.COM

APPLICABLE CODES:

2018 NORTH CAROLINA BUILDING CODE WITH LOCAL AMENDMENTS
AMERICAN CONCRETE INSTITUTE (ACI)
ACI 318-11 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
THE MASONRY SOCIETY (TMS)
TMS 406/602-11 BUILDING CODE REQUIREMENTS FOR AND SPECIFICATIONS FOR MASONRY STRUCTURES

DRAWING INDEX:

F-1 COVER SHEET
F-2 GENERAL NOTES
F-3 PLAN VIEW
F-4 ELEVATION VIEW
F-5 WALL SECTIONS
F-6 JOINT DETAILS
F-7 CONCRETE RETAINING WALL

SCOPE OF WORK:

1. DEMOLITION DISTRESSED PORTION OF CONCRETE MASONRY RETAINING WALL AND BENCH BACKFILL SOILS AS REQUIRED.
2. REMOVE/DEMOLISH EXISTING SIDEWALK ADJACENT TO THE CMU RETAINING WALL AS REQUIRED.
3. RECONSTRUCT A NEW REINFORCED GROUT FILLED CONCRETE MASONRY WALL WITH FLASHING, WATERPROOFING SYSTEM, AND BRICK VENEER.
4. REINSTALL BRICK VENEER TO EXISTING CONCRETE RETAINING WALL.
5. REINSTALL SIDEWALK PER CIVIL DRAWINGS
6. RESTORE BACKFILL AND LANDSCAPING PER OWNERS REQUIREMENTS.



WPCC RETAINING WALL REPAIR DESIGN

1001 BURKEMONT AVENUE
MORGANTON, NORTH CAROLINA 28655

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NOVA PROJECT NO.: 10705-2023018

SHEET NUMBER

F-1



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DRAWN BY: J. TOWNSEND
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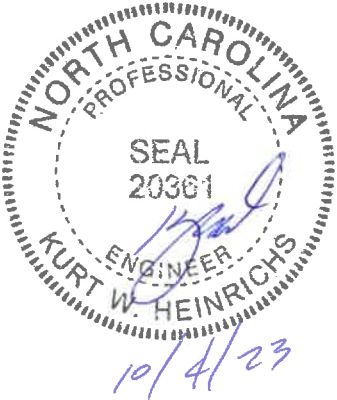
GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL SITE WORK WITH OWNER, ENGINEER SPECIAL INSPECTOR AND LOCAL ON-SITE MANAGEMENT. UNFINISHED WORK AREAS SHALL BE BARRICADED AS REQUIRED BY OWNER. STORAGE OF EQUIPMENT OR PLACEMENT OF MATERIALS SHALL ALSO BE COORDINATED WITH ON-SITE MANAGEMENT.
2. ALL CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE FOLLOWING CODES:

CURRENT OSHA, FEDERAL, STATE AND LOCAL SAFETY REGULATIONS AND STANDARDS
3. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ENGINEER CONCERNING ANY DISCREPANCIES, CHANGES IN THE INSTALLATION, OR DIFFERENCES OF THE ON-SITE CONDITIONS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR JOB SITE SAFETY PROTECTION OF PEDESTRIANS AND UTILITIES.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND FEES.
6. CONTRACTOR SHALL SUBMIT TECHNICAL DATA SHEETS ON ALL PRODUCTS FOR OWNER'S/PROJECT ENGINEER'S APPROVAL PRIOR TO INSTALLATION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING, SAFETY OF OCCUPANTS, AND STABILITY OF THE STRUCTURE DURING THE WORK.

CONCRETE MASONRY UNITS NOTES:

1. CONCRETE MASONRY UNITS SHALL BE ASTM C90, NORMAL WEIGHT AGGREGATE, WITH F'CU = 2,800 PSI.
2. MORTAR SHALL CONFORM TO ASTM C270 PCL CLASS M.
3. BOND OF MASONRY BLOCKS SHALL BE RUNNING BOND
4. GROUT SHALL BE 4000 PSI STRENGH AT 28 DAYS. GROUT SOLID ALL CMU CELLS.
5. REINFORCING STEEL SHALL CONFORM TO ASTM A615 GR 60.
6. JOINT REINFORCEMENT SHALL BE SMOOTH WIRES AND CONFORM TO ASTM A951 SPACED 16" O.C.
7. INSTALL SEALANT JOINT AT BOTH ENDS OF THE NEW CMU RETAINING WALL SUCH AS NP1 URTHENE SEALANT BY MASTERBUILDERS WITH COMPATIBLE BACKER ROD
8. EXPOSED CONCRETE MASONRY SURFACES SHALL BE COATED WITH A XYPEX TWO-COAT CRYSTALLINE WATERPROOFING SYSTEM, CONSISTING OF ONE COAT CONCENTRATE AND ONE COAT MODIFIED XYPEX MATERIAL. SURFACE PREPARATION AND APPLICATION SHALL BE ACCORDING TO MANUFACTURES SPECIFICATIONS.



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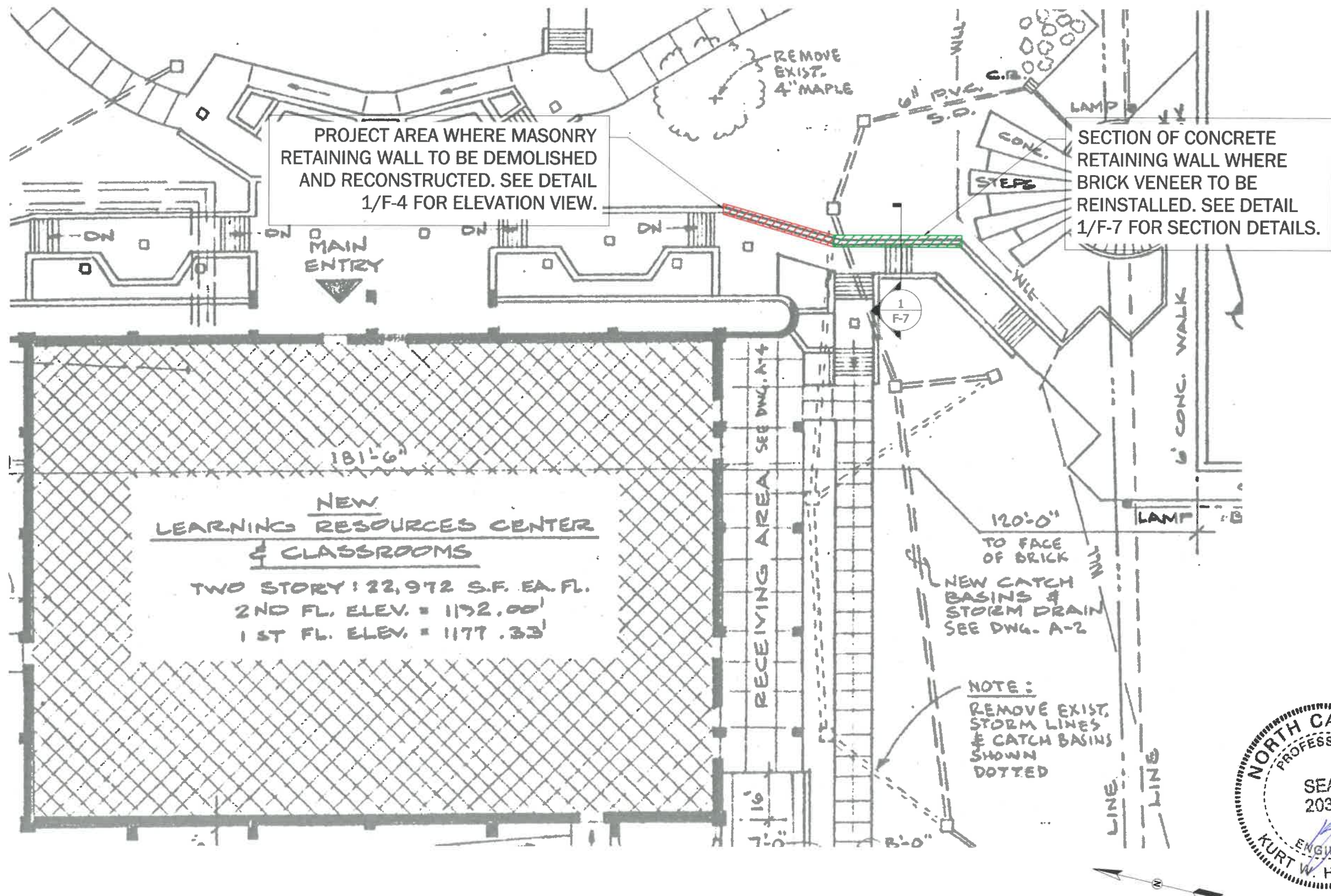
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C	10/03/23	CONCRETE WALL ADDITIONS

DRAWN BY: J. TOWNSEND
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1 SITE PLAN VIEW
Scale: NTS

REFERENCED DRAWING: A2, "SITE UTILITIES & LOCATION PLAN".



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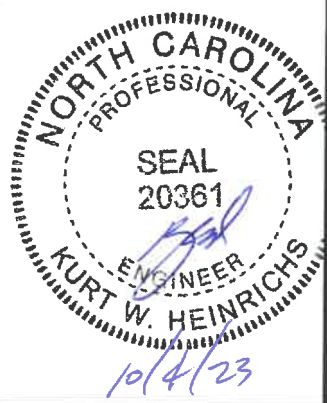
CONCRETE MASONRY
RETAINING WALL SECTION TO
BE DEMOLISHED AND
RECONSTRUCTED. NEW WALL
ELEVATION TO MATCH EXISTING
WALL AT ADJACENT STAIRCASE



1

ELEVATION VIEW

Scale: NTS



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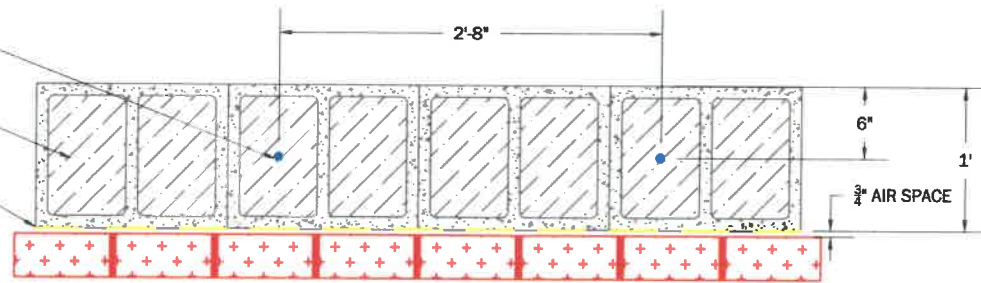
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INSTALL #5 VERTICAL STEEL REINFORCEMENT AT 32" O.C. AND 8" MINIMUM EMBEDMENT INTO EXISTING CONCRETE FOOTING WITH SIMPSON STRONG-TIE AT-XP EPOXY OR EQUIVALENT

FILL EMPTY CONCRETE MASONRY CELLS WITH CEMENTITIOUS GROUT.

CONCENTRATED CRYSTALLINE WATERPROOFING SYSTEM.



3

RETAINING WALL - SECTION VIEW

Scale: NTS

DEMOLISH DISTRESSED PORTION OF EXISTING 12"x8"x16" CMU

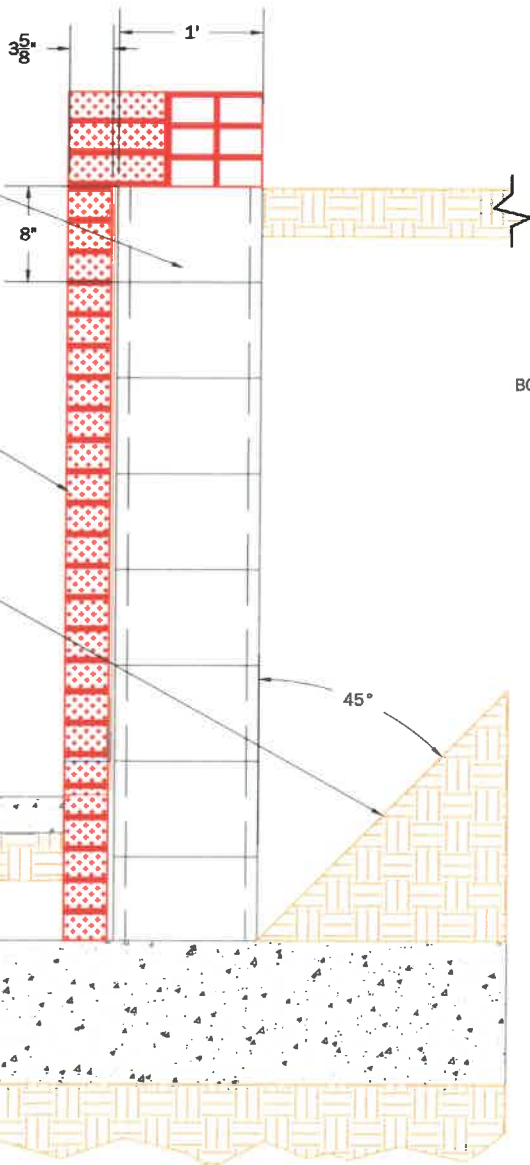
REMOVE EXISTING BRICK VENEER

REMOVE BACKFILL SOIL AS REQUIRED TO RECONSTRUCT THE CMU WALL.

REMOVE EXISTING SIDEWALK TO CONSTRUCTION JOINT. REPLACE PER CIVIL PLANS

EXISTING SUBGRADE

EXISTING SUBGRADE



1

DEMOLITION PLAN - 1A

Scale: NTS

APPROXIMATE BACKFILL HEIGHT

INSTALL HB 345 BT BRICK TIES APPROXIMATELY 16" O.C. BOTH DIRECTIONS TO CONNECT BRICK VENEER TO CMU

INSTALL TWO-COAT CRYSTALLINE WATERPROOFING SYSTEM ON BOTH SIDES AND TOP OF CMU WALL. APPLICATION AND CURE PER MANUFACTURE'S INSTRUCTIONS.

1/8"x1" ALUMINUM TERMINATION BAR FASTENED 12" O.C., COVER WITH MASTIC AND MEMBRANE

28 GA. STAINLESS STEEL THROUGHWALL FLASHING

3/8" CELL VENT WEEP AT 24" O.C.

INSTALL NEW 1/2" BACKER AND JOINT SEALANT

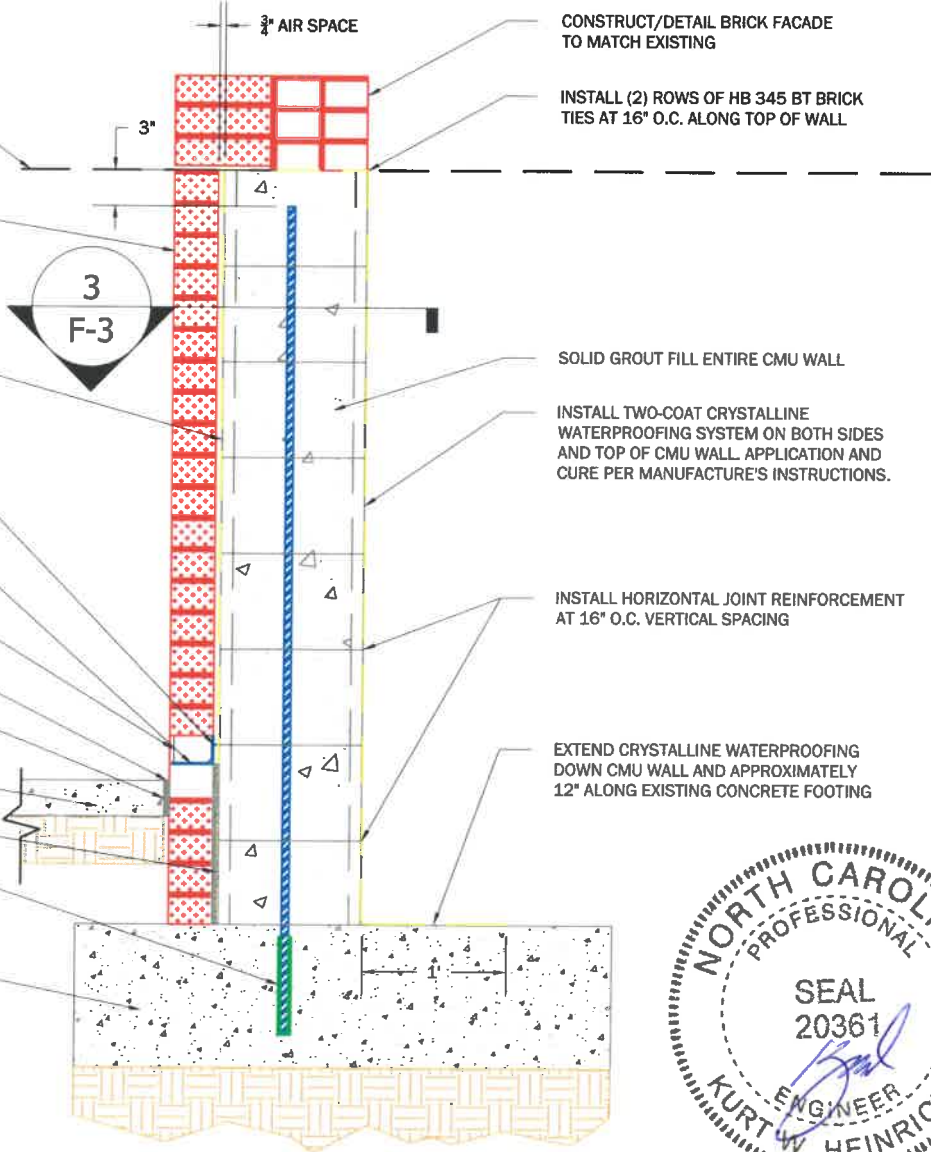
INSTALL NEW 1/2" FULL DEPTH FIBER BOARD ISOLATION JOINT

REINSTALL SIDEWALK PER CIVIL DRAWINGS

SOLID GROUT FILL AIR SPACE BELOW FLASHING

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EXISTING CONCRETE FOOTING



2

REPAIR PLAN - 2A

Scale: NTS



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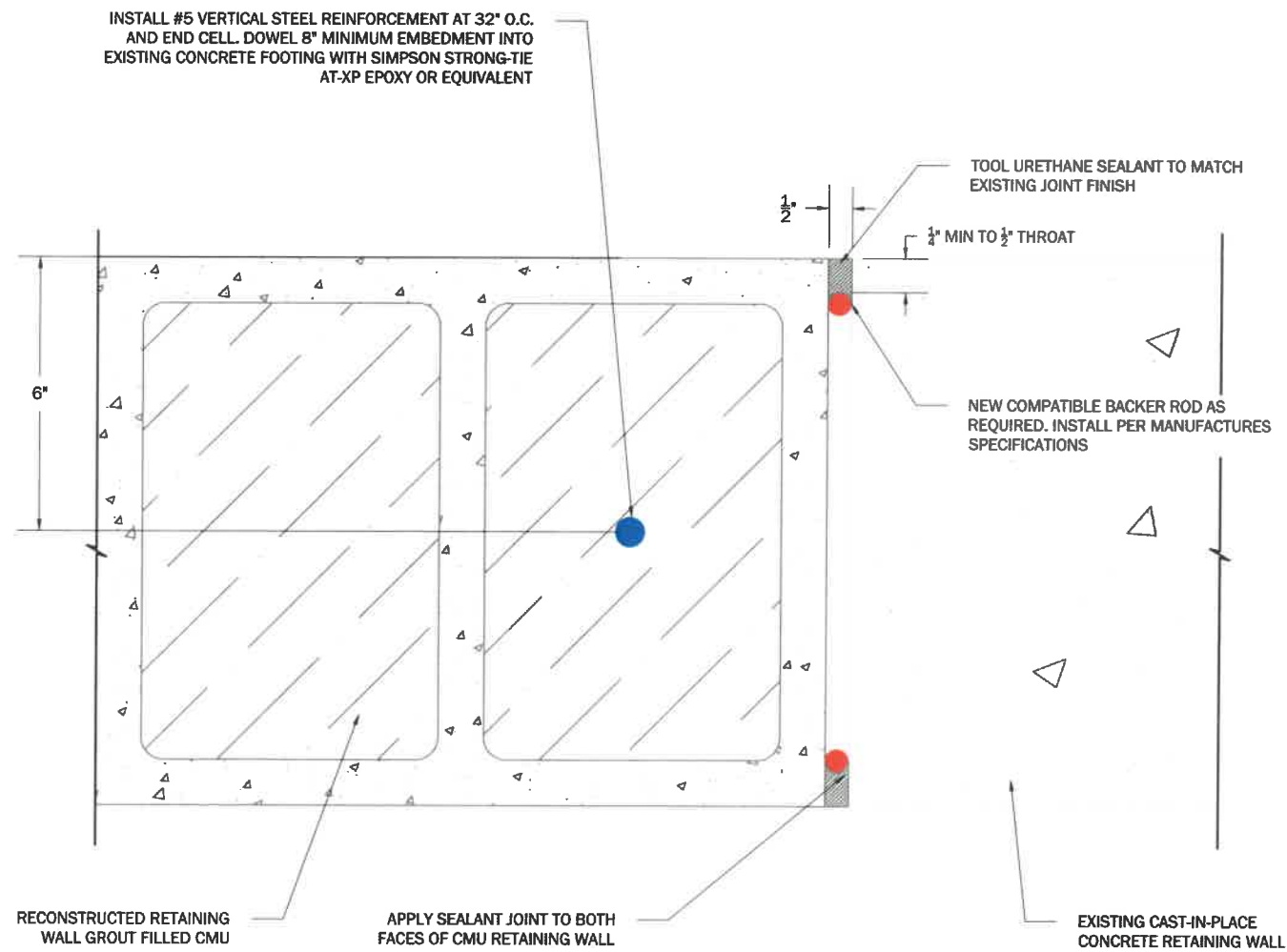
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1 CONTROL JOINT REPAIR DETAIL



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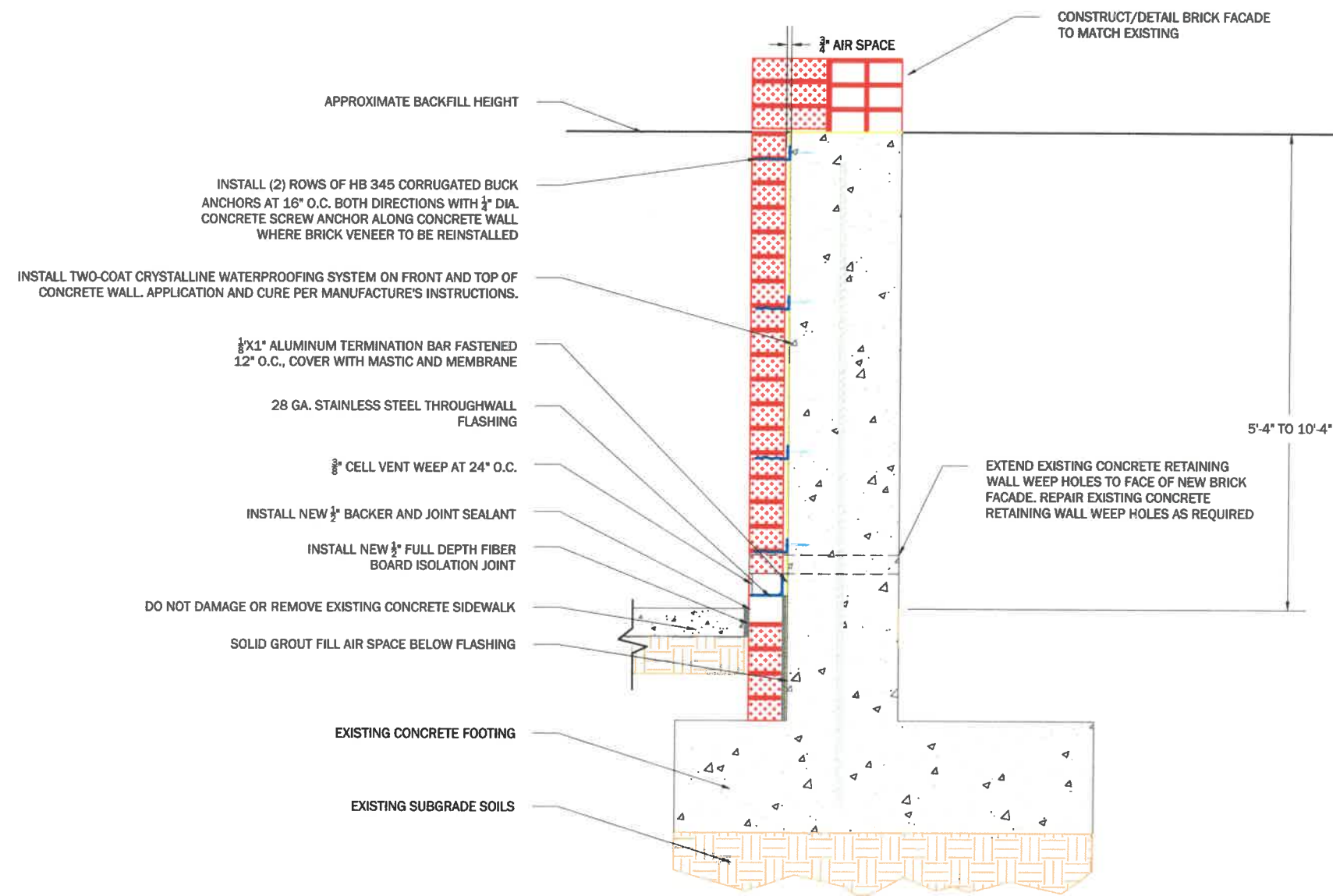
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1 CONCRETE RETAINING FACADE REPAIR - SECTION VIEW

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