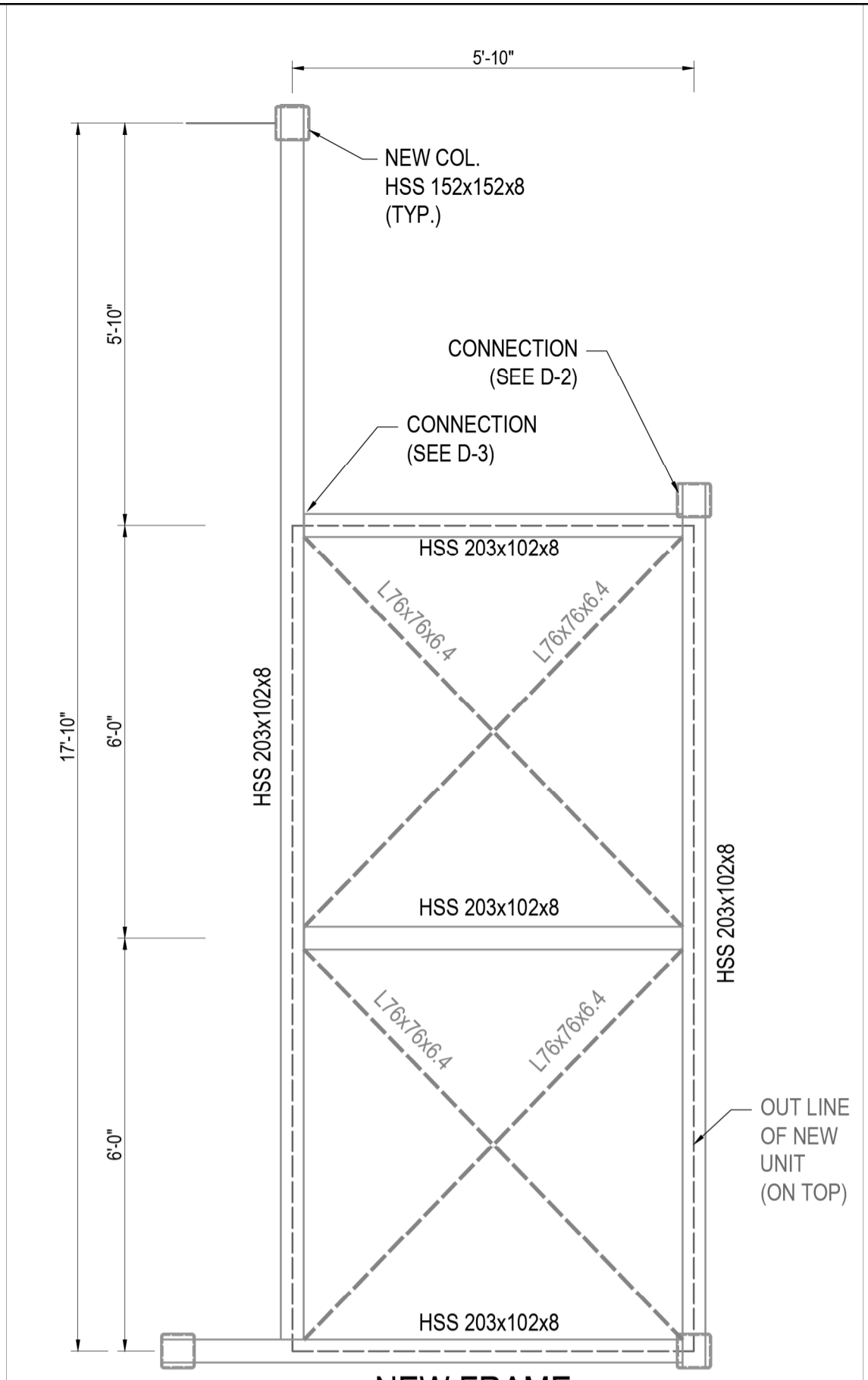


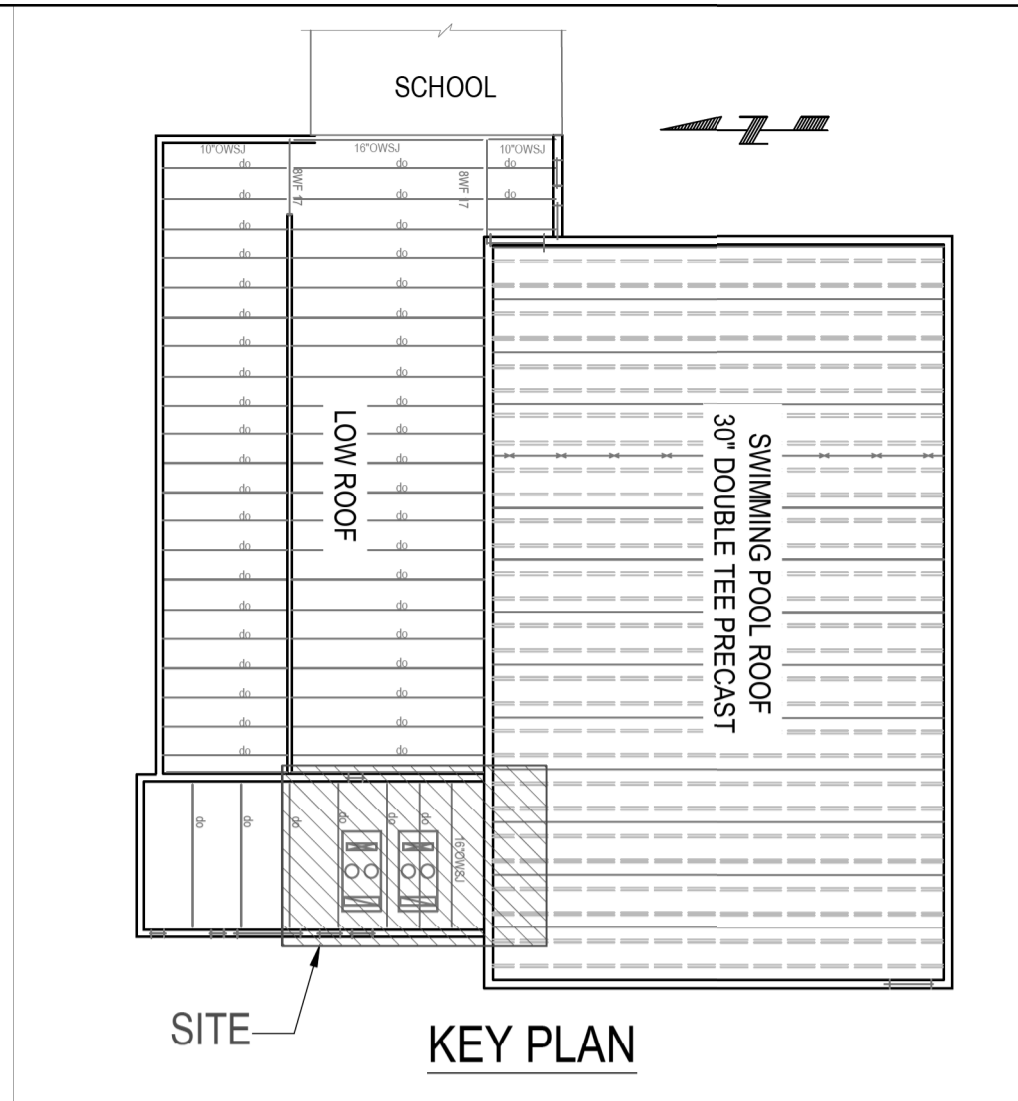
LAYOUT-AIR HANDLING UNITS SUPPORTS



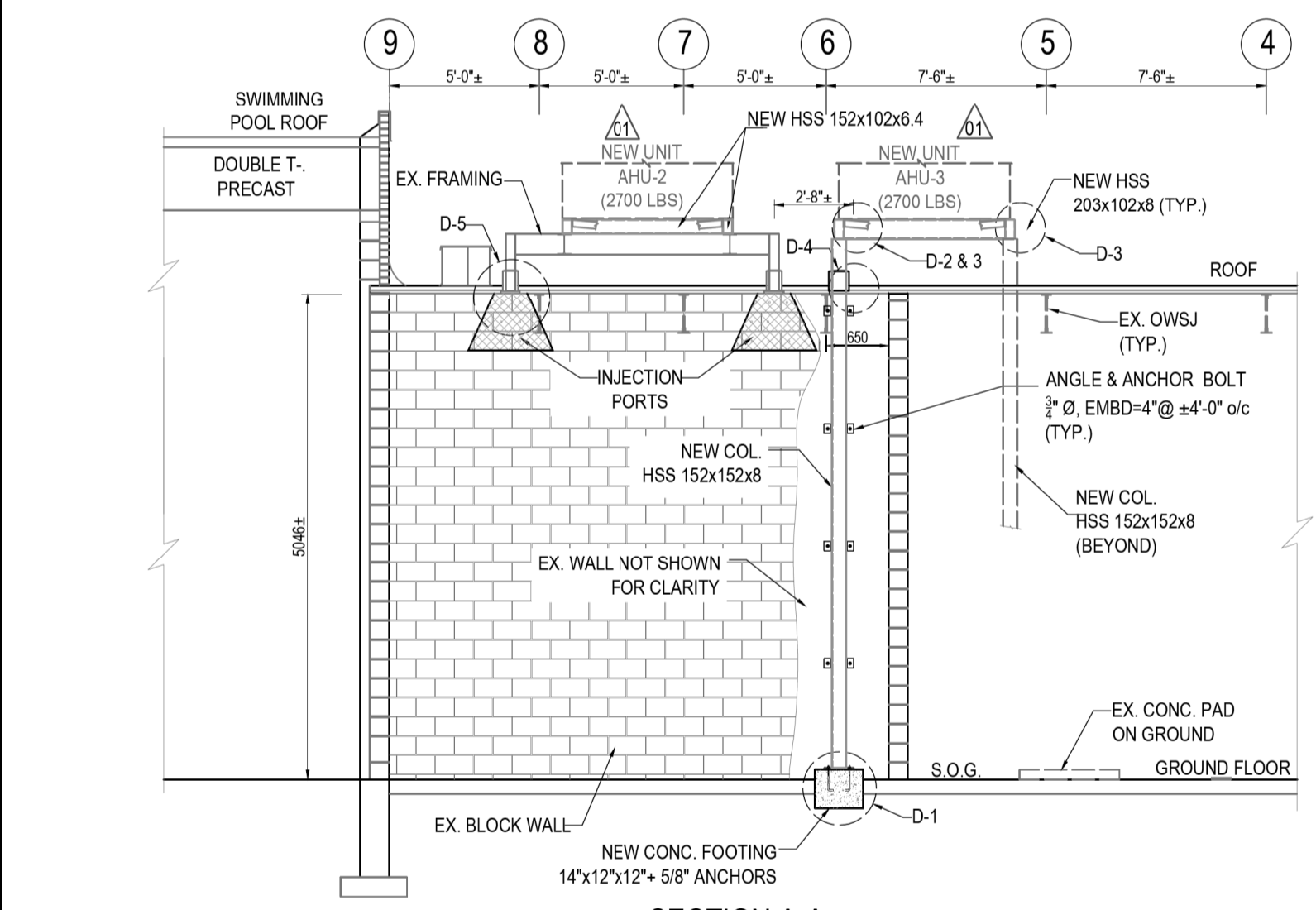
NEW FRAME AIR HANDLING UNITS SUPPORTS



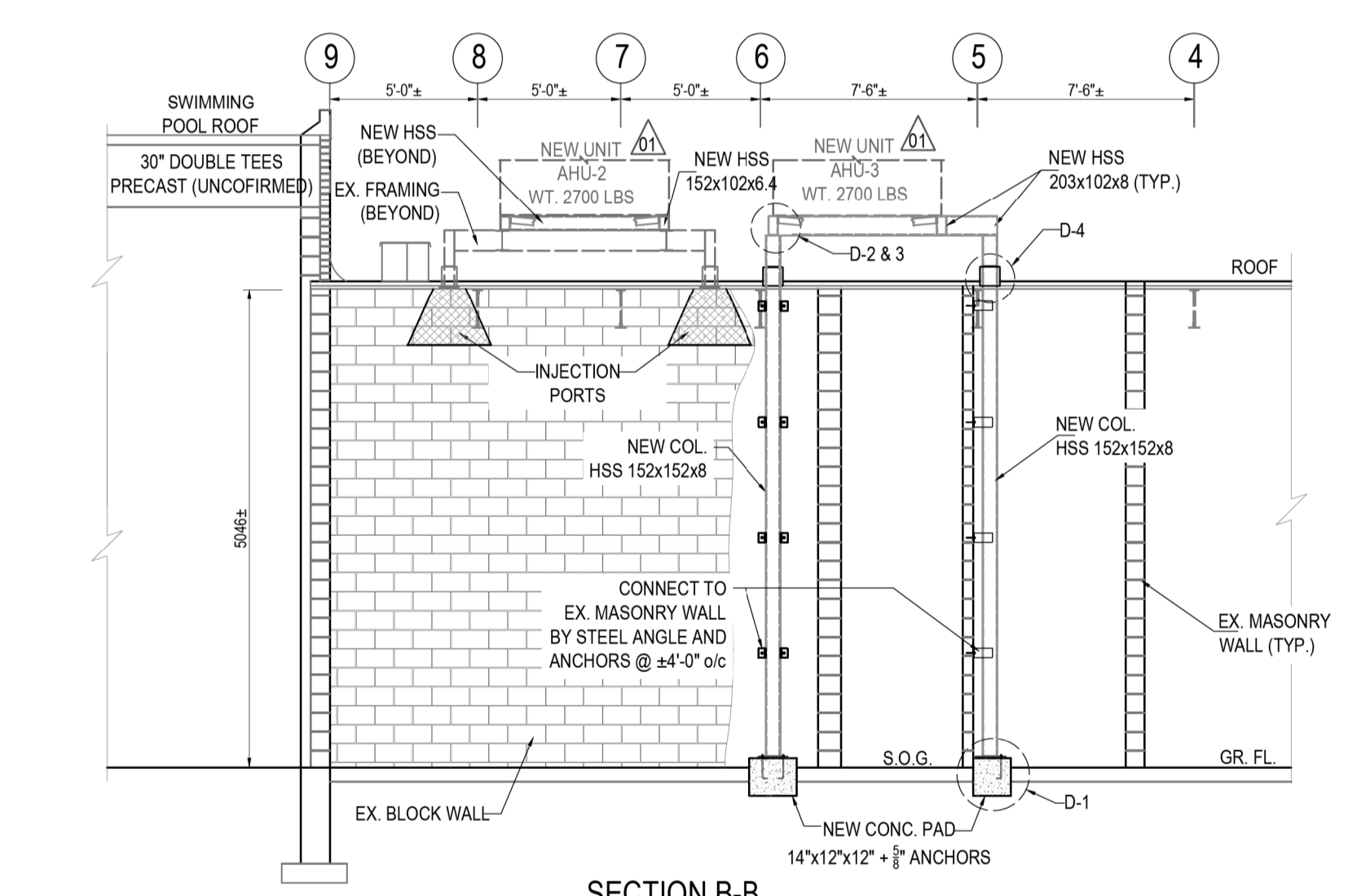
GENERAL PHOTOGRAPH OF MECH. UNITS TO BE REMOVED AND REPLACED



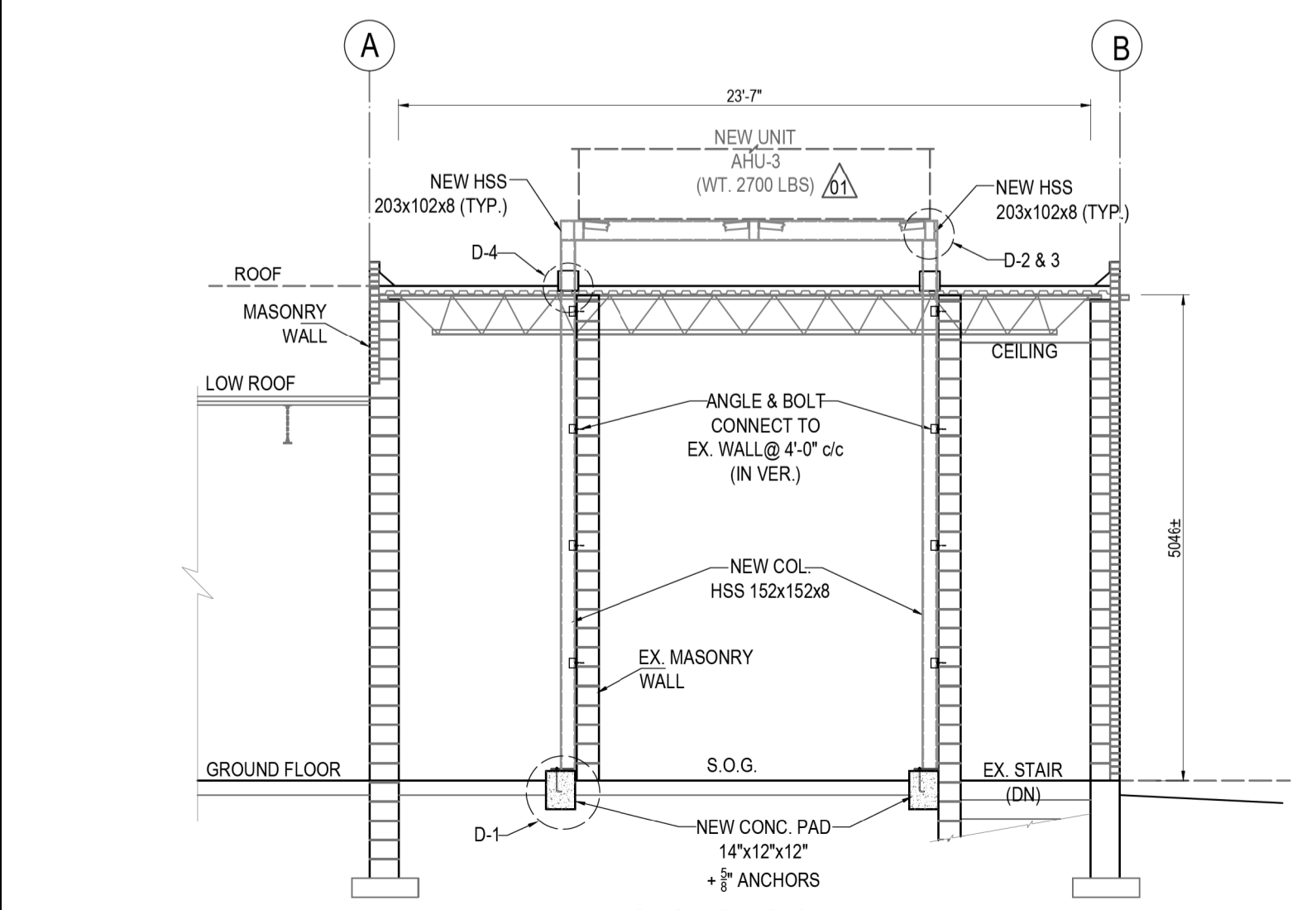
KEY PLAN



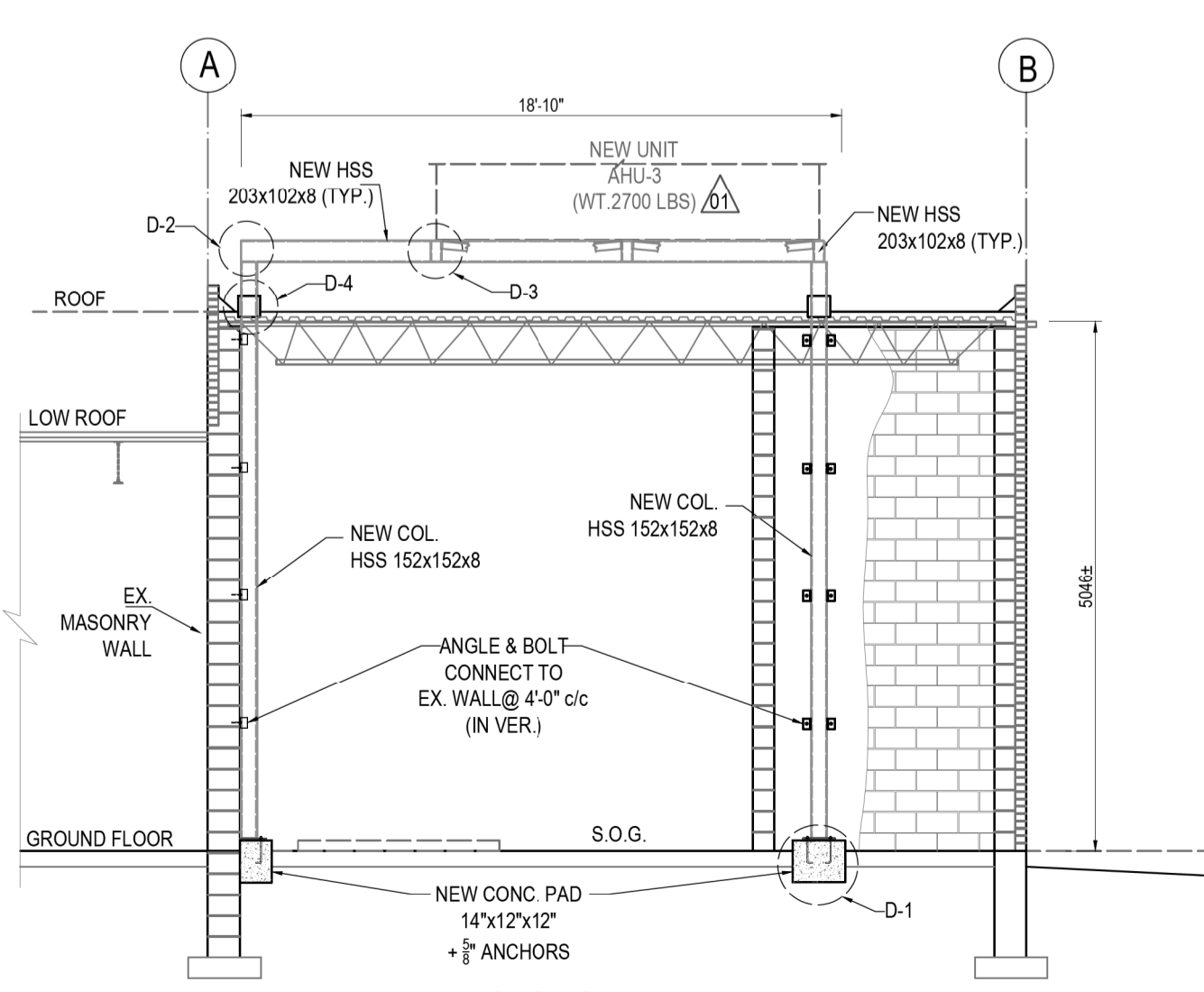
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

- 1.0 GENERAL**
- ALL DIMENSIONS ARE IMPERIAL UNLESS OTHERWISE NOTED.
 - DO NOT SCALE DRAWINGS.
 - WHERE DOCUMENTS ARE REFERRED, THEY SHALL BE THE LATEST EDITION.
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS.
 - THIS DRAWING IS SITE SPECIFIC AND PREPARED FOR THE EXCLUSIVE USE OF THE CITY OF TORONTO FOR THE PURPOSE OF PROVIDING STRUCTURAL DESIGN FOR THE SUPPORT OF THE NEW AIR HANDLING UNITS (AHU-2 & AHU-3) AT ELM SWIMMING POOL LOCATED AT 45 GOLFDOWN AVE, ETOBICOKE, ONTARIO. NO COPIES OR OTHER FORM OF DISTRIBUTION SHALL BE MADE WITHOUT THE WRITTEN AUTHORIZATION CONSENT OF CSE.
 - THIS DESIGN IS SITE SPECIFIC AND IS NOT TRANSFERABLE AND IS ONLY APPLICABLE TO THE NOTED STRUCTURE.
 - THIS GUIDELINE DEALS ONLY WITH STRUCTURAL RELATED ISSUES. ALL STRUCTURAL SAFETY RELATED WORK SHALL BE IN ACCORDANCE WITH PROVISIONS FOUND IN THE OHS&A & ITS REGULATIONS, THE CAN/CSA 350 CODE OF PRACTICE FOR SAFETY IN DEMOLITION OF STRUCTURES, THE NATIONAL AND ONTARIO BUILDING CODES AND THE CONTRACT PLANS AND SPECIFICATIONS, AS APPLICABLE.
 - MECHANICAL UNITS DESIGN LOAD AS PER DOCUMENTS PROVIDED TO CSE, DATED 12/21/23 (ISSUED FOR ALTERNATE DESIGN).
 - ALL DIMENSIONS AND ELEVATIONS SHALL BE CHECKED ON SITE PRIOR TO STARTING ANY FABRICATION/CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
 - THE CONTRACTOR SHALL SURVEY THE SITE AND ASSUME RESPONSIBILITY FOR ALL EXISTING SERVICES (WATER, POWER, SEWER, GAS, COMMUNICATION, ETC.).
 - PROVIDE FULL SHOP DRAWINGS (ALL STEEL WORK SIGNED & SEALED FOR CONNECTIONS PRIOR TO FABRICATION AND PRE-APPROVALS. MAKE GOOD ANY DAMAGE CAUSED BY THIS WORK.
 - FEATURES OF CONSTRUCTION THAT ARE NOT FULLY SHOWN SHALL BE OF THE SAME CHARACTER AS SHOWN FOR SIMILAR CONDITIONS.
- 2.0 REFERENCE CODES AND STANDARDS**
- ALL DOCUMENTS REFERENCED SHALL BE THE LATEST EDITION.
 - THE DESIGN AND CONSTRUCTION OF ALL WORK SHALL BE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE, THE CANADIAN NATIONAL BUILDING CODE, THE OCCUPATIONAL HEALTH AND SAFETY ACT AND ITS REGULATIONS FOR CONSTRUCTION PROJECTS (OHS&A), CSA-S350 "CODE OF PRACTICE FOR SAFETY IN DEMOLITION OF STRUCTURES", CSA-16 "LIMIT STATES DESIGN OF STEEL STRUCTURES" AND ANY OTHER RELEVANT CODE AND STANDARD.
 - ROOFING WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST CANADIAN ROOFING CONTRACTORS' ASSOCIATION (CRCA) STANDARD MANUAL AND DETAILS.
- 2.0 SPECIAL PRECAUTIONS**
- THE DESIGNATED CONSTRUCTOR SHALL ENSURE THAT ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE OHS&A AND ITS REGULATIONS.
 - ALL DESIGNATED SUBSTANCES IDENTIFIED BY EITHER THE OWNER, THE CONTRACTOR OR ANY SUB-CONTRACTOR SHALL BE REMOVED AND DISPOSED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS.
 - ALL MATERIALS AND WORKMANSHIP SHALL BE AS DETAILED HEREIN AND SHALL MEET OR EXCEED THE RELATED STANDARD & CODE. ANY ALTERNATIVE MATERIAL SHALL BE APPROVED BY CSE.
 - SHOULD ANY CONCERNS BE IDENTIFIED DURING THE WORK, STOP ALL WORK AND IMMEDIATELY REPORT TO CSE.
 - AS NOTED PREVIOUSLY, CONTRACTOR TO SUBMIT FULL SHOP DRAWINGS FOR APPROVAL BASED ON ACTUAL SITE MEASUREMENTS AND CONDITIONS, PRIOR TO ANY FABRICATION AND ERECTION IS TAKING PLACE.
 - THE DESIGNATED CONTRACTOR TO PROVIDE SHOP DRAWINGS TO INCLUDE DESIGN OF ALL CONNECTIONS UNDER SIGNED AND SEALED DOCUMENTS FOR APPROVALS.
 - PROVIDE ACCESS AND ALLOW CSE TO REVIEW PRIOR TO MAKING ANY OPENINGS.
 - CONFIRM THAT THE EXISTING UNITS BEAR ON THE MASONRY WALL.
 - PROTECT ROOFING FROM WELDING DAMAGE. MAKE GOOD REPAIRS AT NO COST TO CONTRACT.
 - PROTECT ALL EQUIPMENT, ELECTRICAL & MECHANICAL CONDUITS/PIPES, LIGHTS AND ARCHITECTURAL FINISHES BELOW OR ABOVE THE ROOF WHERE THE CONSTRUCTION WORK WILL TAKE PLACE. CONTRACTOR SHALL MAKE GOOD ANY DAMAGE CAUSED BY THE CONSTRUCTION WORK, TO MATCH THE EXISTING, AT NO EXTRA COST TO THE CONTRACT.
 - SPECIAL SAFE ACCESS SUBMISSION WILL BE REQUIRED WHEN WORKING IN THE POOL AREA.
 - THE CONTRACTOR IS RESPONSIBLE OF TEMPORARILY RELOCATING THE CHLORINE FROM ITS LOCATION IN ORDER TO INSTALL THE NEW STEEL COLUMN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL THE HOARDING WHERE IT IS REQUIRED AND TO PROVIDE RECYCLING BINS.
- 3.0 SCOPE OF WORK AND SUGGESTED WORK PROCEDURES**
- MAKE THE NECESSARY OPENINGS TO CONFIRM THE FOLLOWING:
 - EXISTING MECH. UNITS ARE BEARING ON WALL.
 - CONFIRMATION OF ROOFING SYSTEM.
 - PROPOSED LOCATION OF STEEL COLUMN SUPPORTS.
 - CONFIRMATION THAT MINIMAL OPENINGS ARE REQUIRED THROUGH THE ROOF TO ACCOMMODATE STEEL WORK.

- CONFIRMATION OF DOUBLE TEE DESIGN (OVER POOL) AND LOCATION OF OPENING ENLARGEMENTS.
 - INSTALL TEST AREA IN ROOF TO CONFIRM ROOFING SYSTEM DESIGN.
- 4.0 STRUCTURAL STEEL**
- ALL STRUCTURAL STEEL SHALL BE PERFORMED IN ACCORDANCE WITH CSA G40.21.
 - STRUCTURAL STEEL SHALL BE GRADE 350W MINIMUM FOR HOT-ROLLED & HOLLOW STRUCTURAL SECTIONS.
 - FABRICATION, ERECTION AND WORKMANSHIP SHALL CONFORM TO CSA S16.
 - ALL WELDING SHALL CONFORM TO CSA S16 AND W59, AND SHALL BE PERFORMED BY WELDERS QUALIFIED UNDER CSA W47.
 - SURFACES TO BE WELDED SHALL BE CLEANED OF ALL FOREIGN MATERIAL INCLUDING PAINT FILM.
 - ALL JOINTS SHALL BE WELDED USING E49XX ELECTRODES OR BEARING TYPE CONNECTIONS USING M20 ASTM A325 HIGH STRENGTH BOLTS UNLESS NOTED OTHERWISE.
 - ALL STEEL MEMBERS TO BE PAINTED WITH EPOXY COATING SYSTEM.
 - ENSURE THE PROPOSED PAINT IS COMPATIBLE WITH THE EXISTING.
 - SPECIAL FIRE WATCH PROCEDURES SHALL BE IN PLACE FOR 24 HRS AFTER WELDING WORK IS COMPLETED. THIS FIRE WATCH IS TO TAKE PLACE AFTER ANY WELDING PROCEDURE. INFORM FIRE DEPARTMENT AND PROVIDE FIRE ALARM MONITORING IN CASE FIRE ALARM IS DEACTIVATED.
- 5.0 FOOTINGS FOR HSS COLUMNS**
- CLEANLY SAWCUT FOOTING AREA. REMOVE LOOSE MATERIAL, AND COMPACT SUBGRADE TO PROVIDE A FIRM SURFACE.
 - FORM & CAST NEW FOOTING SO THAT TOP IS ABOVE SLAB LEVEL. USE 32 MPA PRE-MIXED CONCRETE FROM KING PACKAGING OR READY MIX SUPPLIER.
 - RESTORE CONCRETE FLOORING AND FLOORING FINISH TO MATCH EXISTING CONDITION.
- 6.0 CONCRETE AND MASONRY ANCHORS**
- ALL ANCHORS SHALL BE BY HILTI.
- 7.0 ROOF HATCH & VERTICAL STAIRS**
- ROOF HATCH & VERTICAL STAIRS SHALL BE AS SPECIFIED IN THE MECH. DRAWINGS. ANY INFORMATION SHOWN HEREIN IS SUPPLEMENTARY. IN CASE OF CONFLICT, THE MECH. DRAWINGS SHALL GOVERN.
- 8.0 ROOF FLASHING AND MATERIAL**
- ALL ROOFING WORK SHALL BE PERFORMED IN ACCORDANCE WITH CANADIAN ROOFING CONTRACTORS' ASSOCIATION (CRCA) ROOFING MANUAL LATEST EDITION.
 - FLASHING SHALL BE PREPARED STEEL SHEET IN ACCORDANCE WITH ASTM A653/A653M, CLASSIFICATION LFO, GRADE A, Z275 ZINC COATING DESIGNATION, 0.60 MM MINIMUM BASE STEEL THICKNESS, COMMERCIAL QUALITY, PRE-FINISHED WITH 10,000 SERIES COATING SYSTEM BY STELCO, DOFASCO OR COLOURITE. NOTE: FLASHING AND SEALANT SHOULD BE APPLIED AROUND ALL NEW OPENINGS THROUGH THE ROOF.
 - PLASTIC CEMENT SHALL BE IN ACCORDANCE WITH CAN/CSG 37.5-M.
 - SEALANT MATERIAL SHALL BE IN ACCORDANCE WITH CAN/CSG 19-13-M, WEATHERPROOF AND NON-SAG TYPE.
 - FASTENERS, WIRE NAILS, SPIKES AND STAPLES SHALL BE IN ACCORDANCE WITH CSA B111; FLAT HEAD ROOFING NAILS OF LENGTH, TYPE AND THICKNESS SUITABLE FOR METAL FLASHING APPLICATION.
 - USE CONCEALED FASTENERS WHERE POSSIBLE.
 - SEAL WHERE NECESSARY TO FORM WATERTIGHT SEAL BETWEEN FLASHING AND ADJOINING SURFACES AND BETWEEN FLASHING AND OTHER WORK. SEALING WORK CONSISTS OF BEDDING BETWEEN MEMBERS WHERE POSSIBLE. TOOL SEALANT TO CONCAVE PROFILE WHERE EXPOSED.
 - PITCH POCKETS SHALL EXTEND MIN. 6" ABOVE ROOFING.
 - SUBMIT ALL CATALOGUE CUT SHEETS OF ALL MATERIALS BEING USED FOR PRIOR APPROVAL.
 - PROVIDE AT LEAST TWO (2) YEARS WARRANTY FOR ALL ROOFING WORK.
- 9.0 REVIEW OF FINAL WORK**
- ALLOW CSE TO REVIEW WORK PRIOR TO ANY CONCEALMENT. CSE MUST BE ABLE TO REVIEW THE WORK FOR SIGN-OFF PURPOSES. RE-OPEN AREAS FOR REVIEW AS DIRECTED AT NO EXTRA COST TO THE CONTRACT.
- 10.0 MATERIAL HANDLING PROCEDURES**
- ALL DEMOLITION DEBRIS SHALL BE REMOVED FROM THE SITE ON A REGULAR BASIS. ENSURE THAT THE SITE IS KEPT IN A NEAT AND ORGANIZED MANNER AT ALL TIMES.
 - THE NON-RECYCLABLE WASTES SHALL BE LOADED INTO DISPOSAL BINS AND SHIPPED OFF SITE TO LICENSED DISPOSAL FACILITIES. THE RECYCLABLE MATERIAL SHALL BE FURTHER PROCESSED IN PREPARATION FOR SHIPMENT OFF SITE TO RECYCLING FACILITIES OR CUSTOMERS.

PROJECT: ELM POOL ROOF M.A.U.

CLIENT: RICE KONG ENGINEERING LTD.

PRIME CONSULTANT:

REVISIONS		
No.	Description	Date
01	ISSUED FOR PERMIT	04/26/24
02	ISSUED FOR TENDER	06/19/24
03#1	ROOF TOP WEIGHT ADDED	06/21/24

KEY PLAN

TEAM MEMBER(S):

CSE
STRUCTURAL FORENSIC & REHABILITATION SERVICES
701-1120 Finch Avenue West
Toronto (ON) M3J 3H7

SEAL: LICENSED PROFESSIONAL ENGINEER
H. A. HAMAD
100225108
JUNE 19, 2024
PROVINCE OF ONTARIO

SITE LOCATION: 45 GOLF TOWN DR., ETOBICOKE (ON)

DRAWING NAME: NEW ROOF UNITS STRUCTURAL FRAMING DESIGN

Date: 05/01/24
Checked By: YH/JC
Project No.: 2584.24
Drawing No.: S1-01

