STRUCTURAL CONCRETE UNIT MASONRY:

- THESE NOTES APPLY ONLY TO MASONRY INDICATED ON THE STRUCTURAL FRAMING PLANS. MASONRY NOT INDICATED ON THE STRUCTURAL FRAMING PLANS IS NOT PART OF THE STRUCTURAL FRAME AND IS CONSIDERED ARCHITECTURAL (NON-STRUCTURAL) MASONRY
  - HOWEVER, ARCHITECTURAL (NON-STRUCTURAL) MASONRY MAY ALSO REQUIRE REINFORCING AND REQUIREMENTS FOR THIS REINFORCING CAN BE FOUND AS FOLLOWS:
    1. ARCHITECTURAL (NON-STRUCTURAL) MASONRY VERTICAL REINFORCING:
       a. REFER TO "NON-STRUCTURAL CMU WALL VERTICAL REINFORCING SCHEDULE" IN THE STRUCTURAL DRAWINGS.
       b. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
    2. ARCHITECTURAL (NON-STRUCTURAL) MASONRY HORIZONTAL REINFORCING (INCLUDING HORIZONTAL JOINT REINFORCING):
       a. REFER TO THE TYPICAL DETAILS IN THE STRUCTURAL DRAWINGS FOR HORIZONTAL REINFORCING IN LINTELS AND BOND BEAMS OVER WALL OPENINGS.
       b. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
- ALL STRUCTURAL MASONRY INDICATED ON THE PLANS IS PART OF THE LATERAL LOAD RESISTING SYSTEM OF THE BUILDING. THE STRUCTURAL DETAILS INCLUDING CLIP ANGLES, DOWELS, AND ADDITIONAL SECONDARY FRAMING MEMBERS ETC. INDICATED ARE CRITICAL TO THE LATERAL PERFORMANCE OF THE BUILDING.
- PROVIDE MASONRY PRISM STRENGTH (F'M)= 1,500 PSI, MINIMUM.
- HOLLOW LOAD BEARING MASONRY UNITS SHALL CONFORM TO ASTM C 90, LIGHTWEIGHT, GRADE N, TYPE I OR II, WITH A MINIMUM COMPRESSIVE STRENGTH OF 1,900 PSI ON THE NET AREA OF THE BLOCK. UNLESS NOTED OTHERWISE, USE RUNNING BOND CONSTRUCTION.
- MORTAR SHALL CONFORM TO ASTM C 270, TYPE S WITH A MINIMUM COMPRESSIVE STRENGTH OF 1,800 PSI. PROPORTIONS BY VOLUME SHALL BE 1 PART PORTLAND CEMENT, 1/2 PART HYDRATED LIME AND 3 1/2 TO 4 1/2 PARTS MASON'S SAND. DO NOT USE AIR ENTRAINING LIME, MASONRY CEMENT OR ADMIXTURES. MEASURE MATERIALS WITH A BATCHING BOX - DO NOT MEASURE MATERIALS WITH A SHOVEL.

- COARSE GROUT SHALL CONFORM TO ASTM C 476, WITH A MAXIMUM AGGREGATE SIZE OF 3/8" AND A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI. PROPORTIONS BY VOLUME SHALL BE 1 PART PORTLAND CEMENT, 2 1/4 TO 3 PARTS MASON'S SAND AND 1 TO 2 PARTS PEA GRAVEL. SLUMP SHALL BE 10" TO 11".
- FINE GROUT SHALL CONFORM TO ASTM C476 WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI. PROPORTIONS BY VOLUME SHALL BE 1 PART PORTLAND CEMENT AND 2 1/4 TO 3 PARTS MASON'S SAND.
- REFER TO TYPICAL STRUCTURAL CMU WALL REINFORCING SCHEDULE FOR VERTICAL CMU WALL REINFORCING UNLESS NOTED OTHERWISE IN THE DRAWINGS.
- HORIZONTAL WALL REINFORCING IN BOND BEAMS OR TROUGH BLOCK UNITS SHALL BE STRAIGHT, PLACED CONTINUOUSLY AND FULLY GROUTED IN PLACE. REFER TO SCHEDULES, SECTIONS AND DETAILS FOR SPECIFIED HORIZONTAL REINFORCING. SPLICE BARS WHERE REQUIRED WITH 64 BAR DIAMETER LAP MINIMUM, TYPICAL UNLESS NOTED OTHERWISE, AND TIE THEM WITH WIRE.
- REFER TO SCHEDULES, SECTIONS AND DETAILS FOR REINFORCING IN GROUTED COLUMNS, PILASTERS AND BEAMS. CLEAR GROUT COVER MEASURED TO THE OUTERMOST BAR, STIRRUP OR TIE SHALL BE 1".
- CONTINUOUS HORIZONTAL JOINT REINFORCING:
  A. SINGLE WYTHE WALLS:
     1. CONTINUOUS HORIZONTAL WALL JOINT REINFORCING FOR SINGLE WYTHE WALLS SHALL BE GALVANIZED, STANDARD, TRUSS TYPE "DUR-O-WAL", OR EQUAL, AT 16" ON CENTER, VERTICALLY, TYPICAL, UNLESS NOTED OTHERWISE.
  B. CAVITY WALLS:
     1. WHERE MODULAR MASONRY UNITS ARE BACKED UP BY CONCRETE MASONRY UNITS, PROVIDE GALVANIZED, STANDARD, TRIROD, TRUSS TYPE "DUR-O-WAL", OR EQUAL, AT 16" ON CENTER, VERTICALLY, TYPICAL, UNLESS NOTED OTHERWISE. DO NOT USE ADJUSTABLE("PINTLE") TYPE TIES.

     2. WHERE NON-MODULAR MASONRY UNITS, SUCH AS KING SIZE BRICK, ARE BACKED UP BY CONCRETE MASONRY UNITS, PROVIDE GALVANIZED, STANDARD, ADJUSTABLE ("PINTLE"), TRUSS TYPE "DUR-O-WALL", OR EQUAL, AT 16" ON CENTER, VERTICALLY, TYPICAL, UNLESS NOTED OTHERWISE.
  C. CAVITY WALLS WITH TOTAL THICKNESS GREATER THAN 1'-4".
     1. WHERE MODULAR MASONRY UNITS ARE BACKED UP BY CONCRETE MASONRY UNITS, PROVIDE GALVANIZED, STANDARD, TRIROD, TRUSS TYPE "DUR-O-WAL", OR EQUAL, AT 16" ON CENTER, VERTICALLY, TYPICAL, UNLESS NOTED OTHERWISE. DO NOT USE ADJUSTABLE("PINTLE") TYPE TIES.
     2. WHERE NON-MODULAR MASONRY UNITS, SUCH AS KING SIZE BRICK, ARE BACKED UP BY CONCRETE MASONRY UNITS, PROVIDE GALVANIZED, STANDARD, ADJUSTABLE ("PINTLE"), TRUSS TYPE "DUR-O-WALL", OR EQUAL, AT 16" ON CENTER, VERTICALLY, TYPICAL, UNLESS NOTED OTHERWISE.
  D. PROVIDE CONTINUITY AT CORNERS AND INTERSECTIONS WITH PREFABRICATED CORNER AND TEE UNITS.
  E. SPLICE STANDARD HORIZONTAL WALL JOINT WIRE REINFORCING 11" MINIMUM AND PROVIDE AT LEAST ONE CROSS WIRE OF EACH PIECE OF REINFORCEMENT IN THE LAPPED DISTANCE.
  F. COVER FROM JOINT REINFORCING TO EDGE OF MORTAR SHALL BE 5/8".
- PROVIDE SHOP DRAWINGS SHOWING DETAILS OF BENDING AND PLACEMENT OF MASONRY REINFORCING BARS. COMPLY WITH ACI 315, "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT." SHOP DRAWINGS SHALL INCLUDE ELEVATIONS OF REINFORCED WALLS AT OPENINGS AND AT OTHER LOCATIONS WHERE THE SPECIFIED REINFORCING IS MORE INVOLVED THAN SIMPLE VERTICAL BARS AT A SPECIFIED SPACING.

- UNGROUTED MASONRY WALL CELLS MAY BE REQUIRED TO BE FILLED WITH SAND, VERMICULITE OR PERLITE FOR FIRE RATING, SOUNDPROOFING OR OTHER PURPOSES. REFER TO THE ARCHITECTURAL DRAWINGS FOR THESE REQUIREMENTS.
- WHERE NOT INDICATED IN THE STRUCTURAL DRAWINGS PROVIDE 3/8" VERTICAL THROUGH-WALL CONTROL JOINTS 5'-0" TO 12'-6" FROM CORNERS AND AT 25'-0" O.C. MAX. IN BETWEEN. THE ARCHITECTURAL DRAWINGS MAY INDICATE VERTICAL CONTROL JOINTS IN THE MASONRY FACADE AT EACH EDGE OF WALL OPENINGS. HOWEVER, CONTROL JOINTS IN THE BACKUP CMU SHALL NOT BE LOCATED WITHIN WALL OPENINGS, AT THE EDGE OF WALL OPENINGS OR WITHIN THE VERTICAL GROUTED CELLS AT EACH SIDE OF THE WALL OPENINGS, REGARDLESS OF WHERE THE CONTROL JOINTS ARE INDICATED IN THE ARCHITECTURAL DRAWINGS FOR THE MASONRY FACADE. COORDINATE JOINT LOCATIONS TO MISS BEAM AND JOIST BEARINGS. CUT ALL HORIZONTAL REINFORCING AT CONTROL JOINTS, TYPICAL UNLESS NOTED OTHERWISE. PROVIDE GROUTED CELLS AND REINFORCING AT EACH SIDE OF THE JOINT THE SAME AS AT THE END OF THE WALL. SUBMIT JOINT LAYOUT TO THE ARCHITECT AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO STARTING WALL CONSTRUCTION. FOR STRUCTURAL MASONRY WALLS THAT ARE SHOWN IN THE STRUCTURAL DRAWINGS, THIS CRITERIA FOR CONTROL JOINT LOCATIONS TAKES PRIORITY OVER JOINT LOCATIONS THAT MAY OR MAY NOT BE SHOWN IN THE ARCHITECTURAL DRAWINGS FOR STRUCTURAL MASONRY WALLS.

- LIMIT GROUT POURS TO 12 FEET IN HEIGHT FOR 8" AND THICKER WALLS AND 5 FEET IN HEIGHT FOR 6" THICK WALLS. BETWEEN GROUT POURS, FORM CONSTRUCTION JOINT BY LEAVING GROUT 1 1/2 INCHES BELOW THE MORTAR JOINT (1/2 INCH AT BOND BEAMS).

- CLEANOUTS ARE REQUIRED FOR GROUT POURS OVER 5 FT. PROVIDE CLEANOUTS IN THE BOTTOM COARSE OF THE GROUT POUR AT EVERY VERTICAL BAR MINIMUM. CLEANOUTS SHALL BE ON NON-FINISHED SIDE OF MASONRY CONSTRUCTION.

- PROVIDE TEMPORARY LATERAL WALL BRACING AS REQUIRED UNTIL THE FLOOR AND ROOF CONSTRUCTION, INCLUDING ALL STRUCTURAL COMPONENTS, AT THE TOP AND THE BOTTOM OF THE WALLS HAVE BEEN COMPLETED.
- THE FOLLOWING NOTES APPLY ONLY TO GROUTED CAVITY WALLS THAT USE BRICK/MASONRY BLOCKS AND JOINT REINFORCING AS A FORM FOR GROUTED COLUMNS, PILASTERS AND BEAMS WITHIN THE WALL.
  A. HORIZONTAL WALL JOINT REINFORCING FOR GROUTED CAVITY WALLS SHALL BE GALVANIZED STANDARD, TRUSS TYPE "DUR-O-WAL", OR EQUAL, AT **16"** ON CENTER, VERTICALLY, TYPICAL, UNLESS NOTED OTHERWISE. BOTH CROSS RODS AND SIDE RODS SHALL BE 3/16" IN DIAMETER. DO NOT USE ADJUSTABLE JOINT REINFORCING IN GROUTED CAVITY WALLS.
  B. Z PROVIDE Z TIES BETWEEN BRICK/MASONRY BLOCKS AND GROUT. Z TIES SHALL BE 3/16" DIAMETER X10" (TOTAL LENGTH) COLD DRAWN GALVANIZED WIRE WITH 2" LEG AT EACH END, CONFORMING TO ASTM A 82 TYPICAL. UNLESS NOTED OTHERWISE. PLACE ONE LEG IN MORTAR JOINT PARALLEL TO AND AT 3/4" FROM OUTSIDE FACE OF THE BRICK AND THE OTHER LEG IN GROUT.
     1. PLACE Z TIES AT 16" O.C. EACH WAY IN BOTH VERTICAL AND HORIZONTAL BRICK SURFACES, TYPICAL, UNLESS NOTED OTHERWISE.
     2. AT LINTEL BEAMS, PLACE Z TIES AT 8" O.C. EACH WAY IN BOTH VERTICAL AND HORIZONTAL (BOTTOM) BRICK SURFACES. Z TIES SHALL BE HOOKED AROUND 1/4" DIAMETER GALVANIZED RODS LOCATED IN THE HOLES THROUGH THE BOTTOM BRICKS.
  C. PROVIDE WEEP HOLES AT 2'-8" O.C. (2 WEEP HOLES MINIMUM) THROUGH THE EXTERIOR WYTHE OF THE MASONRY/BRICK VERTICAL JOINTS OVER FOUNDATION BEAMS/WALLS, BOND BEAMS, LINTEL BEAMS AND ALL OTHER PLACES WHERE CAVITY IS CONTINUOUSLY BLOCKED.
  D. INSULATION, WHERE SPECIFIED IN THE ARCHITECTURAL DRAWINGS, SHALL BE PLACED IN THE CAVITY IN STRIPS BETWEEN HORIZONTAL WALL JOINT REINFORCING AND SHALL NOT BE PLACED INTO GROUTED COLUMNS, PILASTERS OR BEAMS.

PLOT DATE: 8/19/2019 8:21:02 PM TEMPLATE VERSION:

DLD ENGINEERING
18106 FIRST BEND DR.
CYPRESS, TX. 77433
O:832.422.9350

ARCHITECT

O 281 410 1349
www.wsquarearch.com
W [S]QUARED| ARCHITECTS

DESIGN ARCHITECT
W SQUARE ARCHITECTS
3302 CANAL STREET, SUITE 36
HOSUTON, TX 77003
PHONE: (281) 410-1349

GREATER HEIGHTS SCHOOL
HOUSTON, TEXAS

STATE OF TEXAS
SLAVEN SEFEROVIC
106824
LICENSED PROFESSIONAL ENGINEER

07/22/2019

TEXAS REGISTERED ENGINEERING FIRM F-17306

THE INFORMATION DISCLOSED HEREIN IS PROPRIETARY WITH DLD ENGINEERING LLC., AND SHOULD NOT BE USED, DUPLICATED OR DISCLOSED WITHOUT ITS EXPRESS WRITTEN PERMISSION.

UNAUTHORIZED USE OR COPYING OF THIS OR ANY CONTENTS HEREOF IS STRICTLY FORBIDDEN

PROJECT: 002-1029.19.00
DRAWN BY: PM
CHECKED BY: SS
DRAWING SCALE: AS NOTED

REVISION

NO.	DESCRIPTION	DATE

DATE
07.22.2019

ISSUE
PERMIT SET

BUILDING TITLE
GH SCHOOL
4724 N MAIN STREET

SHEET TITLE
MASONRY - GENERAL STRUCTURAL NOTES

SHEET NO.
S0.50