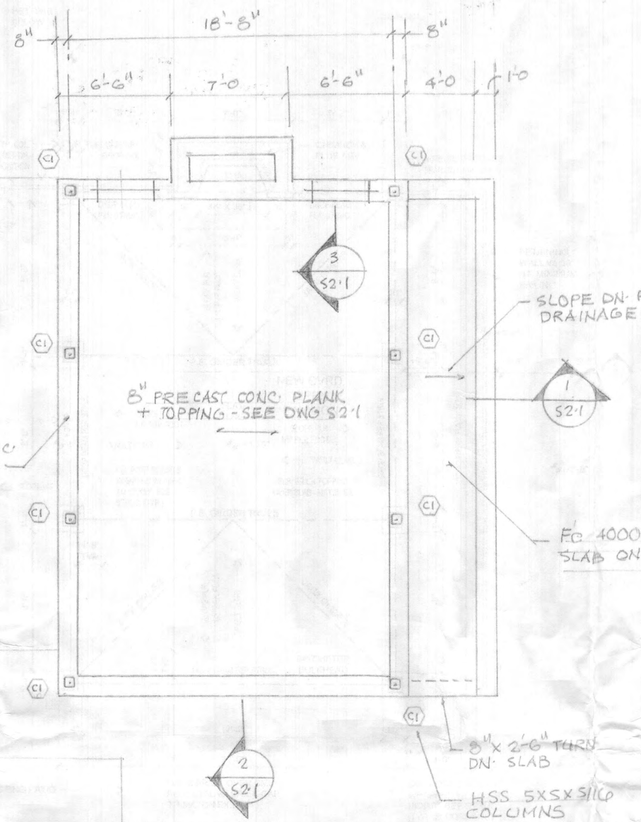
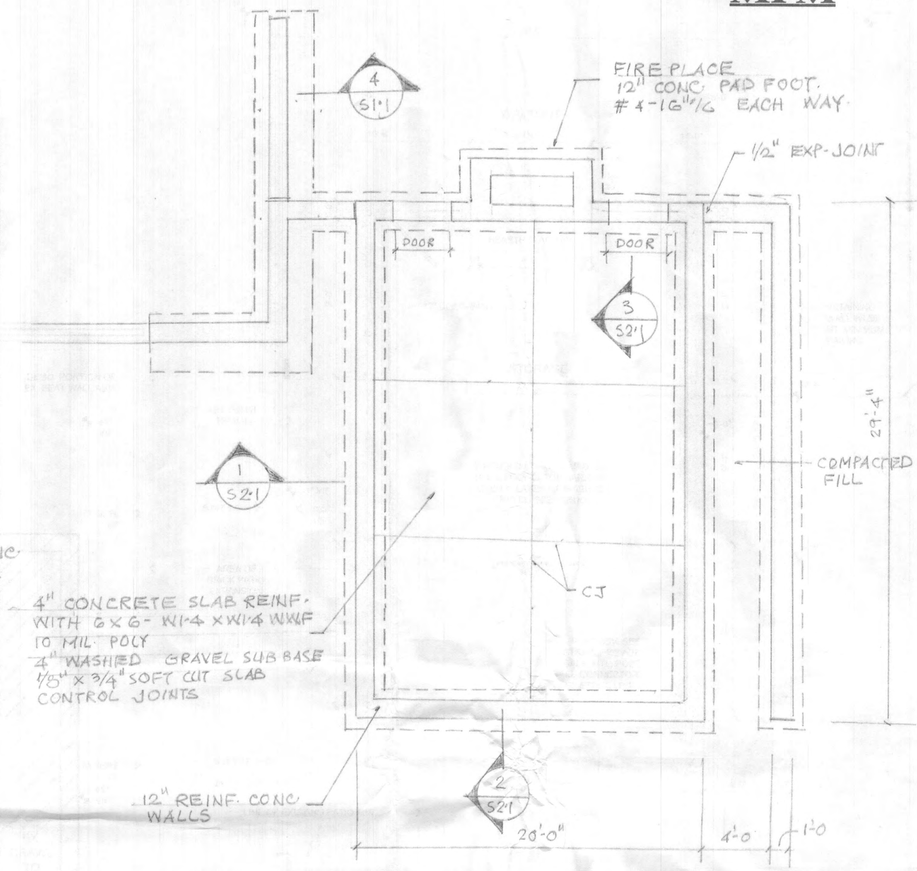
MPM
MINCIN PATEL MILANO, INC.
6511 Harford Road
Baltimore, Maryland 21214
Telephone: (410) 254-7500
Facsimile: (410) 254-7100

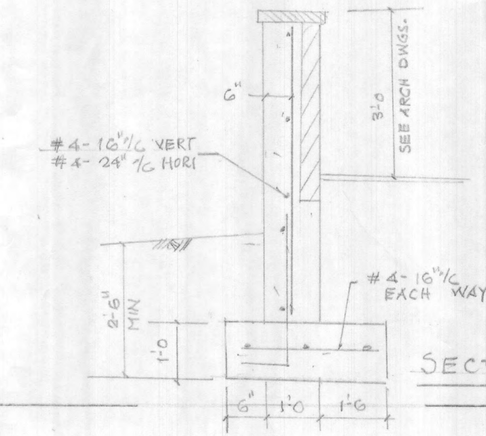
VERIFY EXISTING RETAINING WALL LOCATIONS



FLOOR FRAMING PLAN
1/4" = 1'-0"



LOWER LEVEL & FOUNDATION PLAN
1/4" = 1'-0"



SECTION 4/S1.1

NOTE:
STEEL MOMENT FRAMES ARE DESIGNED TO RESIST LATERAL WIND LOADS

NO CHANGE IN HATCHED AREA

RATCLIFFE ARCHITECTS
10464 Stevenson Road
Stevenson, Maryland 21153
Tel 410 484 7900 Fax 410 484 3695
pa@ratcliffearchitects.com

STATE OF MARYLAND
SHAWNA A. PATEL
13758
REGISTERED PROFESSIONAL ARCHITECT
11/1/22

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PROJECT:
NEW BREEZEWAY & PAVILION ADDITION PLANS FOR THE:

WHITE RESIDENCE

13550 TRIADELPHIA MILL RD.
CLARKSVILLE, MD 21029
HOWARD COUNTY

RELEASE SCHEDULE

DATE	SUMMARY
2021.12.23	BACKGROUNDS

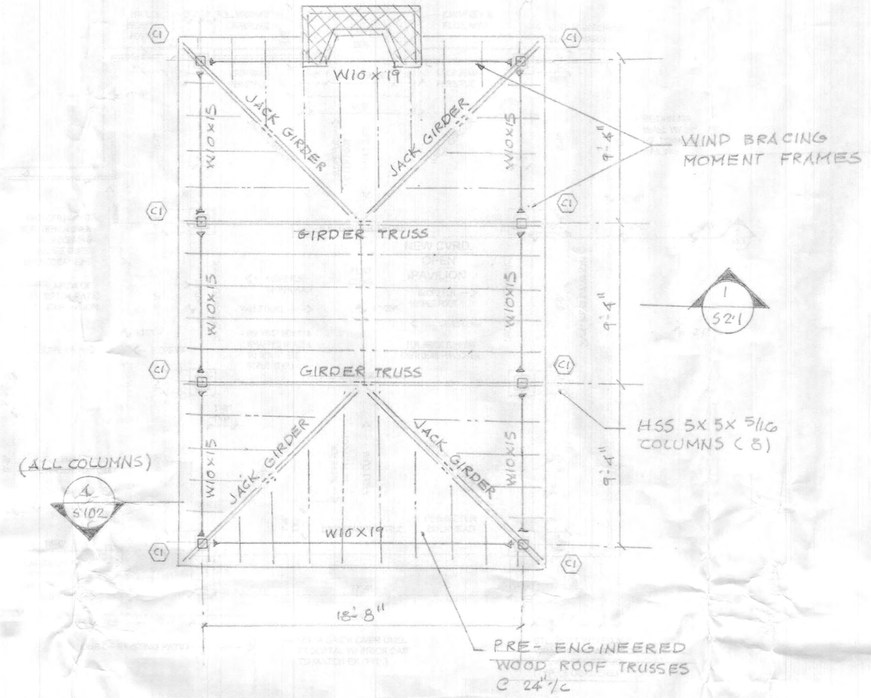
SCALE: AS SHOWN

DWG TITLE:
FOUNDATION/ LOWER LEVEL PAVILION FLOOR PLANS

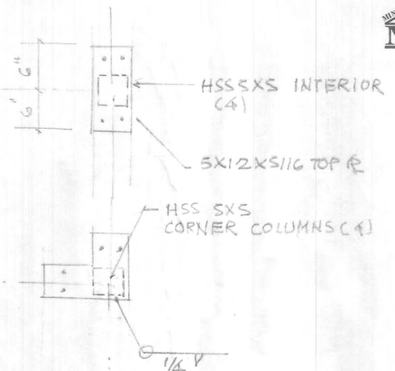
SHEET No.
S1.1

VERIFY EXISTING
RETAINING WALL
LOCATIONS

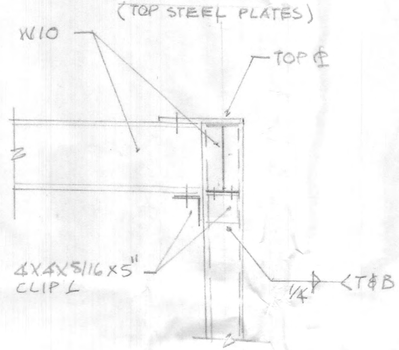
NO CHANGE IN
HATCHED AREA

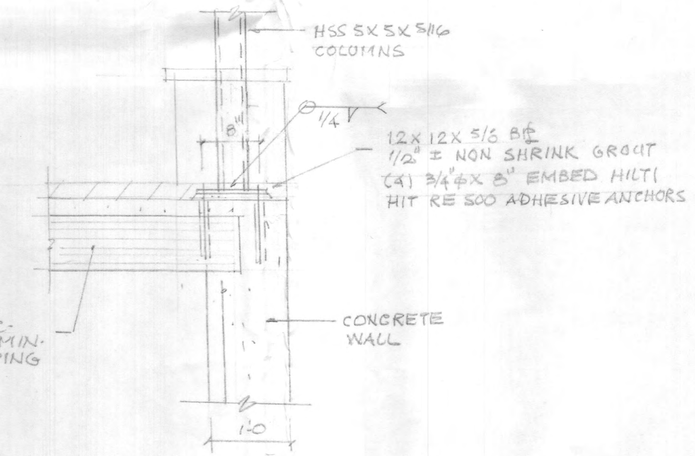


ROOF FRAMING PLAN
1/4" = 1'-0"



PLAN
(TOP STEEL PLATES)





SECTION- (4/S102)
1" = 1'-0"

MCNEIL PATEL MILANO, INC.
Consulting Structural Engineers
MPM
6511 Harford Road
Baltimore, Maryland 21214
Telephone: (410) 254-7500
Facsimile: (410) 254-7520

RATCLIFFE ARCHITECTS
10451 Stevenson Road
Stevenson, Maryland 21153
410-484-7161 FAX 410-484-7471
ratcliffearchitects.com

STATE OF MARYLAND
BENJAMIN A. PATEL
13759
PROFESSIONAL ENGINEER
4/19/22

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PROJECT:

NEW BREEZEWAY & PAVILION ADDITION PLANS FOR THE:

WHITE RESIDENCE

13550 TRIADELPHIA MILL RD.
CLARKSVILLE, MD 21029
HOWARD COUNTY

RELEASE SCHEDULE

DATE	SUMMARY
2021.12.23	BACKGROUNDS

SCALE: AS SHOWN

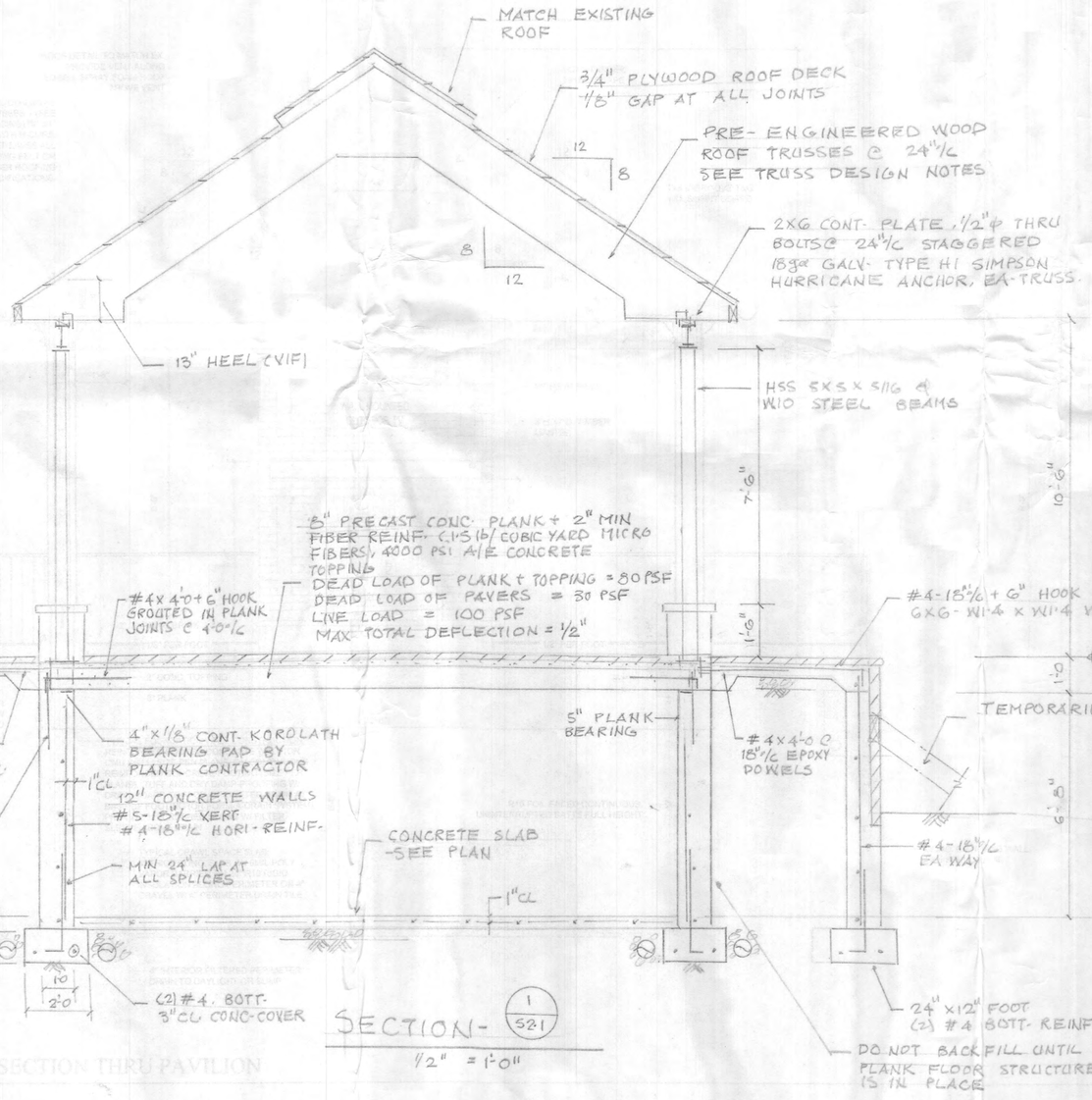
DWG TITLE:

ROOF FRAMING PLAN & SECTIONS

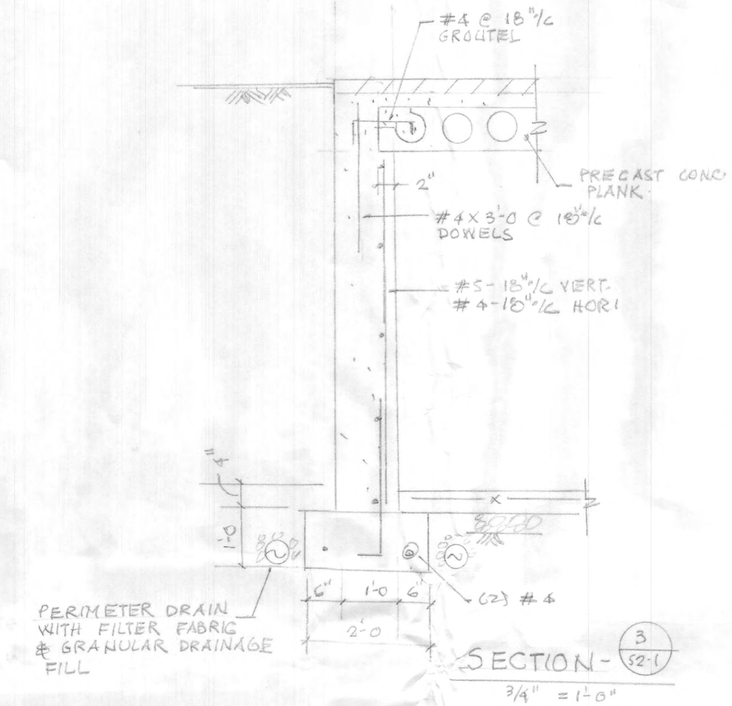
SHEET No.

S1.2

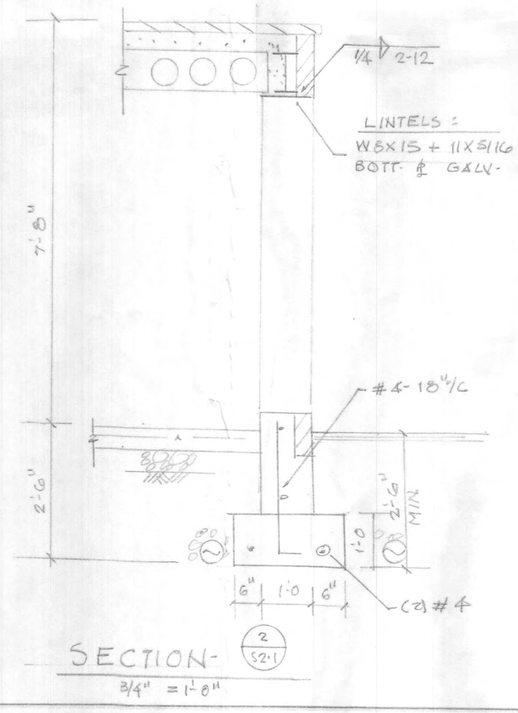
MPM
MAGUIN PATEL MILAND, INC.
8611 Harford Road
Baltimore, Maryland 21234
Telephone: (410) 254-7500
Facsimile: (410) 254-7100



SECTION- 1/S2.1
1/2" = 1'-0"



SECTION- 3/S2.1
3/4" = 1'-0"



SECTION- 2/S2.1
3/4" = 1'-0"

CROSS-SECTION THRU PAVILION 2

RATCLIFFE ARCHITECTS
10480 Little Patuxent Parkway, Suite 300, Columbia, Maryland 21044
410.992.7336 FAX 410.992.7337 ratcliffearch.com

STATE OF MARYLAND
JAMES A. PATEL
13778
PROFESSIONAL ENGINEER
1/14/22

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PROJECT:

NEW BREEZEWAY & PAVILION ADDITION PLANS FOR THE:

WHITE RESIDENCE

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CLARKSVILLE, MD 21029
HOWARD COUNTY

RELEASE SCHEDULE

DATE	SUMMARY
2021.12.23	BACKGROUNDS

SCALE: AS SHOWN

DWG TITLE:

STRUCTURAL SECTIONS

SHEET No.

S2.1

GENERAL NOTES

DIMENSIONS
DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE GENERALLY OBTAINED FROM THE ARCHITECT AND ARE INCLUDED AS INFORMATION COMPLIMENTARY TO THE ARCHITECTURAL DRAWINGS. GENERALLY, ARCHITECTURAL DIMENSIONS WILL GOVERN OVER STRUCTURAL DIMENSIONS. LAYOUT OF BUILDING FOUNDATIONS OR OTHER ITEMS MUST BE MADE USING THE DIMENSIONS SHOWN ON THE ARCHITECTURAL DRAWINGS ONLY.

STABILITY
THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. CONSTRUCTION MEANS & METHODS ARE SOLELY THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR MUST DETERMINE ERECTION PROCEDURE AND SEQUENCE, WHICH WILL ENSURE THE STABILITY OF THE BUILDING, ITS COMPONENT PARTS, AND TEMPORARY OR INCOMPLETE CONNECTIONS DURING ERECTION, INCLUDING THE ADDITION OF ANY SHORING, SHEETING, TEMPORARY GUYS, BRACING, TIE DOWNS, ETC. THAT MAY BE NECESSARY. SUCH MATERIAL AND METHODS ARE NOT SHOWN IN THE CONTRACT DRAWINGS OR SPECIFICATIONS AND IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

FOUNDATIONS
BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE 2'-6" MINIMUM BELOW FINISHED GRADE. A BEARING CAPACITY OF 1,500 PSF FOR FOOTING DESIGN, AND AN EQUIVALENT FLUID PRESSURE OF 50 PCF FOR RETAINING WALL DESIGN, HAS BEEN ASSUMED. IF SOIL OF THIS CAPACITY IS NOT ENCOUNTERED AT ELEVATIONS INDICATED ON PLAN, FOOTINGS SHALL BE INCREASED IN SIZE OR LOWERED AS DIRECTED BY THE STRUCTURAL ENGINEER. ELEVATIONS INDICATED ON PLAN ARE TO TOP OF FOOTINGS; ADJUST AS REQUIRED TO MEET MASONRY COURSE LINES. ALL FOOTINGS SHALL BE STEPPED AS REQUIRED TO PASS UNDER MECHANICAL PIPING. PROVIDE PIPE SLEEVES OF APPROPRIATE SIZE AND MATERIAL FOR ALL PIPES PASSING THROUGH FOUNDATION WALLS.

THE PLACING OF COMPACTED FILL MATERIAL AND EQUIPMENT USED FOR COMPACTION SHALL BE SUPERVISED AND APPROVED BY A GEOTECHNICAL ENGINEER. ALL FILL SHALL BE PLACED IN 8" LIFTS AND COMPACTED TO 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT, AS DETERMINED BY ASTM D 698.

CAST IN PLACE CONCRETE AND REINFORCING
CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH (F'c) = 3,000 PSI, MAXIMUM W/C = 0.55
EXPOSED TO WEATHER, EXTERIOR CONCRETE= 4,000 PSI, AIR-ENTRAINED, MAXIMUM W/C = 0.45
1.BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)
2.SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301)

CONCRETE MATERIALS
REINFORCING - ASTM A 615, GRADE 60 DEFORMED.
WELDED WIRE FABRIC - ASTM A 185.
SPLICE LAPS FOR ALL REINFORCING SHALL BE CLASS "B" SPLICE.
CEMENT - ASTM C 150, TYPE I OR III.
FLY ASH: ASTM C618, IF USED MAXIMUM 25% BY WEIGHT.
GROUND GRANULATED BLAST FURNACE SLAG: ASTM C989, MAXIMUM 25% BY WEIGHT.
AGGREGATES - ASTM C 33 ACI 304, ACI 211.1.
COARSE AGGREGATE - SIZE #67.
COARSE AGGREGATE FOR TOPPING SLABS, MASONRY FILL & CONCRETE FILL 3" AND LESS IN THICKNESS SHALL BE 1/2" MAXIMUM.
EXTERIOR CONCRETE SHALL BE AIR ENTRAINED 4%-6%
ALL CONCRETE, EXCEPT CONCRETE USED FOR FOUNDATIONS, SHALL CONTAIN WATER REDUCING ADMIXTURE.
EDGES OF VAPOR BARRIER SHALL BE LAPPED MINIMUM 6" AND TAPED.
CONTRACTOR SHALL SUBMIT DESIGN MIX FOR ALL CLASSES OF CONCRETE PRIOR TO PLACING ANY CONCRETE.
CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INDICATING THE SIZE, TYPE AND LOCATIONS OF CONSTRUCTION AND CONTROL JOINTS IN SLABS AND WALLS.

MASONRY
MASONRY WORK SHALL COMPLY WITH THE FOLLOWING STANDARDS:
1.BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530.2/ASCE 6)
2.SPECIFICATION FOR MASONRY STRUCTURES (ACI 530.1-02)

STRUCTURAL STEEL
FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO AISC SPECIFICATIONS AND AWS D1.1
WIDE FLANGE SHAPED, ASTM A992 (F'y =50 KSI)
PIPE STEEL: ASTM A53, GRADE B (F'y =35 KSI)
TUBE STEEL: ASTM A 500, GRADE B (F'y =46 KSI).
PLATE, BARS, ANGLE, CHANNEL, ASTM A36 (F'y =36 KSI)
STRUCTURAL BOLTS, ASTM A325, NUTS, ASTM A563, WASHERS, ASTM F436
WELDING ELECTRODES: E70XX
HIGH STRENGTH BOLTS: ASTM A 325
ANCHOR BOLTS: ASTM A 307
BASE PLATE AND BEARING PLATE GROUT, ASTM C1107, NON-METTALIC, NON-SHRINK.
SHEAR STUD CONNECTORS: ASTM A 108, GRADE 1015 OR 1020.
GALVANIZING OF STRUCTURAL STEEL: ASTM A 123 AND ASTM A153 FOR HARDWARE (SURFACE PREPARATION PER SSPC, SP-6).
SHOP COAT ALL STRUCTURAL STEEL WITH APPROVED PRIMER, UNLESS NOTED.
BEAM CONNECTIONS SHALL BE DESIGNED TO SUPPORT 50% BEAM WEB SHEAR CAPACITY PER AISC, UNLESS NOTED.

MASONRY
MASONRY WORK SHALL COMPLY WITH THE FOLLOWING STANDARDS:
1.BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530.2/ASCE 6)
2.SPECIFICATION FOR MASONRY STRUCTURES (ACI 530.1-02)

MASONRY MATERIAL
CONCRETE MASONRY UNITS, ASTM C 90.
CONCRETE MASONRY UNITS SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 1,900 PSI AND A MINIMUM PRISM STRENGTH OF F'm = 1,500 PSI.
BRICK UNITS, ASTM SPECIFICATION C 216.
MORTAR, ASTM C 270
MASONRY VENEER, TYPE N
ALL OTHER MASONRY, TYPE S
GROUT, ASTM C476, F'm =2,000 PSI
JOINT REINFORCING, ASTM A951
ALL MASONRY WALLS SHALL BE CONTINUALLY REINFORCED WITH TRUSS TYPE DUR-O-WAL AT 16" MAXIMUM O.C. VERTICALLY (UNLESS OTHERWISE NOTED ON DRAWINGS) PLUS EXTRA PIECES IMMEDIATELY ABOVE AND BELOW ALL OPENINGS. THESE ADDED PIECES SHALL EXTEND 2'-0" MINIMUM BEYOND EDGE OF OPENING.
ALL SPLICES IN REINFORCEMENT SHALL BE LAPPED 6" MINIMUM

WOOD FRAMING
ALL STRUCTURAL TIMBER SHALL CONFORM TO THE REQUIREMENTS OF THE "TIMBER CONSTRUCTION MANUAL", PREPARED BY THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION.
WOOD SHALL BE SOUTHERN PINE OR DOUGLAS FIR, WITH A MINIMUM F'b = 1,000 PSI AND E = 1,400,000 PSI.
PLYWOOD FLOOR DECK SHALL BE TONGUE AND GROOVE, APA RATED STURD I FLOOR WITH A SPAN RATING OF 24 O.C., EXPOSURE 1.
PLYWOOD ROOF SHEATHING SHALL BE APA RATED SHEATHING 32/16, EXPOSURE 1.
USE MINIMUM PLYWOOD THICKNESS AS SPECIFIED ON DRAWINGS.
ALL MICRO LAMS (ML) SHOWN ON THESE DRAWINGS SHALL CONFORM TO TRUSS JOIST CORPORATION'S SPECIFICATIONS.
LVL (MICRO LAM = LAMINATED VENEER LUMBER) SHALL HAVE A MINIMUM F'b=2,600 PSI, E=1,900,000 PSI AND F'b=285 PSI.
ALL CONNECTORS SHALL BE GALVANIZED AND AS MANUFACTURED BY TECO OR APPROVED EQUAL AND SHALL BE THE TYPE AS RECOMMENDED BY THE MANUFACTURER FOR THE INTENDED USAGE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

LIVE LOADS:
STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING SUPERIMPOSED LOADS.
GOVERNING CODES:
INTERNATIONAL RESIDENTIAL CODE, IRC 2015
MINIMUM DESIGN LOADS FOR BUILDINGS & OTHER STRUCTURES (ASCE 7-10)
FRAMED FLOOR LIVE LOAD = 100 PSF
ROOF LIVE LOAD =30 PSF
FLAT ROOF SNOW LOAD =30 PSF
WIND LOAD:
BASIC WIND SPEED (3 SECOND GUST)= 115 MPH
EXPOSURE= B
NET WIND UPLIFT= 20 PSF
EARTHQUAKE DESIGN DATA:
SEISMIC RISK CATEGORYII
SEISMIC DESIGN CATEGORYB
ASSUMED SITE CLASSD
SPECTRAL RESPONSE ACCELERATION Ss = 0.16
S1 = 0.051
SPECTRAL RESPONSE COEFFICIENT Sds = 0.17
Sdl = 0.082
SEISMIC IMPORTANCE FACTOR= 1.00
SEISMIC RESPONSE COEFFICIENT,Cs = 0.045
BASIC SEISMIC FORCE RESISTING SYSTEM: STEEL MOMENT FRAMES
ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

ROOF TRUSS NOTES

.
1.CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, FABRICATION AND ERECTION OF THE WOOD TRUSSES.

2.TRUSSES SHALL BE DESIGNED FOR THE LOADS INDICATED PLUS APPLICABLE SNOW DRIFT AS REQUIRED BY CODE

3.NO INCREASE ALLOWABLE STRESS, PLATE INCREASE, LUMBER INCREASE, REPEATATIVE STRESS INCREASE OR ANY OTHER TYPES OF LOAD REDUCTION OR STRESS INCREASES WILL BE PERMITED.

4.TRUSS DESIGN SHALL INCLUDE ALL TEMPORARY AND PERMANENT BRACING (TO BE DESIGNED AND DETAILED BY A REGISTERED PROFESSIONAL ENGINEER RETAINED AND PAID BY THE TRUSS CONTRACTOR). PERMANENT BRACING TO BE ATTACHED TO THE WALLS EXCEPT AT EXPANSION JOINTS.

5.TRUSS CONFIGURATIONS SHOWN ARE EXAMPLES ONLY. DESIGN COMPUTATIONS AND SHOP DRAWINGS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF PROJECT LOCATION SHALL BE SUBMITTED INCLUDING ALL CONNECTIONS AND ERECTION DETAILS FOR REVIEW AND APPROVAL BY THE DESIGN TEAM. PROFESSIONAL ENGINEER SHALL VISIT THE SITE TO CONFIRM THAT THE TRUSSES, AS ERECTED, ARE IN ACCORDANCE WITH THE DESIGN. ALL TRUSS CONNECTIONS TO FULLY DEVELOP STRESSES IN MEMBER (NO ALLOWANCE FOR END BEARING WILL BE PERMITTED) PLUS ANY ECCENTRICITIES CAUSED BY CONNECTIONS. CONNECTORS TO BE USED IN STRICT ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS. ALL CONNECTORS TO BE GALVANIZED.

6.ROOF TRUSSES SHALL BE DESIGNED TO COMPLY WITH LOADS AS INDICATED BELOW:
TOP CHORDDEAD LOAD=10 PSF
LIVE LOAD=30 PSF (SEE NOTE 5 ABOVE)
NEW UPLIFT=20 PSF
BOTTOM CHORDDEAD LOAD=10 PSF
MAXIMUM LIVE LOAD DEFLECTION =SPAN/360

FASTENING SCHEDULE

1. JOISTS TO SILL OR GIRDER(3) 8d COMMON (0.131" DIA.x2 1/2"), TOENAIL
2. BRIDGING TO JOIST(2) 8d COMMON, TOE NAIL EACH END
3. SOLE PLATE TO JOISTS OR BLOCKING 16d NAILS @ 16"o.c.
4. TOP PLATE TO STUD(2) 16d COMMON (0.162" DIA.x3 1/2") END NAILS
5. STUD TO SOLE PLATE(4) 8d COMMON OR (2) 16d COMMON
6. DOUBLE STUDS16d @ 24"o.c.
7. DOUBLE TOP PLATE16d @ 16"o.c.
8. BLOCKING BETWEEN JOISTS OR RAFTERSTO TOP PLATE(3) 8d COMMON, TOENAIL
9. RIM JOISTS TO TOP PLATE8d @ 6"o.c.
10. TOP PLATE, LAPS AND INTERSECTIONS(2) 16d COMMON
11. CONTINUOUS HEADER, TWO PIECES16d COMMON @ 16"o.c.
12. CONTINUOUS HEADER TO STUD(4) 8d COMMON, TOENAIL
13. RAFTER TO TOP PLATE(3) 8d COMMON, TOENAIL
14. BUILT UP CORNER STUDS16d @ 16"o.c.
15. BUILT UP GIRDER AND BEAMS20d @ 24"o.c., FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES, UNLESS NOTED ON DWG'S TO BE THROUGH BOLTED
16. COLLAR TIES TO RAFTER(4) 12d FACE NAIL
17. JACK RAFTER TO HIP(3) 10d COMMON, TOENAIL
18. ROOF RAFTER TO SINGLE 2x RIDGE BEAM(2) 16d COMMON, TOENAIL
19. ROOF RAFTER TO RIDGE BEAMJOIST HANGERS, MINIMUM 500 LB. SHEAR CAPACITY
20. JOIST TO RIBBON BOARD(3) 16d, FACE NAIL
21. CORNER STUDS16d COMMON 12"o.c. FACE NAIL
22. WOOD STRUCTURAL WALL PANEL 16d COMMON @ 6"o.c. INTO TOP PLATE, 8d COMMON @ 6"o/c. AT ALL EDGES AND 12"o/c. AT ALL OTHER LOCATIONS
23. PLYWOOD OR OSB DECKING LOCATIONS6d COMMON @ 6"o.c. AT EDGES, 12"o.c. AT ALL OTHER LOCATIONS
24. MULTIPLE LVL AND FLITCH PLATE BEAMS½" DIA. THRU BOLTS @16" o/c

MINCIN PATEL MILANO, INC.
MPM
8511 Herford Road
Baltimore, Maryland 21224
Telephone: (410) 254-7500
Facsimile: (410) 254-7100

RATCLIFFE ARCHITECTS
10160 Stevenson Road
Stevenson, Maryland 21153
410-484-7010 • Fax 410-484-2819 • pat@patcliffearchitects.com

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PROJECT:
NEW BREE
PAVILION
PLANS F
WH
RESID
13550 TRIADEL
CLARKSVILL
HOWARD

RELEASE S
DATE
2021.12.23

SCALE:

DWG TITLE:
STRUC
NOT

SHEE
S3