GDI ENGINEERING

GDI ENGINEERING
INNOVATING SOLUTIONS

Custom Residence

Residential

Galveston- Texas

Custom Residence

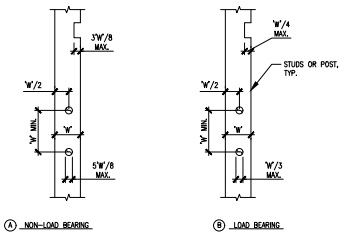
Client: Rockstar Development

Location: 3005 Galveston Suite A

Surface area: 15799 SF

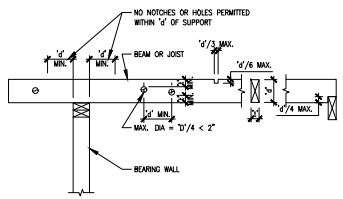
About Custom Residence

- Our team successfully completed a comprehensive MEP (Mechanical, Electrical, Plumbing) and Structural design project for a 15,799 SF facility located in the Galveston area.
- The scope of work included detailed plumbing, mechanical, and electrical design and engineering services. For the plumbing design, we provided general notes and specification sheets, water supply calculations, water supply plan design, sewer calculations, gas calculations, and all necessary details and approvals.
- The mechanical design involved HVAC system design, equipment schedules, ventilation calculations, heat load calculations, equipment selection, and plan check approvals.
- On the electrical side, we delivered general notes, power plans, lighting plans, single line diagrams, panel board schedules, load calculations, and electrical details, along with obtaining plan check approvals.
- Our integrated approach ensured the project met all local code requirements and the client's specifications.



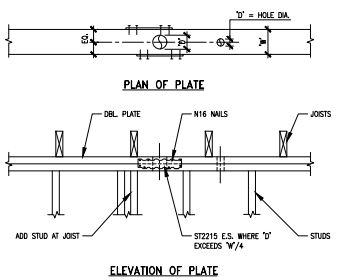
NOTES:
1. NOTCHING OF MEMBER IS NOT PERMITTED WITHOUT WRITTEN APPROVAL FROM THE OWNER'S REPRESENTATIVE.
2. DO NOT PLACE HOLES IN MEMBERS WITH HOLDOWN ANCHORS.

1 HOLES AND NOTCHES IN STUD OR POSTS
N.T.S.

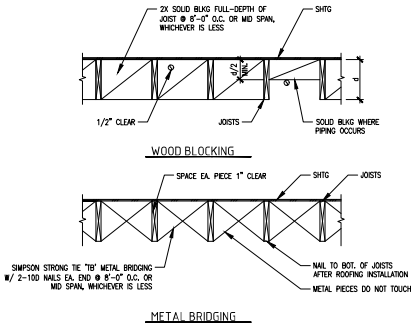


NOTES:
1. HOLES & NOTCHES NOT PERMITTED FOR D=4" OR LESS.
2. NOTCHES NOT PERMITTED WITHIN MIDDLE THIRD OF SPAN.
3. NOTCHES NOT PERMITTED IN BOTTOM OF MEMBER UNLESS SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS OR WRITTEN APPROVAL IS OBTAINED FROM THE OWNER'S REPRESENTATIVE.

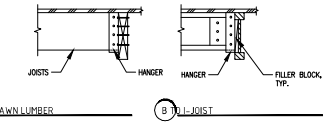
4 HOLES AND NOTCHES IN BEAMS & JOISTS
N.T.S.



7 HOLES IN PLATES OF WALLS
N.T.S.

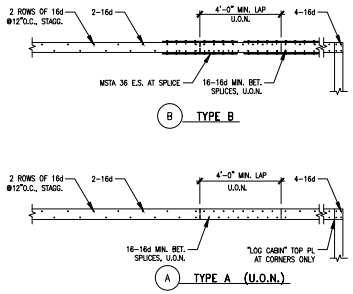


9 WOOD JOISTS BRIDGING
N.T.S.

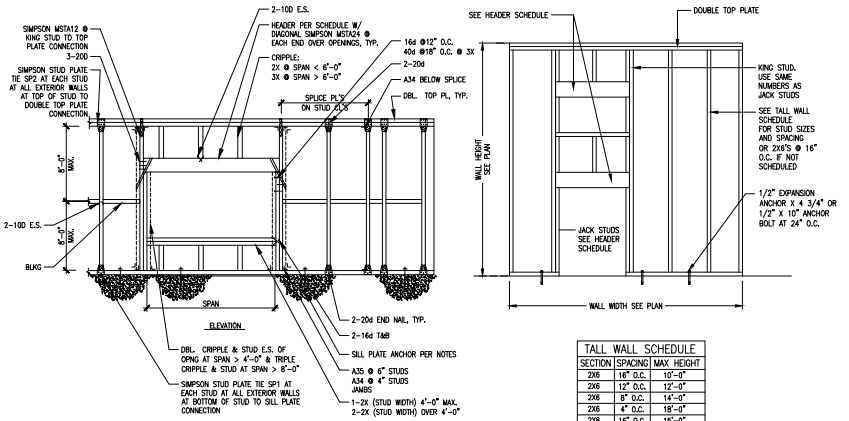


HANGER SCHEDULE			
SUPPORTED MEMBER	SUPPORT TYPE	HANGER	COMMENT
2X	SOLID SAWN	LU OR HU	SIMPSON, LARR 25074
4X	SOLID SAWN	LU OR HU	SIMPSON, LARR 25074

2 JOIST HANGER CONNECTION
N.T.S.



5 TOP PLATE SPLICE – WOOD FRAMING
N.T.S.



HEADER SCHEDULE	(U.O.N. ON DWGS.)		
	SPAN ≤ 3'-0"	SPAN ≤ 4'-0"	SPAN ≤ 6'-0"
2x6 STUDS	(2)2X8 W/ 1/2" THICK PLYWOOD BETWEEN	(2)2X10 W/ 1/2" THICK PLYWOOD BETWEEN	(2)2X12 W/ 1/2" THICK PLYWOOD BETWEEN

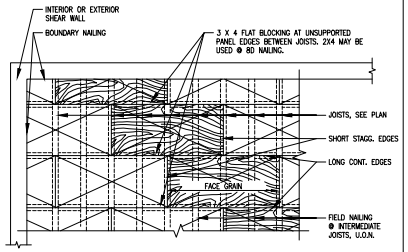
NOTES:
1. FOR SHEAR WALLS, REFER TO TYPICAL SHEAR WALL DETAILS SHEET.
2. SILL PLATE ANCHORS:
   2.1. (N) CONC: 8" DIA. ANCHOR BOLT w/8" EMBED @ 48" O.C., TWO (2) MIN. PER MEMBER.
   2.2. (E) CONC: 1/2" HILTI KB3 w/4" EMBED @ 36" O.C. (LARR 25077)
   2.3. WD. SILL: 1/2" DIA. LAG SCREW w/4" EMBED AT 36" O.C., PLUS NAILING PER GEN. NOTES.

TALL WALL SCHEDULE		
SECTION	SPACING	MAX HEIGHT
2X6	16" O.C.	10'-0"
2X6	12" O.C.	12'-0"
2X6	8" O.C.	14'-0"
2X6	4" O.C.	18'-0"
2X8	16" O.C.	15'-0"
2X8	12" O.C.	16'-5"
2X8	8" O.C.	15'-5"
6X6	24" O.C.	22'-6"

*ALTERNATIVE TO 6X6 POST USE (3)2X6 NAILED TOGETHER POST

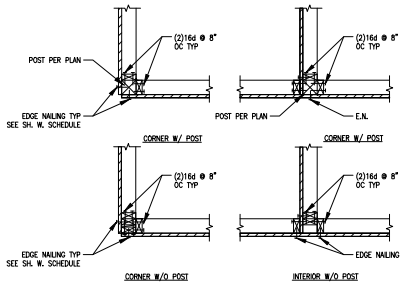
TYPICAL TALL WALL DETIAL
NO SCALE

8 STUD WALL FRAMING
N.T.S.



NOTES:
1. APPLY PLYWOOD SHEATHING WITH FACE GRAIN PERPENDICULAR TO JOISTS. STAGGER 4'-0" EDGES AS SHOWN.
2. 2. REFER TO DETAILS FOR SPECIAL NAILING OVER SHEAR WALLS, AT COLLECTORS, TIES, ETC.
3. 3. ALL ROOF NAILING SHALL BE INSPECTED BEFORE ANY ROOFING MATERIAL IS APPLIED.
4. 4. REFER TO S1.00 FOR NAILING PATTERN

3 ROOF AND FLOOR SHEATHING
N.T.S.



NOTES:
1. SEE FRAMING PLAN FOR SHEARWALL FACE OF WALL, ONE SIDE, TWO SIDE AND SCHEDULE REFERENCES.
2. ALL STUDS 1 1/2" THK. U.N.O.

6 SHEAR WALL INTERSECTION FRAMING
N.T.S.

1	0123			ISSUED FOR CONSTRUCTION
REV.	DATE	BY	CHK	APP. REVISION DESCRIPTION

PROJECT ADDRESS

Sandy Shores (2003)
ABST 121, Lot 1
Galveston, TX

DRAWING TITLE

TYPICAL DETAILS

DOB JOB No.:

DRAWING NO. S2

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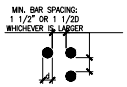
comm no.

date 11.01.2023

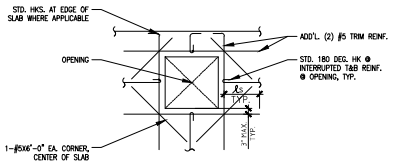
ID. NO. 001



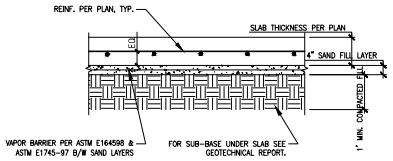
(A) BAR SPACING FOR NON-SPLICED BARS

(B) BAR SPACING FOR BARS SPLICED WITH A NON-CONTACT LAP

1 BAR SPACING IN CONCRETE
N.T.S.

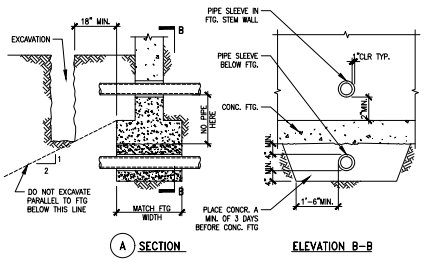


3 REINFORCING AT OPENING
N.T.S.



NOTES:
1. ALL NEW CONCRETE SHALL BEAR IN 90% COMPACTED FILL AND BE INSPECTED BY A LICENSED GEOTECHNICAL ENGINEER.

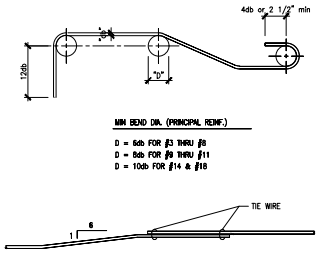
4 SLAB ON GRADE (S.O.G.) DETAIL
N.T.S.



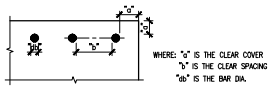
NOTES:
1. DO NOT INTERRUPT FOOTING REINFORCING. LOCATE SLEEVE TO COORDINATE WITH REINFORCING. MAX. SLEEVE SIZE = 8" DIA.

6 PIPE SLEEVE THRU STEM WALL FTG.
N.T.S.

CLASS B TENSION LAP SPLICE LENGTH (Ls)							CLASS A SPLICE/DEVELPMNT LENGTH (Ld)					
	3000 PSI CONC f'c		4000 PSI CONC f'c		5000 PSI CONC f'c		3000 PSI CONC f'c		4000 PSI CONC f'c		5000 PSI CONC f'c	
BAR SIZE	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
#3	28	22	24	19	22	17	22	17	19	15	17	13
#4	37	29	32	25	29	22	29	22	25	19	22	17
#5	47	36	40	31	36	28	36	28	31	24	28	22
#6	56	43	48	37	43	33	43	33	37	29	33	26
#7	81	63	70	54	63	49	63	48	54	42	49	37
#8	93	72	80	62	72	55	72	55	62	48	56	43
#9	105	81	91	70	81	63	81	62	70	54	63	48
#10	118	91	102	79	91	70	91	70	79	61	70	54
#11	131	101	113	87	101	78	101	78	87	67	78	60

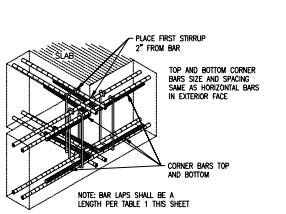


BAR	D
#3	1 1/2"
#4	2"
#4	2"
#5	2 1/2"
#6	4 1/2"

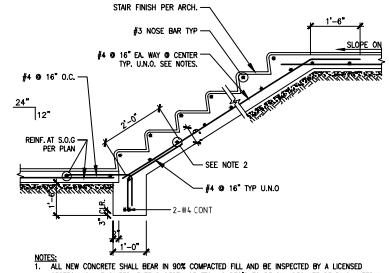


NOTES:
1. ALL SPLICES SHALL BE CLASS B TENSION LAP SPLICES U.N.O.
2. LENGTHS SHOWN ARE IN INCHES.
3. INCREASE LENGTHS 30% FOR LIGHT WEIGHT CONCRETE AND AT FOUR BAR BUNDLES (WHERE 2 BARS LAP WITH 2 OTHER BARS) INDIVIDUAL BARS WITHIN A BUNDLE SHALL NOT OVERLAP.
4. TOP BARS - HORIZONTAL BARS PLACED WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW THEM.
5. INCREASE LENGTHS 50% WHERE a < db OR WHERE a < db FOR BEAMS AND COLUMNS OR WHERE a < db FOR OTHER ELEMENTS.

2 TYPICAL REINFORCING DETAILS AND TENSION LAP SPLICE SCHEDULE
N.T.S.

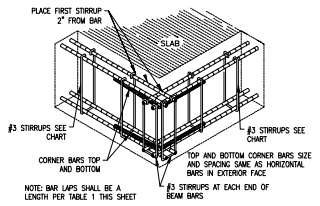


5 WALL REINF. AT CORNERS & INTERSECTIONS
N.T.S.



NOTES:
1. ALL NEW CONCRETE SHALL BEAR IN 90% COMPACTED FILL AND BE INSPECTED BY A LICENSED GEOTECHNICAL ENGINEER. EXTEND DEPTH OF FTG. AS REQ'D TO REACH ADEQUATE BEARING MATERIAL.
2. DOWEL STAIR HORIZONATAL BARS INTO RAILING WALL, WHERE PRESENT
3. SEE S.O.G DETAIL FOR SUB-PREP.
4. DIMENSIONS PER ARCH. MAX. STAIR RISE = 7.75". MIN. STAIR RUN = 10"

7 STAIR ON GRADE DETAIL
N.T.S.



REV	DATE	BY	CHK	APP	REVISION DESCRIPTION
1	0123				ISSUED FOR CONSTRUCTION

PROJECT ADDRESS

Sandy Shores (2003)
ABST 121, Lot 1
Galveston, TX

DRAWING TITLE

TYPICAL DETAILS

DOB JOB No.:

DRAWING NO.

S3

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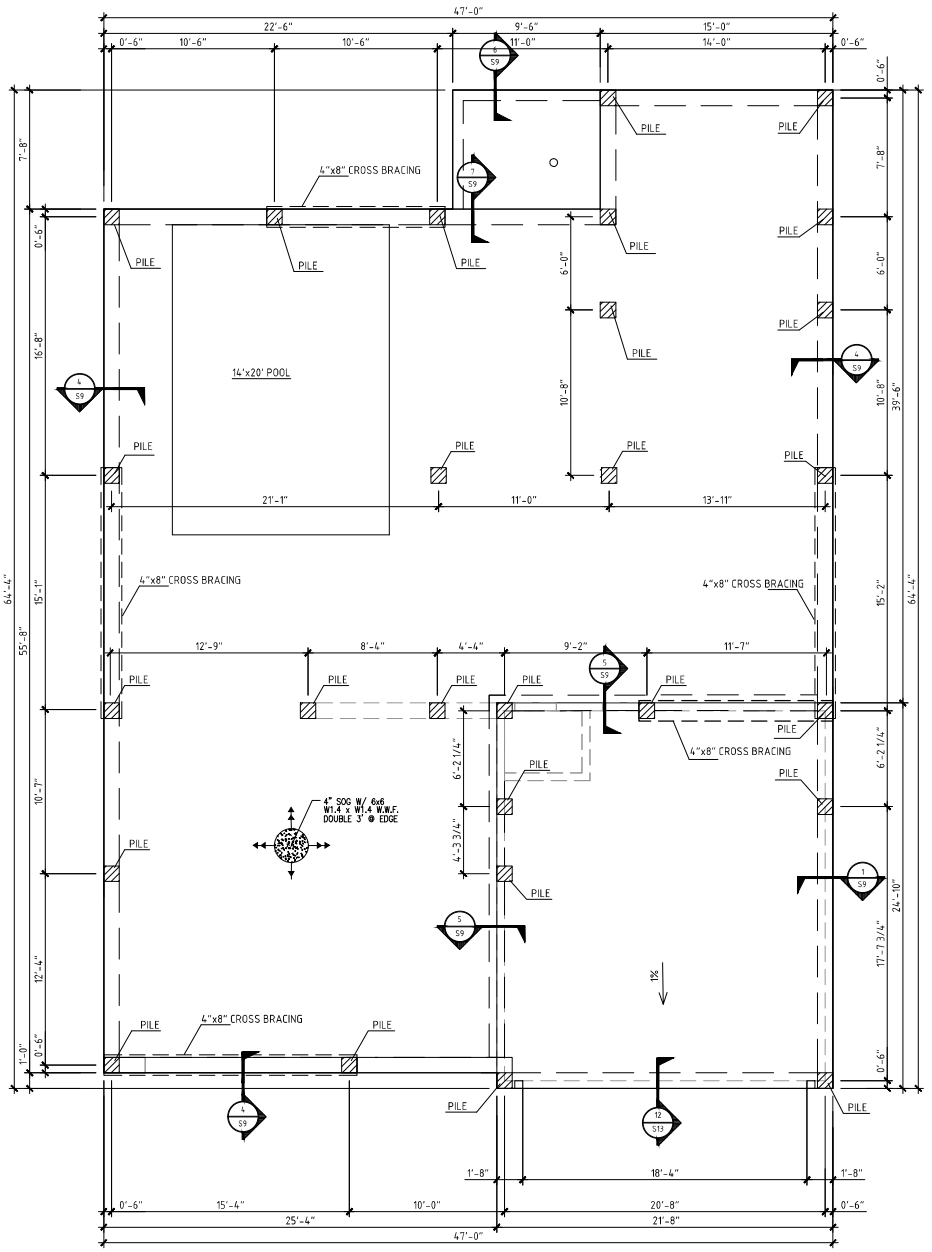
comm no.

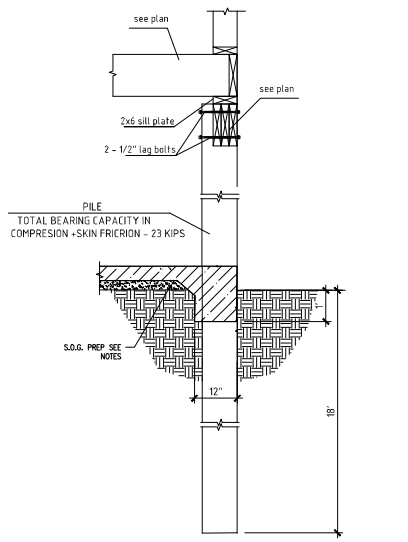
date 11.01.2023

ID. NO. 001



FOUNDATION PLAN

SCALE 1/8" = 1'-0"



1 DRIVEN PILES
NOT TO SCALE

Recommendations for driven Piles
1 We recommend the minimum penetration of the driven piles to be 18 feet below the final grade.
2 We recommend the minimum piles spacing, center to center, of 3 times the minimum pile dimension be used for driven piles.
3 It is important that any pile driving operations be initiated only after completion of any earthwork or fill placement activities at the project site. No earthwork or fill activities should occur after the piles are driven.
4 Piles should be driven with a hammer having a minimum energy rating proportionate to the size of the pile to be driven.
5 Monitoring of the probe pile driving using a Pile Driving Analyzer (PDA) system together with CAPWAP analyses is recommended and would be less expensive than pile load tests.

Floor Slabs
The surficial soils within the proposed building lines consist of permeable sandy soils that are susceptible to perched groundwater conditions. A structurally supported floor slab with a void space would be most suitable floor system for the proposed construction. However, a grade-supported floor system may also used by undercutting upper 3 feet of existing permeable sands and replace with compacted low plasticity structural fill or toping the existing soils with 3 feet of compacted low plasticity structural fill or the stabilizing at least upper 3 feet of surficial soils with cement (10% by dry weight) or lime-fly ash (2% lime and 8% fly-ash by dry weight).

Site Preparation
Soft soils should be removed until firm soil is reached. The soft soils can be aerated and placed back in eight-inch loose lifts and compacted to 95% as specified by ASTM D-698. Tree stumps, tree roots, old slabs, old foundations and existing pavements should be removed from the structure area. If the tree stumps and roots are left in place, settlement and termite infestation may occur. Once a root system is removed, a void is created in the subsoil. It is recommended to fill these voids with structural fill or cement-stabilized sand and compact to 95% as specified by ASTM D-698. Any low-lying areas including ravines, ditches, swamps, etc. should be filled with structural fill and placed in eight-inch lifts. Each lift should be compacted to 95% of the maximum dry density as specified by ASTM D-698. The exposed subgrade should be scarified to a minimum depth of six (6) inches in the driveway and slab areas. The subgrade should then be compacted to 95% of the maximum density as determined by the Standard Moisture Density Relationship (ASTM D-698). In the event that the upper six (6) inches cannot be compacted due to excessive moisture, we recommend that these soils be excavated and removed or chemically stabilized to provide a firm base for fill placement. Proof rolling should be performed using a heavy tired loaded truck or pneumatic rubber-tired weighting about 15 to 20 tons equipment.
The fill soils should extend at least five feet beyond the perimeter of the structure. In addition, the floor slab should be placed as soon as possible after the building pad is prepared. If the building pad is left exposed to rainfall, perched groundwater conditions may develop which will undermine the integrity of the floor slab. All trenches (water, cable, electrical) should be properly backfilled and compacted to 95% of the maximum dry densities. Sand or permeable materials should not be used as backfill. Improperly backfilled and improperty compacted trench, if left exposed will also be another source for perched groundwater conditions. In general perched water tends to be trapped within the fill. The trapped groundwater tends to soften the subgrade. Positive drainage should be maintained across the entire building pad.
A qualified soil technician should monitor all earthwork operations. Field density tests should be conducted on each lift using a nuclear density gauge. The gauge should be calibrated every day. Prior to field density tests, a 50-pound sample from the subgrade soils should be obtained. A similar sample should be obtained from the fill soils. A Standard Moisture Density Relationship (ASTM D-698) should be performed on each sample in order to obtain an optimum moisture content and a maximum dry density. The field density tests should be compared to these results every time the soils are tested in the field.

Footing Construction
Concrete should be placed in foundation immediately following the inspection. Significant seepage into excavations from groundwater is anticipated if excavations remain too long. If water collects in excess of 1-inch depth at the bottom of the footing excavations, it should be pumped out prior to concrete placement or the concrete should be tremied in place. We recommend that Piles installations be monitored by the testinglaboratory.

Groundwater Control
In general, the highest groundwater level during construction should be at least three (3) feet below the bottom of the excavation to ensure excavation stability. Presence of groundwater above the excavation depths may require de-watering. However, it is the contractor's responsibility to select the proper de-watering systems for the proposed constructions.

REV.	DATE	BY	CHK	APP	REVISION DESCRIPTION
1	0123				ISSUED FOR CONSTRUCTION

PROJECT ADDRESS

Sandy Shores (2003)
ABST 121, Lot 1
Galveston, TX

DRAWING TITLE

FOUNDATION PLAN

DOB JOB No.:

DRAWING NO. S5

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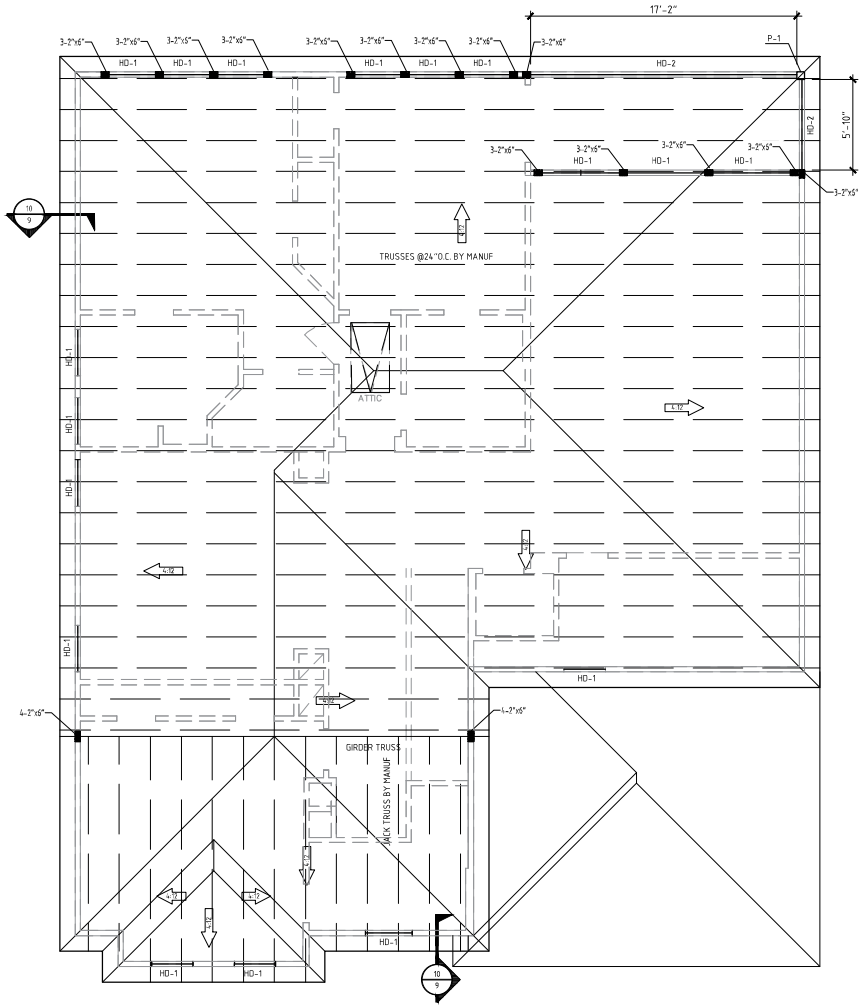
comm no.

date 11.01.2023

ID. NO. 001

BEAM SCHEDULE	
MARK	SIZE & SPACING
HD-1	2 -2" x 10"
HD-2	3 -2" x 12"
P-1	6"x6"



THIRD FLOOR PLAN

SCALE 1/8" = 1'-0"

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1	0123				ISSUED FOR CONSTRUCTION

PROJECT ADDRESS

Sandy Shores (2003)
ABST 121, Lot 1
Galveston, TX

DRAWING TITLE

THIRD FLOOR PLAN

DOB JOB No.:

DRAWING NO.

S7

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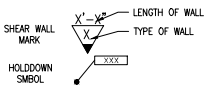
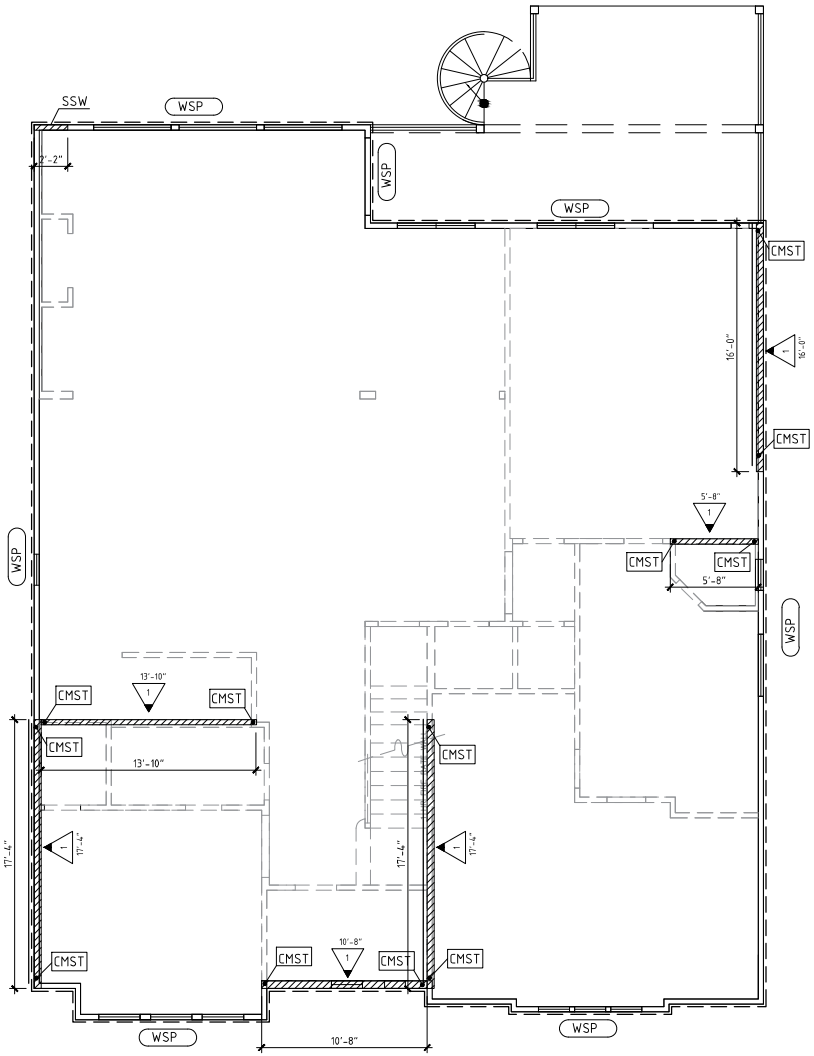
comm no.

date 11.01.2023

ID. NO. 001

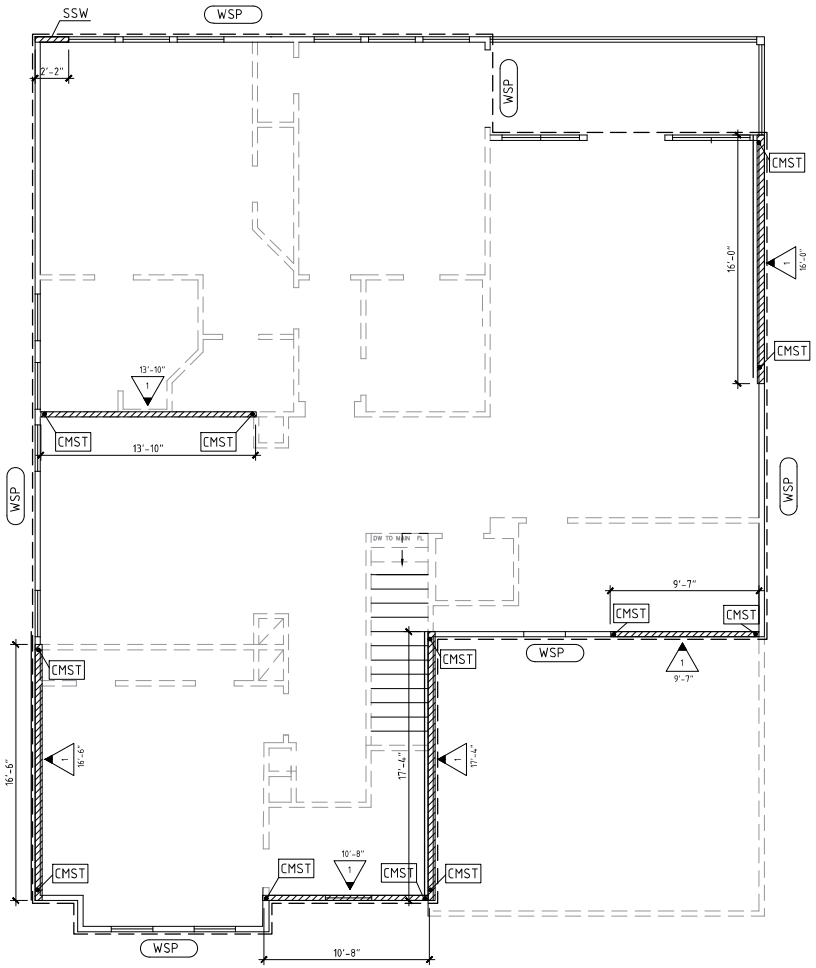
SHEAR WALL SCHEDULE								
Mark	APA Rated Sheathing	No. Of Sides	Nail Size	Spacing (in), BOUNDARY & EDGE NAILING	Spacing (in), FIELD NAILING	BOTTOM PLATE ATTACHMENT		
						SILL PLATE @ FOUNDATION		POST INSATALLED ANCHOR
						Size	Anchor Bolt	
1	19/32 STRUCT_I 5-ply	1	10d	3	12	5/8" Dia.	x11" EMBED @18"	5/8" Dia. x 4" EMBED @ 16" O.C.
WSP	19/32 STRUCT_I 5-ply	1	10d	6	12	1/2" Dia.	x 8 " EMBED @32"	





SECOND FLOOR SHEARWALLS PLAN

SCALE 1/8" = 1'-0"



THIRD FLOOR SHEARWALLS PLAN

SCALE 1/8" = 1'-0"

REV.	DATE	BY	CHK	APP	REVISION DESCRIPTION
1	0123				ISSUED FOR CONSTRUCTION

PROJECT ADDRESS

Sandy Shores (2003)
ABST 121, Lot 1
Galveston, TX

DRAWING TITLE

SECOND FLOOR SHEARWALLS PLAN, THIRD FLOOR SHEARWALLS PLAN

DOB JOB No.:

DRAWING NO.

S8

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comm no.

date 11.01.2023

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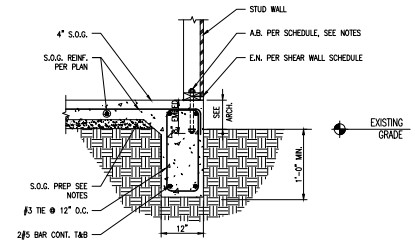
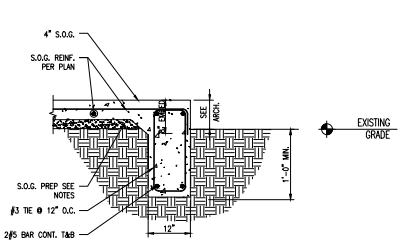
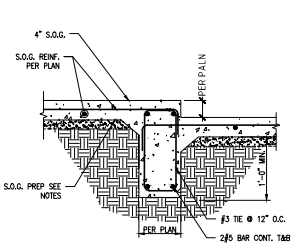


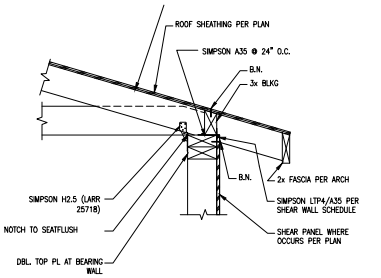
1 EXTERIOR GRADE BEAM
1"=1'-0"



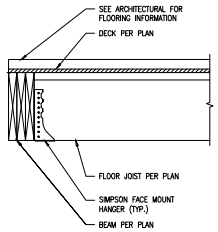
4 INTERIOR GRADE BEAM
1"=1'-0"



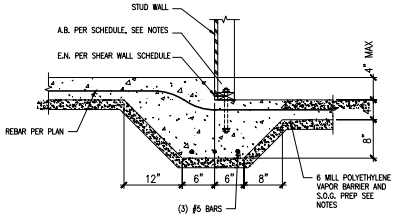
7 DROP AT SLAB ON GRADE
1"=1'-0"



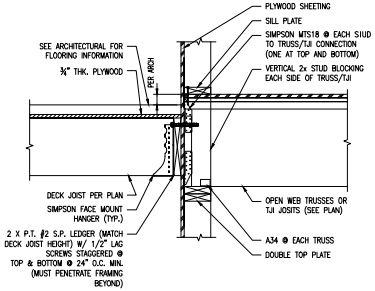
10 ROOF TRUSS TO STUD WALL CONNECTION
1"=1'-0"



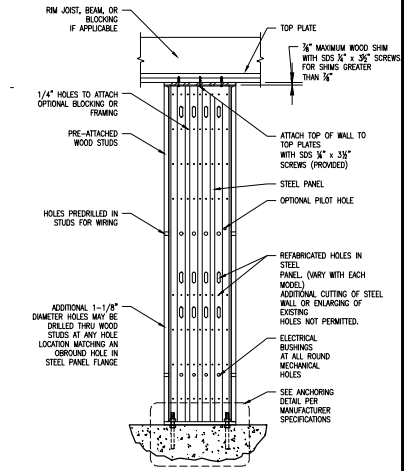
2 FLOOR TRUSS TO LVL BEAM CONNECTION
1"=1'-0"



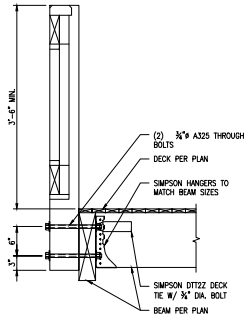
5 FOUNDATION DETAIL AT STEP DOWN
1"=1'-0"



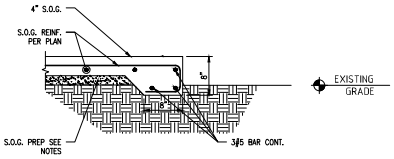
8 FLOOR DROP AT DECK
1"=1'-0"



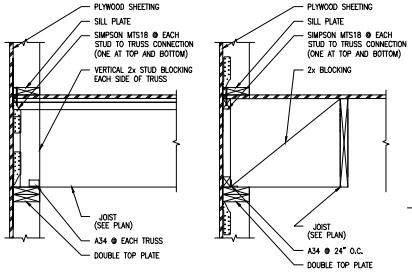
11 SSW DETAIL
NTS



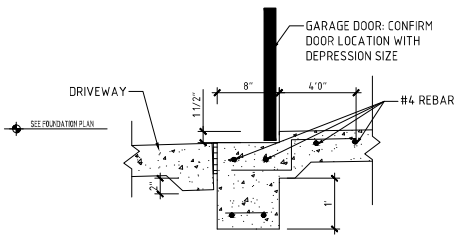
3 HAND RAIL DETAIL
1"=1'-0"



6 SLAB END DETAIL
1"=1'-0"



9 FLOOR TRUSS TO STUD WALL CONNECTION
1"=1'-0"



12 GARAGE FOOTING AT DOOR
1"=1'-0"

REV	DATE	BY	CHK	APP	REVISION DESCRIPTION
1	0123				ISSUED FOR CONSTRUCTION

PROJECT ADDRESS

Sandy Shores (2003)
ABST 121, Lot 1
Galveston, TX

DRAWING TITLE

TYPICAL DETAILS

DOB JOB No.:

DRAWING NO.
S9
9 of 9

comm no.
date 11.01.2023
ID. NO. 001

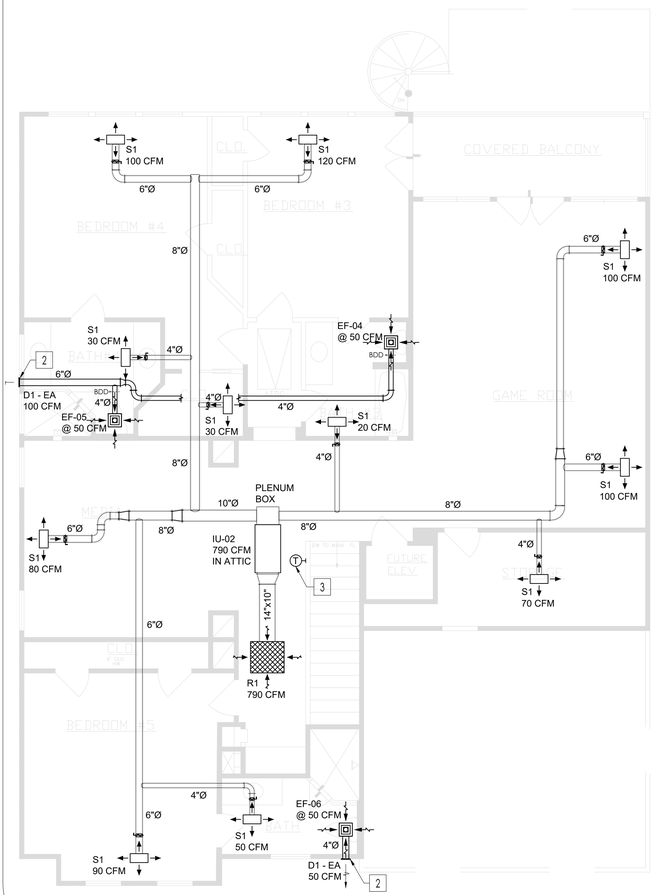
MECHANICAL KEYED NOTES:

1. RETURN OUTLET TO BE AT 10' AWAY FROM THE KITCHEN HOOD.
2. EXHAUST AIR DISCHARGE TO BE LOCATED 3' AWAY FROM ANY OPERABLE WINDOW.
3. PROVIDE NEST THERMOSTAT.
4. TOP DISCHARGE KITCHEN HOOD Ø6" CONNECTION - 100CFM.

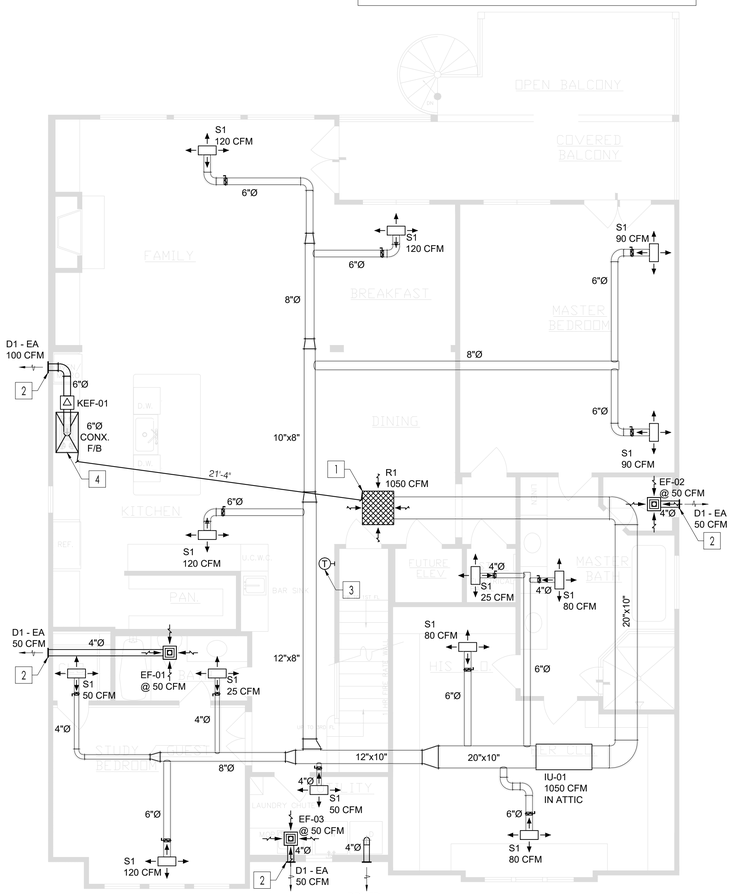
CODES ANALYSIS
THIS PROJECT SHALL COMPLY WITH THE FOLLOWING CODES (AS AMENDED BY THE CITY OF GALVESTON):
2018 International Building Code (IBC)
2018 International Residential Code (IRC)
2018 International Existing Building Code (IEBC)
2017 National Electrical Code (NEC)
2018 International Mechanical Code (IMC)
2018 International Plumbing Code (IPC)
2018 International Energy Conservation Code (IECC)
2018 International Fuel Gas Code (IFGC)

GENERAL NOTES:

1. MECHANICAL CONTRACTOR TO COORDINATE ROUTING AND LOCATION OF MECHANICAL COMPONENTS AND EQUIPMENT WITH ALL OTHER TRADES AND EXISTING FIELD CONDITIONS PRIOR TO PERFORMING WORK.
2. CONTRACTOR TO CUT AND PATCH AS REQUIRED TO PERFORM THE WORK.
3. ACCESS DOORS ARE REQUIRED FOR ANY COMPONENT REQUIRING ACCESS ABOVE HARD LID CEILINGS. COORDINATE SIZE, LOCATION AND FINISH WITH ARCHITECT PRIOR TO PERFORMING WORK.
4. REFER TO THE DIAGRAMS THAT APPLY TO THIS SHEET WHICH PROVIDE GENERAL GUIDANCE FOR INSTALLATION THOUGH NOT ALL COMPONENTS AND ACCESSORIES MAY BE SHOWN.
5. PRIOR TO INSTALLATION, CONFIRM SPECIFIC LOCATION FOR ALL THERMOSTATS / SENSORS WITH ARCHITECT. MOUNT AT 48" A.F.F. OR IN ACCORDANCE WITH ADA REQUIREMENTS. PROVIDE LOCKING COVERS.
6. COORDINATE AND CONFIRM BORDER, FRAME, FINISH, AND LOCATION WITH ARCHITECT PRIOR TO ORDERING.
7. ANY PENETRATIONS THROUGH WALL STUDS, FLOOR JOISTS, OR ROOF TO BE IN ACCORDANCE WITH THE LATEST ADOPTED BUILDING CODE.
8. DUCT DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS.
9. CONTRACTOR TO CONFIRM ADEQUATE RETURN AIR PATH BACK TO MAIN AIR HANDLING UNIT.



3RD FLOOR PLAN
3/16"=1'-0"



2ND FLOOR PLAN
3/16"=1'-0"

NOTE FOR FUTURE ELEVATOR CONSTRUCTION:

COORDINATE WITH ELEVATOR SUPPLIER REQUIREMENT AND PROVIDE PROVISIONS WHEREVER NECESSARY.

1ST FLOOR PLAN
3/16"=1'-0"

General Notes

1.CONTRACTOR SHALL VERIFY ALL DIMENSIONS & COORDINATE WITH TRADES TO ENSURE CONFORMANCE TO THESE PLANS & SPECIFICATIONS.

No.	Revision/Issue	Date
1	A / FOR REVIEW	03/17/2023

Firm Name and Address

Project Name and Address

17207 FM 3005, Galveston Legal Sandy Shores (2003) ABST 121, Lot 1 Galveston, TX

MECHANICAL LAYOUTS - FIRST, SECOND & THIRD.

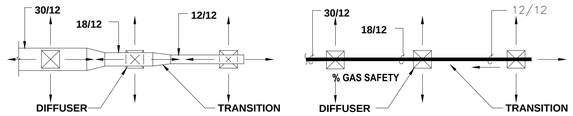
Project	Sheet
Date 03/17/2023	M 3.0
Scale NTS	

GENERAL NOTES

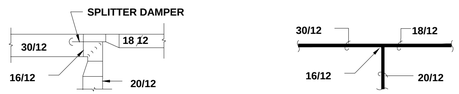
1. MECHANICAL CONTRACTOR SHALL EXAMINE ALL OTHER SPECIFICATIONS, DRAWINGS AND ALL FEATURES OF BUILDING CONSTRUCTION WHICH MAY AFFECT HIS WORK AND SHALL B GOVERNED BY THESE AND OTHER SPECIFICATIONS, INCLUDIN THE GENERAL CONDITIONS AND PARTICULAR INSTRUCTIONS T ALL BIDDER AND SUPPLIERS .
2. ALL WORK SHALL BE EXECUTED AND INSPECTED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND/OR STATE CODES, LAWS, ORDINANCES, RULES AND REGULATIONS APPLICABLE TO THIS PARTICULAR CLASS OF WORK, AND EACH CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL APPLICABLE SERVICE CHARGES, FEES, PERMITS, TAXES, AND OTHER SIMILAR COSTS IN CONNECTION THEREWITH .
3. PRIOR TO FABRICATION OF DUCTWORK, THE MECHANICAL CONTRACTOR SHALL EXAMINE AND VERIFY ALL CONDITIONS ABOVE AND BELOW THE CEILING WHICH MAY INTERFERE WITH THE DUCT SYSTEM AND NOTIFY THE ARCHITECT OF ANY CONFLICT ENCOUNTERED .CONTRACTOR SHALL PROVIDE ALL OFFSETS, ETC WHICH MAY BE REQUIRED, WITHOUT ADDITIONAL COST TO THE OWNER
4. ALL SHEET METAL DUCT CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH "SMACNA" LOW PRESSURE DUCT CONSTRUCTION STANDARD.
5. TURNING VANES SHALL BE INSTALLED IN ALL BENDS IN RECTANGULAR DUCT EXCEEDING 30"
6. ALL DUCTS SHALL BE SUPPORTED WITH 1"WIDE, 16 GAUGE, GALVANIZED STEEL BANDS .
7. ALL RECTANGULAR DUCT SHALL BE INSULATED WITH A MIN OF 1"INTERNAL LINER, 2 LBS DENSITY R-60 ALL ROUND DUCTS AND DIFFUSER TOPS SHALL HAVE A MIN 2" THICK OF FOIL BACKED BLANKET TYPE INSULATION R=4-4 2, WITH ALL JOINTS BUTTED AND TAPED .
8. ALL DUCT DIMENSIONS SHOWN ON PLANS ARE INTERNAL
9. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF SUPPLY AND RETURN AIR REGISTERS, DUCTS, GRILLES AND DIFFUSERS WITH LIGHTING AND CEILING PATTERNS
10. PROVIDE LATERAL BRACING OF ALL DUCTS AND PIPES AS REQUIRED BY CODE .
11. INSULATE AND SEAL ALL DUCTWORK THE STATE MECHANICAL CODE & ENERGY CONSERVATION CODE.
12. MOUNT ALL THERMOSTATS AT 48" ABOVE FINISHED FLOOR
13. ALL BRACING OF DUCTS AND PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES
14. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT AND THE MECHANICAL ENGINEER
15. DUCT SMOKE DETECTOR SHALL BE INSTALLED BELOW THE ROOF
16. ALL MECHANICAL EQUIPMENT AND SYSTEMS INSTALLED AS PART OF PROJECT SHALL COMPLY WITH ALL REQUIREMENTS OF THE 2020 FLORIDA BUILDING CODE AND THE 2020 FLORIDA MECHANICAL CODE AND THE 2020 FLORIDA ENERGY CONSERVATION CODE.
17. OUTSIDE AIR FOR A HEATING OR COOLING SYSTEM SHALL NOT BE TAKEN FROM CLOSER THAN 10 FEET FROM AN APPLIANCE VENT OUTLET, VENT OPENING OF A PLUMBING SYSTEM, OR THE DISCHARGE OUTLET OF EXHAUST FAN, UNLESS THE OUTLET IS 3 FT ABOVE THE OUTSIDE AIR INLET.
18. PROVIDE 120 VOLT ELECTRICAL OUTLETS WITHIN 25 FT OF ALL MECH EQUIPT .
19. HEATING,VENTILATING,ANDAIR CONDITIONING SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH ONE OF THE FOLLOWING METHODS:
    - A. AABC NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE
    - B. ACCA MANUAL B
    - C. ASHRAE 111
    - D. NEBB PROCEDURAL STANDARDS FOR TESTING,ADJUSTING ADJUSTING BALANCING OF ENVIRONMENTAL SYSTEMS
    - E. SMACNA HVAC TESTING,ADJUSTING,AND BALANCING
20. MATERIALS EXPOSED WITHIN DUCTS OR PLENUMS SHALL BE NON COMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX NOT TO EXCEED 25 AND A SMOKE DEVELOPED INDEX NOT TO EXCEED 50 WHERE TESTED AS A COMPOSITE PRODUCT IN ACCORDANCE WITH ASTM E84 OR UL 723

DUCTWORK SYMBOLS LEGEND

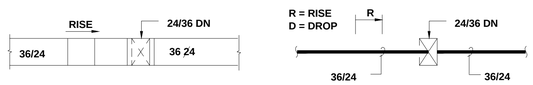
TRANSITIONS



MAIN BRANCH TAKE-OFFS

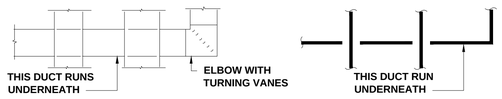


RISERS

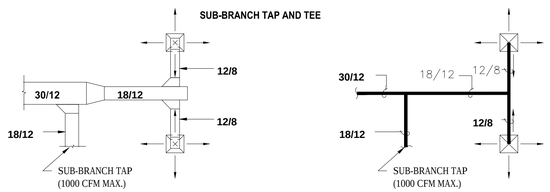


SIDEWALL REGISTERS

DUCT CROSSOVERS



SUB-BRANCH TAP AND TEE



SCHEDULE No. 1

ELECTRIC - INDOOR UNIT

TAG	IU-1	IU-2
SERVING	SECOND FLOOR	THIRD FLOOR
MANUFACTURER	CARRIER	CARRIER
INDOOR MODEL	FB4CNF036L	FB4CNP025L
POWER SUPPLY	208-230/1/60	208-230/1/60
MCA (A)	5.1	3.5
MOCP (A)	15.0	15.0
AIR FLOW (CFM)	1050	790
EXTERNAL STATIC PRESSURE (INCHES OF WATER)	0.30	0.30
TOTAL / SENSIBLE COOLING CAPACITY (BTU/H)	33,000 / 23,100	22,200 / 15,580
INDOOR DIMENSIONS (W x D x H) (inch)	$22\frac{1}{16}$ x $17\frac{5}{8}$ x $49\frac{5}{8}$	$22\frac{1}{16}$ x $14\frac{5}{16}$ x $42\frac{11}{16}$
SHIPPING WEIGHT (lb)	122	112

NOTES:
1. PROVIDE CONDENSATE PUMP, IF REQUIRED.
2. PROVIDE DISCONNECT SWITCH.
3. PROVIDE 2" MERV 8 THROWAWAY FILTER.
4. PROVIDE VIBRATION ISOLATION.
5. PROVIDE NEST THERMOSTATS.

SCHEDULE No. 2

ELECTRIC - OUTDOOR UNIT - HEAT PUMP

TAG	OU-1	OU-2
MANUFACTURER	CARRIER	CARRIER
OUTDOOR MODEL	25HCE436AP0510	25HCE424A00300
SERVING	SECOND FLOOR	THIRD FLOOR
CONNECTED INDOOR UNITS	IU-1	IU-2
COOLING CAPACITY (BTU/H)	33,000	22,200
HEATING CAPACITY @47°F (BTU/H)	33,000	22,200
COOLING EFFICIENCY EER / SEER	11.0 / 14.0	11.5 / 14.0
HEATING EFFICIENCY COP / HPSF	3.64 / 8.2	3.84 / 8.2
POWER SUPPLY	208-230 / 1 / 60	208-230 / 1 / 60
MCA (A)	14.2	20.0
MOCP (A)	25	30
SOUND LEVEL dB(A)	78	76
DIMENSIONS (W x D x H) (inch)	$31\frac{3}{16}$ x $31\frac{3}{16}$ x $28\frac{11}{16}$	$25\frac{3}{4}$ x $25\frac{3}{4}$ x $35\frac{1}{2}$

NOTES:
1. PROVIDE VIBRATION ISOLATION.
2. PROVIDE FREEZE THERMOSTAT.
3. PROVIDE CONCRETE PAD.

SCHEDULE No. 3

AIR OUTLETS

TAG	DESCRIPTION	MANUFACTURER	MODEL	MOUNTING
S1	SUPPLY DIFFUSER	TITUS	14in. x 6in.	Duct Mounted
R1	RETURN DIFFUSER	TITUS	24in. x 24in.	Duct Mounted
SC1/D1	SUCTION / DISCHARGE GRILLE	TITUS	14in. x 6in.	Duct Mounted

NOTES:
1. COORDINATE FINISH, COLOR, BORDER AND EXACT LOCATION WITH OWNER PRIOR TO ORDERING.
2. PROVIDE OPPOSED BLADE DAMPER ACCESSIBLE THROUGH DIFFUSER FACE FOR GYP BD. CEILING INSTALLATIONS.
3. PROVIDE DUCT TRANSITIONS AS REQUIRED.
4. RETURNS R1 ARE PROVIDED WITH PROPER FILTERS.

SCHEDULE No. 4

FAN SCHEDULE

TAG	EF-01 TO 06	KEF-01
LOCATION	TOILETS	KITCHEN
SELECTED FLOW (CFM)	50	100
SELECTED PRESSURE DROP (IN. H2O)	0.25"	0.4"
ELECTRICAL (V / PH / HZ)	120 / 1 / 60	115 / 1 / 60
POWER / Amps	25 W	255 W / 1.07 A
MOTOR SPEED (RPS)	MULTI SPEED	42
FAN TYPE	CEILING FANS	INLINE JET FAN
MANUFACTURER	PANASONIC	FANTECH
MODEL	WHISPER FV-0511VKS2	ECOWATT/2000-315ECO

NOTES:
1. PROVIDE UL LISTING.
2. PROVIDE ENERGY STAR COMPLIANCE.
3. INTERLOCK WITH WALL SWITCH.
4. PROVIDE MOTOR WITH THERMAL OVERLOADS.

General Notes

1.CONTRACTOR SHALL VERIFY ALL DIMENSIONS & COORDINATE WITH TRADES TO ENSURE CONFORMANCE TO THESE PLANS & SPECIFICATIONS.

No.	Revision/Issue	Date
1	A / FOR REVIEW	03/17/2023

Firm Name and Address

Project Name and Address

17207 FM 3005, Galveston Legal Sandy Shores (2003) ABST 121, Lot 1 Galveston, TX

MECHANICAL EQUIPMENT SCHEDULE.

Project

Date 03/17/2023

Scale NTS

Sheet M 4.00

Load Multizone Summary Report

Job: 2.2.405
Date: Jan 06, 2023
By: Omar F.
Plan: 2

Infiltration Summary

ZONE NAME	Heating Volume ft³	Heating ACH	Heating AVF cfm	Heating HTM Btu/ft²	Cooling Volume ft³	Cooling ACH	Cooling AVF cfm	Cooling HTM Btu/ft²
Second Floor	21753	0.41	148	2.0	21753	0.19	71	0.5
Third Floor	19186	0.39	124	2.0	19186	0.18	59	0.5
Entire House	40919	0.40	272	2.0	40919	0.19	130	0.5

Load and AVF Summary

ROOM NAME	Area ft²	Htg load Btuh	Clg load Btuh	Htg AVF cfm	Clg AVF cfm
Bla Ba	14	93	3	3	0
Great Room	1147	8919	10110	440	504
Guest Bedroom	198	2331	2660	120	132
Guest Clo.	37	253	143	14	7
Guest Bath	43	304	197	17	9
Master Bedroom	672	5115	5987	253	294
Master Bedroom	338	3312	3611	165	180
Master Closet	310	2934	3168	146	158
Master Bath	68	1017	1044	51	52
Second Floor	2437	20277	21943	1050	1150
Bath 3	72	139	8	3	0
Bedroom 3	171	1313	1965	65	98
Bath 5	77	1022	845	44	43
Bedroom 5	194	1837	2402	84	119
Bedroom 4	245	1990	1833	93	92
Bedroom 5	331	2445	1701	99	84
Clo 3	17	143	7	7	0
Clo 4	34	343	21	17	1
Clo 5	19	76	4	3	0
Clo 6	37	174	14	7	0
Corridor	332	861	209	43	10
Game Room	438	3526	4160	165	206
Media	438	3526	4160	165	206
Storage	131	1144	680	63	34
Third Floor	2132	14951	14104	700	700
Entire House	4569	35328	35199	1750	1750

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

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Project Summary
Entire House

Job: 2.2.405
Date: Jan 06, 2023
By: Omar F.
Plan: 2

Project Information

For: New Private Residence_GDI
17207 FM 3005 Sandy Shores (2003) ABST121, Lot 1 Unit A, Galveston, TX

Notes:

Design Information

Weather: Galveston Scholes Intl, TX, US

Winter Design Conditions

Outside db	40	°F
Inside db	68	°F
Design TD	28	°F

Summer Design Conditions

Outside db	93	°F
Inside db	75	°F
Daily range	L	
Relative humidity	50	%
Moisture difference	68	gr/lb

Heating Summary

Structure	35328	Btuh
Ducts	0	Btuh
Central vent (106 cfm)	3256	Btuh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	38584	Btuh

Sensible Cooling Equipment Load Sizing

Structure	35199	Btuh
Ducts	0	Btuh
Central vent (106 cfm)	1850	Btuh
Blower	0	Btuh
Use manufacturer's data		
Rateing multiplier	0.00	
Equipment sensible load	37049	Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	1 (Average)

Latent Cooling Equipment Load Sizing

Structure	9381	Btuh
Ducts	0	Btuh
Central vent (106 cfm)	4887	Btuh
Outside air		
Equipment latent load	9381	Btuh

	Heating	Cooling
Area (ft²)	4569	4569
Volume (ft³)	40919	40919
Air changes/hour	0.40	0.19
Equiv. ACH (cfm)	272	130

Equipment Total Load (Sens+Lat) 46851 Btuh
Req. total capacity at 0.70 SHR 4.2 ton

Heating Equipment Summary

Make	n/a
Trade	n/a
Model	n/a
Qty/Fuel	n/a
Efficiency	n/a
Heating Input	0 Btuh
Heating output	0 Btuh @ 47°F
Actual air flow	0 cfm
Actual air flow	0 cfm
Static pressure	0.000 inWg
Space thermostat	n/a

Cooling Equipment Summary

Make	Carrier
Trade	n/a
Model	n/a
Qty/Fuel	n/a
Efficiency	n/a
Sensible cooling	0 Btuh
Latent cooling	0 Btuh
Actual air flow	0 cfm
Actual air flow	0 cfm
Static pressure	0.000 inWg
Load sensible heat ratio	0.00

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

wrightsoft 2022 Ref-01 10/2022 Page 2

Project Summary
Second Floor

Job: 2.2.405
Date: Jan 06, 2023
By: Omar F.
Plan: 2

Project Information

For: New Private Residence_GDI
17207 FM 3005 Sandy Shores (2003) ABST121, Lot 1 Unit A, Galveston, TX

Notes:

Design Information

Weather: Galveston Scholes Intl, TX, US

Winter Design Conditions

Outside db	40	°F
Inside db	68	°F
Design TD	28	°F

Summer Design Conditions

Outside db	93	°F
Inside db	75	°F
Daily range	L	
Relative humidity	50	%
Moisture difference	68	gr/lb

Heating Summary

Structure	20377	Btuh
Ducts	0	Btuh
Central vent (106 cfm)	3256	Btuh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	23633	Btuh

Sensible Cooling Equipment Load Sizing

Structure	21943	Btuh
Ducts	0	Btuh
Central vent (106 cfm)	1850	Btuh
Blower	0	Btuh
Use manufacturer's data		
Rateing multiplier	0.00	
Equipment sensible load	23793	Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	1 (Average)

Latent Cooling Equipment Load Sizing

Structure	9096	Btuh
Ducts	0	Btuh
Central vent (106 cfm)	4887	Btuh
Outside air		
Equipment latent load	9939	Btuh

	Heating	Cooling
Area (ft²)	2132	2132
Volume (ft³)	21753	21753
Air changes/hour	0.41	0.19
Equiv. ACH (cfm)	148	71

Equipment Total Load (Sens+Lat) 33972 Btuh
Req. total capacity at 0.70 SHR 3.3 ton

Heating Equipment Summary

Make	Carrier
Trade	n/a
Model	25HCE636A03000
Qty/Fuel	2/MIDITY
Efficiency	8.2 HSPF
Heating Input	33000 Btuh @ 47°F
Heating output	23 °F
Actual air flow	1000 cfm
Actual air flow	0.000 inWg
Static pressure	0 in ACO
Space thermostat	
Capacity balance point = 31 °F	

Cooling Equipment Summary

Make	Carrier
Trade	n/a
Model	25HCE636A03000
Qty/Fuel	2/MIDITY
Efficiency	11.0 EER, 14 SEER
Sensible cooling	21330 Btuh
Latent cooling	9939 Btuh
Actual air flow	1000 cfm
Actual air flow	1000 cfm
Static pressure	0.000 inWg
Load sensible heat ratio	0.70

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

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Project Summary
Third Floor

Job: 2.2.405
Date: Jan 06, 2023
By: Omar F.
Plan: 2

Project Information

For: New Private Residence_GDI
17207 FM 3005 Sandy Shores (2003) ABST121, Lot 1 Unit A, Galveston, TX

Notes:

Design Information

Weather: Galveston Scholes Intl, TX, US

Winter Design Conditions

Outside db	40	°F
Inside db	68	°F
Design TD	28	°F

Summer Design Conditions

Outside db	93	°F
Inside db	75	°F
Daily range	L	
Relative humidity	50	%
Moisture difference	68	gr/lb

Heating Summary

Structure	14951	Btuh
Ducts	0	Btuh
Central vent (0 cfm)	0	Btuh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	14951	Btuh

Sensible Cooling Equipment Load Sizing

Structure	14104	Btuh
Ducts	0	Btuh
Central vent (0 cfm)	0	Btuh
Blower	0	Btuh
Use manufacturer's data		
Rateing multiplier	0.00	
Equipment sensible load	13276	Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	1 (Average)

Latent Cooling Equipment Load Sizing

Structure	4323	Btuh
Ducts	0	Btuh
Central vent (0 cfm)	0	Btuh
(none)		
Equipment latent load	4323	Btuh

	Heating	Cooling
Area (ft²)	2437	2437
Volume (ft³)	19186	19186
Air changes/hour	0.39	0.18
Equiv. ACH (cfm)	124	59

Equipment Total Load (Sens+Lat) 17599 Btuh
Req. total capacity at 0.70 SHR 1.5 ton

Heating Equipment Summary

Make	Carrier
Trade	n/a
Model	25HCE424A03000
Qty/Fuel	1/MIDITY
Efficiency	8.2 HSPF
Heating Input	24000 Btuh @ 47°F
Heating output	23 °F
Actual air flow	700 cfm
Actual air flow	0.000 inWg
Static pressure	0 in ACO
Space thermostat	
Capacity balance point = 31 °F	

Cooling Equipment Summary

Make	Carrier
Trade	n/a
Model	25HCE424A03000
Qty/Fuel	1/MIDITY
Efficiency	11.5 EER, 14.5 SEER
Sensible cooling	13276 Btuh
Latent cooling	4323 Btuh
Actual air flow	700 cfm
Actual air flow	0.000 inWg
Static pressure	0 in ACO
Space thermostat	
Load sensible heat ratio	0.77

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

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Right-J® Worksheet
Entire House

Job: 2.2.405
Date: Jan 06, 2023
By: Omar F.
Plan: 2

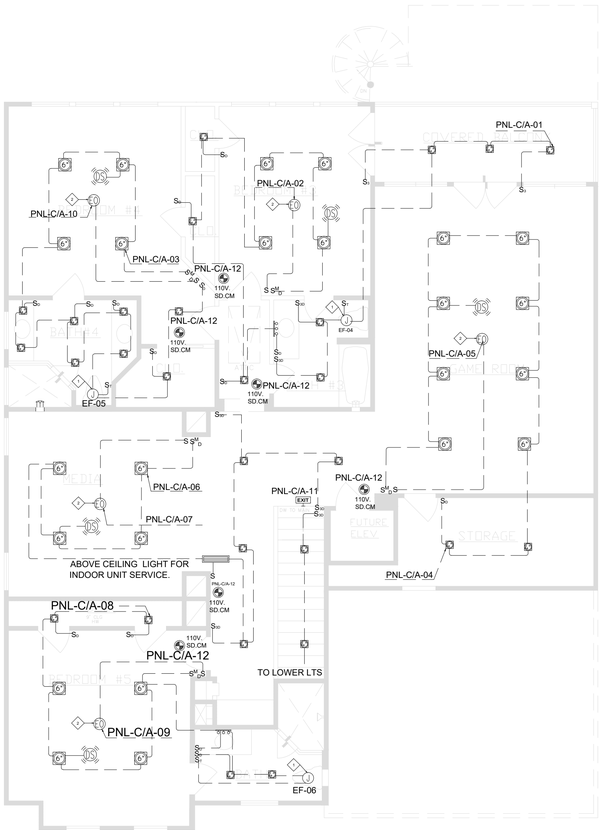
				Entire House 4569 ft²				Second Floor 2132 ft²			
1	Room name			60 ft		heated		60 ft		heated	
2	Ceiling height			10 ft x 4569 ft²				10 ft x 2132 ft²			
3	Room dimensions										
4	Room area										
	Ty	Construction number	U-value (Btu/ft²·°F)	Dr	HTM (Btu/ft²)	Area (ft²) or perimeter (ft)	Load (Btuh)		Area (ft²) or perimeter (ft)	Load (Btuh)	
							Heat	Cool		Heat	Cool
4	W	ECC 2018/22 [13.0%]	0.077	ne	2.30	2.22	332	0	0	0	0
5	W	ECC 2018/22 [13.0%]	0.077	se	2.30	2.22	332	0	0	0	0
6	W	ECC 2018/22 [13.0%]	0.077	sw	2.30	2.22	332	0	0	0	0
7	W	ECC 2018/22 [13.0%]	0.077	nw	2.30	2.22	332	0	0	0	0
8	W	ECC 2018/22 [13.0%]	0.077	ne	2.30	2.22	332	0	0	0	0
9	W	ECC 2018/22 [13.0%]	0.077	se	2.30	2.22	332	0	0	0	0
10	W	ECC 2018/22 [13.0%]	0.077	sw	2.30	2.22	332	0	0	0	0
11	W	ECC 2018/22 [13.0%]	0.077	nw	2.30	2.22	332	0	0	0	0
1	R	ECC 2018/22 [13.0%]	0.037	ne	2.30	2.22	160	0	0	0	0
2	R	ECC 2018/22 [13.0%]	0.037	se	2.30	2.22	160	0	0	0	0
3	R	ECC 2018/22 [13.0%]	0.037	sw	2.30	2.22	160	0	0	0	0
4	R	ECC 2018/22 [13.0%]	0.037	nw	2.30	2.22	160	0	0	0	0
5	R	ECC 2018/22 [13.0%]	0.037	ne	2.30	2.22	160	0	0	0	0
6	R	ECC 2018/22 [13.0%]	0.037	se	2.30	2.22	160	0	0	0	0
7	R	ECC 2018/22 [13.0%]	0.037	sw	2.30	2.22	160	0	0	0	0
8	R	ECC 2018/22 [13.0%]	0.037	nw	2.30	2.22	160	0	0	0	0
9		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
10		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
11		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
12		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
13		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
14		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
15		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
16		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
17		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
18		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
19		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
20		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
21		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
22		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
23		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
24		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
25		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
26		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
27		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
28		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
29		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
30		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
31		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
32		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
33		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
34		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
35		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
36		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
37		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
38		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
39		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
40		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
41		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
42		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
43		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
44		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
45		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
46		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
47		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
48		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
49		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
50		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
51		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
52		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
53		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
54		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
55		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
56		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
57		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
58		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
59		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
60		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
61		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
62		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
63		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
64		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
65		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
66		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
67		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
68		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
69		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
70		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
71		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
72		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
73		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
74		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
75		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
76		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
77		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
78		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
79		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
80		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
81		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
82		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
83		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
84		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
85		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
86		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
87		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
88		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
89		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
90		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
91		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
92		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
93		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
94		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
95		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
96		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
97		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
98		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
99		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
100		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
101		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
102		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
103		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
104		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
105		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
106		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
107		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
108		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
109		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
110		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
111		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
112		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
113		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
114		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
115		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
116		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
117		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
118		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
119		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
120		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
121		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
122		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
123		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
124		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
125		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
126		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
127		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
128		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
129		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
130		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
131		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
132		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
133		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
134		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
135		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
136		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
137		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
138		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
139		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
140		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
141		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
142		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
143		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
144		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
145		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
146		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
147		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
148		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
149		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
150		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
151		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
152		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
153		ECC 2018/22 [13.0%]	0.037	-	1.00	0.00	0	0	0	0	0
154		ECC 2018/22 [13.0%]	0.037	-

GENERAL NOTES

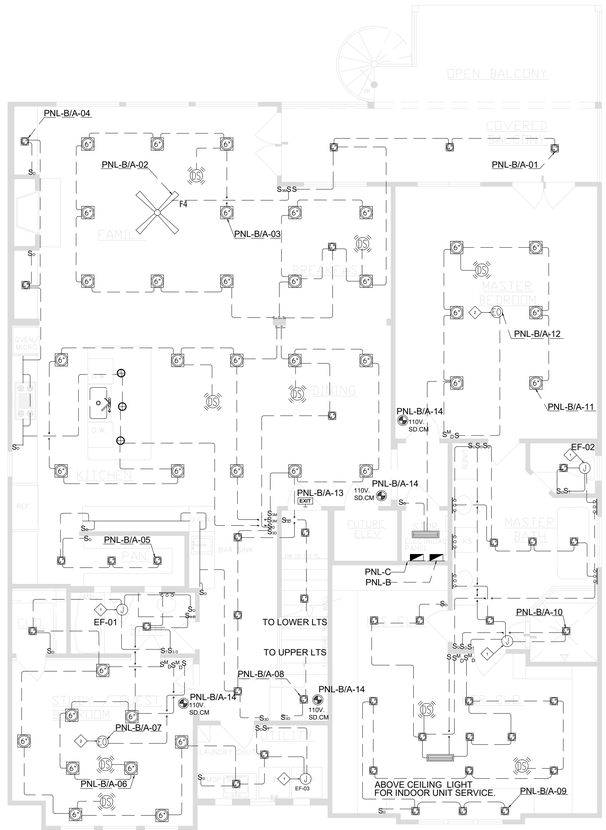
1. ALL JUNCTION BOXES, CONDUITS, AND AIRES SHALL BE SIZED PER NEC.
2. CONNECT ALL EXIT LIGHTS AHEAD OF ANY LOCAL OR AUTOMATIC SWITCHING DEVICE.
3. PROVIDE A CONSTANT HOT FROM PANEL BOARD DIRECTLY TO ALL EMERGENCY BATTERY PACKS/BALLASTS IN EMERGENCY LIGHTING FIXTURES AND EXIT SIGNS. EMERGENCY LIGHTING FIXTURES SHALL TURN ON TO FULL BRIGHTNESS IN CASE OF POWER LOSS.
4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION & MOONING HEIGHTS OF ALL LIGHTING FIXTURES SHOWN ON THIS DRAWING.
5. REFER TO DETAIL SHEET FOR SYMBOLS, SPECIFICATIONS, ABBREVIATIONS, AND LIGHTING FIXTURE SCHEDULE.
6. CONTRACTOR SHALL PROVIDE AN ACCURATELY TYPED PANEL BOARD SCHEDULE FOR EACH PANEL BOARD.
7. ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY PROBLEMS PERTAINING TO CIRCUIT AVAILABILITY OR LOAD CAPACITY PRIOR TO INSTALLATION.
8. ALL EXTERIOR LUMINARIES AND ELECTRICAL DEVICES SHALL BE USED AS WEATHERPROOF TYPE.
9. ALL NEW CEILING OCCUPANCY SENSORS SHALL BE DUAL-TECHNOLOGY WITH 1000 SQFT COVERAGE AT 360 DEGREES U.O.N. ON THE DRAWING. COORDINATE EXACT LOCATION AND REQUIREMENTS OF ALL OCCUPANCY SENSORS SHOWN ON THIS DRAWING WITH MANUFACTURER REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR TO PROVIDE POWER PACKS AS REQUIRED.
10. CONTRACTOR SHALL CONFIRM COMPATIBILITY OF ALL LIGHTING CONTROL DEVICES/SWITCHES/DIMMERS WITH LIGHTING FIXTURES AND BALLASTS/DRIVERS PRIOR TO SUBMITTAL.
11. ALL CONDUIT RUNS IN OPEN PLENUM SPACE SHALL BE INSTALLED IN A NEAT MANNER PERPENDICULAR OR PARALLEL TO WALLS AND PAINTED AS DIRECTED BY OWNER.

CODES ANALYSIS
THIS PROJECT SHALL COMPLY WITH THE FOLLOWING CODES (AS AMENDED BY THE CITY OF GALVESTON):
2018 International Building Code (IBC)
2018 International Residential Code (IRC)
2018 International Existing Building Code (IEBC)
2017 National Electrical Code (NEC)
2018 International Mechanical Code (IMC)
2018 International Plumbing Code (IPC)
2018 International Energy Conservation Code (IECC)
2018 International Fuel Gas Code (IFGC)

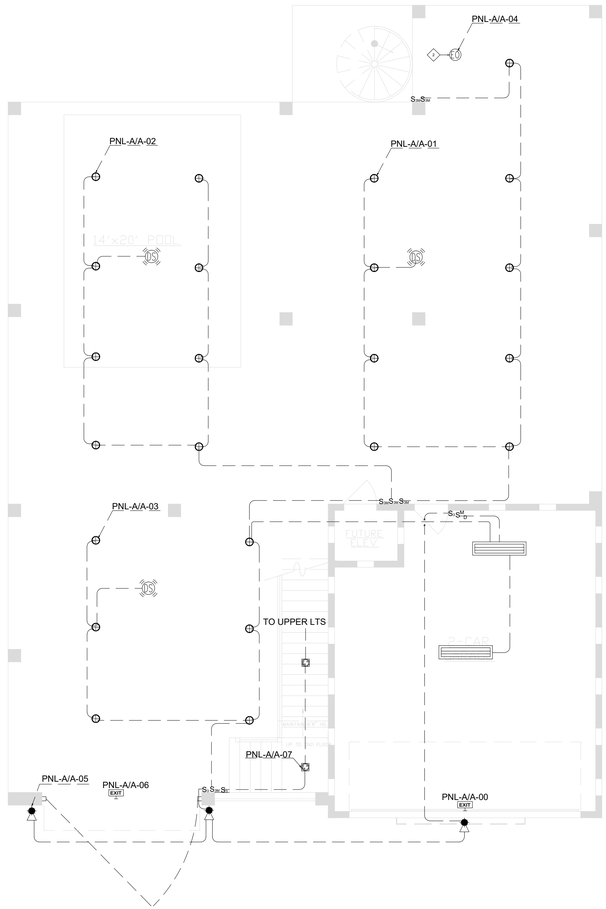
SHEET NOTES:
1. PROVIDE HEAVY DUTY JUNCTION BOX, FLUSH IN CEILING (OR WALL) FOR EXHAUST FANS.
2. PROVIDE BLOCK WIRE FOR FUTURE FAN & LT.



3RD FLOOR PLAN
3/16"=1'-0"



2ND FLOOR PLAN
3/16"=1'-0"



1ST FLOOR PLAN
3/16"=1'-0"

General Notes

1.CONTRACTOR SHALL VERIFY ALL DIMENSIONS & COORDINATE WITH TRADES TO ENSURE CONFORMANCE TO THESE PLANS & SPECIFICATIONS.

No.	Revision/Issue	Date
1	A / FOR REVIEW	03/17/2023

Firm Name and Address

Project Name and Address
17207 FM 3005, Galveston Legal Sandy Shores (2003) ABST 121, Lot 1 Galveston, TX

LIGHTING LAYOUTS - FIRST, SECOND & THIRD.

Project

Date 03/17/2023

Scale 3/16" = 1'

Sheet E3.0

GENERAL NOTES

1. ALL 120 VOLT, SINGLE PHASE 15 AND 20 AMPERE CRANCH CIRCUIT SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LICRARIES, DENS, CEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR AREAS SHALL CE PROTECTED CY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMCINATION TYPE INSTALLED TO PROVIDE PROTECTION OF THE CRANCH CIRCUIT. (NEC ARTICLE 210.12(A))

2. ALL JUNCTION BOXES, CONDUITS, AND AIRES SHALL BE SIZED PER NEC.

3. IN EVERY KITCHEN, FAMILY ROOM, DINING ROOM, LIVING ROOM, PARLOR, LICRARY, DEN, SUNROOM, CEDROOM, RECREATION ROOM OR SIMILAR ROOM OR AREA OF DWELLING UNITS RECEPTACLE OUTLETS SHALL CE INSTALLED IN ACCORDANCE WITH THE GENERAL PROVISIONS SPECIFIED IN THE FOLLOWING ARTICLES.

a. NEC ARTICLE 210.52(A) (1) SPACING. RECEPTACLES SHALL CE INSTALLED THAT NO POINT ALONG THE FLOOR LINE OF THE WALL IS MORE THAN 6-FEET FROM A RECEPTACLE.

b. NEC article 210.52(c) (2) AS AMENDED WALL SPACE. ANY WALL 24-INCHES OR MORE IN LENGTH SHALL CE PROVIDED WITH A RECEPTACLE OUTLET. WALL SPACE SHALL INCLUDE AROUND CORNERS, THE FIRST SLIDING PANEL OF A SLIDING DOOR. FIXED ROOM DIVIDERS SUCH AS A FREESTANDING CAR TYPE COUNTER. WALL SPACE NED NOT INCLUDE THE SPACE CEHIND OPERACLE DOORS. AND NEED NOT INCLUDE ENTRIES, HALLWAYS ETC. LESS THAN 5-FEET WIDE LOCATED IN CEDROOMS.

c. NEC ARTICLE 210.52(A) (3) AS AMENDED FLOOR RECEPTACLES.

3. IN EVERY KITCHEN, FAMILY ROOM, DINING ROOM, LIVING ROOM, PARLOR, LICRARY, DEN, SUNROOM, CEDROOM, RECREATION ROOM OR SIMILAR ROOM OR AREA OF DWELLING UNITS, ALL 125 VOLT 15 AND 20 AMP RECEPTACLES SHALL CE LISTED TAMPER-RESISTANT RECEPTACLES NEC 406.12)

4. APPLIANCES IDENTIFIED IN 422.5(A)(1) THROUGH (A)(7) RATED 150 VOLTS OR LESS TO GROUND AND 60 AMPERES OR LESS, SINGLE-OR 3- PHASE, SHALL BE PROVIDED WITH CLASS A GFCI PROTECTION FOR PERSONNEL. MULTIPLE CLASS A GFCI (7) DISHWASHERS PROTECTIVE DEVICES SHALL BE PERMITTED BUT SHALL NOT BE REQUIRED.

5. ELECTRICAL MATERIAL AND EQUIPMENT LISTED APPROVAL NO ELECTRICAL MATERIALS, APPARATUS, DEVICES, APPLIANCES, FIXTURES, OR EQUIPMENT SHALL BE SOLD OR INSTALLED UNLESS THEY ARE IN CONFORMANCE WITH THE PROVISIONS OF THIS CODE. THE LAWS OF THE STATE OF TEXAS AND ANY APPLICABLE RULES AND REGULATIONS ISSUED UNDER THE AUTHORITY OF THE STATE STATUTES. THE MAKERS NAME, TRADEMARK, OR OTHER IDENTIFICATION SYMBOL SHALL BE PLACED ON ALL ELECTRICAL MATERIALS, APPARATUS, DEVICES, APPLIANCES, FIXTURES, AND EQUIPMENT USED OR INSTALLED UNDER THE PROVISIONS OF THIS CODE. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE LISTED AND LABELED FOR THE INTENDED USE AND SHALL BE INCLUDED IN A LIST PUBLISHED BY AN APPROVED AGENCY

CODES ANALYSIS
THIS PROJECT SHALL COMPLY WITH THE FOLLOWING CODES (AS AMENDED BY THE CITY OF GALVESTON):
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2018 International Residential Code (IRC)
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2018 International Mechanical Code (IMC)
2018 International Plumbing Code (IPC)
2018 International Energy Conservation Code (IECC)
2018 International Fuel Gas Code (IFGC)

PWER SUPPLY KEYED NOTES:

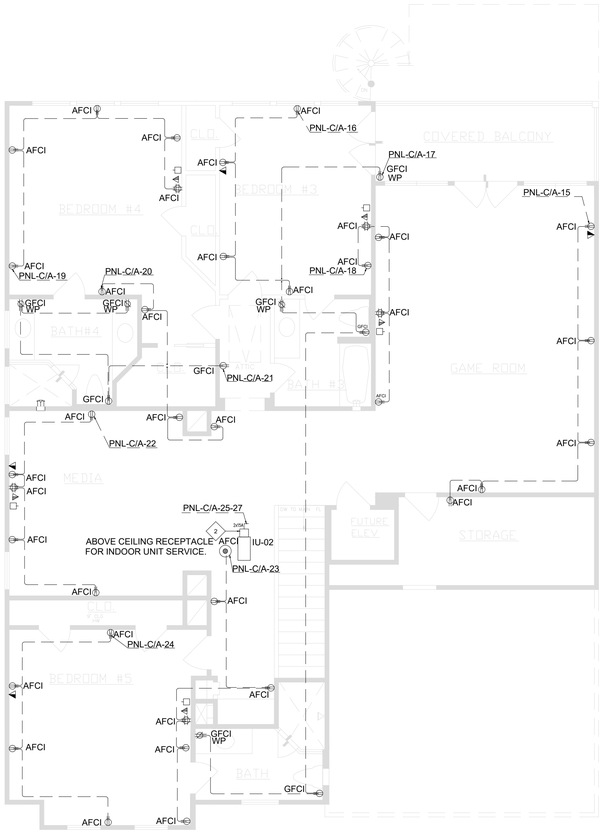
1 → PROVIDE HEAVY DUTY GALVANIZED STEEL JUNCTION BOX FOR KITCHEN EXHAUST FAN.

2 → PROVIDE NON-FUSED NEMA 3R DISCONNECT SWITCH FOR INDOOR UNIT.

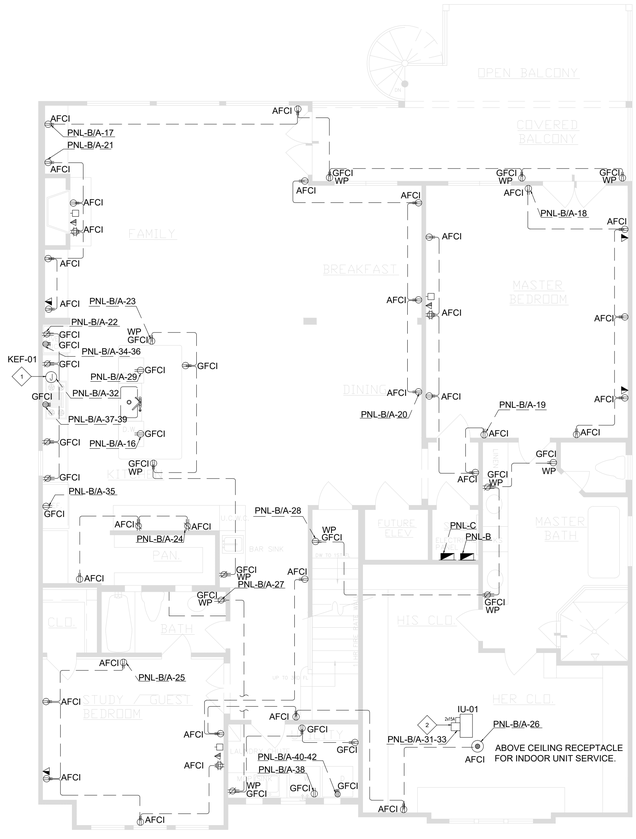
3 → PROVIDE NON-FUSED NEMA 3R WEATHERPROOF DISCONNECT SWITCH FOR OUTDOOR UNIT.

4 → PROVIDE HEAVY DUTY GALVANIZED STEEL JUNCTION BOX FOR EV CHARGING STATION. CONTRACTOR MUST VALIDATE THE MODEL OF THE CAR CHARGER BEFORE THE START OF WORKS AND TO VALIDATE THE CONNECTION RATING, THE CIRCUIT SHOULD BE UPSIZED IN CASE NEEDED: SEE THE HOUSE LOAD ANALYSIS FOR DETAILS OF THE MAXIMUM POSSIBLE CAPACITY OF CHARGERS.

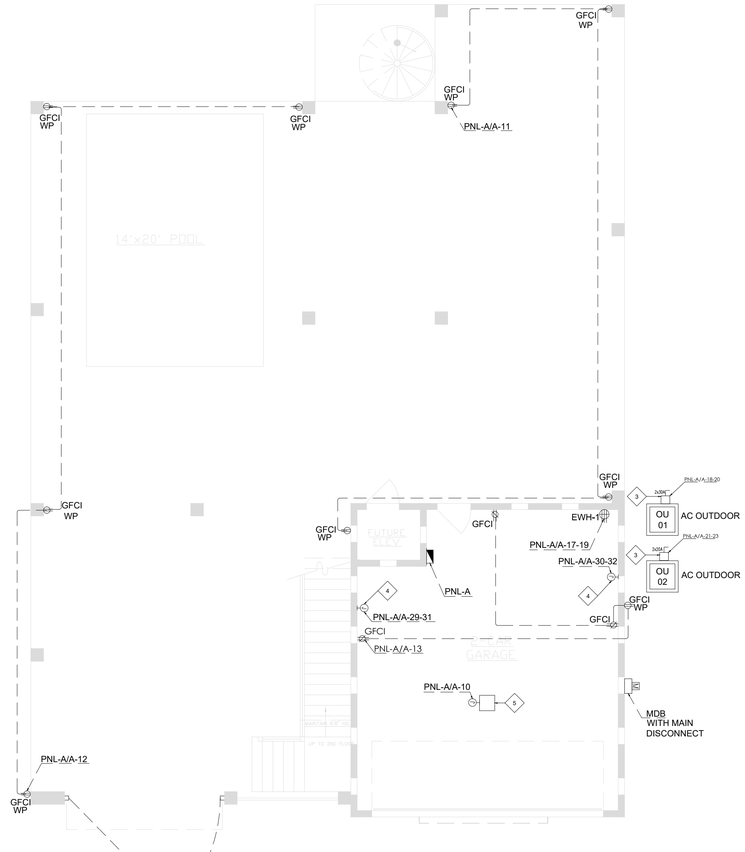
5 → PROVIDE HEAVY DUTY GALVANIZED STEEL JUNCTION BOX FOR GARAGE DOOR OPENER.



3RD FLOOR PLAN
3/16"=1'-0"



2ND FLOOR PLAN
3/16"=1'-0"



1ST FLOOR PLAN
3/16"=1'-0"

General Notes

1.CONTRACTOR SHALL VERIFY ALL DIMENSIONS & COORDINATE WITH TRADES TO ENSURE CONFORMANCE TO THESE PLANS & SPECIFICATIONS.

No.	Revision/Issue	Date
1	A / FOR REVIEW	03/17/2023

Firm Name and Address

Project Name and Address

17207 FM 3005, Galveston Legal Sandy Shores (2003) ABST 121, Lot 1 Galveston, TX

POWER LAYOUTS - FIRST, SECOND & THIRD.

Project	Sheet
Date 03/17/2023	E 4.0
Scale 3/16" = 1'	

LOAD CALCULATIONS - WHOLE HOUSE

Step	Directions				
	LIGHTING & GENERAL USE RECEPTACLES: 220.82(B)(1)				
1	Square footage	7,150	x	3 =	21,450 va
	SMALL APPLIANCES & LAUNDRY CIRCUITS: 220.82(B)(2)				
2	Number of circuits	4	x	1500 =	6,000 va
	APPLIANCES & MOTOR LOADS: 220.82(B)(3) & (4)				
3	Kitchen Range	12,000 va			
	Dishwasher	2,400 va			
	Dryer	5,000 va			
	Clothes Washer	1,200 va			
	Garbage Disposal	900 va			
	Water Heater	10,000 va			
	Microwave Oven	4,000 va			
	Refrigerator	1,500 va			
	Pool Equipment	9,860 va			
	Car Chargers	24,000 va			
	Elevator	10,000 va			
	Garage Door	600 va			
	Exhaust Fans (including kichen hood)	400 va			
	TOTAL	**109,310 va**			
	TOTAL STEPS 1-3: 220.82(B)				
4	1. Total of Loads	109,310	-	10,000 va =	99,310
	2. Line 1	99,310	x	40% =	39,724
	3. Line 2	39,724	+	10,000 va =	49,724
	HEATING & AIR CONDITIONING LOADS: 220.82(C)				
5	A. Air-Conditioning Equipment	N/A va			
	B. Heat Pump without Suppl. Heating	18,000 va			
	C. Suppl. Heating for HP	N/A va			
	D. Electrical Space Heating	N/A va			
	E. Electric Thermal Storage	N/A va			
	CALCULATE TOTAL SERVICE OR FEEDER LOAD: 220.82(A)				
6	Total of Line 3 from Step 4	49,724 va			
	Enter only the largers load from Step 5	+	18,000 va		
	Total Calculated Service or Feeder Load	=	67,724 va		
	CALCULATED SERVICE OR FEEDER SIZE				
7	Total Calculated Load	67,724 va /	240 volts =	282 amps	
	This calculation resulted in a demand load of 282 amps using optional feeder method, however, and for safety reasons, a 400 Amps service protection will be designed to allow coincident loads (especially car chargers, water heater, kitchen range, AC, etc..) to operate as the house has no gas service. The service conductor will be sized based on the calculated demand load.				

(Location: Garage - First Floor)

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	CONNECTED LOAD B	DEMAND TOTAL
L	Lighting	2.46	1.25	1.70	0.76	3.08
R	Convenience Recept	0.60	0.60	1.30	1.60	1.74
H	Heating (Space)	9.00	1.00	4.50	4.50	9.00
C	Cooling	0.00	1.00	0.00	0.00	0.00
A	HVAC	9.96	1.00	4.98	4.98	9.96
P	Process	0.00	1.00	0.00	0.00	0.00
O	Other Continuous	10.80	1.00	5.80	5.00	10.80
K	Kitchen	0.00	0.65	0.00	0.00	0.00
N	Noncontinuous	18.44	0.65	9.22	9.22	11.98
			1.00			0.00
	Total	**53.36**		27.30	26.06	46.36

Total Demand Load (KVA)	46.36
Total Demand Current (A)	222.86
Min. Feeder Ampacity (A)	278.58

PANEL - A

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	208/120V, 1Φ, 3W
BUS SIZE	250A
SYSTEM TYPE	NORMAL
FEEDER PROT	250A-2P CB Bus Plug
CONDUCTOR SIZE	250 kcmil CU
CONDUCTOR/PHASE	1
MAINS	MCCB
SCCR	SERIES RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	50
FEEDER V. DROP (%)	0.932
FAULT CURRENT	14.060
KAIC RATING	22
ENCLOSURE	TYPE 1

	DESCRIPTION	*	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION	*	
1	Ltg Swimming pool	L	2X 12 AWG	- #12G	15A-1P	0.45	0.85		0.40	15A-1P	2X 12 AWG - #12G		Ltg Swimming pool	L	2
3	Ltg Swimming pool & Garage	L	2X 12 AWG	- #12G	15A-1P	0.36		0.66	0.30	15A-1P	2X 12 AWG - #12G		Ceiling Fan Swimming pool	L	4
5	Ltg external	L	2X 12 AWG	- #12G	15A-1P	0.75	0.85		0.10	15A-1P	2X 12 AWG - #12G		Exit & emergency Light	L	6
7	Ltg Stairs	L	2X 12 AWG	- #12G	15A-1P	0.10		0.10		15A-1P			Spare		8
9	Spare				15A-1P		0.60		0.60	20A-1P	2X 10 AWG - #10G		Garage Door Opener	O	10
11	Receptacles Swimming pool	R	2X 10 AWG	- #10G	20A-1P	0.80		1.60	0.80	20A-1P	2X 10 AWG - #10G		Receptacles Swimming pool& external	R	12
13	Receptacles Garage	R	2X 10 AWG	- #10G	20A-1P	0.80	1.30		0.50	20A-1P	2X 10 AWG - #10G		Pool Indoor AC Unit Provisional - First Floor	R	14
15	Spare				15A-1P			0.00		20A-1P			Spare		16
17	EWH - 1	H	3X 6 AWG	- #6G	50A-2P	4.50	6.33		1.83	30A-2P	3X 10 AWG	- #10G	AC Outdoor OU-01	A	18
19		H				4.50		6.33	1.83					A	20
21	AC Outdoor OU-02	A	3X 10 AWG	- #10G	20A-2P	1.32	3.15		1.83	30A-2P	3X 10 AWG	- #10G	AC Outdoor OU-03 (PROVISIONAL - FIRST FLOOR)	A	22
23		A				1.32		3.15	1.83					A	24
25	POOL MACHINERY & HEATING PANEL (PROVISIONAL LOAD)	N	3X 4 AWG	- #4G	60A-2P	4.90	9.90		5.00	70A-2P	3X 4 AWG	- #4G	ELEVATOR	O	26
27		N				4.90		9.90	5.00					O	28
29	EV Car Charger -1	N	3X 10 AWG	- #10G	30A-2P	2.16	4.32		2.16	30A-2P	3X 10 AWG	- #10G	EV Car Charger -2	N	30
31		N				2.16		4.32	2.16					N	32
33							0.00	0.00							34
35								0.00							36
37							0.00	0.00							38
39								0.00							40
41							0.00								42
	(KVA)				Total Connected Load			27.30	26.06						

Updated 16.03.23

(Location: Elec. Room Second Floor)

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	CONNECTED LOAD B	DEMAND TOTAL
L	Lighting	4.60	1.25	2.60	2.00	5.75
R	Convenience Recept	10.80	0.60	5.80	4.80	6.36
H	Heating (Space)	0.00	1.00	0.00	0.00	0.00
C	Cooling	0.00	1.00	0.00	0.00	0.00
A	HVAC	0.70	1.00	0.35	0.35	0.70
P	Process	0.00	1.00	0.00	0.00	0.00
O	Other Continuous	0.00	1.00	0.00	0.00	0.00
K	Kitchen	22.86	0.65	11.15	11.71	14.86
N	Noncontinuous	0.00	0.65	0.00	0.00	0.00
			1.00			0.00
	Total	**38.76**		19.90	18.86	27.67

Total Demand Load (KVA)	27.67
Total Demand Current (A)	133.02
Min. Feeder Ampacity (A)	166.28

PANEL - B

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	208/120V, 1Φ, 3W
BUS SIZE	150A
SYSTEM TYPE	NORMAL
FEEDER PROT	150A-2P CB Bus Plug
CONDUCTOR SIZE	1/0 AWG CU
CONDUCTOR/PHASE	1
MAINS	MCB
SCCR	SERIES RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	50
FEEDER V. DROP (%)	0.932
FAULT CURRENT	14.060
KAIC RATING	22
ENCLOSURE	TYPE 1

	DESCRIPTION	*	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION	*	
1	Ltg Balcony & Breakfast room	L	2X 12 AWG	- #12G	15A-1P	0.30	0.60		0.30	15A-1P	2X 12 AWG - #12G		Ceiling Fan Family room	L	2
3	Ltg Family room	L	2X 12 AWG	- #12G	15A-1P	0.40		0.95	0.55	15A-1P	2X 12 AWG - #12G		Ltg Family & Kitchen	L	4
5	Ltg Pan - Bar sink - & Dining room	L	2X 12 AWG	- #12G	15A-1P	0.45	1.10		0.65	15A-1P	2X 12 AWG - #12G		Ltg Study-Guest-Bedroom & Laundary	L	6
7	Ceiling Fan Study-Guest-Bedroom	L	2X 12 AWG	- #12G	15A-1P	0.30		0.40	0.10	15A-1P	2X 12 AWG - #12G		Ltg Stairs	L	8
9	Ltg Hla & Her Closet	L	2X 12 AWG	- #12G	15A-1P	0.35	0.70		0.35	15A-1P	2X 12 AWG - #12G		Ltg Master Bath	L	10
11	Ltg Master bedroom & Electrical room	L	2X 12 AWG	- #12G	15A-1P	0.35		0.65	0.30	15A-1P	2X 12 AWG - #12G		Ceiling Fan Master bedroom	L	12
13	Exit & Emergency Light	L	2X 12 AWG	- #12G	15A-1P	0.10	0.20		0.10	15A-1P	2X 12 AWG - #12G		Smoke Detector	L	14
15	Spare				15A-1P			1.20	1.20	20A-1P	2X 10 AWG - #10G		Receptacles D/W	K	16
17	Receptacles Family & Balcony	R	2X 10 AWG	- #10G	20A-1P	1.00	2.00		1.00	20A-1P	2X 10 AWG - #10G		Receptacles Master Bedroom	R	18
19	Receptacles Master Bedroom	R	2X 10 AWG	- #10G	20A-1P	1.00		1.80	0.80	20A-1P	2X 10 AWG - #10G		Receptacles Dining & Breakfast room	R	20
21	Receptacles Family room	R	2X 10 AWG	- #10G	20A-1P	1.00	1.80		0.80	20A-1P	2X 10 AWG - #10G		Receptacles Kitchen	R	22
23	Receptacles Kitchen	R	2X 10 AWG	- #10G	20A-1P	0.80		1.40	0.60	20A-1P	2X 10 AWG - #10G		Receptacles Kitchen	R	24
25	Receptacles Study-Guest-Bedroom	R	2X 10 AWG	- #10G	20A-1P	1.00	2.00		1.00	20A-1P	2X 10 AWG - #10G		Receptacles Corridore-Closet & Study room	R	26
27	Receptacles Bath & Laundry	R	2X 10 AWG	- #10G	20A-1P	0.80		1.60	0.80	20A-1P	2X 10 AWG - #10G		Receptacles Stairs & Master Bath	R	28
29	Receptacles D/W	K	2X 10 AWG	- #10G	20A-1P	1.20	1.20			20A-1P			Spare		30
31	Indoor unit IU-01	A	3X 10 AWG	- #10G	15A-2P	0.35		0.61	0.26	20A-1P	2X 10 AWG - #10G		KEF-01	K	32
33		A				0.35	2.35		2.00	30A-2P	3X 10 AWG	- #10G	Oven/Micro	K	34
35	Receptacles Refrigerator	K	2X 10 AWG	- #10G	20A-1P	1.50		3.50	2.00					K	36
37	Range	K	3X 6 AWG	- #6G	50A-2P	4.25	5.45	5.45	1.20	20A-1P	2X 10 AWG - #10G		Washer	K	38
39		K				4.25		6.75	2.50	30A-2P	3X 10 AWG	- #10G	Dryer	K	40
41	Spare				20A-1P		2.50	2.50	2.50					K	42
	(KVA)				Total Connected Load			19.90	18.86						

Updated 07.02.2023

(Location:)

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	CONNECTED LOAD B	DEMAND TOTAL
L	Lighting	3.70	1.25	1.95	1.75	4.63
R	Convenience Recept	9.40	0.60	3.80	5.60	5.64
H	Heating (Space)	0.00	1.00	0.00	0.00	0.00
C	Cooling	0.00	1.00	0.00	0.00	0.00
A	HVAC	0.48	1.00	0.24	0.24	0.48
P	Process	0.00	1.00	0.00	0.00	0.00
O	Other Continuous	0.00	1.00	0.00	0.00	0.00
K	Kitchen	0.00	0.65	0.00	0.00	0.00
N	Noncontinuous	0.00	0.65	0.00	0.00	0.00
			1.00			0.00
	Total	**13.58**		5.99	7.59	10.75

Total Demand Load (KVA)	10.75
Total Demand Current (A)	51.66
Min. Feeder Ampacity (A)	64.57

PANEL - C

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	208/120V, 1Φ, 3W
BUS SIZE	60A
SYSTEM TYPE	NORMAL
FEEDER PROT	60A-2P CB Bus Plug
CONDUCTOR SIZE	4 AWG CU
CONDUCTOR/PHASE	1
MAINS	MCB
SCCR	SERIES RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	50
FEEDER V. DROP (%)	0.932
FAULT CURRENT	14.060
KAIC RATING	22
ENCLOSURE	TYPE 1

	DESCRIPTION	*	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION	*	
1	Ltg Balcony - Bedroom - Bath3 & Closet	L	2X 12 AWG	- #12G	15A-1P	0.45	0.75		0.30	15A-1P	2X 12 AWG - #12G		Ceiling Fan Bedroom 3	L	2
3	Ltg Bedroom 4 - Bath 4 & Closet	L	2X 12 AWG	- #12G	15A-1P	0.45		0.90	0.45	15A-1P	2X 12 AWG - #12G		Ltg Game room & Storage	L	4
5	Ceiling Fan Game room	L	2X 12 AWG	- #12G	15A-1P	0.30	0.60		0.30	15A-1P	2X 12 AWG - #12G		Ltg Media & Corridors	L	6
7	Ceiling Fan Media room	L	2X 12 AWG	- #12G	15A-1P	0.30		0.65	0.35	15A-1P	2X 12 AWG - #12G		Ltg Bedroom 5-Bath 5 & Closet	L	8
9	Ceiling Fan Bedroom 5	L	2X 12 AWG	- #12G	15A-1P	0.30	0.60		0.30	15A-1P	2X 12 AWG - #12G		Ceiling Fan Bedroom 4	L	10
11	Exit & Emergency Light	L	2X 12 AWG	- #12G	15A-1P	0.10		0.20	0.10	15A-1P	2X 12 AWG - #12G		Smoke Detector	L	12
13	Spare				15A-1P		0.00			15A-1P			Spare		14
15	Receptacles Game room & Storage	R	2X 10 AWG	- #10G	20A-1P	1.00		1.80	0.80	20A-1P	2X 10 AWG - #10G		Receptacles Bedroom 3	R	16
17	Receptacles Balcony-Bath 3-Bath 5	R	2X 10 AWG	- #10G	20A-1P	1.00	2.00		1.00	20A-1P	2X 10 AWG - #10G		Receptacles Bedroom 3 & Game room	R	18
19	Receptacles Bedroom 4	R	2X 10 AWG	- #10G	20A-1P	1.00		1.80	0.80	20A-1P	2X 10 AWG - #10G		Receptacles Bedroom 4 & Media room	R	20
21	Receptacles Bath 3 & Bath 4	R	2X 10 AWG	- #10G	20A-1P	0.80	1.80		1.00	20A-1P	2X 10 AWG - #10G		Receptacles Media room	R	22
23	Receptacles Corridor & Bedroom 5	R	2X 10 AWG	- #10G	20A-1P	1.20		2.00	0.80	20A-1P	2X 10 AWG - #10G		Receptacles Bedroom 5	R	24
25	Indoor unit IU-02	A	3X 10 AWG	- #10G	15A-2P	0.24	0.24			20A-1P			Spare		26
27		A				0.24		0.24		20A-1P			Spare		28
29	Spare				20A-1P		0.00			20A-1P			Spare		30
	(KVA)				Total Connected Load			5.99	7.59						

Updated 07.02.2023

General Notes

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No.	Revision/Issue	Date
1	A / FOR REVIEW	03/17/2023

Firm Name and Address

Project Name and Address

17207 FM 3005, Galveston Legal Sandy Shores (2003) ABST 121, Lot 1 Galveston, TX

LOAD CALCULATION & PANEL BOARDS SCHEDULES.

Project	Sheet: E 5.0
Date: 03/17/2023	
Scale: NTS	

DISINFECTION OF POTABLE WATER SYSTEM

GENERAL:
POTABLE WATER SYSTEM EQUIPMENT AND PIPING SHALL BE PURGED OF DELETERIOUS MATTER AND DISINFECTED PRIOR TO UTILIZATION. THE METHOD TO BE FOLLOWED SHALL BE THAT PRESCRIBED BY THE HEALTH AUTHORITY OR AUTHORITY HAVING JURISDICTION OR IN THE ABSENCE OF A PRESCRIBED METHOD, THE PROCEDURE DESCRIBED IN EITHER AWWA C651 OR AWWA C652 OR AS DESCRIBED AS BELOW. THIS REQUIREMENT SHALL APPLY TO "ONSITE" OR "IN PLANT" FABRICATION OF A SYSTEM OR TO A MODULAR PORTION OF A SYSTEM.

1. THE PIPE SYSTEM SHALL BE FLUSHED WITH CLEAN, POTABLE WATER UNTIL DIRTY WATER DOES NOT APPEAR AT THE POINTS OF OUTLET.

2. THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER/CLHLORINE SOLUTION CONTAINING NOT LESS THAN 50 PARTS PER MILLION (50mg/L) OF CHLORINE, AND THE SYSTEM OR PART THEREOF SHALL BE VALVES OFF AND ALLOWE TO STAND FOR 24-HOURS, OR THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER CHLORINE SOLUTION CONTAINING NOT LESS THAN 200 PARTS PER MILLION (200mg/L) OF CHLORINE AND ALLOWED TO STAND FOR 3-HOURS.

3. FOLLOWING THE REQUIRED STANDING TIME, THE SYSTEM SHALL BE FLUSHED WITH CLEAN WATER UNTIL THE CHLORINE IS PURGED FORM THE SYSTEM.

4. THE PROCEDURE SHALL BE REPEATED WHERE SHOWN BY A BACTERIOLOGICAL EXAMINATION THAT CONTAMINATION REMAINS PRESENT IN THE SYSTEM.

FROM 2018 IPC - TABLE E 103.3 (2):
WATER SUPPLY FIXTURE UNITS LOADS:

FIXTURE	OCCUPANCY	W.S.F.U	QTY.	TOTAL W.S.F.U
KITCHEN SINK	PRIVATE	1.4	1	1.4
FRIDGE	PRIVATE	0.25	1	0.25
WATER CLOSET	PRIVATE	2.0	5	10.0
LAVATORY	PRIVATE	0.7	7	4.9
BATHTUB	PRIVATE	1.4	3	4.2
SHOWER HEAD	PRIVATE	1.4	3	4.2
WASHING MACHINE	PRIVATE	1.4	1	1.4
BAR SINK	PRIVATE	1.4	1	1.4
DISHWASHING MACHINE	PRIVATE	1.4	2	2.8
MOP SINK	PRIVATE	1.4	1	1.4
				TOTAL = 31.95 WFU
				EQUIVALENT FLOW (IPC TABLE E103.3(3))= 23.5 GPM
				Ø1 1/2" MAIN CW PIPE WILL OPERATE AT APPROX. 4.5 FT/s

WATER SUPPLY KEYED NOTES:

1. DCW, DHW & DHWR RISE TO HIGH LEVEL - RISER.
2. DCW & DHW DROP IN WALL TO FIXTURE TERMINAL.
3. DCW FROM BELOW GRADE UP IN WALL.
4. DHW FLOOR CONNECTION WITH WATER HAMMER ARRESTOR TO ISLAND DISHWASHER.
5. DCW DROP IN WALL TO FIXTURE TERMINAL.
6. DCW & DHW DROP FROM CEILING LEVEL TO BELOW WITH WATER HAMMER ARRESTOR.
7. DCW & DHW FLOOR CONNECTION TO ISLAND SINK.
8. DCW, DHW DROP IN WALL TO UNDERTILE.
9. DCW, DHW & DHWR FROM BELOW - MAIN RISER.
10. DCW & DHW DROP TO SHOWER / BATH-TUB TERMINAL WITH PRESSURE / TEMPERATURE ANTI-SCALDING BALANCING VALVE.

CODES ANALYSIS:
THIS PROJECT SHALL COMPLY WITH THE FOLLOWING CODES (AS AMENDED BY THE CITY OF GALVESTON):

2018 INTERNATIONAL BUILDING CODE (IBC)
2018 INTERNATIONAL RESIDENTIAL CODE (IRC)
2018 INTERNATIONAL EXISTING BUILDING CODE (IEBC)
2017 NATIONAL ELECTRICAL CODE (NEC)
2018 INTERNATIONAL MECHANICAL CODE (IMC)
2018 INTERNATIONAL PLUMBING CODE (IPC)
2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
2018 INTERNATIONAL FUEL GAS CODE (IFGC)

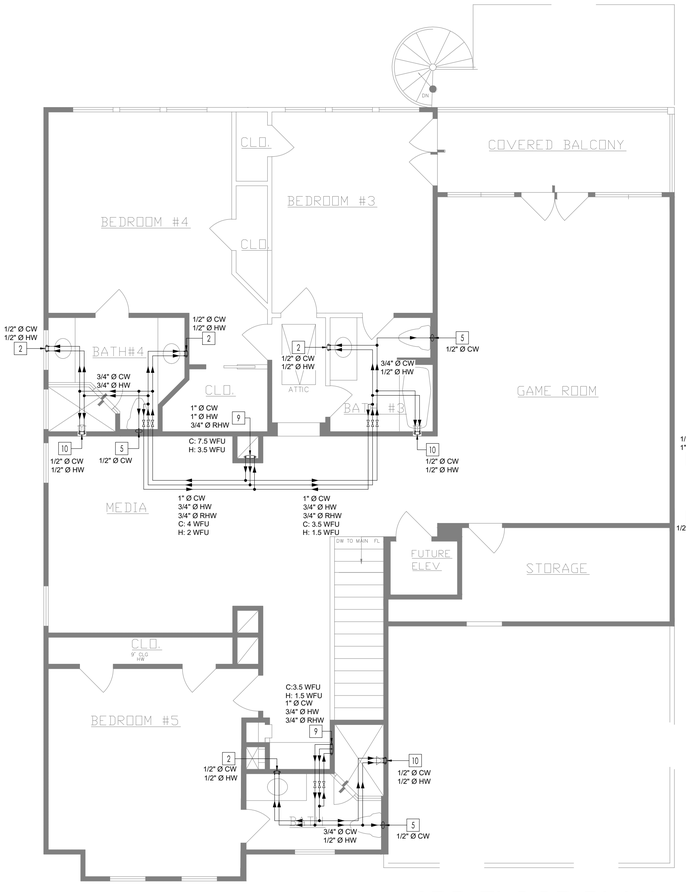
SCHEDULE No. 1
ELECTRIC WATER HEATER SCHEDULE

TAG	EWH-01
LOCATION	FIRST FLOOR GARAGE
SERVES	WHOLE RESINDENCE
MANUFACTURER	RHEEM
MODEL	ELD-52-TB-5/5
TYPE	ELECTRIC - TANK
HEATER SIZE UPPER / LOWER (kW)	5 / 5
FIRST HOUR DELIVERY (GPH)	63
RECOVERY AT 100°F RISE (GPH)	41
VOLTAGE (V / PH /HZ)	208 - 230 / 1 / 60
LISTED TANK CAPACITY (GAL)	50
MEASURED TANK CAPACITY (GAL)	45
UNIFORM ENERGY FACTOR U.E.F	0.93
APPROXIMATE SHIPPING WEIGHT (LBS)	155
DIAMETER x HEIGHT (in.)	20 1/2 x 58 5/8

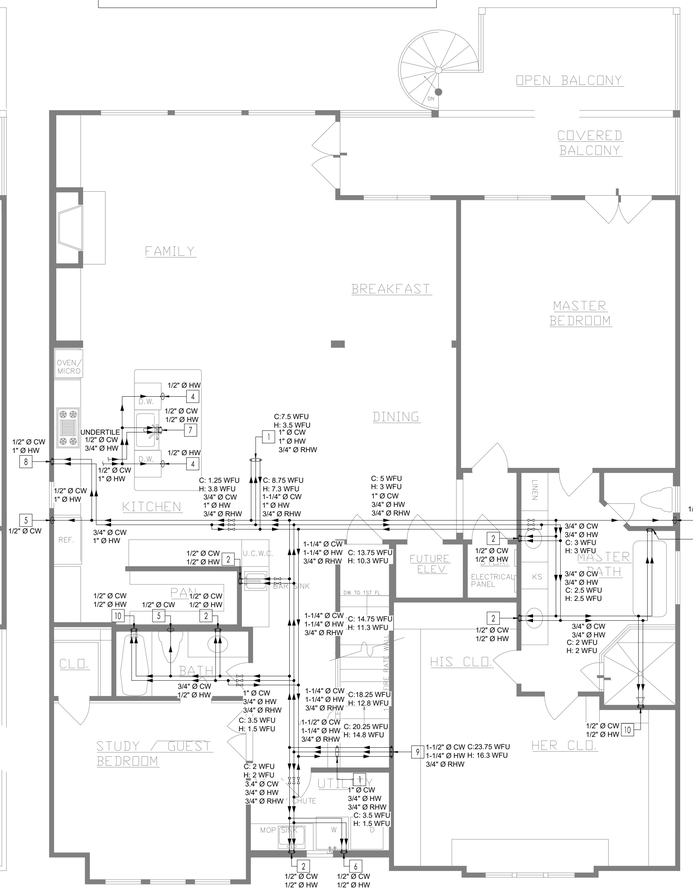
NOTES:
1. HEATER SHALL BE EQUIPPED WITH TERMINAL BLOCK TO ALLOW SIMULTANEOUS ELEMENTS WIRING, AND TO HAVE SINGLE PHASE SUPPLY.
2. HEATER SHALL HAVE CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE.
3. HEATER SHALL MEET OR EXCEED THE THERMAL EFFICIENCY AND/OR STANDBY LOSS REQUIREMENTS OF THE US DOE AND CURRENT EDITION OF ASHRAE/IESNA 90.1.
4. HEATER SHALL HAVE SURFACE MOUNTED THERMOSTATS.
5. HEATER SHALL HAVE INCOLOY ELEMENTS.
6. HEATER SHALL HAVE INDIVIDUAL ELEMENT FUSING.
7. HEATER SHALL HAVE FULL FLOW BRASS DRAIN VALVE.

GENERAL NOTES:

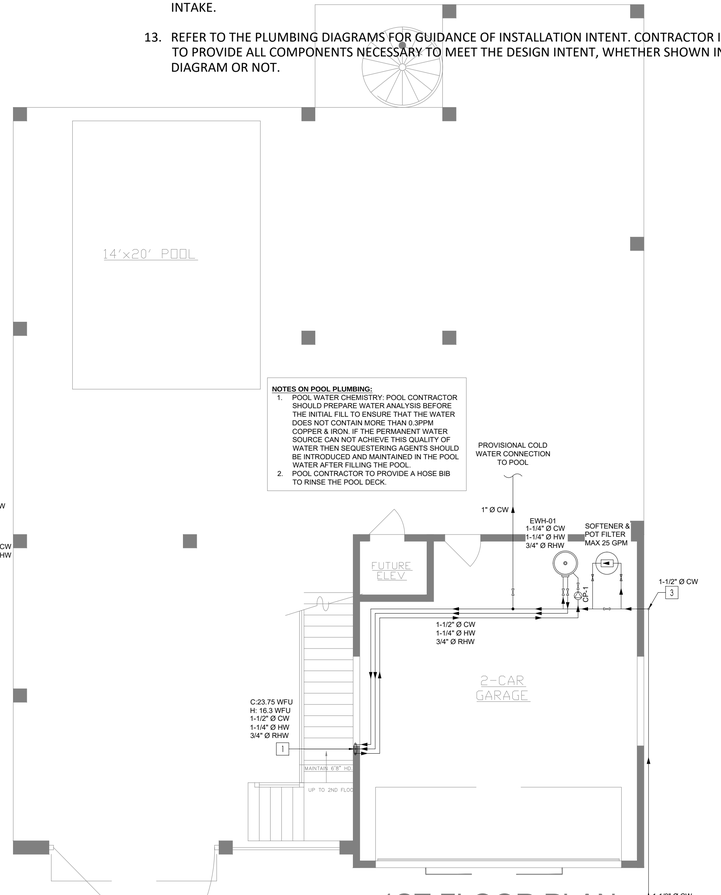
1. PRIOR TO PERFORMING WORK, CONTRACTOR TO COORDINATE EXACT PIPE SIZES, INVERT ELEVATIONS, PRESSURES FOR LOCATIONS OF ANY SEWER, WATER PIPING AND WATER METER WITH CIVIL UTILITIES DRAWINGS, AND ANY OTHER ENGINEER AS APPLICABLE.
2. PRIOR TO PERFORMING WORK, CONTRACTOR TO COORDINATE PIPE ROUTING WITH ALL OTHER TRADES AND EXISTING FIELD CONDITIONS.
3. REFER TO MECHANICAL PLANS FOR PLUMBING SPECIFICATION OF MATERIAL, INSULATION AND INSTALLATION REQUIREMENTS.
4. CONTRACTOR IS RESPONSIBLE FOR ROUGH-IN COORDINATION AND LOCATIONS. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS AND FIXTURES.
5. CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED CUTTING AND PATCHING.
6. ALL NOTCHING, BORING, AND CUTTING OF HOLES IN WALL STUDS AND FLOOR JOISTS SHALL BE PERFORMED BASED ON THE LATEST ADOPTED AND APPROVED EDITION OF THE BUILDING CODE.
7. ALL PLUMBING FIXTURES SHALL BE OF WATER CONSERVATION TYPE AS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.
8. ALL WATER PIPING SHALL BE INSTALLED ON INTERIOR SIDE OF THE BUILDING WALL INSULATION.
9. CONTRACTOR SHALL PROVIDE VALVES LOCATED ABOVE LAY-IN CEILING OR 24"x24" CEILING ACCESS PANEL COORDINATE FINAL LOCATION AND SIZE WITH ARCHITECT. PROVIDE BALANCING VALVES FOR HOT WATER RETURN SYSTEM AS REQUIRED.
10. ALL SANITARY DRAINAGE PIPING 3" AND SMALLER SHALL BE SLOPED AT 1/4" PER FOOT. PIPING 4" AND LARGER SHALL BE SLOPED AT 1/8" PER FOOT.
11. ALL CONDENSATE DRAIN PIPING SHALL BE SLOPED AT 1/8" PER FOOT AND PROVIDE ACCESSIBLE CLEANOUTS AT ALL CHANGES OF DIRECTION.
12. VENTS THAT TERMINATE AT THE ROOF SHALL BE A MINIMUM OF 10' FROM ANY FRESH AIR INTAKE.
13. REFER TO THE PLUMBING DIAGRAMS FOR GUIDANCE OF INSTALLATION INTENT. CONTRACTOR IS TO PROVIDE ALL COMPONENTS NECESSARY TO MEET THE DESIGN INTENT, WHETHER SHOWN IN DIAGRAM OR NOT.



3RD FLOOR PLAN
3/16"=1'-0"



2ND FLOOR PLAN
3/16"=1'-0"



1ST FLOOR PLAN
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No.	Revision/Issue	Date
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Firm Name and Address

Project Name and Address
17207 FM 3005, Galveston Legal Sandy Shores (2003) ABST 121, Lot 1 Galveston, TX

WATER SUPPLY LAYOUTS - FIRST, SECOND & THIRD.

Project 3/16"=1'-0"	Sheet P 3.00
Date 03/17/2023	
Scale 3/16"=1'-0"	

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PLUMBING PIPING MATERIAL SCHEDULE

PIPING SYSTEM	LOCATION	ACCEPTABLE PIPING MATERIAL
WASTE & VENT	BELOW AND ABOVE GRADE	ASTM D 2665 PVC SCHEDULE 40, SOCKET FITTINGS DWV
	FROM FIRST TO ROOF	ASTM A 888 CAST IRON, NO HUB SYSTEM

FROM 2018 IPC - TABLE 709.1:

PIPE SIZE PER FIXTURE

FIXTURE	DR (INCH)	VENT (INCH)
WATER CLOSET	4	3
LAVATORY	2	2
SHOWER	3	-
BATHTUB	3	-
CLOTHES WASHER	2	2
KITCHEN SINK	2	2
LAUNDRY SINK	2	2
BAR SINK	2	2
MOP SINK	2	2

FROM 2018 IPC - TABLE 709.1:

DRAINAGE FIXTURE UNIT VALUES (DFU)

FIXTURE	D.F.U	QTY.	TOTAL D.F.U
WATER CLOSET	3.0	5	15.0
LAVATORY	1.0	6	6.0
SHOWER	2.0	3	6.0
BATHTUB	2.0	3	6.0
CLOTHES WASHER	2.0	1	2.0
KITCHEN SINK	2.0	1	2.0
BAR SINK	2.0	1	2.0
DISHWASHING MACHINE	2.0	1	2.0
MOP SINK	2.0	1	2.0
TOTAL DFU =			**43.0**

AS PER 2018 IPC - TABLE 710.1(1):
- MAIN SEWER PIPE: 4"Ø

DRAINAGE KEYED NOTES:

1. WASTE DROP AND 2" VENT RISE.
2. 4" FLOOR CLEAN-OUT.
3. 3" VENT STACK TO ABOVE.
4. 3" FLOOR DRAIN.
5. 4" SEWER DROP TO BELOW STORY.
6. ISLAND SINK DRAIN.
7. 4" SEWER DROP FROM ABOVE TO BELOW.
8. ISLAND DISHWASHER DRAIN - INDIRECT WASTE.
9. VENT PIPE RISE TO CEILING LEVEL.
10. WASHING MACHINE DRAIN - INDIRECT WASTE.
11. BATHTUB DRAIN CONNECTION.
12. WALL CLEAN OUT.
13. 3" BALCONY DRAIN - SIDE OUTLET WITH ODOR TRAP.
14. 3" DRAIN PIPE DROP TO BELOW.
15. 3" DRAIN PIPE DROP FROM ABOVE TO BELOW.
16. CONDENSATE DRAIN CONNECTION TO LAVATORY TRAP.
17. 3" GARAGE DRAIN.
18. T&P DISCHARGE DRAIN CONNECTION - INDIRECT WASTE.
19. 4" CLEAN OUT ON GRADE LEVEL.

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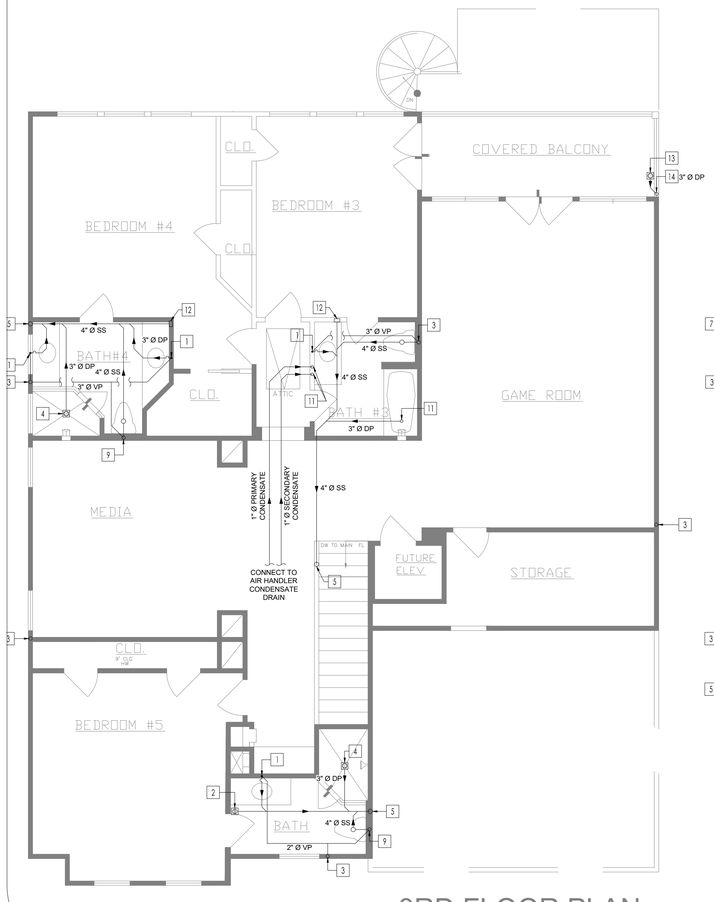
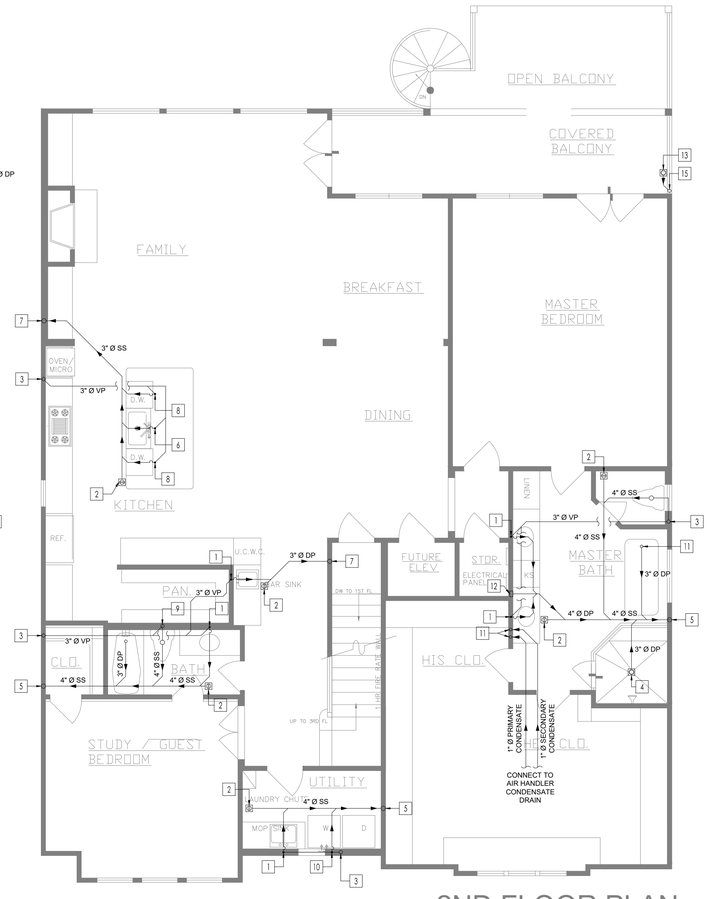


3RD FLOOR PLAN
3/16"=1'-0"



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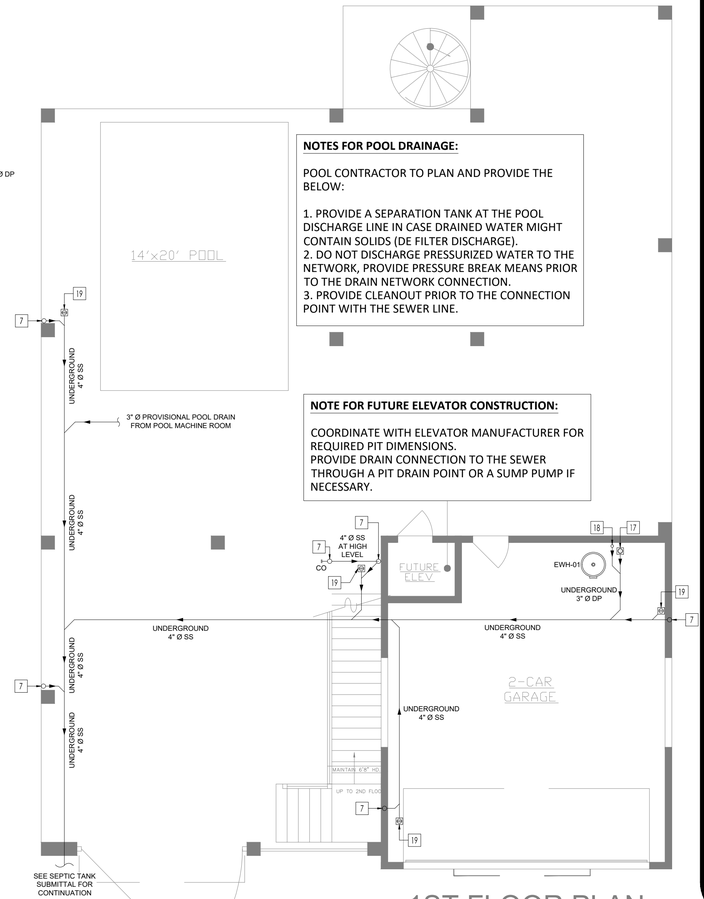
3/16"=1'-0"



NOTES FOR POOL DRAINAGE:

POOL CONTRACTOR TO PLAN AND PROVIDE THE BELOW:

1. PROVIDE A SEPARATION TANK AT THE POOL DISCHARGE LINE IN CASE DRAINED WATER MIGHT CONTAIN SOLIDS (DE FILTER DISCHARGE).
2. DO NOT DISCHARGE PRESSURIZED WATER TO THE NETWORK, PROVIDE PRESSURE BREAK MEANS PRIOR TO THE DRAIN NETWORK CONNECTION.
3. PROVIDE CLEANOUT PRIOR TO THE CONNECTION POINT WITH THE SEWER LINE.

NOTE FOR FUTURE ELEVATOR CONSTRUCTION:

COORDINATE WITH ELEVATOR MANUFACTURER FOR REQUIRED PIT DIMENSIONS.
PROVIDE DRAIN CONNECTION TO THE SEWER THROUGH A PIT DRAIN POINT OR A SUMP PUMP IF NECESSARY.

1ST FLOOR PLAN
3/16"=1'-0"

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DRAINAGE LAYOUTS - FIRST, SECOND & THIRD.

Project	Sheet
Date 03/17/2023	P 4.00
Scale 3/16"=1'-0"	