351 W Queen Lane

GRAPHIC LEGEND

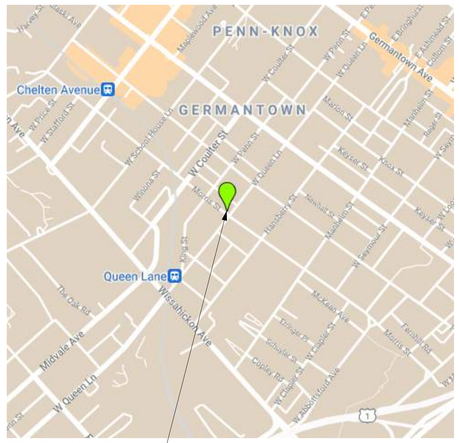
- 101 — DOOR MARK SEE DOOR SCHEDULE
- 1t — WALL TAG SEE PARTITION SCHEDULE
- 1t — WINDOW TAG SEE WINDOW SCHEDULE
- 1 / A101 — ELEVATION MARK
- Ref / 1 / 1 / A101 — INTERIOR ELEVATION
- 1 / A101 — SECTION MARK
- EXISTING WALL TO BE REMOVED
- EXISTING WALL TO REMAIN
- NEW WALL CONSTRUCTION OR FURRING
- 1 HOUR RATED WALL
- 2 HOUR RATED WALL
- EXISTING SINGLE DOOR IN EXISTING WALL CONSTRUCTION TO BE REMOVED
- EXISTING SINGLE DOOR IN EXISTING WALL CONSTRUCTION TO REMAIN
- NEW DOOR IN NEW WALL CONSTRUCTION OR FURRING

NOTE: SEE CONSULTANT DRAWING COVER SHEETS FOR SYMBOLS ASSOCIATED WITH THOSE TRADES.

ZONING CODE SUMMARY

ZONING CODE SUMMARY : RSA-5

MEASUREMENT:	ALLOWED/REQUIRED	PROPOSED/EXISTING TO REMAIN
MIN. LOT WIDTH	16 FT MIN	18.842 FT
MIN. LOT AREA	1,440 S.F. MIN	1,382 S.F.
MIN. OPEN AREA	25% AT INTERMEDIATE 30% AT CORNER	49% OPEN (680 S.F.)
MIN. FRONT SETBACK	BASED ON ADJACENT	0 FT
MIN. SIDE YARD WIDTH	N/A (ATTACHED) 5 FT (SEMI-DETACHED)	N/A
MIN. REAR YARD DEPTH	9 FT MIN	32 FT 9 IN
MAX. HEIGHT	38 FT MAX	30 FT 6 IN


PENN-KNOX
GERMANTOWN
Chelten Avenue
Queen Lane
Germantown Ave
W Queen Ln
Wesalico Dr Ave
Midvale Ave
W Coulter St
W Duval St
Knox St
Mentor St
Keyser St
Haines St
Tulpehocken St
Ardleigh St
Ashland St
Clifford St
Ashmead St
Rittenhouse Sq
Pastorius Pl
Lafayette St
Cayuga St
Ardleigh Pl
Schiller St
Cayuga Rd
W Ashmead St
W Ashmead Pl
Mentor St
Keyser St
Knox

GENERAL PROJECT NOTES:

1. THESE "PROJECT NOTES AND SPECIFICATIONS" ARE THE MINIMUM STANDARDS FOR THE PROJECT.

2. CONTRACTOR(S) SHALL EXAMINE DRAWINGS AND NOTES/SPECIFICATIONS, AND THE WORKSITE PRIOR TO SUBMITTING BID. REQUESTS FOR INFORMATION SHALL BE SUBMITTED IN WRITING AND WILL BE ANSWERED IN WRITING.

3. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. LARGER SCALE DETAILS TAKE PRECEDENCE OVER SMALLER SCALE DETAILS.

4. DETAILS AND SECTIONS SHOWN ON THE DRAWINGS TAKEN AT SPECIFIC LOCATIONS ARE INTENDED TO SHOW GENERAL REQUIREMENTS THROUGHOUT. DETAILS NOTED "TYPICAL" OR "TYP" IMPLY THAT SIMILAR CONDITIONS SHALL BE TREATED IN THE SAME MANNER.

5. VERIFY ALL SITE AND ADJACENT BUILDING CONDITIONS AND DIMENSIONS BEFORE PROCEEDING WITH CONSTRUCTION AND NOTIFY ARCHITECT OF DISCREPANCIES (IF ANY).

6. ALL NEW WORK TO BE IN COMPLIANCE WITH ALL NATIONAL, STATE, & LOCAL BUILDING AND APPLICABLE CODES AND STANDARDS.

7. THESE PROJECT NOTES/SPECIFICATIONS ARE PROVIDED FOR CONVENIENCE IN BIDDING AND CONSTRUCTING THE WORK. THE CONTRACTOR(S) IS RESPONSIBLE FOR INCLUDING IN HIS/HER CONSTRUCTION CONTRACT ANY WORK, TOOLS, OR MATERIALS WHICH MAY BE REASONABLY INFERRED TO BE NECESSARY TO COMPLETE THE WORK WHETHER OR NOT SPECIFIC DETAILS AND/OR METHODS ARE SPECIFICALLY INCLUDED IN THE CONTRACT DOCUMENTS.

8. ALL CONTRACTOR(S) PERFORMING WORK SHALL HAVE APPLICABLE LICENSES.

9. CONTRACTOR(S) IS RESPONSIBLE FOR OBTAINING ANY/ALL BUILDING, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION PERMITS UNLESS NOTED OTHERWISE (U.N.O.).

10. CONTRACTOR(S) IS RESPONSIBLE TO ACQUIRE ANY / ALL STREET & SIDEWALK CLOSURE PERMITS AS WELL AS ANY REQUIRED DUMPSTER PERMITS.

11. CONTRACTOR(S) IS TO HAVE APPLICABLE INSURANCE AS REQUIRED BY THE BUILDING OWNER.

12. CONTRACTOR(S) IS RESPONSIBLE FOR NOTIFYING THE BUILDING INSPECTOR A MINIMUM OF 24 HOURS PRIOR TO COMMENCING WITH WORK. CONTRACTOR(S) IS RESPONSIBLE FOR CONTACTING THE BUILDING INSPECTOR FOR ANY / ALL REQUIRED INSPECTIONS FOR THE DURATION OF THE PROJECT.

13. THE ARCHITECT(S) AND ENGINEER(S) ARE NOT RESPONSIBLE FOR THE CONTRACTOR(S) MEANS AND METHODS OF CONSTRUCTION.

14. CONTRACTOR(S) IS RESPONSIBLE FOR MAINTAINING JOB SITE AS PER OSHA GUIDELINES.

15. CONTRACTOR(S) IS RESPONSIBLE FOR PROTECTION OF THE PUBLIC AND SHALL PROVIDE AND MAINTAIN ALL NECESSARY FENCING, BARRICADES, SIGNAGE, ETC.

16. PROVIDE PORTABLE JOB TOILET(S) AND CONTACT INFORMATION ON SITE FOR THE DURATION OF THE PROJECT (AS REQUIRED BY OWNER).

17. CONTRACTOR(S) TO PROVIDE DAILY CLEAN-UP TO SITE DUMPSTER.

18. REMOVE ALL CONSTRUCTION DEBRIS FROM PROPERTY AND PROVIDE FINAL PROFESSIONAL CLEANING OF JOB SITE AND BUILDING.

19. CONTRACTOR(S) TO PROVIDE TEMPORARY SHORING & BRACING AT ALL AREAS OF DEMOLITION & STAGING DURING THE CONSTRUCTION PROCESS.

20. CONTRACTOR(S) IS RESPONSIBLE TO UTILIZE THE PA ONE CALL SYSTEM PRIOR TO COMMENCEMENT OF WORK.

21. COORDINATE UNDERPINNING WORK WITH ADJACENT PROPERTY OWNER(S). IT IS RECOMMENDED TO OBTAIN PERMISSION AND TO PHOTOGRAPH EXISTING CONDITIONS (INSIDE AND OUTSIDE) PRIOR TO COMMENCEMENT OF WORK.

CITY OF PHILADELPHIA STAMPS

SITE WORK NOTES:

1. CONTRACTOR(S) TO COORDINATE WITH LOCAL UTILITY COMPANIES ACCORDINGLY FOR SUPPLY LOCATIONS, RELOCATIONS, ETC. DO NOT MOUNT DEVICES / METERS EXPOSED ON THE FRONT ELEVATION WITHOUT PERMISSION OF THE ARCHITECT.

2. CONTACT ARCHITECT IMMEDIATELY UPON UNCOVERING ANY UNFORESEEN ITEMS OR CONDITIONS DURING EXCAVATION INCLUDING WATER, STUMPS OR OTHER ITEMS.

3. EXCAVATION IS TO BE DONE IN ACCORDANCE WITH SEALED DRAWINGS AND THE SITE'S GEOTECHNICAL REPORT (IF PROVIDED).

4. DO NOT EXPOSE OR EXCAVATE BELOW ADJACENT FOUNDATIONS AND / OR FOOTINGS UNLESS UNDERPINNING HAS BEEN SPECIFIED, PERMITTED AND COORDINATED.

5. ALL BACKFILL AT THE SITE SHALL BE CLEAR GRANULAR FILL PLACED IN 6" (MAX) LAYERS COMPACTED TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE TO ASTM-D-1557. NO FOOTINGS SHALL REST ON FILL.

6. CONCRETE TO BE CURED A MINIMUM OF 14 DAYS AND FLOOR CONSTRUCTION TO BE IN PLACE (FOR BRACING) PRIOR TO BACKFILLING.

7. VERIFY WITH OWNER CONSTRUCTION STAGING & CONSTRUCTION DELIVERY LOCATIONS.

8. FOOTING TO BEAR ON UNTOOLED VIRGIN SOIL, SIZED PER DRAWINGS, MIN. 3'-0" BELOW GRADE. FOOTINGS SHOWN ON THESE DRAWINGS HAVE ASSUMED A MINIMUM SOIL BEARING CAPACITY OF 3000 PSF.

9. CONTRACTOR(S) IS TO PROVIDE ALL SHEETING & SHORING AS REQUIRED.

10. CONTRACTOR(S) IS TO PROVIDE FINAL GRADING AWAY FROM NEW BUILDING AT A MINIMUM OF 8" BELOW ALL WOOD FRAMING AND 1/2" PER FOOT FOR 10' FROM THE BUILDING UNO. ALL ROUGH GRADING TO DIVERT SURFACE WATER AWAY FROM THE BUILDING.

11. PROTECT EXISTING SHRUBS & TREES WITHIN AREAS OF WORK. NOTIFY OWNER OF ANY POTENTIAL HARM TO VEGETATION PRIOR TO COMMENCING WITH WORK. RELOCATION OF (ANY) EXISTING TREES AND SHRUBS TO BE BY OWNER. FINAL SEEDING AND LANDSCAPING TO BE PROVIDED BY OWNER (U.N.O.).

12. AT THE CONCLUSION OF THE PROJECT THE SIDEWALK IS TO BE REPLACED WITH MIN. 4" 3000 PSI CONCRETE OVER 4" CRUSHED STONE. PROVIDE CONTROL JOINTS AT 5' O.C. MAX AND 6X6 WWF. PROVIDE TREE PIT IF REQUESTED BY OWNER AND SIDEWALK WIDTH IS ADEQUATE. MATCH FLUSH INTO EXG. ADJACENT WALKS/CURBS/ETC AND SLOPE AWAY FROM BUILDING.

CONCRETE & MASONRY:

1. ALSO REFER TO STRUCTURAL DRAWINGS AND NOTES.

2. CONCRETE WALL FOOTINGS ARE TO BE SIZED AND PROVIDED WITH REINFORCING AS SHOWN IN THE DRAWINGS.

3. ALL REINFORCING STEEL SHOULD MAINTAIN MIN. 3" OF COVERAGE.

4. CMU OR CONCRETE FOUNDATION WALLS ARE TO BE SIZED AND PROVIDED WITH REINFORCING AS SHOWN IN THE DRAWINGS.

5. CMU FOUNDATION WALLS ARE TO BE FULLY GROUTED AT VERTICAL REINFORCING LOCATIONS.

6. PROVIDE CONTROL JOINTS AT MAX 30 FEET IN ANY DIRECTION.

7. PROVIDE UNDER SLAB VAPOR BARRIER SYSTEM -FROM ONE MANUFACTURER - STEGO WRAP BASIS OF DESIGN.

8. PROVIDE 4" PERFORATED PVC PIPE PERIMETER DRAINS SLOPED TO TIE INTO THE LOCAL STORM WATER SYSTEM WHERE REQUIRED BY SITE CONDITIONS, OWNER, OR INDICATED ON DOCUMENTS.

9. PROVIDE PASSIVE RADON CONTROL SYSTEM COMPONENTS. INSTALL 4" DIAMETER PERFORATED PVC PIPE HORIZONTALLY IN GRAVEL BED UNDER PERIMETER OF BASEMENT/CRAWLSPACE FLOOR SLAB. INSTALL 4" DIAMETER UNPERFORATED PVC EXHAUST PIPE FROM CEILING OF BASEMENT/CRAWLSPACE TO ATTIC SPACE. CAP BOTH ENDS. LOCATE 1'-0" DIAMETER RADON SUMP IN BASEMENT SLAB BELOW PVC EXHAUST PIPE FOR FUTURE CONNECTION.

10. CMU OR CONCRETE FOUNDATION WALLS THAT RETAIN EARTH AND ENCLOSE HABITABLE OR USABLE SPACES LOCATED BELOW GRADE SHALL BE WATER PROOFED FROM THE TOP OF THE FOOTING TO FINISHED GRADE.

11. FOUNDATION WALL WATER PROOFING TO BE: CETCO BETONITE SYSTEM SWELLTITE (IF IMMEDIATE BACKFILL) OR VOLTEX-DS (CAN BE EXPOSED TO RAIN 1-2 WEEKS). INSTALL A CONTINUOUS LAYER OF WATERPROOFING MEMBRANE ON CONCRETE WALLS UNDERGROUND WITH ENDS AND EDGES OVERLAPPED AND TAPED. STAGGER END JOINTS BETWEEN MEMBRANES. PREPARE AND INSTALL PER MFR'S GUIDELINES (NO ADHESIVE REQ'D) EXCEPT PROVIDE FASTENERS TO CONCRETE AT 1' O.C. EACH WAY (ILO 2'). PROVIDE MFR'S STANDARD ACCESSORIES RECOMMENDED FOR INTENDED USE AND COMPATIBLE WITH BENTONITE WATERPROOFING. PROVIDE CETCO AQUADRAIN 15X DRAINBOARD. PLACE AND SECURE DRAINAGE PANELS, WITH GEOTEXTILE FACING AWAY FROM WALLS. USE ADHESIVES OR MECHANICAL FASTENERS THAT DO NOT PENETRATE WATERPROOFING. LAP EDGES AND ENDS OF GEOTEXTILE TO MAINTAIN CONTINUITY. PROTECT INSTALLED MOLDED-SHEET DRAINAGE PANELS DURING SUBSEQUENT CONSTRUCTION (PROTECTION BOARD IS NOT REQ'D). USE 3/4" OR SMALLER #57 OR 2A STONE AND BACKFILL IN 12" MAXIMUM LIFTS WITH 85% MINIMUM PROCTOR DENSITY COMPACTION. PROVIDE A CETCO ENVIROSHEET GRADE FLASHING AND A TOOLED BEAD OF CETSEAL AT THE TOP NEAR FINISHED GRADE AND ANY OTHER PENETRATIONS. SLOPE OR STEP FLASHING SO IT IS NOT EXPOSED. PROVIDE A 10 YEAR LABOR AND MATERIALS WARRANTY. REP = NEIL COLQUHOUN 610-349-6698

12. BRICK TO BE RUNNING BOND. PROVIDE WELDS EVERY 24" OVER LINTELS AND WHERE THRU FLASHING OCCURS.

METALS NOTES:

1. SHEET METAL FABRICATIONS, CLOSURES AND TRIM, AND FILLER PANELS TO BE ALUMINIUM SHEET: ASTM B209, ALLOY 5005 H15.

2. FASTENERS, ANCHORS, AND INSERTS: NON-CORROSIVE TYPE.

3. GASKETS: FLEXIBLE CELLULAR NEOPRENE, ASTM D1056.

4. DOWNSPOUTS TO MATCH COPING TRIM.

5. BITUMINUOUS PAINT: ASPHALT MASTIC, SSPC-PAINT 12.

6. FINISH ON ALUMINIUM EXPOSED TO VIEW TO BE: KYNAR OR APPROVED EQUAL AND COLOR TBD.

7. ALL LINTELS AND SHELF ANGLES TO BE HOT DIPPED GALVANIZED. TOUCH UP WITH ZINC RICH PAINT AT WELDS. PREP AND PAINT.

8. HANDRAILS AND GUARDRAILS - EXTERIOR TYPE TO BE: 1 1/2" SQ. SOLID POSTS, (7) - 1 1/2" X 3/8" FLAT BAR STOCK HORIZONTALS EQUALLY SPACED, AND 1 1/2" SQ TOP RAIL. PROVIDE INTERMEDIATE POSTS AT 36" MAX O.C. EQUALLY SPACED. ALL TO BE HOT DIPPED GALVANIZED STEEL PREPPED AND PAINTED. SECURE RAILINGS WITH WELDED BASE PLATES AND PROVIDE ANCHOR BOLTS AT EACH POST AND AT THE WALL RETURN TO MEET CODE OR EXCEED CODE MINIMUM. PREP FOR PAINT PER ASTM D6386 GUIDELINES AND THE AMERICAN GALVANIZERS ASSOC. GUIDELINES "PREPARING HDG STEEL FOR PAINT".

WOODS AND PLASTICS NOTES:

1. REFER TO STRUCTURAL NOTES AND DRAWINGS FOR ADDITIONAL INFORMATION.

2. SEE DRAWINGS FOR ANY REQUIRED FIRE-RESISTANT CONSTRUCTION AT ROOF SURFACES, PARAPETS, PARTY WALLS, FLOOR ASSEMBLIES, ETC.

3. WINDOWS / DOORS TO BE FRAMED AND INSTALLED AS PER SELECTED MANUFACTURER'S SPECIFICATIONS. CONTRACTOR TO VERIFY SIZE & TYPE PRIOR TO FRAMING / INSTALLATION.

4. VERIFY ALL FINISH AND TRIM PROFILES/MATERIALS/SELECTIONS WITH OWNER AND ARCHITECT PRIOR TO ORDERING MATERIALS.

5. INTERIOR STAIRS TO BE 36" WIDE MINIMUM. HANDRAILS MAY PROJECT INTO THIS WIDTH BY 3 1/2" MAX.

6. MAXIMUM RISER HEIGHT IS 7 3/4". THE RISERS IN ANY FLIGHT MAY NOT VARY MORE THAN 3/8". MINIMUM TREAD LENGTH IS 10 INCHES PLUS 1 INCH NOSING (11").

7. MEASURING VERTICALLY HANDRAILS SHALL BE LOCATED AT 36" ABOVE THE NOSE OF THE TREAD TO THE TOP OF THE RAILING. 42" HIGH GUARDS SHALL BE PROVIDED AT ANY STAIR, LANDING, OR OPEN SIDED AREA WITH A DISTANCE OF OVER 30" TO SURFACE BELOW.

8. WHERE GUARDS ARE REQUIRED AT STAIRS PROVIDE COMBINATION GUARD/HANDRAILS 42" HIGH WITH BALUSTER/PICKETS INSTALLED IN SUCH A MANNER THAT A 4" DIAMETER SPHERE CANNOT PASS BETWEEN ANY 2 BALUSTERS/PICKETS/HORIZONTAL ELEMENTS.

9. KITCHEN CABINETS TO BE SOLID WOOD - FLUSH OVERLAY OR AS SELECTED BY ARCHITECT -SEE DETAILS.

10. KITCHEN COUNTERTOPS TO BE PLASTIC LAMINATE WITH 1 1/2" EDGE AND EASED AND 4" BACKSPLASH - MATERIAL AND FINISH AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE OF TYPES AND STYLES.

11. WOOD TRIM TO BE MDF OR PAINT GRADE FINGER JOINTED PINE (U.N.O.) INSTALLED, SANDED AND PAINTED FINISH.

ROOFING:

1. ROOF SHEATHING TO BE MINIMUM 5/8" STRUCTURAL PANEL SHEATHING.

2. WOOD STRUCTURAL PANELS SHALL CONFORM TO *DOC PS 1, DOC PS 2*, AND SHALL BE IDENTIFIED BY A GRADE MARK OR CERTIFICATE OF INSPECTION ISSUED BY AN APPROVED AGENCY.

3. WHEN PARAPET WALLS ALONG A PROPERTY LINE ARE LESS THAN 30" ABOVE THE FINISHED ROOF SURFACE, THE ROOF SHEATHING SHALL BE OF THE FIRE RETARDANT TYPE WITHIN 4'-0" OF PROPERTY LINES.

4. ROOFS SHALL BE VENTED AS REQUIRED.

5. FLAT ROOFING MEMBRANE TO BE GAF TPO EXTREME ADHERED 60 MIL SINGLE PLY SMOOTH OR EQUIVILANT. PROVIDE SYSTEM FROM MANUFACTURER AND UTILIZE A QUALIFIED INSTALLER WITH PREVIOUS EXPERIENCE WITH THIS TYPE OF SYSTEM.

6. ROOFING MEMBRANE INSTALLER SHALL FOLLOW ALL DETAILS PROVIDED BY MANUFACTURER TO ENSURE MAXIMUM WARRANTY.

7. FLASHINGS SHALL BE INSTALLED IN A MANNER THAT PREVENTS MOISTURE FROM ENTERING THE WALL AND ROOF THROUGH JOINTS IN COPINGS, THROUGH MOISTURE PERMEABLE MATERIALS AND AT INTERSECTIONS WITH PARAPET WALLS AND OTHER PENETRATIONS THROUGH THE ROOF PLANE.

8. FLASHINGS SHALL BE INSTALLED AT WALL AND ROOF INTERSECTIONS, WHEREVER THERE IS A CHANGE IN ROOF SLOPE OR DIRECTION AND AROUND ROOF OPENINGS. WHERE FLASHING IS OF METAL, THE METAL SHALL BE CORROSION RESISTANT WITH A THICKNESS OF NOT LESS THAN 0.019" (No. 26 GALVANIZED SHEET).

9. COPING SHALL BE PROVIDED AT PARAPET WALLS w/ NONCOMBUSTIBLE, WEATHERPROOF MATERIALS OF A WIDTH NO LESS THAN THE THICKNESS OF THE WALL AND SLOPED TO DRAIN.

10. ROOF DRAINS SHALL BE PROVIDED AT EACH LOW POINT OF THE ROOF. WHERE REQUIRED FOR DRAINAGE, SCUPPERS SHALL BE PLACED LEVEL WITH THE ROOF SURFACE IN A WALL OR PARAPET. THE SCUPPER SHALL BE LOCATED AS DETERMINED BY THE ROOF SLOPE AND CONTRIBUTING ROOF AREA. PROVIDE ROOF CRICKETS TO MAINTAIN PROPER DRAINAGE TO SCUPPERS, AS SHOWN ON THE ROOF PLAN.

11. ALL DRAINS, LEADERS & DOWNSPOUTS ARE TO BE TIED INTO THE LOCAL STORM WATER SYSTEM AND ARE NOT TO DUMP ONTO THE PUBLIC RIGHT OF WAY OR ANY ADJACENT PROPERTY.

12. COORDINATE AND GET PERMISSION FROM NEIGHBOR WITH THE LOWER ROOF TO FLASH AND PROVIDE COPING OVER THE FORMER PARTY WALL.

CARBON MONOXIDE ALARMS:

1. SINGLE STATION CARBON MONOXIDE ALARMS SHALL BE LISTED AS COMPLYING WITH UL 2034 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE IRC AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

2. CARBON MONOXIDE ALARMS SHALL BE INSTALLED AS REQUIRED PER CODE.

INTERIOR FINISHES:

1. ALL INTERIOR FINISH TO BE 5/8" GYPSUM WALL BOARD (U.N.O.) FILL, SPACKLE, SAND AND PRIME ALL NEW DRYWALL WORK IN PREPARATION FOR FINAL FINISH.

2. ALL GYPSUM BOARD MATERIALS AND ACCESSORIES SHALL CONFORM TO ASTM C 36, C 79, C 475, C 514, C 630, C 931, C 960, C 1002, C 1047, C 1177, C 1178, C 1278, C 1395, C 1396 OR C 1658 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THE IRC. ADHESIVES FOR THE INSTALLATION OF GYPSUM BOARD SHALL CONFORM TO ASTM C 557.

3. PROVIDE ONE COAT PRIMER. PRIMER TO BE SHERWIN WILLIAMS *"ENVIRO-PURE™ ZERO VOC INTERIOR LATEX PRIMER"* OR APPROVED EQUAL.

4. PROVIDE TWO COAST FINISH PAINT. PAINT TO BE SHERWIN WILLIAMS *"ENVIRO-PURE™ ZERO VOC LATEX FLAT"* OR APPROVED EQUAL. OWNER/ARCHITECT TO SPECIFY COLOR.

5. ALL NEW WOODWORK TO BE PAINT GRADE FINGER JOINTED PINE (U.N.O.) INSTALLED, SANDED AND READY FOR FINISH. VERIFY WITH OWNER BEFORE PURCHASE OR ANY SUBSTITUTIONS IN FINISH WOODWORK MATERIALS.

6. PROVIDE 5/8" CEMENTITIOUS BACKER-BOARD AT ALL AREAS OF MARBLE, GRANITE OR TILE WORK.

7. ALL BATHROOMS, LAUNDRY ROOMS AND OTHER WET AREAS TO RECEIVE MOISTURE / MILDEW RESISTANT GYPSUM WALL BOARD.

8. ALL GWB IN BELOW GRADE SPACES (BASEMENTS) ARE TO BE MOISTURE / MILDEW RESISTANT UP TO MIN. OF 4'-0" ABOVE SLAB.

9. LVT FLOORING TO BE MIN. CLASS III, PRINTED FILM VINYL TILE, TYPE B EMBOSSED SURFACE. WEAR LAYER TO BE 12 MIL. SIZE, COLOR, STYLE TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE OF TYPES AND STYLES.

10. CONTRACTOR TO PROVIDE ARCHITECT WITH SAMPLES AND PRODUCT DATA FOR ALL FINISH PRODUCTS AND FINISH MATERIALS. OWNER/ARCHITECT TO APPROVE ALL FINAL FINISHES AND COLORS.

11. PROVIDE ALLOWANCE FOR 3" H. MIN. PAINT GRADE WOOD BASEBOARDS U.N.O. VERIFY STYLE AND FINISH W/ OWNER/ARCHITECT.

12. PROVIDE ALLOWANCE FOR 3/4" MIN. SOLID WOOD STAIN GRADE INTERIOR WINDOW SILLS W/ APRON (U.N.O.). VERIFY STYLE AND FINISH W/ OWNER/ARCHITECT.

WINDOWS & GLAZING:

1. ALL NEW WINDOWS SHOULD BE LOW 'E' DOUBLE PANED INSULATED ENERGY EFFICIENT ANDERSEN 400 SERIES (OR APPROVED SIMILAR) - VINYL OR FIBREX. SIZE AND OPERATING TYPE AS SHOWN ON PLANS. SIZE AND HARDWARE AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE OF TYPES AND STYLES.

2. ALL SLEEPING ROOMS ARE TO HAVE EGRESS COMPLIANT OPENINGS, SIZE AND OPERATING TYPE AS SHOWN ON PLANS. MINIMUM 5.7 SF

3. GLAZING INSTALLED IN HAZARDOUS LOCATIONS AS DEFINED IN IRC SECTION R308.4 SHALL BE PROVIDED WITH A MANUFACTURER'S DESIGNATION SPECIFYING WHO APPLIED THE DESIGNATION, DESIGNATING THE TYPE OF GLASS AND THE SAFETY GLAZING STANDARD WITH WHICH IT COMPLIES, WHICH IS VISIBLE IN THE FINAL INSTALLATION. THIS INCLUDES SHOWER/TUB ENCLOSURES, STAIR RAILINGS, DOOR AND SIDE LITES, ETC.

DOORS/HARDWARE AND FRAMES:

1. ALL INTERIOR DOORS TO BE 1 3/4" THICK JELD-WEN PRE-HUNG TRIA COMPOSITE - 2 PANEL L2020 ALL PANEL - FACTORY PRIMED AND SITE PAINTED WITH 10 YEAR WARRANTY OR AS APPROVED BY OWNER. SLIDING/FOLDING CLOSET DOORS CAN BE 1 3/8" THICK.

2. ALL EXTERIOR DOORS TO BE 1 3/4" THICK STEEL WITH WITH VISION LITE AS SHOWN AND WOOD FRAME & TRIM.

3. ARCHITECT TO SELECT HARDWARE FROM MANUFACTURER'S FULL RANGE OF TYPES AND STYLES. CONTRACTOR TO INSTALL.

EXTERIOR FINISHES:

1. A WATER RESISTIVE BARRIER SHALL BE PROVIDED OVER EXTERIOR SHEATHING. ONE LAYER OF No. 15 ASPHALT FELT, FREE FROM HOLES AND BREAKS, COMPLYING WITH ASTM D 226 FOR TYPE 1 FELT OR OTHER APPROVED WATER RESISTIVE BARRIER SHALL BE APPLIED OVER THE SHEATHING OF ALL EXTERIOR WALLS. *"DuPONT TYVEK HOME WRAP"* OR APPROVED EQUAL CAN BE USED IN LIEU OF ASPHALT FELTS OR SECUROCK BRAND GLASS-MAT SHEATHING FIRECODE X PANELS. AT 2HR RATED LOCATION, SECUROCK BRAND GLASS-MAT SHEATHING FIRECODE X PANELS SHALL BE USED.

2. NEW MASONRY FINISH TO BE AS PER CONSTRUCTION DOCUMENT NOTES & DETAILS; VERIFY FINISH STYLE, TYPE & COLOR WITH OWNER/ARCHITECT.

3. NEW VINYL AND FIBER CEMENT SIDING TO BE AS PER CONSTRUCTION DOCUMENT NOTES & DETAILS. VERIFY FINISH STYLE, TYPE, & COLOR WITH OWNER/ARCHITECT.

4. NEW EXTERIOR TRIM WORK TO BE AS PER CONSTRUCTION DOCUMENT NOTES AND DETAILS.

5. ALL EXPOSED STEEL TO BE SHOP PRIMED AND TWO COATS OF EXTERIOR PAINT IN THE FIELD; VERIFY COLOR & FINISH WITH OWNER.

6. CONTRACTOR TO PROVIDE ARCHITECT WITH SAMPLES AND PRODUCT DATA FOR ALL FINISH PRODUCTS AND FINISH MATERIALS. OWNER/ARCHITECT TO APPROVE ALL FINAL FINISHES AND COLORS.

BATHROOMS:

1. ALL GYPSUM BOARD USED IN BATHROOMS SHALL BE MIN. 5/8" MOISTURE RESISTANT GYPSUM BOARD w/ ANTI-FUNGAL PAINT FINISH.

2. PROVIDE 5/8" CEMENTITIOUS BACKER-BOARD AT ALL AREAS OF WALL TILE WORK OR FIBERGLASS SHOWER/TUB SURROUNDS.

3. CONTRACTOR RESPONSIBLE FOR ROUGH-IN LOCATIONS OF ALL FIXTURES, VERIFY LOCATIONS WITH ARCHITECT.

4. WATER CLOSETS SHALL BE PLACED MINIMUM 15" FROM CLOSEST ADJACENT WALL OR FIXTURE.

5. MAINTAIN A MINIMUM OF 21" CLEARANCE IN FRONT OF ALL FIXTURES, 24" IN FRONT OF SHOWERS.

6. ALL FIXTURES & ACCESSORIES ARE TO BE SELECTED BY OWNER. CONTRACTOR IS RESPONSIBLE TO PROVIDE AND TO PROVIDE BLOCKING AND COORDINATE SELECTED FIXTURES PRIOR TO ROUGH-INS.

7. WHERE NO OPERABLE WINDOW IS PROVIDED IN BATHROOMS, MECHANICAL VENTILATION MUST BE PROVIDED. THE MINIMUM VENTILATION RATES SHALL BE 50 CUBIC FEET PER MINUTE FOR INTERMITTENT VENTILATION OR 20 CUBIC FEET PER MINUTE FOR CONTINUOUS VENTILATION. VENTILATION AIR FROM THE BATHROOM SHALL BE EXHAUSTED DIRECTLY TO THE OUTSIDE.

AUTOMATIC FIRE SPRINKLER SYSTEMS:

1. EFFECTIVE JANUARY 1, 2011, AN AUTOMATIC RESIDENTIAL FIRE SPRINKLER SYSTEM SHALL BE INSTALLED IN ONE- AND TWO-FAMILY DWELLINGS.

2. AUTOMATIC RESIDENTIAL FIRE SPRINKLER SYSTEMS SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH IRC SECTION P2904 OR NFPA 13D.

SMOKE ALARMS:

1. ALL SMOKE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL 217 AND INSTALLED IN ACCORDANCE WITH THE IRC AND THE HOUSEHOLD FIRE WARNING EQUIPMENT PROVISIONS OF NFPA 72.

2. SMOKE ALARMS SHALL BE INSTALLED AS REQUIRED PER CODE.

CONSTRUCTION DOCUMENTS

Architect:

O:Z collaborative

4818 Baltimore Avenue
Philadelphia, PA 19143

215.386.8191
www.ozcollaborative.com

Consultants:

MECHANICAL / ELECTRICAL / PLUMBING AND FIRE PROTECTION ENGINEER

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ajia@utengineers.com

STRUCTURAL ENGINEER

Thomas C. Faranda, PE
623 Ridge Road
Spring City, PA 19475
tel: (484) 631-6247

Seal:

Project:

Habitat for Humanity Philadelphia

351 W. Queen Lane

Issue Date: 11/17/2021

Revision Schedule

No.	Date	Drawn By	Description

The Contractor on site shall verify all dimensions and existing conditions. The contractor is required to perform all work in compliance with applicable codes and regulations of governing authorities having jurisdiction.

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Sheet Title and No.

GENERAL NOTES

CS-2

Project No.: 21156

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STRUCTURAL NOTES

GENERAL NOTES:
1. IF DURING THE PROGRESS OF THE WORK, THE CONTRACTOR MAY DISCOVER ANY INCONSISTENCY IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL AT ONCE SO REPORT TO THE ARCHITECT/ENGINEER. EXTRAS WILL NOT BE ALLOWED CORRECTION OF PROBLEMS THAT COULD HAVE BEEN AVOIDED BY CAREFUL REVIEW AND THE MINOR ADJUSTMENT OF SIE AND/OR LOCATION OF VARIOUS ITEMS FOR PROPER FIT.
2. ANY ITEM NOT SPECIFICALLY LISTED OR SHOWN ON THE CONTRACT DOCUMENTS BUT IS INCIDENTAL TO THE COMPLETION OF THE PROJECT OR PACKAGE WILL BE CONSIDERED AS PART OF THE CONTRACT SCOPE OF WORK.
3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, CHASES INSERTS, REGLETS, SLEEVES, DEPRESSIONS, ANDOTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS. ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
4. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION
PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING,
TEMPORARY BRACING, GUYS, OR TIEDOWNS. PROVIDED ALL SHORING AND BRACING REQUIRED TO STABILIZE AND PROTECT EXISTING AND ADJACENT STRUCTURES AND SYSTEMS DURING THE COURSE OF DEMOLITION AND CONSTRUCTION. SUCH MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT. IN THE EVENT
THAT THE CONTRACTOR DETERMINES THAT SHEETING OR SHORING IS REQUIRED, THE CONTRACTOR SHALL RETAIN THE SERVICES OF A REGISTERED PROFESSIONAL STRUCTURAL
ENGINEER FOR DESIGN AND DOCUMENTATION OF ALL SHEETING AND SHORING REQUIRED FOR THE WORK.
5. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO APPROVAL BY THE ENGINEER.
6. ALL APPLICABLE FEDERAL, STATE, AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.
7. SHOULD THE CONTRACTOR SEEK APPROVAL OF A PRODUCT OTHER THAN THE BRAND OR BRANDS NAMED IN THESE SPECIFICATIONS, IT SHALL FURNISH WRITTEN EVIDENCE THAT SUCH PRODUCT CONFORMS IN ALL RESPECTS TO THE SPECIFIED REQUIREMENTS, AND THAT IT HAS BEEN USED SUCCESSFULLY ELSEWHERE UNDER SIMILAR CONDITIONS. WHERE THE SPECIFIED REQUIREMENTS INVOLVE CONFORMANCE TO RECOGNIZED CODES OR STANDARDS THE CONTRACTOR SHALL FURNISH EVIDENCE OF SUCH CONFORMANCE IN THE FORM OF TEST OR INSPECTION REPORTS, PREPARED BY A RECOGNIZED AGENCY, AND BEARING AN AUTHORIZED SIGNATURE.
8. MANUFACTURERS' STANDARD DATA AND CATALOG CUT SHEETS WILL NOT BE CONSIDERED SUFFICIENT IN THEMSELVES, AND THE ENGINEER OF RECORD WILL NOT BE RESPONSIBLE FOR SEEKINGFURTHER DATA FROM THE MANUFACTURER, OR FOR OTHERWISE RESEARCHING THE PRODUCT. FAILURE TO PROVIDE COMPLETE DATA WILL RESULT IN THE REJECTION OF THE ENTIRE PRODUCT.
9. SUBMIT SHOP DRAWINGS IN THE FORM OF ELECTRONIC PHOTO DOCUMENT FILE (PDF). AS A MINIMUM, SUBMIT THE FOLLOWING ITEMS FOR REVIEW:

DESIGN CRITERIA:
1. THIS PROJECT HAS BEEN DESIGNED AND SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE PHILADELPHIA RESIDENTIAL CODE 2018 (IRC 2015 WITH AMENDMENTS) AND APPLICABLE FEDERAL AND STATE CODES.
2. THE SUPERIMPOSED DESIGN GRAVITY LOADS (PSF) ARE AS INDICATED.
3. THE STRUCTURE HAS BEEN DESIGNED TO RESIST WIND PRESSURES IN ACCORDANCE WITH THE REQUIREMENTS OF THE PHILADELPHIA RESIDENTIAL CODE, 2018. THE FOLLOWING DESIGN DATA APPLIES FOR ZIP CODE 19144:
   A) BASIC WIND SPEED: 90MPH (3SEC. WIND GUST)
   B) EXPOSURE: B
   C) IMPORTANCE FACTOR: 1.0
   D) INTERNAL PRESSURE COEFFICIENT: +/- 0.18
4. THE STRUCTURE HAS BEEN DESIGNED TO RESIST THE FOLLOWING LIVE LOADS:
   GROUND SNOW LOAD (PG) 25 PSF
   SNOW IMPORTANCE FACTOR (13) 1.0
   SNOW EXPOSURE FACTOR (CE) 1.0
   THERMAL FACTOR (CT) 1.0
   FLAT ROOF SNOW LOAD 21 PSF
   FLOOR LIVE LOADS 40 PSF
   ROOF DECK LIVE LOAD 40 PSF
   1 ST FLOOR SLAB LIVE LOAD 50 PSF
   ROOF LIVE LOAD 30 PSF

FOUNDATIONS:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING THE RECOMMENDATIONS IN THE SOILS INVESTIGATION REPORT PREPARED FOR THIS PROJECT BY AMBRIC TECHNOLOGY CORPORATION DATED JULY 1, 2021.
2. PRESUMPTIVE SOIL BEARING CAPACITY: 2,000 PSF TO BE CONFIRMED BY CONTRACTOR
3. PREPARE ALL SUB IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS
4. PROVIDE TEMPORARY SHORING AND DENATURING AS AND WHERE INDICATED IN THE PROJECT SOILS REPORT.

EXCAVATION NOTES:
1. THE PERIMETER OF THE GENERAL EXCAVTION SHALL BE RETAINED BY A SOIL RETENTION SYSTEM (WHERE APPLICABLE). THE INSTALLATION, MAINTENANCE AND REMOVAL (WHERE REQUIRED) SHALL BE THE COMPLETE AND SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE ALL MEASURES AND PRECAUTIONS NECESSARY TO PREVENT DAMAGE AND MINIMIZE SETTLEMENT OF EXISTING OR NEW CONSTRUCTION INSIDE AND OUTSIDE THE PROJECT LIMITS. ANY DAMAGE TO NEW OR EXISTING CONSTRUCTION INSIDE OR OUTSIDE OF THE PROJECT LIMITS, CAUSED BY CONSTRUCTION TECHNIQUES OR MOVEMENT OF THE SOIL RETENTION SYSTEM, IS THE RESPONSIBILITY OF THE CONTRACTOR. THE DESIGN OF THE SOIL RETENTION SYSTEM WILL BE PROVIDED BY THE OWNER. THE CONTRACTOR WILL ASSIST THE OWNER IN THE APPROVAL PROCESS FOR THE RETENTION SYSTEM IF SO REQUIRED.
2. THE CONTRACTOR SHALL COORDINATE ALL ELEMENTS OF THE SOIL RETENETION SYSTEM WITH ALL ELEMENTS OF THE PERMANENT BUILDING.
3. PRIOR TO ANY EXCAVATION OR INSTALLATION OF ELEMENTS OF THE SOIL RETENTION SYSTEM, THE CONTRACTOR SHALL ESTABLISH SURVEY POINTS AROUND THE PERIMETER OF THE AREA TO BE EXCAVATED AND OTHER POINTS UP TO 200 FEET BEYOND THE PERIMETER. THESE POINTS SHALL BE SURVEYED FOR VERTICAL AND HORIZONTAL MOVEMENT AT FREQUENT INTERVALS DURING ACTUAL EXCAVATION AND CONTINUING DURING EACH SUBSEQUENT PHASE OF THE WORK AND SUBMITTED TO THE ARCHITECT FOR INFORMATION.
4. ALL EXCAVATION SHALL BE BASED ON ENGINEERED DRAWINGS PREPARED BY THE CONTRACTOR INCLUDING PLANS AND SECTIONS OF EXCAVATION SEQUENCES. THE EXCAVATION SEQUENCES SHALL BE CONTROLLED TO MATCH THE REQUIREMENTS OF THE DESIGN OF THE SOIL RETENETION SYSTEM AND TO PERMIT MONITORING OF WALL AND GROUND MOVEMENTS.
5. THE GENERAL EXCAVATION ACROSS THE SITE SHALL NOT EXTEND DEEPER THAN THE SLAB-ON-GRADE SUBGRADE ELEVATION. THE EXCAVATIONS FOR FOOTINGS, GRADE BEAMS, PILE CAPS, MATS, PITS, SLABS, ETC. SHALL BE EXCAVATED ON AN INDIVIDUAL, LOCALIZED BASIS DOWN FROM THE SLAB-0N-GRADE SUBGRADE LEVEL.
6. ALL EXCAVATION BELOW THE SLAB LEVEL REQUIRED FOR PIT SHALL BE RETAINED BY LOCALIZED SOIL RETENTION SYSTEMS AS MAY MAYBE NECESSARY BASED ON A DESIGN USING APPROPRIATED EASRTH AND HYUDRAULIC PRESSURES AND OTHER CONSTRUCTION LOADINGS.
7. THE CONTRACTOR SHALL PROVIDE POSITIVE PROTECTION (MAT/SHEET COVERINGS) FOR ALL EXCAVATION SLOPES TO PROTECT SLOPES FROM INSTABILITY AND DETERIORATION DUE TO RAIN, WIND OR SNOW/ICE.
8. THE CONTRACTOR SHALL PROVIDE SURFACE DRAINAGE CHANNELS, SUMPS AND SUMP PUMPS TO PROTECT ALL EXCAVATIONS FROM FLOODING. FLOODING OFANY EXCAVATION AFTER APPROVAL OF THE SUBGRADE WILL BE CAUSE FOR COMPLETE RE-PREPARATION AND APPROVAL OF THE SUBGRADE.
9. PROVIDE A DRAINAGE PANEL AGAINST THE OUTSIDE FACE OF THE FOUNDATION WALL AT LOCATIONS INDICATED ON THE ARCHITECTURAL DRAWINGS.
10. THE OWNERS SOIL TESTING LABORATORY SHALL REVIEW AND MONITOR THE EXCAVATION, DEWATERING AND SOIL RETENTION SYSTEMS. THE CONTRACTOR SHALL PROVIDE, INSTALL AND SURVEY: (A) VERTICAL AND HORIZONTAL MOVEMENTS OF THE TOP OF THE SOIL RETENTION SYSTEM AND (B) BENCHMARKS ADJACENT TO AND AWAY FROM THE SITE PERIMETER FOR VERTICAL AND HORIONTAL MOVEMENTS.
11. SEE PLUMBING AND ELECTRICAL DRAWINGS FOR UNDERFLOOR UTILITY AND GROUNDING REQUIREMENTS OF REINFORCING. STANDARD LAP LENGTH OF GRADE 60 MASONRY REINFORCING BARS SHALL BE 48 BAR DIAMETERS.

CONCRETE:
1. ALL CONCRETE WORK SHALL CONFORM TO ACT 318 (LATEST EDITION).
2. MINIMUM CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE:
A) FOUNDATIONS: 4,000 PSI
B) SLABS ON GRADE: 4,000 PSI
ALL CONCRETE SUBJECT TO FREEZE/THAW CYCLE SHALL BE AIR-ENTRAINED A MINIMUM OF 5%
3. CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.
4. REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60 DEFORMED BARS AND SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH AC1315 LATEST EDITION. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185 AND BE PROVIDED IN FLAT SHEETS.
5. REINFORCEMENT SHALL BE CONTINUOUS AROUND CORNERS AND INTERSECTIONS. PROVIDE CLASS "A" TENSION LAP SPLICES FOR ALL HORIZONTAL WALL REINFORCING UNLESS OTHERWISE SHOWN ON PLAN. PROVIDE CLASS "B" TENSION LAP SPLICES FOR ALL HORIZONTAL GRADE BEAM REINFORCING.
6. CLEARANCES FOR REINFORCEMENT:
   A) CONCRETE PLACED DIRECTLY ON EARTH, FOOTINGS: 3"
   B) SLABS: FROM TOP UNLESS OTHERWISE NOTED – 1"
   C) FORMED SURFACES EXPOSED TO WEATHER OR EARTH:
   #5 BAR OR SMALLER : 1 -1 ½"
   #6 BAR OR LARGER: 2"
7. WELDING OF REINFORCEMENT IS NOT PERMITTED
8. FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS, PROVIDE SUPPLEMENTAL REINFORCING
AROUND OPENING AS SHOWN ON THE CONTRACT DOCUMENTS.
9. CONTROL JOINTS IN SLABS ON GRADE:
   A) CONTROL JOINTS SHALL BE LOCATED AS SHOWN ON SLAB ON GRADE PLAN.
   B) CONTROL JOINTS SHALL BE SAW CUT (1/4 X SLAB DEPTH +1/4" DEEP) CUT JOINTS AS SOON AS POSSIBLE WITHOUT FRAYING THE CONCRETE SURFACE.
   C) CONSTRUCTION JOINTS SHALL INCLUDE A 1" X 2" SHEAR KEY AT MID-HEIGHT OF SLAB
   D) CONTROL JOINTS IN WALLS SHALL NOT EXCEED 40'-0" O.C. NOR 15'-0" FROM ANY CORNER
10. THE FINISH TOLERANCE OF ALL SLABS SHALL BE IN ACCORDANCE WITH ACI 302 AND THAT SPECIFIED ON THE CONTRACT DOCUMENTS.
11. ANCHOR BOLTS SHALL CONFORM TO ASTM A307 (GALVANIZED) UNLESS NOTED OTHERWISE.
12. LAP ALL BARS A MINIMUM OF 60 BAR DIAMETERS. LAP ALL WWF A MINIMUM OF 6 INCHES. DO NOT LAP HAIRPIN BARS.
13. UNLESS OTHERWISE APPROVED, ALL REINFORCEMENT SHALL BE BLOCKED INTO POSITION WITH
PRECAST CONCRETE BLOCKS HAVING A MINIMUM COMPRESSIVE STRENGTH EQUAL TO THAT OF
THE SLAB OR FOUNDATION SYSTEM.
14. PROVIDE FOR ANY DEWATERING AS ARE REQUIRED DURING EXCAVATION AND CONSTRUCTION
OF THE FOUNDATION SYSTEM.

FRAMING LUMBER NOTES:
1. ALL STRUCTURAL LUMBER SHALL BE HEM FIR #2 (MINIMUM) STRESS GRADE LUMBER OR APPROVED EQUAL WITH THE FOLLOWING MINIMUM ALLOWABLE PROPERTIES:
A. FB = 850 PSI
B. FV = 150 PSI
C. E = 1, 300, 000 PSI
2. ALL MICROLAM (LVL) BEAMS SHALL BE AS ENGINEERED AND MANUFACTURED BY TRUSS JOIST MACMILLAN OR APPROVED EQUAL WITH THE FOLLOWING MINIMUM ALLOWABLE PROPERTIES:
A) FB = 2,600 PSI
B) FV = 285 PSI
C) E = 1,900,000 PSI
3. ALL PARALLAM (PSL) BEAMS TO BE AS ENGINEERED AND MANUFACTURED BY TRUSS JOIST MACMILLAN OR APPROVED EQUAL WITH THE FOLLOWING MINIMUM ALLOWABLE PROPERTIES:
A) FB = 2,9800 PSI
B) FV = 290 PSI
C) E = 2,000,000 PSI
4. ALL FRAMING LUMBER CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND CODES AS SPECIFIED BELOW:
A) AMERICAN INSTITUTE OF TIMBER CONSTRUCTION: TIMER CONSTRUCTION MANUAL
B) AMERICAN FOREST AND PAPER ASSOCIATION: NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION
C) AMERICAN PLYWOOD ASSOCIATION: PLYWOOD DESIGN SPECIFICATION
D) AMERICAN WOOD PRESERVERS ASSOCIATION STANDARDS
5. ALL FRAMING LUMBER CONNECTIONS ARE TO MADE USING PREFABRICATED CONNECTORS. CONNECTORS NOTED ON DRAWINGS ARE BASED ON "SIMPSON STRONG-TIE " INSTALL ALL SPECIFIED FASTENERS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. BEFORE LOADING THE CONNECTION, TOE-NAILING WILL NOT BE PERMITTED. SUBSTITUTES SHALL BE SUBMITTED IN ACCORDANCE WITH THE GENERAL NOTES.

STRUCTURAL SHOP DRAWINGS:
PROVIDE THE FOLLOWING FOR REVIEW AND APPROVAL PRIOR TO FABRICATION:
1. ENGINEERED LUMBER
2. SIMPSON CONNECTORS
3. CONCRETE MIX DESIGNS

SPECIAL INSPECTIONS:
1. THE FOLLOWING SPECIAL INSPECTIONS SHALL BE OBTAINED AND HELD AS RECORD DOCUMENTS:
A) SOIL BEARING CAPACITY
B) CONCRETE MATERIALS
C) REINFORCING STEEL PLACEMENT (PRIOR TO POUR)
D)EXCAVATION BRACING
E)STRUCTURAL ERECTION

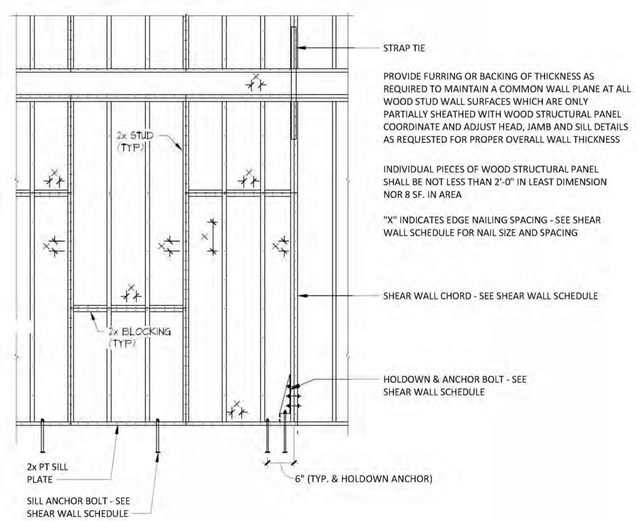
MASONRY NOTES:
ALL MASONRY CONSTRUCTION SHALL CONFORM TO ACI 530.1 SPECIFICATION FOR MASONRY STRUCTURES (LATEST EDITION).
2. ALL CONCRETE MASONRY UNITS SHALL BE ASTM C90, GRADE N. TYPE 1 STANDARD WEIGHT BLOCKS INCLUDING STRETCHERS AND CORNER BLOCKS. SPECIFIED COMPRESSIVE STRENGTH OF MASONRY SHALL BE A MINIMUM OF 1,500 PSI, AS DETERMINED BY THE UNIT STRENGTH METHOD OR BY PRISM TESTS.
3. MORTAR SHALL CONFORM TO ASTM SPECIFICATION C270, TYPE S. OWNER'S TESTING AGENCY SHALL VERIFY STRENGTH FROM FIELD-OBTAINED TEST CUBES.
4. WHERE INDICATED, GROUT CORES SOLID WITH A HIGH SLUMP MIX IN ACCORDANCE WITH ASTM SPECIFICATION C476 AND HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2,000 PSI. OWNER'S TESTING AGENCY SHALL VERIFY STRENGTH FROM FIELD-OBTAINED TEST CUBES.
5. PROVIDE VERTICAL REINFORCING IN GROUTED CELLS AS INDICATED. REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60. VERTICAL REINFORCING SHALL BE LAPPED 24 INCHES MINIMUM.
6. HORIZONTAL WALL REINFORCING SHALL BE DUR-O-WAL TRUSS DESIGN WITH 3/16" SIDE RODS AND 9 GAGE CROSS TIES. REINFORCING SHALL BE PLACED IN MASONRY WALLS AT 16" O.C., MAXIMUM. SPACE HORIZONTAL JOINT REINFORCEMENT AT 8" ON CENTER IN ALL PARAPETS. USE SHOP FABRICATED SPECIAL PIECES AT ALL CORNERS AND TEES.
7. CMU PLACED BELOW GRADE SHALL BE GROUTED SOLID.
8. CONCRETE MASONRY UNITS SHALL BE LAID IN RUNNING BOND UNLESS NOTED OTHERWISE ON THE ARCHITECTURAL DRAWINGS. BOND CORNERS AND INTERSECTIONS OF LOAD BEARING WALLS.
9. ALL LOAD BEARING CMU WALLS SHALL CONTAIN JOINTS WHICH ARE FULLY BEDDED.
10. FILL ALL BOND BEAMS WITH 3,000 PSI CONCRETE USING 3/8"MAXIMUM AGGREGATE SIZE.
11. PROVIDE TEMPORARY BRACING OF MASONRY WALLS TO WITHSTAND LATERAL LOADS DURING CONSTRUCTION.
12. MASONRY WALLS WHICH SUPPORT STRUCTURAL MEMBERS SHALL HAVE CELLS GROUTED SOLID FULL HEIGHT UNDER BEARING WITH 1-#5 BAR MINIMUM VERTICAL IN EACH CELL OR AS INDICATED
13. SEE ARCHITECTURAL DRAWINGS FOR CONTROL JOINTS/LOCATIONS.
14. LOCATION OF LINTELS AT MASONRY OPENINGS SHALL BE COORDINATEDWITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
15. UNLESS OTHERWISE NOTED, PROVIDE THE FOLLOWING LINTELS FOR EACH 4 INCH THICKNESS OF MASONRY WALL WITH 8 INCHES OF BEARING AT EACH END. FOR UNEQUAL LEG ANGELS ORIENT THE LONG LEGS VERTICAL: GALVANIZE ALL LINTELS EXPOSED TO WEATHER:
A) OPENINGS UP TO 4' -------L3 ½ X 3 ½ X 3/8
B) OPENINGS 4' T0 6' ----------L4X 3 ½ X 3/8
C) OPENINGS 6' TO 8' ----------L5X 3 ½ X 3/8
D) OPENINGS >8' ---------- CONSULT ENGINEER
16. PROVIDE REBAR DOWELS FROM THE FOUNDATIONS TO MATCH VERTICAL REINFORCING SIZE AN SPACING. DOWELS SHALL HAVE STANDARD 90 DEGREE HOOKS AND LAP WITH THE FIRST LEFT OF REINFORCING. STANDARD LAP LENGTH OF GRADE 60 MASONRY REINFORCING BARS SHALL BE 48 BAR DIAMETERS.

STEEL NOTES:
AL STRUCTURAL STEEL WORK SHALL CONFORM TO THE REQUIREMENTS OF AISC 380-05 "SPECIFICATION FOR STRUCTURAL STELL BUILDINGS." BOLTED CONNECTIONS SHALL BE FULLY PRE-TENSIONED. REFER TO DRAWINGS FOR CONNECTIONS. IF CONNECTIONS ARE NOT SHOWN, FABRICATOR SHALL DESIGN CONNECTIONS FOR BEAM UNIFORMLY LOADED TO CAPACITY.
ASTM A992 (W-SHAPES AND WT SHAPES) FY = 50 KSI
ASTM A500 GRADE B (SQUARE AND RECTANGULAR FY = 46 KSI
HSS SHAPES)
ASTM A500 GRADE B (ROUND HSS SHAPES) FY = 42 KSI
ASTM A53, TYPE E OR S (PIPE) FY = 35 KSI
ASTM A36 (ANGLE, CHANNELS, PLATES, AND FY = 36 KSI
OTHER STRUCTURAL SHAPES)
E70XX (SMAW PROCESS WELDING)
ASTM A325-N (BOLTS)
ASTM F1852 (TENSION-CONTROL BOLTS, TWIST-OFF TYPE)
ASTM A563 (HEAVY HEX NUT)
ASTM F436 (HARDENED STEEL WASHER)
ASTM F1554 (FY=36KSI (ANCHOR RODS UNO)
ALL STEEL COLUMNS AND BEAMS WITHIN WOOD STUD OR STEEL STUD WALLS AND ALL EXPOSED STRUCTURAL STEEL FOR BALCONIES AND CHANNEL LINTELS SHALL MEET CLOSER DIMENSIONAL TOLERANCES OF ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) AS INDICATED IN THE AISC CODE OF STANDARD PRACTICE
WHERE SLIP-CRITICAL CONNECTIONS OR FULLY PRETENSIONED BOLTS ARE REQUIRED, USE TENSION CONTROL BOLTS (TWIST-OFF TYPE)

2018 IBC TABLE 2304.9.1 FASTENING SCHEDULE

CONNECTION	FASTENING[a, [illegible]]	LOCATION
1. Joist to sill or girder	3 - 8d common (2½" × 0.131") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	toenail
2. Bridging to joist	2 - 8d common (2½" × 0.131") 2 - 3" × 0.131" nails 2 - 3" 14 gage staples	toenail each end
3. 1" × 6" subfloor or less to each joist	2 - 8d common (2½" × 0.131")	face nail
4. Wider than 1" × 6" subfloor to each joist	3 - 8d common (2½" × 0.131")	face nail
5. 2" subfloor to joist or girder	2 - 16d common (3½" × 0.162")	blind and face nail
6. Sole plate to joist or blocking	16d (3½" × 0.135") at 16" o.c. 3" × 0.131" nails at 8" o.c. 3" 14 gage staples at 12" o.c.	typical face nail
Sole plate to joist or blocking at braced wall panel	3 - 16d (3½" × 0.135") at 16" o.c. 4 - 3" × 0.131" nails at 16" o.c. 4 - 3" 14 gage staples at 16" o.c.	braced wall panels
7. Top plate to stud	2 - 16d common (3½" × 0.162") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	end nail
8. Stud to sole plate	4 - 8d common (2½" × 0.131") 4 - 3" × 0.131" nails 3 - 3" 14 gage staples	toenail
	2 - 16d common (3½" × 0.162") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	end nail
9. Double studs	16d (3½" × 0.135") at 24" o.c. 3" × 0.131" nail at 8" o.c. 3" 14 gage staple at 8" o.c.	face nail
10. Double top plates	16d (3½" × 0.135") at 16" o.c. 3" × 0.131" nail at 12" o.c. 3" 14 gage staple at 12" o.c.	typical face nail
Double top plates	8 - 16d common (3½" × 0.162") 12 - 3" × 0.131" nails 12 - 3" 14 gage staples	lap splice
11. Blocking between joists or rafters to top plate	3 - 8d common (2½" × 0.131") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	toenail
12. Rim joist to top plate	8d (2½" × 0.131") at 6" o.c. 3" × 0.131" nail at 6" o.c. 3" 14 gage staple at 6" o.c.	toenail
13. Top plates, laps and intersections	2 - 16d common (3½" × 0.162") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	face nail
14. Continuous header, two pieces	16d common (3½" × 0.162")	16" o.c. along edge
15. Ceiling joists to plate	3 - 8d common (2½" × 0.131") 5 - 3" × 0.131" nails 5 - 3" 14 gage staples	toenail
16. Continuous header to stud	4 - 8d common (2½" × 0.131")	toenail
17. Ceiling joists, laps over partitions (see Section 2308.10.4.1, Table 2308.10.4.1)	3 - 16d common (3½" × 0.162") minimum, Table 2308.10.4.1 4 - 3" × 0.131" nails 4 - 3" 14 gage staples	face nail
18. Ceiling joists to parallel rafters (see Section 2308.10.4.1, Table 2308.10.4.1)	3 - 16d common (3½" × 0.162") minimum, Table 2308.10.4.1 4 - 3" × 0.131" nails 4 - 3" 14 gage staples	face nail
19. Rafter to plate (see Section 2308.10.1, Table 2308.10.1)	3 - 8d common (2½" × 0.131") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	toenail

TYP. SHEAR WALL CONSTRUCTION



CITY OF PHILADELPHIA STAMPS

CONSTRUCTION DOCUMENTS

Architect:
O:Z collaborative
4818 Baltimore Avenue
Philadelphia, PA 19143
215.386.8191
www.ozcollaborative.com

Consultants:
MECHANICAL / ELECTRICAL / PLUMBING AND FIRE PROTECTION ENGINEER
URBAN TECHNOLOGY, INC.
715 Twining Road, Suite 205
Dresher, PA 19025
tel: (215) 536-0808 fax: (215) 689-0936
ajia@utengineers.com

STRUCTURAL ENGINEER
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623 Ridge Road
Spring City, PA 19475
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Seal:
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL THOMAS C. FARANDA ENGINEER PE60985
PE 60985

Project:
Habitat for Humanity Philadelphia

351 W. Queen Lane

Issue Date: 11/17/2021

Revision Schedule

No.	Date	Drawn By	Description

The Contractor on site shall verify all dimensions and existing conditions. The contractor is required to perform all work in compliance with applicable codes and regulations of governing authorities having jurisdiction.

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Sheet Title and No.
STRUCTURAL NOTES

S0.1

Project No.: 21156

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SHEARWALL SHEATHING AND NAILING SCHEDULE

SHEATHING ASSEMBLY TYPE	SHEATHING MATERIAL/ RATING & THICKNESS		FASTENER SIZE	FASTENER PENETRATION INTO FRMG.	EDGE NAILING (EN)	FIELD NAILING (FN)	STRAP TIE/ HOLD-DOWN	WALL SILL PLATE ANCHOR/ SPACING
SW-1 2x6 @ 16" O.C.	WOOD STRUCTURAL PANEL - APA RATED SHEATHING	15/32"	8d COMMON NAIL	1 3/8"	6" O.C.	12" O.C.	SIMPSON CS20 W/ 14-10d	(3)8d TO SILL/JOIST PER STUD
	GYPSUM WALLBOARD - UNBLOCKED	5/8"	6d COMMON NAIL X 1 7/8"	1 1/8"	4" O.C.	12" O.C.		1/2"ϕ THD ROD IN HILTI HIT-HY270 ADHESIVE (6" EMBED.) @ 32" O.C. & @ 6" FROM ENDS/CORNERS
SW-2 2x6 @ 16" O.C.	GYPSUM WALLBOARD - UNBLOCKED	5/8"	6d COMMON NAIL X 1 7/8"	1 1/8"	7" O.C.	12" O.C.	SIMPSON CS20 W/ 14-10d	(3)8d TO SILL/JOIST PER STUD
								1/2"ϕ THD ROD IN HILTI HIT-HY270 ADHESIVE (6" EMBED.) @ 48" O.C. & @ 6" FROM ENDS/CORNERS

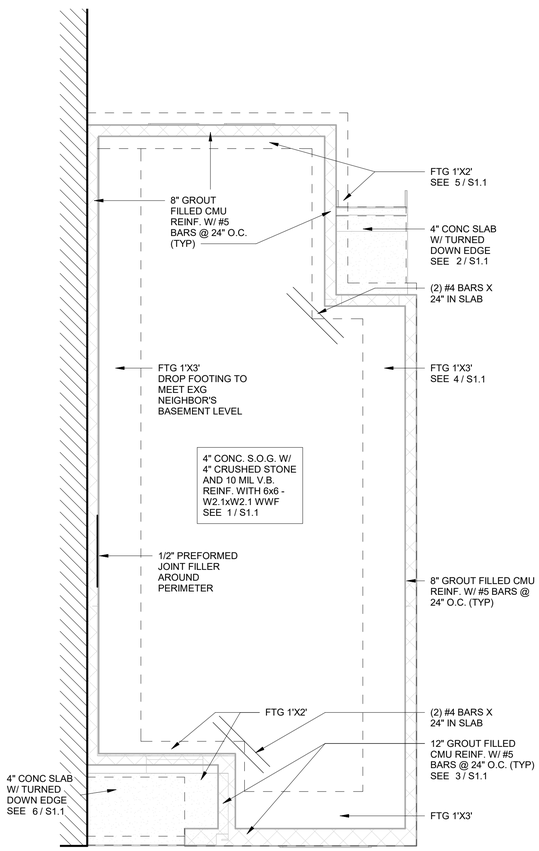
HOLDOWN SCHEDULE

MARK	HOLDOWN SIMPSON ID	FASTENING	CAPACITY	NOTES
HD-1	DTT2Z	(8) 1/4" x 2 1/2" SDS	1,835 LBS	ANCHORED TO BRICK
		w/ 1/2"ϕ THD ROD W/ HILTI HIT-HY270 (10" EMBED.)		
HD-2	HTT4	(18) 10d NAILS	3,105 LBS	ANCHORED TO WOOD BEAM/JOIST
		w/ 5/8"ϕ THRU-BOLT & 3/8"x3"x3" PLATE WASHER		

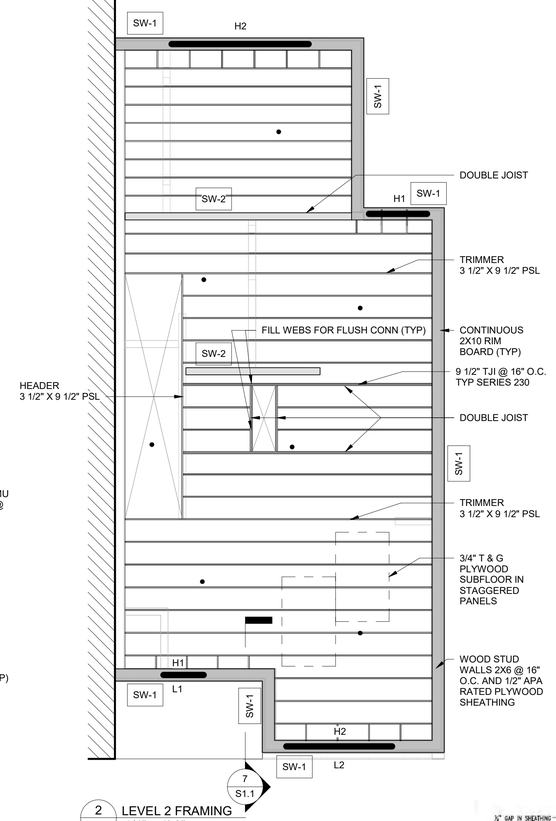
NOTES:

1. ALL SHEAR WALL ENDS TO HAVE MIN. (2) STUD BUILT-UP POSTS AT HOLDOWNS, UNLESS OTHERWISE NOTED IN SHEARWALL SCHEDULE.

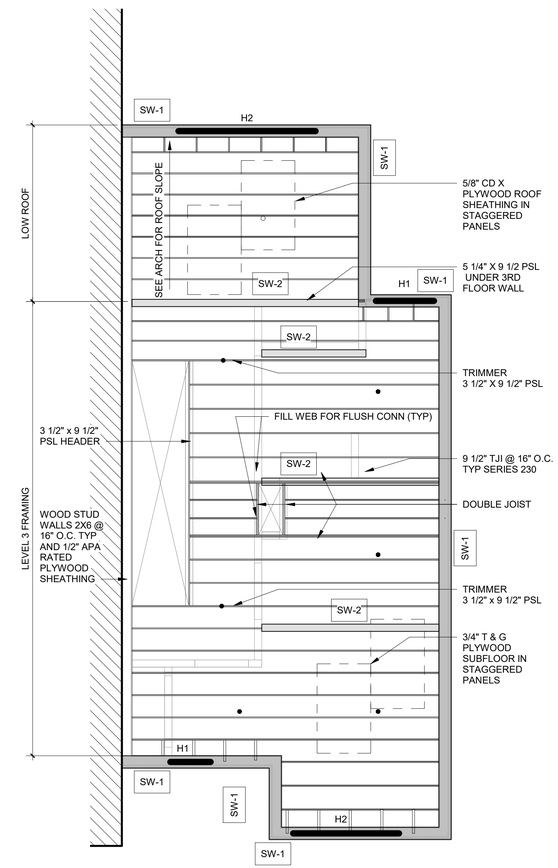
HEADERS AND LINTELS (MIN. SIZES)	
H1	(3) 2x8 WITH 1/2" PLYWOOD FILLERS AND SINGLE JACK STUDS
H2	(3) 2x10 WITH 1/2" PLYWOOD FILLERS AND SINGLE JACK STUDS
L1	STEEL L 3 1/2" x 3 1/2" x 3/8 W/ 6" MIN. BRG. EA. END
L2	STEEL L 5" x 3 1/2" x 3/8 W/ 6" MIN. BRG. EA. END



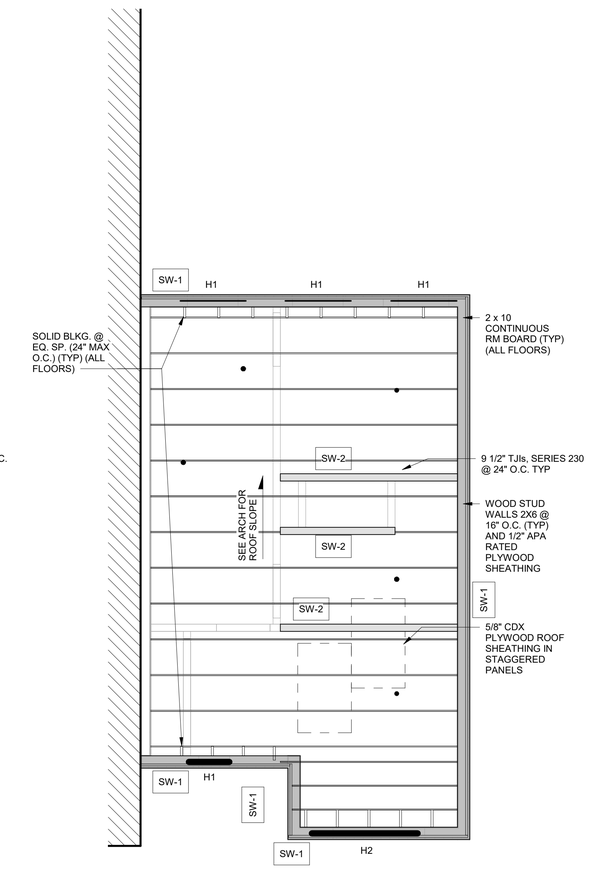
1 FOUNDATION PLAN AND LEVEL 1 S.O.G.
1/4" = 1'-0"



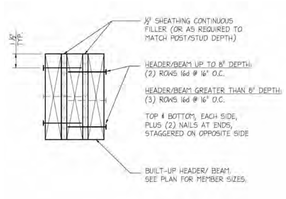
2 LEVEL 2 FRAMING
1/4" = 1'-0"



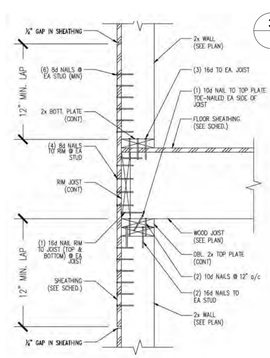
3 LEVEL 3 FRAMING & LOW ROOF FRAMING
1/4" = 1'-0"



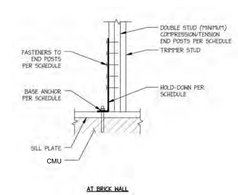
4 ROOF FRAMING
1/4" = 1'-0"



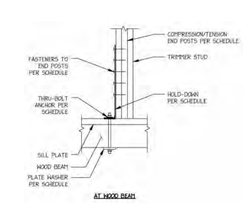
5 HEADER / BEAM DETAIL
1 1/2" = 1'-0"



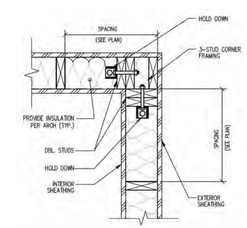
6 SHEATHING DETAIL
1 1/2" = 1'-0"



7 WALL HOLD-DOWN SECTION DETAIL - HD-1
1 1/2" = 1'-0"



8 WALL HOLD-DOWN SECTION DETAIL - HD-2
1 1/2" = 1'-0"



9 WALL HOLD-DOWN DETAIL
1 1/2" = 1'-0"

CITY OF PHILADELPHIA STAMPS

CONSTRUCTION DOCUMENTS

Architect:

O:Z collaborative
4818 Baltimore Avenue
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Consultants:

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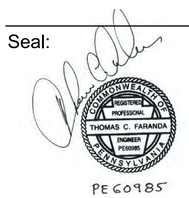
ajia@utengineers.com

STRUCTURAL ENGINEER
Thomas C. Faranda, PE
623 Ridge Road
Spring City, PA 19475
tel: (484) 631-6247

Seal:



Project:

Habitat for Humanity Philadelphia

351 W. Queen Lane

Issue Date: 11/17/2021

Revision Schedule

No.	Date	Drawn By	Description

The Contractor on site shall verify all dimensions and existing conditions. The contractor is required to perform all work in compliance with applicable codes and regulations of governing authorities having jurisdiction.

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Sheet Title and No.
STRUCTURAL FLOOR PLANS

S1.0

Project No.: 21156

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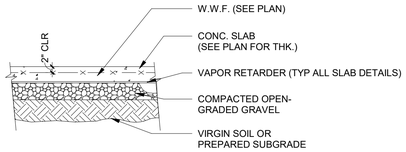
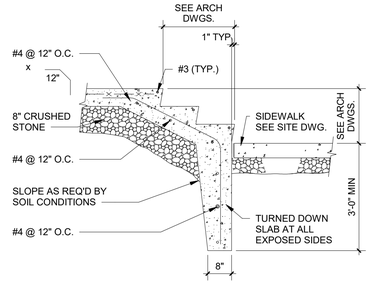
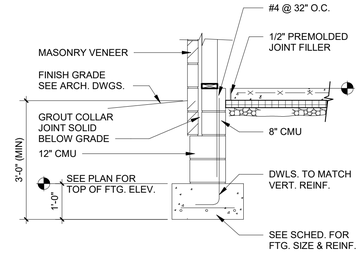


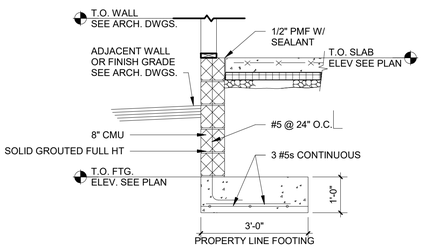
1 SLAB-ON-GRADE SUBSURFACE PREPARATION
1/2" = 1'-0"



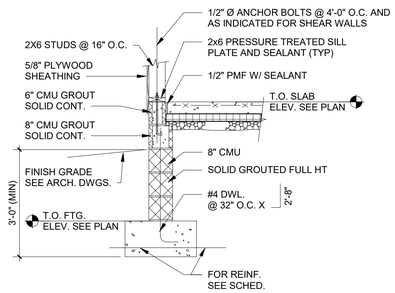
2 CONCRETE STAIR DETAIL
1/2" = 1'-0"



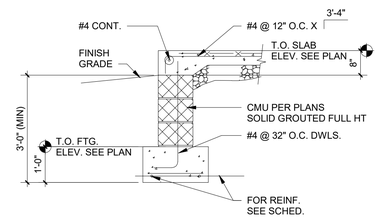
3 FOUNDATION SECTION DETAIL
1/2" = 1'-0"



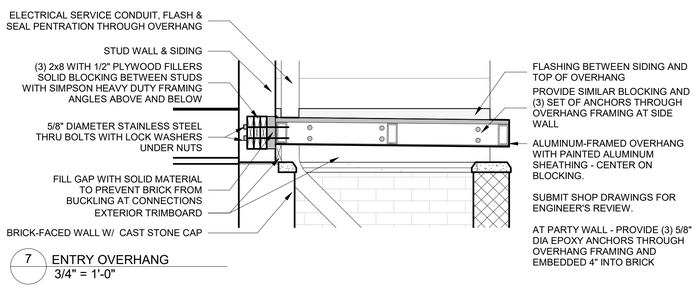
4 STRUCTURAL - PROPERTY LINE FOOTING
1/2" = 1'-0"



5 STRUCTURAL - DETAIL
1/2" = 1'-0"



6 SECTION AT ENTRANCE
1/2" = 1'-0"



7 ENTRY OVERHANG
3/4" = 1'-0"

CITY OF PHILADELPHIA STAMPS

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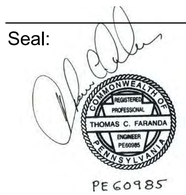

Project:

Habitat for
Humanity
Philadelphia

351 W. Queen Lane

Issue Date: 11/17/2021

Revision Schedule

No.	Date	Drawn By	Description

The Contractor on site shall verify all dimensions and existing conditions. The contractor is required to perform all work in compliance with applicable codes and regulations of governing authorities having jurisdiction.

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Sheet Title and No.
STRUCTURAL
DETAILS

S1.1

Project No.: 21156

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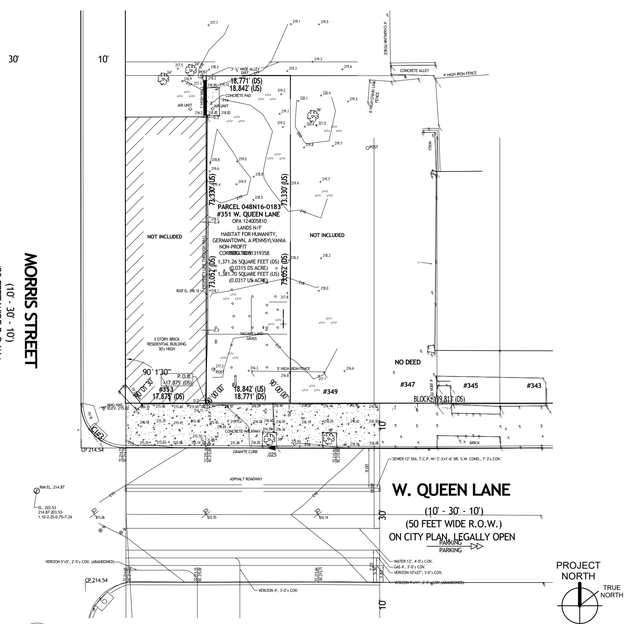
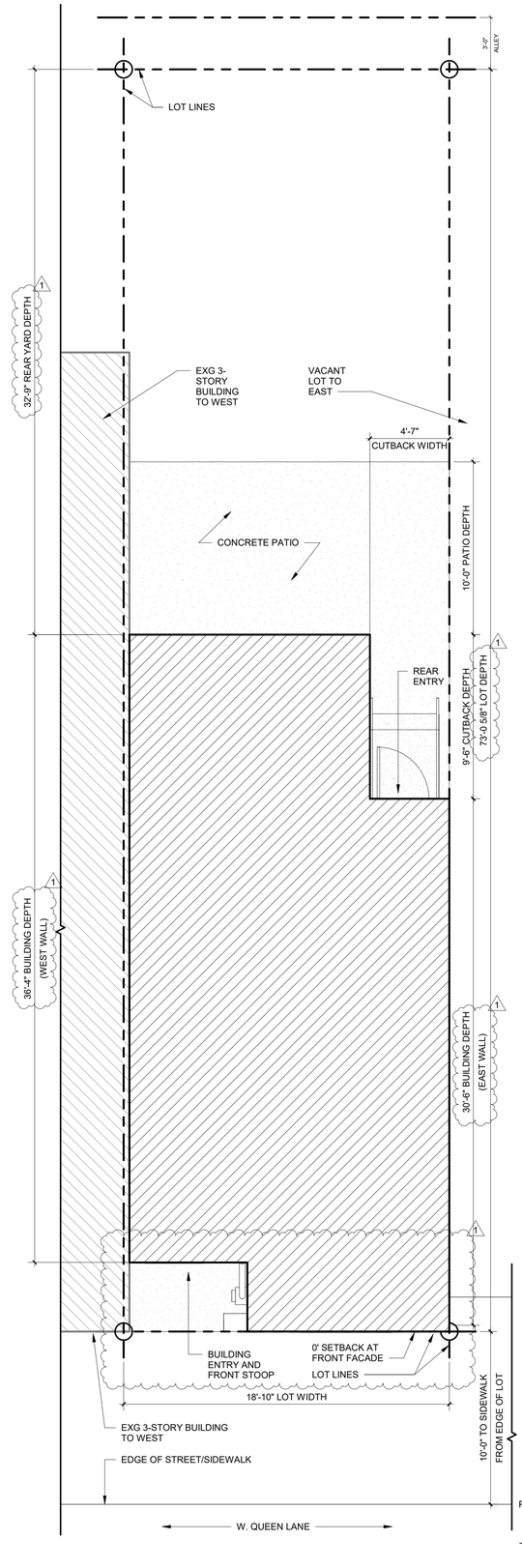
351 W. Queen Lane

Zoning Permit Drawings

PROJECT SITE PHOTO - 351 W. QUEEN LANE
N.T.S.



3 SITE CIVIL SURVEY
1/16" = 1'-0"



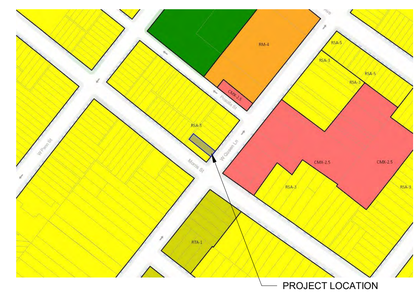
2 ZONING PLAN
1/4" = 1'-0"

ZONING CODE SUMMARY : RSA-5

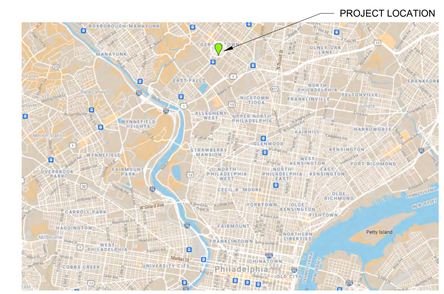
MEASUREMENT:	ALLOWED/REQUIRED	PROPOSED/EXISTING TO REMAIN
MIN. LOT WIDTH	16 FT MIN	18.842 FT
MIN. LOT AREA	1,440 S.F. MIN	1,382 S.F. 1
MIN. OPEN AREA	25% AT INTERMEDIATE 30% AT CORNER	49% OPEN (680 S.F.)
MIN. FRONT SETBACK	BASED ON ADJACENT	0 FT
MIN. SIDE YARD WIDTH	N/A (ATTACHED) 5 FT (SEMI-DETACHED)	N/A 1
MIN. REAR YARD DEPTH	9 FT MIN	32 FT 9 IN
MAX. HEIGHT	38 FT MAX	30 FT 6 IN

SCOPE OF WORK: 1

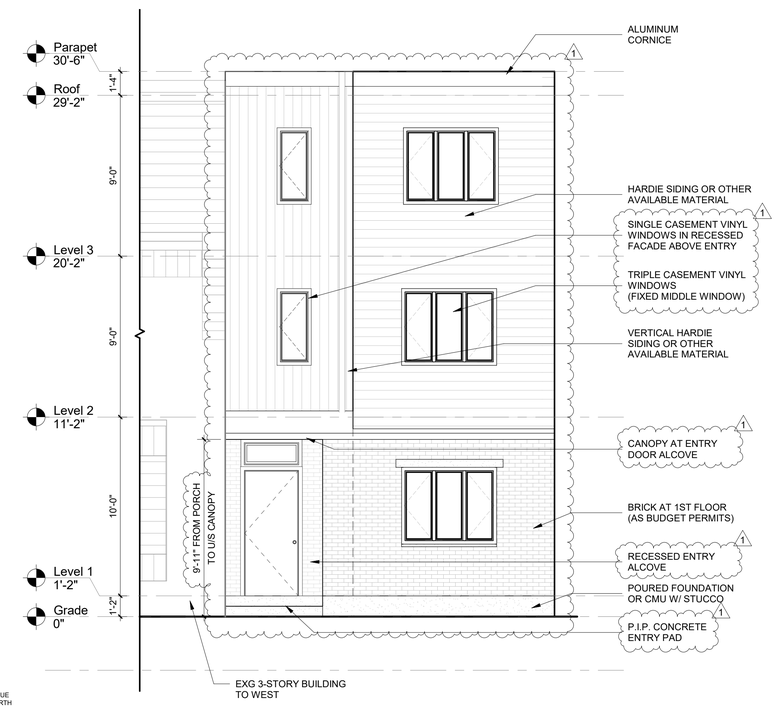
THE SCOPE OF WORK AT 351 W. QUEEN LANE CONSISTS OF CONSTRUCTING A NEW 3-STORY (NO BASEMENT) SINGLE-FAMILY HOME ON THE EMPTY LOT WHICH MEASURES 18'-10" x 73'-5/8". THE 3-STORY HOME WILL INCLUDE 5 BEDROOMS AND A REAR YARD.



ZONING MAP (RSA-5)
N.T.S.



LOCATION MAP
N.T.S.



1 FRONT (SOUTH) ELEVATION
1/4" = 1'-0"

CITY OF PHILADELPHIA STAMPS

ZONING PERMIT SUBMISSION DRAFT - REVISED 10/01/2021

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Consultants:

Seal:

REGISTERED ARCHITECT PENNSYLVANIA MORRIS J. ZIMMERMAN No. RA-019-[illegible]

Project:

Habitat for Humanity Philadelphia

351 W. Queen Lane

Issue Date: 09/02/2021

Revision Schedule

No.	Date	Drawn By	Description
1	10/01/2021		ZONING REVISION

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Sheet Title and No.

ZONING PLANS AND ELEVATION

Z1

Project No.: 21156

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FIREBLOCKING NOTES:

1. DRAFTSTOPPING IS NOT REQUIRED IN FLOORS OR ATTICS PER 717.3.3 AND 717.4.3 IN NFPA-13 SPRINKLERED BLDG.

2. PROVIDE FIRESTOPPING IN COMBUSTIBLE CONCEALED LOCATIONS AS FOLLOWS TO CUT OFF CONCEALED OPENINGS BETWEEN VERTICAL AND HORIZONTAL CONSTRUCTION PER 717.2:
   A. BETWEEN FLOORS
   B. BETWEEN TOP STORY AND A ROOF OR ATTIC SPACE
   C. IN CONCEALED SPACES OF STUD WALLS, STAGGER STUD WALLS, AND FURRED SPACES VERTICALLY AT CEILING AND FLOOR LEVELS AND HORIZONTALLY AT 10' MAX (=ON THE GABLE WALLS)
   D. AT CONNECTIONS BETWEEN HORIZONTAL AND VERTICAL SPACES, LIKE SOFFITS, DROP OR COVE CEILINGS
   E. AT THE STRINGERS AT THE TOP & BOTTOM OF THE STAIRCASE RUN
   F. AT ANNULAR SPACE AROUND PIPE, DUCT, OR CHIMNEY PENETRATIONS THROUGH FLOOR/CLGS
   G. WITHIN CONCEALED SPACES OF EXTERIOR WALL FINISH TO CREATE 100 S.F. MAX OR 20' MAX LONG COMPARTMENTS

3. FIREBLOCKING SHALL CONSIST OF THE FOLLOWING MATERIALS (717.2.1):
   A. NOMINAL 2X LUMBER
   B. 2 THICKNESSES NOMINAL 1X LUMBER WITH BROKEN LAP JOINTS
   C. 1/2" MIN. GYPSUM WALL BOARD
   D. 1/4" CEMENT MILLBOARD
   E. BATTS OR BLANKETS OF MINERAL WOOL, MINERAL FIBER OR OTHER APPROVED MATERIALS INSTALLED IN SUCH A MANNER AS TO BE SECURELY RETAINED IN PLACE, ONLY ALLOWED HORIZONTALLY
   -OTHER APPROVED ASSEMBLIES AND MATERIALS (SUBMIT PRIOR TO USE)

PARTITION NOTES:

1. PROVIDE METAL EDGE TRIMS. PLASTIC TRIMS ARE NOT ACCEPTABLE.

2. PERFORM ALL WORK IN ACCORDANCE WITH GYPSUM ASSOCIATION STANDARDS GA-201 GA-214 (LEVEL 5) & GA-216

3. ACOUSTIC INSULATION SHALL BE UNFACED MINERAL WOOL BATTS FRICTION FIT IN STUD CAVITY. BASIS OF DESIGN:OWENS CORNING "THERMAFIBER" SAFB

4. ACOUSTIC SEALANT SHALL BE APPLIED IN ACCORDANCE WITH ASTM C919-12 *STANDARD PRACTICE FOR USE OF SEALANTS IN ACOUSTICAL APPLICATIONS*

5. ALL GYPSUM BOARD USED FOR THIS PROJECT TO BE ABUSE RESISTANT, UNLESS NOTED OTHERWISE.

6. PROVIDE WALL TYPE 1 AT ALL NEW PARTITIONS U.N.O.

7. PROVIDE MIN. 5/8" TYPE "X" FIRE RATED GYPSUM BOARD AT ALL RATED ASSEMBLIES AND WHERE REQUIRED TO MAINTAIN RATINGS AND FIRE SEPARATIONS. GYPSUM BOARD TO BE RATED, CLASSIFIED AND INSTALLED PER UL ASSEMBLY REFERENCES. IF THERE IS A CONFLICT BETWEEN UL REQUIREMENTS AND NOTE ON DRAWINGS THEN UL REQUIREMENTS TAKE PRECEDENCE OVER DRAWINGS AND SPECIFICATIONS.

8. FIRE CAULK/SEAL ALL PENETRATIONS IN FIRE RATED ASSEMBLIES TO MAINTAIN RATING AS SCHEDULED.

9. PROVIDE SEALANT FOR WATER TIGHT SEAL AT ALL PENETRATIONS AT EXTERIOR WALLS.

10. PROVIDE PAINTABLE SEALANT AT ALL PENETRATIONS AND JOINTS BETWEEN DISSIMILAR MATERIALS AND WHERE INSTALLATION IS NOT TIGHT.

11. PROVIDE BLOCKING FOR ALL WALL MOUNTED DEVICES ATTACHED TO STUD FRAMING INCLUDING, BUT NOT LIMITED TO ALL HOLD OPENS, HANDRAILS AND CHAIR RAILS, MILLWORK, GRAB BARS, ETC.

12. PROVIDE MOLD RESISTANT GYPSUM BOARD ON WALLS THROUGHOUT THE LOWER LEVEL AND IN TOILET ROOMS WHERE DRYWALL INSTALLATION IS SPECIFIED.

13. PROVIDE 1/2" CEMENT BACKER BOARD AT CERAMIC WALL TILE LOCATIONS.

14. PROVIDE COMPLETE ACOUSTICAL SEAL AT ALL SOUND INSULATION PARTITIONS.

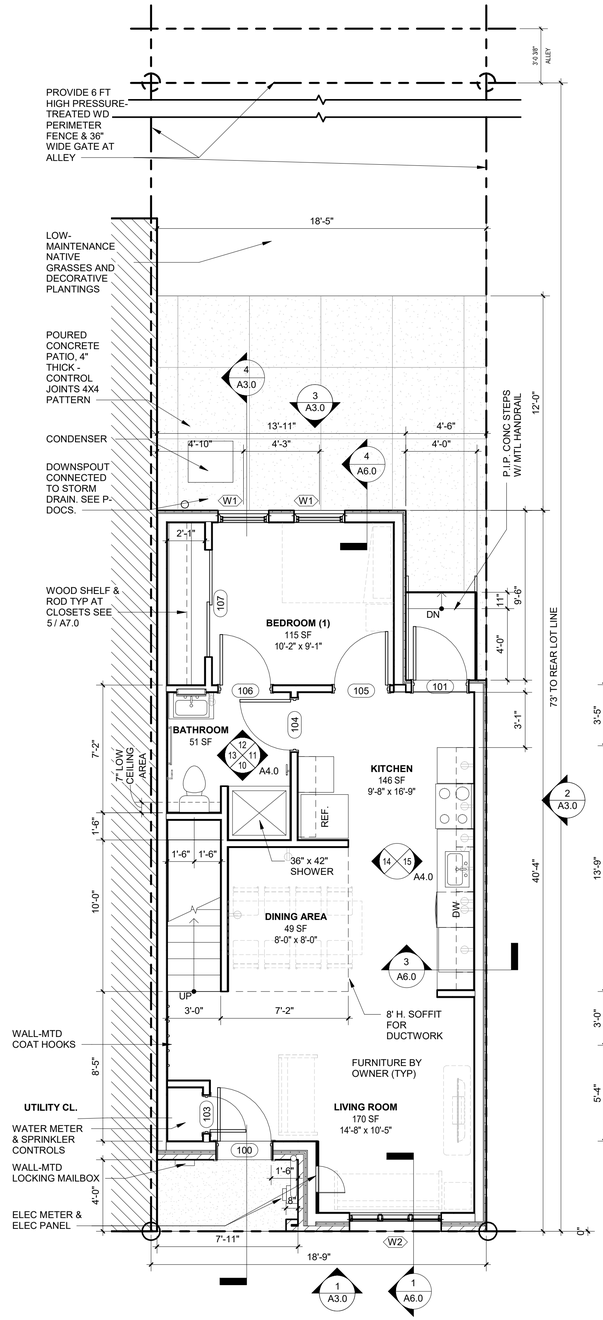
15. GWB (BOTH SIDES) AT ALL PARTITIONS AND AT FURRING GOES TO THE UNDERSIDE OF THE GWB CLG ASSEMBLY ON BOTTOM OF TRUSSJOISTS U.N.O.

16. PROVIDE 5/8" GWB UNO FOR ALL VERTICAL AND HORIZONTAL INSTALLATIONS. 1/2" GWB IS MINIMUM ACCEPTABLE FOR FIREBLOCKING AND NON-RATED CEILINGS

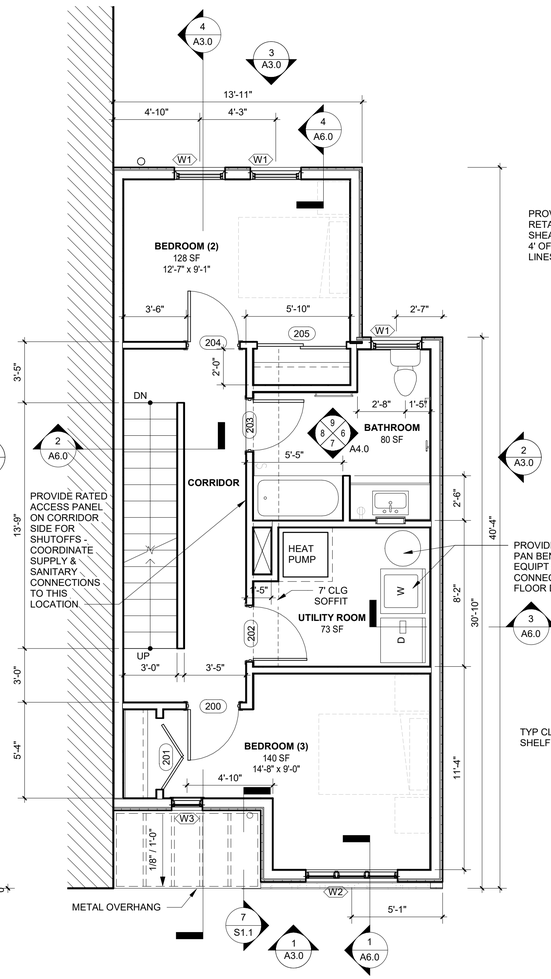
17. PROVIDE CEMENT BACKER BOARD AT WALLS TO RECEIVE CERAMIC TILE FINISH.

18. GWB IN CONCEALED LOCATIONS IS NOT REQ'D TO BE TAPED, SPACKLED OR PAINTED UNLESS IT IS PART OF A RATED ASSEMBLY AND MUST BE TAPED AND SPACKLED TO OBTAIN THE RATING.

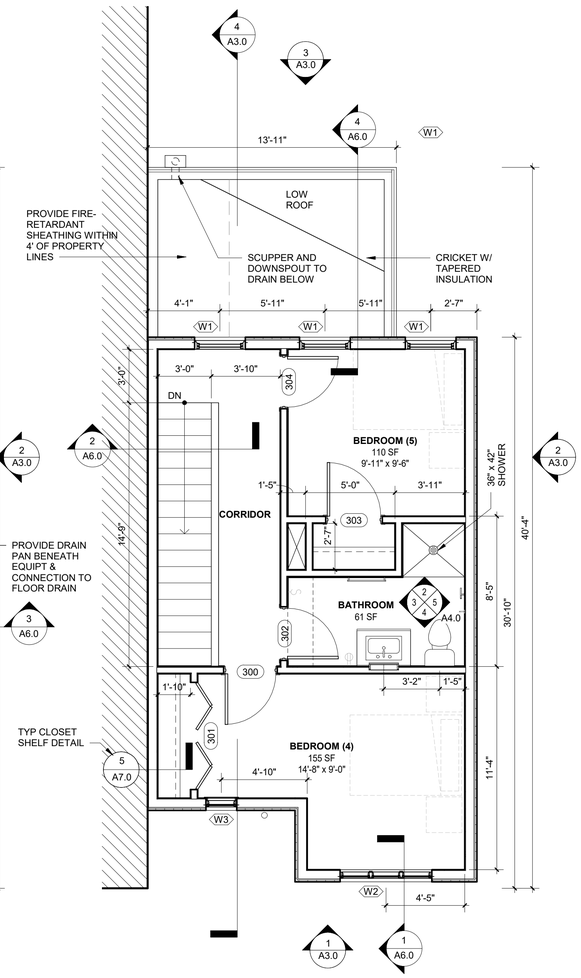
19. PROVIDE EXPANSION AND/OR CONTROL JOINTS @ ALL GWB CONSTRUCTION PER US GYPSUM HANDBOOK (THEY ARE NOT ON PLANS-THESE ARE THE RULES):
   A. WHERE BACKUP CHANGES & GWB IS IN THE SAME PLANE
   B. @ WINGS OF "L", "U" , AND "T" SHAPED CEILING AREAS
   C. WHERE EXPANSION JOINTS OR CONSTRUCTION JOINTS OCCUR IN BACK UP CONSTRUCTION
   D. IN PARTITIONS AT 30' (THIRTY FEET) O.C. MAX
   E. AT CEILINGS (WITHOUT PERIMETER RELIEF) AT 30' (THIRTY FEET) O.C. MAX
   F. WHEN CONSTRUCTION JOINT OCCURS AT A DOOR FRAME GO UP ON BOTH SIDES



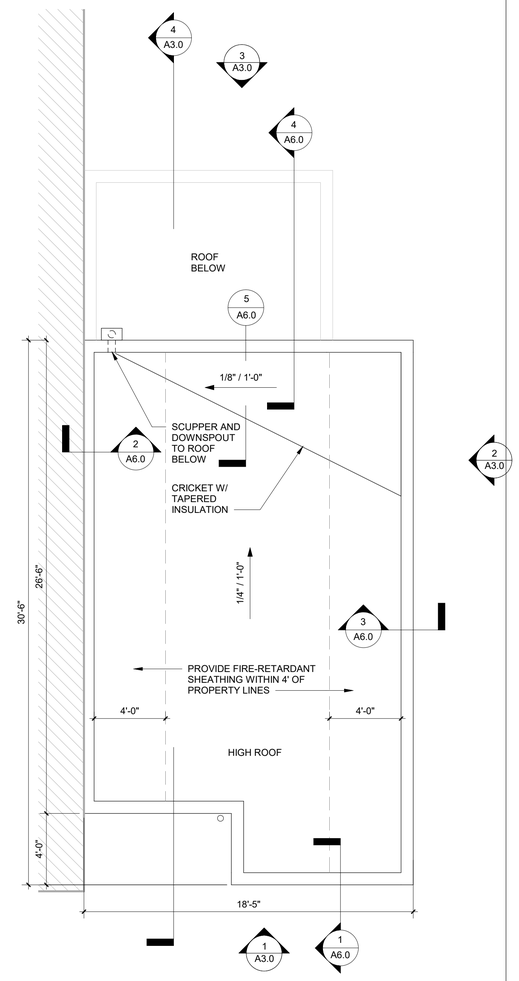
1 FLOOR PLAN - LEVEL 1 — 591 S.F.
1/4" = 1'-0"



2 FLOOR PLAN - LEVEL 2 — 591 S.F.
1/4" = 1'-0"



3 FLOOR PLAN - LEVEL 3 — 471 S.F.
1/4" = 1'-0"



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

PROJECT NORTH
TRUE NORTH

CITY OF PHILADELPHIA STAMPS

CONSTRUCTION DOCUMENTS

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Seal:

Project:
Habitat for Humanity Philadelphia

351 W. Queen Lane

Issue Date: 11/17/2021

Revision Schedule

No.	Date	Drawn By	Description

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Sheet Title and No.
NEW WORK FLOOR PLANS

A1.0

Project No.: 21156

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RCP LEGEND

GWB CEILING - PTD

L — NEW SURFACE MOUNTED LIGHTING FIXTURE

V — NEW WALL MOUNTED VANITY LIGHT

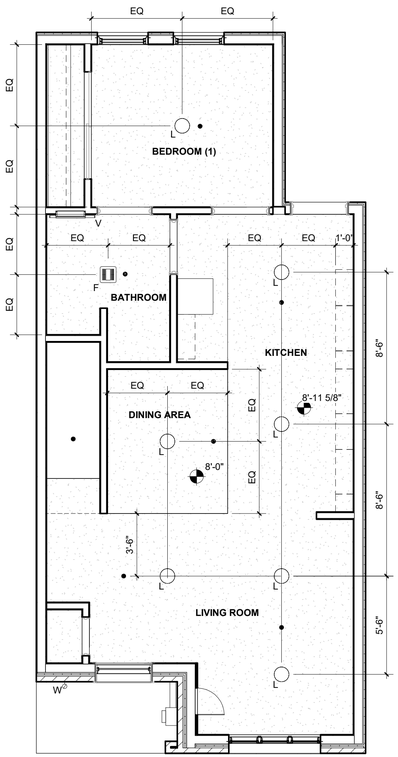
F — NEW COMBINATION LIGHT/EXHAUST FAN

W — EXTERIOR WALL MOUNTED SCONCE LIGHT

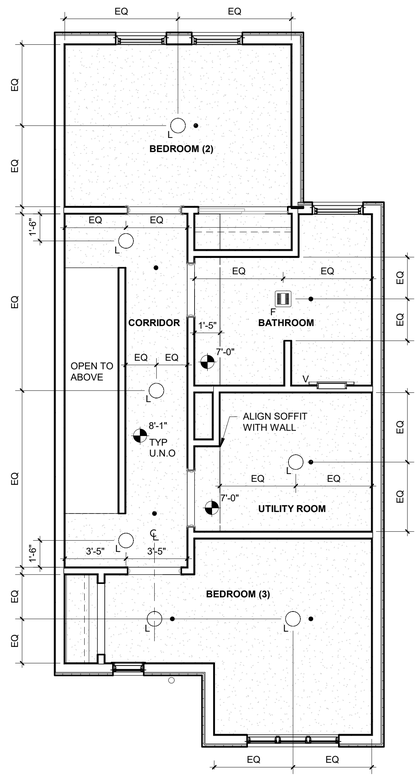
SPRINKLER HEAD

NOTES:

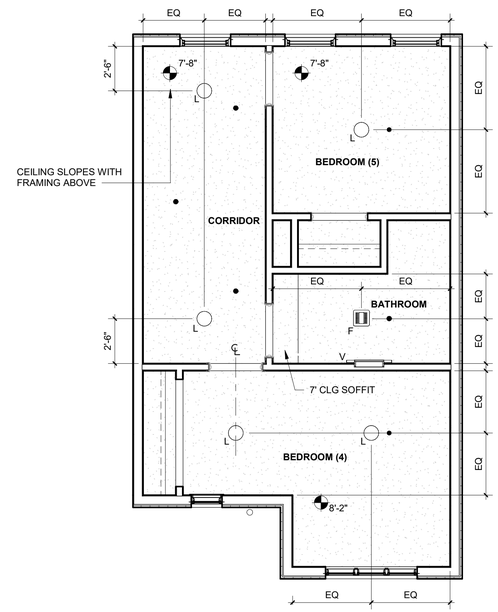
1. COORDINATE FINAL FIXTURE SELECTION WITH OWNER.
2. PROVIDE SPRINKLERS THROUGHOUT PER NFPA 13D



1 RC PLAN - LEVEL 1
1/4" = 1'-0"



2 RC PLAN - LEVEL 2
1/4" = 1'-0"



3 RC PLAN - LEVEL 3
1/4" = 1'-0"

CITY OF PHILADELPHIA STAMPS

CONSTRUCTION DOCUMENTS

Architect:

O:Z collaborative
4818 Baltimore Avenue
Philadelphia, PA 19143
215.386.8191
www.ozcollaborative.com

Consultants:

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ajia@utengineers.com

STRUCTURAL ENGINEER
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Seal:

Project:
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Sheet Title and No.
NEW WORK CEILING PLANS

A2.0

Project No.: 21156

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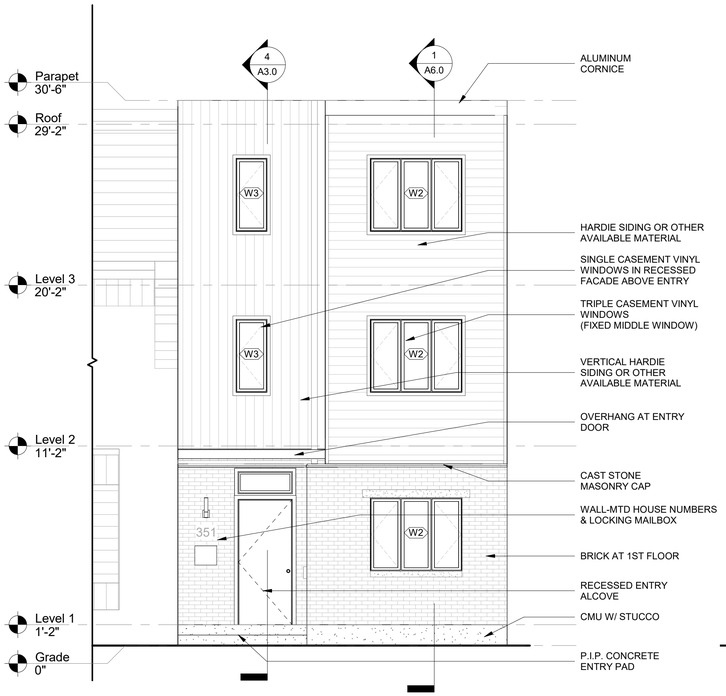
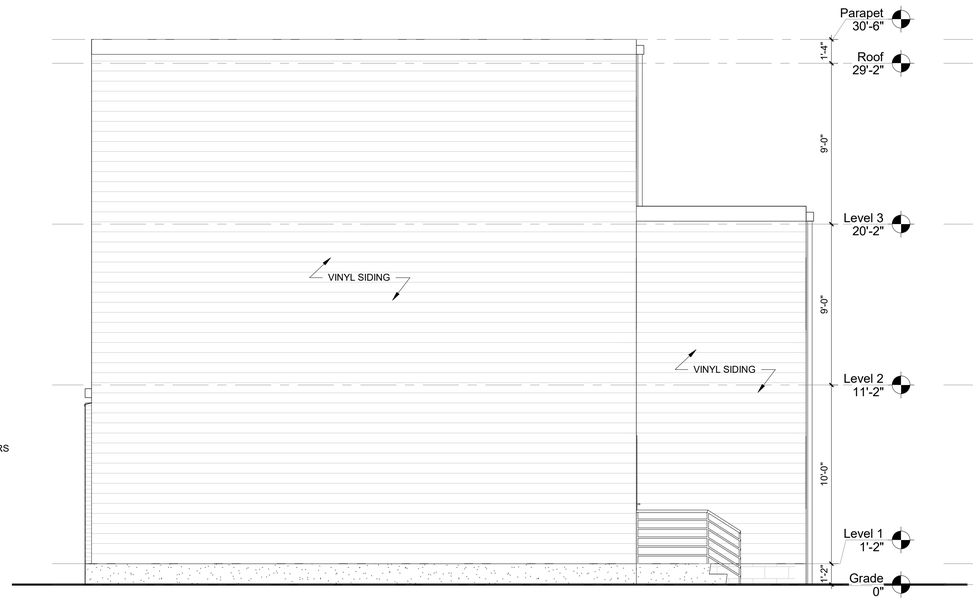
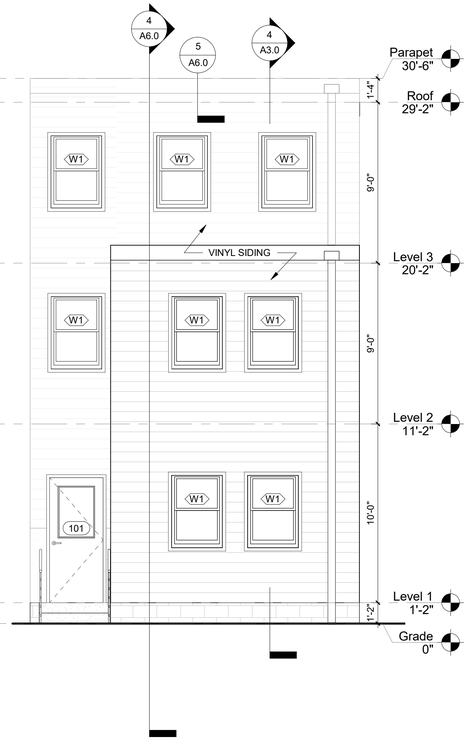


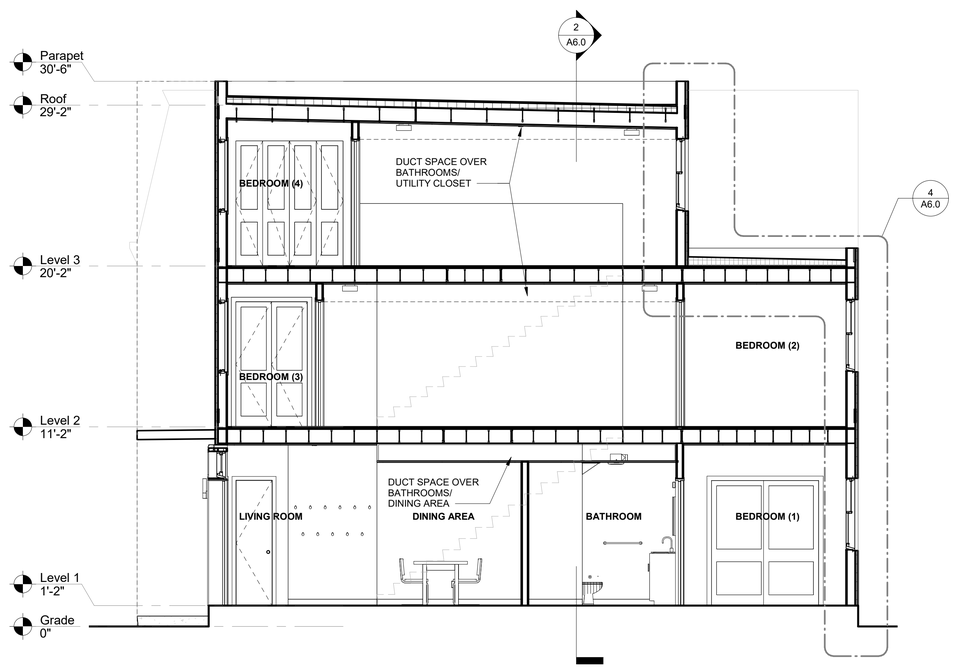
1 SOUTH (FRONT) ELEVATION
1/4" = 1'-0"



2 EAST ELEVATION
1/4" = 1'-0"



3 NORTH (REAR) ELEVATION
1/4" = 1'-0"



4 BUILDING SECTION
1/4" = 1'-0"

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Sheet Title and No.

EXTERIOR ELEVATIONS & BUILDING SECTION

A3.0

Project No.: 21156

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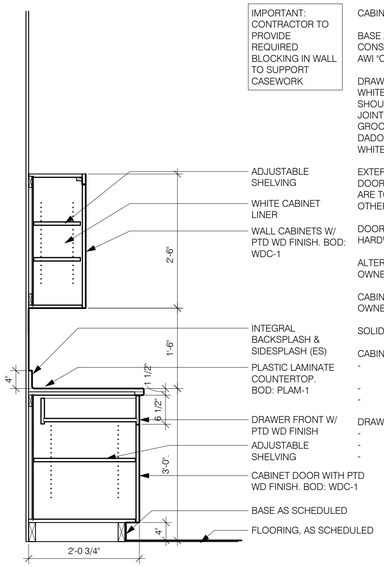
IMPORTANT:
CONTRACTOR TO PROVIDE REQUIRED BLOCKING IN WALL TO SUPPORT CASEWORK



1 MILLWORK SECTION - CABINET
3/4" = 1'-0"

CABINET NOTES:

BASE AND WALL CABINETS ARE TO BE CONSTRUCTED OF 3/4" PLYWOOD AND TO MEET AWI "CUSTOM" STANDARDS.

DRAWER BOXES TO BE CONSTRUCTED OF 1/2" WHITE BHK - WHITE VINYL STOCK, EITHER "SINGLE SHOULDER" TONGUE AND GROOVE OR RABBETED JOINT. BOTTOM PANEL TO BE 1/4" WHITE MCP GROOVED ON 4 SIDES. CABINETS WILL BE EITHER DADO OR TONGUE AND GROOVE, RAILS TO BE WHITE MCP WITH PLASTIC LAMINATE EDGES.

EXTERIOR FINISH IS TO BE PLASTIC LAMINATE. DOORS ARE TO BE FLUSH. CABINET INTERIORS ARE TO BE WHITE CABINET LINER UNLESS NOTED OTHERWISE.

DOORS AND DRAWER FACE STYLE AND PULL HARDWARE TO BE SELECTED BY OWNER.

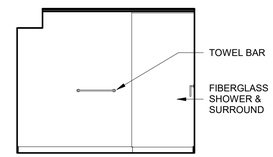
ALTERNATIVE CABINETS MAY BE SELECTED BY OWNER.

CABINET STYLE & COLOR TO BE SELECTED BY OWNER.

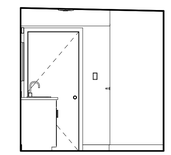
SOLID SURFACE TO BE SELECTED BY OWNER.

CABINET HARDWARE TO BE AS FOLLOWS:
- CONCEALED HINGES WITH MAGNETIC CATCHES.
- PULLS TO BE SELECTED BY OWNER
- NO LOCKS

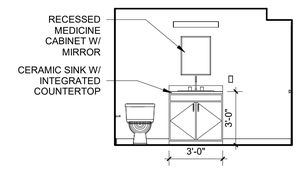
DRAWER HARDWARE TO BE AS FOLLOWS:
- FULL EXTENSION ACCURIDE #3832 SLIDES
- PULLS TO BE SELECTED BY OWNER
- CAM LOCKS



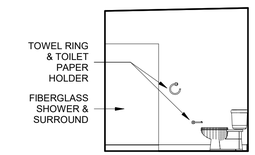
2 ELEVATION 4 AT LEVEL 3 BATH
1/4" = 1'-0"



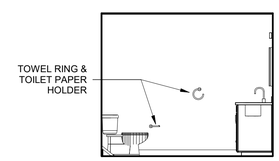
3 ELEVATION 3 AT LEVEL 3 BATH
1/4" = 1'-0"



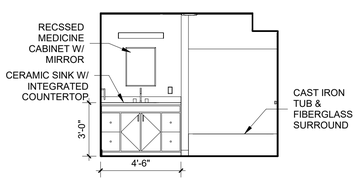
4 ELEVATION 2 AT LEVEL 3 BATH
1/4" = 1'-0"



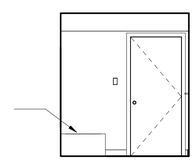
5 ELEVATION 1 AT LEVEL 3 BATH
1/4" = 1'-0"



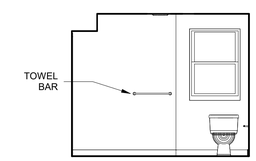
6 ELEVATION 4 AT LEVEL 2 BATH
1/4" = 1'-0"



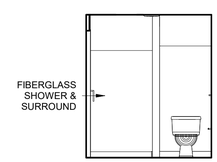
7 ELEVATION 3 AT LEVEL 2 BATH
1/4" = 1'-0"



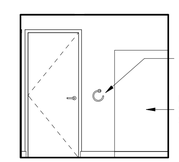
8 ELEVATION 2 AT LEVEL 2 BATH
1/4" = 1'-0"



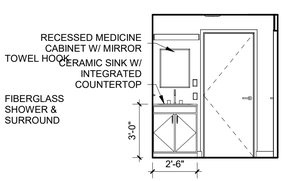
9 ELEVATION 1 AT LEVEL 2 BATH
1/4" = 1'-0"



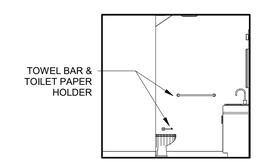
10 ELEVATION 4 LEVEL 1 BATH
1/4" = 1'-0"



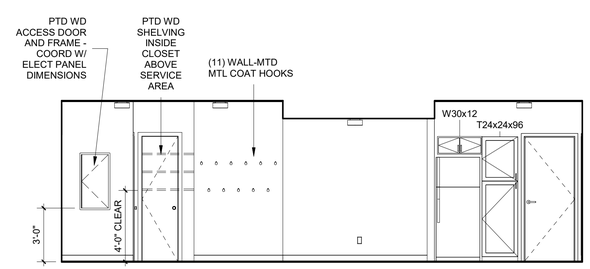
11 ELEVATION 3 AT LEVEL 1 BATH
1/4" = 1'-0"



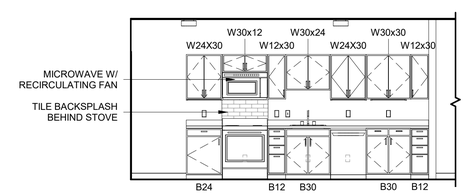
12 ELEVATION 2 AT LEVEL 1 BATH
1/4" = 1'-0"



13 ELEVATION 1 AT LEVEL 1 BATH
1/4" = 1'-0"



14 ELEVATION AT DINING
1/4" = 1'-0"



15 ELEVATION AT KITCHEN
1/4" = 1'-0"

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INTERIOR ELEVATIONS & DETAILS

A4.0

Project No.: 21156

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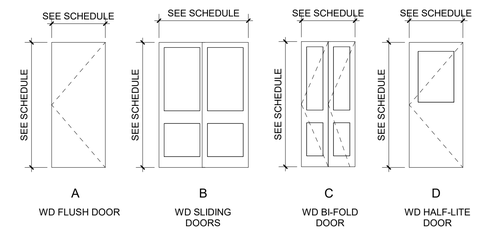
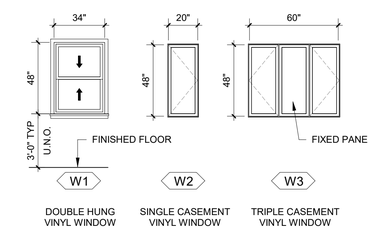
DOOR SCHEDULE - SIMPLE

DOOR NO.	ROOM NAME	DOOR							FRAME			COMMENTS
		ELEVATION TYPE	PAIR	WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	
Level 1												
100	LIVING ROOM	C		3'-0"	7'-0"	1 3/4"	WD	PTD	F1	WD	PTD	ENTRY LOCKSET HANDLE, INTERIOR LEVER
101	KITCHEN	D		3'-0"	7'-0"	1 3/4"	WD	PTD	F1	WD	PTD	
103	UTILITY CL.	A		2'-0"	7'-0"	1 3/4"	WD	PTD	F1	WD	PTD	
104	KITCHEN	A		2'-10"	7'-0"	1 3/4"	WD	PTD	F1	WD	PTD	
105	KITCHEN	A		3'-0"	7'-0"	1 3/4"	WD	PTD	F1	WD	PTD	
106	BATHROOM	A		2'-10"	7'-0"	1 3/4"	WD	PTD	F1	WD	PTD	LEVER HANDLE, PRIVACY LOCK
107	BEDROOM (1)	B		6'-0"	7'-0"	1 3/4"	WD	PTD	F1	WD	PTD	LEVER HANDLE, PRIVACY LOCK
Level 2												
200	BEDROOM (3)	A		2'-10"	7'-0"	1 3/4"	WD	PTD	F1	WD	PTD	
201	BEDROOM (3)	C		4'-0"	7'-0"	1 3/4"	WD	PTD	F1	WD	PTD	
202	UTILITY ROOM	170		3'-0"	6'-8"	1 3/8"	WD	PTD	F1	WD		
203	BATHROOM	A		2'-10"	6'-8"	1 3/4"	WD	PTD	F1	WD		LEVER HANDLE, PRIVACY LOCK
204	BEDROOM (2)	A		2'-10"	7'-0"	1 3/4"	WD	PTD	F1	WD	PTD	
205	BEDROOM (2)	B		5'-0"	7'-0"	1 3/4"	WD	PTD	F1	WD	PTD	
Level 3												
300	BEDROOM (4)	A		2'-10"	7'-0"	1 3/4"	WD	PTD	F1	WD	PTD	
301	BEDROOM (4)	F	YES	6'-0"	7'-0"	1 3/4"	WD	PTD	F1	WD	PTD	
302	BATHROOM	A		2'-10"	6'-8"	1 3/4"	WD	PTD	F1	WD		LEVER HANDLE, PRIVACY LOCK
303	BEDROOM (5)	C		3'-0"	7'-0"	1 3/4"	WD	PTD	F1	WD	PTD	
304	BEDROOM (5)	A		2'-10"	7'-0"	1 3/4"	WD	PTD	F1	WD	PTD	



DOOR TYPES
1/4" = 1'-0"

*ALL WINDOWS TO BE RATED AT 0.32 U-FACTOR (MAX.) AND 0.4 SHGC (MAX.)



WINDOW TYPES
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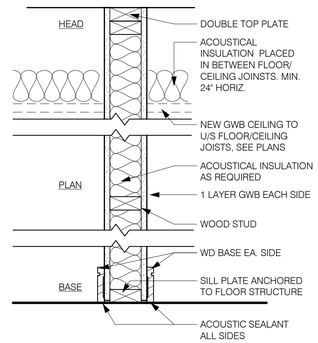

	WALL TYPE 1 TYP @ INTERIOR U.N.O. (1)	EXTERIOR (SIDE) WALLS (2)
MATERIAL	WD STUD / GWB	WD STUD / GWB
OVERALL THICKNESS	4 3/4"	7 1/4"
STUD WIDTH	2"X4"	2"X6"
SPACING (MAX)	16" O.C.	16" O.C.
PARTITION HEIGHT	TO UNDERSIDE OF STRUCTURE	TO UNDERSIDE OF STRUCTURE
SHEATHING	5/8" GWB, SEE NOTES	5/8" TYPE-X GWB, SEE NOTES
FIRE RATING REQUIREMENT	-	1-HR
FIRE RATING SYSTEM	-	UL-U309
STC (MIN)		50
ACOUSTIC INSULATION	3 1/2" SAFB	3 1/2" SAFB

NOTE: SEE WALL SECTIONS ON A6.0 FOR ADDITIONAL INFO ON EXTERIOR WALLS.

PARTITION TYPES
1 1/2" = 1'-0"

ROOM FINISH SCHEDULE

ROOM NAME	FLOOR	BASE/WAINSCOT	WALL	CEILING
Level 1				
BATHROOM	LVT	WD-1	PT-1	PT-2
BEDROOM (1)	RES-1	WD-1	PT-1	PT-2
DINING AREA	RES-1	WD-1	PT-1	PT-2
KITCHEN	RES-1	WD-1	PT-1	PT-2
LIVING ROOM	RES-1	WD-1	PT-1	PT-2
UTILITY CL.	RES-1	WD-1	PT-1	PT-2
Level 2				
BATHROOM	LVT	WD-1	PT-1	PT-2
BEDROOM (2)	RES-1	WD-1	PT-1	PT-2
BEDROOM (3)	RES-1	WD-1	PT-1	PT-2
CORRIDOR	RES-1	WD-1	PT-1	PT-2
UTILITY ROOM	RES-1	WD-1	PT-1	PT-2
Level 3				
BATHROOM	LVT	WD-1	PT-1	PT-2
BEDROOM (4)	RES-1	WD-1	PT-1	PT-2
BEDROOM (5)	RES-1	WD-1	PT-1	PT-2
CORRIDOR	RES-1	WD-1	PT-1	PT-2

FINISH KEY

LOCATION	TAG	MATERIAL	DESCRIPTION	MANUFACTURER	COLOR/FINISH	SIZE/PATTERN	COMMENTS
BASE	CT-1	CERAMIC TILE	BATHROOM TILE BASE	MANUFACTURER - TBD	COLOR - TBD	PATTERN/SIZE/LAY - TBD	
WALL	CT-2	CERAMIC TILE	KITCHEN STOVE BACKSPLASH	MANUFACTURER - TBD	COLOR - TBD	PATTERN/SIZE/LAY - TBD	
CASEWORK	PLAM-1	PLASTIC LAMINATE	COUNTER TOPS	MANUFACTURER - TBD	COLOR - TBD	PATTERN/SIZE/LAY - TBD	
WALL	PT-1	PAINT	INTERIOR - PRO MAR 200 ZERO VOC INTERIOR LATEX	SHERWIN WILLIAMS	COLOR TBD - EGGSHELL	PATTERN/SIZE/LAY - TBD	
CEILING	PT-2	PAINT	INTERIOR - PRO MAR 200 ZERO VOC INTERIOR LATEX	SHERWIN WILLIAMS	COLOR TBD - FLAT	PATTERN/SIZE/LAY - TBD	
DOORS/FRAMES/TRIM	PT-3	PAINT	INTERIOR - PRO MAR 200 ZERO VOC INTERIOR LATEX	SHERWIN WILLIAMS	COLOR TBD - SEMI-GLOSS	PATTERN/SIZE/LAY - TBD	
HANDRAILS	PT-4	PAINT	INTERIOR - PRO MAR 200 ZERO VOC INTERIOR LATEX	SHERWIN WILLIAMS	COLOR TBD - SEMI-GLOSS	PATTERN/SIZE/LAY - TBD	
EXTERIOR DOOR	PT-5	PAINT	EXTERIOR DOOR - PRO INDUSTRIAL PRE-CATALYZED WATER BASED EPOXY	SHERWIN WILLIAMS	COLOR TBD - SEMI-GLOSS	PATTERN/SIZE/LAY - TBD	
FLOOR	RES-1	LVT	TYPICAL FLOOR THROUGHOUT	MANUFACTURER - TBD	COLOR - TBD	36" X 6"	
FLOOR	RES-2	LVT	STAIR TREADS/RISERS TO MATCH FLOOR	MANUFACTURER - TBD	COLOR - TBD	PATTERN/SIZE/LAY - TBD	
BASE	WD-1	WOOD	4" WD BASE AND 3/4" SHOE MOLDING	MANUFACTURER - TBD	COLOR - TBD	PATTERN/SIZE/LAY - TBD	

CITY OF PHILADELPHIA STAMPS

CONSTRUCTION DOCUMENTS

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4818 Baltimore Avenue
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Consultants:

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Seal:

Project:

Habitat for Humanity Philadelphia

351 W. Queen Lane

Issue Date: 11/17/2021

Revision Schedule

No.	Date	Drawn By	Description

The Contractor on site shall verify all dimensions and existing conditions. The contractor is required to perform all work in compliance with applicable codes and regulations of governing authorities having jurisdiction.

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Sheet Title and No.
SCHEDULES & DETAILS

A5.0

Project No.: 21156

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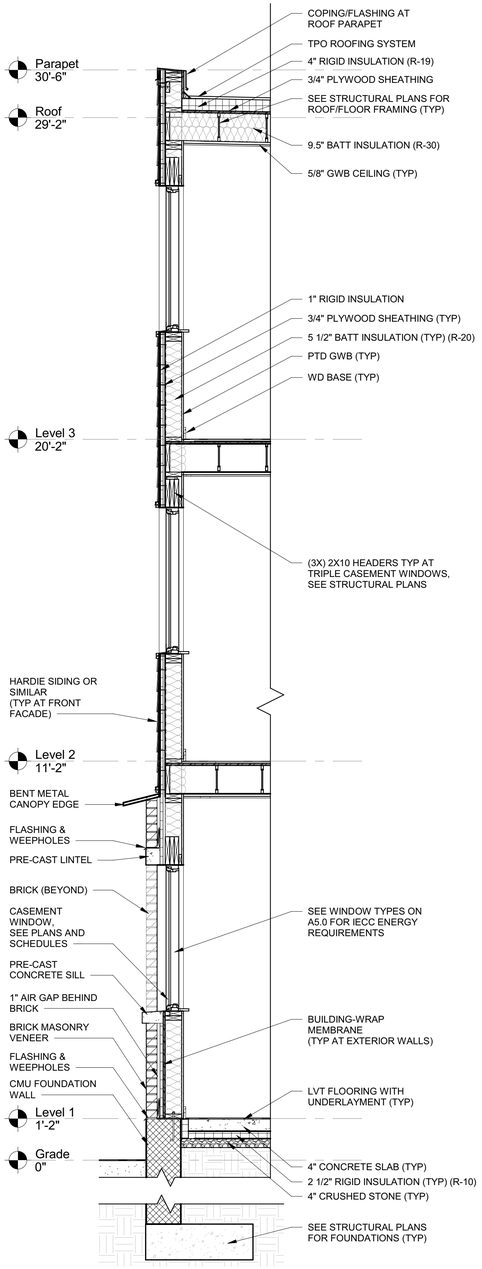
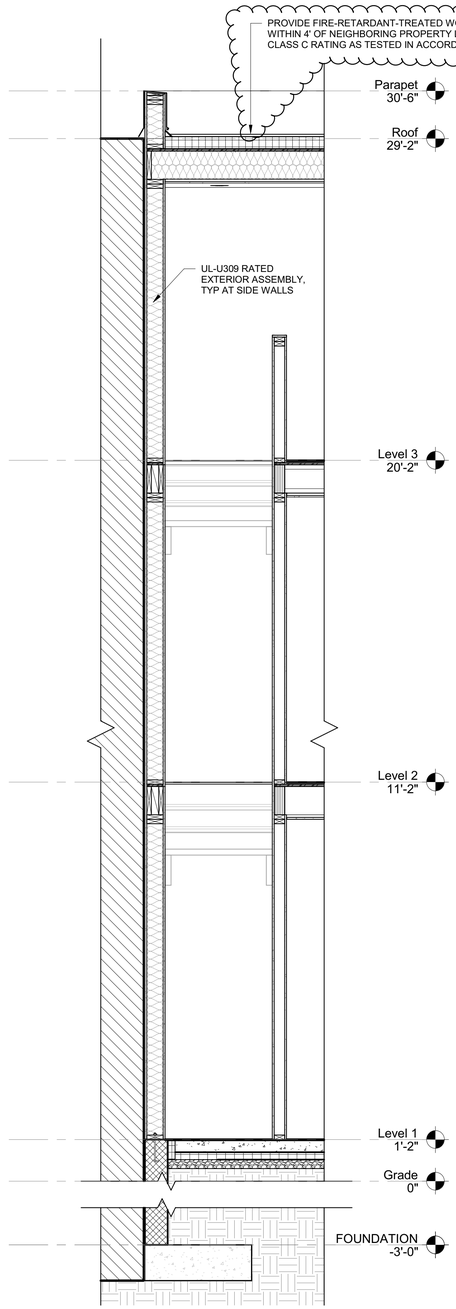
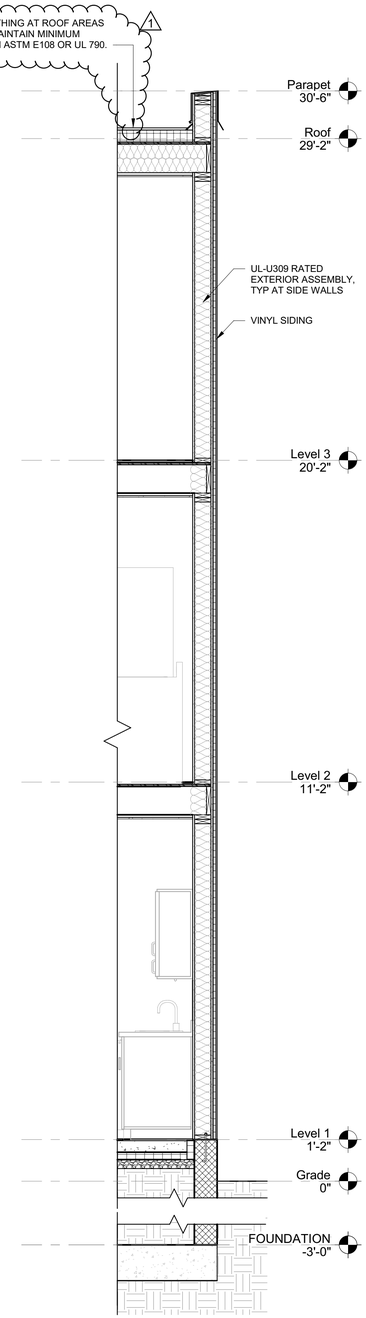


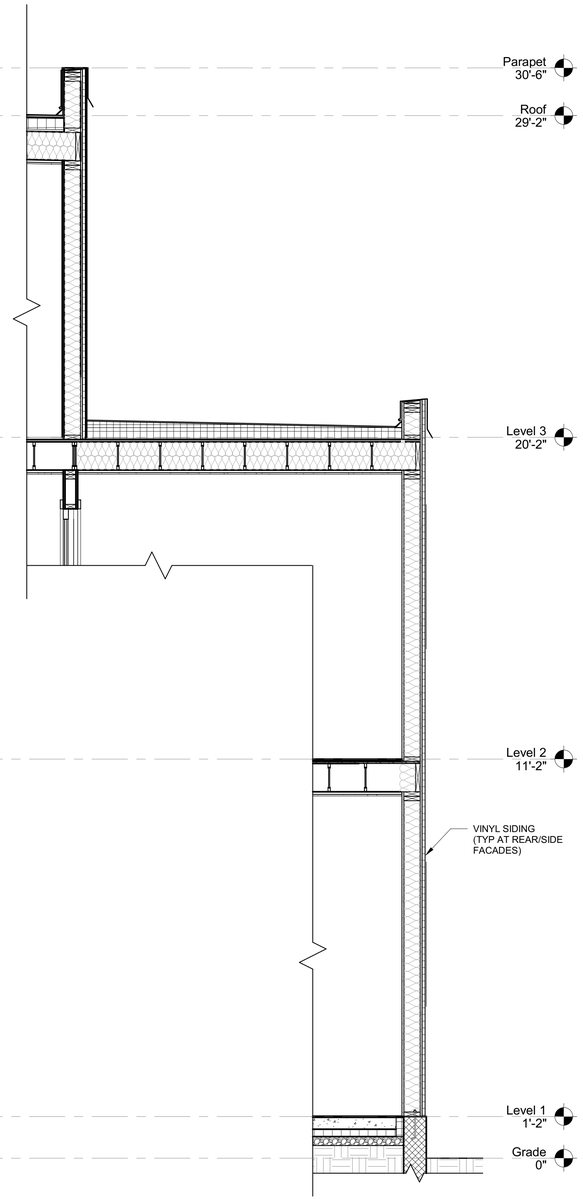
1 A6.0 WALL SECTION - FRONT WALL
1/2" = 1'-0"



2 A6.0 WALL SECTION - WEST WALL
1/2" = 1'-0"



3 A6.0 WALL SECTION - EAST WALL
1/2" = 1'-0"



4 A6.0 WALL SECTION - REAR WALL
1/2" = 1'-0"

CITY OF PHILADELPHIA STAMPS

10-11-2021 PERMIT & BID SET

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REGISTERED ARCHITECT COMMONWEALTH OF PENNSYLVANIA MORRIS B. ZIMMERMAN No. RA016908

Project:

Habitat for Humanity Philadelphia

351 W. Queen Lane

Issue Date: 10/11/2021

Revision Schedule

No.	Date	Drawn By	Description
1	12/01/2021		RESPONSE TO PLANS EXAMINER

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Sheet Title and No.

WALL SECTIONS

A6.0

Project No.: 21156

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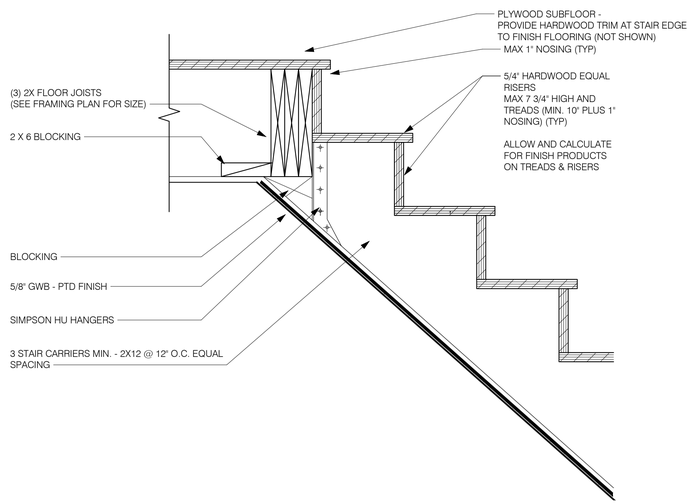
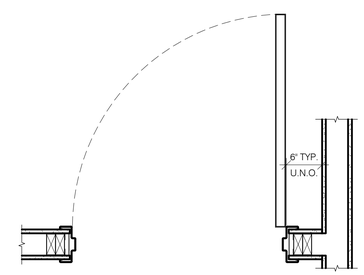
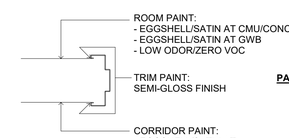


1 INTERIOR STAIR (TYP)
1 1/2" = 1'-0"



2 TYP DOOR LOCATION DETAIL
1" = 1'-0"



PAINTING DETAIL

FINISH NOTES

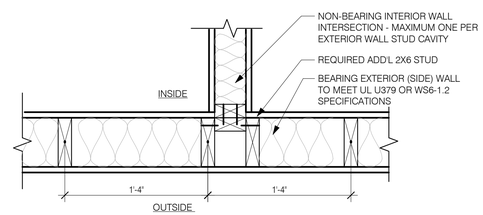
1. REFER TO SPECIFICATIONS FOR ADDITIONAL FINISH REQUIREMENTS AND INFORMATION

2. PRIMER CAN BE ELIMINATED AT PREVIOUSLY PAINTED SURFACES.

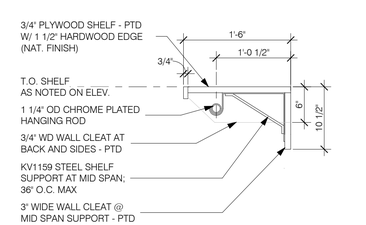
3. DO NOT PAINT EXISTING UNPAINTED GLAZED TILE, MARBLE OR NATURAL FINISH WOOD, U.N.O.

4. ALL FINISH PRODUCTS TO BE INSTALLED PER INDUSTRY STANDARDS, MANUFACTURER'S INSTALLATION REQUIREMENTS / RECOMMENDATIONS AND SPECIFICATIONS

3 PAINTING DETAIL
1/8" = 1'-0"

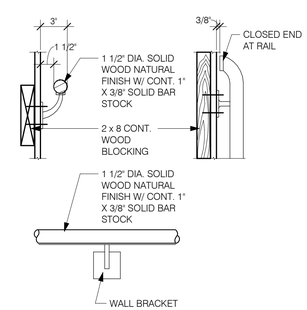


4 FIRE WALL INTERSECTION
1 1/2" = 1'-0"



NOTE: PROVIDE BLOCKING IN WALL AS REQ'D TO SUPPORT SHELF AND ROD

5 CLOSET SHELF SECTION
1" = 1'-0"



6 HANDRAIL WALL ATTACHEMENT
1 1/2" = 1'-0"

CITY OF PHILADELPHIA STAMPS

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Sheet Title and No.
DETAILS

A7.0

Project No.: 21156

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MECHANICAL SPECIFICATIONS

A. GENERAL:

1. THE ENTIRE INSTALLATION, INCLUDING ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP, SHALL CONFORM TO ALL APPLICABLE LAWS, CODES, AND REGULATIONS OF MUNICIPAL, COUNTY, STATE AND FEDERAL AUTHORITIES AND SHALL ALSO BE IN COMPLIANCE WITH THE LATEST EDITIONS OF ASHRAE STANDARDS, INTERNATIONAL MECHANICAL CODE 2018, INTERNATIONAL BUILDING CODE 2018, INTERNATIONAL FUEL AND GAS CODE 2018, INTERNATIONAL FIRE CODE 2018, THE LIFE SAFETY CODE, UNDERWRITERS LABORATORIES, THE NATIONAL ELECTRICAL CODE, NFPA 70, 90A, 96 & 99.

2. THE REQUIREMENTS OF THE GOVERNING AUTHORITIES SHALL BE THE MINIMUM ACCEPTABLE REQUIREMENTS FOR THE WORK, AND NOTHING DESCRIBED IN THESE SPECIFICATIONS OR INDICATED ON THE DRAWINGS SHALL BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE MOST STRINGENT OF THE APPLICABLE CODES AND REGULATIONS. WHEN DRAWINGS OR SPECIFICATIONS CALL FOR MATERIALS OR CONSTRUCTION OF BETTER QUALITY OR LARGER SIZE THAN REQUIRED BY CODES, LAWS, RULES AND REGULATIONS, THE DRAWINGS AND SPECIFICATIONS SHALL TAKE PRECEDENCE. EQUIPMENT NOT COMPLYING WITH THE LEGAL REQUIREMENTS AND REFERENCE STANDARDS SHALL BE REMOVED AND REPLACED WITH APPROVED EQUIPMENT AT MECHANICAL CONTRACTOR'S EXPENSES. U.L. LISTING LABELS, WHERE APPLICABLE, SHALL BE INSTALLED PRIOR TO SHIPMENT FROM FACTORY. SHOULD ANY CHANGES TO THE WORK INDICATED ON THE DRAWINGS OR DESCRIBED IN THE SPECIFICATIONS BE NECESSARY IN ORDER TO COMPLY WITH THE ABOVE REQUIREMENTS, NOTIFY THE PROFESSIONAL IMMEDIATELY AND CEASE WORK ON ALL PARTS OF THE CONTRACT WHICH ARE AFFECTED UNTIL APPROVAL FOR ANY REQUIRED MODIFICATIONS TO THE CONSTRUCTION HAS BEEN OBTAINED FROM THE PROFESSIONAL.

3. DRAWINGS ARE DIAGRAMMATIC, SMALL SCALE AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. CERTAIN COMPONENTS, APPURTENANCES AND RELATED SPECIALTIES ARE NOT SHOWN BUT MUST BE PROVIDED. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND DETAILS. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK REQUIRED AND TO TURN OVER COMPLETE AND OPERABLE SYSTEMS TO THE OWNER. ALL CONSTRUCTION WORK SHOWN ON THE CONTRACT DRAWINGS AND NOT EXPRESSLY MENTIONED IN THE SPECIFICATIONS, AND ALL WORK SPECIFIED AND NOT SHOWN ON THE DRAWINGS BUT OBVIOUSLY NECESSARY TO THE PROPER EXECUTION OF SAME, SHALL BE PERFORMED BY THE CONTRACTOR, AS IT IS NOT THE INTENT TO DELINEATE OR DESCRIBE EVERY DETAIL AND FEATURE OF WORK. NO ADDITIONS TO THE CONTRACT SUM WILL BE APPROVED FOR ANY MATERIALS, EQUIPMENT AND/OR LABOR TO PERFORM WORK HEREUNDER UNLESS IT CAN BE CLEARLY SHOWN SUCH WORK IS BEYOND THE SCOPE AND INTENT OF THE DRAWINGS AND SPECIFICATIONS AND ABSOLUTELY ESSENTIAL TO THE PROPER PROSECUTION OF THE WORK. SHOULD THE DRAWINGS AND SPECIFICATIONS DISAGREE WITHIN THEMSELVES OR BETWEEN EACH OTHER, THE BETTER QUALITY, GREATER QUANTITY OR MORE COSTLY WORK OR MATERIALS SHALL BE ESTIMATED UPON AND, UNLESS OTHERWISE DIRECTED BY THE PROFESSIONAL IN WRITING, SHALL BE INCORPORATED IN THE WORK.

4. ARRANGEMENT OF EQUIPMENT AND ROUTING OF DUCT, ETC. INDICATED ON THE DRAWINGS MAY REQUIRE MODIFICATION DUE TO UNFORESEEN CONDITIONS CAUSING ON SITE REVISIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL VERIFY, PRIOR TO PROCEEDING, THAT CONDITIONS ON THE PROJECT HAVE NOT CAUSED SUCH MODIFICATIONS OF THE WORK PRIOR TO INSTALLATION OF ANY OF THE WORK. IF CONDITIONS ARISE CAUSING SUCH MODIFICATION TO THE WORK THE CONTRACTOR SHALL MAKE SUCH MODIFICATIONS WITHOUT CHANGE TO THE CONTRACT. IF AFTER VERIFICATION AND INSTALLATION OF THE WORK SUCH CONDITIONS ARISE REQUIRING MODIFICATIONS THE CONTRACTOR SHALL CONTACT THE ARCHITECT FOR DIRECTION. ANY MODIFICATIONS REQUIRED TO WORK PREVIOUSLY INSTALLED BECAUSE OF THE CONTRACTOR'S FAILURE TO VERIFY THE SITE CONDITIONS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE DUE FROM THE OWNER FOR THIS FAILURE.

5. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MECHANICAL WORK WITH OTHER TRADES SO AS TO PROVIDE THE SYSTEM AS DESCRIBED. THE MECHANICAL CONTRACTOR MUST OBTAIN APPROVED CONSTRUCTION DRAWINGS FROM THE GENERAL CONTRACTOR BEFORE BEGINNING ANY WORK. BEFORE COMMENCING WORK, THE MECHANICAL CONTRACTOR SHALL CAREFULLY EXAMINE THE ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND OTHER SPECIALTY DESIGN DRAWINGS. IF ANY DISCREPANCIES OCCUR BETWEEN THE DRAWINGS OR BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, HE SHALL REPORT SUCH DISCREPANCIES TO THE PROFESSIONAL AND THE OWNER IN WRITING AND OBTAIN WRITTEN INSTRUCTIONS AS TO THE MANNER IN WHICH TO PROCEED. NO DEPARTURES FROM THE CONTRACT DRAWING SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE PROFESSIONAL AND THE OWNER. FAILURE TO PERFORM THIS PROCEDURE MAY RESULT IN THE MECHANICAL CONTRACTOR CORRECTING THE WORK AT THE MECHANICAL CONTRACTOR'S OWN COSTS. THE MECHANICAL CONTRACTOR SHALL ASCERTAIN WHERE ALL EQUIPMENT ROOMS, SHAFTS, AND EQUIPMENT SPACES HAVE BEEN PLANNED FOR HIS USE BY THE PROFESSIONAL. BEFORE PROCEEDING WITH ANY WORK, THE MECHANICAL CONTRACTOR SHALL CAREFULLY CHECK AND VERIFY ALL DIMENSIONS, SIZES, ETC., AND ASSUME FULL RESPONSIBILITY FOR THE FITTING-IN OF HIS EQUIPMENT AND MATERIALS TO THE OTHER PARTS OF THE EQUIPMENT AND TO THE STRUCTURE. COORDINATE ALL WORK WITH ALL TRADES THAT MAKE USE OF THE SAME SPACES FOR BEST UTILIZATION OF AVAILABLE ROOM. ANY CHANGES TO BUILDING STRUCTURE REQUIRED TO ACCOMMODATE THE WORK OF THIS DIVISION SHALL BE INITIATED, COORDINATED, PROVIDED, AND PAID FOR BY THE MECHANICAL CONTRACTOR. ANY SUCH MODIFICATIONS SHALL BE REVIEWED AND ACCEPTED IN WRITING BEFOREHAND BY THE PROFESSIONAL.

6. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING:
   a. SAFETY AND GOOD CONDITION OF ALL MATERIALS AND EQUIPMENT UNTIL FINAL ACCEPTANCE BY THE OWNER.
   b. PROVIDING ADEQUATE AND PROPER STORAGE FACILITIES DURING THE PROGRESS OF THE WORK.
   c. REPLACING ALL DAMAGED AND DEFECTIVE WORK BEFORE APPLYING FOR FINAL ACCEPTANCE.
   d. ALL LOSS, DAMAGE, OR INJURY TO PERSONS OR PROPERTY RESULTING FROM ANY NEGLECT OF THESE RESPONSIBILITIES.

   THE MECHANICAL CONTRACTOR SHALL COMPLY WITH APPLICABLE OSHA, FEDERAL, STATE AND CITY SAFETY REGULATIONS. THE MECHANICAL CONTRACTOR SHALL MAKE ALL SUBMITTALS REQUIRED TO GOVERNING AGENCIES AND AUTHORITIES AND OBTAIN NECESSARY APPROVALS. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LEAKS IN THE MECHANICAL WORK DURING THE CONSTRUCTION AND GUARANTEE PERIOD AND SHALL REPAIR, AT NO COST TO THE OWNER, ALL SUCH LEAKS THAT OCCUR IMMEDIATELY UPON NOTIFICATION BY THE OWNER AND/OR PROFESSIONAL. LEAKS AND ALL DAMAGE TO OTHER WORK THERE FROM WHICH MAY OCCUR DURING CONSTRUCTION AND GUARANTEE PERIOD SHALL BE REPAIRED AT ONCE, AT NO COST TO THE OWNER.

7. THE MECHANICAL CONTRACTOR SHALL INCLUDE IN MECHANICAL PROPOSAL A ONE YEAR GUARANTEE-WARRANTY ON ALL INSTALLED EQUIPMENTS AND MATERIALS. THIS GUARANTEE-WARRANTY IS TO INCLUDE ALL LABOR, MATERIAL, PARTS, ETC. NECESSARY TO MAINTAIN THE SYSTEM IN SATISFACTORY OPERATION FOR A PERIOD OF ONE YEAR STARTING FROM THE DATE OF ACCEPTANCE OF THE SYSTEM BY THE OWNER.

CITY OF PHILADELPHIA STAMPS

C. MATERIALS AND PRODUCT:

1. ALL MATERIAL AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE NEW, UNLESS SPECIFICALLY NOTED OTHERWISE. GENERALLY, MATERIALS AND EQUIPMENT SPECIFIED BY THE NAME OF THE MANUFACTURER, BRAND, TRADE NAME, CATALOG REFERENCE, OR FIGURE NUMBER NAMED IN THE SPECIFICATIONS AND/OR LISTED IN EQUIPMENT SCHEDULES ON DRAWINGS ARE THE ITEMS THAT HAVE BEEN USED AS THE BASIS FOR DESIGN. EQUIVALENT ITEMS OF OTHER MANUFACTURERS MAY BE SUBMITTED AND ACCEPTED, BUT THESE ITEMS MUST MATCH THE "BASIS OF DESIGN" ITEM WITH RESPECT TO GRADE, QUALITY, STANDARD, CAPACITY, PHYSICAL DIMENSIONS, DESIGN AND WHERE APPLICABLE PIPING ARRANGEMENT. IF THE USE OF OTHER MANUFACTURER'S MATERIALS HAS AN AFFECT ON ANY PART OF THE BUILDING CONSTRUCTION AND INSTALLATION INCLUDING WORK OF OTHER CONSTRUCTION CONTRACTS AND OTHER CONTRACTORS IT SHALL BE THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO INCLUDE, AT NO EXTRA COST TO THE OWNER, ALL COSTS FOR CHANGES TO THE DESIGNED GENERAL CONSTRUCTION, STRUCTURAL, HEATING, VENTILATING AND AIR CONDITIONING, PLUMBING, AND ELECTRICAL SYSTEM THAT ARE REQUIRED BY THE USE OF SUCH ITEMS, INCLUDING COST OF THE PROFESSIONAL'S REDESIGN AND EXTRAORDINARY APPROVAL TIME.

2. ALL ACCESS PANELS REQUIRED FOR SERVICING, ADJUSTING AND CLEANING DEVICES (E.G., VALVES, CONTROLS, ETC.) SHALL BE PROVIDED AND SET IN PLACE BY THE MECHANICAL CONTRACTOR, AND MUST BE INDICATED ON ALL SHOP DRAWINGS. IT IS EXPRESSLY UNDERSTOOD THAT ALL REQUIRED ACCESS PANELS ARE NOT INDICATED ON THE DRAWINGS DUE TO VARYING OPTIONS. HOWEVER, THE MECHANICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL ACCESS PANELS REQUIRED BY HIS WORK WHETHER INDICATED OR NOT. NO ADDITIONAL COMPENSATION WILL BE PAID BY THE OWNER FOR CONTRACTOR'S FAILURE TO CONSIDER THE ABOVE.

3. ALL PIPES PASSING THROUGH WALLS, FLOORS, PARTITIONS, OR ROOFS SHALL BE FITTED WITH SLEEVES. EACH SLEEVE SHALL EXTEND THROUGH ITS RESPECTIVE FLOOR, WALL, OR PARTITION, AND SHALL BE CUT FLUSH WITH EACH SURFACE UNLESS OTHERWISE SPECIFIED. EXCEPT WHERE OTHERWISE SPECIFIED OR SHOWN, SLEEVES SHALL BE TWO PIPE SIZES LARGER THAN THE PIPE WHEN UNCOVERED AND OF SUFFICIENT SIZE TO ALLOW FOR THE COVERING WITHOUT BINDING WHEN COVERED. SLEEVES IN BEARING AND MASONRY WALLS, FLOORS AND PARTITIONS SHALL BE OF STANDARD WEIGHT STEEL PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN BEARING MASONRY WALLS, FLOOR AND PARTITIONS AND FOR CONCEALED VERTICAL PIPING, SLEEVE SHALL BE NO. 22 USG GALVANIZED STEEL. FLOOR SLEEVES SHALL EXTEND ONE INCH (1") ABOVE THE FINISHED FLOOR IN PIPE SPACES, WATERPROOFED FLOORS, TOILET AND SHOWER ROOMS AND MECHANICAL ROOMS. WHERE PIPES PASS THROUGH WATERPROOFED FLOOR OR WALLS, DESIGN OF SLEEVES SHALL BE SUCH THAT WATERPROOFING CAN BE FLASHED INTO AND AROUND THE SLEEVES. WHERE PIPING PASSES THROUGH ROOFS, SLEEVES AND FRAMED OPENINGS SHALL BE FLASHED AND MADE WATERTIGHT BY THE CONTRACTOR, UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS. SLEEVES THROUGH EXTERIOR WALLS BELOW GRADE SHALL HAVE THE SPACE BETWEEN PIPES AND SLEEVES SEALED WITH MECHANICAL SLEEVE SEALS, WATERTIGHT. SLEEVE OPENINGS IN FIRE RATED PENETRATIONS SHALL BE SEALED WITH FIREPROOF SEALANT. SLEEVE IN CRITICAL SOUND AREAS SUCH AS LOUNGES AND QUITE ROOMS, THEATERS, CONFERENCE ROOMS, ETC., SHALL BE PACKED WITH ACOUSTICAL FIBERGLASS STRIPS. MECHANICAL SLEEVE SEALS SHALL BE MODULAR MECHANICAL TYPE, CONSISTING OF INTERLOCKING SYNTHETIC RUBBER LINKS SHAPED TO CONTINUOUSLY FILL ANNULAR SPACE BETWEEN PIPE AND SLEEVE, CONNECTED WITH BOLTS AND PRESSURE PLATES WHICH CAUSE RUBBER SEALING ELEMENTS TO EXPAND WHEN TIGHTENED, PROVIDED WATERTIGHT SEAL.

4. AT THE END OF EACH PIPE SLEEVE WHERE PIPES PASS INTO A FINISHED SPACE, THROUGH A SUSPENDED CEILING OR VISIBLE TO OCCUPANTS IN FINISHED OR UNFINISHED SPACES, THE CONTRACTOR SHALL PROVIDE CAST IRON PLATES OR STAMPED STEEL ESCUTCHEONS. WALL, FLOOR AND CEILING PLATES SHALL BE ONE PIECE, HELD TO THE PIPE BY ROUNDHEAD SET SCREWS OR FASTENED TO THE BUILDING CONSTRUCTION. SPRING CLIPS ON WALL AND CEILING PLATES WILL NOT BE ACCEPTABLE. WHERE NECESSARY TO COVER HEADS OF FITTINGS, SPECIAL DEEP ESCUTCHEONS SHALL BE PROVIDED. AT PIPE SLEEVES ABOVE A FINISHED FLOOR, A FLOOR PLATE, HAVING A DEEP RECESS, SHALL BE PROVIDED, SIZED TO ACCOMMODATE INSULATION. WHERE PIPES ARE INSULATED, PLATE SHALL BE LARGE ENOUGH FOR INSULATION TO PASS THROUGH THE PLATE. OUTSIDE DIAMETER SHALL COMPLETELY COVER OPENING IN FLOORS, WALLS, OR CEILING. IN ALL FINISHED AREAS INSTALL CHROME PLATED ESCUTCHEONS.

D. OTHER RELATED WORK:

1. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ROUGH CUTTING, TRENCHING, AND BACKFILLING REQUIRED TO FACILITATE THE INSTALLATION OF HIS WORK. ALL CUTTING OF OPENINGS IN ROOFS, WALLS, FLOORS, AND CEILINGS SHALL BE CAREFULLY DONE TO AVOID THE NECESSITY FOR EXCESSIVE PATCHING. OPENINGS CUT IN CONCRETE WALLS AND FLOORS SHALL BE NEATLY DONE USING CORE BORING MACHINES. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PATCHING UTILIZING MECHANICS SKILLED IN THE REQUIRED RESPECTIVE TRADES. ALL PATCHING SHALL MATCH ADJACENT FINISHES. ALL PATCHING WORK WILL BE REVIEWED BY THE PROFESSIONAL. ANY UNACCEPTABLE WORK WILL BE REDONE AT THE COST OF THE MECHANICAL CONTRACTOR. REFER TO APPLICABLE GENERAL CONSTRUCTION DIVISIONS OF THESE SPECIFICATIONS FOR PROCEDURES FOR REPAIRING AND/OR PATCHING VARIOUS TYPES OF MATERIALS AND FINISHES.

2. PAINTING THE MATERIALS FURNISHED IS A PART OF THE WORK OF THIS DIVISION, UNLESS OTHERWISE SPECIFIED, AND SHALL BE PERFORMED BY THE MECHANICAL CONTRACTOR AS PART OF THE WORK. ALL MECHANICAL APPARATUS AND EQUIPMENT SHALL BE PROVIDED WITH A FACTORY FINISH.

3. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, LABOR AND SUPERVISION NECESSARY TO CONSTRUCT WORK, INDICATED ON THE DRAWINGS AND/OR HEREINAFTER SPECIFIED FOR PADS, SUPPORTS, AND RELATED APPURTENANCES. ALL CONCRETE SHALL BE "READY MIXED" CONFORMING TO ASTM DESIGNATION C94. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL STRUCTURAL STEEL SUPPORTS REQUIRED FOR EQUIPMENT FURNISHED UNDER THESE SPECIFICATIONS. ALL CONCRETE FOUNDATIONS SHALL BE SECURELY ANCHORED TO THE FLOOR SLAB WHERE THE REQUIREMENTS AND WEIGHT OF EQUIPMENT IS LIGHT AND THE FLOOR SLAB IS OF AMPLE DESIGN TO SUPPORT THE EQUIPMENT. ALL FOUNDATIONS SHALL BE BUILT TO TEMPLATES AND REINFORCED AS REQUIRED BY THE LOAD TO BE IMPOSED UPON TIME. THE MECHANICAL CONTRACTOR SHALL FURNISH SHOP DRAWINGS FOR APPROVAL SHOWING SIZE AND LOCATION, IN DETAIL, OF ALL FOUNDATIONS AND SUPPORTS FOR EQUIPMENT BEFORE ANY CONSTRUCTION IS BEGUN, AND SHALL ASSUME ALL RESPONSIBILITY FOR THE SIZE AND LOCATION OF ALL FOUNDATIONS.

4. ANY MATERIAL, EQUIPMENT AND APPURTENANCE WHOSE OPERATION, CAPACITY OR PERFORMANCE DOES NOT COMPLY WITH THE INTENT AND REQUIREMENTS OF THE CONTRACT DOCUMENTS, OR WHICH IS DAMAGED WILL BE DEEMED DEFECTIVE AND SHALL BE REMOVED AND REPLACED WITH PROPER AND ACCEPTABLE MATERIAL, EQUIPMENT AND APPURTENANCE OR PUT INTO PROPER AND ACCEPTABLE WORKING ORDER BY REPAIR OR ADJUSTMENT, WITHOUT ANY COST TO THE OWNER. ALL MOVING PARTS OF EQUIPMENT AND APPURTENANCES SHALL BE PROPERLY LUBRICATED IN ACCORDANCE TO THE MANUFACTURES INSTRUCTIONS BY THE MECHANICAL CONTRACTOR. ALL EQUIPMENT AND APPURTENANCES SHALL BE STARTED, OPERATED AND TESTED BY THE MECHANICAL CONTRACTOR IN ACCORDANCE WITH THESE SPECIFICATIONS, AND SHALL OPERATE WITHOUT OBJECTIONABLE NOISE OR VIBRATION DETERMINED BY THE PROFESSIONAL. ANY OBJECTIONABLE NOISE OR VIBRATION SHALL BE CURED WITHOUT ANY ADDITIONAL COSTS TO THE OWNER AND TO THE SATISFACTION OF THE PROFESSIONAL.

5. THE ENTIRE INSTALLATION SHALL BE LEFT IN A NEAT, CLEAN, AND USABLE CONDITION ACCEPTABLE TO THE PROFESSIONAL. UPON FAILURE TO COMPLY WITH THE ABOVE, THE OWNER MAY HAVE ALL CLEANING COMPLETED AT THE MECHANICAL CONTRACTOR'S EXPENSE FOR ALL LABOR AND MATERIAL.

D. ELECTRICAL WORK BY MC:

1. THE MECHANICAL CONTRACTOR SHALL FURNISH TO THE ELECTRICAL CONTRACTOR FOR INSTALLATION ALL VARIABLE FREQUENCY DRIVES WITH NECESSARY AUXILIARY CONTACTS, LINE VOLTAGE CONTROLS AND STOP-START SWITCHES, UNLESS INTEGRALLY FACTORY MOUNTED AND PRE-WIRED ON THE EQUIPMENT, OR OTHERWISE NOTED. FINAL WIRING OF THESE DEVICES SHALL BE BY THE ELECTRICAL CONTRACTOR.

2. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL LOW VOLTAGE (UNDER 120 VOLTS) CONTROL DEVICES SUCH AS TRANSFORMERS, RELAYS, PRESSURE SWITCHES, FLOAT SWITCHES, THERMOSTAT, ETC., AND THEIR ASSOCIATES WIRING AND CONDUIT FROM THESE CONTROL DEVICES, REQUIRED FOR THE OPERATION OF THE STARTERS AND/OR EQUIPMENT THAT THE MECHANICAL CONTRACTOR FURNISHES. WIRING SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE ELECTRICAL DIVISION OF THESE SPECIFICATIONS.

3. THE MECHANICAL CONTRACTOR SHALL FURNISH AND SET MOTORS, HEATING ELEMENTS, ETC. FOR EQUIPMENT UNDER THE MECHANICAL CONTRACT. MOTOR FRAME AND BEARING BRACKETS SHALL BE CAST IRON. MOTORS SHALL BE MOUNTED ON THE SAME BED PLATE AS EQUIPMENT DRIVEN, AND BE COMPLETE WITH PULLEYS, BELTS, SLIDE RAILS, OR FLEXIBLE COUPLINGS REQUIRED.

4. AFTER THE MECHANICAL CONTRACTOR CHECKS THE MOTORS SUPPLIED FOR ALIGNMENT, OIL, ETC., AND AFTER FINAL CONNECTIONS BY THE ELECTRICAL CONTRACTOR, THE ELECTRICAL CONTRACTOR SHALL TEST MOTORS FOR PROPER ROTATION. THE ELECTRICAL CONTRACTOR SHALL ALSO MAKE NECESSARY ADJUSTMENTS OF STARTER AND CONTROL EQUIPMENT FOR PROPER STARTING AND OVERLOAD PROTECTION. THE MECHANICAL CONTRACTOR SHALL COORDINATE THIS WORK WITH THE ELECTRICAL CONTRACTOR.

5. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO PAY ANY AND ALL COSTS ASSOCIATES WITH CHANGE AND/OR REPLACEMENT OF ANY ELECTRICAL DEVICE, FEEDERS OR CONDUIT, IF THE MECHANICAL CONTRACTOR DOES NOT PROVIDE MATERIALS AS REQUIRED BY THIS DIVISION OF THE SPECIFICATIONS OR DIVISION 16 OF THESE SPECIFICATIONS. ALL ELECTRICAL WORK, EQUIPMENT AND MATERIALS FURNISHED SHALL HAVE A U.L. LABEL AND BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC).

6. ALL CONTROL WIRING IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR REGARDLESS OF VOLTAGE. ALL LINE VOLTAGE CONTROLS (100 VOLTS AND ABOVE) SHALL BE INSTALLED BY THE ELECTRICAL CONTRACTOR WHO SHALL BE COMPENSATED BY THE MECHANICAL CONTRACTOR. LOW VOLTAGE CONTROLS (UNDER 100 VOLTS) MAY BE INSTALLED BY THE MECHANICAL CONTRACTOR.

7. ANY AND ALL PENALTIES AND COSTS FOR DELAY ATTRIBUTABLE TO NON-COMPLIANCE OF THIS SECTION OF THESE SPECIFICATIONS WILL BE BORNE BY THE MECHANICAL CONTRACTOR FOR THE EQUIPMENT PROVIDED UNDER THIS CONTRACT.

E. SHOP DRAWINGS

1. THE MECHANICAL CONTRACTOR SHALL PREPARE THREE (3) SETS OF AS-BUILT DRAWINGS OF THE PROJECT. THE THREE (3) SETS SHALL BE GIVEN TO THE OWNER AT THE COMPLETION OF THE PROJECT.

2. THE MECHANICAL CONTRACTOR SHALL SUBMIT WORKING DRAWINGS AND EQUIPMENT SPECIFICATIONS OF THE ENTIRE SYSTEM (INCLUDING DUCTWORK AND PIPING ROUTING, EQUIPMENT LAYOUT, AND COORDINATION PLAN WITH OTHER TRADE) BEFORE PROCEEDING WITH ANY WORK.

3. SUBMITTAL SHEETS ARE REQUIRED FOR ALL DIFFUSERS AND OTHER DUCT TERMINAL DEVICES FOR APPROVAL PRIOR TO INSTALLATION.

F. DUCT WORK:

1. ALL DUCTWORK SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND THE SMACNA "HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE" MANUAL, USING PRIME SHEETS OF GALVANIZED STEEL. PROVIDE SEAL CLASS "C" ON ALL TRANSVERSE JOINTS UNLESS SUPERSEDED BY MORE STRINGENT LOCAL CODES.

2. CHANGE IN DIRECTION ELBOWS SHALL HAVE AN INSIDE RADIUS OF NOT LESS THAN THE WIDTH OF THE DUCT.

3. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL FIRE DAMPERS AS REQUIRED BY CODES HAVING JURISDICTION. ALL FIRE DAMPERS SHALL COMPLY WITH THE REQUIREMENTS OF THE BOARD OF FIRE UNDERWRITERS, THE LOCAL FIRE MARSHALL, AND SHALL BE LABELED AND APPROVED BY UNDERWRITERS LABORATORIES. ALL FIRE DAMPERS SHALL BE TYPE "B", WITH DAMPERS OUT OF THE AIR STREAM.

4. ALL BRANCHES AND TAKE-OFFS SHALL BE EQUIPPED WITH MANUAL VOLUME CONTROLLING DEVICES HAVING AN INDICATING AND LOCKING DEVICE.

5. SUPPORT HORIZONTAL DUCTS WITH HANGERS SECURED TO BAR JOISTS OR STRUCTURAL STEEL ABOVE AT INTERVALS NOT TO EXCEED 8'-0".

6. ALL DUCTWORK IS TO BE INSTALLED IN ACCORDANCE WITH LOCAL BUILDING DEPARTMENT REQUIREMENTS AND LOCAL CODES. PROVIDE INSULATION PER IECC 2018.

7. DRYER DUCT MUST HAVE SMOOTH INTERIOR SURFACE AND BE IN ACCORDANCE WITH 2018 IMC

G. MECHANICAL INSULATION :

1. PROVIDE FOIL FACED R-6 INSULATION TO SA AND RA DUCT CONCEALED. PROVIDE FOIL FACED R-8 INSULATION TO OA DUCT AND SA/RA DUCT IN UNCONDITIONED SPACE.

2. PROVIDE 1/2" FOR REFRIGERATION PIPE. PROVIDE PVC JACKET FOR LINE SET OUTSIDE BUILDING.

3. PROVIDE 1/2" INSULATION TO CONDENSATE PIPE

H. BALANCING AND ADJUSTING:

THE MECHANICAL CONTRACTOR SHALL PROVIDE COMPLETE AIR AND WATER BALANCING OF ALL SYSTEMS. TESTING AND BALANCING SHALL BE PERFORMED BY AN INDEPENDENT, NEBB (NATIONAL ENVIRONMENTAL BALANCING BUREAU) OR AABC (ASSOCIATED AIR BALANCE COUNCIL) CERTIFIED BALANCING CONTRACTOR. A COMPLETE CERTIFIED REPORT INDICATING AIR FLOW RATES, PRESSURE DROPS, STATIC PRESSURES, INLET & OUTLET TEMPERATURES, CONDENSING TEMPERATURES, BRAKE HORSEPOWER, AMP DRAW, ETC., SHALL BE DELIVERED TO THE ARCHITECT AT THE COMPLETION OF THE WORK.

I. REFRIGERATION PIPE:

1. HOT-GAS AND LIQUID LINES AND SUCTION LINES FOR HEAT-PUMP APPLICATION]: COPPER, TYPE K OR L, DRAWN-TEMPER TUBING AND WROUGHT-COPPER FITTINGS WITH SOLDERED JOINTS.

2. COPPER TUBE
   a. COPPER TUBE: ASTM B 88, TYPE K OR L ASTM B 88M, TYPE A OR B
   b. SOLDER FILLER METALS: ASTM B 32. USE 95-5 TIN ANTIMONY OR ALLOY HB SOLDER TO JOIN COPPER SOCKET FITTINGS ON COPPER PIPE.

3. LINE TEST PRESSURE FOR REFRIGERANT R-410A:
   a. SUCTION LINES FOR AIR-CONDITIONING APPLICATIONS: 300 PSIG (2068 KPA).
   b. SUCTION LINES FOR HEAT-PUMP APPLICATIONS: 535 PSIG (3689 KPA).
   c. HOT-GAS AND LIQUID LINES: 535 PSIG (3689 KPA).

4. QUALITY ASSURANCE
   a. WELDING: QUALIFY PROCEDURES AND PERSONNEL ACCORDING TO ASME BOILER AND PRESSURE VESSEL CODE: SECTION IX, "WELDING AND BRAZING QUALIFICATIONS."
   b. COMPLY WITH ASHRAE 15, "SAFETY CODE FOR REFRIGERATION SYSTEMS."
   c. COMPLY WITH ASME B31.5, "REFRIGERATION PIPING AND HEAT TRANSFER COMPONENTS."

5. PIPING INSTALLATION
   a. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS; INDICATED LOCATIONS AND ARRANGEMENTS WERE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON SHOP DRAWINGS.
   b. INSTALL REFRIGERANT PIPING ACCORDING TO ASHRAE 15.
   c. INSTALL PIPING IN CONCEALED LOCATIONS UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS.
   d. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.
   e. SELECT SYSTEM COMPONENTS WITH PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM OPERATING PRESSURE.
   f. INSTALL PIPING AS SHORT AND DIRECT AS POSSIBLE, WITH A MINIMUM NUMBER OF JOINTS, ELBOWS, AND FITTINGS.
   g. ARRANGE PIPING TO ALLOW INSPECTION AND SERVICE OF REFRIGERATION EQUIPMENT. INSTALL VALVES AND SPECIALTIES IN ACCESSIBLE LOCATIONS TO ALLOW FOR SERVICE AND INSPECTION.
   h. WHEN BRAZING OR SOLDERING, REMOVE SOLENOID-VALVE COILS AND SIGHT GLASSES; ALSO REMOVE VALVE STEMS, SEATS, AND PACKING, AND ACCESSIBLE INTERNAL PARTS OF REFRIGERANT SPECIALTIES. DO NOT APPLY HEAT NEAR EXPANSION-VALVE BULB.
   i. INSTALL PIPE SLEEVES AT PENETRATIONS IN EXTERIOR WALLS AND FLOOR ASSEMBLIES.
   j. SEAL PENETRATIONS THROUGH FIRE AND SMOKE BARRIERS ACCORDING TO DIVISION 07 SECTION "PENETRATION FIRESTOPPING."
   k. INSTALL PIPING WITH ADEQUATE CLEARANCE BETWEEN PIPE AND ADJACENT WALLS AND HANGERS OR BETWEEN PIPES FOR INSULATION INSTALLATION.
   l. INSTALL SLEEVES THROUGH FLOORS, WALLS, OR CEILINGS, SIZED TO PERMIT INSTALLATION OF FULL-THICKNESS INSULATION.
   m. PROVIDE 1.5" INSULATION (CLOSE-CELL). PROVIDE AL JACKING FOR PIPES ON ROOF.

GENERAL NOTES

1. DO NOT SCALE DRAWINGS.

2. DUCT SIZES SHOWN ON THE DRAWING ARE INTERNAL FREE AREA SIZES. DUCT SIZES MUST BE INCREASED TO ALLOW FOR THE LINING AS REQUIRED WITHIN SPECIFICATIONS. DUCTWORK INTERIOR BEHIND ALL GRILLES, REGISTERS AND DIFFUSERS SHALL BE PAINTED FLAT BLACK. FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED.

3. COORDINATE LOCATION OF ALL DEVICES WITH ARCHITECTS DETAILED ELEVATIONS, SECTIONS, REFLECTED CEILING PLAN, AND STRUCTURAL DRAWINGS. LOCATIONS INDICATED ON MECHANICAL DRAWINGS ARE STRICTLY DIAGRAMMATIC. FAILURE TO COMPLY WILL RESULT IN THE CONTRACTOR CORRECTING THE WORK AT THEIR OWN COSTS.

4. COORDINATE ALL EQUIPMENT CLEARANCES WITH OTHER TRADES. FAILURE TO COORDINATE THE WORK WITH ALL OTHER TRADES RESULTING IN CONFLICTS WILL RESULT IN THIS CONTRACTOR CORRECTING THE WORK AT THEIR OWN COSTS.

5. CONTRACTOR TO COORDINATE ACTUAL SIZE & LOCATION OF DUCTWORK WITH RESPECT TO MINIMUM CLEARANCES AT STRUCTURAL MEMBERS AND SHAPES, ALL OTHER EXISTING CONDITIONS AND EQUIPMENT BEING INSTALLED IN CEILINGS AND SHAFTS. FAILURE TO COORDINATE THIS WORK THAT RESULTS IN CONFLICTS WILL REQUIRE THIS CONTRACTOR TO CORRECT THE WORK AT THEIR OWN COSTS.

6. ALL HVAC CEILING OR WALL MOUNTED EQUIPMENT SHALL BE SUPPORTED WITH STRUCTURAL STEEL AND THREADED RODS. ALL UNITS SHALL BE ISOLATED FROM BUILDING CONSTRUCTION FOR VIBRATION CONTROL.

7. SEAL ALL DUCT PENETRATIONS THROUGH WALLS . SEAL ALL TRANSVERSE DUCT SEAMS WITH APPROVED MASTIC. DUCT TAPE WILL NOT BE ALLOWED.

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Yongzhong Jia

Project:

Habitat for Humanity Philadelphia

351 W. Queen Lane

Issue Date: 11/17/2021

Revision Schedule

No.	Date	Drawn By	Description

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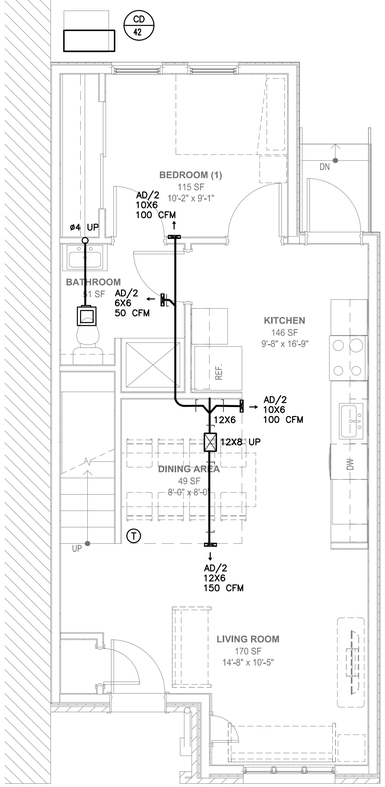
CONSTRUCTION DOCUMENTS

Sheet Title and No.

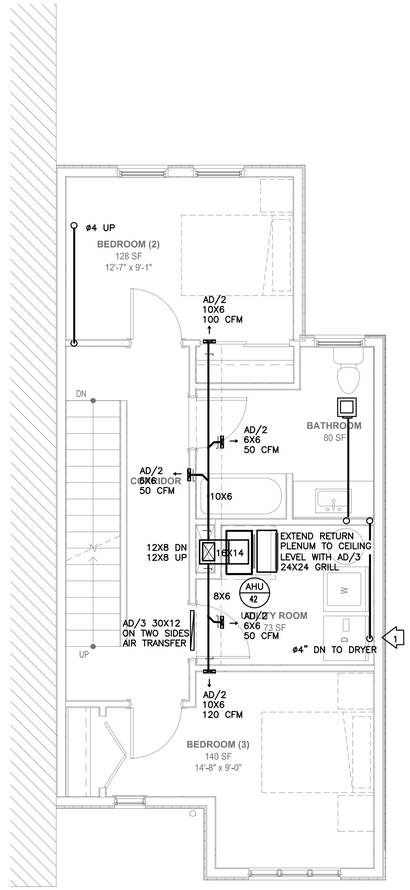
HVAC GENERAL NOTES & SPEC

H0.1

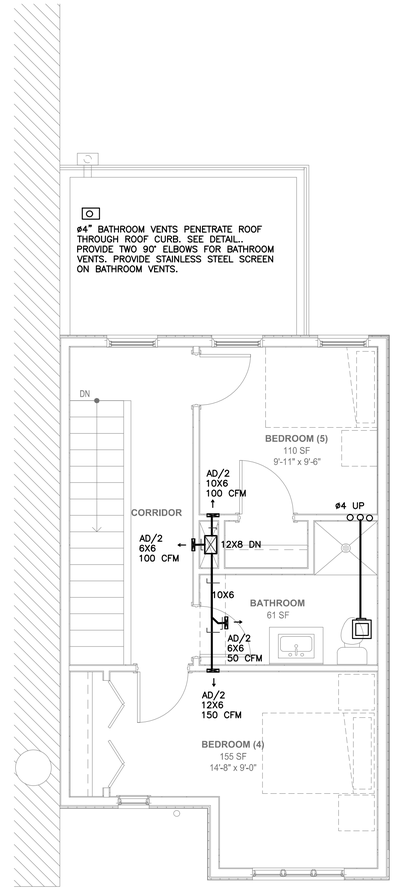
Project No.: 21156



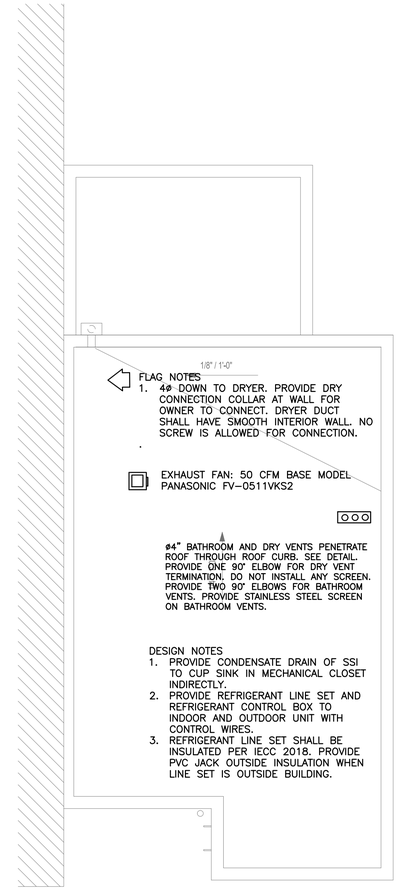
1 HVAC 1ST FLOOR PLAN
H1.0
SCALE: 1/4" = 1'-0"
0 2 4 8



2 HVAC 2ND FLOOR PLAN
H1.0
SCALE: 1/4" = 1'-0"
0 2 4 8



3 HVAC 3RD FLOOR PLAN
H1.0
SCALE: 1/4" = 1'-0"
0 2 4 8



4 HVAC ROOF PLAN
H1.0
SCALE: 1/4" = 1'-0"
0 2 4 8

CITY OF PHILADELPHIA STAMPS

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HVAC PLANS

H1.0

Project No.: 21156

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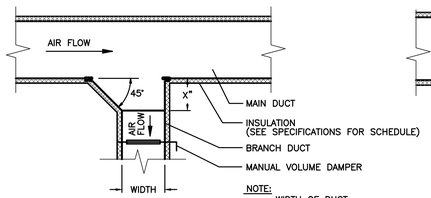
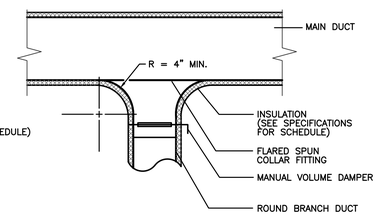


1 H2.0 **RECTANGULAR BRANCH TAKE-OFF DETAIL**
SCALE: N.T.S.



2 H2.0 **ROUND BRANCH TAKE-OFF DETAIL**
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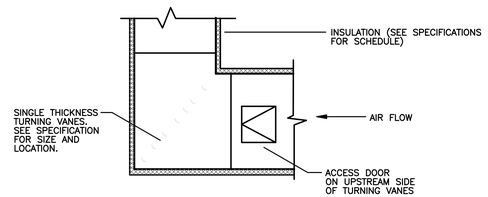

3 H3.0 **VANED ELBOW DETAIL**
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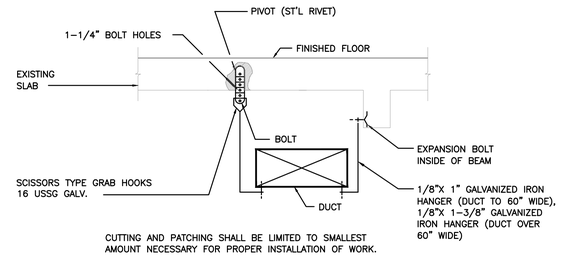

4 H2.0 **RECTANGULAR DUCT SUPPORT DETAIL**
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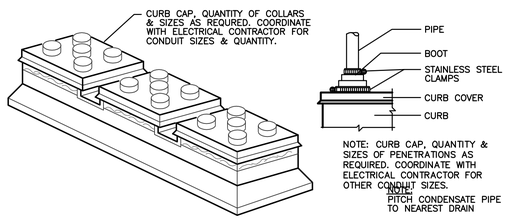

5 H2.0 **REFRIGERANT PIPING AND VENTS ROOF PENETRATION DETAIL**
SCALE: NONE

AIR DEVICE SCHEDULE

No.	Function	Design Condition NC	Damper	Description	Finish	Manufacturer and Model Number	Remarks
1	SUPPLY	Less Than 20	Y	SUPPLY DOWN BLOW WITH MIXING VANE	WHITE	TITUS TDV	
2	SUPPLY	Less Than 20	Y	DOUBLE DEFLECTION SIDE WALL DIFFUSER	WHITE	TITUS 300 FL	22.5 DEG DEFLECTION
3	RETURN	Less Than 20	Y	FOR RETURN AND EXHAUST	WHITE	TITUS 350 FS	

SPLIT HEAT PUMP SYSTEM (HP/AHU)

MARK	AIR FLOW	AIR FLOW SUPPLY CFM	AIR FLOW MIN OA CFM	FAN TOTAL SP "WG	FAN EX SP "WG	FAN FLA	FAN RPM	COOLING FACE V	COOLING OA F DB	COOLING OA F WB	COOLING EAT F WB	COOLING LAT F DB	COOLING LAT F WB	COOLING TOTAL MBH	COOLING SENSILBE MBH	COOLING EFFICIENCY SEER	HEATING OA F DB	HEATING EAT F DB	HEATING LEV F DB	HEATING TOTAL MBH			ELECTRICAL VOLTS	ELECTRICAL PHASE	OUTDOOR MOP	OUTDOOR MCA	INDOOR MOP	INDOOR MCA	FILTER	MANUFACTURER	REMARKS
HP/AHU-42	VAR	1150	0	-	0.8	5.4	1800	499	95	75	62.5	55	54.9	42	36	15	5.0	70.0	108.6	48.0			240	1	40	36	30	22	MERV 11	MITSUBISHI PVA-42AA7/PUZ-HA42NKA1	

NOTE

1. ADJUSTABLE SHEAVE, SERVICE FACTOR 120%.

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Natural Ventilation Calculation (IMC 2018)

JOB NAME

SPACE	AREA (SQFT)	REQUIRED WINDOW OPENING (SQFT)	ACTUAL WINDOW OPENING (SQFT)	MEET CODE	NOTE
BED ROOM	154	6.2	12	YES	NOTE 1
LIVING SPACE	306	12.2	15	YES	NOTE 1

NOTE

1. ALL LIVING ROOMS ARE CALCULATED IN MECHANICAL VENTILATION.

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CONSTRUCTION DOCUMENTS

Sheet Title and No.
HVAC DETAILS AND SCHEDULES

H2.0

Project No.: 21156

GENERAL NOTES

1. DRAWINGS ARE DIAGRAMMATIC, SMALL SCALE AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. CERTAIN COMPONENTS, APPURTENANCES AND RELATED SPECIALTIES ARE NOT SHOWN BUT MUST BE PROVIDED. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND DETAILS. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK REQUIRED AND TO TURN OVER COMPLETE AND OPERABLE SYSTEMS TO THE OWNER. ALL CONSTRUCTION WORK SHOWN ON THE CONTRACT DRAWINGS AND NOT EXPRESSLY MENTIONED IN THE SPECIFICATIONS, AND ALL WORK SPECIFIED AND NOT SHOWN ON THE DRAWINGS BUT OBVIOUSLY NECESSARY TO THE PROPER EXECUTION OF SAME, SHALL BE PERFORMED BY THE CONTRACTOR, AS IT IS NOT THE INTENT TO DELINEATE OR DESCRIBE EVERY DETAIL AND FEATURE OF WORK. NO ADDITIONS TO THE CONTRACT SUM WILL BE APPROVED FOR ANY MATERIALS, EQUIPMENT AND/OR LABOR TO PERFORM WORK HEREUNDER UNLESS IT CAN BE CLEARLY SHOWN SUCH WORK IS BEYOND THE SCOPE AND INTENT OF THE DRAWINGS AND SPECIFICATIONS AND ABSOLUTELY ESSENTIAL TO THE PROPER PROSECUTION OF THE WORK.

2. DO NOT SCALE DRAWINGS.

3. ARRANGEMENT OF EQUIPMENT AND ROUTING OF PIPES, ETC. INDICATED ON THE DRAWINGS MAY REQUIRE MODIFICATION DUE TO UNFORESEEN CONDITIONS CAUSING ON SITE REVISIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL VERIFY, PRIOR TO PROCEEDING, THAT CONDITIONS ON THE PROJECT HAVE NOT CAUSED SUCH MODIFICATIONS OF THE WORK PRIOR TO INSTALLATION OF ANY OF THE WORK. IF CONDITIONS ARISE CAUSING SUCH MODIFICATION TO THE WORK THE CONTRACTOR SHALL MAKE SUCH MODIFICATIONS WITHOUT CHANGE TO THE CONTRACT. IF AFTER VERIFICATION AND INSTALLATION OF THE WORK SUCH CONDITIONS ARISE REQUIRING MODIFICATIONS THE CONTRACTOR SHALL CONTACT THE ARCHITECT FOR DIRECTION. ANY MODIFICATIONS REQUIRED TO WORK PREVIOUSLY INSTALLED BECAUSE OF THE CONTRACTOR'S FAILURE TO VERIFY THE SITE CONDITIONS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE DUE FROM THE OWNER FOR THIS FAILURE.

4. THE CONTRACTOR IS REQUIRED TO VISIT THE SITE AND NOTE EXISTING CONDITIONS THAT MAY AFFECT THE WORK OR THE ABILITY OF THE CONTRACTOR TO PERFORM THE WORK AS THEY INTENDED. ANY ADDITIONAL COSTS RELATED TO THE EXISTING CONDITIONS MUST BE INCLUDED IN THE CONTRACT COST. NO ADDITIONAL COMPENSATION WILL BE DUE FROM THE OWNER FOR THE CONTRACTOR'S FAILURE TO VISIT THE SITE OR CONSIDER THE EFFECTS OF THE EXISTING CONDITIONS ON THE CONTRACTOR'S WORK.

5. ALL SLEEVES, OPENINGS, CUTTING AND PATCHING NECESSARY FOR THE INSTALLATION OF PLUMBING WORK IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR. CUTTING AND PATCHING WORK WILL BE COMPLETED BY THE GENERAL CONSTRUCTION SECTION. THE PLUMBING CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL INFORMATION TO THE GENERAL CONTRACTOR REQUIRED FOR THE WORK. REFER TO THE SPECIFICATIONS FOR ADDITIONAL DETAILS.

6. PIPING PASSING THROUGH WALLS, FLOORS OR ROOF SHALL BE PROVIDED WITH SLEEVES. SLEEVES IN WATER PROOFING OR DAMP PROOFING SHALL EXTEND TWO (2) INCH BEYOND THE SURFACE OF SUCH WALL, FLOOR OR ROOF AND MADE WATER TIGHT. PENETRATION SEALING MUST COMPLY WITH PHILADELPHIA PLUMBING CODE 2018 SECTION 315. SLEEVES PASSING THROUGH FIRE RATED CONSTRUCTION SHALL BE FIRE PROOFED WITH MATERIALS APPROVED FOR THE RATING OF THE STRUCTURE AND U.L. LISTED. AND MUST COMPLY WITH 2018 IBC SECTION 714 PIPING PASSING THROUGH FINISHED OR EXPOSED WALLS, FLOORS OR CEILING SHALL BE PROVIDED WITH CHROME PLATED escutcheon PLATES. FAILURE TO PROVIDE SLEEVES FOR ANY REASON BY THE CONTRACTOR SHALL BE CONSIDERED A VIOLATION OF THE REQUIREMENTS OF THE SPECIFICATIONS AND DRAWINGS. THE CONTRACTOR WILL BE REQUIRED TO REDO THE WORK WITH THE PROPER SLEEVES IN PLACE.

7. COORDINATE LOCATION OF ALL DEVICES WITH ARCHITECTS DETAILED ELEVATIONS, SECTIONS, REFLECTED CEILING PLAN, AND STRUCTURAL DRAWINGS. LOCATIONS INDICATED ON PLUMBING DRAWINGS ARE STRICTLY DIAGRAMMATIC. FAILURE TO COMPLY WILL RESULT IN THE CONTRACTOR CORRECTING THE WORK AT THEIR OWN COSTS.

8. ALL WORK SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT.

9. COORDINATE ALL EQUIPMENT CLEARANCES WITH OTHER TRADES. FAILURE TO COORDINATE THE WORK WITH ALL OTHER TRADES RESULTING IN CONFLICTS WILL RESULT IN THIS CONTRACTOR CORRECTING THE WORK AT THEIR OWN COSTS.

10. ALL PIPING IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN FURRED CHASES OR SUSPENDED CEILING UNLESS OTHERWISE SPECIFICALLY NOTED.

11. ACCESS PANELS ARE REQUIRED FOR ALL VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. AND SHALL BE FURNISHED BY THE PLUMBING CONTRACTOR AND INSTALLED BY THE GENERAL CONSTRUCTION CONTRACTOR. IT WILL BE THE PLUMBING CONTRACTOR'S RESPONSIBILITY TO INFORM THE GENERAL CONSTRUCTION SECTION WHERE EACH ACCESS PANEL IS REQUIRED AND ALSO COORDINATE ALL LOCATIONS WITH THE ARCHITECT.

SPECIFICATIONS

A. GENERAL:

1. THE ENTIRE INSTALLATION, INCLUDING ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP, SHALL CONFORM TO ALL APPLICABLE LAWS, CODES, AND REGULATIONS OF MUNICIPAL, COUNTY, STATE, AND FEDERAL AUTHORITIES AND IN COMPLIANCE WITH THE LATEST EDITIONS OF THE LIFE SAFETY CODE, LOCAL BUILDING CODE, PLUMBING AND HEALTH CODES, NATIONAL ELECTRICAL CODE, UNDERWRITERS LABORATORIES, NFPA, AND ALL AMENDMENTS, INCLUDING, BUT NOT LIMIT TO
   - 1.1. 2018 PHILADELPHIA PLUMBING CODE
   - 1.2. 2018 INTERNATIONAL BUILDING CODE
   - 1.3. 2018 PHILADELPHIA FIRE CODE
   - 1.4. 2018 INTERNATIONAL MECHANICAL CODE
   - 1.5. 2017 NATIONAL ELECTRIC CODE
   - 1.6. 2018 INTERNATIONAL ENERGY CONSERVATION CODE
   - 1.7. 2018 INTERNATIONAL FUEL GAS CODE

2. THE PLUMBING CONTRACTOR MUST OBTAIN APPROVED CONSTRUCTION DRAWINGS FROM THE GENERAL CONTRACTOR BEFORE BEGINNING ANY WORK.

3. THE PLUMBING CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND LICENSES PERTAINING TO THE WORK.

4. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING PLUMBING WORK WITH OTHER TRADES SO AS TO PROVIDE THE SYSTEM AS DESCRIBED.

5. THE PLUMBING CONTRACTOR SHALL INCLUDE IN PLUMBING PROPOSAL A ONE YEAR GUARANTEE-WARRANTY ON ALL INSTALLED EQUIPMENT AND MATERIALS. THIS GUARANTEE-WARRANTY IS TO INCLUDE ALL LABOR, MATERIALS, PARTS, ETC. NECESSARY TO MAINTAIN THE SYSTEM IN SATISFACTORY OPERATION FOR A PERIOD OF ONE YEAR STARTING FROM THE DATE OF ACCEPTANCE OF THE SYSTEM BY THE OWNER.

6. PLUMBING CONTRACTOR SHALL PROVIDE THE WORK INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN FOR ALL PLUMBING WORK. THE WORD "WORK" SHALL MEAN ALL LABOR, TRANSPORTATION, MATERIAL, EQUIPMENT, TOOLS, INSTALLATION, SUPERVISION AND ANY OTHER INCIDENTAL ITEMS OR SERVICES OBVIOUSLY NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE COMPLETE SYSTEMS. THE WORD "PROVIDE" SHALL MEAN FURNISH AND INSTALL, MAKE ALL FINAL CONNECTIONS AND LEAVE IN AN APPROVED OPERATING CONDITION.

7. THE PLUMBING CONTRACTOR SHALL NOTIFY LOCAL INSPECTOR FOR ALL REQUIRED INSPECTIONS THROUGHOUT THE CONSTRUCTION THAT ARE UNDER THE LOCAL INSPECTOR'S JURISDICTION.

8. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING WITH REGARD TO THE PLUMBING WORK: WORKMAN IDENTIFICATION, WORKER'S SAFETY CONTRACTOR'S LIABILITY INSURANCE, SAFETY BARRICADES, WARNING SIGNS AND TRASH REMOVAL.

9. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL RIGGING, HANDLING OF MATERIALS AND EQUIPMENT, AND NECESSARY PROTECTION FOR MATERIALS AND EQUIPMENT. TOOLS AND EQUIPMENT WILL ONLY BE STORED IN OWNER DESIGNATED AREAS ONLY.

10. THE PLUMBING CONTRACTOR WILL PROTECT THE WORK AND MATERIALS AGAINST DIRT, THEFT, INJURY OR DAMAGE UNTIL ACCEPTED BY THE OWNER. ALL WORK SHALL BE TURNED OVER TO THE OWNER CLEAN AND IN NEW CONDITION READY FOR SATISFACTORY SERVICE.

11. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL FOUNDATIONS, HANGERS AND DUNNAGE FOR ALL EQUIPMENT SUPPLIED AND/OR INSTALLED UNDER THIS WORK. ALL EQUIPMENT WITH MOVING PARTS SHALL BE PROVIDED WITH VIBRATION ISOLATION SUPPORTS OR HANGERS AND FLEXIBLE PIPE CONNECTORS.

12. ALL EQUIPMENT SHALL BE PROVIDED WITH FACTORY FINISHED PAINT BY THE MANUFACTURER.

13. THE PLUMBING CONTRACTOR SHALL CHECK AND VERIFY ALL SIZES, DIMENSIONS AND CONDITIONS BEFORE STARTING ANY WORK. ANY DEVIATIONS OR PROBLEMS SHALL BE TRANSMITTED TO THE ARCHITECT FOR REVIEW.

B. EXISTING CONDITIONS:

1. BIDDERS SHALL VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE SITE AND/OR PRESENT AREAS AFFECTED BY THIS WORK SO AS TO FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THIS WORK.

2. IF DISCREPANCIES ARE NOTED BETWEEN THE DOCUMENTS AND THE EXISTING CONDITIONS THE ARCHITECT SHALL BE NOTIFIED AND THE CONTRACTOR SHALL RECEIVE CLARIFICATION BEFORE SUBMITTING BID. THE SUBMISSION OF A PROPOSAL SHALL INDICATE THAT ALL CHARGES AND COSTS MADE NECESSARY BY EXISTING CONDITIONS ARE INCLUDED AND THAT THE COMPLETE SYSTEM AS DESCRIBED ABOVE WILL BE FURNISHED AT THE PROPOSED COST.

3. THE DRAWINGS ISSUED WITH THESE SPECIFICATIONS SHOW THE APPROXIMATE LOCATIONS OF EXISTING PLUMBING WORK TO BE RETAINED AND ALSO THE APPROXIMATE LOCATIONS OF EXISTING PLUMBING WORK TO BE EXTENDED OR REMOVED. THE EXISTING CONDITIONS INDICATED ARE APPROXIMATE ONLY AND IS INTENDED ONLY AS AN AID TO THE CONTRACTOR IN DETERMINING THE SCOPE OF THE WORK.

C. SUBMITTALS:

1. PLUMBING CONTRACTOR SHALL SUBMIT SUBMITTAL SHEETS AND EQUIPMENT SPECIFICATIONS (SHOP DRAWINGS) OF ALL EQUIPMENT, PIPING, VALVES, ACCESSORIES, ETC. PROCEEDING WITH ANY WORK. INCLUDING THE FOLLOWING:
   - 1.1. PLUMBING FIXTURES
   - 1.2. SEWAGE EJECTOR PACKAGE AND DETAILS
   - 1.3. INSPECTION AND TEST REPORTS. CERTIFICATES OF INSPECTIONS AND TESTS FROM AN INDEPENDENT TESTING AGENCY.
   - 1.4. MAINTENANCE MANUALS OF PROCESS PIPING SYSTEM AND COMPONENTS.
   - 1.5. THREE (3) SETS OF AS-BUILT DRAWINGS OF THE PROJECT. ANY DEVIATIONS, CHANGES OR ADDITIONS TO THE CONTRACT DRAWINGS MUST BE INDICATED ON THE AS-BUILT DOCUMENTS..

D. DELIVERY, STORAGE AND HANDLING.

1. DELIVER AND STORE EQUIPMENT ON FACTORY INSTALLED SHIPPING SKIDS, SMALL SPECIALTIES IN FACTORY FABRICATED CONTAINERS AND PIPING WITH SEALING PLUGS IN ENDS OR WITH OTHER PROTECTION.

E. GENERAL PIPING, VALVES AND SUPPORTS FOR PLUMBING SYSTEMS:

1. SANITARY PIPING, SEE SCHEDULE

   CONTRACTOR SHALL RUN ALL NEW UNDERGROUND SANITARY LINES AT A MINIMUM PITCH OF 1/8" PER FOOT UNLESS PITCH IS INDICATED. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXACT INVERT ELEVATIONS AND PIPE LOCATIONS AS WELL AS MAKING ALL CONNECTIONS TO EXISTING IN A MANNER ACCEPTABLE TO THE LOCAL PLUMBING INSPECTOR.

2. WATER PIPING, SEE SCHEDULE

   CONTRACTOR SHALL ONLY RUN DOMESTIC WATER PIPING UNDERGROUND WHEN ABSOLUTELY NECESSARY, USING TYPE "K" SOFT COPPER TUBING WITH MINIMUM JOINTS UNDERGROUND. JOINTS SHALL BE MADE BY SWAGING ONE TUBE END AND BRAZING THE JOINT USING A LEAD AND CADMIUM FREE AWS BAG GROUP SILVER SOLDER OR AWS BCUP COPPER PHOSPHORUS GROUP BRAZING ALLOY. CONTRACTOR SHALL SUBMIT MSDS FOR SILVER SOLDER OR BRAZING ALLOY.

   UTILITY SERVICE PIPING LOCATED WITHIN BUILDINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE STRUCTURAL SAFETY AND FIRE PROTECTION PROVISIONS OF THE INTERNATIONAL BUILDING CODE.

3. CONDENSATION PIPING:
   - a. ALL CONDENSATE DRAIN PIPING SHALL BE COPPER FOR BASEMENT AND FIRST FLOOR AND PVC SCH. 40 TUBING FOR 2ND FLOOR AND ABOVE. ROUTE PIPING TO NEAREST FLOOR SINK WITH ADEQUATE SUPPORT TO PREVENT SAGGING. AS A MINIMUM, CONDENSATE PIPING SHALL BE SIZED TO MEET THE EQUIPMENT CONNECTION BUT NOT SMALLER THAN 3/4".
   - b. COORDINATE WITH MECHANICAL DRAWING FOR DRAIN LOCATION AND INSTALLATION DETAILS.

4. INSULATE PIPING:
   - a. DOMESTIC COLD WATER MAINS, STORM WATER PIPING, SANITARY SEWER BELOW 2ND FLOOR AND INTERIOR CONDENSATE DRAINS SHALL BE INSULATED WITH 1/2" THICK OWENS CORNING 55L-II FIBERGLASS PIPE INSULATION WITH ALL SERVICE JACKET. DOMESTIC HOT WATER LINES SHALL BE INSULATED WITH 1" THICK OWENS CORNING 55L-II FIBERGLASS PIPE INSULATION WITH ALL SERVICE JACKET. SAME THICKNESS ARMAFLEX OR RUBATEX MAY BE SUBSTITUTED WITH JOINTS GLUED & TAPED FOR POSITIVE VAPOR BARRIER.

5. PLUMBING SPECIALTIES:
   - a. DRAINAGE SPECIALTIES (CLEAN OUTS, TRENCH DRAINS AND FLOOR DRAINS) SHALL BE FROM A SINGLE MANUFACTURER AS NOTED IN THE PLUMBING FIXTURE SCHEDULE OR APPROVED EQUAL. CONTRACTOR SHALL COORDINATE TOP SHAPE FOR FLOOR DRAINS AND CLEAN OUTS WITH FINAL FLOOR FINISHES. IN GENERAL, PROVIDE SQUARE TOPS IN TILE FLOORS, AND ROUND TOPS IN OTHER AREAS.

6. SHUTOFF VALVES - DOMESTIC WATER:
   - a. PROVIDE AN ACCESSIBLY LOCATED VALVE IN EACH CONNECTION TO A PIECE OF EQUIPMENT AND AT ALL OTHER POINTS WHERE INDICATED OR REQUIRED FOR PROPER SYSTEM OPERATION AND MAINTENANCE.
     1. BALL VALVES: 600 PSI WOG, FULL PORT, THREE PIECE, BRONZE BODY CHROME PLATED STEEL BALL AND STEM. NIBCO T595Y SERIES, THREADED ENDS; NIBCO S595Y SERIES, SWEAT ENDS.
     2. PROVIDE A SHUT OFF VALVE TO EACH FIXTURE ON COLD AND HOT WATER PIPE RISER, AND TO THE MAIN OF EACH APT
     3. DOMESTIC WATER SERVICE VALVES SHALL BE BALL VALVES, APOLLO SERIES 70-100 (THREAD) OR 70-200 (SWEAT) BALL VALVES, OR EQUAL BY NIBCO OR WATTS.

7. WATER HEATERS
   - a. WATER HEATER SHALL BE UL LISTED. MODEL SHALL BE CERTIFIED AT 300 PSI TEST PRESSURE, 150 WORKING PRESSURE. PROVIDE MODEL SPECIFIED IN PLUMBING EQUIPMENT SCHEDULE OR APPROVED EQUAL. WATER HEATERS SHALL HAVE A MINIMUM OF 4 FEET (1214 MM) OF DEVELOPED LENGTH OF COPPER TUBING OR SIMILAR METALLIC PIPING MATERIAL CONNECTING DIRECTLY TO THE INLET AND OUTLET OF THE UNIT.

8. PLUMBING FIXTURES:
   - a. PLUMBING FIXTURES SHALL REFER TO SCHEDULE. EQUIVALENT FIXTURES ARE ACCEPTABLE, PENDING APPROVAL. WHERE MANUFACTURER'S PRODUCT LINE PERMITS, ALL FIXTURES SHALL BE FROM A SINGLE MANUFACTURER. ALL PLUMBING FIXTURES SHALL BE PROVIDED WITH SHUTOFF VALVES.

PLUMBING PIPING MATERIALS SCHEDULE

Piping	Material Description	Transition	Joint Method
SANITARY DRAIN AND VENT	SCHEDULE 40 PVC (ASTM F891)	PVC TO PVC	1. PVC SOCKET FITTINGS (ASTM D2665, MADE TO ASTM D3311, DRAIN AND WASTE PATTERNS AND TO FIT SCHEDULE 40 PIPE) 2. SOLVENT CEMENT AND ADHESIVE PRIMER (USE PVC SOLVENT CEMENT THAT HAS A VOC CONTENT OF 510 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D EPA METHOD 24)
		PVC TO CAST IRON	NO HUB COUPLING WITH STAINLESS STEEL BRACE
SANITARY DRAIN AND VENT FROM HOUSE TRAP TO STREET MAIN	HUB & SPIGOT CAST IRON SOIL PIPE AND FITTINGS (ASTM A74, ASTM A888, & CISPI 301)	HUB CAST IRON TO CAST IRON	CAULKED JOINT W/ ADAPTER
COLD WATER	TYPE "L" HARD COPPER WITH 1/2" INSULATION FOR MAIN INSIDE BUILDING AND TO BFP AND METER. AND 5' DEVELOP LENGTH TO HWH.	COPPER TO COPPER	TYPE L COPPER SOLDER JOINT
	PEX TUBING (AFTER METER AND BFP)	COPPER TO PEX	PUSH FITTING MECHANICAL JOINT
HOT WATER	TYPE "L" HARD COPPER WITH 1" INSULATION WITH 5' DEVELOP LENGTH FROM HWH	COPPER TO COPPER	TYPE L COPPER SOLDER JOINT
	PEX TUBING	COPPER TO PEX	PUSH FITTING MECHANICAL JOINT

PLUMBING FIXTURE RUNOUT SCHEDULE

Fixture	Symbol	Waste	Cold Water	Hot Water	NOTE
BATH TUB	BT	2"	1/2"	1/2"	NOTE 1
WATER CLOSET	WC	3"	1/2"	–	NOTE 1
LAVATORY	LAV	2"	1/2"	1/2"	NOTE 1
KITCHEN SINK	KS	2"	1/2"	1/2"	NOTE 1
WASHING MACHINE	WM	2"	1/2"	1/2"	NOTE 1
CUP SINK	CS	2"	–	–	NOTE 1
DISHWASHER	DW	–	–	1/2"	NOTE 1
HOSE BIB	HB	–	1/2"	–	ANTIFREEZE HOSE BIB, NOTE 1

NOTE
1. FIXTURES TO BE PROPOSED BY CONTRACTOR AND APPROVED BY ARCHITECT AND OWNER
2. PROVIDE 1/2" TRAP PRIMER TAP FOR EVERY FLOOR DRAIN. CONNECT PRIMER TAP TO NEAREST CW

ELECTRIC WATER HEATER SCHEDULE — HWH

TYP	Gallon	Recovery @ 90°F	KW	Volts	Phase	Manufacturer & Model No.	Remarks
A	50	28 GPH	4.5	208	1	BRADFORD WHITE RE250S6	SET TEMPERATURE @ 125°F MAX.

FLOOR, ROOF & AREA DRAINS — FD, RD, AD, FS

Type	Function	Manufacturer & Model No.	Remarks
FD	FLOOR DRAIN	JOSAM 35620A	12X12 CAST IRON GRATE & DEEP SEAL TRAP

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Project:

Habitat for Humanity Philadelphia

351 W. Queen Lane

Issue Date: 11/17/2021

Revision Schedule

No.	Date	Drawn By	Description

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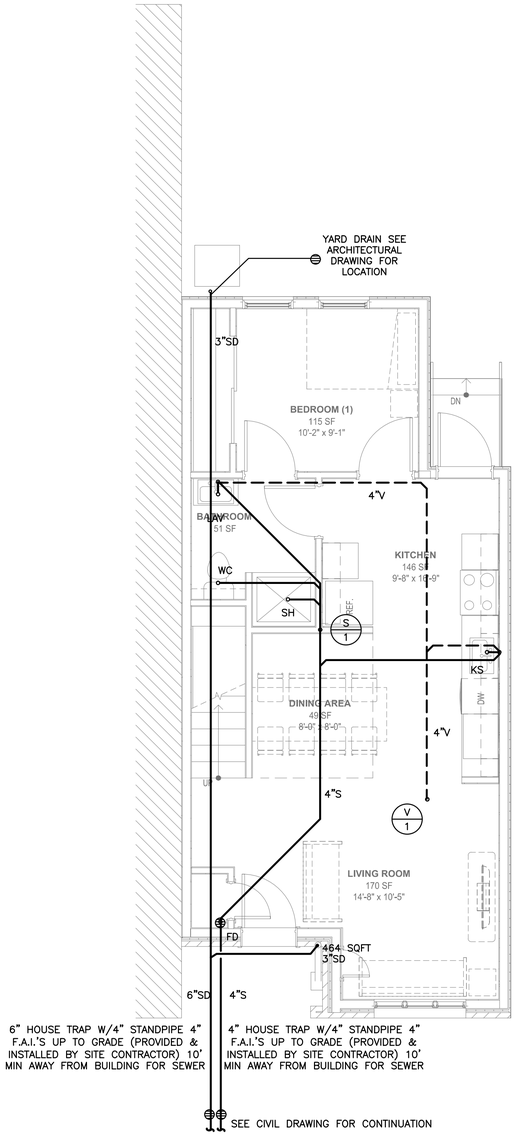
CONSTRUCTION DOCUMENTS

Sheet Title and No.

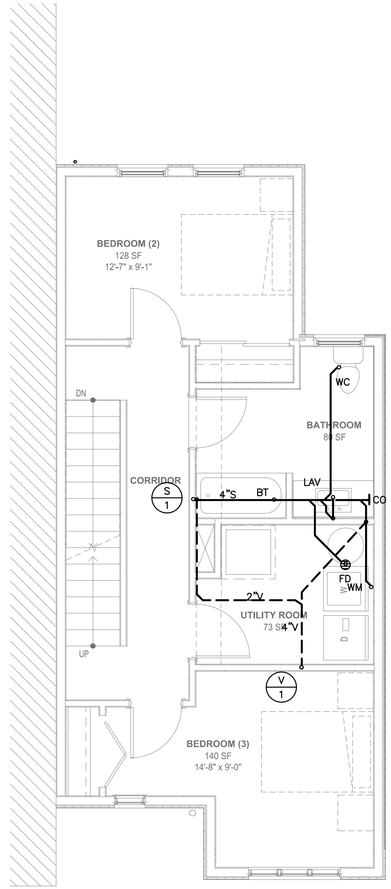
PLUMBING GENERAL NOTES & SPEC

P0.1

Project No.: 21156



1 P1.0 SANITARY 1ST FLOOR PLAN
SCALE: 1/4" = 1'-0"
0 2 4 8



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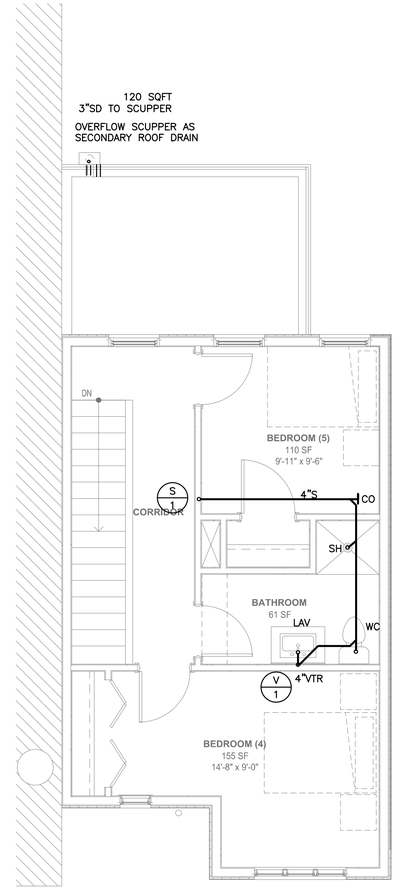

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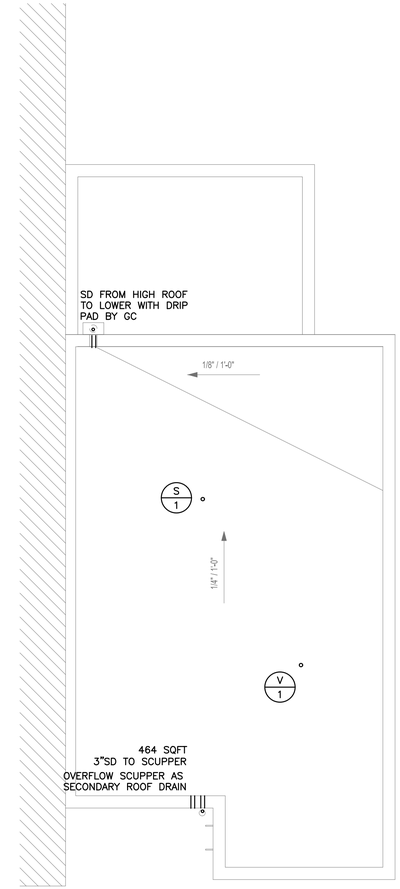

4 P1.0 SANITARY ROOF PLAN
SCALE: 1/4" = 1'-0"
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CONSTRUCTION DOCUMENTS

Sheet Title and No.

SANITARY PLANS

P1.0

Project No.: 21156

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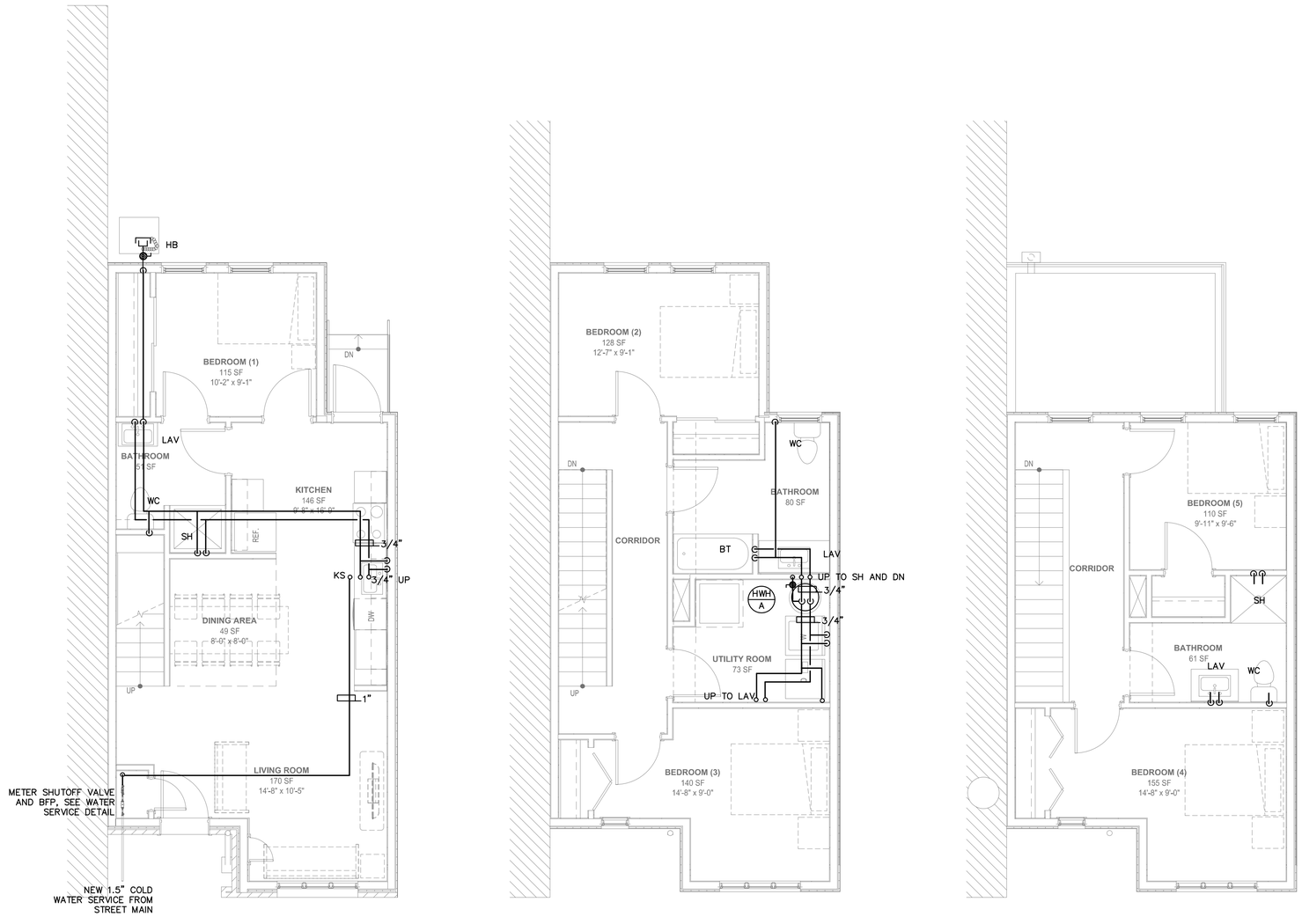

1 P2.0 WATER 1ST FLOOR PLAN
SCALE: 1/4" = 1'-0"
0 2 4 8

2 P2.0 WATER 2ND FLOOR PLAN
SCALE: 1/4" = 1'-0"
0 2 4 8

3 P2.0 WATER 3RD FLOOR PLAN
SCALE: 1/4" = 1'-0"
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CONSTRUCTION DOCUMENTS

Sheet Title and No.

WATER PLANS

P2.0

Project No.: 21156

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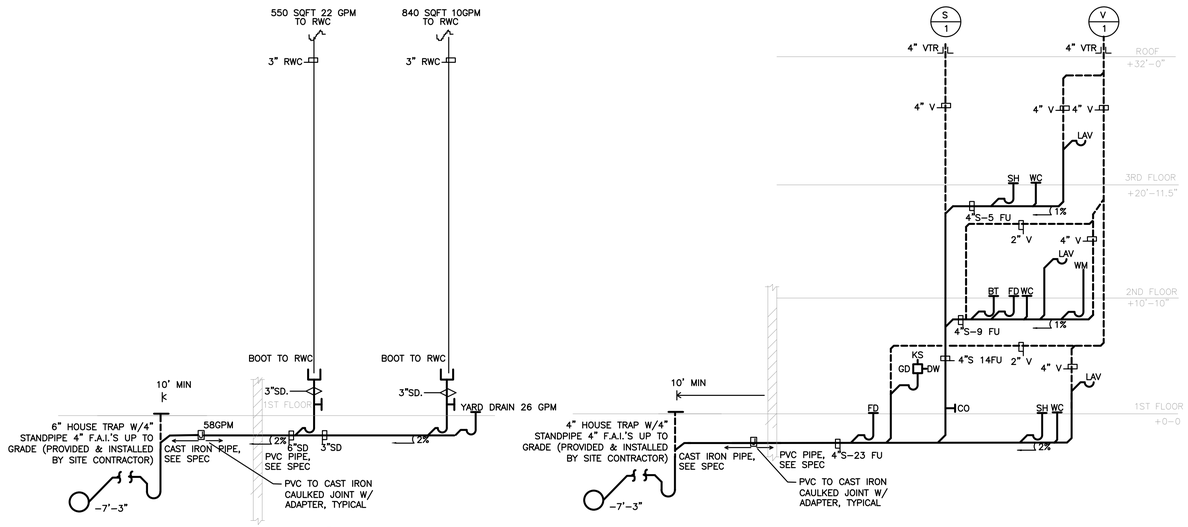
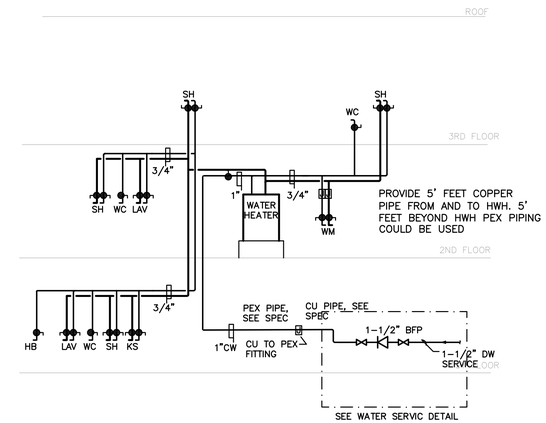
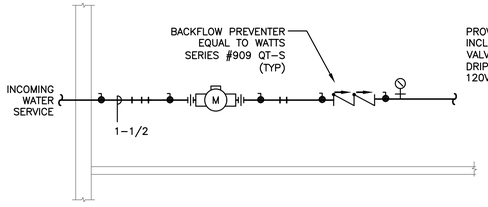


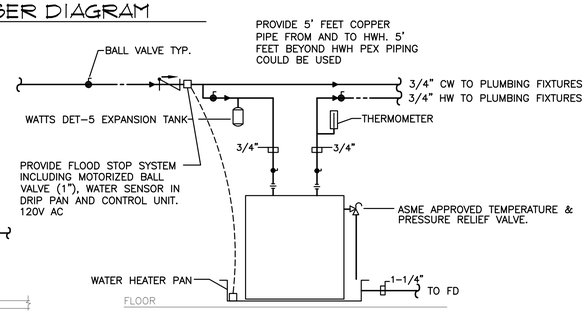
1 P3.0 SANITARY RISER DIAGRAM
SCALE: NONE



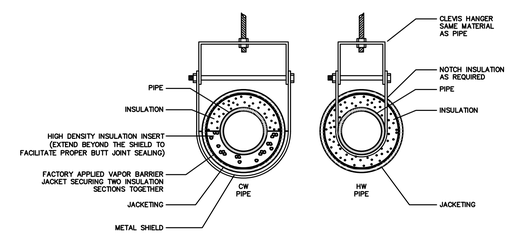
2 P3.0 WATER RISER DIAGRAM
SCALE: NONE



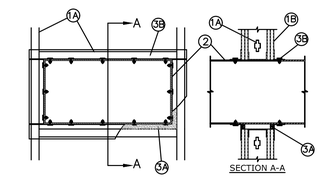
3 P3.0 INCOMING WATER SERVICE PIPING DIAGRAM
SCALE: NONE

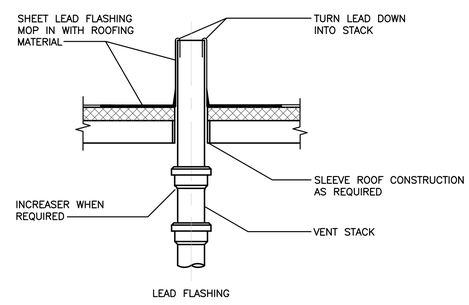


4 P3.0 HWH PIPING DIAGRAM
SCALE: NONE



5 P3.0 CW&HW HANGER AND INSULATION DETAIL
SCALE: NONE





6 P3.0 VTR DETAIL
SCALE: NONE

1. Wall Assembly – The 1 or 2 hr fire rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 or V400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

   A. Studs – Wall framing shall consist of steel channel studs to be min 3–1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC. Additional 3–1/2 in. (89 mm) wide steel studs shall be used to completely frame opening.
   B. Gypsum Board* – Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Max size of opening to be 640 sq in. (4129 cm2) with a max dimension of 32 in. (813 mm)

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. pipe installed concentrically or eccentrically within opening. Annular space between pipe and periphery of opening to be min 0 in. (point contact) to max 2 in. (0 mm to max 51 mm). pipe to be rigidly supported on both sides of wall assembly.

3. Firestop System – The firestop system shall consist of the following:

   A. Fill,Void or Cavity Material* – Caulk or Sealant – Min 5/8 in. (16 mm) thickness of caulk applied within annulus, flush with both surfaces of wall.

   3M COMPANY – CP 25WB+, IC 15WB+ caulk or FB–3000 WT sealant

   B. Retaining Angles – Min 16 gauge galv steel angles sized to lap duct a min of 2 in. (51 mm) and lap wall surfaces a min of 1 in. (25 mm). Angles attached to duct on both sides of wall with min 1/2 in. (13 mm) long, No. 10 (or larger) sheet metal screws spaced a max 1 in. (25 mm) from each end and spaced a max 6 in. (152 mm) OC.

   *Bearing the UL Classification Marking

7 P3.0 PIPE FIRE PENETRATION CAULK DETAIL
SCALE: NONE

CITY OF PHILADELPHIA STAMPS

CONSTRUCTION DOCUMENTS

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NO.PE060355

Project:

Habitat for Humanity Philadelphia

351 W. Queen Lane

Issue Date: 11/17/2021

Revision Schedule

No.	Date	Drawn By	Description

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Sheet Title and No.

SANITARY RISER DIAGRAM

P3.0

Project No.: 21156

DESIGN CRITERIA

1. THE FIRE PROTECTION SYSTEM SHALL BE HYDRAULICALLY CALCULATED AS PER NFPA–13D, 2019 ALL AUTHORITIES HAVING JURISDICTION & OWNER'S INSURANCE CO.

2. CONTRACTOR MAY REDUCE THE SYSTEM AREA OF OPERATION WITHOUT REVISING DENSITY AS PER NFPA 13D 2019

3. THERE MAY BE MORE THAN ONE "MOST DEMANDING AREA" ON A FLOOR. SUBMIT HYDRAULIC CALCULATIONS FOR EACH MOST DEMANDING AREA TO DETERMINE THE PIPE SIZES.

4. WATER FLOW TEST
   AT QUEEN LANE AND PULASKI AVE
   45 PSI AT 0 GPM
   39 PSI AT 1610 GPM

5. PIPE SHALL BE BLACK STEEL PIPE OR CPVC PIPE AS PER NFPA
   2" AND SMALLER SCH. 40 PIPE (THREAD CONNECTION DO NOT WELD)
   2½", 3", 4", & 6" SCH. 10 PIPE
   MAXIMUM VELOCITY IN PIPE SHALL BE 20 FT/SEC.

6. THE CONTRACTOR SHALL PERFORM A FLOW TEST ON HYDRANTS NEAR THE PROPOSED BUILDING BEFORE COMMENCING ANY WORK ON FIRE PROTECTION SYSTEM. SUBMIT NEW TEST RESULTS TO ENGINEER FOR REVIEW. ALL COST FOR PERFORMING FLOW TEST SHALL BE INCLUDED IN THE BID.

7. A MINIMUM OF 10 PSI CUSHION SHALL BE PROVIDED BETWEEN WATER SUPPLY AND SPRINKLERS DEMAND. (INCLUDING HOSE DEMAND)

8. SHOP DRAWINGS AND HYDRAULIC CALCULATIONS SHALL BE PREPARED BY THIS CONTRACTOR AND SHALL BE SUBMITTED TO ALL AUTHORITIES HAVING JURISDICTION, OWNER'S INSURANCE COMPANY AND I.S.O. SHOP DRAWINGS SHALL BE SUBMITTED FOR ENGINEER'S REVIEW PRIOR TO FABRICATION OF ALL MATERIAL OR STARTING ANY WORK. SHOP DRAWING SHALL COMPLY WITH NFPA–13D, WORKING PLANS. SUBMIT SHOP DRAWINGS WITH REFLECTED CEILING PLAN IN AREAS HAVING SUSPENDED CEILING INDICATING LOCATION OF SPRINKLERS, LIGHTS, DIFFUSERS AND OTHER EQUIPMENT. FOR EXPOSED AREAS SHOW SPRINKLER LOCATION WITH RESPECT TO BEAMS, DUCTS, AND PIPING ETC. WITH ALL ELEVATION. LOCATION OF SPRINKLER SHALL COMPLY WITH NFPA–13D.

9. THE SPRINKLER CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION AND PROVIDE NECESSARY "SEALS" (NICET OR PROFESSIONAL ENGINEER) ON SHOP DRAWINGS.

NOTES

1. THE FIRE PROTECTION SYSTEM SHALL BE DESIGNED AND INSTALLED AS PER APPLICABLE NFPA CODES, LOCAL CODES, ALL AUTHORITIES HAVING JURISDICTION AND INFORMATION PROVIDED ON DOCUMENTS. THE COMPLETE SYSTEM WITH BRANCH PIPE, RISERS, MAINS, SPRINKLERS AND ALL NECESSARY EQUIPMENT SHALL BE APPROVED BY ALL AUTHORITIES HAVING JURISDICTION OWNER'S INS. COMPANY AND I.S.O.

2. INSTALL NEW UNDERGROUND (LINED FERROUS METAL) PIPE WITH MINIMUM 4'–6" COVER USING THRUST BLOCKS AT EACH DIRECTION CHANGE, FITTINGS AND ACCESSORIES REQUIRED FOR AN APPROVED SYSTEM. THE UNDERGROUND PIPING SHALL BE INSTALLED AS PER NFPA–24, LOCAL WATER DEPT. AND ALL AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL INCLUDE ALL COSTS AND FEES FOR CONNECTION TO WATER SUPPLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATION, BACK FILLING, REPAIR OF CONCRETE WALKWAYS, CONCRETE CURBS, MACADAM WORK, AND ALL REPAIR WORK TO MATCH EXISTING.

3. THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES FOR INTERFERENCE BEFORE COMMENCING THE INSTALLATION. ALL EXPOSED PIPES SHALL BE AS HIGH AS POSSIBLE CLOSE TO THE CEILING OR IF RUN ALONG THE WALL, SHALL BE KEPT HIGH AND TIGHT TO THE WALL TO AVOID ANY PERSONAL INJURY. FINAL PIPE LOCATION MUST BE APPROVED BY ARCHITECT.

4. PROVIDE SLEEVES FOR PIPE PENETRATION THRU WALLS AND/OR SLABS ALL SPACING BETWEEN PIPING AND PENETRATION AT FLOOR SLABS AND WALLS SHALL BE PACKED WITH FM LISTED MATERIAL EQUAL TO RATINGS OF FLOORS AND WALLS. ALL PENETRATION FIRE STOP SYSTEM SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION AND COMPLY WITH ALL REQUIREMENT OF THE AUTHORITIES HAVING JURISDICTION.

5. PIPING AS SHOWN IS DIAGRAMMATIC AND THE PIPE LOCATION SHOWN MAY NOT BE FINAL LOCATION DUE TO COORDINATION WITH OTHER TRADES. FINAL PIPE LOCATION SHALL BE DETERMINED IN THE FIELD AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ALL REQUIRED CHANGES AT NO EXTRA COST. REFER ARCHITECTURAL REFLECTED CEILING PLAN AND COORDINATE WITH ARCHITECT FOR EXACT LOCATION OF PIPE, SPRINKLERS, AND FIRE EQUIPMENT.

6. ALL DRAIN SHALL BE DISCHARGED TO OUT SIDE THE BUILDING OR TO FLOOR DRAIN. PROVIDE DRAIN AT ALL LOW POINTS AS PER NFPA–13. ALL DRAINS SHALL BE DISCHARGED TO APPROVED SAFE PLACE. SUBMIT LOCATION FOR ARCHITECT AND OWNER'S APPROVAL.

7. CUTTING, PATCHING AND REPAIR WORK IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

8. CONTRACTOR TO COORDINATE SPRINKLER LOCATION WITH LIGHTS, DUCTS AND OTHER OBSTRUCTIONS AS PER NFPA–13D AND PROVIDE ADDITIONAL SPRINKLERS AS REQUIRED. PROVIDE SPRINKLERS UNDER DUCT AS PER NFPA–13D.

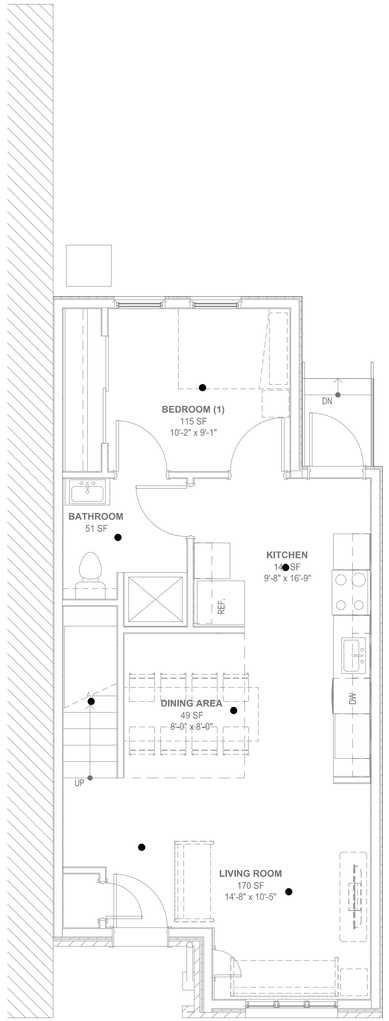
9. GUARDS AND SHIELDS ON SPRINKLERS SHALL BE PROVIDED AS PER NFPA–13D

10. SPRINKLERS INDICATED ARE FOR GENERAL ARRANGEMENT ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE APPLICABLE CODE REQUIREMENT FOR NUMBER OF SPRINKLERS AND SIZING OF FIRE PROTECTION SYSTEM. CONTRACTOR AT HIS OPTION MAY PROVIDE A TREE, GRID OR LOOP SYSTEM, PROVIDED THE REQUIREMENT OF DESIGN CRITERIA ARE MET.

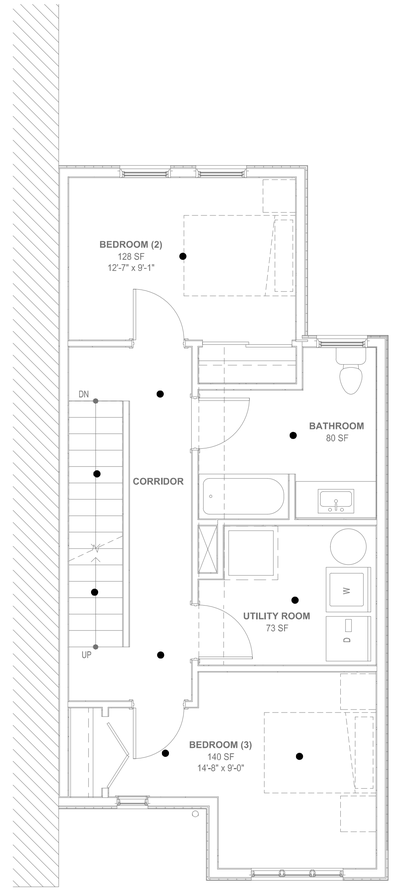
11. PROVIDE STANDARD METAL SIGNS AND IDENTIFICATION IN ACCORDANCE WITH NFPA. 13D AND AUTHORITIES HAVING JURISDICTION.

12. PROVIDE CONTROL VALVE WITH TAMPER SWITCH AND FLOW SWITCH WITH 2 SET OF CONTACTS FOR SPRINKLERS IN ELEVATOR MACHINE ROOM AND ELEVATOR SHAFT.

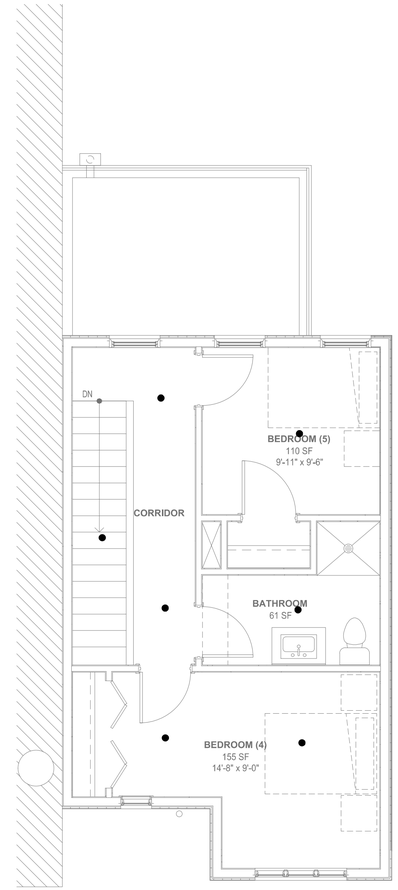
13. ALL SPACING BETWEEN PIPING AND PENETRATION AT FLOOR SLABS AND WALLS SHALL BE PACKED WITH UL/FM LISTED MATERIAL EQUAL TO RATINGS OF FLOORS AND WALLS.



1 FP1.0 SPRINKLER SYSTEM 1ST FLOOR PLAN
SCALE: 1/4" = 1'-0"
0 2 4 8



2 FP1.0 SPRINKLER SYSTEM 2ND FLOOR PLAN
SCALE: 1/4" = 1'-0"
0 2 4 8



3 FP1.0 SPRINKLER SYSTEM 3RD FLOOR PLAN
SCALE: 1/4" = 1'-0"
0 2 4 8

● PENDENT SPRINKLER, K=5.6, 155°F, WHITE COVER PLATE, FOR RESIDENTIAL

CITY OF PHILADELPHIA STAMPS

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CONSTRUCTION DOCUMENTS

Sheet Title and No.

SPRINKLER SYSTEM

FP1.0

Project No.: 21156

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PLAN SYMBOL LEGEND

POWER DEVICE SYMBOLS

	single receptacle – 125v,2p,3w,20A
IG	duplex receptacle – 125v,2p,3w IG – isolated groung duplex receptacle, 125v,2p,3w,20A SP – surge suppression duplex receptacle, 125v,2p,3w,20A BL – blue face, Specification Grade, duplex receptacle, 125Vv 2p, 3w, 20A, Hubbell no. 5352BLU
	duplex recpt (1) recpt controlled by switch – 125v,2p,3w
	quadraplex receptacle – 125v,2p,3w
	duplex recpt ground fault circuit interrupter – 125v,2p,3w
	duplex receptacle on emergency power – 125v,2p,3w
	single receptacle on emergency power – 125v,2p,3w
L5-20R	non-locking special purpose receptacle NEMA configuration as indicated
L5-20R	locking special purpose receptacle NEMA configuration as indicated
	floor or ceiling single receptacle
	floor or ceiling duplex receptacle
L5-20R	floor or ceiling non-locking special purpose receptacle NEMA configuration as indicated
L5-20R	floor or ceiling locking special purpose receptacle NEMA configuration as indicated
	ceiling mounted junction box w/hanging receptacle cord
	fire rated pokethru
	floor box
	floor outlet with device as shown
	conduit stub-up with device as shown
C	clock hanger [clock functions] C– conventional D– digital ET– elapsed timer M– master 2– double face
CSG	clock signal generator
J	junction box
	outlet box with blank cover
PB	PB–pull box, FB–floor box, CP–Control Panel
	control station
ES	emergency shutdown pushbutton
FF	furniture system FF–power connection FC–tele/data connection

POWER EQUIPMENT SYMBOLS

	vertical motor
	horizontal motor
NF	unfused safety disconnect switch
30A	fused safety disconnect switch
	circuit breaker
	motor starter
	combination motor starter and disconnect switch
	combination motor starter and circuit breaker
30A	combination motor starter and fused disconnect switch
	electrical panel – surface mounted [access area does not plot]
	electrical panel – flush mounted [access area does not plot]
	distribution panel [access area does not plot]

LIGHTING SYMBOLS

A, L-1, a	light fixture circuit switch designation lighting fixture symbol lighting fixture type
	recessed or surface mounted fluorescent fixture
	recessed or surface mounted fluorescent fixture on emerg. power
	industrial, undercounter, strip, or casework fluorescent fixture
	industrial or strip fluorescent fixture on emergency power
	incandescent or fluorescent downlight fixture
	incandescent or fluorescent downlight fixture on emergency power
	directional incandescent or fluorescent downlight fixture
	incandescent or fluorescent wall or surface mounted fixture
	incand. or fluor. wall or surface mounted fixture on emergency
	exit fixture – ceiling mounted – arrows as indicated
	exit fixture – wall or surface mounted – arrows as indicated
	emergency battery unit with adjustable head(s)
	emergency battery unit for remote emergency fixtures
	remote emergency fixture single head
	remote emergency fixtures dual head
	track system with incandescent downlight or flood lighting
	exterior lighting fixture – pole mounted
	exterior lighting fixture – wall mounted
	exterior directional flood lighting fixture – pole or wall mounted
	exterior bollard lighting fixture
	exterior walkway lighting fixture
A, 1, a	HID pendant mounted lighting fixture
PC	photo cell control switch
S, 3, a	single pole switch (shown without subscript) [subscript indicates type of switch] 2 – double pole single throw switch 3 – three way switch 4 – four way switch D – single pole dimming switch Ds – door switch P – switch with pilot light K – key operated momentary contact switch V – variable speed control switch T – manual motor starter with overloads L – low voltage switch M – manual switch (motor rated) with lockout device, without overloads LM – low voltage master switch CO – single pole, center off momentary contact switch 3P – single pole, 3 pos., center off, mom. con. switch (FBO) TC – time control switch XP – explosion proof Class 1 Div. 2 MS – motion sensor, Automatic On/manual on, wall switch Ms – mullion switch
	one way ceiling mounted motion sensor.
	two way ceiling mounted motion sensor.

CONDUIT AND WIRING SYMBOLS

LP-1-1	branch circuit conduit & wire homerun to panelboard circuit number of panelboard number of panelboard
OR	conduit & wire or item run at or above elevation shown
OR	conduit & wire or item run below elevation shown, behind obstruction, in slab, or below grade
	flexible conduit
	conduit stub-up with device as shown
	conduit bends toward observer (up)
	conduit bends away from observer (down)
	conduit floor to floor

COMMUNICATIONS SYSTEM SYMBOLS

P,	tele/data (double gang junction box, w/single gang plaster ring and empty 1–1/4"c raceway w/pullstring to utility closet) indicates floor or ceiling [special function] P – printer outlet # – qty of jacks
W,	telephone (double gang junction box, w/single gang plaster ring and empty 1–1/4"c raceway w/pullstring, see specifications) indicates floor or ceiling [special function] W – wall single gang (telephone only) PS – pay station single gang (telephone only) F – fireman's phone jack FX – fax outlet # – qty of jacks E – emergency H – house phone HP – handicapped phone
M,	data outlet (double gang junction box, w/single gang plaster ring and empty 1–1/4"c raceway w/pullstring, see specifications) indicates floor or ceiling [special function] M – network cable outlet for monitoring WS – wireless system connection point # – qty of jacks
TV	television outlet (empty 3/4"c raceway w/ pullstring)
I	intercom hands free station (wall mounted)
MS, W	intercom master station (desk mounted) W – indicates wall mounted DW – indicates desk model with wall bracket
I, V	intercom system speaker
S, V	trumpet speaker
S, V	speaker [speaker function] NC – nurse call M – music only PA – public address V – voice paging only VM – voice paging and music
M	sound system microphone
VC	volume control
CS	channel selector
SA	sound system amplifier

FIRE ALARM SYSTEM SYMBOLS

FACP	fire alarm control panel
FAAP	fire alarm annunicator panel
RPS	remote power supply
F	fire alarm manual pull station
F	fire alarm signal chime
F	fire alarm wall mounted audio/visual unit
F	fire alarm siren
F	fire alarm horn
F	fire alarm low frequency mini–horn
F	fire alarm strobe
F	fire alarm bell
S, F	fire evacuation speaker
C	fire alarm addressable relay [relay function] I – interface C – control M – monitor S – signal
	electric door holder provided with door hardwire mounted and wired by electrical contractor
D, S	automatic detector [detector classification] D – duct mounted, smoke ionization F – thermal, fixed temperature FR – thermal, combination rate of rise plus fixed temperature PE – smoke refraction, photo electric R – thermal, rate of rise S – area smoke, ionization E – elevator recall, ionization CO – carbon monoxide SA – smoke refraction, photo electric / carbon monoxide with multi–station alarm
	fire extinguisher light
FS	alarm initiating contact [contact function] EP – electric pneumatic switch ETL – electric thermal link FS – flow switch "alarm" FA – first aid (hose system) "alarm" G – gas alarm panel GM – gas manifold R – refrigeration unit OS&Y – alarm check valve "trouble" TS – tamper switch "trouble" PS – pressure switch

SCHEMATIC/WIRING DIAGRAM LEGEND

*	single pole single throw switch * rating in amps
*	fuse * rating in amps
*	fused disconnect * rating in amps
*	circuit breaker * frame size/trip rating in amps
	thermal overload relay
	relay contact, normally closed
	relay contact, normally open
OL	thermal overload relay contact
*	current transformer * current ratio
* ** *	control circuit transformer * voltage rating ** volt–amp rating
	pushbutton, normally closed monentary action
	pushbutton, normally open monentary action
	pushbutton, universal 2 circuit – monentary action
	selector switch 2 position
	pushbutton, maintained contact type
1 2 3	selector switch 3 position – center "off" x on line denotes circuit switch position, spring return from test position
	limit switch normally open
	limit switch normally closed
	limit switch normally closed, held open
	limit switch normally open, held closed
	flow switch normally closed
	flow switch normally open
	pressure switch normally closed
	pressure switch normally open
	temperature switch normally closed
	temperature switch normally open
	time delay contact, normally closed, instant open, timed closure on deenergization
	time delay contact, normally closed, instant open, timed closure on deenergization
	time delay contact, normally open, instant close, timed opening on deenergization
	time delay contact, normally closed, timed opening on energization, instant close
	time delay contact normally open, timed closure on energization, instant open
	level switch normally closed
	level switch normally open
	solenoid operated valve
	ground connection
	drawout connection
	electrical connection
	indicating pilot light * A=amber, G=green R=red, W=white
	horn
*	resistor * rating in ohms/watts
*	space heater * rating in watts/volts
	* starter holding coil, relay time delay relay, or other operating coil. device number
	surge protection module

GENERAL NOTES

1. THIS IS A STANDARD SYMBOL LIST. ALL DEVICE SYMBOLS AND ABBREVIATIONS MAY NOT NECESSARILY APPEAR ON THE FLOOR PLANS OR DETAIL SHEET. ONLY THOSE SYMBOLS INDICATED ON THE FLOOR PLANS ARE USED FOR THIS PROJECT. ALL OTHERS ARE TO BE CONSIDERED NOT USED AND SHOULD BE DISREGARDED.
2. REFER TO ELECTRICAL GENERAL SPECIFICATIONS
3. ABBREVATIONS NOT SHOWN ARE DERIVED FROM ASME Y1.1 1989 ABBREVIATIONS FOR USE ON DRAWINGS AND IN TEXT.
4. DIMENSIONS MARKED ± ARE TO BE VERIFIED IN THE FIELD. THOSE MARKED N.T.S. ARE SHOWN NOT TO SCALE, ALL OTHERS ASSUMED TO BE CORRECT AND SHOULD BE CHECKED WITH OTHER TRADE DRAWINGS AND VERIFIED BY THE CONTRACTOR.
5. ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND WITH THE LATEST REVISIONS OF THE NATIONAL ELECTRICAL CODE, WITH THE LOCAL CODES WHICH HAVE PRECEDENCE.
6. RUNS ARE SHOWN DIAGRAMMATICALLY ON THE DRAWINGS. EXACT LOCATIONS AND ROUTING IS TO BE DETERMINED IN THE FIELD. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL WORK WITH ALL OTHER TRADES.
7. MINIMUM CONDUIT SIZE SHALL BE 3/4" ABOVE GRADE AND 1" BELOW GRADE UNLESS OTHERWISE NOTED.
8. ALL CONDUIT SHALL BE GALVANIZED STEEL ABOVE GRADE AND PVC BELOW GRADE.
9. ALL MOUNTING HARDWARE (PIPE STRAPS, V–BOLTS, ETC.) MUST BE HOT DIPPED GALVANIZED.
10. ALL CONDUITS AND FITTINGS ARE TO BE RUN EXPOSED, WHERE POSSIBLE, AND TO BE SECURELY SUPPORTED AND EFFECTIVELY GROUNDED.
11. CONDUIT SHALL BE RUN NEAT AND IN A WORKMAN LIKE MANER, AT 90 DEGREE ANGLES WERE POSSABLE.
12. CONDUIT RUNS SHALL BE KEPT AT LEAST 12" FROM STEAM OR OTHER HOT LINES. WHERE CROSSINGS ARE UNAVOIDABLE, CONDUIT SHALL BE KEPT AT LEAST 6" FROM COVERING OF SUCH LINES.
13. ALL LIGHTING FIXTURE ELEVATIONS ARE TAKEN FROM FINISHED FLOOR ELEVATION, PLATFORM ELEVATION OR GRADE TO BOTTOM OF GLOBE.
14. FINAL CONNECTIONS TO EQUIPMENT SHALL BE MADE BY FLEXIBLE CONDUIT.
15. INSTRUMENT SIGNAL AND CONTROL WIRES SHALL NOT BE SPLICED.
16. ALL ELECTRICAL WIRES AND CABLES FOR POWER, CONTROL AND INSTRUMENTATION SHALL BE TAGGED AT BOTH ENDS.
17. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY RACEWAY SUPPORTS. SUPPORTS SHALL BE FABRICATED FROM GALVANIZED STEEL STRUCTURAL SHAPES OR UNISTRUT.
18. NETURAL AND GROUND CONDUCTORS SHALL BE OF THE SAME AWG AS CURRENT CARRYING CONDUCTORS. (UNLESS OTHERWISE NOTED).
19. DISCRETE INSTRUMENT SIGNALS AND ANALOG (4–20ma) SIGNALS SHALL BE RUN IN SEPARATE RACEWAY SYSTEMS. A CABLE TRAY PARTITION RUN IN ALL INSTRUMENT TRAYS SHALL EFFECT THIS SEPARATION.

STANDARD MOUNTING HEIGHTS

9" below finish ceiling	wall–mounted clocks, program bells, (or as shown on architectural details)
6" above fire house cabinet	blue signal light
10'–0"	battery lighting units and remote wall mounted light heads (or 1'–0" below finished ceiling of top of unit).
8'–6"	pendant–hung industrial and strip lighting fixtures.
7'–8"+	television outlet and service receptacle – for shelf mounted T.V. in bedrooms.
centered above door or window opening	warning and signaling fixtures/signs.
6'–8" –to bottom of device	or 6" below finsihed ceiling whichever is lower. fire alarm signal devices and illuminated fire signals
6'–6"	top of flush and surface mounted electrical lighting or power panelboards and telephone cabinets.
6'–3"	top of back–mounted wall exit fixtures (not mounted above doors).
6'–0"	top of highest electrical safety disconnect switches, magnetic starters, contactors.
4'–6"	wall mounted intercom, telephone and pay stations. (maximum side reach height ADA)
4'–0"	wall mounted electrical device lighting switches, manual motor starters, thermostats, wall–mounted wiremold and g.f.i. receptacles in toilet rooms or for seperate sinks not in casework (maximum side reach height ADA)
3'–6"	fire alarm pull stations, ADA compliant device rough in
2'–0"	electrical receptacles within mechanical spaces, electrical and elevator rooms.
18"	electrical receptacles, telephone outlets, computer outlets, intercom outlet for desks
00"	finished floor

MOUNTING HEIGHT NOTES:

1. MOUNTING HEIGHTS TO CENTER OF OUTLETS UNLESS OTHERWISE NOTED. IN MASONRY CONTRUCTION THE ABOVE MOUNTING HEIGHTS SHALL BE USED FOR REFERENCE TO NEAREST BLOCK OR BRICK COURSING.
2. THE ABOVE MOUNTING HEIGHTS SHALL BE ADHERED TO UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE ON THE DRAWING OR SPECIFICATIONS.
3. INDICATION (+) NEXT TO A DEVICE INDICATES THAT DEVICE IS MOUNTED ABOVE A COUNTER OR CASEWORK. COORDINATE WITH ARCHITECTURAL DETAILS AND CASEWORK CONTRACTOR.

DRAWING LIST:

E0.0 ELECTRICAL COVER SHEET
E0.1 ELECTRICAL SPECIFICATIONS
E1.0 ELECTRICAL ELECTRICAL FLOOR PLANS
E2.0 ELECTRICAL POWER SINGLE LINE DIAGRAM AND SERVICE SIZE CALCULATION

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Project:

Habitat for Humanity Philadelphia

351 W. Queen Lane

Issue Date: 11/17/2021

Revision Schedule

No.	Date	Drawn By	Description

The Contractor on site shall verify all dimensions and existing conditions. The contractor is required to perform all work in compliance with applicable codes and regulations of governing authorities having jurisdiction.

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CONSTRUCTION DOCUMENTS

Sheet Title and No.

ELECTRICAL COVERSHEET

E0.0

Project No.: 21156

ELECTRICAL SPECIFICATIONS

1.0 GENERAL ELECTRICAL REQUIREMENTS

1.1 GENERAL

A. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO PROVIDE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM, READY FOR THE OWNER'S OPERATION. THE ELECTRICAL –CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL REQUIRED TO COMPLETE THESE SYSTEMS.

B. ALL MATERIALS AND INSTALLATIONS SHALL COMPLY WITH NATIONAL AND LOCAL CODES AND LAWS OF THE FEDERAL, STATE, AND LOCAL AUTHORITIES HAVING JURISDICTION.

C. CODE COMPLIANCE: COMPLY WITH ALL APPLICABLE CODES PERTAINING TO PRODUCT MATERIALS AND INSTALLATIONS. ALL PRODUCT MATERIALS AND WORK SHALL COMPLY TO THE FOLLOWING CODES AND STANDARDS AS APPLICABLE, IN ADDITION TO ANY CODES AND STANDARDS REFERENCED WITHIN INDIVIDUAL SPECIFICATION SECTIONS.
1. AMERICANS WITH DISABILITIES ACT (ADA).
2. NATIONAL ELECTRICAL CODE (NEC NFPA 70) 2017.
3. IBC BUILDING CODE 2018 (IBC).
4. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).
5. AMERICAN NATIONAL STANDARD INSTITUTE (ANSI).
6. NATIONAL ELECTRIC MANUFACTURERS' ASSOCIATION (NEMA).
7. OSHA.
8. ALL APPLICABLE SECTIONS OF NATIONAL FIRE PROTECTION ASSOCIATION (NFPA).
9. UNDERWRITERS LABORATORIES (UL).
10. ELECTRICAL TESTING LABORATORIES (ETL).
11. CERTIFIED BALLAST MANUFACTURERS (CBM).
12. INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IESNA).
14. INSULATED CABLE ENGINEERS ASSOCIATION (ICEA).

D. ALL PRODUCTS AND MATERIAL SHALL BE NEW UNLESS NOTED OTHERWISE, AND SHALL BE CLEAN AND FREE OF DEFECTS, DAMAGE AND CORROSION.

E. ALL PRODUCTS AND MATERIAL SHALL BE LISTED AND LABELED BY U.L., C.S.A., E.T.L. OR ANOTHER CERTIFIED TESTING LABORATORY.

F. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYMENT OF ALL PERMITS. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL INSPECTIONS, TESTS, ETC., NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF ALL ELECTRICAL WORK REQUIRED TO OBTAIN CERTIFICATE OF OCCUPANCY.

G. THE ELECTRICAL CONTRACTOR SHALL PREPARE AND SUBMIT ALL PLANS, FIRE AND LIFE SAFETY DRAWINGS, ETC., AS REQUIRED FOR APPROVAL BY THE LOCAL JURISDICTION BUILDING DEPARTMENT AND FIRE PREVENTION BUREAU. THIS INCLUDES EMERGENCY LIGHTING AND EXIT SIGNAGE AND FIRE ALARM SYSTEMS.

H. THE ELECTRICAL CONTRACTOR SHALL INCLUDE PROVISIONS FOR PREMIUM TIME WORK FOR ANY REQUIRED SHUTDOWNS.

I. THE EXISTING POWER, TELEPHONE/DATA, FIRE ALARM, AND SECURITY SYSTEMS MUST REMAIN IN SERVICE AT ALL TIMES. IF A SHUTDOWN OF ANY SYSTEM IS REQUIRED, THE ELECTRICAL CONTRACTOR/GENERAL CONTRACTOR SHALL PROVIDE A MINIMUM OF 2 WEEKS NOTICE TO THE ARCHITECT/ENGINEER FOR SCHEDULING.

J. ANY DEVICES THAT ARE DEACTIVATED BY THIS WORK THAT ARE OUTSIDE THE CONSTRUCTION AREA MUST BE REACTIVATED BY THIS CONTRACTOR WITH MINIMAL DOWNTIME, AND AT NO ADDITIONAL COST TO THE OWNER.

K. THE EC SHALL PROVIDE A WRITTEN, ONE YEAR GUARANTEE OF ALL WORK AND MATERIAL UPON PROJECT COMPLETION AND ACCEPTANCE.

L. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL BUILDING STANDARDS, RULES, AND REGULATIONS. STRICT COMPLIANCE WITH THE OSHA SAFETY STANDARDS 15 MANDATORY.

M. ALL CUTTING, CORING, DRILLING, AND PATCHING SHALL BE PROVIDED BY THIS CONTRACTOR AS REQUIRED TO COMPLETE THIS WORK AND SHALL COMPLY WITH BUILDING STANDARDS, WALL RATINGS, FINISHES, ETC.. ALL FLOOR SLAB AND FIRE WALL PENETRATIONS, EXISTING AND NEW WITHIN THE CONSTRUCTION AREA, (INCLUDING THE ELECTRICAL CLOSET) SHALL BE FIRE SEALED. PROVIDE 3M COMPANY SERIES CP–25 FIRE BARRIER.

N. ALL ROOF PENETRATIONS AND PATCHING SHALL BE DONE BY THIS CONTRACTOR.

O. CLEAN–UP: THE EC SHALL TAKE CARE TO REMOVE DEBRIS, BOXES; SCRAP CONDUIT ETC. RESULTING FROM THE INSTALLATION OF THIS WORK. REMOVAL SHALL BE PERFORMED ON A DAILY BASIS. DUMPSTERS BY OTHERS.

P. ALL WORK SHALL BE PERFORMED IN A NEAT AND WORKMAN LIKE MANNER. ALL CONDUIT, JUNCTION BOXES, HANGERS, SUPPORT CHANNELS, ETC. SHALL BE INSTALLED STRAIGHT AND/OR PERPENDICULAR TO BUILDING CONSTRUCTION.

Q. THE EC SHALL PROVIDE TEMPORARY LIGHTING, POWER, AND GFCI RECEPTACLES FOR ALL TRADES DURING THE DEMOLITION OR CONSTRUCTION PHASES OF THE PROJECT. THIS CONTRACTOR SHALL COMPLETELY REMOVE ALL TEMPORARY SERVICES AT COMPLETION OF THE PROJECT. ALL SPECIAL TEMPORARY ELECTRICAL REQUIREMENTS WILL BE THE RESPONSIBILITY OF EACH INDIVIDUAL CONTRACTOR. THIS INCLUDES: ELECTRICAL LIFTS, CRANES, WELDERS, HEATERS, ETC.

R. THE DESIGN DOCUMENTS ARE DIAGRAMMATIC AND INDICATE APPROXIMATE LOCATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE FINAL DEVICE AND EQUIPMENT LOCATIONS WITH: EXISTING FIELD CONDITIONS, NEW EQUIPMENT FURNITURE, DUCTWORK, AND THE ARCHITECTURAL DRAWINGS.

S. NO EXTRA WORK SHALL BE DONE WITHOUT WRITTEN APPROVAL FROM THE GENERAL CONTRACTOR.

T. THIS E.C. SHALL MAKE ALL PROVISIONS TO MAINTAIN THE EXISTING SERVICE, RISERS AND BRANCH DISTRIBUTION DURING CONSTRUCTION OF NEW ELECTRICAL SYSTEM. THIS WORK SHALL INCLUDE TEMPORARY REROUTE OF PORTIONS OF THE EXISTING DISTRIBUTION WHERE IT INTERFERES WITH NEW BUILDOUT.

1.2 COORDINATION

A. THE EC SHALL BE RESPONSIBLE FOR CHECKING SPACE REQUIREMENTS OF THE OTHER TRADES AND THE SITE PHYSICAL LIMITATIONS TO INSURE THAT ALL MATERIAL AND EQUIPMENT CAN BE INSTALLED IN THE SPACES ALLOTTED. THE GC AND ALL SUBCONTRACTORS HAVE EQUAL RESPONSIBILITY TO COORDINATE SPACE REQUIREMENTS FOR OTHER TRADES.

B. THE EC SHALL COORDINATE ELECTRICAL REQUIREMENTS OF EQUIPMENT SUPPLIED BY OTHERS WHICH REQUIRES INSTALLATION AND/OR CONNECTION BY THIS CONTRACTOR.

1.3 RECORD DRAWINGS

A. SUBMITTAL OF ACCURATE "RECORD" DRAWINGS IS REQUIRED. NO EXCEPTIONS. WITHIN (2) WEEKS AFTER THE BASE BUILDING PROJECT IS COMPLETE.

B. THE EC SHALL SUBMIT (3) COMPLETE SETS OF "RECORD" DRAWINGS FOR REVIEW BY THE ARCHITECT AND OWNER.

C. THE POWER AND LIGHTING PLANS SHALL INCLUDE: ACTUAL HOMERUN LOCATIONS INDICATING CCT. #'S, PANEL FED TO, QUANTITIES OF WIRES, ETC.

D. ALL RECORD DRAWINGS MUST BE CADD GENERATED AND SHALL BE SUBMITTED ON DISK AUTO CAD (DWG. FORMAT). DISK MUST BE SUBMITTED WITH (3) SETS OF DRAWINGS.

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1.5 SUBMITTALS (CONTINUED)

D. THE FOLLOWING IS A LIST OF ITEMS REQUIRING SUBMITTAL:
1. LIGHT FIXTURES AND LAMPS.
2. DISTRIBUTION PANELBOARDS; DETAILED, DIMENSIONED CUT SHEETS ARE REQUIRED.
3. PANELBOARDS.
4. SUBMETER CENTERS; DETAILED, DIMENSIONED CUT SHEETS ARE REQUIRED.
6. TELEPHONE, CABLE AND JACKS.
5. FUSES.
6. SAFETY SWITCHES.
7. MOTOR STARTER/CONTROLS.
10. MOUNTED SURGE PROTECTION.
11. CIRCUIT BREAKERS.
12. WIRING DEVICES.
13. WIRING DEVICE COVER PLATES.
14. POWER WIRE AND CABLE.
15. CONDUIT AND FITTINGS.
16. FIRE ALARM DEVICES AND WIRING DIAGRAMS.
17. SECURITY DEVICES AND WIRING DIAGRAMS.
18. CATV F81 COVERPLATES.

E. AS SOON AS PRACTICAL AND WITHIN (20) DAYS AFTER AWARD ON CONTRACT AND BEFORE ANY MATERIAL OR EQUIPMENT IS PURCHASED, THE CONTRACTOR SHALL SUBMIT FOR REVIEW (5) COPIES OF ALL SHOP DRAWINGS. REFER TO ABOVE FOR LIST OF REQUIRED SHOP DRAWINGS. SHOP DRAWINGS SHALL INCLUDE MANUFACTURERS' NAMES, CATALOG NUMBERS, CUTS, DIAGRAMS AND OTHER SUCH DESCRIPTIVE DATA AS MAY BE REQUIRED TO IDENTIFY AND APPROVE THE EQUIPMENT. A COMPLETE LIST IN ONE CATEGORY (EXAMPLE: ALL FIXTURES) OF ALL SHOP DRAWINGS, CATALOG CUTS, MATERIAL LISTS, ETC., ARE TO BE SUBMITTED BY THIS CONTRACTOR AT ONE TIME. NO CONSIDERATIONS WILL BE GIVEN TO PARTIAL SHOP DRAWINGS SUBMITTED FROM TIME TO TIME.

F. MAINTENANCE MANUALS: SUBMIT (4) COPIES OF MAINTENANCE MANUALS IN HARD BOUND COVERS CONTAINING APPROVED SHOP DRAWINGS AND MANUFACTURERS' REPAIR MANUALS, GUARANTEES, OPERATING INSTRUCTIONS, WIRING DIAGRAMS AND PARTS LISTS.

G. TEST REPORTS: SUBMIT TEST REPORTS AS DESCRIBED UNDER TEST DOCUMENTATION.

H. INSTRUCTION MANUALS: SUBMIT COMPLETE INSTRUCTION MANUALS FOR ALL MAJOR EQUIPMENT INCLUDING PANELBOARDS AND A.T.S.

I. AS–BUILT "RECORD" DRAWINGS: THE SUBMITTAL OF CONTRACTOR PREPARED FIELD RECORD DRAWINGS IS REQUIRED AS DESCRIBED ABOVE.

2.0 RACEWAY, CONDUITS AND FITTINGS

A. PROVIDE A COMPLETE, METALLIC RACEWAY SYSTEM FOR THE LIGHTING, POWER, FIRE ALARM, TELEPHONE, CATV, AND SECURITY SYSTEMS.

B. ELECTRICAL METALLIC TUBING (EMT) "THINWALL" CONDUIT SHALL BE 2" AND SMALLER, UNLESS OTHERWISE INDICATED. EMT SHALL BE HOT DIPPED GALVANIZED OR ELECTRO–GALVANIZED STEEL.

C. INTERMEDIATE GRADE CONDUIT (IMC) AND HEAVYWALL CONDUIT SHALL BE ALL CONDUIT OVER 2" UNLESS NOTED OTHERWISE. IMC CONDUIT SHALL BE HOT DIPPED GALVANIZED OR ELECT RO–GALVANIZED STEEL.

D. STEEL CONDUIT MANUFACTURERS: PRIMARY MANUFACTURER – ALLIED; ALTERNATE MANUFACTURER – LTV/REPUBLIC, STEELDUCT AND WHEATLAND. CONDUIT THAT SHOWS CORROSION WITHIN THE (1) YEAR GUARANTEE PERIOD SHALL BE REPLACED.

E. IMC AND HWG CONDUIT RUNS SHALL BE MADE UP WITH THREADED JOINTS AND FITTINGS.

F. CONDUIT AND EMT FITTINGS SHALL BE MADE OF STEEL OR MALLEABLE IRON. DIE–CAST FITTINGS OR POT METAL SHALL NOT BE ACCEPTED.

G. CONDUIT FITTING MANUFACTURERS: PRIMARY MANUFACTURER – CROUSEHINDS/MIDWEST; ALTERNATES – OZ/GEDNEY, RACO, STELL CITY AND T&B.

H. ALL CONDUIT SHALL BE SIZED PER ALL APPLICABLE CODE AND CONDUIT FILL REQUIREMENTS. THE MINIMUM EMT CONDUIT SIZE SHALL BE 1/2" C.

I. FLEXIBLE METALLIC CONDUIT (FMC) SHALL BE UTILIZED FOR FINAL CONNECTION TO RECESSED AND PENDANT MOUNTED LIGHT FIXTURES. 3/8" MINIMUM SIZE (WHERE PERMITTED BY CODE).

J. ALL EMERGENCY LIGHTING RACEWAY COVERPLATES SHALL BE IDENTIFIED WITH "EM" AND THE CIRCUIT NUMBER AND PAINTED RED.

K. ALL BACK–BOXES SHALL BE A MINIMUM OF 4"X4" X 1 1/2"D. (1900) AND SHALL BE MANUFACTURED WITH A MINIMUM OF 14U.S. GAUGE STEEL AND KNOCKOUTS (K.O.'S) AS REQUIRED. ALL UNUSED K.O.'S SHALL BE SEALED WITH THE APPROPRIATE K.O. FILLER. BOXES SHALL NOT BE PERMITTED TO BE INSTALLED BACK–TO–BACK AT WALLS COMMON TO CORRIDORS OR OTHER TENANTS.

L. CONDUIT JUNCTION BOXES AND FIXTURES IN CEILING SHALL NOT BE SUPPORTED FROM CEILING SUPPORT WIRES, MECHANICAL DUCTWORK, OR FRAMING MEMBERS OF OTHER TRADE'S SYSTEMS. THE ELECTRICAL RACEWAY SYSTEM SHALL BE SUPPORTED BY AN INDEPENDENT SUPPORT SYSTEM WITH DEVICES SPECIFICALLY DESIGNED FOR THAT PURPOSE.

M. ALL MOTORS, ELECTRIC WATER HEATERS, DISH WASHERS, DISPOSALS, A/C UNITS, AND OTHER EQUIPMENT THAT MAY CAUSE VIBRATION SHALL BE CONNECTED WITH LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LFMC), 1/2" MINIMUM SIZE.

N. EXPANSION FITTINGS: PROVIDE A SUITABLE EXPANSION FITTING IN EACH CONCEALED OR EXPOSED ELECTRICAL RACEWAY CROSSING A BUILDING EXPANSION JOINT. FITTINGS SHALL BE COMPLETE WITH BINDING JUMPER AND PRIMARY MANUFACTURER – OZ/GEDNEY; ALTERNATE MANUFACTURER – T&B.

O. JUNCTION AND PULL BOXES: PROVIDE JUNCTION BOXES, PULL BOXES, CABLE SUPPORT BOXES AND WIREWAYS AS REQUIRED FOR PROPER INSTALLATION OF THE ELECTRICAL WORK. COVERS SHALL BE ACCESSIBLE. SMALL JUNCTION BOXES SHALL BE SIMILAR TO OUTLET BOXES. PULL BOXES, CABLE SUPPORT BOXES AND LARGE JUNCTION BOXES FOR INDOOR USE SHALL BE MADE OF CODE GAUGE STEEL. COVERS SHALL BE HELD IN PLACE WITH STAINLESS STEEL SCREWS. PAINT INTERIOR AND EXTERIOR SURFACES WITH RUST–INHIBITIVE PAINT. (PULL BOXES AND COVERS SHALL BE HOT DIPPED GALVANIZED). JUNCTION AND PULL BOXES INSTALLED IN PLENUM CEILINGS SHALL BE IN ACCORDANCE WITH APPLICABLE CODE.

P. OUTLET BOXES: OUTLET BOXES SHALL BE GALVANIZED PRESSED STEEL, KNOCKOUT TYPE, WITH SUITABLE PLASTER RINGS AND COVERS OR PLATES. UNUSED KNOCKOUT HOLES SHALL REMAIN CLOSED AND THOSE OPENED BY ERROR SHALL BE CLOSED WITH SNAP–IN BLANKS. OUTLET BOXES SHALL NOT BE SMALLER THAN REQUIRED BY CODE FOR THE NUMBER AND SIZE OR WIRES TO BE INSTALLED. OUTLET BOXES INSTALLED IN PLENUM CEILINGS SHALL BE IN ACCORDANCE WITH APPLICABLE CODES.

3.0 WIRE AND CABLE

3.1 GENERAL

A. FEEDER CABLES AND BRANCH CIRCUIT WIRING AT INTERIOR, DRY LOCATIONS, UP TO 500MCM SHALL BE TYPE THWN/THNN THERMOPLASTIC 600 VOLT INSULATED COPPER CONDUCTOR. MINIMUM SIZE IS #12 AWG (#14 MAY BE USED FOR CONTROL CIRCUITS ONLY). ALL UNDERGROUND SERVICE CABLES SHALL HAVE THW – THERMOPLASTIC, 600 VOLT INSULATION COPPER CONDUCTOR.

3.2 BRANCH WIRING

A. PROVIDE ALL CIRCUITING OF GENERAL, HVAC AND LIGHTING CIRCUITS TO THE PANELS INDICATED ON THE DRAWINGS.

B. ACTUAL CIRCUIT NUMBERS MAY BE ALTERED DURING CONSTRUCTION. HOWEVER, THE DESIGN INTENT MUST BE MAINTAINED. THE EC WILL ACCURATELY REFLECT ALL CIRCUIT NUMBERS ON THE AS–BUILT DRAWINGS.

C. BASE BUILDING LIGHTING AND GENERAL CONVENIENCE RECEPTACLE CIRCUITS SHALL BE NETWORKED WITH (3) SINGLE PHASE CONDUCTORS SHARING (1) NEUTRAL CONDUCTOR (4 #12 AWG.). ONLY AT 3–PHASE PANELS.

D. ALL 120 VOLT, 20 AMP BRANCH WIRING EXCEEDING 200 FEET SHALL BE INCREASED TO #10 AWG.

E. NOT MORE THAT 1680 WATTS SHALL BE CONNECTED TO ANY (1) 20AMP., 120 VOLT CIRCUIT.

F. ALL FLUORESCENT LIGHTING CIRCUITS SHALL BE PROVIDED WITH 15AMP CIRCUIT BREAKER WITH A MAXIMUM OF 1250 WATTS.

G. TANDEM WIRING OF GFI RECEPTACLES SHALL BE PERMITTED IF INSTALLED PER CODE.

4.0 WIRING DEVICES

4.1 GENERAL

A. ALL NEW STANDARD RECEPTACLES (STANDARD AND GFCI) SHALL BE COMMERCIAL GRADE, TRADITIONAL STYLE 20 AMP, 125 VOLT, NEMA 5R. WHETHER SHOWN OR NOT, ALL OUTLETS MUST BE GFCI WHERE BY CODE. MANUFACTURERS: HUBBELL; PASS & SEYMOUR, NO OTHER DEVICE MANUFACTURERS WILL BE ACCEPTED.

B. ALL SPECIAL RECEPTACLES: 208 VOLT, SINGLE AND THREE PHASE SHALL MATCH THE SPECIFIED EQUIPMENT REQUIREMENT. THIS CONTRACTOR SHALL COORDINATE WITH EQUIPMENT SUPPLIER.

C. ALL NEW SWITCHES SHALL BE COMMERCIAL GRADE. TOGGLE STYLE, 20 AMP, 250 SINGLE POLE. MANUFACTURERS: HUBBELL, PASS & SEYMOR, LEVITON, NO OTHER DEVICE WILL BE ACCEPTED.

D. COLOR: ALL SWITCHES SHALL BE AS DIRECTED BY THE ARCHITECT AND ALL COVERPLATES SHALL BE STAINLESS STEEL. BACK TO BACK OUTLET LOCATIONS SHALL BE STAGGERED TO REDUCE SOUND TRANSMISSION.

5.0 SERVICE AND DISTRIBUTION

5.1 IDENTIFICATION

A. PROVIDE NAMEPLATES FOR SWITCHBOARD, SUBMETERS, PANELBOARDS, METER CENTERS, INDIVIDUAL SUB–METER SOCKETS, MOTOR CONTROL CENTERS, DISCONNECT SWITCHES, TRANSFORMERS, STARTERS, ETC.

B. NAMEPLATES SHALL BE WHITE WITH BLACK CORE, 2"X4" MINIMUM, AND 1/2" HIGH BLOCK LETTERING. TEXT SHALL BE ALL CAPS AS INDICATED ON DRAWINGS AND SCHEDULES.

C. NAMEPLATES SHALL BE SECURED TO PANEL COVER WITH NON–CORRODING TYPE SCREW FASTENERS.

5.2 SWITCHBOARD

A. PROVIDE OWNER'S ANALOG METERING EQUIPMENT;
1. ALL INSTRUMENTS SHALL BE TRUE RMS READING WITH 1% ACCURACY, SWITCHBOARD TYPE, FLUSH–MOUNTED WITH 100% ENLARGED SCALE.
2. AC VOLTMETER: 208/ 120 VOLT, 60 HERTZ, RATED WITH 0–300 VOLT SCALE RANGE. 7 POSITION VOLTMETER SELECTOR SWITCH, OFF, A–B, B–C, CA, A–N, B–N, AND C–N.
3. AC AMMETER: 5 AMPS, 60 HERTZ, RATED WITH 0 TO FULL BUS CAPACITY AMPERE SCALE RANGE, AMMETER SELECTOR SWITCH WITH 4–POSITIONS, OFF, A, B AND C.
4. AC WATTMETER: 5 AMP, 120 VOLT, 60 HERTZ, RATED 0 TO 1000 KW, WITH STAMPED MULTIPLIER.

B. THE MAIN SWITCHBOARD SHALL BE PROVIDED WITH THE FOLLOWING FEATURES.
1. UNDER VOLTAGE RELAYS.
2. BLOWN FUSE PROTECTION.
3. CAPACITOR POWER SUPPLY FOR TRIPPING RELAY.

C. MAIN SWITCHBOARD SHALL BE PROVIDED WITH SWITCHBOARD MOUNTED, SURGE PROTECTION DEVICE. UNIT SHALL HAVE LED INDICATOR LIGHTS (1–PER PHASE). INDICATORS MUST BE VISIBLE WHILE SWITCHBOARD PANELS ARE CLOSED 200KAMP PER PHASE 208/ 120V, 3PH, 4W. MANUFACTURER: LIEBERT INTERCEPTOR SERIES OR EQUAL.

5.3 PANELBOARDS

A. DISTRIBUTION PANELBOARDS SHALL BE 120/208 VOLT, 3–PHASE, 4–WIRE (63,000 A.I.C.) WITH AMPACITY RATING AS SHOWN ON ONE–LINE DIAGRAM.

B. BRANCH PANELBOARDS SHALL BE 120/208 VOLT, 3–PHASE, 4–WIRE (10,000 A.I.C.) WITH AMPACITY RATINGS AS SHOWN ON PANEL SCHEDULES.

C. ENCLOSURE SHALL BE NEMA–1 WITH HINGED FRONT COVER WITH A TYPED CIRCUIT DIRECTORY WITH A CLEAR PLASTIC COVER INSIDE OF DOOR. BRANCH CIRCUIT BREAKERS SHALL BE MOLDED CASE (BOLT–ON), 1, 2 OR 3 POLE AS INDICATED IN PANEL SCHEDULE.

D. CIRCUIT BREAKERS:
1. PROVIDE AFCI TYPE CIRCUIT BREAKERS AS REQUIRED BY THE N.E.C.
2. PROVIDE HACR TYPE CIRCUIT BREAKERS FOR HEATING, A/C AND REFRIGERATION.
3. PROVIDE SWD TYPE CIRCUIT BREAKERS FOR SWITCHED LIGHTING.
4. PROVIDE GFCI IN ALL WET LOCATIONS AS REQUIRED BY THE N.E.C.

E. THE E.C. IS RESPONSIBLE FOR PROVIDING A TYPEWRITTEN PANEL DIRECTORY IN ALL PANELS.

F. MANUFACTURERS: SQUARE D, ITE, AND PENN PANEL SWITCHBOARD.

5.4 FUSES

A. SWITCHBOARD FUSES SHALL BE CLASS "L" CURRENT LIMITING KRPC.LL

B. DISTRIBUTION FUSES SHALL BE RK–1 AND RK–5 AS REQUIRED.

C. PROVIDE (1) SPARE FUSE CABINET IN SWITCHBOARD ROOM WITH (3) SPARE FUSES OF EACH SIZE AND TYPE.

D. MANUFACTURERS: BUSSMAN AND LITTLEFUSE – NO OTHER MANUFACTURER WILL BE ACCEPTED.

5.5 DISCONNECT SWITCHES

A. ALL DISCONNECT SWITCHES SHALL BE HEAVY–DUTY WITH NEMA ENCLOSURE RATING AS REQUIRED.

B. FOR MOTORS, SWITCH SHALL BE RATED FOR HORSEPOWER REQUIREMENTS.

C. ALL TERMINATIONS SHALL BE HY–PRESS COMPRESSION.

D. MANUFACTURERS: SQUARE–D, ITE.

5.6 INDIVIDUAL STARTERS

A. ALL MOTORS 1/3 HORSEPOWER AND SMALLER SHALL BE 120 VOLT, SINGLE PHASE. STARTER SHALL BE A MANUALLY OPERATED ACROSS–THE–LINE THERMAL OVERLOAD SWITCH.

B. ALL MOTORS 1/2 HORSEPOWER AND LARGER SHALL BE 208 VOLT, THREE PHASE. STARTER SHALL BE MAGNETIC COMBINATION TYPE. STARTER SHALL BE ACROSS–THE–LINE FOR 1/2 THROUGH TO 50 HORSEPOWER STARTERS FOR MOTOR SIZES OVER 50 HORSEPOWER SHALL BE COMBINATION CLOSED TRANSITION. REDUCED VOLTAGE AUTO–TRANSFORMER TYPE. REFER TO MECHANICAL EQUIPMENT SCHEDULE.

C. THREE PHASE STARTERS SHALL HAVE CURRENT LIMITING CLASS "T" TIME DELAY FUSES, 120 VOLT COILS, PRIMARY AND SECONDARY FUSED CONTROL TRANSFORMERS. (3) OVERLOAD TRIPS, (1) SET OF NORMALLY OPEN NORMALLY CLOSED CONTACTS AND RED "ON" PILOT LIGHT WITH MINIMUM STARTER SIZE OF "I". ALL STARTERS SHALL HAVE PHASE UNBALANCE RELAYS. STARTERS WILL HAVE EITHER START/STOP BUTTONS OR H.O.A. SWITCHES.

6.0 GROUNDING

6.1 GENERAL

A. PROVIDE GROUND BUSHING AT ALL SERVICE ENTRANCE CONDUITS.

B. ALL GROUNDING SHALL COMPLY WITH N.E.C. ARTICLE 250.

C. PROVIDE MAIN GROUND BUS "MGB" AT WATER SERVICE 12"x 4"x 1/4" COPPER BUS. ELECTRICAL CONNECT THE "MGB" TO INCOMING SIDE OF WATER MAIN, SERVICE ENTRANCE GROUND, EXTERIOR GROUND GRID, BUILDING, STEEL, AND TRANSFORMER GROUNDS.

D. GROUND RODS SHALL BE 1/2" DIAMETER X 10 FT. COPPER.

E. ALL GROUND CONNECTIONS EXOTHERMIC WELD OR UL LISTED MECHANICAL CONNECTOR.

F. PROVIDE BONDING JUMPER ACROSS WATER METER AT WATER SERVICE.

G. ALL EQUIPMENT GROUNDS SHALL BE STRANDED WITH GREEN INSULATION.

7.0 LIGHTING

7.1 GENERAL

A. REFER TO FIXURE SCHEDULE FOR SPECIFIC FIXTURE INFORMATION.

B. ALL FIXTURES SHALL BE OWNER APPROVED.

C. FURNISH AND INSTALL COMPLETE SYSTEMS, INCLUDING FIXTURES, LAMPS, SWITCHES, MOUNTING ASSEMBLIES, WIRING CONTROL EQUIPMENT AND ASSOCIATED EQUIPMENT.

D. FIXTURES SHALL BEAR UL LABEL AND SHALL BE WIRED AND INSTALLED IN FULL COMPLIANCE WITH APPLICABLE CODES:

E. THE OMISSION OF A MODEL NUMBER IN THE FIXTURE SCHEDULE SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF FURNISHING ALL REQUIRED FIXTURES, OF PROPER TYPE, AS SHOWN ON THE DRAWINGS.

F. FIXTURES SHALL BE RECESSED, SURFACE, OR PENDANT TYPE, AS SPECIFIED IN FIXTURE SCHEDULE, AND SHALL BE CONNECTED TO A JUNCTION BOX WITH FLEXIBLE CONDUIT. FINAL CONNECTION TO LIGHT
FIXTURE SHALL BE WITH HEAT RESISTANT WIRE OF THE FOLLOWING TYPE:
1. RECESSED FLUORESCENT 120 VOLT, #14 RHH OR THHN:
2. MINIMUM FLEXIBLE CONDUIT SIZE SHALL BE 3/8".

G. RECESSED INCANDESCENT LIGHTING FIXTURES SHALL HAVE A THERMAL PROTECTIVE DEVICE IN THE FIXTURE HOUSING:

H. LIGHTING FIXTURES OF THE SAME TYPE SHALL BE THE PRODUCT OF ONE MANUFACTURER.

I. UPON COMPLETION OF THE WORK, AS DETERMINED BY THE ARCHITECT FIXTURES SHALL BE CLEAN AND FREE FROM FOREIGN MATERIAL, DUST, ETC.

J. THE LOCATIONS OF FIXTURES ARE APPROXIMATE ONLY AND THE EXACT LOCATIONS– AND PENDANT LENGTHS WILL BE DETERMINED FOR EACH INDIVIDUAL FIXTURE BY THE ARCHITECT.

K. FURNISH AND INSTALL ALL LAMPS REQUIRED, INCLUDING REPLACEMENTS FOR BURNED–OUT LAMPS, UNTIL FINAL ACCEPTANCE OF THE COMPLETED WORK. NO LIGHTING FIXTURE OR SIGN WILL BE INSTALLED WITHOUT LAMPS.

L. EXIT, STAIRWAY AND DIRECTIONAL SIGNS
1. FURNISH AND INSTALL SIGNS IN COMPLIANCE WITH LOCAL ELECTRICAL AND THE LOCAL FIRE DEPARTMENT.
2. LETTERS AND ARROWS SHALL BE RED ON WHITE TRANSLUCENT FIELD ON GLASS.

M. LAMPS
1. FLUORESCENT LAMPS SHALL BE OF THE REQUIRED TYPE, LENGTH, AND WATTAGE. THE LAMP COLOR SHALL BE "WARM WHITE" UNLESS NOTED OTHERWISE.
2. INCANDESCENT LAMPS SHALL BE RATED AT 130 VOLTS.
3. LAMPS OF THE SAME TYPE SHALL BE THE PRODUCT OF ONE MANUFACTURER.
4. MANUFACTURERS: DUROTEST, GENERAL ELECTRIC, ITT, SYLVANIA AND WESTINGHOUSE.

N. FLUORESCENT LAMP BALLAST SHALL BE CBM/ETL APPROVED AND SHALL BE OF THE HIGH POWER FACTOR TYPE WITH CLASS P AND INTERNAL CAPACITOR PROTECTION.

O. BALLAST
1. PL OR TWIN TUBE FLUORESCENT BALLASTS SHALL BE HIGH POWER FACTOR TYPE WITH CLASS P PROTECTION, QUITE TYPE.
2. ALL FLUORESCENT BALLASTS SHALL BE INDIVIDUALLY FUSED TO PROTECT EACH FIXTURE AGAINST OVERLOADS OR SHORT CIRCUITS. EACH FIXTURE SHALL BE CAPABLE OF BEING READILY DISCONNECTED.
3. BALLAST MANUFACTURERS: ADVANCE, GENERAL ELECTRIC, JEFFERSON AND UNIVERSAL.

P. FIXTURE SUPPORTS
1. SUPPORT ALL LIGHTING FIXTURES ADEQUATELY. SPECIAL SUPPORTS SHALL BE INSTALLED AS REQUIRED.

8.0 ELECTRICAL TESTING AND CERTIFICATION

8.1 POWER TESTING

A. THE EC SHALL PROVIDE ALL NECESSARY DEMONSTRATIONS AND TESTING OF THE ELECTRICAL SYSTEMS AS REQUIRED. ALL MATERIALS, EQUIPMENT AND DEVICES SHALL BE INSTALLED, TESTED, ADJUSTED AND PLACED IN SERVICE IN ACCORDANCE WITH THE MANUFACTURERS DIRECTIONS AND RECOMMENDATIONS.

B. TESTING SHALL INCLUDE:
1. 1000 V. DC MEGGER TESTING BETWEEN ALL PHASES, BETWEEN ALL PHASES TO GROUND AND ALL PHASES TO NEUTRAL.
2. PHASE ROTATION VERIFICATION (A–B–C) AT SERVICE AND AT EACH 3–PHASE MOTOR.
3. FULL TEST OF AUTOMATIC TRANSFER SWITCHES AND SIMULATING A POWER OUTAGE
4. THE COMPLETE FIRE ALARM PROTECTION AND ANNUNCIATION SYSTEM SHALL BE DEMONSTRATED TO THE LOCAL FIRE DEPARTMENT PER THE LOCAL JURISDICTION'S DIRECTION.
5. MOTORS TO BE TESTED FOR; ROTATION, FUSE SIZE, AND OVER LOAD HEATER SIZE.
6. DOOR ENTRY / SECURITY SYSTEM

9.0 SECURITY/ACCESS CONTROL

A. FURNISH AND INSTALL ALL COMPONENTS REQUIRED FOR A COMPLETE AND OPERATIONAL SECURITY/ACCESS CONTROL SYSTEM.

B. PROVIDE FRONT LOBBY INTERCOM / BUZZ–IN THROUGH A "NON–PHONE BILL" TELEPHONE SYSTEM.

C. INCLUDE ALL DEVICES, CABLING, CONDUIT RACEWAY SYSTEM, CONTROL POWER, TRANSFORMERS, AND (1) SYSTEM TEST AND DEMONSTRATION TO OWNER.

D. VIDEO LINK ADD ALTERNATE
SUBMIT A SEPARATE PRICE WITH BID TO PROVIDE (1) CAMERA AT THE FRONT LOBBY FOR VIDEO MONITORING AT EACH ENTRANCE THROUGH A VIDEO LINK WITH THE CATV SYSTEM.

E. THE SYSTEM SHALL BE CAPABLE OF CONNECTING DIRECTLY TO THE TELEPHONE WIRING ALLOWING COMMUNICATION BETWEEN THE ENTRANCE TO EACH TENANT.

F. THE OWNER SHALL NOT REQUIRE A WORKING TELEPHONE NUMBER TO ACCESS THIS SYSTEM.

G. THE SYSTEM SHALL PROVIDE A FORM OF CALL WAITING TO INDICATE A VISITOR IS CALLING WHILE TENANT IS ON AN OUTSIDE LINE. SYSTEM SHALL ALLOW SWITCHING BETWEEN OUTSIDE CALLS AND LOBBY INTERCOM CALLS.

H. DISPLAY UNIT
LOBBY DISPLAY UNIT SHALL PROVIDE ACCESS TO SYSTEM VIA AN ALPHA–NUMERIC KEYPAD. TENANT DIRECTORY SHALL BE VIA AN LCD 2–LINE DIGITAL DISPLAY. FINISH SHALL BE APPROVED BY ARCHITECT. BASE BID IS BRUSHED ALUMINUM. DIRECTORY SHALL HAVE THE CAPACITY FOR STORAGE OF 100 NAMES. SYSTEM SHALL ALSO ACCEPT PROGRAMMING INPUTS VIA COMPUTER COMMUNICATION THROUGH A 56K BAUD MODEM.

I. MANUFACTURER: SENTEX SYSTEMS HORIZON "H" SERIES #NPB WITH OVATION–LP INTERFACE OR EQUAL.

INSTALLATION NOTES:

1. REFER TO ARCHITECTURAL ELEVATION DETAILS TO DETERMINE MULTI–GANG BACK BOX AND COVERPLATES. TYPICALLY ANY COMBINATION OF SWITCHES AND OUTLETS THAT ARE WITHIN 12" OF EACH OTHER, AT THE SAME ELEVATION, SHALL BE GANGED TOGETHER. COORDINATE ALL MOUNTING HEIGHTS WITH ELEVATIONS TO AVOID CONFLICTS BETWEEN BACK SPLASHES, VANITIES, ETC.

2. THE INSTALLATION OF RECEPTACLE BACK BOXES BACK–TO–BACK SHALL NOT BE PERMITTED ON WALLS COMMON TO OTHER UNITS OR CORRIDOR WALLS.

3. THE CONTRACTOR WILL BE REQUIRED TO CONCEAL ALL FEEDER AND BRANCH CONDUITS WHEREVER POSSIBLE, THIS INCLUDES TENANT PANEL FEEDS, TELEPHONE AND CATV FEEDS, CORRIDOR POWER & LIGHTING CIRCUITS AND ALL BRANCH CIRCUITING.
CONDUITS WHICH MUST BE EXPOSED FOR LIGHTING AND CEILING FAN BOXES SHALL BE RUN STRAIGHT AND/OR PERPENDICULAR TO BUILDING ELEMENTS.

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Habitat for Humanity Philadelphia

351 W. Queen Lane

Issue Date: 11/17/2021

Revision Schedule

No.	Date	Drawn By	Description

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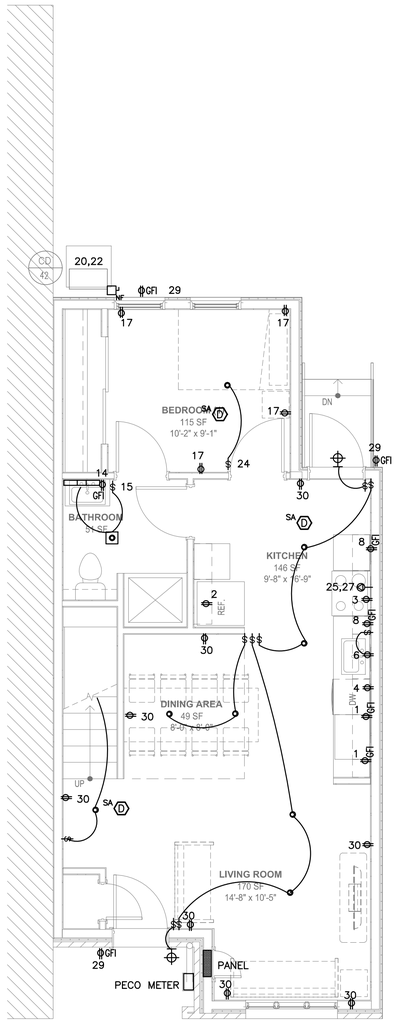
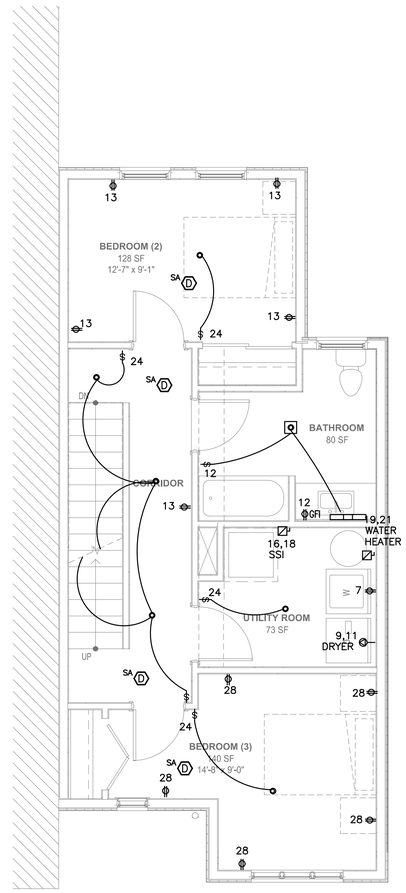
Sheet Title and No.
ELECTRICAL GENERAL SPEC

E0.1

Project No.: 21156



1 E1.0 ELECTRICAL 1ST FLOOR PLAN
SCALE: 1/4" = 1'-0"
0 2 4 8



2 E1.0 ELECTRICAL 2ND FLOOR PLAN
SCALE: 1/4" = 1'-0"
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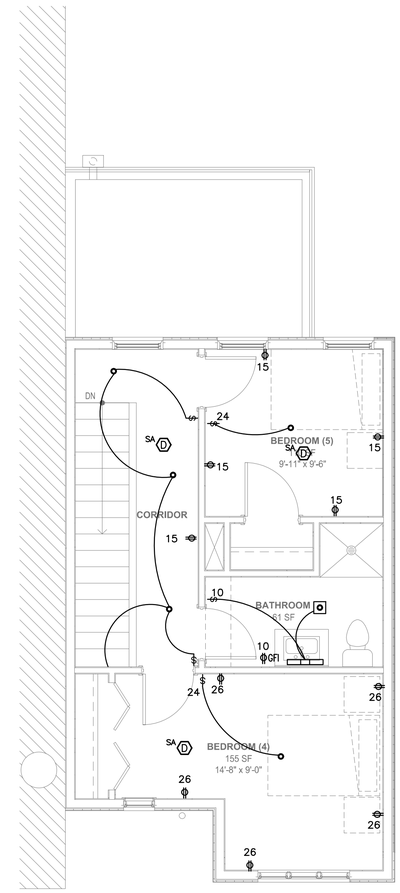

3 E1.0 ELECTRICAL 3RD FLOOR PLAN
SCALE: 1/4" = 1'-0"
0 2 4 8

CITY OF PHILADELPHIA STAMPS

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Sheet Title and No.

ELECTRICAL PLANS

E1.0

Project No.: 21156

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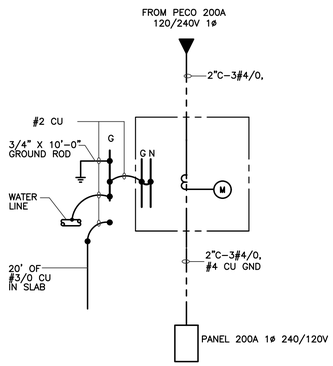

1 / E2.0 **ELECTRICAL POWER DISTRIBUTION SINGLE LINE DIAGRAM**

SCALE: N.T.S.

WIRE DEVICE AND CIRCUIT BREAKER APPLICATION SCHEDULE

	REQUIREMENT	CIRCUIT BREAKER
DWELLING SPACE CONVENIENT WALL RECEPTACLE	125V,2P,3W,15A DUPLEX TR	AFCI BREAKER
DWELLING WET & KITCHEN COUNTER RECEPTACLE	125V,2P,3W,15A DUPLEX TR, GFI	AFCI BREAKER
DWELLING SPACE PERMANENT PLUG IN EQUIPMENT	125V,2P,3W, 20A DUPLEX OR SPECIAL	AFCI BREAKER
COMMON SPACE CONVENIENT WALL RECEPTACLE	125V,2P,3W, 20A DUPLEX	STANDARD BREAKER
COMMON WET SPACE CONVENIENT WALL RECEPTACLE	125V,2P,3W, 20A DUPLEX, GFI	STANDARD BREAKER

TR: TAMPER RESISTANT
GFI: GROUND FAULT IN
AFCI: ARC FAULT CIRCUIT INTERRUPTER

LIGHTING FIXTURE SCHEDULE

SYMBOL	VOLTAGE	LAMP DATA TYPE	DESCRIPTION
O W	120	11W LED 2700K 900 LUMENS 8000 HR MIN,	SURFACE MOUNTED LT WITH LENS FOR WET SPACE.
O	120	11W LED 2700K 900 LUMENS 8000 HR MIN,	SURFACE MOUNTED LT WITH LENS
	120	LED, 15W 2700K 1300 LUMENS 8000 HR MIN,	WALL SCONCE FOR OUTDOOR USE
	120	13W LED 2700K 900 LUMENS 8000 HR MIN,	PENDANT FIXTURES
	120	11W LED 2700K 900 LUMENS 8000 HR MIN,	VANITY CHANNEL FIXTURE

LAMPS SHALL BE PROVIDED AS SCHEDULED. ACTUAL FIXTURE SHALL BE PROPOSED BY CONTRACTOR AND APPROVED BY OWNER AND ARCHITECT.

15-Nov-21

Auxiliary Gutter [ ] [X] Neutral Bus
Double Lugged [ ] [X] Ground Bus
[ ] [ ] Isolated Ground Bus

Panel:	PANEL		
Voltage	Phase	Wire	Bus
240	1	3	200
(A) MCB/MLO		Mounting	
200 A MCB		Surface	
ISC Rating:		10,000	

Light	Recpt.	Equip.	Mech.	Description	Bkr	No.	No.	Bkr	Description	Light	Recpt.	Equip.	Mech.
	1,500			SMALL APPLIANCE 1	20/1	1	2	20/1	RECPT, REFRIGERATOR			780	
		1,000		HOOD/MICROWAVE	20/1	3	4	20/1	RECPT, DISHWASHER			744	
				SPARE	20/1	5	6	20/1	GARBAGE DISPOSAL			828	
		1,200		WASHER	20/1	7	8	20/1	SMALL APPIANCE 2		1,500		
		2,500		DRYER	30/2	9	10	20/1	RECPT, BATHROOM 1	100	200		
		2,500				11	12	20/1	RECPT, BATHROOM 2	100	200		
	1,000			RECPT, BEDRM	20/1	13	14	20/1	SPARE				
	1,000			RECPT, BEDROOM 3	20/1	15	16	20/2	SSI				240
				SPARE	20/1	17	18						250
		2,250		HOT WATER HEATER	30/2	19	20	40/2	SSO				3,600
		2,250				21	22						3,600
	200			RECPT BALCONY	20/1	23	24	20/1	LIGHTING	400			
		4,200		ELECTRIC RANGE	50/2	25	26	20/1	RECPT BED ROOM		1,000		
		4,200				27	28	20/1	RECPT BED ROOM		1,000		
	400			RECPT EXTERIOR	20/1	29	30	20/1	RECPT LIVING		1,200		
				SPARE	20/1	31	32	20/1	LIGHTING	400			
				SPARE	20/1	33	34	20/1	SPARE				
				SPARE	20/1	35	36	20/1	SPARE				
0	4,100	20,100	0	Sub-Total					Sub-Total:	1,000	5,100	2,352	7,690
									Sub-total (from left side):	0	4,100	20,100	0
									Totals Connected:	1,000	9,200	22,452	7,690
									Totals Demand:	1,000	3,680	14,981	7,690
									Total Load:	27,351	VA	114	Amps

Notes:
1. PROVIDE AFCI TYPE CIRCUIT BREAKER IN ALL DWELLING AREAS.
2. PROVIDE HACR TYPE CIRCUIT BREAKER FOR HEATING, A/C AND REFRIGERATION.
3. PROVIDE SWD TYPE CIRCUIT BREAKER FOR SWITCHED LIGHTING.
4. PROVIDE GFCI IN ALL WET LOCATIONS.

Feed by: METER MODULE

Urban Technology Inc

Number Units of Aparts or Condo	1				
General Lighting Small Appliance and Laundry Number					
General Lighting and Receptacles	1795 Total Sqft of Dwelling Area	3 VA	5,385 VA		
Small Appliance	1 (Two Circuitts 220.52A)	3000 VA	3,000 VA		
Laundry Circuit	1 (One Circuit 220.52B)	1500 VA	1,500 VA		
Total			9,885 VA	Demand	5,410 VA
Compare AC Load					
AC	1 3 ton AC Size	4800 VA	4,800 VA		
Heating			15,600 VA		
Use			15,600 VA	Demand	15,600 VA
Appliance Load					
Dishwasher	1 (from name plate)	1,200	1,200 VA		
Water Heater	1 (from name plate)	4,500	4,500 VA		
Total			5,700 VA	Demand	4,275 VA
Dryer Load					
Dryer	1 (larger of from name plate or 5000)	5000	5,000 VA	Demand	5,000 VA
				Demand Factor	100.0%
E Range Load					
Range	1	8000	8,000 VA	Demand	6,400 VA
				Demand Factor	80.0%
Total		**Connection**	**36,185 VA**	**Demand**	**36,685 VA**

Serivce:	Voltage	**240**	Phase	**1**	
Total			**Connected**	**150.77 A**	**Demand** **152.85 A**

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ELECTRICAL SINGLE LINE DIAGRAM

E2.0

Proiect No.: 21156