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HUD PROJECT NO.
OHFA PROJECT NO.

| | | | |
|---|---|---|---|
| PROJECT ARCHITECT: | MOODY NOLAN | | |
| | SIGNATURE | TITLE | DATE |
| OWNER/ DEVELOPER: | COLUMBUS METROPOLITAN HOUSING AUTHORITY | | |
| | SIGNATURE | TITLE | DATE |
| GENERAL CONTRACTOR: | | | |
| | SIGNATURE | TITLE | DATE |
| LENDER: | | | |
| | SIGNATURE | TITLE | DATE |
| BONDING COMPANY: | | | |
| | SIGNATURE | TITLE | DATE |

PROJECT NUMBER 20643

# HARRIET'S HOPE

1581 W. BROAD STREET
COLUMBUS, OH 43222

PREPARED FOR:

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.
880 EAST 11TH AVENUE
COLUMBUS, OH 43211



BOARD OF COMMISSIONERS:

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# PERMIT & BID SET APRIL 4, 2022

STATE OF OHIO JAY W BOONE 10740 REGISTERED ARCHITECT
JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

PRINT DATE: 4/7/2022 10:33:19 AM
FILE INFO: C:\BIM\Local Revit Projects\2021 Projects\20643 Harriets Hope PSH - ARCH_R\Revit\PROJ.rvt

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# ABBREVIATIONS

## SYMBOLS

| | |
|---|---|
| & | AND |
| L | ANGLE |
| @ | AT |
| # | NUMBER / POUND |
| ℄ | CENTERLINE |
| ℙ | PROPERTY LINE |

## A

| | |
|---|---|
| AB | ANCHOR BOLT |
| ABV | ABOVE |
| AC | AIR CONDITIONING / AIR CONDITIONER |
| ACOUS | ACOUSTICAL |
| ACT | ACOUSTIC CEILING TILE |
| AD | AREA DRAIN |
| ADJ | ADJACENT / ADJUSTABLE |
| AFC | ABOVE FINISH CEILING |
| AFF | ABOVE FINISH FLOOR |
| AGGR | AGGREGATE |
| ALUM | ALUMINUM |
| ALT | ALTERNATE |
| AP | ACCESS PANEL |
| APP'D | APPROVED |
| APPROX | APPROXIMATE |
| APT | APARTMENT |
| ARCH | ARCHITECT / ARCHITECTURAL |
| ASB | ASBESTOS |
| ASPH | ASPHALT |
| AV | AUDIO VISUAL |

## B

| | |
|---|---|
| BC | BOTTOM OF CURB |
| BD | BOARD |
| BET | BETWEEN |
| BIT | BITUMINOUS |
| BLDG | BUILDING |
| BLKG | BLOCKING |
| BM | BEAM / BENCHMARK |
| BOS | BOTTOM OF STEEL |
| BOT | BOTTOM |
| BRG | BEARING |
| BSMT | BASEMENT |
| BUR | BUILT UP ROOF |

## C

| | |
|---|---|
| CAB | CABINET |
| CB | CATCH BASIN |
| CEM | CEMENT |
| CFM | COLD FORMED METAL / CUBIC FEET PER MINUTE |
| CIP | CAST IN PLACE |
| CI | CURB INLET |
| CJ | CONTROL JOINT |
| CL | CENTERLINE |
| CLG | CEILING |
| CLOS | CLOSET |
| CLR | CLEAR |
| CM | CONSTRUCTION MANAGER |
| CMU | CONCRETE MASONRY UNIT |
| CNSK | COUNTERSUNK |
| CO | CLEANOUT |
| COL | COLUMN |
| CONC | CONCRETE |
| CONN | CONNECTION |
| CONST | CONSTRUCTION |
| CONT | CONTINUOUS / CONTINUE |
| CONTR | CONTRACTOR |
| CORR | CORRIDOR / CORRUGATED |
| CPT | CARPET |
| CRS | COURSE |
| CT | CERAMIC TILE |
| CTR | CENTER |
| CW | COLD WATER |

## D

| | |
|---|---|
| DBL | DOUBLE |
| DEMO | DEMOLISH |
| DEPT | DEPARTMENT |
| DET | DETAIL |
| DF | DRINKING FOUNTAIN |
| DIA | DIAMETER |
| DIM | DIMENSION |
| DISP | DISPENSER |
| DIV | DIVISION |
| DL | DEAD LOAD |
| DN | DOWN |
| DO | DOOR OPENING |
| DS | DOWNSPOUT |
| DW | DISHWASHER |
| DWG | DRAWING |

## E

| | |
|---|---|
| E | EAST |
| EA | EACH |
| EC | ELECTRICAL CONTRACTOR |
| EF | EXHAUST FAN / EACH FACE |
| EIFS | EXTERIOR INSULATION FINISH SYSTEM |
| EJ | EXPANSION JOINT |
| EL | ELEVATION (ABOVE GRADE) |
| ELECT | ELECTRICAL |
| ELEV | ELEVATION (BUILDING ELEVATION) |
| ELV | ELEVATOR |
| EMER | EMERGENCY |
| ENCL | ENCLOSURE |
| EP | ELECTRICAL PANEL / EDGE OF PAVEMENT |
| EQ | EQUAL |
| EQUIP | EQUIPMENT |
| EST | ESTIMATE |
| EW | EACH WAY |
| EWC | ELECTRIC WATER COOLER |
| EXH | EXHAUST |
| EXP | EXPANSION |
| EXPO | EXPOSED |
| EXIST | EXISTING |
| EXT | EXTERIOR |

## F

| | |
|---|---|
| FA | FIRE ALARM |
| FD | FLOOR DRAIN |
| FDN | FOUNDATION |
| FE | FIRE EXTINGUISHER |
| FEC | FIRE EXTINGUISHER CABINET |
| FF | FINISH FLOOR |
| FIN | FINISH OR FINISHED |
| FLR | FLOOR |
| FLG | FLASHING |
| FLUOR | FLUORESCENT |
| FO | FACE OF |
| FP | FIREPROOF |
| FRMG | FRAMING |
| FRP | FIBER REINFORCED PLASTIC |
| FRT | FIRE RETARDANT TREATED |

## F (continued)

| | |
|---|---|
| FT | FOOT OR FEET |
| FTG | FOOTING |
| FURN | FURNACE |
| FURR | FURRING |
| FWC | FABRIC WALLCOVERING |
| FHC | FIRE HOSE CABINET |

## G

| | |
|---|---|
| GA | GAGE / GAUGE |
| GALV | GALVANIZED |
| GB | GRAB BAR |
| GC | GENERAL CONTRACTOR |
| GEN | GENERAL |
| GFI | GROUND FAULT INTERRUPT |
| GFRC | GLASS FIBER REINFORCED CONCRETE |
| GFCMU | GROUND FACE CONCRETE MASONRY UNIT |
| GL | GLASS OR GLAZING |
| GND | GROUND |
| GYP | GYPSUM |
| GWB | GYPSUM WALLBOARD |

## H

| | |
|---|---|
| H | HEIGHT / HIGH |
| HB | HOSE BIB |
| HC | HOLLOW CORE |
| HDBD | HARDBOARD |
| HDCP | HANDICAP / HANDICAPPED |
| HDO | HIGH DENSITY OVERLAY |
| HDR | HEADER |
| HDW | HARDWARE |
| HDWD | HARDWOOD |
| HGT | HEIGHT |
| HM | HOLLOW METAL |
| HORIZ | HORIZONTAL |
| HR | HOUR / HANDRAIL |
| HTG | HEATING |
| HVAC | HEATING, VENTILATING, AIR CONDITIONING |
| HW | HOT WATER |

## I

| | |
|---|---|
| ID | INSIDE DIAMETER |
| IN | INCH |
| INCL | INCLUDE |
| INSUL | INSULATION |
| INT | INTERIOR |
| INV | INVERT |

## J

| | |
|---|---|
| JAN | JANITOR |
| JBOX | JUNCTION BOX |
| JST | JOIST |
| JT | JOINT |

## K

| | |
|---|---|
| KIT | KITCHEN |
| KO | KNOCKOUT |

## L

| | |
|---|---|
| L | LENGTH |
| LAB | LABORATORY |
| LAM | LAMINATE |
| LAV | LAVATORY |
| LF | LINEAR FOOT |
| LGTH | LENGTH |
| LH | LEFT HAND |
| LL | LIVE LOAD |
| LLH | LONG LEG HORIZONTAL |
| LLV | LONG LEG VERTICAL |
| LT | LIGHT |
| LTG | LIGHTING |

## M

| | |
|---|---|
| MAS | MASONRY |
| MAT | MATERIAL |
| MAX | MAXIMUM |
| MDF | MEDIUM DENSITY FIBERBOARD |
| MDO | MEDIUM DENSITY OVERLAY |
| MECH | MECHANICAL |
| MED | MEDIUM |
| MEMB | MEMBRANE |
| MEZZ | MEZZANINE |
| MFR | MANUFACTURER |
| MH | MANHOLE |
| MIN | MINIMUM |
| MISC | MISCELLANEOUS |
| MO | MASONRY OPENING |
| MT | MARBLE TILE |
| MTD | MOUNTED |
| MTG | MOUNTING |
| MTL | METAL |
| MUL | MULLION |

## N

| | |
|---|---|
| N | NORTH |
| NIC | NOT IN CONTRACT |
| NO | NUMBER |
| NOM | NOMINAL |
| NTS | NOT TO SCALE |

## O

| | |
|---|---|
| OA | OVERALL |
| OBS | OBSCURE |
| OC | ON CENTER |
| OD | OUTSIDE DIAMETER |
| OFC | OFFICE |
| OH | OVERHEAD |
| OPNG | OPENING |
| OPP | OPPOSITE |
| OSB | ORIENTED STRAND BOARD |

## P

| | |
|---|---|
| PC | PRE-CAST |
| PERF | PERFORATED |
| PL | PLATE / PROPERTY LINE |
| PLAM | PLASTIC LAMINATE |
| PLAS | PLASTIC |
| PLBG | PLUMBING |
| PLYWD | PLYWOOD |
| PNL | PANEL |
| PORC | PORCELAIN |
| POS | POINT OF SALE |
| PR | PAIR |
| PSF | POUNDS PER SQUARE FOOT |
| PSI | POUNDS PER SQUARE INCH |
| PT | PAINT / PRESSURE TREATED |
| PTD | PAINTED |
| PVC | POLYVINYL CHLORIDE |
| PVMT | PAVEMENT |
| PWR | POWER |

## Q

| | |
|---|---|
| QT | QUARRY TILE |
| QTY | QUANTITY |

## R

| | |
|---|---|
| R | RADIUS / RISER |
| RA | RETURN AIR |
| RB | RUBBER BASE |
| RD | ROOF DRAIN |
| REF | REFRIGERATOR / REFERENCE |
| REINF | REINFORCED |
| REQ'D | REQUIRED |
| RES | RESILIENT |
| REV | REVISION |
| RH | RIGHT HAND |
| RM | ROOM |
| RMV | REMOVE |
| RO | ROUGH OPENING |
| ROW | RIGHT OF WAY |
| RWL | RAIN WATER LEADER |

## S

| | |
|---|---|
| S | SOUTH |
| SA | SUPPLY AIR |
| SAN | SANITARY |
| SC | SOLID CORE / SEALED CONCRETE |
| SCHED | SCHEDULE |
| SD | SMOKE DETECTOR / STORM DRAIN |
| SECT | SECTION |
| SHTG | SHEATHING |
| SHR | SHOWER |
| SHT | SHEET |
| SHT'G | SHEATHING |
| SIM | SIMILAR |
| SLV | SHORT LEG VERTICAL |
| SPEC | SPECIFICATION |
| SPKR | SPEAKER |
| SQ | SQUARE |
| SS | STAINLESS STEEL |
| SSG | STRUCTURAL SEALANT GLAZED |
| SSK | SERVICE SINK |
| STA | STATION |
| STD | STANDARD |
| STL | STEEL |
| STM | STEAM |
| STOR | STORAGE |
| STRUCT | STRUCTURAL |
| SUSP | SUSPENDED |
| SV | SHEET VINYL |
| SY | SQUARE YARD |
| SYM | SYMMETRICAL |

## T

| | |
|---|---|
| T | TREAD |
| T&B | TOP AND BOTTOM |
| T&G | TONGUE AND GROOVE |
| TC | TOP OF CURB |
| TEL | TELEPHONE |
| THK | THICK(NESS) |
| TOF | TOP OF FOOTING |
| TOS | TOP OF STEEL |
| TOW | TOP OF WALL |
| TP | TOP OF PAVEMENT |
| TS | TUBE STEEL |
| TV | TELEVISION |
| TW | TOP OF WALL |
| TYP | TYPICAL |
| TZ | TERRAZZO |

## U

| | |
|---|---|
| UNF | UNFINISHED |
| UNO | UNLESS NOTED OTHERWISE |
| UR | URINAL |

## V

| | |
|---|---|
| VCT | VINYL COMPOSITION TILE |
| VB | VAPOR BARRIER / VINYL BASE |
| VERT | VERTICAL |
| VEST | VESTIBULE |
| VIF | VERIFY IN FIELD |
| VWC | VINYL WALL COVERING |

## W

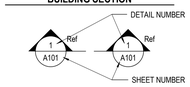
| | |
|---|---|
| W | WEST / WIDTH |
| WF | WIDE FLANGE |
| W/ | WITH |
| W/O | WITHOUT |
| WC | WATER CLOSET |
| WD | WOOD |
| WI | WROUGHT IRON |
| WP | WATERPROOF |
| WR | WATER RESISTANT |
| WSCT | WAINSCOT |
| WT | WEIGHT |
| WTR | WATER |
| WWF | WELDED WIRE FABRIC |

## Y

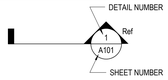
| | |
|---|---|
| YD | YARD / YARD DRAIN |

# SYMBOLS LEGEND

BUILDING SECTION



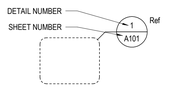

WALL SECTION



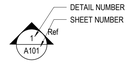

DETAIL SECTION



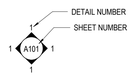

DETAIL / FLOOR PLAN CALLOUT



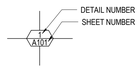

EXTERIOR ELEVATION



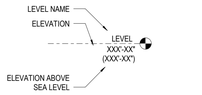

INTERIOR ELEVATION



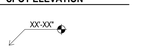

WINDOW / CURTAIN WALL ELEVATION




VERTICAL ELEVATION / LEVEL MARK



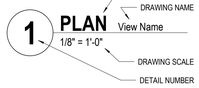

SPOT ELEVATION




REVISION CLOUD & TAG



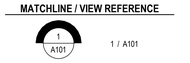

VIEW TITLE



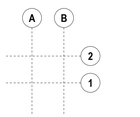

GRAPHIC SCALE




MATCHLINE / VIEW REFERENCE



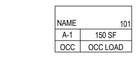

GRIDS HEADS / LINES




ROOM TAGS




ROOM OCCUPANCY TAG




ROOM FINISH TAG




DOOR TYPE TAG




WALL TYPE TAG




WINDOW TYPE TAG




CEILING TAG



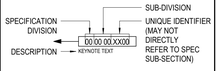

CURTAIN PANEL TYPE TAG




CODED NOTE / ACCESSORY TAG




KEYNOTE




FURNITURE / EQUIPMENT TAG




CASEWORK TAG




MILLWORK NOTE




NORTH ARROW



AREA TAG




# INDEX OF DRAWINGS

| SHEET NUMBER | SHEET NAME |
|---|---|
| GENERAL | |
| G000 | COVER SHEET |
| G001 | DRAWING INDEX |
| G002 | DESIGN AND CONSTRUCTION FEATURES FORM |
| G003 | WALL TYPE SCHEDULE |
| G004 | UL ASSEMBLIES |
| G005 | UL ASSEMBLIES |
| G006 | UL ASSEMBLIES |
| G007 | UL ASSEMBLIES |
| G008 | UL ASSEMBLIES |
| G009 | UL ASSEMBLIES |
| G100 | CODE DATA |
| G101 | CODE PLANS & SECTION |
| G201 | AREA PLANS |
| G300 | AIR SEALING DETAILS |
| GENERAL: 14 | |
| CIVIL | |
| C000 | PRELIMINARY ALTA SURVEY - FOR INFORMATION ONLY |
| C001 | DEMOLITION PLAN |
| C101 | STAKING PLAN |
| C102 | STAKING DETAILS |
| C201 | TITLE SHEET |
| C202 | GENERAL NOTES |
| C203 | GENERAL NOTES |
| C204 | STORM SEWER DEMOLITION PLAN |
| C205 | GRADING & STORM SEWER PLAN |
| C206 | STORM SEWER PROFILES |
| C207 | STORM SEWER DETAILS |
| C208 | ADS DETAILS |
| C209 | ADS DETAILS |
| C210 | EROSION & SEDIMENT CONTROL PLAN |
| C211 | EROSION & SEDIMENT CONTROL DETAILS |
| C301 | UTILITY PLAN |
| C302 | UTILITY NOTES & DETAILS |
| C303 | UTILITY PROFILES |
| CIVIL: 18 | |
| LANDSCAPE | |
| L101 | LANDSCAPE PLAN |
| L102 | DETAILS |
| LANDSCAPE: 2 | |
| STRUCTURAL | |
| S001 | GENERAL STRUCTURE INFORMATION |
| S002 | GENERAL STRUCTURE INFORMATION |
| S101 | FOUNDATION PLAN |
| S102 | SECOND FLOOR FRAMING PLAN |
| S103 | THIRD FLOOR FRAMING PLAN |
| S104 | ROOF FRAMING PLAN |
| S200 | SHEARWALL PLANS AND SCHEDULE |
| S201 | SHEARWALL DETAILS |
| S300 | FOUNDATION DETAILS |
| S320 | FRAMING DETAILS |
| S330 | FRAMING DETAILS |
| STRUCTURAL: 11 | |

| SHEET NUMBER | SHEET NAME |
|---|---|
| ARCHITECTURAL | |
| A101 | LEVEL 01 - FLOOR PLAN - OVERALL |
| A102 | LEVEL 02 - FLOOR PLAN - OVERALL |
| A103 | LEVEL 03 - FLOOR PLAN - OVERALL |
| A104 | ROOF PLAN - OVERALL |
| A201 | LEVEL 01 - RCP - OVERALL |
| A202 | LEVEL 02 - RCP - OVERALL |
| A203 | LEVEL 03 - RCP - OVERALL |
| A300 | AXONOMETRIC VIEWS |
| A301 | EXTERIOR ELEVATIONS - OVERALL |
| A401 | BUILDING SECTIONS |
| A501 | WALL SECTIONS |
| A502 | WALL SECTIONS |
| A503 | WALL SECTIONS |
| A521 | SITE & WALL DETAILS |
| A531 | ROOF DETAILS |
| A601 | VERTICAL CIRCULATION - STAIRS |
| A602 | VERTICAL CIRCULATION - ELEVATOR |
| A610 | WOOD STAIR DETAILS |
| A620 | ELEVATOR DETAILS |
| A701 | DOOR & WINDOW SCHEDULES |
| A710 | DOOR DETAILS |
| A711 | WINDOW DETAILS |
| A810 | ENLARGED UNIT PLANS - 2-BEDROOM UNITS |
| A811 | ENLARGED UNIT PLANS - 1-BEDROOM UNITS |
| A812 | ENLARGED PLANS - COMMON AREAS |
| A813 | ENLARGED RCP - COMMON AREAS |
| A820 | TYPICAL PROJECT DETAILS |
| A821 | TYPICAL PROJECT DETAILS |
| A830 | CASEWORK DETAILS |
| A900 | FINISH LEGEND |
| A910 | LEVEL 01 - FURNITURE PLAN |
| A911 | LEVEL 02 - FURNITURE PLAN |
| A912 | LEVEL 03 - FURNITURE PLAN |
| A931 | SIGNAGE SCHEDULE |
| ARCHITECTURAL: 34 | |
| FIRE PROTECTION | |
| F001 | GENERAL INFORMATION - FIRE PROTECTION |
| F101 | LEVEL 01 - FLOOR PLAN - FIRE PROTECTION |
| F102 | LEVEL 02 - FLOOR PLAN - FIRE PROTECTION |
| F103 | LEVEL 03 - FLOOR PLAN - FIRE PROTECTION |
| F401 | ENLARGED MECHANICAL ROOM - FIRE PROTECTION |
| F501 | DETAILS - FIRE PROTECTION |
| FIRE PROTECTION: 6 | |
| PLUMBING | |
| P001 | GENERAL INFORMATION - PLUMBING |
| P100 | LEVEL 00 - FLOOR PLAN - PLUMBING |
| P101 | LEVEL 01 - FLOOR PLAN - PLUMBING |
| P102 | LEVEL 02 - FLOOR PLAN - PLUMBING |
| P103 | LEVEL 03 - FLOOR PLAN - PLUMBING |
| P104 | ROOF PLAN - PLUMBING |
| P201 | RADON SYSTEM PLAN - PLUMBING |
| P401 | ENLARGED PLANS - PLUMBING |
| P402 | ENLARGED PLANS - PLUMBING |
| P403 | ENLARGED MECHANICAL ROOM - PLUMBING |
| P501 | DETAILS - PLUMBING |
| P502 | DETAILS - PLUMBING |
| P601 | SCHEDULES - PLUMBING |
| P701 | STACKS - PLUMBING |
| P702 | STACKS - PLUMBING |
| P703 | STACKS - PLUMBING |
| PLUMBING: 16 | |

| SHEET NUMBER | SHEET NAME |
|---|---|
| MECHANICAL | |
| M001 | GENERAL INFORMATION - MECHANICAL |
| M101 | LEVEL 01 - FLOOR PLAN - MECHANICAL |
| M102 | LEVEL 02 - FLOOR PLAN - MECHANICAL |
| M103 | LEVEL 03 - FLOOR PLAN - MECHANICAL |
| M104 | ROOF PLAN - MECHANICAL |
| M401 | ENLARGED PLANS - MECHANICAL |
| M402 | ENLARGED PLANS - MECHANICAL |
| M501 | DETAILS - MECHANICAL |
| M502 | DETAILS - MECHANICAL |
| M601 | SCHEDULES - MECHANICAL |
| M602 | SCHEDULES - MECHANICAL |
| MECHANICAL: 11 | |
| ELECTRICAL | |
| .E000 | GENERAL INFORMATION - ELECTRICAL |
| .ES101 | SITE PLAN - ELECTRICAL |
| E101 | LEVEL 01 - FLOOR PLAN - OVERALL - LIGHTING |
| E102 | LEVEL 02 - FLOOR PLAN - OVERALL - LIGHTING |
| E103 | LEVEL 03 - FLOOR PLAN - OVERALL - LIGHTING |
| E201 | LEVEL 01 - FLOOR PLAN - OVERALL - POWER |
| E202 | LEVEL 02 - FLOOR PLAN - OVERALL - POWER |
| E203 | LEVEL 03 - FLOOR PLAN - OVERALL - POWER |
| E204 | ROOF PLAN - OVERALL - ELECTRICAL |
| E401 | ENLARGED UNIT PLANS - 1 BEDROOM UNITS |
| E402 | ENLARGED UNIT PLANS - 2 BEDROOM UNITS |
| E501 | DETAILS -ELECTRICAL |
| E502 | DETAILS - ELECTRICAL |
| E503 | DETAILS - ELECTRICAL |
| E504 | DETAILS - ELECTRICAL |
| E601 | SCHEDULES - ELECTRICAL |
| E602 | SCHEDULES - ELECTRICAL |
| E701 | ELECTRICAL RISER DIAGRAM |
| ELECTRICAL: 18 | |
| TECHNOLOGY | |
| T000 | GENERAL INFORMATION - SYSTEMS |
| T101 | LEVEL 01 - FLOOR PLAN - SYSTEMS |
| T102 | LEVEL 02 - FLOOR PLAN - SYSTEMS |
| T103 | LEVEL 03 - FLOOR PLAN - SYSTEMS |
| T501 | DETAILS - SYSTEMS |
| T502 | DETAILS - SYSTEMS |
| TECHNOLOGY: 6 | |
| Grand total: 136 | |

# UNIVERSAL DESIGN FEATURES

THE SCOPE OF WORK INCLUDES A NEW BUILDING WITH A TOTAL OF (52) RESIDENTIAL UNITS. THE DESIGN OF INTERIOR AREAS WILL INCORPORATE PRINCIPLES OF UNIVERSAL DESIGN WHICH INCLUDE EQUITABLE USE, FLEXIBILITY IN USE, SIMPLE, INTUITIVE USE, PERCEPTIBLE INFORMATION AND TOLERANCE FOR ERROR, LOW PHYSICAL EFFORT, AND SIZE AND SPACE FOR APPROACH AND USE. THE INTENT IS TO IMPLEMENT UNIVERSAL DESIGN FEATURES IN THE PROJECT THROUGHOUT. THE PROJECT WILL PURSUE UNIVERSAL DESIGN FEATURES. FOR NEW CONSTRUCTION, THE PROJECT WILL FULLY INCORPORATE MANDATORY UNIVERSAL DESIGN FEATURES AS REQUIRED BY OHFA'S QAP.

**PRINCIPLES OF UNIVERSAL DESIGN.**

#1 **EQUITABLE USE** – THE NEW UNIT ENTRANCES WILL HAVE A ZERO-STEP ENTRANCE AND A FIRST FLOOR BATHROOM THAT MEETS THE VISITABILITY REQUIREMENTS. UNIVERSAL DESIGN FEATURES WILL BE IMPLEMENTED TO MAKE THE UNITS USER FRIENDLY. PARKING WILL BE PROVIDED ALONG AN ACCESSIBLE ROUTE. ACCESSIBLE PARKING SPACES WILL BE LOCATED CLOSEST TO THE BUILDING ENTRANCES TO PROVIDE DIRECT ACCESS TO THE ANSI TYPE A UNITS.

#2 **FLEXIBILITY IN USE** – RESIDENTIAL UNITS WILL PROVIDE BLOCKING AROUND TOILETS FOR THE INSTALLATION (ACCESSIBLE BATHS) AND FUTURE INSTALLATION (NON-ACCESSIBLE BATHS) OF GRAB BARS AND AN OPEN FLOOR PLAN FOR EASY MANEUVERABILITY. WHERE NEW TUBS OR SHOWERS ARE INSTALLED IN NON-ACCESSIBLE BATHS, BLOCKING WILL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS . WHERE NEW ROLL-IN SHOWERS ARE INSTALLED IN ACCESSIBLE BATHS, BLOCKING AND GRAB BARS WILL BE PROVIDED.

#3 **SIMPLE, INTUITIVE USE** – THE LAYOUT OF THE NEW RESIDENTIAL UNITS IS EASY TO UNDERSTAND REGARDLESS OF THE USER'S EXPERIENCE, KNOWLEDGE, LANGUAGE SKILLS, OR CURRENT CONCENTRATION LEVEL.

#4 **PERCEPTIBLE INFORMATION** – EXTERIOR AND INTERIOR ILLUMINATION HELP RESIDENTS AND GUESTS FEEL SECURE AND MOVE COMFORTABLY AROUND A ROOM. THE FLOORING AND FINISHES IN THE NEW RESIDENTIAL UNITS WILL BE DESIGNED TO PROVIDE SLIP RESISTANT FLOORING. MATERIALS WITH EASY TO READ OR MINIMUM PATTERN WILL BE SELECTED TO ACCOMMODATE THE SENSE OF PERCEPTION OF AGING PERSONS OR PERSONS WITH VISUAL IMPAIRMENTS.

#5 **TOLERANCES FOR ERROR** – THE EXISTING ROUTE AROUND THE BUILDINGS INTO THE RESIDENTIAL UNITS ALLOWS GUESTS TO SAFELY ACCESS THE HOME AND PROTECT FROM ACCIDENTAL AND TRIPPING/FALLING. ALL MAIN EXTERIOR ENTRANCES ARE COVERED TO PROTECT THE RESIDENTS AND GUESTS FROM THE WEATHER. ILLUMINATION IS PROVIDED AT EXTERIOR DOORS FOR ADDED SECURITY AND SAFE EGRESS. IN THE INTERIORS, MINIMAL TRANSITIONS BETWEEN FLOORING MATERIALS WILL BE USED TO AVOID TRIPPING HAZARDS. SLIP RESISTANT LVT FLOORING AND SHEET VINYL WILL BE LOCATED THROUGHOUT THE UNITS.

#6 **LOW PHYSICAL EFFORT** – ALL DOOR HARDWARE, PLUMBING, MECHANICAL AND ELECTRICAL CONTROLS ACCESSIBLE TO THE RESIDENTS AND WILL REQUIRE LOW EFFORT TO OPERATE. NEW DEVICES INCLUDED IN THIS PROJECT WILL BE LOCATED NO LESS THAN 18" (OUTLETS) ABOVE THE FLOOR AND NO HIGHER THAN 42" ABOVE THE FLOOR.

#7 **SIZE AND SPACE FOR APPROACH AND USE** – IN THE NEW BUILDING, A TOTAL OF THREE (3) RESIDENTIAL UNITS WILL BE PROVIDED WITH ANSI TYPE A FEATURES AND INCLUDE MANEUVERABILITY WITHIN THE UNITS.

**SITE DESIGN:**
- ALL COMMON OPEN SPACE AREAS WILL BE ON AN ACCESSIBLE ROUTE.
- ANY NEW EXTERIOR SIGNAGE PROVIDED, WILL BE EASY TO READ WITH HIGH CONTRASTING LETTERS/ NUMBERS AND BACKGROUND.

**BUILDING ENTRANCES:**
- A COVERED ENTRANCE AT THE MAIN BUILDING ENTRY PROVIDES WEATHER PROTECTION.
- MINIMUM CLEARANCES INSIDE AND OUTSIDE THE ENTRY DOORS WILL BE PROVIDED.
- FLOORING MATERIALS WILL BE NON-SLIP, EXTERIOR WILL BE IN CONCRETE AND THE INTERIOR WILL BE LVT.

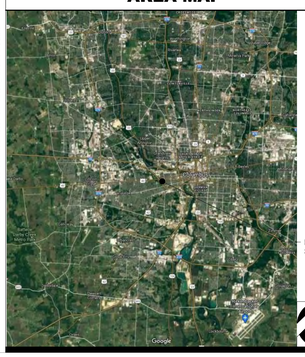
**INTERIOR CIRCULATION:**
- ADA COMPLIANT THRESHOLDS AT ANSI TYPE A UNITS.
- 5 LB. MAXIMUM FORCE TO OPEN DOORS AT ANSI TYPE A UNITS.

**RESIDENTIAL UNITS:**
- ZERO-STEP ENTRY WITH A 36-INCH DOOR AT THE ANSI TYPE A UNITS. ANSI TYPE A UNIT ENTRY DOORS TO ALSO INCLUDE DOOR VIEWER WITHIN ACCESSIBLE REACH RANGE.
- NON-SLIP LVT FLOORING IN UNIT ENTRY HALL.
- UNIT ENTRIES ARE TREATED AS FRONT PORCHES AND INCLUDE ADEQUATE LIGHTING TO UNLOCK THE DOOR.
- 5 LB. MAXIMUM FORCE TO OPEN DOORS.
- WHERE LIGHT SWITCHES, ELECTRICAL OUTLETS AND ENVIRONMENTAL CONTROLS ARE PROVIDED, THEY WILL BE LOCATED AT ACCESSIBLE LOCATIONS NO LESS THAN 18" ABOVE THE FLOOR AND NO HIGHER THAN 42" ABOVE THE FINISH FLOOR.
- WHERE SWITCHES ARE PROVIDED, LEVER OR BLADE KNOBS WILL BE USED FOR CONTROLS AND A ROCKER, TOGGLE OR TOUCH SENSITIVE SWITCH WILL BE USED.
- WHERE PLUMBING FIXTURES ARE PROVIDED, LEVER TYPE FAUCETS WILL BE INSTALLED IN THE KITCHENS AND BATHS.
- THERMOSTATIC PRESSURE BALANCED FAUCETS PER OPC OR ANTI-SCALD CONTROL/ TANK LESS W/ THERMOSTATIC CONTROL
- COLOR CONTRAST BETWEEN FLOOR, COUNTERTOPS AND CABINET FACES

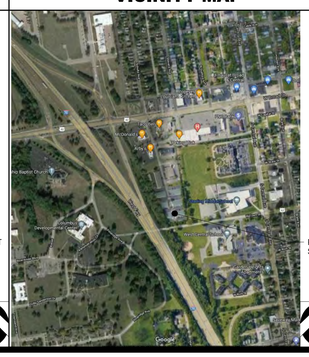
**RESIDENTIAL UNIT BATHROOMS:**
- AT ALL TUB/ SHOWER SURROUNDS, IN-WALL BLOCKING WILL BE PROVIDED FOR THE INSTALLATION OR FUTURE INSTALLATION OF GRAB BARS IN WALLS AROUND THE TUB/ SHOWER.
- AT ANSI TYPE A UNITS, PROVIDE ROLL-IN SHOWERS IN ACCESSIBLE BATHS, WITH REINFORCED GRAB BARS INSTALLED.
- LEVER TYPE FAUCETS WILL BE PROVIDED.
- PRESSURE BALANCED ANTI-SCALD VALVE.
- NON-SLIP SHEET VINYL FLOORING.
- LEVER TYPE DOOR HANDLES WILL BE PROVIDED.
- 34" MAX AFF LAVATORY COUNTER HEIGHT WILL BE PROVIDED.

**RESIDENTIAL UNIT KITCHENS:**
- AT ANSI TYPE A UNITS, FRONT MOUNTED CONTROLS ON THE RANGE WILL BE PROVIDED.
- AT ANSI TYPE A UNITS, CLEAR KNEE SPACE UNDER SINK WITH INSULATED PIPES WILL BE PROVIDED.
- AT ANSI TYPE A UNITS, OPEN WORK AREAS WITH REQUIRED CLEARANCES WILL BE PROVIDED.
- SINGLE-LEVER CONTROL AT SINKS WILL BE PROVIDED.
- LOOP HANDLE PULLS ARE TO BE PROVIDED ON THE CABINETS THAT ALLOW FOR EASY OPERATION AND LOW-EFFORT.

# AREA MAP




# VICINITY MAP




# MATERIALS LEGEND

| | |
|---|---|
| ALUMINUM | GRANULAR FILL |
| ACOUSTIC CEILING | GYPSUM BOARD |
| BRICK | INSULATION - BATT |
| CONCRETE | INSULATION - RIGID |
| CONCRETE MASONRY | PLYWOOD |
| CONCRETE (SURFACE) | STEEL |
| EARTH | WOOD - ROUGH FRAMING |
| GLASS - LARGE SCALE | WOOD - ROUGH BLOCKING |
| GLASS - SMALL SCALE | WOOD - FINISHED |

# CODE SUMMARY

SEE CODE DATA SHEET G100 & G101.

# GREEN CERTIFICATION

THE PROJECT WILL PURSUE LEED CERTIFICATION FOR THE BUILDING.

# ACCESSIBILITY

1. THREE (3) TOTAL OR FIVE PERCENT OF THE TOTAL NUMBER OF UNITS WILL BE DESIGNATED AS ANSI TYPE A UNITS. REFER TO OVERALL ARCHITECTURAL FLOOR PLANS FOR LOCATIONS.

2. TWO (2) TOTAL OR TWO PERCENT OF THE TOTAL NUMBER OF UNITS WILL BE DESIGNATED AS HEARING AND VISUALLY (SENSORY) IMPAIRED UNITS. REFER TO OVERALL ARCHITECTURAL FLOOR PLANS FOR LOCATION

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OHIO HOUSING FINANCE AGENCY

# Design and Construction Features Form
## 2021 Multifamily Funding Programs

## INSTRUCTIONS

1. The architectural entity with whom the owner and developer contracted with to provide architectural services will complete the form and obtain all required signatures for the certifications.
2. The project applicant will submit the completed and signed form with the proposal application.
3. If funded, the project applicant will complete and submit the form again at final application with all changes from what was submitted at proposal application clearly identified.
4. A copy of the final, completed form must also be included in the 80% percent plan sets, copied onto the page(s) following the cover sheet, submitted at final application.

All communications related to the architectural review, including submission of architectural plans, must be sent to arch@ohiohome.org.

*Helpful links:*

- 2021 Design and Architectural Standards
- 2021 Exception Request Form
- 2021 Qualified Allocation Plan
- 2021 Multifamily Underwritine Guidelines
- 2021 HDAP Guidelines (RGF or HDGF)

## SUBMISSION REQUIREMENTS

### Preliminary Architectural Submission

At minimum, the proposal application architectural submission must include all of the following:

- ☐ This form, completed and signed
  - *Note: This form takes the place of the DCFA tab and Construction Certification tab that were previously part of the AHFA/GFA.*
- ☐ Exception Request form(s), if applicable.
- ☐ Preliminary drawings, which shall include all of the following:
  - Cover sheet with name of development as submitted to OHFA, development address, development team, drawing index, code information, and table indicating unit schedule (including accessible, adaptable and sensory impaired units), types and sizes;
  - Site plan, including parking data and layouts;
  - Landscape plan;
  - Dimensioned floor plans with gross area of units and floor plans, as well as room designations and proposed finishes;
  - Exterior elevations with material notations;
  - Typical wall sections (new construction only); and
  - Schematic Drawings and/or schematic specifications for HVAC, plumbing, and electrical or similar items included in the scope of work.

NAME OF PROPOSED DEVELOPMENT: Harriet's Hope
DATE OF SUBMISSION: 3/30/22
ADDRESS OR PROPOSED ADDRESS/PARCEL: 1581 West Broad Street, Columbus, Ohio 43222



Preliminary drawings, described above, shall be submitted in all of the following formats:

- ☐ Electronic format (pdf)
  - Single PDF file for all drawings specified above.
  - Separate, single PDF for specifications.
- ☐ Hard copy
  - Full set of architectural plans, 11"x17" scaled to fit. **Full size plans will not be accepted.**

Upon request only, preliminary drawings shall be submitted in DXF R-2017 format or DWG AutoCAD R-2017 format.

### Final Architectural Submission

Final applications must include 80 percent complete permit sets, including final plans for all trades. Unless approved by OHFA, the plans must include the **project name as submitted with the proposal application** and **OHFA tracking number**. The submission must show conformity to the preliminary submittal, including the information included within this form. Substantive changes of any items that would affect competitive scoring will not be approved.

At minimum, the final application architectural submission must include all of the following:

- ☒ This form, completed and signed. Information included in this document must be updated as needed from the proposal application submission, and must match the information in the 80% plans.
  - Note: This form takes the place of the DCFA tab and Construction Certification tab that were previously part of the AHFA/GFA.
- ☒ Verification that the drawings comply any and all accessibility, energy efficiency, universal design, and/or green building requirements required for the development or committed to in the application for funding.
- ☒ Asbestos, mold, radon, and lead-based paint considerations as required.
- ☒ Items required to be completed per Phase I or II Environmental Site Assessment, or per applicable Environmental Review performed by OHFA's environmental consultant.
- ☒ Plan sets, which shall include all of the following:
  - Site plans
  - Interior and Exterior elevations
  - Dimensioned floor plans
  - Wall sections (if applicable)
  - Structure (if applicable)
  - Finishes
  - Details
  - Mechanical plans
    - Drawings must have a dimensioned plumbing plan and control points located for rough-in site verification. All pipes-through-floor and the walls they are intended to be located within must be dimensioned relative to the foundation where they must align with walls and/or islands above. (new construction and adaptive reuse only)
    - OHFA strongly encourages a surveyor to locate wall and through-slab pipe penetrations. Foundation over dig must be filled with insulation or forms and then back filled per geotechnical reports.



Plan sets, described above, shall be submitted in all of the following formats:

- ☒ Electronic format (pdf)
  - Separate, single PDF files for drawings including all site plans, dimensioned floor plans, elevations, wall sections, structure, finishes, details and mechanical plans.
  - Separate, single PDF file for specifications.
- ☒ Electronic format (AutoCAD)
  - Dimensioned floor plans only, submitted in DXF or DWG AutoCAD R-2017 format.
    - It is preferred that the project architect's polyline area lines be included.
    - If drawings are externally referenced (xref), submissions must be bound (xbind) prior to creating files for OHFA.
    - Proprietary authorship information such as title blocks, Architecture seals, etc. should be removed.
    - DXF should be generated from the base file and not a plan sheet file.
- ☒ Hard copy
  - Full set of architectural plans, 11"x17" scaled to fit. **Full size plans will not be accepted.**

## FORM SECTIONS


A. DEVELOPMENT INFORMATION ..... 4
B. PROJECT CONTACTS ..... 4
C. DEVELOPMENT DETAILS ..... 5
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K. CERTIFICATION ..... 15


## A. DEVELOPMENT INFORMATION

a. Development Name: Harriet's Hope
b. OHFA Tracking Number (final application only):
c. Address: 1581 West Broad Street
d. City: Columbus
e. Zip Code: 43222
f. Competitive Pool: Service Enriched Housing: PSH
g. Population Served: Families
h. Construction Type: New Construction
i. Wage Rate Requirements: If federal or state funds are utilized in the proposed development, select any regulations that apply to the proposed development.
   - ☒ Davis Bacon and related acts: Davis Bacon Act prevailing wage provisions apply to contractors and subcontractors performing on federally funded or assisted contracts in excess of $2,000 for construction, alteration or repair (including painting and decorating) of public buildings or public works.
   - ☐ Ohio Prevailing Wage: Ohio's prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than $200,000 for new construction or $60,000 for reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting.
   - ☐ HUD Section 3 Requirements: Section 3 is a provision of the Housing and Urban Development (HUD) Act of 1968 requiring that recipients of certain HUD financial assistance, to the greatest extent feasible, provide job training, employment, and contracting opportunities for low or very low-income residents in connection with projects and public works.
   - ☐ None of the above are applicable

## B. PROJECT CONTACTS

a. Architect of Record
   - Company: Moody Nolan, Inc.
   - Name: Anup Jamadhanan
   - Phone: (614) 461-4664
   - Email: anup@moodynolan.com
b. Developer
   - Company: Columbus Metropolitan Housing Authority (CMHA)
   - Name: Mike Wagner
   - Phone: (614) 421-6000
   - Email: mwagner@cmhanet.com
c. Owner
   - Company: Same as Developer - See above
   - Name:
   - Phone:
   - Email:



## C. DEVELOPMENT DETAILS

a. Number of sites: 1
b. Number of residential buildings: 1
c. Number of accessory buildings: 0
d. Date built: N/A
   - *For proposals involving acquisition rehabilitation or adaptive reuse, please specify the year the building(s) were originally constructed. For multiple building proposals or scattered site projects, a range of dates may be provided.*
e. Date first occupied: 1961
   - *Year development was or will be occupied. For multiple building proposals or scattered site projects, a range of dates may be provided.*
f. Site acreage: 4.25
g. Total # units: 91
h. Total # low-income units: 50
i. Number of efficiency units: 0
j. Number of one-bedroom units: 40
k. Number of two-bedroom units: 5
l. Number of three-bedroom units: 5
m. Number of four-bedroom units: 1
n. Building/Zoning variances received:

## D. FLOOR AREA DETAILS

| *Space* | *GSF* | *Notes* |
|---|---|---|
| Gross Square Footage of all Buildings | 43865 | *Measured from exterior face of exterior building; includes structured exterior spaces (stair, balcony, portico).* |
| Total Number of Low Income Units | 52 | |
| Commercial Space Condominium Areas: | 0 | *Legally separate space under control of another program or condominimized legal separation.* |
| Commercial Areas and Fee-Driven Space: | 0 | *Includes spaces for which residents must pay a fee for use/access (garages, storage).* |
| Market Rate Unit Area: | 0 | *Must include lofts, mezzanine and restricted headroom areas* |
| Low Income Unit Area: | 31821 | *Must include lofts, mezzanine and restricted headroom areas* |
| Managers Unit Area: | 0 | *Must include lofts, mezzanine and restricted headroom areas* |
| Common Area (Public): | 2751 | *Public restrooms, community rooms, libraries, offices, meeting rooms, kitchens, car canopy, portico, fitness rooms, laundry, mailboxes.* |
| Common Area (Circulation): | 5112 | *Public hallways, stairways, and corridors to residential units.* |
| Dedicated Program Space: | 588 | *Counseling space, wellness and health clinic areas, day care centers, etc.* |
| Limited Common Area (Private): | 0 | *Exterior spaces with access only through residential unit, i.e. balcony/porch/deck (patios without roof are not included).* |
| Support: | 1674 | *Electrical, mechanical, elevator room, sprinkler room, janitorial, trash, maintenance, storage that is not for tenant use, free standing maintenance buildings.* |
| Tenant Storage: | 0 | *Tenant storage outside of unit.* |
| Major Vertical Penetrations: | 1919 | *Includes duct shafts, stair shaft, elevator shaft, space open to below.* |
| Structured Parking / Garage: | 0 | *Attached or detached garage that residents do not pay a fee for.* |
| Basement: | 0 | *Includes spaces with a minimum of 7' clear head height. Spaces less than 7' are crawl spaces per RCO 305.* |

TOTALS

| | | |
|---|---|---|
| Non-Low Income Floor Area | 0 | *Commercial Space Condo Areas + Commercial Areas + Market Rate Unit Area* |
| Low Income Floor Area | 36933 | *LI unit area + Common Area (Circulation) + Limited Common Area (Private) + Tenant Storage* |
| % Common Area | 0.17925453 | *Common Area (Public) + Common Area (Circulation) / Gross Square Footage* |
| Net Rentable Square Footage | 31821 | *Gross Square Footage - Non-Low Income floor area* |
| Average Net Rentable SQFT per LI Unit | 611.942308 | *Net Rentable Square Footage/ Total number of Low income Units* |

The following items should **not** be included in any of the above square footages:

- Trash enclosures
- Concrete patios without roofs
- Sidewalks



## E. ADAPTABILITY AND ACCESSIBILITY

All developments must be designed and constructed to comply with all local, state, or federal accessibility guidelines that apply.

a. All developments must to comply with the accessibility requirements as outlined in the **Ohio Building Code**, Chapter 4101:1-11, which includes the use of ICC/ANSI A117.1-2009 for the design and construction of accessible units.
   - ☒ Yes, the project will comply with the accessibility requirements as outlined in the Ohio Building Code.

b. All developments receiving OHFA funding must meet the accessibility requirements of **Section 504**. Identify the implementing standard the development will utilize to demonstrate compliance with Section 504 requirements (select one):
   - ☐ Uniform Federal Accessibility Standards (UFAS)
   - ☐ 2010 ADA Standards for Accessible Design under Title II of the ADA, except for certain specific identified provisions, as detailed in HUD's Notice on "Instructions for use of alternative accessibility standard," published in the Federal Register on May 23, 2014 ("Deeming Notice").
   - ☒ An equivalent standard as defined in HUD's Deeming Notice (such as ICC/ANSI A117.1-2009)

c. Developments may be subject to the **Fair Housing Act** design and construction requirements. If the development is subject to the Fair Housing Act design and construction requirements, verify that the project will be designed and constructed to meet the requirements of the Fair Housing Act and that all units, other than the accessible units, will be designed and constructed as ANSI Type B units.
   - ☒ Yes, the project will be designed and constructed to meet the requirements of the Fair Housing Act. and all units, other than the accessible units, will be designed and constructed as ANSI Type B units.

d. Number of 504 mobility units required: 2.6
e. Number of 504 sensory units required: 1.04
f. Number of 504 mobility units provided: 3
g. Number of 504 sensory units provided: 3 (includes 3 mobility units & 2 dedicated sensory units)

h. Number of accessible parking spaces: 3

i. Total number of non-conforming accessible units & reason: (only applicable to adaptive reuse or rehabilitation projects if full compliance is technically infeasible. Exception request must have been submitted.)

N/A



## F. SUSTAINABILITY

a. Developments must meet all energy efficiency requirements as stated in the **Ohio Building Code or Residential Code.**
   - ☒ Yes, development will meet all energy efficiency requirements as stated in the Ohio Building Code or Residential Code.

b. In addition, all multifamily developments must obtain one of the below **energy efficiency or green building certifications.** Select which certification will apply to the development.
   - ☐ Energy Star MFHR Performance Path
   - ☐ Energy Star MFHR Prescriptive Path
   - ☒ LEED Certified
   - ☐ LEED Silver
   - ☐ ICC 700 NGBS Bronze
   - ☐ ICC 700 NGBS Silver
   - ☐ 2020 Enterprise Green Communities
   - ☐ OHFA Limited Scope Rehabilitation Sustainability Standards
   - ☐ Energy Star Certified Homes
   - ☐ Energy Star MF New Construction
   - ☐ LEED Gold
   - ☐ LEED Platinum
   - ☐ ICC 700 NGBS Gold
   - ☐ ICC 700 NGBS Emerald

## G. EXCEPTION REQUESTS

Select the items an Exception Request form has been submitted for.

- ☐ No requests for exception were submitted for this development.

Exception Request previously submitted (preliminary application) no longer applies

**New Construction**

- ☐ Items that are subject to non-OHFA (such as local codes or design standards, funding source, etc.) requirements that may conflict with the OHFA Design and Architectural Standards.
- ☐ Items that are unable to be complied with for a compelling reason, as fully described by the applicant in the Exception Request form.

**Rehabilitation or Adaptive Reuse**

- ☐ Universal Design mandatory components (ONLY if seeking competitive points through the Competitive HTC program)
- ☐ Accessibility requirements (if compliance is technically infeasible)
- ☐ Items with 75% or more RUL (if replacement required for green certification)
- ☐ Durable Materials - Exterior
- ☐ Main Entry
- ☐ Sidewalks
- ☐ Durable Materials - Interior
- ☐ Major Building Components
- ☐ Common Areas
- ☐ Elevators
- ☐ Interior Doors
- ☐ Floor Coverings
- ☐ Unit Sizes
- ☐ Bedroom Sizes
- ☐ Bathrooms
- ☐ Kitchen & Appliances
- ☐ Laundry Facilities



## H. DESIGN-RELATED COMPETITIVE CRITERIA

Select the items below that the development is seeking competitive points for under the 2021 QAP.

- ☒ Universal Design
- ☐ 504 Units
- ☐ Exercise and Wellness
- ☒ Design Features
- ☐ Number of Bedrooms
- ☐ Green Development

## I. SCOPE OF WORK

a. **Provide an overview of the proposed improvements to be made** involving site design, building design, mechanical and electrical systems and building components including building exterior, interior, and life safety items.

Harriet's Hope is a 52 unit, three-story multi-family residential facility for adult cis and transgender females in Franklin County, Ohio, that have experienced chronic homelessness or one or more verified human trafficking events and their minor dependents.

The proposed three-story building will be wood framed construction and have a TPO roof system. The building will have a mix of 1-bedroom and 2-bedroom units. Vinyl window systems are proposed for the dwelling units and storefront for limited areas in the Community Rooms and Lobby. The building will have one elevator serving the Lobby with common amenities located on the First Floor. Dwelling unit doors will be pre-hung solid core. All finishes will meet the requirements of OHFA's QAP. See drawings for additional information.

b. **Address any issues raised in the Phase I Environmental Site Assessment (ESA) report(s) in the space provided below.** Include information for all single-site and scattered-site proposals, as required by applicable program funding guidelines.

See attached ESA

c. **For any developments involving acquisition and rehabilitation, adaptive reuse or historic preservation,** provide a narrative describing the history of improvements made to the building(s) and/or units.

N/A



d. **For any developments proposing adaptive reuse or rehabilitation with historic tax credits,** specify any restrictions or requirements that will be used to determine compliance with the Ohio Historic Preservation Tax Credit and/or Federal Historic Preservation Tax Credit programs.

N/A

e. **Address any issues raised in the Physical Capital Needs Assessment (PCNA) and Scope of Work report(s) in the space provided below.** Include information for all developments proposing rehabilitation of existing units or the adaptive reuse of a building at proposal submission, especially where the scope of work and PCNA do not agree.

N/A

f. **SITE AND BUILDING COMPONENTS**
For each item listed below, provide a brief description of the specific improvements that will be incorporated in the proposed development. Attach additional pages if needed.
If no improvements will be made to the item, provide a description of their current state.

- Site Work (including security):

Site Demolition:
Demolition of three existing buildings, pavement, etc.

Site Utilities:
Sanitary sewer service, domestic water/fire protection service, natural gas service, storm

- Concrete:

a) The sidewalk will have a standard 4-inch thick concrete and 4-inch (CMSC Item 304) gravel base. b) Heavy Duty asphalt pavement loop drive, drop off areas and parking lot will be 1.5-inches of asphalt concrete surface course on 3-inches of asphalt concrete intermediate course (CMSC Item 441) and 8 inches of aggregate base (CDOT Item 304). The dumpster pad will feature heavy duty concrete pad of 8-inch thick concrete (CMSC Item 499) over 6-inches of aggregate base (CMSC

- Masonry:

The building will have limited areas of face brick at the First Floor and stairs. CMU shafts will be used for stairs and elevators.



- Metals:

The project site will be bounded by a decorative fence. All interior and exterior rails will be metal.

- Carpentry:

The three-story building will be wood framed.

- Thermal and Moisture Protection:

The building will have vinyl siding system and face brick treatment on the exterior. The roof system will be a membrane system (TPO).

- Doors and Windows:

Exterior doors and mechanical room doors will be HM door and frame. There will be limited areas in the Lobby and Vestibule that will have an aluminum storefront system. Interior doors will be pre-hung solid core wood doors and frames.

- Finishes and Appliances:

A. Floor finishes to be 'wood-look' resilient flooring in all rooms except bath. Bath floor finish to be 'stone-look' resilient flooring.
B. New construction to include new appliances- Energy Star rated where applicable
C. Install loop handle pulls on kitchen casework
D. ANSI Type A units: light switches, electrical, outlets & panels, thermostats and other environmental controls

- Furnishings:

The project will provide furnishings (FFE) in the dwelling units. Offices and Community Rooms.

- Plumbing:

Fire Protection Water Service:
The building square footage requires a single wet pipe sprinkler system alarm valve riser with flow switch and supervised valve with tamper switch, wired to the building fire alarm system.

Wet Pipe Automatic Sprinkler System:

- HVAC:

One and Two-Bedroom Units:
Each apartment and core areas (Lobbies and Corridors) will be individually served by its own split system heat pump with remote wall mounted thermostat. The heat pump (condensing unit) will be located on the roof and the air handling unit, with internal auxiliary heating coil, will be located within a closet in the respective unit. Each air handling unit will be a vertical, up flow style unit installed on

- Electrical:

Electrical Services:
The electrical service for the building shall be 208/120 volts three phase, four wire, served from a local utility. Electric Utility provider is anticipated to be either American Electric Power (AEP) or



## J. UNIVERSAL DESIGN COMPONENTS

**ONLY APPLICABLE TO THOSE PROJECTS SEEKING COMPETITIVE POINTS FOR UNIVERSAL DESIGN. LEAVE THIS SECTION BLANK IF DEVELOPMENT IS NOT SEEKING THESE COMPETITIVE POINTS UNDER THE 2021 QAP.**

For those projects seeking competitive points for Universal Design, select all of the below items that will be included in the development. Mandatory items are marked with an asterisk. Refer to the pages 45, 51, 80, and 119 of the 2021 QAP for more detail.

Additionally, specify the architectural page reference, or if it will be covered by a general/universal plan note, mark "Note".

Which of the below scoring options will the development be seeking? (select one)

- ☒ All mandatory items = 5 points
- ☐ All mandatory items + 5 additional in 50% of units = 8 points
- ☐ All mandatory items + 10 additional in 50% of units = 10 points
- ☐ All mandatory items + 5 additional in 100% of units = 10 points

**Entry**

| *Included?* | *Page or Note* | *Item* |
|---|---|---|
| ☒ | G001 / A010-A011 / A021 | *36" wide (minimum) entry door with lever-style handle (mandatory for NC only) |
| ☒ | G001 / A010-A011 / A021 | *Minimum 5' x 5' level clear space inside and outside entry door |
| ☒ | G001 / E101* / E201 | *Adequate non-glare lighting at walkways, accessible routes, and exterior spaces |
| ☒ | G001 / E101* / E101-E102 | *Adequate lighting both inside and outside the building and unit entrance |
| ☒ | G001 / A301 / A401 | *High visibility address numbers (both building and exterior units) |
| ☒ | G001 / A301 | *Overhead weather protection at entrances (mandatory for NC only) |
| ☐ | | Built-in shelf/bench/ledge located outside the door |
| ☒ | G001 / A002 | Nonslip surfaces on walkways and entryways |
| ☒ | G001 / A010-A011 / A021 | Primary unit entry with an accessible/dual peephole and backlit doorbell |
| ☐ | | Door locks that are easy to operate, such as keyless locks with remote control or keypad |
| ☒ | G001 / A701 | No-step entry (1/2" or less threshold) at main entrance |

**Interior Stairs and Hallways**

| *Included?* | *Page or Note* | *Item* |
|---|---|---|
| ☒ | G001 / E101-E103 | *Adequate lighting to illuminate all stairway(s), landings, and hallway(s) |
| ☒ | G001 / A101-A102 | *Hallways with a minimum width of 42" |
| ☒ | G001 / A002 | *Anti-slip strips on front edge of steps in color-contrast material |
| ☒ | G001 / A002 | Color contrast between stair treads and risers |
| ☒ | G001 / A001 | Handrails on both sides of interior stairs |

**Interior Doors**



| *Included?* | *Page or Note* | *Item* |
|---|---|---|
| ☒ | G001 / A010-A011 / A021 | *32" wide (minimum) doors leading to habitable room, allowing for a 32" minimum clearance |
| ☒ | G001 / A010-A011 | *Lever-style door hardware on all interior doors |
| ☒ | G001 / A701 / A011-A011 | *Interior maximum door threshold of ¼ inch beveled or flush |
| ☐ | | Pocket doors with easy-to-grip handles |

**Faucets**

| *Included?* | *Page or Note* | *Item* |
|---|---|---|
| ☒ | G001 / A010-A011 / P001 | *Anti-scald faucets with lever handle for all sinks, bathtubs, and showers |
| ☒ | G001 / A010-A011 / P001 | *Pressure balanced faucets |

**Electrical**

| *Included?* | *Page or Note* | *Item* |
|---|---|---|
| ☒ | G001 / A010-A011 / E101-E102 | *Thermostat and control panels that are easy to read and simple to operate |
| ☒ | G001 / E101-E103 | *Rocker, touch light, or hands-free switches |
| ☒ | G001 / E101-E103 | *Extra electrical outlets near the bed (for medical equipment or rechargeable items, etc.) placed 18" to 24 above finished floor (bedroom only) |
| ☐ | | Lighted switches visible in the dark |
| ☐ | | Switched outlets for lamps, etc. to be turned on with wall switch |
| ☒ | G001 / A801 | Electrical outlets, phone jacks, and data ports at least 18" above finished floor |
| ☒ | G001 / A801 | Light switches between 44"-48" above finished floor; thermostats no more than 48" above finished floor |
| ☐ | | Clear access space of 30" by 48" in front of switches, outlets, and controls |
| ☒ | G001 / E101-E103 | Audible and visual alarms for smoke/fire/carbon monoxide in all code-required accessible areas and all units |

**Bathrooms**

| *Included?* | *Page or Note* | *Item* |
|---|---|---|
| ☒ | G001 / A002 | *Countertops with beveled edges |
| ☒ | G001 / A602 | *Adjustable-height showerhead or hand-held showerhead with flexible hose and easily operable controls |
| ☒ | G001 / E101-E102 | *Non-glare lighting at vanities |
| ☒ | G001 / A810-A811 | A full- or half-bath on the main floor with clear floor space of 30" x 48" |
| ☐ | | Overhead light fixture in tub/shower |
| ☐ | | Mirror(s) placed for both standing and sitting, such as a full-length or tilting mirror |
| ☒ | G001 / A810-A811 / A821 | Toilet centered at least 18" from any side wall, tub, or cabinet |
| ☒ | G001 / A810-A811 / A821 | In at least one bathroom per unit: |
| ☒ | G001 / A810-A811 / A821 | Low-threshold or curbless shower at least 5' x 3' OR ADA bathtub with seat |
| ☒ | G001 / A810-A811 / A821 | Clear knee space (at least 27" high) under sink. May be open knee space or achieved by means of removable vanity or fold-back or self-storing doors. Pipe protection panels must be provided to prevent contact with hot or sharp surfaces. |



| | | |
|---|---|---|
| ☒ | G001 / A810-A811 / A821 | Grab bars, or wall-blocking for future installation of grab bars, in tub/shower, and toilet. Grab bars must be properly anchored and supported. |

**Kitchen**

| *Included?* | *Page or Note* | *Item* |
|---|---|---|
| ☒ | G001 / A810-A811 | *At least 15" clear space on each side of stove, sink, and one side of fridge |
| ☒ | G001 / A810-A811 | *Loop handles on drawers and cabinets |
| ☒ | G001 / E101-E102 / E601 | *Non-glare task lighting to illuminate sink, stove, and work areas |
| ☒ | G001 / A810-A811 | Adjustable height shelves in wall cabinets |
| ☐ | | Base cabinets with pull out drawers |
| ☐ | | Pull-out work surface near the oven, refrigerator and/or microwave. |
| ☒ | G001 / A810-A811 / A821 | Visual contrast at front edge of countertop or between the countertop and the cabinets |
| ☐ | | Side-by-side refrigerator-freezer |
| ☒ | G001 / A810-A811 | Cooktop/range with front or side-mounted controls (senior units only) |
| ☐ | | Extra outlets for small appliances. electronics, etc. |
| ☒ | G001 / A810-A811 / A821 | Clear knee space (at least 27" high) under sink, counters, and/or cook tops. If under sink, pipes must have protection and may not be in the required knee space. May be open knee space or achieved by means of removable base cabinets or fold-back or self-storing doors. |

**Closets/Storage**

| *Included?* | *Page or Note* | *Item* |
|---|---|---|
| ☐ | | Area is well-lit with a switch located outside the space |
| ☒ | G001 / A810-A811 | Doors and handles that are easy to operate. No bi-fold or accordion-type doors. |
| ☒ | G001 / A810-A811 / A821 | Adjustable-height shelving and/or closet rods OR clothes rods installed at multiple heights |
| ☐ | | Pull out-shelves, rollout cabinets, and other easy to access storage components |



## K. CERTIFICATION

*We represent, warrant and certify to OHFA that the following does and will apply to the proposed development:*

The Development will be designed and constructed to meet the requirements of all applicable laws, codes, program guidelines, as well as the OHFA Design and Architectural Standards and specific features applicable to the project as outlined in this form. This includes any and all local, state, or federal accessibility laws that currently exist and apply to the project. Any additional cost of construction required for the Development to be in compliance with any of these laws has been included in the development budget.

By signing this document, the owner, architect, and general contractor certify that the plans, specifications, and features submitted as part of this application will become a minimum standard for the proposed development. This hereby becomes a binding agreement for the actual construction intent if the development is awarded OHFA funding.

OHFA does not take responsibility for design, construction, and plan review or any other municipal or building department review or approval and in no way does this agreement supersede any requirement by such jurisdictions.

OHFA reserves the right to verify compliance with agreed-upon features including durability of materials, accessibility, universal design, green building requirements and energy efficiency components.

**1. Architect:**
**I certify that the plans, specifications, and scope of work for the Development meet, and will continue to meet, any and all requirements including those set forth in this form, the OHFA Design and Architectural Standards, and all other applicable laws, codes, program guidelines or policy documents.**

**I understand that I am contractually obligated to know the federal, state and local accessibility laws applicable to the Development and have applied them accordingly. To the best of my professional knowledge and belief, I agree that the Development as designed is in compliance with all applicable federal, state and local housing and accessibility laws and regulations.**

| Moody Nolan, Inc. | (614) 461-4664 | jboone@moodynolan.com |
|---|---|---|
| Company/Firm Name | Phone Number | Email |

300 Spruce Street, Suite 300, Columbus, Ohio 43215
Company/Firm Address

| Jay Boone | Partner |
|---|---|
| Printed Name (First Authorized Signatory) | Title |
| Signature | 3.29.2022 Date |



**2. General Contractor:** *(signature not needed at proposal application if GC not yet selected)*
**I certify that I have reviewed the plans, specifications, and scope of work for the Development and that the Development will be constructed in accordance with any and all requirements as set forth in this form, the OHFA Design and Architectural Standards, and all other applicable laws, codes, program guidelines or policy documents.**

**I understand that I am obligated to know the federal, state and local accessibility laws applicable to the Development and will build the project accordingly.**

| | | |
|---|---|---|
| Company/Firm Name | Phone Number | Email |
| Company/Firm Address | | |
| Printed Name (Firm Authorized Signatory) | Title | |
| Signature | Date | |

**3. Owner:**
**I certify that I have reviewed the plans, specifications, and scope of work for the Development and that the Development shall be constructed in accordance with any and all requirements as set forth in this form, OHFA Design and Architectural Standards, and all other applicable laws, codes, program guidelines or policy documents.**

**The undersigned understands that any deviations from federal and state accessibility requirements are the responsibility of the Owner and, as such, Owner is responsible for such deviations.**

**Further, if for any reason, the features are not constructed in accordance with the requirements set forth above, the undersigned understands that OHFA may revoke or recapture the Development's funding and/or limit or prohibit the future participation of the undersigned, any subsidiaries or related entities in OHFA programs.**

| Columbus Metropolitan Housing Authority (CMHA) | (614) 421-6000 | mwagner@cmhanet.com |
|---|---|---|
| Company/Firm Name: | Phone Number | Email |

880 East 11th Avenue, Columbus, Ohio 43211
Company/Firm Address

| Mike Wagner | Vice President of Design & Construction |
|---|---|
| Printed Name (Firm Authorized Signatory) | Title |
| Signature | Date |



| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
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COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**


MOODY•NOLAN

300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215

PHONE: (614) 461-4664
FAX: (614) 280-8881


DRAWING TITLE:
# DESIGN AND CONSTRUCTION FEATURES FORM

STATE OF OHIO — JAY W BOONE — 10740 — REGISTERED ARCHITECT
JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*

DRAWN BY: Author | CHECKED BY: Checker

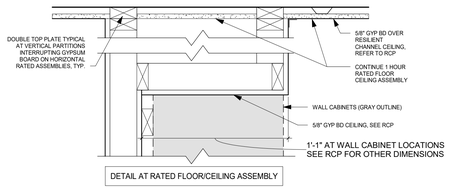
*Proj. #20643*

# G002

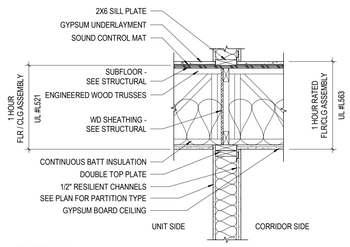
*PERMIT & BID SET*

PRINT DATE: 4/1/2022 10:33:22 AM
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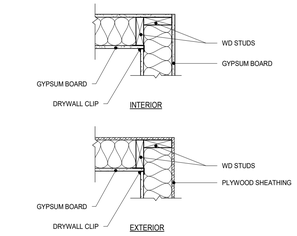
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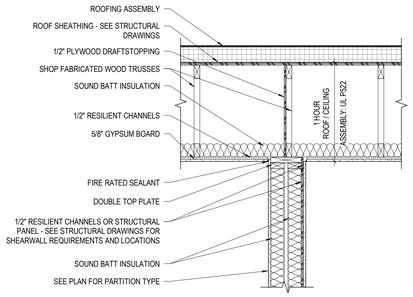

**9 DETAIL** TYPICAL SOFFIT
1 1/2" = 1'-0"



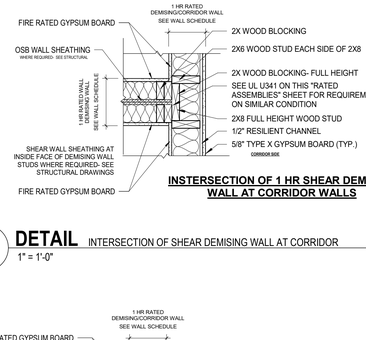

**7 DETAIL** TOP OF CORRIDOR WALL
3/4" = 1'-0"




**4 DETAIL** TWO-STUD CORNERS - TYPICAL
1" = 1'-0"

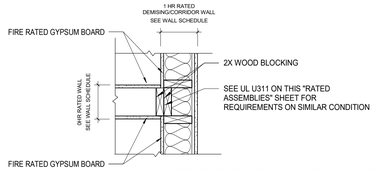



**6 DETAIL** ROOF FRAMING @ DEMISING WALL
3/4" = 1'-0"



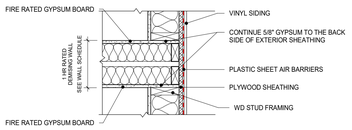

**INSTERSECTION OF 1 HR SHEAR DEMISING WALL AT CORRIDOR WALLS**

**3 DETAIL** INTERSECTION OF SHEAR DEMISING WALL AT CORRIDOR
1" = 1'-0"

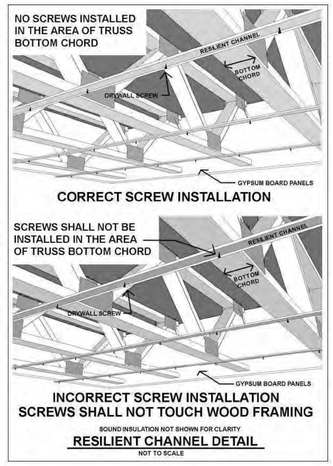



**INSTERSECTION OF 0 HR UNIT PARTITIONS AT DEMISING AND CORRIDOR WALLS**

**2 DETAIL** INTERSECTION OF DEMISING WALL AT INTERIOR PARTITION
1" = 1'-0"




**1 DETAIL** INTERSECTION OF DEMISING WALL AT EXTERIOR WALL
1" = 1'-0"




**8 DETAIL** RESILIENT CHANNEL - SCREW INSTALLATION
3/16" = 1'-0"




**5 DETAIL** ROOF FRAMING @ CORRIDOR WALL
3/4" = 1'-0"

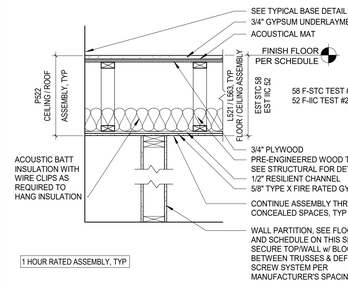
## GENERAL NOTES - WALL TYPE

1. ALL DIMENSIONS TO FACE OF WALL U.N.O.
2. USE 5/8" WATER RESISTANT GYP. BD. ON ALL WET WALLS, UNO.
3. USE CEMENT BOARD FOR ALL WALLS TO RECEIVE CERAMIC TILE, UNO.
4. FIRE SAFE ALL JOINTS AND PENETRATIONS AT FIRE RATED PARTITIONS.
5. UL NUMBERS LISTED APPLY ONLY TO THE TESTED MANUFACTURERS. EQUAL MANUFACTURERS' EQUIVALENT ASSEMBLY INFORMATION MUST BE APPROVED BY ARCHITECT.
6. INSULATION MUST EXTEND FULL HEIGHT OF PARTITION. WHERE SOUND ATTENUATION BATTS ARE INDICATED IN PARTITIONS, INSTALL ACOUSTIC SEALANT AT BOTH SIDES, ALONG THE TOP AND BOTTOM, AND AT INTERSECTING PARTITIONS.
7. WHERE 3 5/8", 4" OR 6" STUD WALLS ARE INDICATED, SEE SPECIFICATIONS FOR HEIGHT LIMITS
8. REFER TO FINISH SCHEDULE FOR FINISHES.
9. SEAL TOP & BOTTOM OF PARTITION WITH ACOUSTIC SEALANT AS REQUIRED BY STC RATING.

## CODED NOTE LEGEND

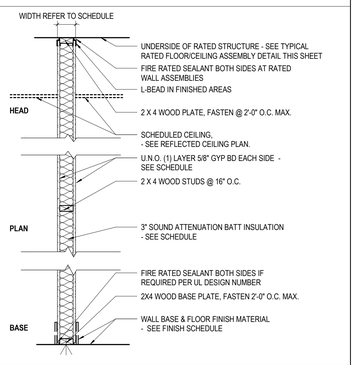
(1) FULL HEIGHT PARTITION. TERMINATE GYP. BD. AND STUDS AT FLOOR SHEATHING ABOVE.

## TYPICAL RATED FLOOR/CEILING



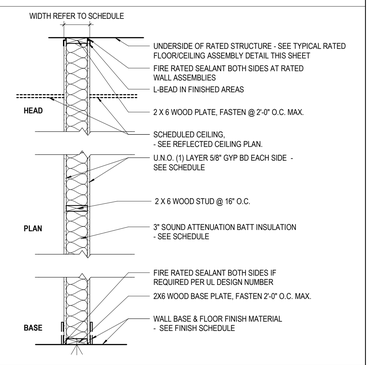

AT CORRIDORS USE L563. ALL CORRIDORS TO BE GYPSUM BOARD INSTALLED ON STRUCTURAL WOOD MEMBERS. PROVIDE A MINIMUM OF 1 HOUR RATED FIRE ASSEMBLY. STC REQUIREMENTS DO NOT APPLY AT SEPARATIONS BETWEEN CORRIDORS.

## TYPE 11 - 2 X 4 WOOD STUD WALL TYPES



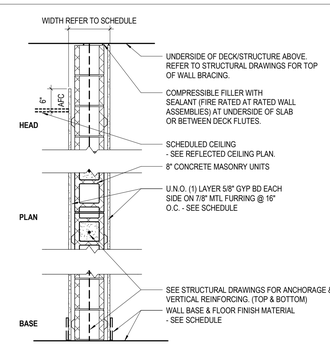

| TYPE | WIDTH | STUD WIDTH | GYP. BD - 1 SIDE | GYP. BD - 2 SIDES | "TYPE X" GYP. BD. | FIRE RATING | UL # | STC RATING | SOUND INSUL. | CODED NOTES | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11B | 4 3/4" | 2x4 | No | Yes | Yes | 1HR | UL# U305 | 46 | Yes | 01 | |
| 11C | 4 3/4" | 2x4 | No | Yes | No | 0HR | | 46 | Yes | 01 | |
| 11D | 4 3/4" | 2x4 | No | Yes | No | 0HR | | 35 | No | | |
| 11F | 4 3/4" | 2x4 | No | Yes | No | 0HR | | | No | | |
| 11J | 4 1/8" | 2x4 | Yes | No | No | 0 HR | | | Yes | | |
| 11K | 4 1/8" | 2x4 | Yes | No | No | 0HR | | 0 | No | | |

## TYPE 12 - 2 X 6 WOOD STUD WALL TYPES



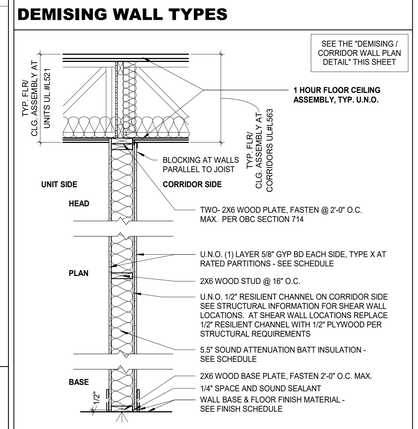

| TYPE | WIDTH | STUD WIDTH | GYP. BD - 1 SIDE | GYP. BD - 2 SIDES | "TYPE X" GYP. BD. | FIRE RATING | UL # | STC RATING | SOUND INSUL. | CODED NOTES | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12A | 6 3/4" | 2X6 | No | Yes | Yes | 1HR | UL# U305 | 35 EST. | No | 01 | |
| 12B | 6 3/4" | 2X6 | No | Yes | Yes | 1HR | UL# U305 | 46 EST. | Yes | 01 | |
| 12C | 6 3/4" | 2X6 | No | Yes | No | 0HR | | 46 EST. | Yes | | |
| 12D | 6 3/4" | 2X6 | No | Yes | No | 0HR | | 35 EST. | No | | |
| 12F | 6 3/4" | 2X6 | No | Yes | No | 0HR | | | No | | |
| 12G | 8" | 2X6 | No | Yes | Yes | 2HR | UL# U301 | 40 EST. | No | | 2 LAYERS TYPE "X" GYPSUM BOARD |
| 12J | 6 1/8" | 2X6 | Yes | No | No | 0HR | | 46 EST. | Yes | | |
| 12K | 6 1/8" | 2X6 | Yes | No | No | 0HR | | 46 EST. | No | | |

## TYPE 8 - 8" CONCRETE MASONRY WALLS



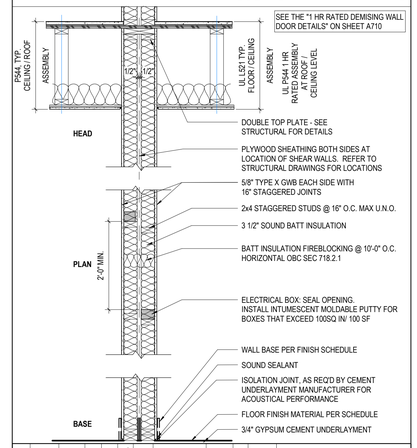

| TYPE | WIDTH | GYP. BD - 1 SIDE | GYP. BD - 2 SIDES | "TYPE X" GYP. BD | FIRE RATING | UL # | STC RATING | SOUND INSUL. | CODED NOTES | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| 8A | 7 5/8" | No | No | No | 1HR | UL# U905 | 48 | No | | CMU WALLS RATED UP TO 2 HRS |

## TYPE CW- 2x6 WD STUD CORRIDOR / DEMISING WALL TYPES




| TYPE | WIDTH | STUD WIDTH | GYP. BD - 1 SIDE | GYP. BD - 2 SIDES | "TYPE X" GYP. BD. | FIRE RATING | UL # | STC RATING | SOUND INSUL. | CODED NOTES | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CW | 7 1/4" | 5 1/2" | No | Yes | Yes | 1 HR | UL# U311 | 56 | Yes | | |

## TYPE DW- WD STUD DEMISING WALL TYPES




| TYPE | WIDTH | STUD WIDTH | GYP. BD - 1 SIDE | GYP. BD - 2 SIDES | "TYPE X" GYP. BD. | FIRE RATING | UL # | STC RATING | SOUND INSUL. | CODED NOTES | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DW | 9 1/4" | (2) 3 1/2" | No | Yes | Yes | 1 HR | UL# U341 | 56 | Yes | | SOUND REQUIREMENTS PER RAL TU02-34. MIN IIC 50. |

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

# WALL TYPE SCHEDULE

STATE OF OHIO — JAY W BOONE — 10740 — REGISTERED ARCHITECT
JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*
DRAWN BY: XXX | CHECKED BY: XXX
*Proj. #20643*
**G003**
*PERMIT & BID SET*

PRINT DATE: 4/1/2022 10:33:27 AM
FILE INFO: C:\$$Local Revit Projects\2021 Projects\20643 Hamlets Hope PSH - ARCH_RKhallPRSQ.rvt

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## Design No. U305

October 02, 2019

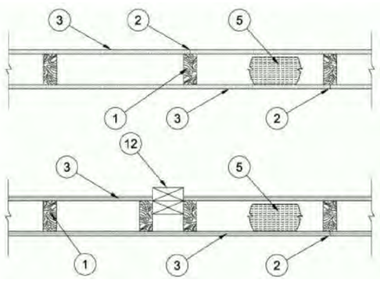
Bearing Wall Rating — 1 Hr

Finish Rating — See Items 3, 3A, 3D, 3E, 3F, 3G, 3H, 3J and 3L.

STC Rating - 56 (See Item 9)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.




1. Wood Studs — Nom 2 by 4 in. spaced 16 in. OC max, effectively firestopped.

2. Joints and Nail-Heads — Joints covered with joint compound and paper tape. Joint compound and paper tape may be omitted when square edge boards are used. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with the joints reinforced with paper tape. Nailheads exposed or covered with joint compound.

3. Gypsum Board* — 5/8 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths other than 48 in., gypsum panels are to be installed horizontally. For an alternate method of attachment of gypsum panels, refer to Items 6 through 6F, Steel Framing Members*.
When Items 6, 6B, 6C, 6D, 6E, or 6F, Steel Framing Members*, are used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.

When Item 6A, Steel Framing Members*, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC. All joints in face layers staggered with joints in base layers. One layer of gypsum board attached to opposite side of wood stud without furring channels as described in Item 3.

When Item 7, resilient channels are used, 5/8 in. thick, 4 ft wide gypsum panels applied vertically. Screw attached furring channels with 1 in. long, self-drilling, self-tapping Type S or S-12 steel screws spaced 8 in. OC, vertical joints located midway between studs.

CABOT MANUFACTURING ULC — Type X (finish rating 22 min), 5/8 Type X, Moisture Resistant Type X, Gypsum Sheathing Type X, Mold & Mildew Resistant Type X and Mold & Mildew Resistant AR Type X, Type Blueglass Exterior Sheathing

AMERICAN GYPSUM CO — Types AGX-1(finish rating 23 min.), M-Glass (finish rating 23 min.), Type AGX-11 (finish rating 26 min), Type AGX-12 (finish rating 22 min), Type LightRoc (finish rating 23 min.) or Type AG-C

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1 (finish rating 24 min)

CERTAINTEED GYPSUM INC — Type 1, Type SF3 (finish rating 20 min) or FRPC, Type C, Type X or Type X-1 (finish rating 26 min); Type EGRG or GlasRoc (finish rating 23 min), GlasRoc-2, Type Habito (finish rating 26 min).

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min)

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC5A (finish rating 34 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX (finish rating 21 min), Type CLLX (finish rating 24 min)

GEORGIA-PACIFIC GYPSUM L L C — Type 5 (finish rating 26 min), Type 6 (finish rating 23 min), Type 9 (finish rating 26 min), Type C (finish rating 26 min), Type DGG (finish rating 20 min), Type GPFS1 (finish rating 20 min), Type GPFS2 (finish rating 20 min), Type GPFS6 (finish rating 26 min), Type DS, Type DAP, Type DD (finish rating 20 min), Type DA, Type DAPC, Type LS (finish rating 23 min), Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, Type LWX (finish rating 22 min), Veneer Plaster Base-Type LWX (finish rating 22 min), Water Rated-Type LWX (finish rating 22 min), Sheathing Type-LWX (finish rating 22 min), Soffit-Type LWX (finish rating 22 min), Type DGLW (finish rating 22 min), Water Rated-Type DGLW (finish rating 22 min), Sheathing Type- DGLW (finish rating 22 min), Soffit-Type DGLW (finish rating 22 min), Type LWX (finish rating 22 min), Type LW2X (finish rating 22 min), Veneer Plaster Base - Type LW2X (finish rating 22 min), Water Rated - Type LW2X (finish rating 22 min), Sheathing - Type LW2X (finish rating 22 min), Soffit - Type LW2X (finish rating 22 min), Type DGL2W (finish rating 22 min), Water Rated - Type DGL2W (finish rating 22 min), Sheathing - Type DGL2W (finish rating 22 min)

NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C, finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min), Type FSW-8, Type FSLX (finish rating 21 min).

NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — Type FR, or WR.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-2 (finish rating 20 min), PG-3 (finish rating 20 min), Types PG-3W, PG-5W (finish rating 20 min), Type PG-4 (finish rating 20 min), Type PG-6 (finish rating 23 min), Types PG-3WS, PG-5WS, PGS-WRS (finish rating 20 min), Types PG-5, PG-9 (finish rating 26 min), PG-11 PG-13 (Nails increased to 2 in.), or Type PG-C

PANEL REY S A — Type GREX, GRIX, PRX, PRC, PRC2; Types RHX, Guard Rey, MDX, ETX (finish rating 22 min)

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1 (finish rating 26 min)

THAI GYPSUM PRODUCTS PCL — Type C, Type X (finish rating 26 min)

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type FRX-G (finish rating 29 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX (finish rating 24 min), Type SGX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type ULIX (finish rating 20 min)

USG BORAL DRYWALL SFZ LLC — Type SGX (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), SCX (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type ULX (finish rating 22 min)

3A. Gypsum Board* — (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.
AMERICAN GYPSUM CO — Types AGX-1 (finish rating 25 min.), M-Glass (finish rating 25 min.), AG-C (finish rating 25 min.), LightRoc (finish rating 25 min.)

CERTAINTEED GYPSUM INC — Type C, Type X or Type X-1 (finish rating 26 min)

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min)

NATIONAL GYPSUM CO — Type FSW (finish rating 24 min)

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type SCX (finish rating 24 min), Type SGX (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type FRX-G (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)

USG BORAL DRYWALL SFZ LLC — Types C, SCX, SGX (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX, Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)

3B. Gypsum Board* — (As an alternate to Item 3) — Nom 3/4 in. thick, installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-3/8 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A.
CGC INC — Types AR, IP-AR

UNITED STATES GYPSUM CO — Types AR, IP-AR

USG MEXICO S A DE C V — Types AR, IP-AR

3C. Gypsum Board* — (As an alternate to Items 3, 3A and 3B) — 5/8 in. thick, 2 ft wide, tongue and groove edge, applied horizontally to one side of the assembly. Installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-1/4 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A. Joint covering (Item 2) not required.
CGC INC — Type SHX

UNITED STATES GYPSUM CO — Type SHX

USG MEXICO S A DE C V — Type SHX

## Design No. U305 (continued)

3D. Gypsum Board* — (As an alternate to Items 3, 3A, 3B, or 3C — Not Shown) — For Direct Application to Studs Only- Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-12 cpan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs or tabs may be used in lieu of or in addition to the lead batten strips or optional at other locations. Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards underneath screw locations prior to the installation of the screws. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RAY-BAR ENGINEERING CORP — Type RB-LBG (finish rating 24 min)

3E. Gypsum Board* — (As an alternate to Items 3, 3A, 3B, 3C, and 3D) — 5/8 in. thick gypsum panels, with square edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last 2 screws 1 and 4 in. from edge of board or nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.

GEORGIA-PACIFIC GYPSUM L L C — Type DGG (finish rating 20 min), GreenGlass Type X (finish rating 23 min)

3F. Gypsum Board* — (As an alternate to Items 3, 3A, 3B, 3C, 3D, and 3E) — 5/8 in. glass-mat faced with square edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC around the perimeter and in the field with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Nails shall be placed 1 inch and 3 inch from horizontal joints and 7 inch OC thereafter.

CGC INC — Type USGX (finish rating 22 min)

UNITED STATES GYPSUM CO — Type USGX (finish rating 22 min.)

USG BORAL DRYWALL SFZ LLC — , Type USGX (finish rating 22 min.)

USG MEXICO S A DE C V — Type USGX (finish rating 22 min.)

3G. Gypsum Board* — (As an alternate to Items 3 through 3F) — 5/8 in. thick paper surfaced applied vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads.

GEORGIA-PACIFIC GYPSUM L L C — Type X ComfortGuard Sound Deadening Gypsum Board (finish rating 27 min)

3H. Gypsum Board* — (As an alternate to Items 3) — Not to be used with items 6 or 7. 5/8 in. thick paper surfaced applied vertically only. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads.

NATIONAL GYPSUM CO — Type SBWB

3I. Gypsum Board* — (As an alternate to Items 3 through 3H, Not Shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically. Panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Panel joints covered with paper tape and two layers of joint compound. Nailheads covered with two layers of joint compound.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES (finish rating 20 min)

3J. Gypsum Board* — (As an alternate to Item 3) — Not to be used with items 6 or 7. 5/8 in. thick paper surfaced applied vertically or horizontally. Gypsum panels secured per item 3 or 3A.

CERTAINTEED GYPSUM INC — Type SilentFX

3K. Gypsum Board* — (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 8 in. OC with the last screw 1 in. from the edge of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.
NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min), Type FSW-8, Type FSLX (finish rating 21 min).

3L. Gypsum Board* — (As an alternate to Item 3) — For Direct Application to Studs Only — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, max 5/16 in. diam by max 0.140 in. thick. compression fitted or adhered over the screw heads. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D".

MAYCO INDUSTRIES INC — "X-Ray Shielded Gypsum"

3M. Gypsum Board* — (As an alternate to Items 3) — For Direct Application to Studs Only — For use as the base layer or as the face layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4.

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

3N. Gypsum Board* — (As an alternate to Item 3) — 5/8 in. thick, 4 ft. wide, applied horizontally or vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Secured as described in Item 3 or 3A.

CERTAINTEED GYPSUM INC — Easi-Lite Type X (finish rating 24 min), Easi-Lite Type X-2 (finish rating 24 min)

3O. Wall and Partition Facings and Accessories* — (As an alternate to Item 3, Not Shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically. Panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Panel joints covered with paper tape and two layers of joint compound. Nailheads covered with two layers of joint compound.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527 (finish rating 24 min).

3P. Gypsum Board* — (As an alternate to Item 3, Not Shown) — Two layers nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by wood studs. Horizontal joints on the same side between face and base layers need not be staggered. Base layer gypsum panels fastened to studs with 1-1/4 in. long drywall nails spaced 8 in. OC. Face layer gypsum panels fastened to studs with 1-7/8 in. long drywall nails spaced 8 in. OC starting with a 4" stagger.

NATIONAL GYPSUM CO — Type FSW (finish rating 25 min)

3Q. Gypsum Board* — (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

3R. Gypsum Board* — (As an alternate to Item 3. For use with Item 5H) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 3 above. Applied either horizontally or vertically, and screwed to panels with 1-5/8 in. long Type W coarse thread steel screws at 8 in. OC at perimeter and in the field with the last two screws 4 and 3/4 in. from the edges of the board when applied as the base layer. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

3S. Gypsum Board* — 3/4 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels secured as described in Item 3 with nail length increased to 2 in.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-13

3T. Wall and Partition Facings and Accessories* — (As an alternate to 5/8 in. thick board as outlined in Item 3) — Nominal 1-3/8 in. thick, 4 ft wide panels, applied vertically or horizontally. Fastened with #6 x 2 in. long drywall screws spaced 8 in. OC along the perimeter and 12 in. OC in the field.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 545

4. Steel Corner Fasteners — (Optional) — For use at wall corners. Channel shaped, 2 in. long by 1 in. high on the back side with two 1/8 in. wide cleats protruding into the 5/8 in. wide channel, fabricated from 24 gauge galv steel. Fasteners applied only to the end or cut edge (not along tapered edges) of the gypsum board, no greater than 2 in. from corner of gypsum board, max spacing 16 in. OC. Nailed to adjacent stud through tab using one No. 6d cement coated nail per fastener. Corners of wall board shall be nailed to top and bottom plate using No. 6d cement coated nails.

5. Batts and Blankets* — (Optional — Required when Item 6A is used (RC-1)) — Glass fiber or mineral wool insulation. Placed to completely or partially fill the stud cavities. When Item 6A is used, glass fiber or mineral wool insulation shall be friction-fitted to completely fill the stud cavities.

CERTAINTEED CORP

JOHNS MANVILLE

KNAUF INSULATION LLC

MANSON INSULATION INC

ROCK WOOL MANUFACTURING CO — Delta Board

ROCKWOOL — Acoustical Fire Batts - Type AFB, min. density 1.69 pcf / 27.0 kg/m3

THERMAFIBER INC — Type SAFB, SAFB FF

5A. Fiber, Sprayed* — (Not Shown — Not for use with Item 6) — As an alternate to Batts and Blankets (Item 5) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft3. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft3, in accordance with the application instructions supplied with the product. When Item 6B is used, Fiber, Sprayed shall be INS735, INS745, INS750LD, INS765LD or INS773LD.

U S GREENFIBER L L C — INS735, INS745 and INS750LD for use with wet or dry application. INS515LD, INS541LD, INS735, INS765LD, and INS773LD are to be used for dry application only

5B. Fiber, Sprayed* — (Not Shown - Not for use with Item 6) — As an alternate to Batts and Blankets (Item 5) - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

NU-WOOL CO INC — Cellulose Insulation

5C. Batts and Blankets* — Required for use with resilient channels, Item 7, 3 in. thick mineral wool batts, friction-fitted to fill interior of wall.

THERMAFIBER INC — Type SAFB, SAFB FF

5D. Glass Fiber Insulation — (As an alternate to Item 5C) — 3 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, friction-fitted to fill the interior of the wall. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

## Design No. U305 (continued)

5E. Batts and Blankets* — (Required for use with Wall and Partition Facings and Accessories, Item 3D) — Glass fiber insulation, nom 3-1/2 in. thick, min. density of 0.80 pcf, with a flame spread of 25 or less and a smoke developed of 50 or less, friction-fitted to completely fill the stud cavities. See Batts and Blankets Category (BKNV) for names of manufacturers.

5F. Fiber, Sprayed* — (Optional, Not Shown — Not for use with Items 6, 6A, 6B, 6C, or 6D) — As an alternate to Batts and Blankets (Item 5) and Item 5A - Spray applied granulated mineral fiber material. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCAZ).

AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

5G. Fiber, Sprayed* — (Optional, Not Shown — Not for use with Items 6, 6A, 6B, 6C, or 6D). — As an alternate to Batts and Blankets (Item 5) and Item 5A - Brown Colored Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed stud cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft3.

INTERNATIONAL CELLULOSE CORP — Celbar-RL

5H. Foamed Plastic* — (Optional -For use with Item 3R) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.

SES FOAM INC — Nexseal™ 2.0 or Nexseal™ 2.0 LE Spray Foam and Sucraseal Spray Foam.

5I. Fiber, Sprayed* — (Not Shown — Not for use with Item 6) — As an alternate to Batts and Blankets (Item 5) - Spray-applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. To facilitate the installation of the material, any thin, woven or non-woven netting may be attached by any means possible to the outer face the studs. The material shall reach equilibrium moisture content before the installation of materials on either face of the studs. The minimum dry density shall be 5.79 lbs/ft3.

APPLEGATE HOLDINGS L L C — Applegate Advanced Stabilized Cellulose Insulation

6. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. Furring Channels — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. Steel Framing Members* — Used to attach furring channels (Item 6a) to studs. Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75)

6A. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members on one side of studs as described below:

a. Furring Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 3.

b. Steel Framing Members* — Used to attach furring channels (Item 6Aa) to one side of studs only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.

KINETICS NOISE CONTROL INC — Type Isomax

6B. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. Furring Channels - Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. Steel Framing Members* — Used to attach furring channels (Item 6Ba) to studs. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

PLITEQ INC — Type Genie Clip

6C. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 3.

b. Steel Framing Members* — Used to attach furring channels (Item 6Ca) to studs. Clips spaced 48 in. OC., and secured to studs with No. 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

6D. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. Furring Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with a double strand of No. 18 AWG twisted steel wire. Gypsum board attached to furring channels as described in Item 3.

b. Steel Framing Members* — Used to attach furring channels (Item 6Da) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

REGUPOL AMERICA — Type SonusClip

6E. Steel Framing Members* — (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below:

a. Resilient Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 3.

b. Steel Framing Members* — Used to attach resilient channels (Item 6Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.

KEENE BUILDING PRODUCTS CO INC - Type RC+ Assurance Clip

6F. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. Furring Channels — Formed of No. 25 MSG galv steel. 2-23/32 in. wide by 7/8 in. or 1-1/2 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. Steel Framing Members* — Used to attach furring channels (Item 6Fa) to studs. Clips spaced 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.

CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip

7. Furring Channel — Optional — Not Shown — For use on one side of the wall - Resilient channels, 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. When resilient channels are used, insulation, Items 5C or 5D is required.

8. Caulking and Sealants — (Not Shown, Optional) — A bead of acoustical sealant applied around the partition perimeter for sound control.

9. STC Rating — The STC Rating of the wall assembly is 56 when it is constructed as described by Items 1 through 6, except:

A. Item 2, above — Nailheads Shall be covered with joint compound.
B. Item 2, above — Joints As described, shall be covered with fiber tape and joint compound.
C. Item 5, above — Batts and Blankets* The cavities formed by the studs shall be friction fit with R-19 unfaced fiberglass insulation batts measuring 6-1/4 in. thick and 15-1/4 in. wide.
D. Item 6, above — Steel Framing Members* Type RSIC-1 clips shall be used to attach gypsum board to studs on either side of the wall assembly.
E. Item 8, above — Caulking and Sealants (Not Shown) A bead of acoustical sealant shall be applied around the partition perimeter for sound control.
F. Steel Corner Fasteners (Item 4), Fiber, Sprayed (Items 5A and 5B) and Steel Framing Members (Item 6A), not evaluated as alternatives for obtaining STC rating.

10. Wall and Partition Facings and Accessories* — (Optional, Not Shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the wood framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

11. Cementitious Backer Units* — (Optional Item Not Shown — For Use On Face Of 1 Hr Systems With All Standard Items Required) - 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide. Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members, and a minimum of 3/4 in. for wood framing members spaced a max of 8 in. OC. When 4 ft. wide boards are used, horizontal joints need not be backed by framing.

NATIONAL GYPSUM CO — Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

12. Non-Bearing Wall Partition Intersection — (Optional) —Two nominal 2 by 4 in. studs or nominal 2 by 6 in. studs nailed together with two 3 in. long 10d nails spaced a max. 16 in. OC. vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

13. Mesh Netting — (Not Shown) — Any thin, woven or non-woven fibrous netting material attached with staples to the outer face of one row of studs to facilitate the installation of the sprayed fiber from the opposite row.

14. Mineral and Fiber Board* — (Optional, Not Shown) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with 2 in. long Type W steel screws, spaced 12 in. OC. The required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of U

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## Design No. U341

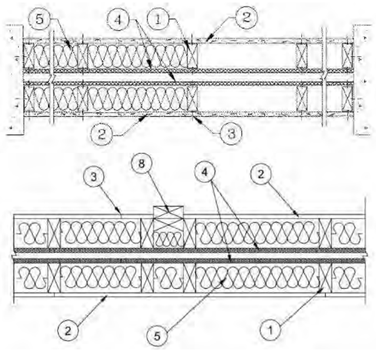
March 06, 2018

Bearing Wall Rating — 1 Hr.

Finish Rating — Min 20 min.

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.




HORIZONTAL SECTION

1. Wood Studs — Nom 2 by 4 in., spaced 24 in. OC max. Cross braced at mid-height and effectively firestopped at top and bottom of wall. No min. air space between stud rows except to accommodate attachment of sheathing, where required. See items 4 and 5.

2. Gypsum Board* — Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305. Nom 5/8 in. thick 4 ft wide. Gypsum board or lath applied horizontally or vertically, unless specified below, and nailed to studs and bearing plates 7 in. OC with 6d cement coated nails, 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam head. As an alternate, No. 6 bugle head drywall screws, 1-7/8 in. long, may be substituted for the 6d cement coated nails.
When Steel Framing Members* (Item 6-6C) are used, wallboard attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.

When used in widths other than 48 in., gypsum board to be installed horizontally.

ACADIA DRYWALL SUPPLIES LTD (View Classification) — CKNX.R25370

AMERICAN GYPSUM CO (View Classification) — CKNX.R14196

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO (View Classification) — CKNX.R19374

CERTAINTEED GYPSUM INC (View Classification) — CKNX.R3660

CGC INC (View Classification) — CKNX.R19751

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C (View Classification) — CKNX.R18482

GEORGIA-PACIFIC GYPSUM L L C (View Classification) — CKNX.R2717

LOADMASTER SYSTEMS INC (View Classification) — CKNX.R11809

NATIONAL GYPSUM CO (View Classification) — CKNX.R3501

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM (View Classification) — CKNX.R7094

PANEL REY S A (View Classification) — CKNX.R21796

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD (View Classification) — CKNX.R19262

THAI GYPSUM PRODUCTS PCL (View Classification) — CKNX.R27517

UNITED STATES GYPSUM CO (View Classification) — CKNX.R1319

USG BORAL DRYWALL SFZ LLC (View Classification) — CKNX.R38438

USG BORAL DRYWALL SFZ LLC (View Classification) — CKNX.R38438

USG MEXICO S A DE C V (View Classification) — CKNX.R16089

2A. Gypsum Board* — (As an alternate to Item 2, not shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically to studs and bearing plates on one side of the assembly with 1-5/8 in. long Type S screws spaced 12 in. OC at perimeter of panels and 8 in. OC in the field. Horizontal joints of vertically applied panels need not be backed by studs. Panel joints covered with paper tape and two layers of joint compound. Screwheads covered with two layers of joint compound. Batts and Blankets placed in stud cavity as described in Item 5C. Not evaluated for use with Steel Framing Members, Furring Channels or Fiber, Sprayed.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-530 (finish rating 23 min).

2B. Gypsum Board* — (As an alternate to Item 2, not shown) — Any 5/8 in. thick gypsum panels that are eligible for use in Design Nos. L501, G512 or U305, supplied by the Classified companies listed below shown in the Gypsum Board* (CKNX) category. Applied horizontally or vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum board to be installed horizontally.
CGC INC

UNITED STATES GYPSUM CO

USG BORAL DRYWALL SFZ LLC

USG MEXICO S A DE C V

2C. Gypsum Board* — (As an alternate to Item 2, Not Shown) — 5/8 in. thick gypsum panels applied horizontally or vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum board to be installed horizontally.
AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, LightRoc

CERTAINTEED GYPSUM INC — Type C, Type X or Type X-1

NATIONAL GYPSUM CO — Type FSK, Type FSK-G, Type FSW, Type FSW-3, Type FSW-5, Type FSW-G, Type FSK-C, Type FSW-C, Type FSMR-C, Type FSW-6, Type FSL

THAI GYPSUM PRODUCTS PCL — Type C or Type X

2D. Gypsum Board* — (As an alternate to Items 2, 2A, 2B and 2C) — 5/8 in. thick gypsum panels, with square edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last 2 screws 1 and 4 in. from edge of board or nailed as described in Item 2. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.
GEORGIA-PACIFIC GYPSUM L L C — GreenGlass Type X, Type DGG.

2E. Gypsum Board* — (As an alternate to Items 2 through 2D) — 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically only and secured as described in Item 2.
GEORGIA-PACIFIC GYPSUM L L C — Type X ComfortGuard Sound Deadening Gypsum Board.

2F. Gypsum Board* — (As an alternate to Items 2 through 2E) - Installed as described in Item 2. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads, 7 in. OC. Not for use with item #6.
NATIONAL GYPSUM CO — SoundBreak XP Type X Gypsum Board

2G. Gypsum Board* — (As an alternate to Items 2 through 2F) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 2.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types QuietRock ES.

2H. Gypsum Board* — (As an alternate to Items 2 through 2G) — Installed as described in Item 2. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically or horizontally fastened to the studs and plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC. Not for use with item 1 in. from edge of board.
CERTAINTEED GYPSUM INC — Type SilentFX

2I. Wall and Partition Facings and Accessories* — (As an alternate to Items 2 through 2H) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 2.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527.

2J. Gypsum Board* — (As an alternate to 5/8 in. Type FSW in Item 2) — 2 layers nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal joints on the same side need not be staggered. Inner layer attached with fasteners, as described in item 2, spaced 24 in. OC. Outer layer attached per Item 2.
NATIONAL GYPSUM CO — Type FSW.

2K. Gypsum Board* — (As an alternate to Item 2) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.
CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

3. Joints and Nailheads — Gypsum board joints of outer layer covered with tape and joint compound. Nail heads of outer layer covered with joint compound. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with joints reinforced with paper tape.

4. Sheathing — (Optional) — Septum may be sheathed with min 7/16 in. thick wood structural panels min grade "C-D" or "Sheathing" or min 1/2 in. thick Mineral and Fiber Boards*.
See Mineral and Fiber Boards (CERZ) category for names of Classified companies.

5. Batts and Blankets* — 3-1/2 in. max thickness glass or mineral fiber batt insulation. Optional when sheathing (Item 4) is used on both halves of wall.

See Batts and Blankets (BZJZ) category for list of Classified companies.

## Design No. U341 (continued)

5A. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 5) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft3. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft3, in accordance with the application instructions supplied with the product.

U S GREENFIBER L L C — INSI735 & INSI745 for use with wet or dry application. INSS10LD, INSS15LD, INSS41LD, INSI735, INSI745, INS765LD, and INSI770LD are to be used for dry application only.

5B. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 5) and Item 5A when Sheathing (Item 4) is used on both halves of wall - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

NU-WOOL CO INC — Cellulose Insulation

5C. Batts and Blankets* — (Required for use with Wall and Partition Facings and Accessories, Item 2A. Use of Sheathing, Item 4, does not nullify requirement of Item 5C for use with Item 2A) — Glass fiber insulation, nom 3-1/2 in. thick, min. density of 0.80 pcf, with a flame spread of 25 or less and a smoke developed of 50 or less, friction-fitted to completely fill the stud cavities. See Batts and Blankets Category (BKNV) for names of manufacturers.

5D. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 5) and Item 5A when Sheathing (Item 4) is used on both halves of wall - Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft3.

INTERNATIONAL CELLULOSE CORP — Celbar-RL

6 Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
A. Furring Channels — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Wallboard attached to furring channels as described in Item 6.
B. Steel Framing Members* — Used to attach furring channels (Item a) to studs (Item 1) . Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75).

6A. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
a. Furring Channels — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.
b. Steel Framing Members* — Used to attach furring channels (Item a) to studs. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

PLITEQ INC — Type Genie Clip

6B. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.Gypsum board attached to furring channels as described in Item 2.
b. Steel Framing Members* — Used to attach furring channels (Item 6Ba) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.

REGUPOL AMERICA — Type SonusClip

7. Wall and Partition Facings and Accessories* — (Optional, Not shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the wood framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

8. Non-Bearing Wall Partition Intersection — (Optional) — Two nominal 2 by 4 in. stud or nominal 2 by 6 in. stud nailed together with two 3in. long 10d nails spaced a max. 16 in. OC. vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max 16 in. OC. vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

# 1 U341 - TYP @ DEMISING WALLS (1 HR RATED)

12" = 1'-0"

## Design No. U905

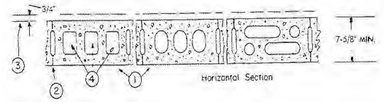
November 09, 2020

Bearing Wall Rating — 2 HR.

Nonbearing Wall Rating — 2 HR

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.




1. Concrete Blocks* — Various designs. Classification D-2 (2 hr).
See Concrete Blocks category for list of eligible manufacturers.

2. Mortar — Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.

3. Portland Cement Stucco or Gypsum Plaster — Add 1/2 hr to classification if used. Where combustible members are framed in wall, plaster or stucco must be applied on the face opposite framing to achieve a max. Classification of 1-1/2 hr. Attached to concrete blocks (Item 1).

4. Loose Masonry Fill — If all core spaces are filled with loose dry expanded slag, expanded clay or shale (Rotary Kiln Process), water repellent vermiculite masonry fill insulation, or silicone treated perlite loose fill insulation add 2 hr to classification.

5. Foamed Plastic* — (Optional-Not Shown) — 1-1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1).
ATLAS ROOFING CORP — "EnergyShield Pro Wall Insulation", "EnergyShield Pro 2 Wall Insulation", EnergyShield CGF Pro and EnergyShield Ply Pro

CARLISLE COATINGS & WATERPROOFING INC — Type R2+ SHEATHE

DUPONT DE NEMOURS, INC. — Types Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax XARMOR ci Exterior Insulation, Thermax IH Insulation, Thermax Plus Liner Panel, Thermax Heavy Duty Plus (HDP), TUFF-R™ ci Insulation, Thermax Butler Stylwall Insulation Board and Thermax Morton Heavy Duty Insulation Board

FIRESTONE BUILDING PRODUCTS CO L L C — "Envirege™ CI Foil Exterior Wall Insulation" and "Envirege™ CI Glass Exterior Wall Insulation"

HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — Types "Xci-Class A", "Xci Foil (Class A)", "Xci 286"

RMAX, A BUSINESS UNIT OF SIKA CORPORATION — Types "TSX-8500", "ECOMAXci FR", "TSX-8510", "ECOMAX xi FR White", "ECOMAXci", "ECOMAXci FR Air Barrier", "Thermasheath-XP", "Thermasheath", "Durasheath", "Thermasheath-3", "Durasheath-3".

JOHNS MANVILLE — Type "AP Foil-Faced Foam Sheathing"

5A. Building Units* — As an alternate to Items 5, min. 1-in thick polyisocyanurate composite foamed plastic insulation boards, nom. 48 by 48 or 96 in.

HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — "Xci NB", "Xci Ply"

RMAX, A BUSINESS UNIT OF SIKA CORPORATION — "Thermasheath-SI", "ECOBASEci", "ThermaBase-CI", "ECOMAXci FR Ply", "ECOMAXci Ply".

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

# 2 U905 - TYP @ STAIR & ELEV WALLS (1HR RATED)

12" = 1'-0"

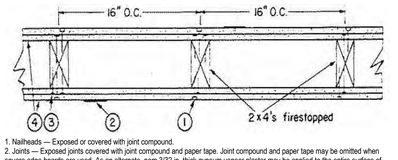
## Design No. U301

May 28, 2021

Bearing Wall Rating — 2 Hr.
Finish Rating — 66 Min.

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.




1. Nailheads — Exposed or covered with joint compound.
2. Joints — Exposed joints covered with joint compound and paper tape. Joint compound and paper tape may be omitted when square edge boards are used. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with the joints reinforced with paper tape.
3. Nails — 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam, 1/4 in. diam heads, and 8d cement coated nails 2-3/8 in. long, 0.113 in. shank diam, 9/32 in. diam heads.
4. Gypsum Board* — 5/8 in. thick, two layers applied either horizontally or vertically. Inner layer attached to studs with the 1-7/8 in. nails spaced 6 in. OC. Outer layer attached to studs over inner layer with the 2-3/8 in. long nails spaced 8 in. OC. Vertical joints located over studs. All joints in face layers staggered with joints in base layers. Joints of each base layer offset with joints in face layer on opposite side.
When used in widths other than 48 in., gypsum board to be installed horizontally.

When Steel Framing Members* (Item 6 or any alternate clips) are used, base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced max 24 in. OC; face layer attached with 1-5/8 in. long Type S bugle-head steel screws spaced max 12 in. OC.

AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, AGX-11, LightRoc

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1

CABOT MANUFACTURING ULC — Type X, 5/8 Type X, Moisture Resistant Type X, Gypsum Sheathing Type X, Mold & Mildew Resistant Type X and Mold & Mildew Resistant AR Type X, Type Blueglass Exterior Sheathing

CERTAINTEED GYPSUM INC — Types EGRG, GlasRoc, GlasRoc-2, Type C, Type X, Type X-1

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, ULX, USGX, WRC, WRX

CERTAINTEED GYPSUM INC — Types LGFC2A, LGFC6A, LGFC-C/A, LGFC-WD, LGLLX, CLLX

GEORGIA-PACIFIC GYPSUM L L C — Types 5, 6, 9, C, DAP, DD, DA, DAPC, DGG, DS, GPFS6. LS, TG-C, Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X, GreenGlass Type X, Type LWX, Veneer Plaster Base-Type LWX, Water Rated-Type LWX, Sheathing Type-LWX, Soffit-Type LWX, Type DGLW, Water Rated-Type DGLW, Sheathing Type- DGLW, Soffit-Type DGLW, Type LW2X, Veneer Plaster Base - Type LW2X, Water Rated - Type LW2X, Sheathing - Type LW2X, Soffit - Type LW2X, Type DGL2W, Water Rated - Type DGL2W, Sheathing - Type DGL2W

NATIONAL GYPSUM CO — Types eXP-C, FSK, FSK-C, FSK-G, FSW, FSW-3, FSW-5, FSW-6, FSW-8, FSW-C, FSW-G, FSMR-C, FSL, RSX

NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — Type FR, or WR.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-2, PG-3, PG-3W, PG-4, PG-5, PG-5W, PG-5WS, PG-9, PG-11, PG-C, PGS-WRS, PGI

PANEL REY S A — Types PRC, PRC2, PRX, RHX, MDX, ETX, GREX, GRIX

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1

THAI GYPSUM PRODUCTS PCL — Type C or Type X

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, ULX, USGX, WRC, WRX

USG BORAL DRYWALL SFZ LLC — Types C, SCX, USGX

USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

4A. Gypsum Board* — (As an alternate to Item 4) — Nom 3/4 in. thick, installed as described in Item 4.
CGC INC — Types AR, IP-AR

UNITED STATES GYPSUM CO — Types AR, IP-AR

USG MEXICO S A DE C V — Types AR, IP-AR

4B. Gypsum Board* — (As an alternate to Items 4 and 4A) — 5/8 in. thick, 2 ft wide, tongue and groove edge, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 4. Joint covering (Item 2) not required.
CGC INC — Type SHX

UNITED STATES GYPSUM CO — Type SHX

USG MEXICO S A DE C V — Type SHX

4C. Gypsum Board* — (As an alternate to Items 4, 4A or 4B — Not Shown) — For Direct Application to Studs Only- For use on one or both sides of the wall as the base layer or one or both sides of the wall as the face layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. Lead batten strips min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-12 pan head steel screws, F4∫-one at the top of the strip and one at the bottom of the strip. Lead discs or tabs may be used in lieu of or in addition to the lead batten strips or optional at other locations. Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards underneath screw locations prior to the installation of the screws. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4.
RAY-BAR ENGINEERING CORP — Type RB-LBG.

4D. Gypsum Board* — As an Alternate to Item 4 — 5/8 in. thick applied either horizontally or vertically. Inner layers fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. Outer layers fastened to framing with 1-7/8 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum board to be installed horizontally. All joints in face layers staggered with joints in base layers. Joints of each base layer offset with joints of base layer on opposite side.
When used in widths other than 48 in., gypsum boards are to be installed horizontally.

4E. Gypsum Board* — (As an alternate to Items 4 through 4D) — 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically and secured as described in Item 4.
GEORGIA-PACIFIC GYPSUM L L C — Type X ComfortGuard Sound Deadening Gypsum Board

4F. Gypsum Board* — (As an alternate to Item 4) — Not to be used with item 6, 6A, 6B or 6C. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically and secured as described in Item 4.
NATIONAL GYPSUM CO — Type SBWB

4G. Gypsum Board * — (As an alternate to Items 4 through 4F) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types QuietRock ES

4H. Gypsum Board* — (As an alternate to Item 4) — Not to be used with item 6, 6A, 6B, or 6C. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically or horizontally and secured as described in Item 4.
CERTAINTEED GYPSUM INC — Type SilentFX

4I. Gypsum Board* — (As an alternate to Item 4) — 5/8 in. thick, two layers applied either horizontally or vertically. Inner layer attached to studs with 1-1/4 in. long Type W steel screws spaced 8 in. OC. Outer layer attached to studs over inner layer with 2 in. long Type W steel screws spaced 8 in. OC offset 6 in. from base layer. Vertical joints located over studs. Vertical and horizontal joints between inner and outer layers staggered. Outer layer joints covered with joint tape and compound, screwheads covered with joint compound. As an alternate to the joint compound nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced. Wallboard other than 48 in. wide must be applied horizontally. The SoundBreak XP Type X Gypsum Board is not to be used with Item 6, 6A, 6B, or 6C.
NATIONAL GYPSUM CO — Types eXP-C, FSK, FSK-C, FSK-G, FSW, FSW-3, FSW-5, FSW-6, FSW-C, FSW-G, FSMR-C, SBWB

4J. Gypsum Board* — (As an alternate to Items 4) — For Direct Application to Studs Only- For use as the base layer or as the face layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. Lead batten strips min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick, compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4.
RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

4M. Gypsum Board* — (As an alternate to Item 4) — 5/8 in. thick, 4 ft. wide, two layers applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Secured as described in Item 4.
CERTAINTEED GYPSUM INC — 5/8" Easi-Lite Type X

4N. Gypsum Board* — (As an alternate to 5/8 in. Type FSW in Items 4 or 4I) — Nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Two layers of 5/16 in. for every single layer of 5/8 in. gypsum board described in Item 4 or 4I. Horizontal joints on the same side need not be staggered. Inner layer of each double 5/16 in. layer attached with fasteners, as described in Item 4 or 4I, spaced 24 in. OC. Outer layer of each double 5/16 in. layer attached per Item 4 or 4I.
NATIONAL GYPSUM CO — Type FSW

4O. Wall and Partition Facings and Accessories* — (As an alternate to Items 4 through 4N) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527

4P. Gypsum Board* — (As an alternate to Item 4) — 5/8 in. thick, two layers applied either horizontally or vertically. Inner layer attached to studs with 1-1/4 in. long Type W steel screws spaced 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. Outer layer attached to studs over inner layer with 1-7/8 in. long Type W steel screws spaced 10 in. OC offset 5 in. from base layer with the last two screws 4 and 1 in. from the edges of the board. Vertical joints located over studs. Vertical and horizontal joints between inner and outer layers staggered. Outer layer joints covered with joint tape and compound, screwheads covered with joint compound. When used in widths other than 48 in., gypsum panels are to be installed horizontally.
CERTAINTEED GYPSUM INC — Type LGFC6A, Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

4Q. Gypsum Board* — (As an alternate to Item 4. For use with Item 13) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board UL Classified for Fire Resistance (CKNX) eligible for use in Design Nos. U305 and L501 or G512. Two layers, applied either horizontally or vertically, and screwed to studs with 1-5/8 in. long Type W coarse thread steel screws at 8 in. OC at perimeter and in the field with the last two screws 4 and 3/4 in. from the edges of the board when applied as the base layer. For the face layer, screw length to be increased to 2-1/2 in. All joints in face layers staggered with joints in base layers. When used in widths other than 48 in., gypsum panels are to be installed horizontally.
4R: Gypsum Board* — As an Alternate to Item 4 — 5/8 in. thick applied either horizontally or vertically. Inner layers fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. Outer layers fastened to framing with 1-7/8 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum board to be installed horizontally. All joints in face layers staggered with joints in base layers. Joints of each base layer offset with joints of base layer on opposite side.
CERTAINTEED GYPSUM INC — Types EGRG, GlasRoc, GlasRoc-2, Type C, Type X, Type X-1, Easi-Lite Type X, SilentFX

4S. Gypsum Board* — (As an alternate to Item 4. For use with Item 13A) — 5/8 in. thick, two layers applied vertically. Inner layer attached to studs with the 1-7/8 in. nails spaced 6 in. OC. Outer layer attached to studs over inner layer with the 2-3/8 in. long nails spaced 8 in. OC. Vertical joints located over studs. All joints in face layers staggered with joints in base layers. Joints of each base layer offset with joints of base layer on opposite side.
AMERICAN GYPSUM CO — Types AGX-1

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1

CABOT MANUFACTURING ULC — "5/8 Type X"

CERTAINTEED GYPSUM INC — Type X

CGC INC — Type SCX

PANEL REY S A — Type PRX

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1

THAI GYPSUM PRODUCTS PCL — Type X

UNITED STATES GYPSUM CO — Type SCX

USG BORAL DRYWALL SFZ LLC — Types SCX

USG MEXICO S A DE C V — Type SCX

4T. Gypsum Board* — (As an alternate to Item 4. For use with Item 13B) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 4 above. Two layers applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. All joints in outer layers staggered with joints in inner layers. Inner layer attached to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field. Outer layer attached to studs over inner layer with the 2-1/2 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC.
5. Molded Plastic* — Not Shown, Optional — Solid vinyl siding mechanically secured over the outer layer to framing members in accordance with manufacturer's recommended installation details.
ALSIDE, DIV OF ASSOCIATED MATERIALS INC

GENTEK BUILDING PRODUCTS LTD

VYTEC CORP

6. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
A. Furring Channels — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Wallboard attached to furring channels as described in Item 4.
B. Steel Framing Members* — Used to attach furring channels (Item 6a) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75)

6A. Steel Framing Members* — (Optional, Not Shown, As an alternate to Item 6) — Furring channels and Steel Framing Members as described below:
A. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 4.
B. Steel Framing Members* — Used to attach furring channels (Item 6Aa) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips

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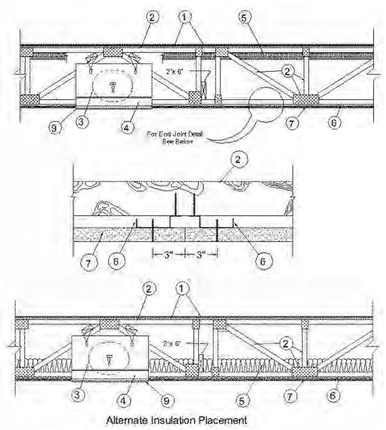
## Design No. L521

April 05, 2018

Unrestrained Assembly Rating — 1 Hr

Finish Rating — 25 Min (See Items 5 and 5A), 20 Min (See Items 6H and 7A)
This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.




Alternate Insulation Placement

1. Flooring System — The flooring system shall consist of one of the following:

**System No. 1**

Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Floor — Min 1 by 4 in. T & G lumber installed perpendicular to trusses, or min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single-Floor". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered.

**System No. 2**

Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Floor Mat Materials* — (Optional) — Floor mat material nom 1/8 in. (3 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 3/4 in. (19 mm).

HACKER INDUSTRIES INC — FIRM-FILL SCM 125

Alternate Floor Mat Materials — (Optional) — Floor mat material nom 1/4 in. (6 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1 in. (25 mm).

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 250

Alternate Floor Mat Materials — (Optional) — Floor mat material nom 3/8 in. (10 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/4 in. (32 mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 400

Alternate Floor Mat Materials — (Optional) — Floor mat material nom 3/4 in. (19 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38 mm).

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 750

Metal Lath (Optional) — (Optional) — For use with 3/8 in. (10 mm), or greater, floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nom 1 in. (25 mm) over the floor mat.

Finish Flooring — Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

HACKER INDUSTRIES INC — Firm-Fill Gypsum Concrete, Firm-Fill 2010, Firm-Fill 3310, Firm-Fill 4010, Gyp-Span Radiant

**System No. 3**

Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Floor* — Mineral and Fiber Board — Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft to 8 ft by 12 ft.

HOMASOTE CO — Type 440-32 Mineral and Fiber Board

**System No. 4**

Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring* — Floor Topping Mixture — Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

UNITED STATES GYPSUM CO — Types LRK, HSLRK, CSD

LATICRETE SUPERCAP L L C — Types LRK, HSLRK

USG MEXICO S A DE C V — Types LRK, HSLRK, CSD

Floor Mat Materials* — (Optional) — Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.

UNITED STATES GYPSUM CO — Types SAM, LEVELROCK® Brand Sound Reduction Board, LEVELROCK® Brand Floor Underlayment SRM-25

Alternate Floor Mat Materials* — (Optional) — Nom 3/8 in. thick floor mat material loose laid over the subfloor.
GRASSWORX L L C — Type SC50

**System No. 5**

Structural Cement-Fiber Units* — Nom 3/4 in. thick, with long edges tongue and grooved. Long dimension of panels to be perpendicular to wood trusses with end joints staggered a min of 2 ft and centered over the trusses. Panels secured to wood trusses with 1-5/8 in. long, No. 8, self- countersinking wood screw spaced a max of 12 in. OC in the field with a screw located 1 in. and 2 in. from each edge, and 8 in. OC on the perimeter with a screw located 2 in. from each edge, located 1/2 in. from the end edges of the panel.

UNITED STATES GYPSUM CO — Types STRUCTO-CRETE, USGSP

Finish Flooring — Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.
UNITED STATES GYPSUM CO — Types LRK, HSLRK, CSD

LATICRETE SUPERCAP L L C — Types LRK, HSLRK

USG MEXICO S A DE C V — Types LRK, HSLRK, CSD

Floor Mat Materials* — (Optional) — Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.
UNITED STATES GYPSUM CO — Types SAM, LEVELROCK® Brand Sound Reduction Board, LEVELROCK® Brand Floor Underlayment SRM-25

**System No. 6 (For Use with Item 7A Only)**

Finish Floor — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and 2-1/2 in. long nails, spaced 12 in. OC along each truss and 8 in. OC at the perimeter.

**System No. 7**

Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier —(Optional) - Nom 0.030 in. thick commercial asphalt saturated felt.

## Design No. L521 (continued)

Floor Mat Materials* — (Optional) — Floor mat material nom 5/64 in. (2 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of floor-topping mixture. Floor topping thickness a min 1 in. over the floor mat.

ECORE INTERNATIONAL INC — Type QTscu 4002

HACKER INDUSTRIES INC — Type Hacker Sound-Mat

Alternate Floor Mat Materials — (Optional) — Floor mat material nom 1/4 in. (6 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1-1/4 in. (32 mm) of floor-topping mixture.

ECORE INTERNATIONAL INC — Type QTtrn 3006-3

HACKER INDUSTRIES INC — Type Hacker Sound-Mat II

Metal Lath (Optional) — For use with 3/8 in. (10 mm) floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nom 1-1/4 in. over the floor mat.

Finish Flooring — Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

HACKER INDUSTRIES INC — Firm-Fill Gypsum Concrete, Firm-Fill High Strength, Gyp-Span Radiant

2. Trusses — Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Min truss depth is 12 in. when no Ceiling Damper* is used and 16 in. when a Ceiling Damper* is used. Truss members secured together with min 0.0356 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approx. 7/8 in. centers with four rows of teeth per inch of plate width.
3. Air Duct* — Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.
4. Ceiling Damper* — For use with min 18 in. deep trusses. Max nom area shall be 324 sq in. with the length not to exceed 24 in. and the width not to exceed 20 in. Max height of damper shall be 14 in. Aggregate damper openings shall not exceed 162 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (Item 9) shall be installed in accordance with installation instructions.
C&S AIR PRODUCTS — Model RD-521

POTTORFF — Model CFD-521

4A. Alternate Ceiling Damper* — For use with min 18 in. deep trusses. Max nom area shall be 196 sq in. with the length not to exceed 26 in. and the width not to exceed 14 in. Max height of damper shall be 7 in. Aggregate damper openings shall not exceed 98 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (Item 9) not to exceed 144 in.2 shall be installed in accordance with installation instructions.

C&S AIR PRODUCTS — Model RD-521-BT

POTTORFF — Model CFD-521-BT

4B. Alternate Ceiling Damper* — For use with min 18 in. deep trusses. Max nom area shall be 256 sq in. with the length not to exceed 24 in. and the width not to exceed 20 in. Max height of damper shall be 17 in. Aggregate damper openings shall not exceed 108 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (Item 9) shall be installed in accordance with installation instructions.
C&S AIR PRODUCTS — Models RD-521-IP, RD-521-NP

POTTORFF — Models CFD-521-IP, CFD-521-NP

4C. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 75 sq in. with the length not to exceed 8-9/16 in. and the width not to exceed 8-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 38 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in accordance with installation instructions.
DELTA ELECTRONICS INC — Models CRD2, GBR-CRD, ITG-CRD

4D. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 75 sq in. with the length not to exceed 9-1/4 in. and the width not to exceed 9-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 45 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in accordance with installation instructions.
DELTA ELECTRONICS INC — Model SIG-CRD

4E. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 131 sq in. with the length not to exceed 11-1/16 in. and the width not to exceed 11-7/8 in. Aggregate damper openings shall not exceed 66 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in accordance with installation instructions.
DELTA ELECTRONICS INC — Model SMT-CRD

4F. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 103 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 10-1/8 in. Aggregate damper openings shall not exceed 52 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in accordance with installation instructions.
PANASONIC CORPORATION, PANASONIC CORPORATION OF NORTH AMERICA — Model PC-RD05C5

4G. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 113 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 11-1/8 in. Aggregate damper openings shall not exceed 57 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Model RDFUWT

4H. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 79 sq in. with the length not to exceed 10 in. and the width not to exceed 7-15/16 in. Aggregate damper openings shall not exceed 40 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A metallic grille (Item 9) shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Models RDJ1 and RDH

4I. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Model RDMWT

5. Batts and Blankets* — (Optional) — Glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. When the resilient channels (Item 6) or furring channels (Item 6A) are spaced 24 in. OC, no insulation shall be installed in the concealed space. When the resilient channels (Item 6) or furring channels (Item 6A) are spaced 16 in. OC, the insulation shall be a max of 3-1/2 in. thick, and shall be secured against the subflooring by means of staples at 12 in. OC or held suspended in the concealed space with 0.090 in. diam galv steel wires attached to the wood trusses at 12 in. OC. When the resilient channels (Item 6) or furring channels (Item 6A) are spaced a max of 12 in. OC or when the Steel Framing Members (Item 6B) are used, there is no limit in the overall thickness of insulation, and the insulation can be secured against the subflooring, held suspended in the concealed space or draped over the resilient or furring channels (or Steel Framing Members) and gypsum panel membrane. When Steel Framing Members (Item 6C) are used, max 3-1/2 in. thick insulation shall be draped over the furring channels (Item 6Ca) and gypsum board ceiling membrane, and friction-fitted between trusses and Steel Framing Members (Item 6Cd). The finished rating has only been determined when the insulation is secured to the subflooring.
5A. Fiber, Sprayed* — (Dry Dense Packed 100% Borate Formulation) — (Optional) — As an alternate to Item 5. When used, the resilient channel or furring channel gypsum board attachment is modified as specified in Items 6 and 7 and wire mesh (Item 10) shall be attached to the furring channels to facilitate installation of the material. The finished rating when Fiber, Sprayed is used has not been determined. The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft3, in accordance with the application instructions supplied with the product. When Item 5A (Fiber, Sprayed) is used, two layers of gypsum board required as described in Item 7. Not evaluated for use with Item 6B, 6C, 6G or 6H.
U S GREENFIBER L L C — INS735, INS745, INS765LD & INS770LD to be used with dry application only

5B. Fiber, Sprayed* — (Loose Fill 100% Borate Formulation) — (Optional) — As an alternate to Items 5 and 5A, The finished rating when Fiber, Sprayed is used has not been determined. The fiber is applied without water or adhesive at a minimum dry density of 3.5 lb/ft3 and a max thickness of 3-1/2 in., in accordance with the application instructions supplied with the product. Wire mesh (Item 10) shall be attached to the furring channels to facilitate installation of the material. When Item 5B (Fiber, Sprayed) is used, two layers of gypsum board required as described in Item 7. Not evaluated for use with Item 6B, 6C, 6D, 6E, 6F, 6G, 6H or 6I.
U S GREENFIBER L L C — INS735, INS745, INS765LD & INS770LD to be used with dry application only

5C. Foamed Plastic* — (As alternate to Item 5, 5A, or 5B, Not Shown) — Spray foam insulation applied directly to the underside of the plywood subflooring. Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft3 density. Spray foam insulation is limited to use with minimum 18 in. deep trusses (Item 2). When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) spaced maximum 3 in. away from gypsum butt joints. Gypsum board (Item 7) to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 4 through 4H) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 5 through 5B, or 6A through 6I.
SES FOAM INC — Sucraseal 0.5 lb

5D. Cavity Insulation - Batts and Blankets* or Fiber, Sprayed* — (As described above in Items 5 through 5B) — (For Use with Item 7A, Not Shown) — Min. 3-1/2 in thick with no limit on maximum thickness fitted in the concealed space, draped over the resilient channel (Item 6H)/gypsum board (Item 7A) ceiling membrane.
5E. Foamed Plastic* — (As alternate to Item 5, 5A, or 5C, Not Shown) — Spray foam insulation applied directly to the underside of the plywood subflooring. Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft3 or 2.0 lb/ft3 density, depending on the product installed. Spray foam insulation is limited to use with minimum 18 in. deep trusses (Item 2). When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) spaced maximum 3 in. away from gypsum butt joints. Gypsum board (Item 7) to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 4 through 4H) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 5 through 5B, or 6A through 6I.

6. Resilient Channels — Formed from min 25 MSG galv steel installed perpendicular to trusses. When there is no insulation installed in the concealed space the resilient channels are spaced 24 in. OC. When insulation (Item 5) is secured to the underside of the subfloor the resilient channels are spaced 16 in. OC. When insulation, Items 5, 5A or 5B is applied over the resilient channel/gypsum panel ceiling membrane, or when Item 5C or 5E is applied to underside of subflooring, the resilient channels are spaced 12 in. OC. Channels secured to each truss with 1-1/4 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end joint as shown in the above illustration. Additional channels shall extend min 6 in. beyond each side edge of panel.

6A. Steel Framing Members* — (Not Shown) — As an alternate to Item 6.
a. Furring Channels — Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to wood structural members. When insulation, Items 5, 5A or 5B is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galv steel wire near each end of overlap.

b. Steel Framing Members* — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to alternating trusses with No. 8 x 2-1/2 in. course drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to alternating trusses with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7. When Fiber, Sprayed (Item 5B) is used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board shall be installed as described in Item 7.

## Design No. L521 (continued)

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75)

6B. Steel Framing Members — (Not Shown) — As an alternate to Item 6, main runners, cross tees, cross channels and wall angle as listed below.
a. Main Runners — Nom 10 or 12 ft long, 15/16 in. or 1-1/2 in. wide face, spaced 4 ft. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Hanger wires to be located adjacent to main runner/cross tee intersections. Hanger wires wrapped and twist-tied on 16d nails driven in to side of trusses at least 5 in. above the bottom face.
b. Cross Tees or Channels — Nom 4 ft long cross tees, with 15/16 in. or 1-1/2 in. wide face, or nom 4 ft long cross channels, with 1-1/2 in. wide face, either spaced 16 in. OC, installed perpendicular to the main runners. Additional cross tees or channels used 8 in. from each side of butted gypsum board end joints. The cross tees or channels may be riveted or screw-attached to the wall angle or channel to facilitate the ceiling installation.
c. Wall Angle or Channel — Painted or galv steel angle with 1 in. legs or channel with 1 in. legs, 1-9/16 in. deep attached to walls at perimeter of ceiling with fasteners 16 in. OC. To support steel framing member ends and for screw-attachment of the gypsum panel.

CGC INC — Type DGL or RX

USG INTERIORS LLC — Type DGL or RX

6C. Steel Framing Members* — (Not Shown) — As an alternate to Item 6.
a. Furring Channels — Hat-shaped furring channels, 7/8 in. deep by 2-5/8 in. wide at the base and 1-1/4 in. wide at the face, formed from No. 25 ga. galv steel, spaced max. 16 in. OC perpendicular to trusses and Cold Rolled Channels (Item 6Cb). Furring channels secured to Cold Rolled Channels at every intersection with a 1/2 in. pan head self-drilling screw through each furring channel leg. Ends of adjoining channels overlapped 4 in. and tied together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap. Supplemental furring channels at base layer and outer layer gypsum board butt joints are not required. Batts and Blankets draped over furring channels as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 7.
b. Cold Rolled Channels — 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6Cd). Adjoining lengths of cold rolled channels lapped min. 6 in. and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.
c. Blocking — Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 6 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the truss (Item 2) at the top and bottom of the blocking at each Steel Framing Member (Item 6Cd) location.
d. Steel Framing Members* — Hangers spaced 48 in. OC. max along truss, and secured to the Blocking (Item 6Cc) on alternating trusses with a single 5/16 in. by 2 in. hex head lag bolt or four #6 1-1/4 in. drywall screws through mounting hole(s) on the hanger bracket. The two 1/4 in. long steel teeth on the hanger are embedded in the side of the blocking. Hanger positioned on blocking and leveling bolt height adjusted such that furring channels are flush with bottom of trusses before gypsum board installation. Spring gauge of hanger chosen per manufacturer's instructions.

KINETICS NOISE CONTROL INC — Type ICW

6D. Steel Framing Members* — (Not Shown) — As an alternate to Item 6.
a. Furring Channels — Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to wood structural members. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galv steel wire near each end of overlap.
b. Steel Framing Members* — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC, and secured to the bottom chord of alternating trusses with two No. 8 x 2-1/2 in. course drywall screws, one through the hole at each end of the clip. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the clip spacing shall be reduced to 24 in. OC and secured to consecutive trusses. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7. Two layers of gypsum board required as described in Item 7. Not evaluated for use with Item 5B.

KINETICS NOISE CONTROL INC — Type Isomax

6E. Steel Framing Members* — (Not Shown) — As an alternate to Item 6.
a. Furring Channels — Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to wood structural members. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire near each end of overlap.
b. Steel Framing Members* — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC, and secured to the bottom chord of alternating trusses with one No. 8 x 2-1/2 in. coarse drywall screw through center grommet. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the clip spacing shall be reduced to 24 in. OC and secured to consecutive trusses. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7. Not evaluated for use with Item 5B.

PLITEQ INC — Type Genie Clip

6F. Steel Framing Members* — (Not Shown) — As an alternate to Items 6, furring channels and Steel Framing Members as described below.
a. Furring Channels — Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in deep, spaced 16 in OC, perpendicular to joists. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to joists as described in Item b.
b. Steel Framing Members* — Used to attach furring channels (Item a) to the trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the joists with one 2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold furring channel that supports the gypsum board butt joints as described in Item 7.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

6G. Steel Framing Members* — (Not Shown) — As an alternate to Item 6 — Not for use with Items 5, 5A or 5B — Main runners nom 12 ft long, spaced 72 in. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Cross tees, nom 6 ft long, installed perpendicular to main runners and spaced 24 in. OC. Additional 6 ft long cross tees required at each gypsum board end joint with butted gypsum board end joints centered between cross tees spaced 8 in. OC. The main runners and cross tees may be riveted or screw attached to the wall angle or channel to facilitate the ceiling installation.

USG INTERIORS LLC — Type DGL or RX

6H. Resilient Channels — For Use With Item 7A - Formed from min 25 MSG galv steel installed perpendicular to trusses and spaced 16 in. OC. Channels secured to each truss with 1-5/8 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end joint. Additional channels shall extend min 6 in. beyond each side edge of panel. Insulation, Item 5D is applied over the resilient channel/gypsum panel ceiling membrane.
6I. Steel Framing Members* — (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Members as described below.
a. Furring Channels — Formed of No. 25 MSG galvanized steel, 2-1/2 in. wide by 7/8 in deep, spaced 16 in OC, perpendicular to trusses. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b.
b. Steel Framing Members* — Used to attach furring channels (Item 6Ia) to the trusses (Item 2). Clips spaced 48 in. OC on alternating trusses and secured to the bottom chord of the trusses with one 2-1/2 in. coarse drywall screw through the center grommet in accordance with the manufacturer's installation instructions. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the furring channel that supports one end of the gypsum board butt joints as described in Item 7.

REGUPOL AMERICA — Type SonusClip

7. Gypsum Board* — Nom 5/8 in. thick, 48 in. wide gypsum panels. When resilient channels (Item 6) are used, gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle head steel screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. When insulation (Items 5 or 5A) is applied over the resilient channel/gypsum panel ceiling membrane screw spacing shall be reduced to 8 in. OC. When insulation (Item 5C or 5E) is applied to the underside of the subflooring, screw spacing shall be reduced to 8 in. OC and minimum 1-1/4 in. long Type S screws to install gypsum to the resilient channels (Item 6), and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. End joints secured to both resilient channels as shown in end joint detail. When Steel Framing Members (Item 6A) are used, gypsum panels installed with long dimensions perpendicular to furring channels. Panels attached to the furring channels using 1 in. long Type S bugle-head steel screws spaced 8 in. OC along butted end joints and in the field of the panel. Butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum panel shall be supported by a single length of furring channel equal to the width of the gypsum panel plus 6 in. on each end. The two support furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to underside of the truss with one clip at each end of the channel. When Steel Framing Members* (Item 6B) are used, gypsum panels installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Panels fastened to cross tees with 1 in. long Type S bugle-head screws spaced in the field and 8 in. OC along end joints. Panels fastened to main runners with 1 in. long Type S bugle-head screws spaced midway between cross tees. Screws along sides and ends of panels spaced 3/8 to 1/2 in. from panel edge. End joints of panels shall be staggered with spacing between joints on adjacent panels not less than 4 2 ft OC. When Fiber, Sprayed (Items 5A or 5B) is used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels. Base layer gypsum board secured with 1 in. long Type S bugle head steel screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. End joints secured to both resilient channels as shown in end joint detail. Outer layer gypsum board secured with 1-5/8 in. long Type S bugle head steel screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. Outer layer shall be finished as described in Item 8. When both Steel Framing Members (Item 6A) and Fiber, Sprayed (Items 5A or 5B) are used, furring channels spaced 12 in. OC and two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimension perpendicular to furring channels. Base layer secured to furring channels with nom 1 in. long Type S bugle head screws spaced 8 in. OC along butted end joints and in the field of the board. Butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 6 in. on each end. The two support furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to the underside of the truss with one clip at each end of the channel. Outer layer secured to furring channels using 1-5/8 in. long Type S screws spaced 8 in. OC and 1-1/2 in. from the end joint. Butted end joints to be offset a min. of 8 in. from base layer end joints. Butted side joints of outer layer to be offset min. 18 in. from butted side joints of base layer. When Steel Framing Members (Item 6C) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels (Item 6Ca). Base layer attached to the furring channels using 1 in. long Type S bugle head steel screws spaced 8 in. OC along butted end joints and 12 in. OC in the field of the board. Butted end joints centered on the continuous furring channels. Butted base layer end joints to be offset a min of 16 in. in adjacent courses. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle head steel screws spaced 8 in. OC at butted end joints and 12 in. OC in the field. Butted end joints centered on the continuous furring channels and offset a min of 16 in. from butted end joints of base layer. Butted side joints of outer layer to be offset min 16 in. from butted side joints of base layer. When Steel Framing Members (Item 6D) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels. Base layer attached to the furring channels using 1 in. long Type S bugle-head steel screws spaced 12 in. OC in the field of the board. Butted end joints shall be staggered min 2 ft. within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 6 in. on each end. The two furring channels shall be spaced approximately 4 in. OC, and be attached to underside of the truss with one Isomax clip at each end of the channel. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle-head steel screws spaced 12 in.

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## Design No. L563

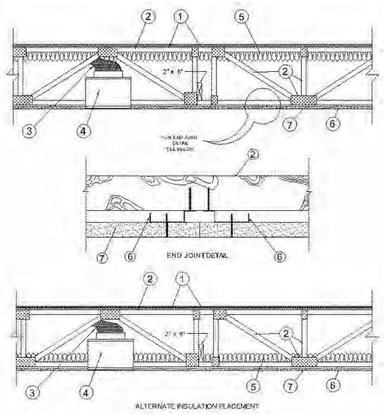
November 28, 2018

Unrestrained Assembly Rating - 1/2 Hr, 1 Hr (See Item 1, System 1)

Finish Rating - 25 Min (See Items 5 or 5A and 7), 20 Min. (See Items 6E and 7A)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.




1. Flooring System — The flooring system shall consist of one of the following:

System No. 1

Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier - (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring — Min 1 by 4 in. T & G lumber fastened diagonally to trusses, or min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain of plywood or strength axis of panel to be perpendicular to trusses with joints staggered.

System No. 2

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Floor Mat Materials* - (Optional) — Floor mat material nom 5/64 in. (2 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1 in. of floor-topping mixture.

ECORE INTERNATIONAL INC — Type QTscu 4002

HACKER INDUSTRIES INC — Type Hacker Sound-Mat

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 1/4 in. (6 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1-1/4 in. (32 mm) of floor-topping mixture.

ECORE INTERNATIONAL INC — Type QTrbm 3006-3

HACKER INDUSTRIES INC — Type Hacker Sound-Mat II.

Alternate Floor Mat Materials - (Optional)— Floor mat material nom 1/8 in. (3 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 3/4 in. (19 mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 125

Alternate Floor Mat Materials - (Optional)— Floor mat material nom 1/4 in. (6 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1 in. (25 mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 250, Quiet Qurl 55/025

Alternate Floor Mat Materials - (Optional)— Floor mat material nom 3/8 in. (10 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/4 in. (32 mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 400, Quiet Qurl 60/040

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 3/4 in. (19 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38 mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 750, Quiet Qurl 65/075

Metal Lath (Optional) — For use with 3/8 in. (10 mm) floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nom 1-1/4 in. over the floor mat.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

HACKER INDUSTRIES INC — Firm-Fill Gypsum Concrete, Firm-Fill 2010, Firm-Fill 3310, Firm-Fill 4010, Firm-Fill High Strength, Gyp-Span Radiant

System No. 3

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Finish Floor - Mineral and Fiber Board* — Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft to 8 ft by 12 ft. All joints to be staggered a min of 12 in. with adjacent sub-floor joints.

HOMASOTE CO — Type 440-32 Mineral and Fiber Board

System No. 4

Subflooring — Min Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier - (Optional) — Nom 0.010 in. thick commercial asphalt saturated felt.

Finish Flooring — Min 1 by 4 in. T & G lumber fastened diagonally to trusses, or min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain of plywood or strength axis of panel to be perpendicular to trusses with joints staggered.

System No. 5

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Floor Mat Materials* - (Optional) — Floor mat material nom 1/4 in. (6 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1-1/4 in. (32 mm) of floor-topping mixture.

ECORE INTERNATIONAL INC — Type QTrbm 3006-3

HACKER INDUSTRIES INC — Type Hacker Sound-Mat II.

Alternate Floor Mat Materials - (Optional)— Floor mat material nom 1/8 in. (3 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 3/4 in. (19 mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 125

Alternate Floor Mat Materials - (Optional)— Floor mat material nom 1/4 in. (6 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1 in. (25 mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 250, Quiet Qurl 55/025

Alternate Floor Mat Materials - (Optional)— Floor mat material nom 3/8 in. (10 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/4 in. (32 mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 400, Quiet Qurl 60/040

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 3/4 in. (19 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38 mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 750, Quiet Qurl 65/075

Metal Lath (Optional) — For use with 3/8 in. (10 mm) floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nom 1-1/4 in. over the floor mat.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

HACKER INDUSTRIES INC — Firm-Fill Gypsum Concrete, Firm-Fill 2010, Firm-Fill 3310, Firm-Fill 4010, Firm-Fill High Strength, Gyp-Span Radiant

System No. 3

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Finish Floor - Mineral and Fiber Board* — Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft to 8 ft by 12 ft. All joints to be staggered a min of 12 in. with adjacent sub-floor joints.

HOMASOTE CO — Type 440-32 Mineral and Fiber Board

System No. 4

Subflooring — Min Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier - (Optional) — Nom 0.010 in. thick commercial asphalt saturated felt.

Finish Flooring — Min 1 by 4 in. T & G lumber fastened diagonally to trusses, or min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain of plywood or strength axis of panel to be perpendicular to trusses with joints staggered.

System No. 2

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Floor Mat Materials* - (Optional) — Floor mat material nom 5/64 in. (2 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1 in. of floor-topping mixture.

ECORE INTERNATIONAL INC — Type QTscu 4002

HACKER INDUSTRIES INC — Type Hacker Sound-Mat

Alternate Floor Mat Materials - (Optional)— Floor mat material nom 1/4 in. (6 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1-1/4 in. (32 mm) of floor-topping mixture.

ECORE INTERNATIONAL INC — Type QTrbm 3006-3

HACKER INDUSTRIES INC — Type Hacker Sound-Mat II.

Alternate Floor Mat Materials - (Optional)— Floor mat material nom 1/8 in. (3 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 3/4 in. (19 mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 125

Alternate Floor Mat Materials - (Optional)— Floor mat material nom 1/4 in. (6 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1 in. (25 mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 250, Quiet Qurl 55/025

Alternate Floor Mat Materials - (Optional)— Floor mat material nom 3/8 in. (10 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/4 in. (32 mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 400, Quiet Qurl 60/040

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 3/4 in. (19 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38 mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 750, Quiet Qurl 65/075

Metal Lath (Optional) — For use with 3/8 in. (10 mm) floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nom 1-1/4 in. over the floor mat.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

HACKER INDUSTRIES INC — Firm-Fill Gypsum Concrete, Firm-Fill 2010, Firm-Fill 3310, Firm-Fill 4010, Firm-Fill High Strength, Gyp-Span Radiant

System No. 3

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Finish Floor - Mineral and Fiber Board* — Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft to 8 ft by 12 ft. All joints to be staggered a min of 12 in. with adjacent sub-floor joints.

HOMASOTE CO — Type 440-32 Mineral and Fiber Board

System No. 4

Subflooring — Min Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier - (Optional) — Nom 0.010 in. thick commercial asphalt saturated felt.

Finish Flooring — Min 1 by 4 in. T & G lumber fastened diagonally to trusses, or min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain of plywood or strength axis of panel to be perpendicular to trusses with joints staggered.

System No. 2

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Floor Mat Materials* - (Optional) — Floor mat material nom 5/64 in. (2 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1 in. of floor-topping mixture.

ECORE INTERNATIONAL INC — Type QTscu 4002

HACKER INDUSTRIES INC — Type Hacker Sound-Mat

Alternate Floor Mat Materials - (Optional) —

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## Design No. P522

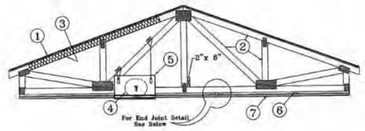
April 05, 2018

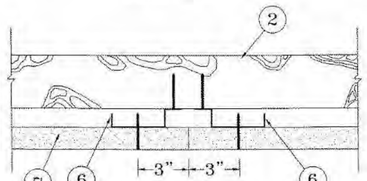
Unrestrained Assembly Rating — 1 Hr

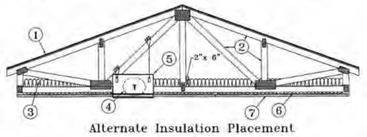
Finish Rating — 25 Min (See Items 3 or 3A )

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.




Alternate Insulation Placement

1. Roofing System* — Any UL Class A, B or C Roofing System (TGFU) or Prepared Roof Covering (TFWZ) acceptable for use over nom 15/32 in. thick wood structural panels, min. grade "C-D" or "Sheathing". Nom 15/32 in. thick wood structural panels secured to trusses with No. 6d ringed shank nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Construction adhesive may be used with either the nails or staples.

2. Trusses — Pitched or parallel chord wood trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Truss members secured together with min. 0.0356 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approximately 7/8 in. centers with four rows of teeth per inch of plate width. Where the truss intersects with the interior face of the exterior walls, the min truss depth shall be 5-1/4 in. with a min roof slope of 3/12 and a min. area in the plane of the truss of 21 sq/ft. Where the truss intersects with the interior face of the exterior walls, the min truss depth may be reduced to 3 in. if the batts and blankets ( Item 3) are used as shown in the above illustration (Alternate Insulation Placement) and are firmly packed against the intersection of the bottom chords and the plywood sheathing.

3. Batts and Blankets* — (Optional) — Required when Item 6B is used — Glass fiber insulation, secured to the wood structural panels with staples spaced 12 in. OC or to the trusses with 0.090 in. diam galv steel wires spaced 12 in. OC. Any glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance, having a min density of 0.5 pcf. As an option, the insulation may be fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. When Steel Framing Members (Item 6B) are used, max 3-1/2 in. thick insulation shall be draped over the furring channels (Item 6Ba) and gypsum board ceiling membrane, and friction-fitted between trusses and Steel Framing Members (Item 6Bd). The finished rating has only been determined when the insulation is secured to the decking.

3A. Fiber, Sprayed* — As an alternate to Item 3 (not evaluated for use with Item 6B) — Any thickness of spray-applied cellulose insulation material, having a min density of 0.5 lb/ft3, applied with water, over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Fiber, Sprayed is applied with moisture in accordance with the application instructions supplied with the product. The finish rating when Fiber Sprayed is used has not been determined. Alternate application method: The fiber is applied without water or adhesive in accordance with the application instructions supplied with a minimum density of 0.5 lb/ft3 over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Alternate application method: The fiber is applied without water or adhesive to a nominal density of 3.5 lb/ft3 behind netting (Item 9) stapled to the rafters. The netting is stapled at both lower edges of the rafters creating a cavity to accept the cellulose fiber.
U S GREENFIBER L L C — INS735 & INS745 for use with wet or dry application. INS510LD, INS515LD, INS541LD, INS735, INS745, INS765LD, and INS770LD are to be used for dry application only.

3B. Foamed Plastic* — (As an alternate to Item 3 or 3A, Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft3 density. When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5H) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.
SES FOAM INC — Sucroseal 0.5 lb

3C. Cavity Insulation - Batts and Blankets* or Fiber, Sprayed* — (As described above) in Items 3 and 3A — (For Use with Item 7B, Not Shown) — Min. 3-1/2 in thick with no limit on maximum thickness fitted in the concealed space, draped over the resilient channel (Item 6G)/gypsum board (Item 7B) ceiling membrane.

3D. Foamed Plastic* — (As alternate to Item 3, 3A, or 3B, Not Shown) — Spray foam insulation applied directly to the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft3 or 2.0 lb/ft3 density, depending on the product installed. When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) spaced maximum 3 in. away from gypsum butt joints. Gypsum board (Item 7) to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5H) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.
BASF CORP — Enertite® NM, Enertite® G, FE1788, Sprayrite® 178, Sprayrite® 81206, Wallrite® 200, Wallrite® US, Wallrite® US-N, and Wallrite® HP+

4. Air Duct* — Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.

5. Ceiling Damper* — Max nom area, 324 sq in. Max square size, 18 in. by 18 in. rectangular sizes not to exceed 324 sq in. with a max width of 18 in. Max damper height is 14 in. Installed in accordance with manufacturers installation instructions provided with the damper. Max damper openings not to exceed 162 sq in. per 100 sq ft of ceiling area.
C&S AIR PRODUCTS — Model RD-521

POTTORFF — Model CFD-521

5A. Alternate Ceiling Damper* — Max nom area, 196 sq in. Max square size, 14 in. by 14 in. Rectangular sizes not to exceed 196 sq in. with a max width of 26 in. Max overall damper height is 7 in. Installed in accordance with the manufacturers installation instructions provided with the damper. Max damper openings not to exceed 98 sq in. per 100 sq ft of ceiling area.
C&S AIR PRODUCTS — Model RD-521-BT

POTTORFF — Model CFD-521-BT.

5B. Alternate Ceiling Damper* — Max nom area shall be 256 sq in. with the length not to exceed 24 in. and the width not to exceed 20 in. Max height of damper shall be 17 in. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille shall be installed in accordance with installation instructions.

POTTORFF — Models CFD-521-IP, CFD-521-NP

5C. Alternate Ceiling Damper* — Ceiling damper & fan assembly. Max nom area shall be 75 sq in. with the length not to exceed 8-9/16 in. and the width not to exceed 8-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 38 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturers installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.

DELTA ELECTRONICS INC — Models CRD2, GBR-CRD, ITG-CRD

5D. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 75 sq in. with the length not to exceed 9-1/4 in. and the width not to exceed 9-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 45 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.

DELTA ELECTRONICS INC — Model SIG-CRD

5E. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 131 sq in. with the length not to exceed 11-1/16 in. and the width not to exceed 11-7/8 in. Aggregate damper openings shall not exceed 66 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.

DELTA ELECTRONICS INC — Model SMT-CRD

5F. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 103 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 10-1/8 in. Aggregate damper openings shall not exceed 52 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.

PANASONIC CORPORATION, PANASONIC CORPORATION OF NORTH AMERICA — Model PC-RD05C5

## Design No. P522 (continued)

5G. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 113 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 11-1/8 in. Aggregate damper openings shall not exceed 57 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.

BROAN-NUTONE L L C — Model RDFUWT

5H. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 79 sq in. with the length not to exceed 10 in. and the width not to exceed 7-15/16 in. Aggregate damper openings shall not exceed 40 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A metallic grille shall be installed in accordance with installation instructions.

BROAN-NUTONE L L C — Models RDJ1 and RDH

5I. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.

BROAN-NUTONE L L C — Model RDMWT

6. Furring Channels — Resilient channels formed of 25 MSG thick galv steel. Installed perpendicular to the trusses (Item 2), spaced a max of 16 in. OC when no insulation (Item 3 or 3A) is fitted in the concealed space, or a max of 12 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane, or when insulation (Item 3B or 3D) is applied to the underside of the roofing system (Item 1). Two courses of resilient channel positioned 6 in. OC at wallboard butt-joints (3 in. from each end of wallboard). Channels oriented opposite at wallboard butt-joints. Channel splices overlapped 4 in. beneath wood trusses. Channels secured to each truss with 1-1/4 in. long Type S screws.

6A. Steel Framing Members* — (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Members as described below:
a. Furring Channels — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to trusses when no insulation (Items 3 or 3A) is fitted in the concealed space or 12 in. OC when insulation (Items 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane or 24 in. OC when insulation (Items 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane and a second layer of gypsum board is attached as described in Item 7 for steel framing members. Channels secured to trusses as described in Item 6Ab. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap.
b. Steel Framing Members — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to alternating trusses with No. 8 by 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to alternating trusses with No. 8 by 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item 6Aa. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

6B. Steel Framing Members* — (Not Shown) — As an alternate to Items 6 and 6A.
a. Furring Channels — Hat-shaped furring channels, 7/8 in. deep by 2-5/8 in. wide at the base and 1-1/4 in. wide at the face, formed from No. 25 ga. galv steel, spaced max 16 in. OC perpendicular to trusses and Cold Rolled Channels (Item 6Bb). Furring channels secured to Cold Rolled Channels at every intersection with a 1/2 in. pan head self-drilling screw through each furring channel leg. Ends of adjoining channels overlapped 4 in. and tied together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap. Supplemental furring channels at base layer and outer layer gypsum board butt joints are not required. Batts and Blankets draped over furring channels as described in Item 3. Two layers of gypsum board attached to furring channels as described in Item 7.
b. Cold Rolled Channels — 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6Bd). Adjoining lengths of cold rolled channels lapped min. 6 in. and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.
c. Blocking — Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 6 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the truss (Item 2) at the top and bottom of the blocking at each Steel Framing Member (Item 6Bd) location.
d. Steel Framing Members* — Hangers spaced 48 in. OC. max along truss, and secured to the Blocking (Item 6Bc) on alternating trusses with a single 5/16 in. by 2 in. hex head lag bolt or four #6 1-1/4 in. drywall screws through mounting hole(s) on the hanger bracket. The two 1/4 in. long steel teeth on the hanger are embedded in the side of the blocking. Hanger positioned on blocking and leveling bolt height adjusted such that furring channels are flush with bottom of trusses before gypsum board installation. Spring gauge of hanger chosen per manufacturer's instructions.

KINETICS NOISE CONTROL INC — Type ICW.

6C. Steel Framing Members* — (Not Shown) — As an alternate to Items 6, 6A and 6B.
a. Furring Channels — Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep installed perpendicular to wood structural members. Channels spaced a max of 24 in. OC when no insulation (Item 3 or 3A) is fitted in the concealed space or a max of 12 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space. Channels secured to trusses as described in Item 6Ca. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire near each end of overlap.
b. Steel Framing Members* — Used to attach furring channels (Item 6Ca) to trusses (Item 2). Clips secured to the bottom chord of each truss (Item 2) with one No. 8 by 2-1/2 in. long coarse drywall screw through center grommet. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item 6Ca. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.

PLITEQ INC — Type Genie Clip

6D. Steel Framing Members* — (Not Shown) — As an alternate to Items 6, 6A, 6B and 6C.
a. Main runners — Installed perpendicular to trusses — Nom 10 or 12 ft long, 15/16 in. or 1-1/2 in. wide face, spaced 4 ft OC. Main runners hung a min of 2 in. from bottom chord of trusses with 12 SWG galv steel wire. Wires located a max of 48 in. OC.
b. Cross tees or channels — Nom 4 ft long, 15/16 in. or 1-1/2 in. wide face or cross channels, nom 4 ft long, 1-1/2 wide face, installed perpendicular to the main runners, spaced 16 in. OC. Additional cross tees or channels used at 8 in. from each side of butted gypsum board end joints. The cross tees or channels may be riveted or screw-attached to the wall angle or channel to facilitate the ceiling installation.
c. Wall angles or channels — Used to support steel framing member ends and for screw-attachment of the gypsum wallboard — Min 0.016 in. thick painted or galvanized steel angle with 1 in. legs or min. 0.016 in. thick painted or galvanized steel channel with a 1 by 1-1/2 by 1 in. profile, attached to walls at perimeter of ceiling with fasteners 16 in. OC.

CGC INC — Type DGL or RX

USG INTERIORS LLC — Type DGL or RX

6E. Alternate Steel Framing Members* — (Not Shown) — As an alternate to items 6, 6A, 6B, and 6C, furring channels and Steel Framing Members as described below.
a. Furring Channels — Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in deep, spaced 24 in OC, perpendicular to trusses. When insulation, Items 3 or 3A is used, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to joists as described in Item b.
b. Steel Framing Members* — Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

6F. Steel Framing Members* — (Not Shown) — As an alternate to Items 6 through 6E- Not for use with Items 3 or 3A. Main runners nom 12 ft long, spaced 72 in. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Cross tees, nom 6 ft long, installed perpendicular to main runners and spaced 24 in. OC. Additional 6 ft long cross tees required at each gypsum board end joint with butted gypsum board end joints centered between cross tees spaced 8 in. OC. The main runners and cross tees may be riveted or screw attached to the wall angle or channel to facilitate the ceiling installation.

USG INTERIORS LLC — Type DGL or RX

6G. Resilient Channels — For Use With Item 7B - Formed from min 25 MSG galv steel installed perpendicular to trusses and spaced 16 in. OC. Channels secured to each truss with 1-5/8 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end joint. Additional channels shall extend min 6 in. beyond each side edge of panel. Insulation, Item 3C is applied over the resilient channel/gypsum panel ceiling membrane.

7. Gypsum Board* — One layer of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to trusses. Attached to the resilient channels using 1 in. long Type S bugle-head screws. Screws spaced a max of 12 in. OC along butted end-joints and in the field when no insulation (Item 3 or 3A) is fitted in the concealed spaced, or a max of 8 in. OC along butted end-joints and in the field when insulation (Item 3 or 3A ) is fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane. When insulation (Item 3B or 3D) is installed in the concealed space, spray-applied to the underside of the roofing system (Item 1), screws are spaced a max of 8 in. OC along resilient channels, fasteners are increased in length to 1-1/4 in, and gypsum board butt joints shall be staggered min. 2 ft within the assembly, and occur between the main furring channels.
When Steel Framing Members* (Item 6A or 6C) are used, sheets installed with long dimension perpendicular to furring channels and side joints of sheet located beneath trusses. Gypsum board screws are driven through channel spaced 12 in. OC in the field when no insulation (Item 3 or 3A) is fitted in the concealed space, or 8 in. OC in the field when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Gypsum board butt joints shall be staggered min. 2 ft within the assembly, and occur between the main furring channels. At the gypsum board butt joints, each end of the gypsum board shall be supported by a single length of furring channel equal to the width of the wallboard plus 6 in. on each end. The furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to the trusses with one clip at each end of the channel. Screw spacing along the butt joint to attach the gypsum board to the furring channels shall be 8 in. OC. Second (outer) layer of gypsum board required when furring channels (Item 6A, a) are spaced 24 in. OC and insulation is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Outer layer of gypsum board attached to the furring channels using 1-5/8 in. long Type S bugle-head screws spaced 8 in. OC at butted joints and 12 in. OC in the field. Butted end joints of outer layer to be offset a minimum of 8 in. from base layer end joints. Butted side joints of outer layer to be offset minimum 18 in. from butted side joints of base layer.

When Steel Framing Members (Item 6B) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels (Item 6Ba). Base layer attached to the furring channels using 1 in. long Type S bugle head steel screws spaced 8 in. OC along butted end joints and 12 in. OC in the field of the board. Butted end joints centered on the continuous furring channels. Butted base layer end joints to be offset a min of 16 in. in adjacent courses. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle head steel screws spaced 8 in. OC at butted end joints and 12 in. OC in the field. Butted end joints centered on the continuous furring channels and offset a min of 16 in. from butted end joints of base layer. Butted side joints of outer layer to be offset min 16 in. from butted side joints of base layer.

When Steel Framing Members (Item 6C) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 72 in. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end, spaced approximately 2 in. in from joint. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Butt joint furring channels shall be attached with a RESILMOUNT Sound Isolation Clip secured to underside of every truss that is located over the butt joint. Over all Gypsum Board side joints, approximately 20 in. lengths of furring channel shall be installed parallel to trusses (Item 2) between main furring channels. Side joint furring channels shall be attached to underside of the joist with RESILMOUNT Sound Isolation Clips - located approximately 2 in. from each end of the approximate 20 in. length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge.

When Steel Framing Members (Item 6E) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two support furring channels shall be spaced approximately 3 in. in from end joint. Screw spacing along the gypsum board butt joint and along both additional channels shall be 8 in. OC. Additional screws shall be placed in the adjacent section of gypsum board into the aforementioned 3 in. extension of the extra butt joint channels as well as into the main channel that runs between. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel.

## Design No. P522 (continued)

When alternate Steel Framing Members* (Item 6F) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board sheets installed with long dimension (side joints) perpendicular to the 6 ft long cross tees with the end joints staggered min 4 ft and centered between cross tees which are spaced 8 in. OC. Gypsum board side joints may occur beneath or between main runners. Prior to installation of the gypsum board sheets, backer strips consisting of nom 7-3/4 in. wide pieces of gypsum board are to be laid atop the cross tee flanges and centered over each butted end joint location. The backer strips are to be secured to the flanges of the cross tees at opposite corners of the backer strip with hold down clips to prevent the backer strips from being uplifted during screw-attachment of the gypsum board sheets. Gypsum board fastened to cross tees with 1 in. drywall screws spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board. The butted end joints are to be secured to the backer strip with No. 10 by 1-1/2 in. long Type G laminating screws located 1 in. from each side of the butted end joint and spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board.

CGC INC — Types C, IP-X2, IPC-AR

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

7A. Gypsum Board* — For use with Steel Framing Members (Item 6D) when Batts and Blankets* (Item 3) are not used - One layer of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to the main runners. Gypsum board fastened to each cross tee or channel with five wallboard screws, with one screw located at the midspan of the cross tee or channel, one screw located 12 in. from and on each side of the cross tee or channel mid span and one screw located 1-1/2 in. from each gypsum board side joint. Except at wallboard end joints, wallboard screws shall be located on alternating sides of cross tee flange. At gypsum board end joints, gypsum board screws shall be located 1/2 in. from the joint. Gypsum board fastened to main runners with wallboard screws 1/2 in. from side joints, midway between intersections with cross tees or channels (16 in. OC). End joints of adjacent gypsum board sheets shall be staggered not less than 32 in. Gypsum board sheets screw attached to leg of wall angle with wallboard screws spaced 12 in. OC. Joints treated as described in Item 7. For use with Steel Framing Members* (Item 6D) when Batts and Blankets* (Item 3) are used - Ratings limited to 1 Hour - 5/8 in. thick, 4 ft wide; installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Fastened to cross tees with 1 in. long steel gypsum board screws spaced 8 in. OC in the field and 8 in. OC along end joints. Fastened to main runners with 1 in. long gypsum board screws spaced midway between cross tees. Screws along sides and ends of boards spaced 3/8 to 1/2 in. from board edge. End joints of the sheets shall be staggered with spacing between joints on adjacent boards not less than 4 ft OC.

CGC INC — Type C or IP-X2

UNITED STATES GYPSUM CO — Type C or IP-X2

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Type C or IP-X2

7B. Gypsum Board* — For use with Items 3C and 6G. Nom 5/8 in. thick, 48 in. wide gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle head steel screws spaced 8 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. Finish Rating with this ceiling system is 20 min.

UNITED STATES GYPSUM CO — Type ULIX

8. Finishing System — (Not Shown) — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nom 3/32 in. thick veneer plaster may be applied to the entire surface of gypsum board. Alternate Ceiling Membrane — Not Shown.

9. Netting — Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

## 1 P522 - TYP ROOF ASSEMBLY (1 HR)

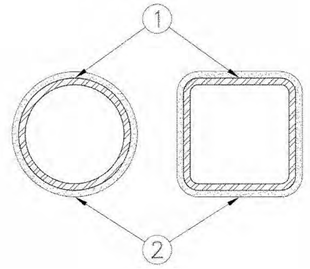
12" = 1'-0"

## Design No. X673

October 29, 2010

Ratings - 3/4, and 1 Hr (See Item 2)

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.




1. Steel Column — Square, rectangular or circular tubular steel columns with the minimum sizes shown in the table below. Steel columns shall be free of dirt, loose scale and oil. Column shall be primed with metal alkyd primer.

2. Mastic and Intumescent Coating* — Coating applied in accordance with manufacturer's instructions to the minimum dry film thickness shown below:

| Rating, hr | Steel Column Size | Column A/P | Required Min Thickness, In. |
|---|---|---|---|
| 3/4 | ST 5 x 3 x 1/4 in. | 0.22 | 0.130 |
| 1 | ST 5 x 3 x 1/4 in. | 0.22 | 0.134 |
| 1 | SP 8.625 in. diam x 1/4 in. | 0.24 | 0.135 |

A/D Fire Protection Systems Inc — Type "A/D FIREFILM III" or "A/D FIREFILM III C" investigated for Interior Conditioned Space Purpose and Interior General Purpose.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

## 2 X673

12" = 1'-0"

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |
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| | | |
| | | |
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215

PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

# UL ASSEMBLIES

STATE OF OHIO — JAY W BOONE — 10740 — REGISTERED ARCHITECT

JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*

DRAWN BY: **Author** | CHECKED BY: **Checker**

*Proj. #20643*

# G008

*PERMIT & BID SET*

PRINT DATE: 4/1/2022 10:33:31 AM
FILE INFO: C:\$$Local Revit Projects\2021 Projects\20643 Hamels Hope PSH - ARCH_ RvtaMPROJ.rvt

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## Design No. L538

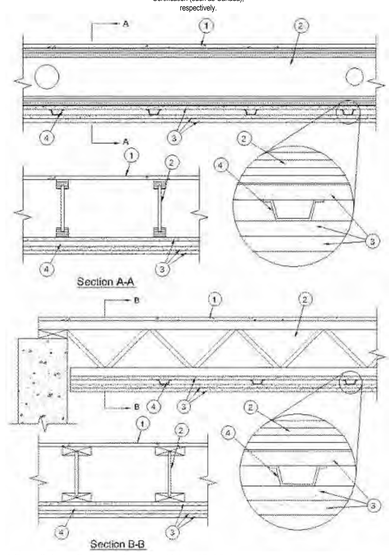
May 05, 2020

Unrestrained Assembly Rating — 2 Hr.

Finish Rating — More Than 90 Min.

This design was evaluated using a load design method other than the LimitStates Design Method (e.g., Working Stress Design Method). For jurisdictionsemploying the Limit States Design Method, such as Canada, a load restrictionfactor shall be used — See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark forjurisdictions employing the UL or cUL Certification (such as Canada), respectively.




1. Flooring Systems — The flooring system shall consist of one of the following:

**System No. 1**

Subflooring — Min 5/8 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain of plywood orstrength axis of panels to be perpendicular to joists with end joints centered over the top chord of the joist and staggered.

**System No. 2**

Subflooring — Min 5/8 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain of plywood orstrength axis of panels to be perpendicular to joists with end joints centered over the top chord of the joist and staggered.

Finish Flooring — Min 3/4 in. thickness of lightweight insulating concrete with Perlite Aggregate* or VermiculiteAggregate*, or gypsum concrete.

See Perlite Aggregate (CFFX) and Vermiculite Aggregate (CJZZ) categories for names of manufacturers

**System No. 3**

Subflooring — Min 5/8 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain of plywood orstrength axis of panels to be perpendicular to joists with end joints centered over the top chord of the joist and staggered.

Finish Floor — Mineral and Fiber Board* — Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft to 8 ft by 12 ft. Alljoints to be staggered a min of 12 in. with adjacent sub-floor joints.

HOMASOTE CO — Type 440-32 Mineral and Fiber Board

**System No. 4**

Subflooring — Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick plywood or 7/16 in. thickoriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis ofpanels to be perpendicular to the joists with joints staggered.

Floor Mat Materials* — (Optional) — Floor mat material nom 5/64 in. (2 mm) thick adhered to subfloor with Hacker FloorPrimer. Primer to be applied to the surface of the mat prior to the placement of a min 1 in. of floor-topping mixture.

HACKER INDUSTRIES INC — Type Hacker Sound-Mat.
Alternate Floor Mat Materials — (Optional) — Floor mat material nom 1/4 in. (6 mm) thick adhered to subfloor with HackerFloor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1-1/4 in. (32 mm) of floor-toppingmixture.

HACKER INDUSTRIES INC — Type Hacker Sound-Mat II
Alternate Floor Mat Materials — (Optional) — Floor mat material nom 1/8 in. (3 mm) thick loose laid over the subfloor. Floortopping thickness shall be a min of 3/4 in. (19 mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 125

Alternate Floor Mat Materials — (Optional) — Floor mat material nom 1/4 in. (6 mm) thick loose laid over the subfloor. Floortopping thickness shall be a min of 1 in. (25 mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 250, Quiet Qurl 55/025
Alternate Floor Mat Materials — (Optional) — Floor mat material nom 3/8 in. (10 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/4 in. (32 mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 400, Quiet Qurl 60/040
Alternate Floor Mat Materials — (Optional) — Floor mat material nom 3/4 in. (19 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38 mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 750, Quiet Qurl 65/075
BXUV.L538 | UL Product iQ https://iq.ulprospector.com/en/profile?e=142923 of 9 7/15/2020, 2:38 PM

Metal Lath — (Optional) — For use with 3/8 in. (10 mm) floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sqyd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metallath is used, floor topping thickness a nom 1-1/4 in. over the floor mat.

Finish Flooring — Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressivestrength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

HACKER INDUSTRIES INC — Firm-Fill Gypsum Concrete, Firm-Fill 2010, Firm-Fill 3310, Firm-Fill 4010, Firm-Fill High Strength,Gyp-Span Radiant

**System No. 5**

Subflooring — Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick plywood or 7/16 in. thickoriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis ofpanels to be perpendicular to the joists with joints staggered.

Finish Flooring — Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a minimum compressivestrength of 1500 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

MAXXON CORP — Type Maxxon Standard and Maxxon High Strength
Floor Mat Materials* — (Optional) — Floor mat material loose laid over the subfloor. Refer to manufacturer's instructionsregarding the minimum thickness of floor topping over each floor mat material.

MAXXON CORP — Type Encapsulated Sound Mat.
Floor Mat Reinforcement — (Optional) Refer to manufacturer's instructions regarding minimum thickness of floor toppingfor use with floor mat reinforcement.

Metal Lath — (Optional) — 3/8 in. expanded galvanized steel diamond mesh, 3.4 lbs/sq yd loose laid over the floor matmaterial. Fiber Glass Reinforcement- (Optional, Not Shown) - 0.015 in. thick PVC coated non-woven fiberglass mesh, 0.368 lbs/sq ydloose laid over the floor mat material.

**System No. 6**

Subflooring — Min 5/8 in. thick wood structural panels, min grade Underlayment or Single Floor. Face grain of plywood orstrength axis of panels to be perpendicular to joists with end joints centered over the top chord of the joist and staggered.

Finish Flooring — Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressivestrength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.
FORMULATED MATERIALS LLC — Types FR-25, FR-30, and SiteMix

Floor Mat Material* — (Optional) Floor mat material nominal 2 - 9.5 mm thick loose laid over the subfloor. Floor toppingshall be a min of 1 in.

FORMULATED MATERIALS LLC — Types M1, M2, M3, Elite, Duo, R1, and R2

**System No. 7**

Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along eachtruss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) — Nom 0.010 in. thick commercial asphalt saturated felt.

## Design No. L538 (continued)

Finish Flooring — Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a minimum compressivestrength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

UNITED STATES GYPSUM CO — Types LRK, HSLRK, CSD

USG MEXICO S A DE C V — Types LRK, HSLRK, CSD

Floor Mat Materials* — Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding theminimum thickness of floor topping over each floor mat material.

UNITED STATES GYPSUM CO — Types SAM, LEVELROCK® Brand Sound Reduction Board, LEVELROCK® Brand FloorUnderlayment SRM-25

Alternate Floor Mat Materials* — (Optional) — Nom 3/8 in. thick floor mat material loose laid over the subfloor.

GRASSWORX L L C — Type SC50

**System No. 8**

Subflooring — Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strengthaxis of panels to be perpendicular to the joists with joints staggered.

Vapor Barrier — (Optional) — Commercial asphalt saturated felt, 0.030 in. thick.

Vapor Barrier — (Optional) — Nom 0.010 in. thick commercial rosin-sized building paper.

Finish Flooring* — Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to FireResistance. See Floor- and Roof-Topping Mixtures (CCCX) category for names of Classified Companies.
Floor Mat Materials* — (Optional) — Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be aminimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 55/025 and Quiet Qurl 55/025 NAlternate Floor Mat Materials* — (Optional) — Floor mat material Nom. 3/8 in. thick loose laid over the subfloor. Floortopping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 60/040 and Quiet Qurl 60/040 NAlternate Floor Mat Materials* — (Optional) — Floor mat material Nom. 3/4 in. thick loose laid over the subfloor. Floortopping thickness shall be a minimum of 1-1/2 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 65/075, Quiet Qurl 65/075 NAlternate Floor Mat Materials* — (Optional) — Floor mat material Nom. 1/8 in. thick loose laid over the subfloor. Floortopping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 52/013 and Quiet Qurl 52/013 NAlternate Floor Mat Materials* — (Optional) — Floor mat material Nom. 1/4 in. entangled net core with a compressiblefabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Quiet Qurl 55/025 MT and Quiet Qurl 55/025 N MT

**System No. 9**

Subflooring — Min 5/8 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain of plywood orstrength axis of panels to be perpendicular to joists with end joints centered over the top chord of the joist and staggered.

Finish Flooring — Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

ACG MATERIALS — Accu-Crete types NexGen, Green, Prime, B, M, and PrePour, AccuRadiant, AccuLevel types G40, G50 andSD30

Floor Mat Material* — (Optional) — Floor mat material nominal 2 - 9.5 mm thick loose laid over the subfloor. Floor toppingshall be a min of 1 in.

ACG MATERIALS — AccuQuiet types P80, C40, D13, D-18, D25, DX38, EM.125, EM.125S, EM.250, EM.250S, EM.375, EM.375S,
EM.750, and EM.750S

**System No. 10**

Subflooring — Min 5/8 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain ofplywood or strength axis of panels to be perpendicular to joists with end joints centered over the top chord of thejoist and staggered.

Finish Flooring — Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a mincompressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mixdesign.

DEPENDABLE LLC — GSL M3.4, GSL K2.6, GSL-CSD or GSL RH

Floor Mat Materials* — (Optional) — Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shallbe a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 55/025 and Quiet Qurl 55/025 NAlternate Floor Mat Materials* — (Optional) — Floor mat material Nom. 3/8 in. thick loose laid over the subfloor.Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 60/040 and Quiet Qurl 60/040 NAlternate Floor Mat Materials* — (Optional) — Floor mat material Nom. 3/4 in. thick loose laid over the subfloor.Floor topping thickness shall be a minimum of 1-1/2 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 65/075, Quiet Qurl 65/075 NAlternate Floor Mat Materials* — (Optional) — Floor mat material Nom. 1/8 in. thick loose laid over the subfloor.Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 52/013 and Quiet Qurl 52/013 NAlternate Floor Mat Materials* — (Optional) — Floor mat material Nom. 1/4 in. entangled net core with acompressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimumof 1 in.

KEENE BUILDING PRODUCTS CO INC — Quiet Qurl 55/025 MT and Quiet Qurl 55/025 N MT

**System No. 11**

Subflooring — Min 5/8 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain ofplywood or strength axis of panels to be perpendicular to joists with end joints centered over the top chord of thejoist and staggered.

Finish Flooring* — Floor Topping Materials — Min 3/4 in. to 1-1/2 in. thickness of any Floor Topping Mixturebearing the UL Classification Marking as to Fire Resistance with a minimum compressive strength of 1500 psi.
See Floor- and Roof-Topping Mixtures (CCCX) category for names of Classified Companies.

Floor Mat Materials* — (Optional) — Floor mat material nom 1/8 in. to 3/4 in. thick. Loose laid over the subfloor.
When used, Acousti-flor CSM (crack suppression mat) is loose laid over the floor mat material. Floor toppingmaterial thickness is dependent on thickness of floor mat used.

WALFLOR INDUSTRIES INC — Type Acousti-flor, Acousti-flor CSM. Floor topping thickness depends on products used asfollows:

Acousti-flor (1/8 in. thick) - Floor topping thickness shall be a minimum of 3/4 in.

Acousti-flor (1/4 in. thick) - Floor topping thickness shall be a minimum of 1 in.

Acousti-flor (3/8 in. thick) - Floor topping thickness shall be a minimum of 1 in.

Acousti-flor (3/4 in. thick) - Floor topping thickness shall be a minimum of 1-1/2 in.

Metal Lath — (Optional) — Expanded steel diamond mesh, 2.5 lb / sq yd loose laid over floor mat material.
Fiberglass Mesh Reinforcement — (Optional) — Coated non-woven glass fiber mesh grid loose laid over floor matmaterial.

**System No. 12**

Subflooring — Min 5/8 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain ofplywood or strength axis of panels to be perpendicular to joists with end joints centered over the top chord of thejoist and staggered.

Finish Flooring - Floor Topping Mixture* — Min 1 in. thickness of floor topping mixture having a min compressivestrength of 4500 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

SIKA DEUTSCHLAND GMBH — Type SCHONOX AP Rapid Plus

**System No. 13**

Subflooring - Building Units* — Nom. 1-1/2 in. thick T & G laminated composite plywood sub-floor panels to beperpendicular to the trusses with end joints staggered 4 ft. End joints centered over top chord of trusses. Subfloorpanels secured to trusses with construction adhesive and #8 by 3 in. wood screws spaced 12 in. OC in the field and 6in. OC at the end joints.

RSP INDUSTRIES INC — SAP board

**System No. 14**

Subflooring — Min 5/8 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain ofplywood or strength axis of panels to be perpendicular to joists with end joints centered over the top chord of thejoist and staggered.

Vapor Barrier — (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Vapor Barrier — (Optional) - Nom 0.010 in. thick commercial rosin-sized building paper.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of any Floor Topping Mixture bearing the ULClassification Marking as to Fire Resistance. See Floor- and Roof-Topping Mixtures (CCOX) category for names ofClassified Companies.

Floor Mat Materials* — (Optional, Not Shown) - Floor mat material loose laid over the subfloor. Refer tomanufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.

LOW & BONAR INC — EnkaSonic® by Colbond a member of the Low & Bonar group Types 125, 250, 250 Plus, 400, 400 Plus,750, and 750 Plus.

Floor Mat Reinforcement — (Optional) - Refer to manufacturer's instructions regarding minimum thickness offloor topping for use with floor mat reinforcement.

Metal Lath — (Optional) — Expanded steel diamond mesh, 2.5 lb / sq yd loose laid over floor mat material.

Fiberglass Mesh Reinforcement — (Optional) — Coated non-woven glass fiber mesh grid loose laid over floor matmaterial.

2. Structural Wood Members* — Min 9-1/2 in. deep "I" shaped wood joists spaced at a max of 19.2 in. OC. Joistsshall conform to ICC-ES ESR-1153 Report. Joist top and bottom chords minimum 1-3/8 in. deep by 2.3 in. wide andconstructed of either Microllam laminated veneer lumber (LVL) or TimberStrand laminated strand lumber (LSL).
Webs constructed of minimum 3/8 in. thick Performance Plus OSB, PS2, Exposure 1. Installation shall be inaccordance with manufacturers published literature

2A. Alternate Structural Wood Members* — Min 14 in. deep wood and steel trusses spaced max 19.2 in. OC. Mintruss bearing on bearing plates to be in accordance with the truss manufacturer's published installation instructions.Trusses nailed or bolted to bearing plates, through steel bearing clips, in accordance with the manufacturer'spublished installation instructions.

## Design No. L538 (continued)

3. Gypsum Board* — Three layers of 5/8 in. thick by 4 ft wide gypsum board. Top layer boards installed with thelong dimension perpendicular to joists or trusses with end joints located under bottom of joists or trusses. Endjoints in adjacent rows shall be staggered on adjacent joists or trusses . Top layer boards secured to bottom chord ofjoists or trusses with 1-5/8 in. long Type S bugle head screws with hi-lo threads, spaced max 8 in. OC. Screws located1-1/2 to 2 in., and 3/4 in. from side and end joints, respectively. Bottom two layers of gypsum board installedperpendicular to furring channels (Item 4) with end joints centered on the furring channels. Middle layer boardssecured to each furring channel with 1 or 1-1/4 in. long Type S-12 bugle head steel screws with hi-lo threads spacedmax 8 in. OC. Screws located 1-1/2 to 2 in. and 5/8 to 3/4 in. from side and end joints, respectively. Face layerboards secured to each furring channel through the middle layer with 1-5/8 or 1-7/8 in. long Type S-12 bugle headsteel screws with hi-lo threads, spaced a max of 8 in. OC. Screws located 1-1/2 to 2 in. and 5/8 to 3/4 in. from sideand end joints, respectively. End joints and side joints of the face layer boards shall be staggered a min of 16 in. from the joints in the middle layer. If end joints of the face layer boards are not centered on the furring channels, the end of boards at the end joint shall be attached to the middle layer boards with 1-1/2 in. long Type G steel screws spaced 8 in. OC and located 1-1/2 in. from the end joint. All screws shall be driven no further than flush withthe face of the boards in order not to damage the core of the boards.

AMERICAN GYPSUM CO — Types AG-C

CERTAINTEED GYPSUM INC — Type C

CGC INC — Types C, IP-X2, IPC-AR, ULIX

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM L L C — Types 5, C, DAPC, TG-C

NATIONAL GYPSUM CO — Types FSK-C, FSK-G, FSW-C, FSW-G

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-3, PG-C

PANEL REY S A — Type PRC

THAI GYPSUM PRODUCTS PCL — Type C

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR, ULIX

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

4. Furring Channels — Resilient channels, 1/2 in. deep, or inverted hat type furring channels, 7/8 in. deep, formedfrom 0.019 in. thick galv steel, spaced 16 in. OC (12 in. OC when ULIX is used) perpendicular to joists or trusses.
Channels secured to each joist or truss with 1-7/8 in. long Type S steel screws with hi-lo threads.

5. Finishing System — (Not Shown) — Vinyl, dry or premixed joint compound, applied in two coats to joints andscrew-heads. Nom 2 in. wide paper tape embedded in first layer of compound over all joints. As an alternate, nom3/32 in. thick veneer plaster may be applied to the entire surface of gypsum board.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

## 1 L538 ELECTRIC E-100 CEILING

12" = 1'-0"

## Design No. U356

March 06, 2018

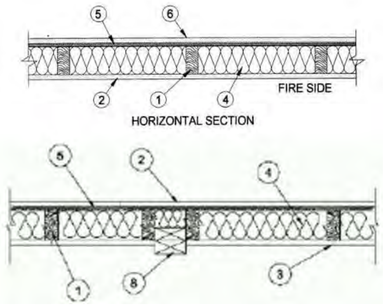
Bearing Wall Rating - 1 Hr Rating Exposed to Fire on Interior Face Only

Bearing Wall Rating — 1 Hr Rating Exposed to Fire on Exterior Face (See Item 6E)

Finish Rating — 23 Min or 25 Min (See Item 2C)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.




1. Wood Studs — Nom 2 by 4 in. spaced 16 in. OC with two 2 by 4 in. top and one 2 by 4 in. bottom plates. Studs laterally-braced by wood structural panel sheathing (Item 5). When Mineral and Fiber Boards* (Item 5A) are considered as bracing for the studs, the load is restricted to 76% of allowable axial load. Walls effectively fire stopped at top and bottom of wall.

2. Gypsum Board* — Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305. Nom 5/8 in. thick, 4 ft wide, applied vertically and nailed to studs and bearing plates 7 in. OC with 6d cement-coated nails, 1-7/8 in. long with 1/4 in. diam head.
When Item 7, 7B, 7C or 7D Steel Framing Members*, is used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.

When Item 7A Steel Framing Members*, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC. All joints in face layers staggered with joints in base layers.

ACADIA DRYWALL SUPPLIES LTD (View Classification) — CKNX.R25370

AMERICAN GYPSUM CO (View Classification) — CKNX.R14196

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO (View Classification) — CKNX.R19374

CERTAINTEED GYPSUM INC (View Classification) — CKNX.R3660

CGC INC (View Classification) — CKNX.R19751

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C (View Classification) — CKNX.R18482

GEORGIA-PACIFIC GYPSUM L L C (View Classification) — CKNX.R2717

LOADMASTER SYSTEMS INC (View Classification) — CKNX.R11809

NATIONAL GYPSUM CO (View Classification) — CKNX.R3501

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM (View Classification) — CKNX.R7094

PANEL REY S A (View Classification) — CKNX.R21796

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD (View Classification) — CKNX.R19262

THAI GYPSUM PRODUCTS PCL (View Classification) — CKNX.R27517

UNITED STATES GYPSUM CO (View Classification) — CKNX.R1319

USG BORAL DRYWALL SFZ LLC (View Classification) — CKNX.R38438

USG MEXICO S A DE C V (View Classification) — CKNX.R16089

2A. Gypsum Board* — (As an alternate to Item 2, Not Shown) — Any 5/8 in. thick 4 ft wide gypsum panels that are eligible for use in Design Nos. L501, G512 or U305, supplied by the Classified Companies listed below shown in the Gypsum Board* (CKNX) category. Applied vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.
CGC INC

UNITED STATES GYPSUM CO

USG BORAL DRYWALL SFZ LLC

USG MEXICO S A DE C V

2B. Gypsum Board* — (As an alternate to Item 2, Not Shown) — 5/8 in. thick 4 ft wide gypsum panels applied vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.
ACADIA DRYWALL SUPPLIES LTD — Type X, 5/8 Type X, Type Blueglass Exterior Sheathing

AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, LightRoc

CERTAINTEED GYPSUM INC — Type C, Type X, Type X-1, Easi-Lite Type X-2

GEORGIA-PACIFIC GYPSUM L L C — Types X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X, Type X ComfortGuard Sound Deadening Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types PG-11, PGS-WRS.

THAI GYPSUM PRODUCTS PCL — Type C or Type X

2C. Gypsum Board* — (As an alternate to Item 2, Not Shown) — For Use with Item 5A only - 5/8 in. thick 4 ft wide gypsum panels applied horizontally and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screws 1 in.and 4 in. from edges of board. Finish Rating is 25 min.
ACADIA DRYWALL SUPPLIES LTD — 5/8 Type X, Type Blueglass Exterior Sheathing

GEORGIA-PACIFIC GYPSUM L L C — Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types PG-11, PGS-WRS

2D. Gypsum Board* — (As an alternate to Item 2) — Not to be used with item 7. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads, 7 in. OC.
NATIONAL GYPSUM CO — SoundBreak XP Type X Gypsum Board

2E Gypsum Board* — (As an alternate to Items 2 through 2D) — Nominal 5/8 in. thick, 4 ft wide panels, secured as described in Item 2.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES.

2F. Gypsum Board* — (As an alternate to Item 2) — Not to be used with item 7. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically or horizontally and fastened to the studs and plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.
CERTAINTEED GYPSUM INC — Type SilentFX

2G. Wall and Partition Facings and Accessories* — (As an alternate to Items 2 through 2F) — Nominal 5/8 in. thick, 4 ft wide panels, secured as described in Item 2.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527.

2H. Gypsum Board* — (As an alternate to Item 2) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

2I. Gypsum Board* — (As an alternate to Item 2) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.
AMERICAN GYPSUM CO — Types AGX-1 (finish rating 25 min.), M-Glass (finish rating 25 min.), AG-C (finish rating 25 min.), LightRoc (finish rating 25 min.)

NATIONAL GYPSUM CO — Type FSK, Type FSK-G, Type FSW, Type FSW-3, Type FSW-5, Type FSW-G, Type FSK-C, Type FSW-C, Type FSMR-C, Type FSW-6, Type FSL

2J. Gypsum Board* — (As an alternate to Item 2) - 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread steel screws spaced a max 8 in. OC with the last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum boards are to be installed horizontally.

CERTAINTEED GYPSUM INC — Type C, Type X or Type X-1(finish rating 26 min), Easi-Lite Type X (finish rating 24 min), Easi-Lite Type X-2, Type EGRG or GlasRoc or GlasRoc Sheathing (finish rating 23 min)

3. Joints and Fastener Heads — (Not Shown) — Gypsum board joints covered with tape and joint compound. Fastener heads covered with joint compound.

4. Batts and Blankets* — Mineral fiber or glass fiber insulation, 3-1/2 in. thick, pressure fit to fill wall cavities between studs and plates. Mineral fiber insulation to be unfaced and to have a min density of 3 pcf. Glass fiber insulation to be faced with aluminum foil or kraft paper and to have a min density of 0.9 pcf (min R-13 thermal insulation rating).

See Batts and Blankets* (BKNV) Category in the Building Materials Directory and Batts and Blankets* (BZJZ) Category in the Fire Resistance Directory for names of Classified Companies.

## Design No. U356 (continued)

4A. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 4) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft3. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft3, in accordance with the application instructions supplied with the product.

U S GREENFIBER L L C — INS735 & INS745 for use with wet or dry application. INS510LD, INS515LD, INS541LD, INS735, INS745, INS765LD, and INS770LD are to be used for dry application only.

4B. Fiber, Sprayed* — As an alternate to Item 4 and 4A — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 4.58 lb/ft 3.

NU-WOOL CO INC — Cellulose Insulation

4C. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 4) — Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft3.

INTERNATIONAL CELLULOSE CORP — Cellbar-RL

4D. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 4) — Spray applied, granulated mineral fiber material. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCAZ).

AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

5. Wood Structural Panel Sheathing — Min 7/16 in. thick, 4 ft wide wood structural panels, min grade "C-D" or "Sheathing". Installed with long dimension of sheet (strength axis) or face grain of plywood parallel with or perpendicular to studs. Vertical joints centered on studs. Horizontal joints backed with nom 2 by 4 in. wood blocking. Attached to studs on exterior side of wall with 6d cement coated box nails spaced 6 in. OC at perimeter of panels and 12 in. OC along interior studs.

5A. Mineral and Fiber Boards* — As an alternate to Item 5 - Min 1/2 in. thick, 4 ft wide sheathing, installed vertically to studs. Vertical joints centered on studs. Horizontal joints backed with nom 2 by 4 in. wood blocking. Attached to studs on exterior side of wall with 1-1/2 in. long galvanized roofing nails spaced 6 in. OC at perimeter of panels and 12 in. OC along interior studs. As an option a weather resistive barrier may be applied over the Mineral and Fiber Boards.

6. Exterior Facings — Installed in accordance with the manufacturer's installation instructions. One of the following exterior facings is to be applied over the sheathing:

A. Vinyl Siding — Molded Plastic* — Contoured rigid vinyl siding having a flame spread value of 20 or less.
See Molded Plastic (BTAT) category in the Building Materials Directory for names of manufacturers.

B. Particle Board Siding — Hardboard exterior sidings including patterned panel or lap siding.

C. Wood Structural Panel or Lap Siding — APA Rated Siding, Exterior, plywood, OSB or composite panels with veneer faces and structural wood core, per PS 1 or APA Standard PRP-108, including textured, rough sawn, medium density overlay, brushed, grooved and lap siding.

D. Cementitious Stucco — Portland cement or synthetic stucco systems with self-furring metal lath or adhesive base coat. Thickness from 3/8 to 3/4 in., depending on system.

E. Brick Veneer — Any type on nom 4 in. wide brick veneer. When brick veneer is used, the rating is applicable with exposure on either face. Brick veneer fastened with corrugated metal wall ties attached over sheathing to wood studs with 8d nail per tie: ties spaced not more than each sixth course of brick and max 32 in. OC horizontally. One in. air space provided between brick veneer and sheathing.

F. Exterior Insulation and Finish System (EIFS) — Nom 1 in. Foamed Plastic* insulation bearing the UL Classification Marking, attached over sheathing and finished with coating system, or Portland cement or synthetic stucco systems, in accordance with manufacturer's instructions. See Foamed Plastic (BRYX and CCVW) categories for names of Classified companies.

G. Siding — Aluminum or steel siding attached over sheathing to studs.

H. Fiber-Cement Siding — Fiber-cement exterior sidings including smooth and patterned panel or lap siding.

I. Wall and Partition Facings and Accessories* — Stone veneer is mortar bonded to a lath, scratch coat and water resistant barrier applied to sheathing, installed in accordance with the manufacturers installation instructions, and meeting the requirements of local code agencies.

ELDORADO STONE OPERATIONS L L C — Type Eldorado Stone

6A. Building Units* — As an alternate to Exterior Facing Item 6 — Insulated steel panels, 12 through 42 in. wide. Attached over sheathing through retainer clips to studs or support steel with No. 14 hex head self-tapping screws located at each joint in the concealed lip of the units and spaced in accordance with the structural design requirements.

CENTRIA, A DIVISION OF NCI GROUP, INC — Types Formawall Dimension Series and Formawall Graphix Series

KINGSPAN INSULATED PANELS INC — Types 200, 300, 400, 900, or KS series, 2 through 6 in. thickness; CWP-V, H, 2 through 3 in. nominal thickness or Designwall 2000 or Designwall 4000, 2 and 3 in. nominal thickness.

7. Steel Framing Members* — (Optional, Not Shown) — Furring Channels and Steel Framing Members as described below:
a. Furring Channels — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.
b. Steel Framing Members* — Used to attach furring channels (Item 7Aa) to interior side of studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75).

7A. Steel Framing Members

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# BASED ON 2017 OBC

## PLUMBING FIXTURE TOTALS

| | OCCUPANCY | | WATER CLOSETS | | URINALS PERMITTED FOR SUBSTITUTION | WATER CLOSETS MINUS URINALS | LAVATORIES | | BATHS & SHOWERS | DRINKING FOUNTAINS | SERVICE SINKS | KITCHEN SINKS | AUTO CLOTHES WASHER CONNS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MALE | FEMALE | MALE | FEMALE | | | MALE | FEMALE | | | | | |
| SUBTOTAL | 48 | 50 | 0.59 | 0.85 | | | 0.37 | 0.39 | 52 | 0.48 | | | 52 |
| | | | 1 | 1 | | | 1 | 1 | | | | | |
| TOTAL | 98 | | 54 | | 1 | 53 | 54 | | 52 | 1 | 1 | 52 | 52 |

## PLUMBING FIXTURE CALCULATOR

| CLASSIFICATION | OCCUPANCY TYPE | DESCRIPTION | OCCUPANCY TOTAL | GENDER OCCUPANCY TOTALS | | WATER CLOSETS | | URINALS | LAVATORIES | | BATHTUBS OR SHOWERS | DRINKING FOUNTAINS | OTHER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | MALE | FEMALE | MALE | FEMALE | | MALE | FEMALE | | | |
| ASSEMBLY | A-1 | Theaters and other buildings for the performing arts and motion pictures | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| | A-2 | Nightclubs, bars, taverns, dance halls and buildings for similar purposes | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| | | Casino gaming areas | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0 | - | - | *1 SERVICE SINK TOTAL: 0 |
| | | Restaurants, banquet halls and food courts | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| | A-3 | Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and gymnasiums | 63 | 31 | 32 | 0.25 | 0.49 | 0.16 | 0.16 | 0.16 | - | 0.13 | *1 SERVICE SINK TOTAL: 1 |
| | | Passenger terminals and transportation facilities | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| | | Places of worship and other religious services | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| | A-4 | Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| | A-5 | Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activities | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| BUSINESS | B | Buildings for the transaction of business, profess. services, other services involving merchandise, office bldgs, banks, light industrial and similar uses | 35 | 17 | 18 | 0.34 | 0.36 | 0.17 | 0.21 | 0.23 | - | 0.35 | *1 SERVICE SINK TOTAL: 1 |
| EDUCATIONAL | E | Educational facilities | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| FACTORY AND INDUSTRIAL | F-1 / F-2 | Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | See Section 411 of the International Plumbing Code TOTAL: 0 | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| INSTITUTIONAL | I-1 | Residential care | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| | I-2 | Hospitals, ambulatory nursing home care recipient | OCCUPANCY: 0 / APPLICABLE ROOMS: 0 | 0 | 0 | *1 PER ROOM TOTAL: 0 | | 0 | *1 PER ROOM TOTAL: 0 | | 0.00 | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| | | Employees, other than residential care | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - | 0.00 | - |
| | | Visitors, other than residential care | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - | 0.00 | - |
| | I-3 | Prisons | OCCUPANCY: 0 / APPLICABLE CELLS: 0 | 0 | 0 | *1 PER CELL TOTAL: 0 | | 0 | *1 PER CELL TOTAL: 0 | | 0.00 | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| | | Reformatories, detention centers and correctional centers | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| | | Employees | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - | 0.00 | - |
| | I-4 | Adult day care and child day care | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1 REQUIRED 0 | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| MERCANTILE | M | Retail stores, service stations, shops, salesrooms, markets and shopping centers | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| RESIDENTIAL | R-1 | Hotels, motels, boarding houses (transient) | SLEEPING UNITS: 0 | | | *1 PER SLEEPING UNIT TOTAL: 0 | | 0 | *1 PER SLEEPING UNIT TOTAL: 0 | | *1 PER SLEEPING UNIT TOTAL: 0 | - | *1 SERVICE SINK TOTAL: 0 |
| | R-2 | Dormitories, fraternities, sororities and boarding houses (not transient) | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| | R-2 | Apartment house | DWELLING UNITS: 0 | | | *1 PER DWELLING UNIT TOTAL: 0 | | 0 | *1 PER DWELLING UNIT TOTAL: 0 | | *1 PER DWELLING UNIT TOTAL: 0 | - | *1 KITCHEN SINK PER DWELLING UNIT TOTAL: 0 / *1 AUTOMATIC CLOTHES WASHER CONNECTION PER 20 DWELLING UNITS TOTAL: 0.00 |
| | R-3 | One, two, and Three-family dwellings. Multiple single-family dwellings, and lodging houses with five or fewer guestrooms | DWELLING UNITS: 52 | | | *1 PER DWELLING UNIT TOTAL: 52 | | 0 | *1 PER DWELLING UNIT TOTAL: 52 | | *1 PER DWELLING UNIT TOTAL: 52 | - | *1 KITCHEN SINK PER DWELLING UNIT TOTAL: 52 / *1 AUTOMATIC CLOTHES WASHER CONNECTION PER DWELLING UNIT TOTAL: 52 |
| | R-3 | Congregate living facility with 16 or fewer persons and other R-3 occupancies | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | *1 SERVICE SINK TOTAL: 0 |
| | R-4 | Congregate care / residential care / assisted living facilities | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | *1 SERVICE SINK TOTAL: 0 |
| STORAGE | S-1 / S-2 | Structures for the storage of goods, warehouses, storehouses and freight depots, low and moderate hazard | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | See Section 411 of the International Plumbing Code TOTAL: 0 | 0.00 | *1 SERVICE SINK TOTAL: 0 |

## BUILDING INFORMATION

| | |
|---|---|
| OWNER NAME | COLUMBUS METROPOLITAN HOUSING AUTHORITY (CMHA) |
| OWNER ADDRESS | 880 EAST 11TH AVENUE<br>COLUMBUS, OH 43211 |
| SITE ADDRESS | 1581 WEST BROAD STREET, COLUMBUS, OHIO 43222 |

## DESCRIPTION

PROJECT DESCRIPTION: HARRIET'S HOPE IS A 52-UNIT, THREE-STORY MULTI-FAMILY RESIDENTIAL FACILITY FOR ADULT CIS AND TRANSGENDER FEMALES IN FRANKLIN COUNTY, OHIO, THAT HAVE EXPERIENCED CHRONIC HOMELESSNESS OR ONE OR MORE VERIFIED HUMAN TRAFFICKING EVENTS AND THEIR MINOR DEPENDENTS. THE PROPOSED THREE-STORY BUILDING WILL BE WOOD FRAMED CONSTRUCTION AND HAVE A MEMBRANE ROOF SYSTEM. THE BUILDING WILL HAVE A MIX OF 1-BEDROOM AND 2-BEDROOM UNITS. VINYL WINDOW SYSTEMS ARE PROPOSED FOR THE DWELLING UNITS AND STOREFRONT FOR LIMITED AREAS IN THE COMMUNITY ROOM AND LOBBY. THE BUILDING WILL HAVE ELEVATORS SERVING THE LOBBY WITH COMMON AMENITIES LOCATED ON THE FIRST FLOOR. DWELLING UNIT DOORS WILL BE PRE-HUNG SOLID CORE. ALL FINISHES WILL MEET THE REQUIREMENTS OF OHFA'S QAP. SEE FOLLOWING DRAWING SHEETS FOR ADDITIONAL INFORMATION

## SITE INFORMATION

| | |
|---|---|
| SITE ZONING | AR-1 APARTMENT RESIDENTIAL |
| SITE AREA | 4.25 ACRES |
| PARKING REQUIRED | REFER TO SITE PLANS |

## BUILDING CODES

| TITLE | EDITION |
|---|---|
| OHIO BUILDING CODE | 2017 OBC |
| OHIO PLUMBING CODE | 2017 OPC |
| OHIO MECHANICAL CODE | 2017 OMC |
| NATIONAL ELECTRICAL CODE | 2017 NEC - NFPA 70 |
| INTERNATIONAL FUEL GAS CODE | 2015 IFGC |
| INTERNATIONAL ENERGY CONSERVATION CODE | 2012 IECC |
| ASHRAE 90.1 - 2010 ENERGY STANDARDS FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS | 2010 ASHRAE 90.1 |
| ICC A117.1 - 2009 ACCESSIBLE AND USEABLE BUILDINGS AND FACILITIES | 2009 IECC |
| 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN | 2010 ADA |
| NFPA 101 LIFE SAFETY CODE | 2015 NFPA 101 LIFE SAFETY CODE |
| OHIO FIRE CODE | 2017 OFC |
| NATIONAL FIRE ALARM AND SIGNALING CODE | NFPA 72-10 |
| ENTERPRISE GREEN COMMUNITIES OR LEED CERTIFICATION | |

## GENERAL BUILDING HEIGHTS AND AREAS

| | REQUIREMENTS | SECTION/TABLE |
|---|---|---|
| CONSTRUCTION TYPE | 5B (UNPROTECTED / SPRINKLERED) | 602.5 |
| USE GROUP | A-3 (ASSEMBLY - COMMUNITY ROOM) | 303.4 |
| MIXED USE - SEPARATED | B (BUSINESS - OFFICE) | 304.1 |
| | R-2 RESIDENTIAL SLEEPING UNITS w/ MORE THAN 3 DWELLING UNITS IN STRUCTURES w/ SHARED MEANS OF EGRESS) | 310.4 |
| ALLOWABLE HEIGHT | A/B/R = 50 FT<br>ZONING HEIGHT LIMIT = 35 FT | TABLE 504.3 |
| ACTUAL HEIGHT | 35 FT | |
| ALLOWABLE # OF STORIES ABOVE GRADE | A-3 = 2 STORIES<br>B & R = 3 STORIES | TABLE 504.4 |
| ACTUAL # OF STORIES ABOVE GRADE | 3 STORIES | |
| ALLOWABLE AREA | A-3: 18,000 SF PER STORY<br>B: 27,000 SF PER STORY<br>R-2: 21,000 SF PER STORY | TABLE 506.2 |
| ALLOWABLE AREA OF BUILDING | Aa = [At + (NS x If)]<br>A-3 = [18,000 + (6,000 x 0.07)] = 18,420 SF<br>B = [27,000 + (9,000 x 0.07)] = 27,630 SF<br>R-2 = [21,000 + (7,000 x 0.07)] = 21,490 SF | EQUATION 5-3 |
| FRONTAGE INCREASE | If = [F/P - .25] W/P<br>If = [205/635 - .25] 1 = 0.07 | 506.3.3 |
| ACTUAL FLOOR AREA | FIRST FLOOR = 14,223 SF<br>A-3 = 1,192 SF<br>B = 3,481 SF<br>R-2 = 9,549 SF<br>SECOND FLOOR (R-2) = 14,821 SF<br>THIRD FLOOR (R-2) = 14,821 SF<br>TOTAL = 43,865 SF | |

## TYPES OF CONSTRUCTION

| | REQUIREMENTS | SECTION |
|---|---|---|
| CONSTRUCTION TYPE | TYPE 5B | TABLE 601 |
| PRIMARY STRUCTURAL FRAME | 0 HR | TABLE 601 |
| EXTERIOR BEARING WALLS | 0 HR WHERE SEPARATION DISTANCE ≥ 10 FT | TABLE 602 |
| EXTERIOR NON-BEARING WALLS | 0 HR WHERE SEPARATION DISTANCE ≥ 10 FT | TABLE 602 |
| INTERIOR BEARING WALLS | 0 HR | TABLE 601 |
| INTERIOR NON-BEARING WALLS | 0 HR | TABLE 601 |
| FLOORS | 0 HR | TABLE 601 |
| ROOF | 0 HR | TABLE 601 |
| EXTERIOR WALL OPENINGS | UNLIMITED | TABLE 705.8.1 EXCEPTION 2 |

## FIRE-RESISTIVE-RATED CONSTRUCTION

| | REQUIREMENTS | SECTION |
|---|---|---|
| STAIRWAY ENCLOSURES | 1 HOUR CONNECTING < 4 STORIES | 713.4 |
| ELEVATOR ENCLOSURE | 1 HOUR CONNECTING < 4 STORIES | 713.4 |
| HOISTWAY OPENING PROTECTION | NOT REQUIRED CONNECTING < 4 STORIES | 3006.2 |
| R-2 OCCUPANCY | | 420.1 - 420.6 |
| SEPARATION WALLS | FIRE PARTITION | 708 |
| DWELLING / SLEEPING UNITS | 1/2 HR (SPRINKLERED) | 708 |
| CORRIDOR WALLS | 1/2 HR (SPRINKLERED) | TABLE 1020.1 |
| HORIZONTAL SEPARATION | 1/2 HR (SPRINKLERED) | 711 |
| SEPARATION OF OCCUPANCIES | FIRE BARRIER | 707 |
| BETWEEN A & B | 1 HR (SPRINKLERED) | TABLE 508.4 |
| BETWEEN A & R | 1 HR (SPRINKLERED) | TABLE 508.4 |
| BETWEEN B & R | 1 HR (SPRINKLERED) | TABLE 508.4 |
| CORRIDORS | 1/2 HOUR (SPRINKLERED - R2)<br>0 HOUR (SPRINKLERED - A & B) | TABLE 1020.1 |
| OPENING PROTECTIVES | WALL RATING / DOOR RATING | TABLE 716.5 |
| FIRE BARRIERS | 1 HR / 1 HR | |
| FIRE PARTITIONS & CORRIDOR WALLS | 1 HR / 1/3 HR - 1/2 HR / 1/3 HR | |
| ATTIC DRAFTSTOPPING | AREA 3,000 SF MAX OR ABOVE EVERY TWO DWELLING UNITS, WHICHEVER IS SMALLER | 708.4 EXCEPTION 5 |
| INTERIOR BEARING WALLS | 1 HR IN ASSEMBLY/BUSINESS AREAS | 711.2.3 R-2 EXEMPTION |
| EXTERIOR BEARING WALLS | 1 HR IN ASSEMBLY/BUSINESS AREAS<br>705.5 INSIDE EXPOSURE | |

## INTERIOR FINISHES

| | REQUIREMENTS | SECTION |
|---|---|---|
| CLASSIFICATION | A-3 / B / R-2 | 803 |
| WALL AND CEILING - INT EXT STAIRWAYS | CLASS B / B / C | TABLE 803.11 |
| WALL AND CEILING - EXIT CORRIDORS | CLASS B / C / C | TABLE 803.11 |
| WALL AND CEILING - ROOMS | CLASS C / C / C | TABLE 803.11 |
| FLOOR COVERINGS | DOC FF-1 "PILL TEST" or ASTM D2859 | 804.4.1 |

## FIRE PROTECTION SYSTEMS

| | REQUIREMENTS | SECTION |
|---|---|---|
| SPRINKLER AND STANDPIPE SYSTEMS | BUILDING WILL BE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH 903.3.1.1 (NFPA 13) | |
| FIRE EXTINGUISHERS | CLASS 2A - 75' TRAVEL DISTANCE / 6,000 SF AREA | 906 / NFPA 10 |
| FIRE ALARM SYSTEM | TBD | TBD |
| FIRE COMMAND PANEL | TBD | TBD |
| EMERGENCY POWER | TBD | TBD |
| FIRE AND SMOKE DETECTORS | TBD | TBD |

## MEANS OF EGRESS

| | REQUIREMENTS | SECTION |
|---|---|---|
| OCCUPANCY CALCULATION | | 1004 |
| FIRST FLOOR | 14,223 SF | |
| ASSEMBLY | 932 SF / 15 SF NET/PERSON = 63 | |
| BUSINESS | 3,481 SF / 100 SF GROSS/PERSON = 35 | |
| RESIDENTIAL | 9,549 SF / 200 SF GROSS/PERSON = 48 | |
| TOTAL FIRST FLOOR | 146 | |
| SECOND FLOOR | 14,821 SF / 200 SF GROSS/PERSON = 75 | |
| THIRD FLOOR | 14,821 SF / 200 SF GROSS/PERSON = 75 | |
| BUILDING TOTAL | 296 | |
| STAIRWAY WIDTH | 44" MIN | 1011.2 |
| STAIRWAY EGRESS CAPACITY | 0.3 INCH / OCCUPANT / FLOOR: 44" = 146 | 1005.3.1 |
| DOOR EGRESS CAPACITY | 0.2 INCH / OCCUPANT / FLOOR: 33" = 165 | 1005.3.2 |
| TRAVEL DISTANCE LIMITATIONS | 250' (SPRINKLERED) | TABLE 1017.2 |
| COMMON PATH OF TRAVEL | 125' (SPRINKLERED) | TABLE 1006.2.1 |
| CORRIDOR WIDTH | 44" MIN | TABLE 1020.2 |
| WITHIN A DWELLING UNIT | 36" MIN | |
| DEAD ENDS | 50' (SPRINKLERED) | 1020.4 |
| MINIMUM NUMBER OF EXITS | 1-500 OCCUPANTS = 2 EXITS | TABLE 1006.3.1 |
| EXIT SEPARATION | 1/3 DIAGONAL OF AREA SERVED (SPRINKLERED) | 1007.1.1 |

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

**HARRIET'S HOPE**
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

# CODE DATA

STATE OF OHIO
JAY W. BOONE
10740
REGISTERED ARCHITECT

JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

APRIL 4, 2022
DRAWN BY: XXX | CHECKED BY: XXX
Proj. #20643

**G100**

PERMIT & BID SET

PRINT DATE: 4/1/2022 10:33:36 AM
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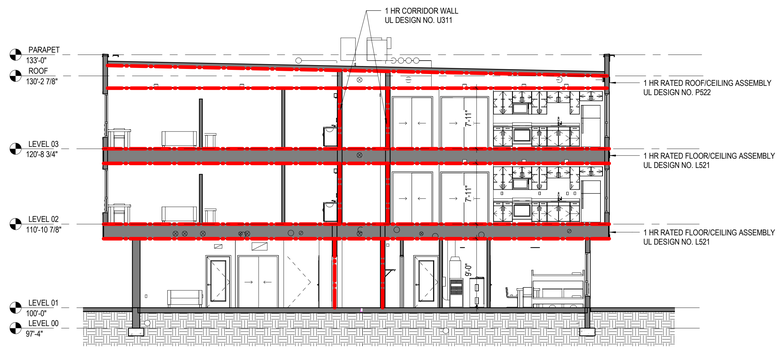
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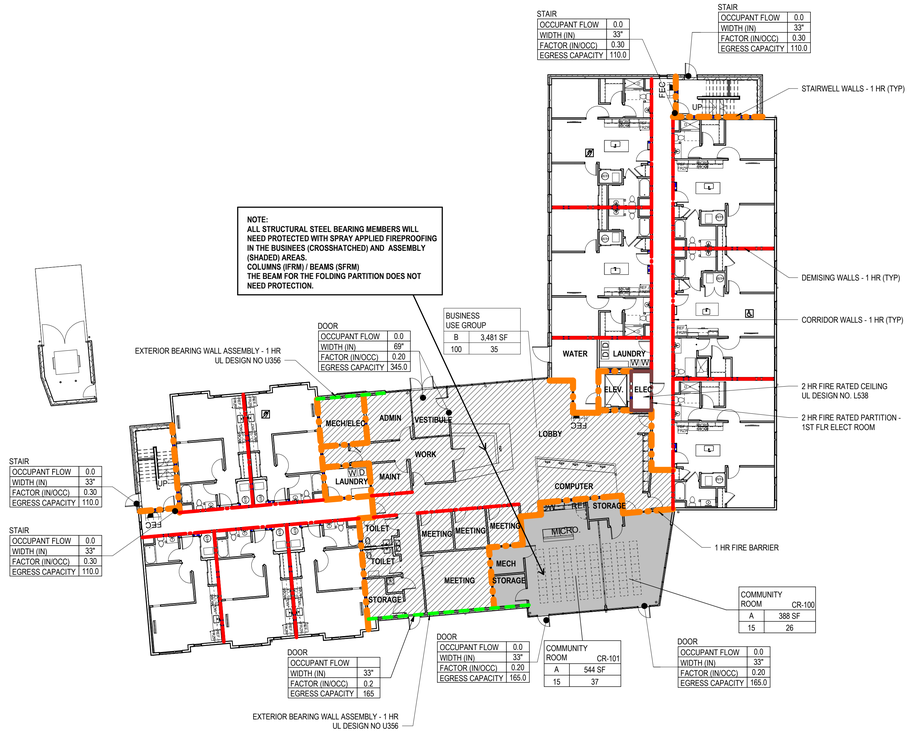

**3 PLAN** LEVEL 03 - CODE PLAN
1/16" = 1'-0"




**2 PLAN** LEVEL 02 - CODE PLAN
1/16" = 1'-0"




**4 SECTION** BUILDING SECTION - TYPICAL
1/8" = 1'-0"




**1 PLAN** LEVEL 01 - CODE PLAN
1/16" = 1'-0"

## FIRE EQUIPMENT LEGEND

| | |
|---|---|
| FE | FIRE EXTINGUISHER |
| FEC | FIRE EXTINGUISHER AND CABINET |

## RATED WALL LEGEND

- 1 HOUR FIRE RATED BARRIER TO SHEATHING ABOVE
- 1 HOUR FIRE RATED PARTITION TO RATED ASSEMBLY
- 2 HOUR FIRE RATED PARTITION TO SHEATHING ABOVE
- 1 HR FIRE RATED EXTERIOR WALL ASSEMBLY (INSIDE EXPOSURE ONLY)
- ATTIC DRAFTSTOPPING (1/2" GYPSUM BOARD ALONG LENGTH OF JOIST) SEE SHEET A104 ROOF PLAN FOR LOCATIONS

## OCCUPANCY TAGS

| STAIR | |
|---|---|
| OCCUPANT FLOW | 0.0 |
| WIDTH (IN) | 0" |
| FACTOR (IN/OCC) | 0.20 |
| EGRESS CAPACITY | 0.0 |

| DOOR | |
|---|---|
| OCCUPANT FLOW | 0 |
| WIDTH (IN) | 0" |
| FACTOR (IN/OCC) | 0.2 |
| EGRESS CAPACITY | 0 |

ROOM NAME 101
OCCUPANCY GROUP A-1 — 150 SF — ROOM SF
OCCUPANT LOAD OCC — OCC LOAD — OCCUPANT LOAD FACTOR

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:
# CODE PLANS & SECTION

STATE OF OHIO — JAY W BOONE — 10740 — REGISTERED ARCHITECT
JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*
DRAWN BY: **Author** CHECKED BY: **Checker**
*Proj. #20643*
# G101
*PERMIT & BID SET*

**PRINT DATE:** 4/1/2022 10:33:52 AM
**FILE INFO:** C:\$$Local Revit Projects\2021 Projects\20643-Hamels Hope PSH - ARCH_RKellAPROSD_r+t

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**AREA PLAN SCHEDULE (NET)**

| DEPARTMENT | AREA |
|---|---|
| C.A. CIRCULATION | 5,173 SF |
| C.A. PUBLIC | 2,251 SF |
| DEDICATED PROGRAM SPACE | 523 SF |
| MAJOR VERTICAL CIRCULATION | 1,389 SF |
| RESIDENTIAL | 29,240 SF |
| SUPPORT | 1,429 SF |
| GRAND TOTAL | 40,005 SF |

C.A. CIRCULATION
C.A. PUBLIC
DEDICATED PROGRAM SPACE
MAJOR VERTICAL CIRCULATION
RESIDENTIAL
SUPPORT

**AREA PLAN SCHEDULE (GROSS)**

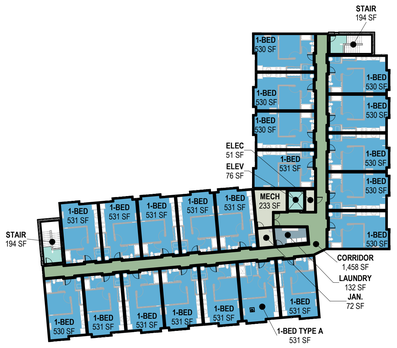
| DEPARTMENT | AREA |
|---|---|
| C.A. CIRCULATION | 5,112 SF |
| C.A. PUBLIC | 2,751 SF |
| DEDICATED PROGRAM SPACE | 588 SF |
| MAJOR VERTICAL CIRCULATION | 1,919 SF |
| RESIDENTIAL | 31,821 SF |
| SUPPORT | 1,674 SF |
| GRAND TOTAL | 43,865 SF |

C.A. CIRCULATION
C.A. PUBLIC
DEDICATED PROGRAM SPACE
MAJOR VERTICAL CIRCULATION
RESIDENTIAL
SUPPORT

**AREA PLAN SCHEDULE (GROSS BLDG)**

| NAME | AREA |
|---|---|
| LEVEL 01 | |
| GROSS BUILDING | 14,223 SF |
| LEVEL 02 | |
| GROSS BUILDING | 14,821 SF |
| LEVEL 03 | |
| GROSS BUILDING | 14,821 SF |
| GRAND TOTAL | 43,865 SF |

GROSS BUILDING



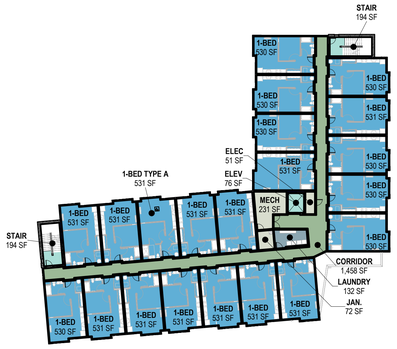

**9 PLAN** THIRD FLOOR - NET
1" = 30'-0"



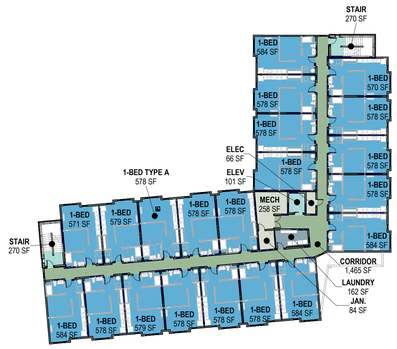

**6 PLAN** THIRD FLOOR - GROSS
1" = 30'-0"




**3 PLAN** THIRD FLOOR - GROSS BLDG
1" = 30'-0"




**8 PLAN** SECOND FLOOR - NET
1" = 30'-0"




**5 PLAN** SECOND FLOOR - GROSS
1" = 30'-0"




**2 PLAN** SECOND FLOOR - GROSS BLDG
1" = 30'-0"




**7 PLAN** FIRST FLOOR - NET
1" = 30'-0"




**4 PLAN** FIRST FLOOR - GROSS
1" = 30'-0"



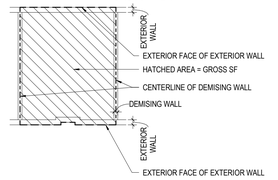

**1 PLAN** FIRST FLOOR - GROSS BLDG
1" = 30'-0"

**GENERAL NOTES - AREA PLANS**

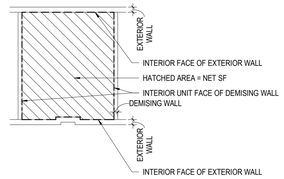
A. THIS SHEET IS AVAILABLE IN COLOR UPON REQUEST.
B. REFER TO OVERALL FLOOR PLANS AND ENLARGED UNIT PLANS FOR ADDITIONAL INFORMATION.
C. REFER TO G SERIES SHEETS FOR AREA SUMMARIES BY UNIT TYPE.
D. REFER TO G SERIES SHEETS FOR EXISTING SITE PLAN AND SITE INFORMATION.

**AREA LEGEND**

GROSS AREA




NET AREA




| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

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300 SPRUCE STREET
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PHONE: (614) 461-4664
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DRAWING TITLE:

**AREA PLANS**

STATE OF OHIO
JAY W BOONE
10740
REGISTERED ARCHITECT

JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*
DRAWN BY: Author | CHECKED BY: Checker
*Proj. #20643*

**G201**

*PERMIT & BID SET*

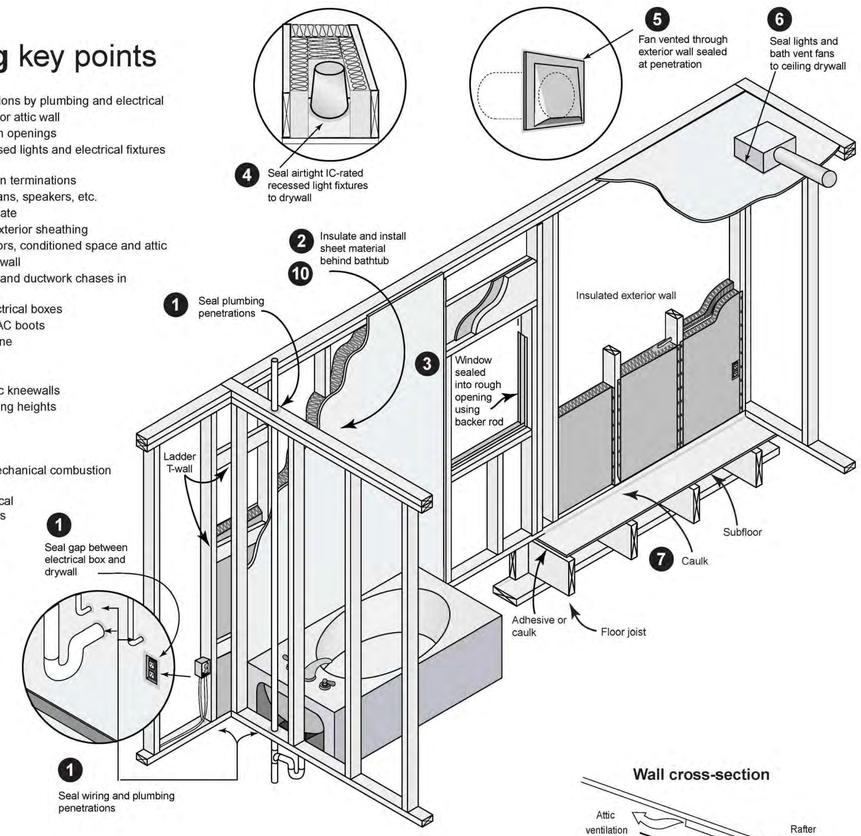
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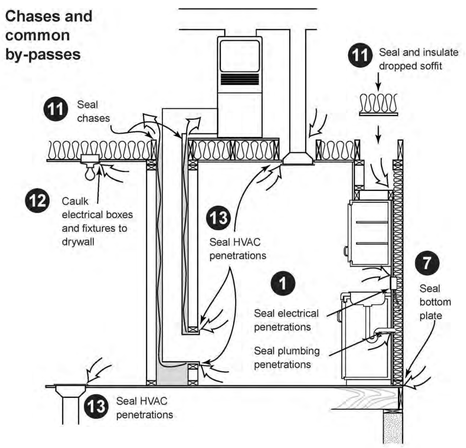
Appendix

# **Air sealing** key points

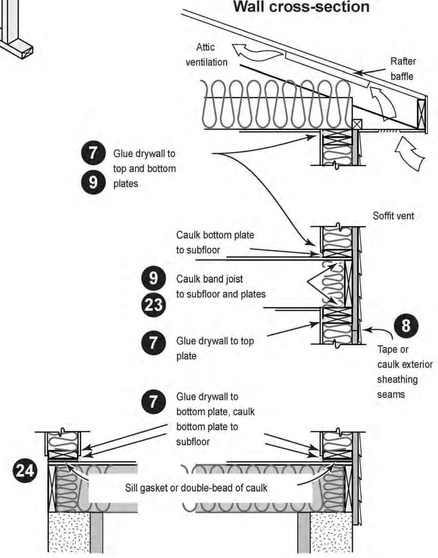
1. Plate and wall penetrations by plumbing and electrical
2. Tub/shower on outside or attic wall
3. Window and door rough openings
4. Airtight, IC-rated recessed lights and electrical fixtures exposed to attic
5. Exterior wall exhaust fan terminations
6. Ceiling mounted bath fans, speakers, etc.
7. Bottom plate and top plate
8. Seams between rigid exterior sheathing
9. Band area between floors, conditioned space and attic
10. Garden tub on exterior wall
11. Mechanical equipment and ductwork chases in attics, crawlspaces
12. Ceiling/crawlspace electrical boxes
13. Ceiling/crawlspace HVAC boots
14. Shower and tub drain line
15. Fireplace inserts
16. Attic kneewall doors
17. Joist cavities under attic kneewalls
18. Transition between ceiling heights (e.g., 10' to 8')
19. Attic scuttle hole
20. Attic pull-down stairs
21. Wall penetrations of mechanical combustion closets
22. Thresholds at mechanical combustion closet doors
23. Band joist exposed to exterior
24. Band area exposed to unconditioned space (such as basement or garage)
25. Exterior wall penetrations for refrigeration lines, condensate line, etc.




## Chases and common by-passes



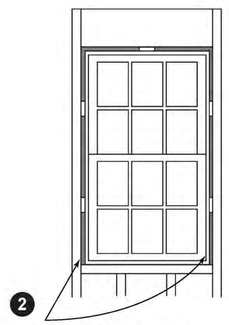

## Wall cross-section




Appendix

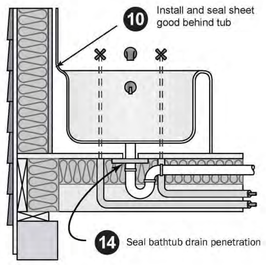
# **Air sealing** key points *continued*

## Window rough opening

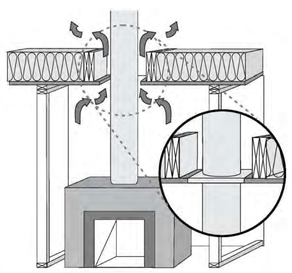


2 Use backer rod or spray foam (appropriate for windows) to fill gaps between window/door and rough opening

## Shower/tub drain rough opening

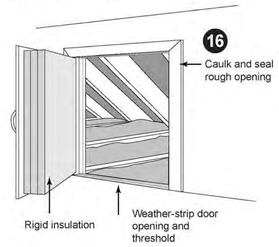


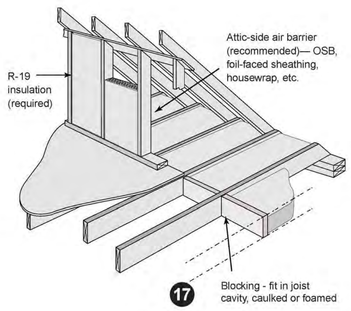

## Combustion chase penetrations



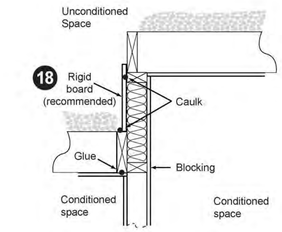
15 Seal around chimney flues with sheet metal and high temperature caulk

## Attic knee-walls



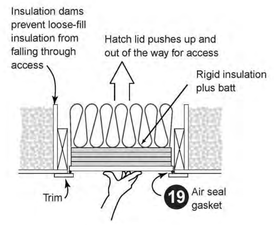




## Two-level attic

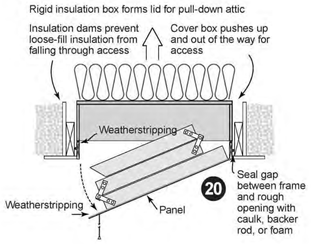



Disclaimer:
This document is intended solely to help graphically demonstrate the air leakage provisions of section 502.1.4 of the 2000 IECC. It does not cover all airsealing locations or techniques. Other code provisions may be applicable as well.

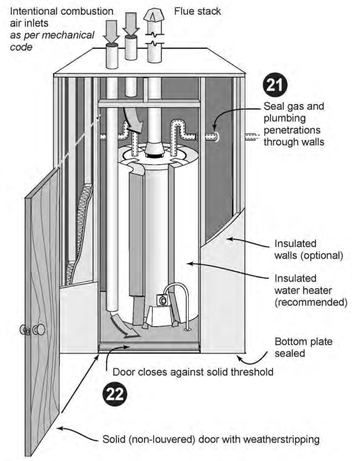
## Attic scuttle



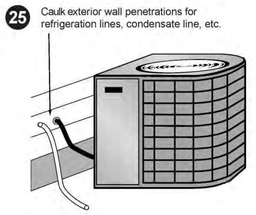

## Attic pull-down stairs




## Combustion closet




## Exterior penetrations




GEFA · Georgia Department of Community Affairs · GEORGIA POWER · Southface Energy Institute

Poster prepared for inclusion in Georgia Energy Code
Prepared by Southface Energy Institute
www.southface.org

**DETAILS SHOWN:** NOT TO SCALE

**NOTE:** THE DETAILS PROVIDED ARE INTENDED SOLELY TO HELP GRAPHICALLY DEMONSTRATE POTENTIAL AIR LEAKAGE. IT DOES NOT COVER ALL AIR SEALING LOCATIONS OR TECHNIQUES. REFER TO CODE PLANS FOR ALL APPLICABLE PROVISIONS.

## GENERAL NOTES- AIR LEAKAGE

A. ALL OPENINGS, SUCH AS DOORS AND WINDOWS, INCLUDING ALL SILL PANNING AS REQUIRED, TO BE FLASHED.
B. ALL GRADING TO BE SLOPED AWAY FROM BUILDING/FOUNDATION (GRADE - SLOPE AWAY GUARANTEED FOR ONE (1) YEAR).
C. GRANULAR FILL OR DRAIN BOARD TO BE INSTALLED AGAINST FOUNDATION WALLS. SEE ARCHITECTURAL DRAWINGS AND GEOTECHNICAL REPORT.
D. BITUMEN SPRAY OR DAMPPROOFING ON BELOW-GRADE WALLS. SEE ARCHITECTURAL DRAWINGS. BITUMEN SPRAY OR DAMPPROOFING ONLY REQUIRED AT THE ELEVATOR PIT.
E. FOOTER TILE (BELOW TOP OF FOOTER TO DAYLIGHT OR TO INTERIOR TILE/SUMP).
F. ALL FOUNDATION INSULATION, EXTEND TO TOP OF FOOTER.
G. INSTALL ALL (WALL/CEILING) INSULATION AGAINST CONDITIONED SURFACES (FACE STAPLE ALL BATTS).
H. ENCLOSE ALL (WALL) INSULATION ON ALL SIX SIDES - PROTECT FROM AIR WASH.
I. ALL (CEILING) INSULATION TO BE EVEN DEPTH (REACH A MINIMUM OF R-38 ADJACENT TO UNCONDITIONED SPACES).
J. SOFFIT CHUTES ARE TO BE FULL CAVITY WITH TABS TO PROTECT EDGE OF PERIMETER INSULATION.
K. PROVIDE "KRAFT" FACED FIBERGLASS INSULATION - INSTALL INSULATION PER ENERGY STAR INSULATION GUIDE (GRADE 1) FACE STAPLED TO STUDS - FILL ALL CAVITIES - ALL INSULATION TO BE GUARANTEED FOR ONE (1) YEAR.
L. PROVIDE A CONTINUOUS AIR BARRIER: CONTINUOUSLY SEAL ALL EXTERIOR SHEATHING JOINTS, INCLUDING THE TOP AND BOTTOM EDGES. PROVIDE HOUSE WRAP, TAPING ALL SEAMS, INCLUDING TOP AND BOTTOM EDGES.
M. SEAL ALL RECESSED CAN LIGHTS, RECESSED CEILING EXHAUST FANS, UTILITY BOXES, AND DOOR JAMBS.
N. GLUE/GASKET DRYWALL TO TOP PLATE ON ALL WALLS ADJACENT TO COLD SPACES ABOVE.

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
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300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

## AIR SEALING DETAILS

STATE OF OHIO · JAY W. BOONE · 10740 · REGISTERED ARCHITECT

JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*

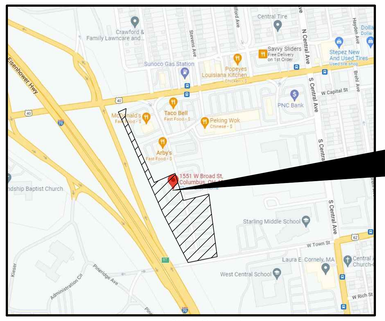
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*Proj. #20643*

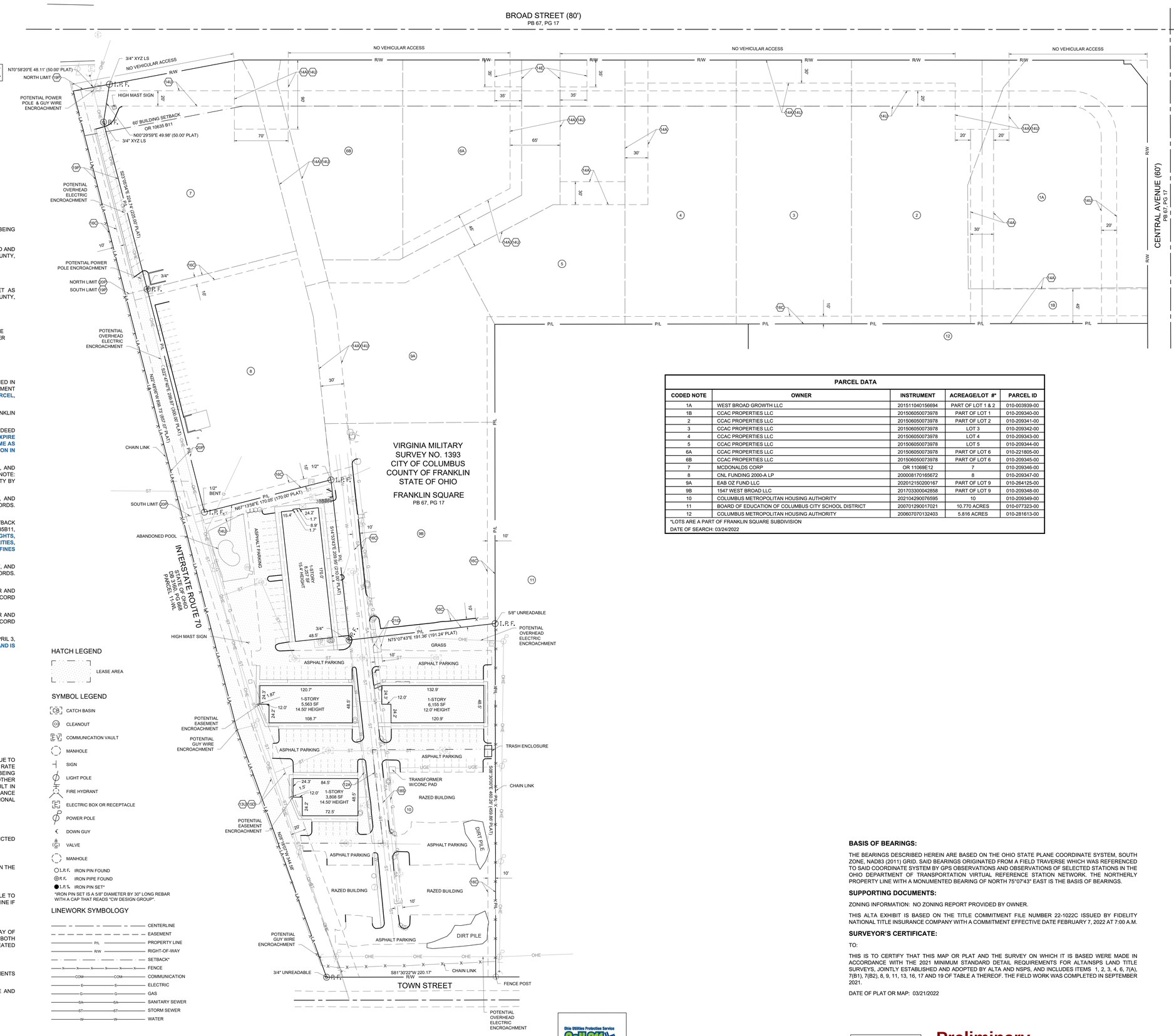
**G300**

*PERMIT & BID SET*

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LOCATION MAP
NOT TO SCALE




| PARCEL DATA | | | | |
|---|---|---|---|---|
| CODED NOTE | OWNER | INSTRUMENT | ACREAGE/LOT #* | PARCEL ID |
| 1A | WEST BROAD GROWTH LLC | 201511040156694 | PART OF LOT 1 & 2 | 010-003939-00 |
| 1B | CCAC PROPERTIES LLC | 201506050073978 | PART OF LOT 1 | 010-209340-00 |
| 2 | CCAC PROPERTIES LLC | 201506050073978 | PART OF LOT 2 | 010-209341-00 |
| 3 | CCAC PROPERTIES LLC | 201506050073978 | LOT 3 | 010-209342-00 |
| 4 | CCAC PROPERTIES LLC | 201506050073978 | LOT 4 | 010-209343-00 |
| 5 | CCAC PROPERTIES LLC | 201506050073978 | LOT 5 | 010-209344-00 |
| 6A | CCAC PROPERTIES LLC | 201506050073978 | PART OF LOT 6 | 010-221805-00 |
| 6B | CCAC PROPERTIES LLC | 201506050073978 | PART OF LOT 6 | 010-209345-00 |
| 7 | MCDONALDS CORP | OR 11069E12 | 7 | 010-209346-00 |
| 8 | CNL FUNDING 2000-A LP | 200008170165672 | 8 | 010-209347-00 |
| 9A | EAB OZ FUND LLC | 202012150200167 | PART OF LOT 9 | 010-264125-00 |
| 9B | 1547 WEST BROAD LLC | 201703300042858 | PART OF LOT 9 | 010-209348-00 |
| 10 | COLUMBUS METROPOLITAN HOUSING AUTHORITY | 202104290076595 | 10 | 010-209349-00 |
| 11 | BOARD OF EDUCATION OF COLUMBUS CITY SCHOOL DISTRICT | 200701290017021 | 10.770 ACRES | 010-077323-00 |
| 12 | COLUMBUS METROPOLITAN HOUSING AUTHORITY | 200607070132403 | 5.816 ACRES | 010-281613-00 |

*LOTS ARE A PART OF FRANKLIN SQUARE SUBDIVISION
DATE OF SEARCH: 03/24/2022

## EXHIBIT A

### PARCEL ONE:

SITUATED IN THE STATE OF OHIO, COUNTY OF FRANKLIN AND IN THE CITY OF COLUMBUS, AND BEING BOUNDED AND DESCRIBED AS FOLLOWS:

BEING LOT NUMBER TEN (10) OF THE FRANKLINTON SQUARE SUBDIVISION, AS THE SAME IS NUMBERED AND DELINEATED UPON RECORDED PLAT THEREOF, OF RECORD IN PLAT BOOK 67, PAGE 17, FRANKLIN COUNTY, OHIO RECORDER'S OFFICE.

### PARCEL TWO:

TOGETHER WITH EASEMENTS FOR UTILITY, ENTRY SIGN AND ACCESS TO WEST BROAD STREET AS CONTAINED IN A LIMITED WARRANTY DEED, OF RECORD IN OFFICIAL RECORD 10635B11. FRANKLIN COUNTY, OHIO RECORDER'S OFFICE.

### PARCEL THREE:

TOGETHER WITH THE EASEMENT RIGHTS FOR PEDESTRIAN AND VEHICULAR ACCESS SET FORTH IN THE MEMORANDUM OF LEASE DATED APRIL 1, 2021, AND RECORDED APRIL 29, 2021, IN INSTRUMENT NUMBER 202104290076596, FRANKLIN COUNTY RECORDS.

### SCHEDULE B, PART II – EXCEPTIONS

1. THRU 11. – **SURVEYOR'S NOTE: DOCUMENTS DO NOT CONTAIN EASEMENTS.**

12. TERMS AND CONDITIONS OF THE EASEMENT FOR PEDESTRIAN AND VEHICULAR ACCESS CONTAINED IN THE MEMORANDUM OF LEASE DATED APRIL 1, 2021, AND RECORDED APRIL 29, 2021, IN INSTRUMENT NUMBER 202104290076596, FRANKLIN COUNTY RECORDS. **SURVEYOR'S NOTE: AFFECTS PARCEL, DEFINES LEASED AREA AND AN ACCESS AND UTILITY EASEMENT THAT IS SHOWN ON EXHIBIT.**

13. EASEMENTS PER THE PLAT OF FRANKLINTON SQUARE OF RECORD IN PLAT BOOK 67, PAGE 17, FRANKLIN COUNTY RECORDS. **SURVEYOR'S NOTE: APPLIES AND ARE SHOWN ON EXHIBIT.**

14. SEWER EASEMENT GRANTED TO THE CITY OF COLUMBUS RECORDED SEPTEMBER 4, 1963, IN DEED VOLUME 2504, PAGE 660, FRANKLIN COUNTY RECORDS. **SURVEYOR'S NOTE: EASEMENT SET TO EXPIRE AFTER 15 YEARS (DATE OF RECORDING IS AUGUST 22, 1963). EASEMENT APPEARS TO BE THE SAME AS THE 20 FOOT EASEMENT LOCATED ALONG THE NORTH SIDE OF THE FRANKLIN SQUARE SUBDIVISION IN PLAT BOOK 67, PAGE 17.**

15. STORM SEWER EASEMENT GRANTED TO THE CITY OF COLUMBUS DATED SEPTEMBER 29, 1976, AND RECORDED OCTOBER 25, 1976, IN DEED VOLUME 3548, PAGE 398, FRANKLIN COUNTY RECORDS. NOTE: COINCIDES WITH THE UTILITY EASEMENT PLATTED ON THE WEST SIDE OF THE SUBJECT PROPERTY BY PLAT BOOK 67, PAGE 17 (ITEM 13). **SURVEYOR'S NOTE: APPLIES AND IS SHOWN ON EXHIBIT.**

16. EASEMENT GRANTED TO THE OHIO BELL TELEPHONE COMPANY DATED SEPTEMBER 29, 1987, AND RECORDED OCTOBER 13, 1987, IN OFFICIAL RECORD 10584G17, FRANKLIN COUNTY RECORDS. **SURVEYOR'S NOTE: APPLIES AND IS SHOWN ON EXHIBIT.**

17. DECLARATION OF COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS, WITH BUILDING SETBACK LINES DATED OCTOBER 20, 1987, AND RECORDED OCTOBER 21, 1987, IN OFFICIAL RECORD 10635B11, FRANKLIN COUNTY RECORDS. **SURVEYOR'S NOTE: APPLIES TO PARCEL, DEFINES MEMBERS' RIGHTS, RESERVATIONS, PROVISIONS AND EXTENT OF EASEMENTS FOR ACCESS, INGRESS, EGRESS, UTILITIES, USE AND ENJOYMENT OF COMMON AREAS. NO SPECIFIC EASEMENT IS DEFINED IN DOCUMENT. DEFINES 60 FOOT SETBACK ALONG NORTH PROPERTY LINE.**

18. SANITARY SEWER EASEMENT GRANTED TO THE CITY OF COLUMBUS DATED SEPTEMBER 28, 1987, AND RECORDED OCTOBER 21, 1987, IN OFFICIAL RECORD 10635E03, FRANKLIN COUNTY RECORDS. **SURVEYOR'S NOTE: APPLIES AND IS SHOWN ON EXHIBIT.**

19. EASEMENT FOR PARKING, GRADING AND LANDSCAPE PURPOSES GRANTED TO JOHN J. CHESTER AND RICHARD J. SOLOVE DATED OCTOBER 21, 1987, AND RECORDED OCTOBER 21, 1987, IN OFFICIAL RECORD 10635E05, FRANKLIN COUNTY RECORDS. **SURVEYOR'S NOTE: APPLIES AND IS SHOWN ON EXHIBIT.**

20. EASEMENT FOR PARKING, GRADING AND LANDSCAPE PURPOSES GRANTED TO JOHN J. CHESTER AND RICHARD J. SOLOVE DATED OCTOBER 21, 1987, AND RECORDED OCTOBER 21, 1987, IN OFFICIAL RECORD 10635E07, FRANKLIN COUNTY RECORDS. **SURVEYOR'S NOTE: APPLIES AND IS SHOWN ON EXHIBIT.**

21. EASEMENT GRANTED TO COLUMBIA GAS OF OHIO, INC. DATED MARCH 14, 1989, AND RECORDED APRIL 3, 1989, IN OFFICIAL RECORD 13209D15, FRANKLIN COUNTY RECORDS. **SURVEYOR'S NOTE: APPLIES AND IS SHOWN ON EXHIBIT.**

22. THRU 24. – **SURVEYOR'S NOTE: DOCUMENTS DO NOT CONTAIN EASEMENTS.**

CODED NOTE SUFFIX DEFINITIONS:

C – COMMUNICATION EASEMENT
D - DRAINAGE OR STORM SEWER EASEMENT
E – ENTRY SIGN EASEMENT
P – PARKING, GRADING AND LANDSCAPING EASEMENT
S – SANITARY SEWER EASEMENT
U – UTILITY EASEMENT

### TABLE A – OPTIONAL SURVEY RESPONSIBILITIES AND SPECIFICATIONS:

1. PROPERTY ADDRESS: NO ADDRESS LISTED IN TITLE COMMITMENT.
2. FLOOD ZONE CLASSIFICATION: THE PROPERTY IS LOCATED IN AREA WITH REDUCED FLOOD RISK DUE TO LEVEE, ZONE X BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY ON THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NUMBER 39049C0308K WITH AN EFFECTIVE OF 06/17/2008. THIS AREA IS BEING PROTECTED FROM THE 1-PERCENT ANNUAL CHANCE OF FLOOD HAZARD BY LEVEE, DIKE, OR OTHER STRUCTURE. OVERTOPPING OR FAILURE OF THIS STRUCTURE IS POSSIBLE WHICH COULD RESULT IN DESTRUCTIVE FLOOD ELEVATIONS AND WATER VELOCITIES. PROPER PROTECTION, FLOOD INSURANCE AND ADHERENCE TO EVACUATION PROCEDURES ARE STRONGLY RECOMMENDED. FOR ADDITIONAL INFORMATION, SEE THE NOTES TO USERS ON THE FLOOD INSURANCE RATE MAP.
3. GROSS LAND AREA: LOT 10 - 4.250 ACRES (184,991 SF) PLAT, 4.237 ACRES (184,561 SF) MEASURED
7. EXTERIOR OF BUILDINGS AT GROUND LEVEL ARE SHOWN.
8. SUBSTANTIAL FEATURES OBSERVED IN THE PROCESS OF CONDUCTING FIELDWORK ARE DEPICTED HEREON.
9. PARKING PROVIDED: PARKING STALLS NOT A PART OF DEMOLITION: 107 SPACES
11. THERE IS EVIDENCE OF RECENT EARTH MOVING WORK AND THREE RAZED BUILDINGS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELD WORK.
13. NAMES OF ADJOINING OWNERS ACCORDING TO CURRENT TAX RECORDS (03/22/2022)
17. PROPOSED CHANGES IN STREET RIGHT OF WAY LINES, IF SUCH INFORMATION IS MADE AVAILABLE TO THE SURVEYOR BY THE CONTROLLING JURISDICTION. – NO ZONING REPORT PROVIDED TO DETERMINE IF APPLICABLE.

### SURVEY NOTES:

1. PARCEL DOES NOT HAVE DIRECT ACCESS TO DEDICATED PUBLIC STREETS OR HIGHWAYS BY WAY OF DRIVE, STREET OR ROADWAY ON PARCEL. ACCESS TO BROAD STREET AND CENTRAL AVENUE, BOTH PUBLIC STREETS IS BY WAY OF ACCESS EASEMENTS CROSSING LOTS 1 THRU 6 AND LOT 9 AS DELINEATED ON FRANKLIN SQUARE SUBDIVISION IN PLAT BOOK 67, PAGE 17.
2. POTENTIAL ENCROACHMENTS:
   a. 2 BUILDINGS ALONG WEST SIDE OF PARCEL ARE LOCATED WITHIN DRAINAGE EASEMENTS (ITEM 13 AND 15).
   b. POWER POLE, GUY WIRE AND OVERHEAD ELECTRIC ALONG WEST SIDE, SOUTH SIDE AND NORTHEAST CORNER OF PARCEL.

### HATCH LEGEND

LEASE AREA

### SYMBOL LEGEND

CATCH BASIN
CLEANOUT
COMMUNICATION VAULT
MANHOLE
SIGN
LIGHT POLE
FIRE HYDRANT
ELECTRIC BOX OR RECEPTACLE
POWER POLE
DOWN GUY
VALVE
MANHOLE
I.R.F. IRON PIN FOUND
I.P.F. IRON PIPE FOUND
I.R.S. IRON PIN SET*
*IRON PIN SET IS A 5/8" DIAMETER BY 30" LONG REBAR WITH A CAP THAT READS "CW DESIGN GROUP".

### LINEWORK SYMBOLOGY

CENTERLINE
EASEMENT
P/L PROPERTY LINE
R/W RIGHT-OF-WAY
SETBACK*
FENCE
COM COMMUNICATION
E ELECTRIC
G GAS
SA SANITARY SEWER
ST STORM SEWER
W WATER

### BASIS OF BEARINGS:

THE BEARINGS DESCRIBED HEREIN ARE BASED ON THE OHIO STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD83 (2011) GRID. SAID BEARINGS ORIGINATED FROM A FIELD TRAVERSE WHICH WAS REFERENCED TO SAID COORDINATE SYSTEM BY GPS OBSERVATIONS AND OBSERVATIONS OF SELECTED STATIONS IN THE OHIO DEPARTMENT OF TRANSPORTATION VIRTUAL REFERENCE STATION NETWORK. THE NORTHERLY PROPERTY LINE WITH A MONUMENTED BEARING OF NORTH 75°07'43" EAST IS THE BASIS OF BEARINGS.

### SUPPORTING DOCUMENTS:

ZONING INFORMATION: NO ZONING REPORT PROVIDED BY OWNER.

THIS ALTA EXHIBIT IS BASED ON THE TITLE COMMITMENT FILE NUMBER 22-1022C ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY WITH A COMMITMENT EFFECTIVE DATE FEBRUARY 7, 2022 AT 7:00 A.M.

### SURVEYOR'S CERTIFICATE:

TO:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6, 7(A), 7(B1), 7(B2), 8, 9, 11, 13, 16, 17 AND 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED IN SEPTEMBER 2021.

DATE OF PLAT OR MAP: 03/21/2022

Ohio Utilities Protection Service Call 811 before you dig

CW Design Group
ENGINEERS| SURVEYORS
PHONE: 614-846-9279
972 Linkfield Drive
Worthington, Ohio 43085

**Preliminary**
03/31/2022 2:28:10 PM

CHARLES A. WAGNER, PS -8091
CW DESIGN GROUP, LLC

DATE

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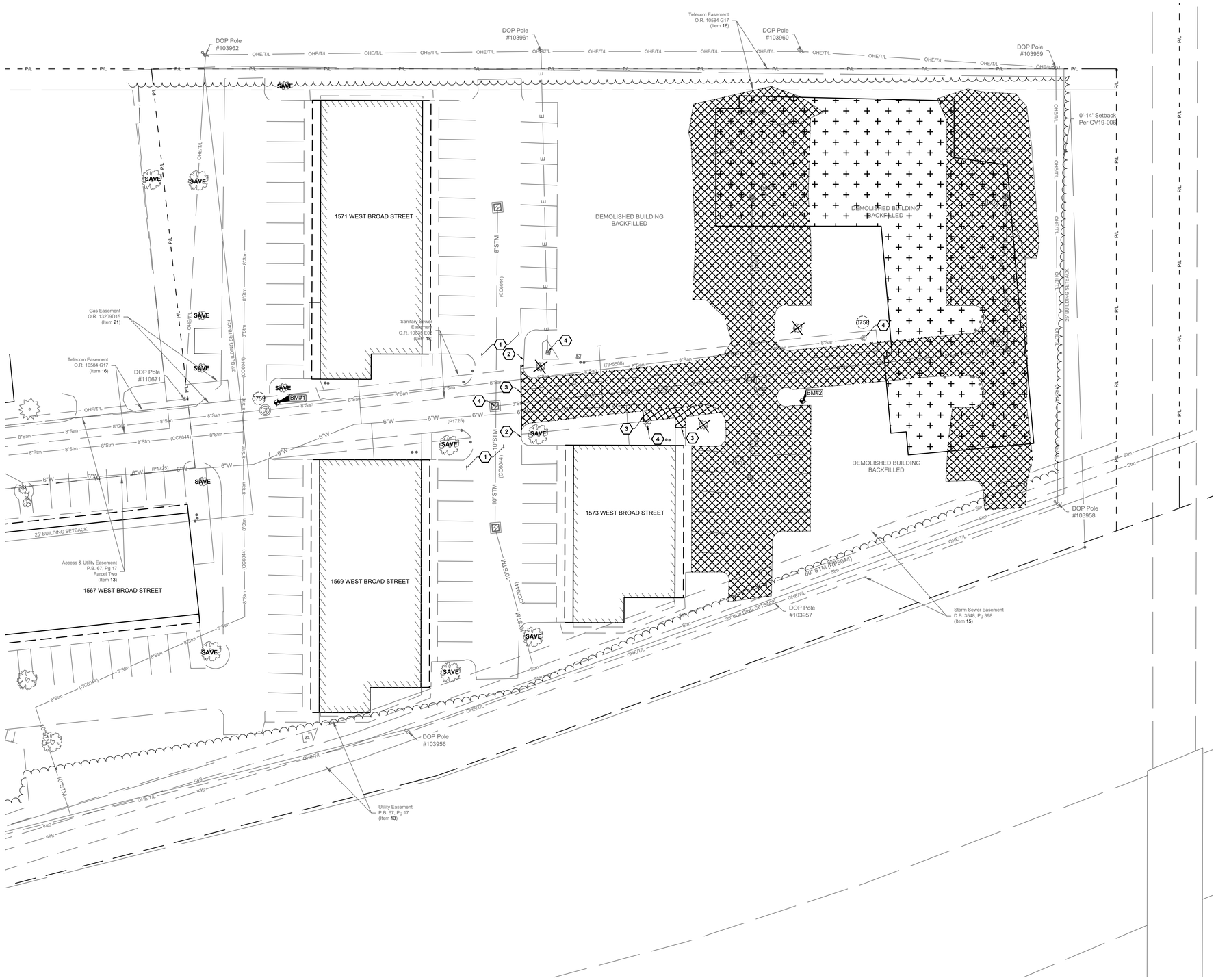
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1" = 50'
US SURVEY FEET

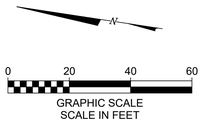
ALTA/NSPS

HARRIET'S HOPE

1
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## DEMOLITION LEGEND

### PROPOSED

- REMOVE EXISTING ASPHALT, STONE, AND CONCRETE PAVEMENT, CONCRETE SIDEWALK, AND PAVEMENT BASE MATERIALS
- REMOVE EXISTING BUILDING FOUNDATIONS AND UTILITY SERVICE LINES WITHIN THE LIMITS OF THE PROPOSED BUILDING FOOTPRINT
- REMOVE EXISTING TREE
- SAVE — PROTECT EXISTING TREE TO REMAIN

## GENERAL NOTES:

1. SITE SURVEY PERFORMED BY CW DESIGN GROUP, DATED 1/21/2022. REFER TO SURVEY SHEET FOR ALL EXISTING SITE FEATURES.
2. DISPOSE OF CONSTRUCTION DEBRIS OFF-SITE IN ACCORDANCE WITH LOCAL CODES.
3. REMOVE AND DISPOSE OF ON SITE FEATURES AS SHOWN ON THE PLAN.
4. SAW-CUT EXISTING PAVEMENT AT LIMITS OF PAVEMENT REMOVAL TO FULL DEPTH USING CARE TO CUT NEAT, STRAIGHT LINES. CUT AT EXISTING JOINTS WHERE POSSIBLE.
5. CONTRACTOR TO PROTECT EXISTING SITE FEATURES TO REMAIN OUTSIDE CONSTRUCTION LIMITS. REPAIR ANY DAMAGE TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST.
6. CONTROL DUST AT THE SITE. PROVIDE STREET CLEANING WHEN NECESSARY, AND WHEN REQUESTED BY OWNER.
7. GRADE SITE DURING CONSTRUCTION TO PROVIDE POSITIVE DRAINAGE TO EXISTING AND/OR PROPOSED STORM WATER MANAGEMENT SYSTEMS.
8. PERFORM WORK IN ACCORDANCE WITH LOCAL CODES AND REGULATIONS.

## (X) CODED NOTES:

1. PROTECT EXISTING PAVEMENT/SIDEWALK TO REMAIN.
2. PROTECT EXISTING CONCRETE CURB OR CURB AND GUTTER TO REMAIN.
3. SAWCUT EXISTING PAVEMENT WITH NEAT, STRAIGHT LINES. MATCH EXISTING PAVEMENT GRADE AT THIS POINT.
4. PROTECT EXISTING UTILITY STRUCTURE TO REMAIN.

KORDA
KORDA/NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

| | |
|---|---|
| DRAWN BY: | AWM |
| DESIGNED BY: | AWM |
| CHECKED BY: | EJW |
| PROJECT NUMBER: | 2020-4014 |

| # | DATE | CHANGE DESCRIPTION |
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COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:
# DEMOLITION PLAN

STATE OF OHIO
ERIC J. WALSH
E-80715
REGISTERED
PROFESSIONAL ENGINEER

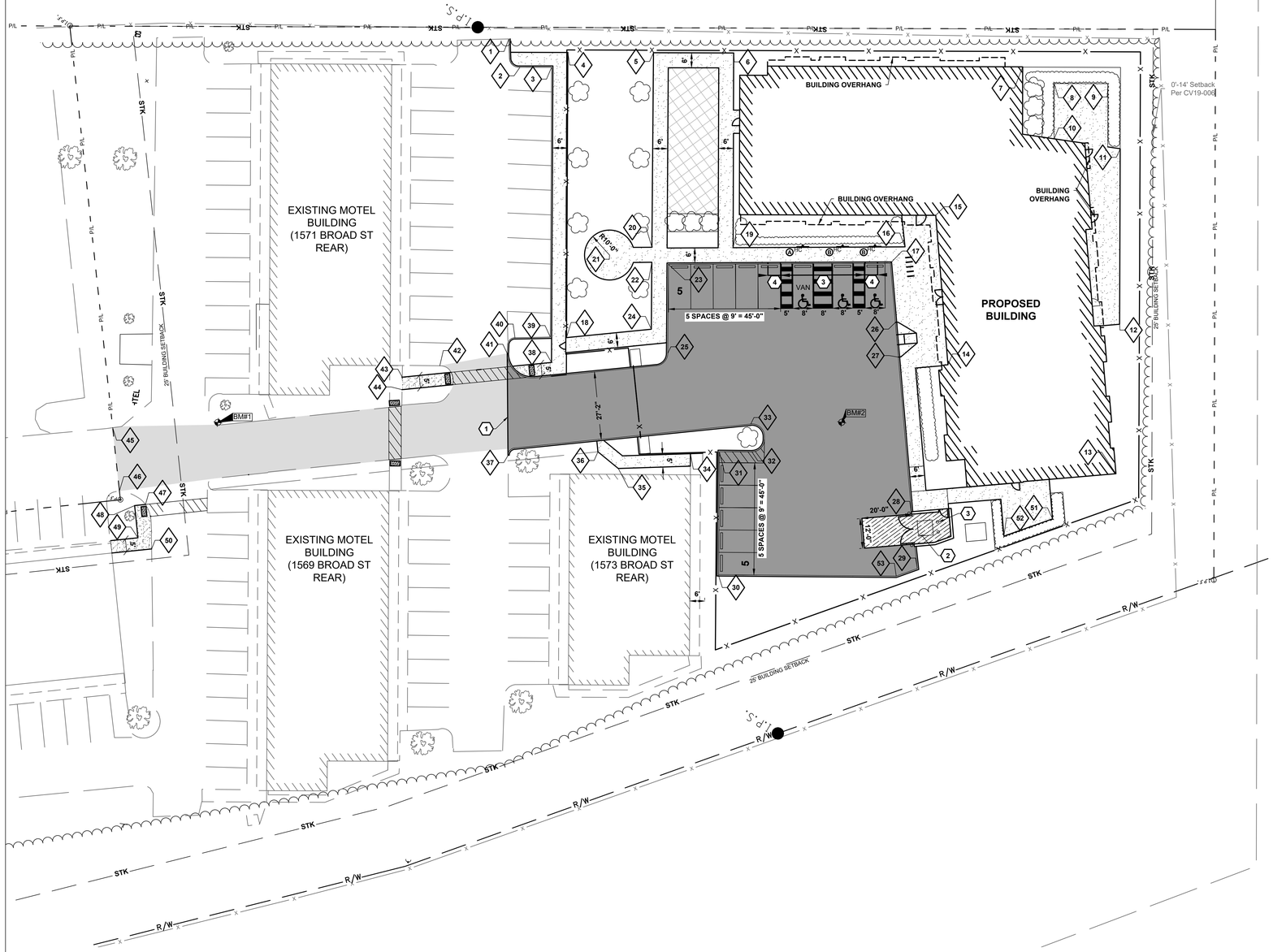
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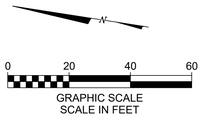
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| DRAWN BY: AWM | CHECKED BY: EJW |

*Proj. #20643*

**C001**

*PERMIT & BID SET*




## STAKING LEGEND
### PROPOSED

- STK — SETBACK LINE
- BUILDING/WALL
- EDGE OF PAVEMENT
- EDGE OF WALK
- STRAIGHT CURB PER CITY OF COLUMBUS STD. DWG. 2000
- X — FENCE, REFER TO LANDSCAPING SHEET L1.02 FOR DETAILS
- PAINTED WHEELCHAIR SYMBOL
- HC — HANDICAPPED PARKING SIGN PER DETAIL B/C102
- BUMPER BLOCK, PER DETAIL D/C102
- STEEL PIPE BOLLARD, PER DETAIL H/C102
- HEAVY DUTY ASPHALT PER DETAIL A/C102
- 4" CONCRETE SIDEWALK PER CITY OF COLUMBUS STD. DWG. 2300
- HEAVY DUTY CONCRETE PER DETAIL G/C102
- PLAYGROUND SURFACE. REFER TO LANDSCAPE SHEETS.
- ALTERNATE 1: ASPHALT MILL AND OVERLAY PER DETAIL C/C102

## GENERAL NOTES:

1. DIMENSIONS AND COORDINATES ARE GIVEN TO FACE OF CURB AND FACE OF BUILDING UNLESS OTHERWISE NOTED.
2. CURB AND SIDEWALK RADII SHALL BE 5'-0" UNLESS OTHERWISE NOTED.
3. PROVIDE STRIPING AND SYMBOLS AS SHOWN PER ODOT ITEM 640 AND 641. STRIPING PAINT SHALL BE ODOT ITEM 740.02 TYPE 4 WITHOUT GLASS BEADS. TYPICAL LINE WIDTH SHALL BE 4 INCHES, COLOR WHITE.
4. STANDARD PARKING STALL DIMENSIONS ARE 9'-0" IN WIDTH BY 18'-0" IN LENGTH UNLESS OTHERWISE NOTED.
5. SAWCUT FULL DEPTH SIDEWALK AND PAVEMENT WHERE NEW WORK ABUTS EXISTING CONSTRUCTION. TAKE CARE TO PROVIDE NEAT STRAIGHT LINES. PROVIDE PAVEMENT SEALANT AT JOINT BETWEEN EXISTING AND NEW ASPHALT. REMOVE CONCRETE TO NEAREST JOINT. PROVIDE ½" PREFORMED EXPANSION JOINT FILLER BETWEEN NEW AND EXISTING CONSTRUCTION.
6. ANY PROPERTY PINS DAMAGED AS PART OF CONSTRUCTION SHALL BE RESET BY AN OHIO REGISTERED SURVEYOR.
7. PROVIDE 2 HANDICAP ACCESSIBLE PARKING SIGNS AND 1 VAN ACCESSIBLE PARKING SIGNS AS SHOWN ON DETAIL B/C102. FINAL LOCATION OF SIGNS TO BE DETERMINED BY ARCHITECT.
8. MAINTAIN PEDESTRIAN AND VEHICULAR ACCESS TO ADJACENT BUILDINGS AT ALL TIMES DURING CONSTRUCTION.
9. REFER TO ARCHITECTURAL DRAWINGS FOR ALL SITE SIGNAGE NOT SHOWN ON THIS SHEET.
10. BUILDING COORDINATES PROVIDED FOR BUILDING LOCATION ONLY. REFER TO ARCHITECTURAL PLANS FOR BUILDING LAYOUT.
11. PROVIDE CONTROL JOINTS PER DETAIL E/C102. PROVIDE ISOLATION JOINTS WHERE NEW CONCRETE ABUTS EXISTING STRUCTURES PER DETAIL F/C102 AND PER SPECIFICATIONS.

## (X) CODED NOTES:

1. SAW-CUT EXISTING PAVEMENT WITH NEAT, STRAIGHT LINES. MATCH EXISTING PAVEMENT GRADE AT THIS POINT.
2. TRASH ENCLOSURE. REFER TO ARCHITECTURAL DETAILS.
3. PIPE BOLLARD (4) PER DETAIL H/C102.

### CONTROL POINTS[2.]

| NO. | NORTHING | EASTING | ELEVATION | DESCRIPTION |
|---|---|---|---|---|
| 1 | 712505.45 | 1816739.61 | 718.62 | 5/8" REBAR W/ CAP (CW DESIGN GROUP) |
| 2 | 712258.01 | 1816778.00 | 718.45 | 5/8" REBAR W/ CAP (CW DESIGN GROUP) |

2. THE PROJECT IS BASED ON NAVD 88 DATUM.

| STAKING COORDINATE TABLE | | |
|---|---|---|
| | Northing | Easting |
| 1 | 712413.56 | 1816909.63 |
| 2 | 712407.46 | 1816899.05 |
| 3 | 712394.92 | 1816901.01 |
| 4 | 712389.35 | 1816907.89 |
| 5 | 712355.39 | 1816913.04 |
| 6 | 712323.54 | 1816917.86 |
| 7 | 712208.07 | 1816930.12 |
| 8 | 712194.53 | 1816925.46 |
| 9 | 712173.20 | 1816928.68 |
| 10 | 712191.19 | 1816903.42 |
| 11 | 712164.36 | 1816903.65 |
| 12 | 712153.80 | 1816833.96 |
| 13 | 712146.06 | 1816774.44 |
| 14 | 712219.40 | 1816807.24 |
| 15 | 712233.45 | 1816865.89 |
| 16 | 712243.69 | 1816851.46 |
| 17 | 712248.46 | 1816844.12 |
| 18 | 712372.36 | 1816794.68 |

| STAKING COORDINATE TABLE | | |
|---|---|---|
| | Northing | Easting |
| 19 | 712311.81 | 1816840.58 |
| 20 | 712344.04 | 1816835.77 |
| 21 | 712360.37 | 1816830.07 |
| 22 | 712343.16 | 1816829.83 |
| 23 | 712336.53 | 1816830.05 |
| 24 | 712339.25 | 1816803.20 |
| 25 | 712331.28 | 1816794.64 |
| 26 | 712242.83 | 1816820.93 |
| 27 | 712239.53 | 1816807.33 |
| 28 | 712224.65 | 1816745.82 |
| 29 | 712219.02 | 1816724.60 |
| 30 | 712297.58 | 1816709.93 |
| 31 | 712304.78 | 1816758.87 |
| 32 | 712291.82 | 1816760.79 |
| 33 | 712293.98 | 1816771.68 |
| 34 | 712316.09 | 1816756.22 |
| 35 | 712343.81 | 1816745.95 |
| 36 | 712352.90 | 1816751.31 |

| STAKING COORDINATE TABLE | | |
|---|---|---|
| | Northing | Easting |
| 37 | 712388.34 | 1816744.31 |
| 38 | 712376.80 | 1816783.90 |
| 39 | 712378.80 | 1816793.88 |
| 40 | 712392.81 | 1816791.43 |
| 41 | 712394.91 | 1816784.76 |
| 42 | 712420.90 | 1816775.72 |
| 43 | 712435.10 | 1816768.90 |
| 44 | 712434.39 | 1816763.92 |
| 45 | 712546.88 | 1816731.15 |
| 46 | 712540.29 | 1816706.36 |
| 47 | 712529.11 | 1816702.62 |
| 48 | 712533.37 | 1816701.50 |
| 49 | 712530.06 | 1816688.93 |
| 50 | 712523.96 | 1816685.37 |
| 51 | 712168.47 | 1816752.64 |
| 52 | 712186.66 | 1816742.79 |
| 53 | 712226.93 | 1816720.31 |

KORDA
KORDA, NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215
DRAWN BY: AWM
DESIGNED BY: AWM
CHECKED BY: EJW
PROJECT NUMBER: 2020-4014

| # | DATE | CHANGE DESCRIPTION |
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COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

HARRIET'S HOPE
1581 W. BROAD STREET
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FOR
CMHA

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:
# STAKING PLAN

STATE OF OHIO
ERIC J. WALSH
E-80715
REGISTERED PROFESSIONAL ENGINEER

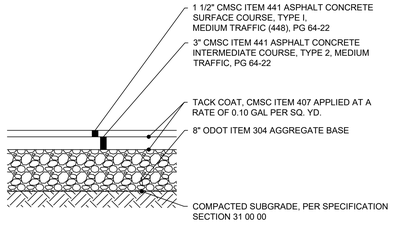
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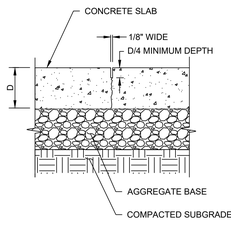
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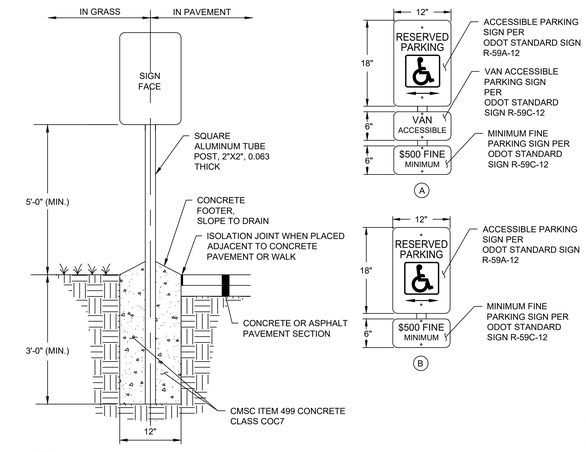

NOTES:
1. COMPOSE HOT MIX ASPHALT MIXTURE WITH AGGREGATE AND ASPHALT BINDER MEETING ODOT REQUIREMENTS.
2. SUBMIT AN APPROVED JOB MIX FORMULA INCLUDING MIX TYPE PROPOSED FOR USE, AGGREGATE SOURCE, TYPE, AND GRADATION, PERCENT OF ASPHALT BINDER, AND UNIT WEIGHT OF THE MIXTURE.
3. OBTAIN JOB MIX FORMULA APPROVAL BY PROVIDING A PREVIOUSLY ODOT APPROVED FORMULA
4. PROVIDE QUALITY ASSURANCE TESTING IN ACCORDANCE WITH CMSC ITEM 448 AND SUPPLEMENTAL SPECIFICATION 1055.
5. PROVIDE COMPACTION RANGING FROM 90 TO 97.9% OF THE AVERAGE MAXIMUM SPECIFIC GRAVITY FOR SURFACE COURSE AND 90 TO 96.9% FOR INTERMEDIATE COURSE. REMOVE AND REPLACE MATERIAL PLACED OUTSIDE OF SAID RANGES. PROVIDE REPLACEMENT PAVEMENT AND QUALITY ASSURANCE TESTING AT NO ADDITIONAL COST TO THE OWNER.

## A DETAIL
**HEAVY DUTY ASPHALT PAVEMENT** N.T.S.



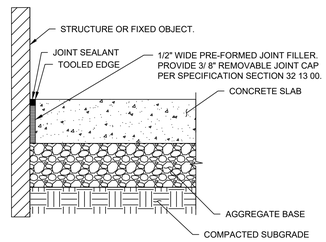

NOTES:
1. PLACE CONTROL JOINTS WITHIN 8 HOURS OF CONCRETE PLACEMENT AND AT LOCATIONS INDICATED ON THE STAKING PLAN. IF JOINTS ARE NOT SHOWN ON STAKING PLAN, PROVIDE AT LOCATIONS INDICATED BELOW:
   A. SPACING (IN FEET) SHALL BE BETWEEN 2 TO 2-1/ 2 TIMES SLAB THICKNESS (IN INCHES IN BOTH DIRECTIONS (I.E. 4" SLAB SHALL HAVE JOINT SPACING OF 8-10 FEET).
   B. GRID OF CONTROL JOINTS SHALL BE APPROXIMATELY SQUARE WITH LONGEST SIDE TO BE NOT LONGER THAN 1.5 TIMES THE SHORTEST SIDE (I.E. 4 FOOT WIDE WALK SHALL HAVE JOINT SPACING AT 4-6 FEET).

## E DETAIL
**SAW CUT CONCRETE CONTROL JOINT- LONGITUDINAL OR TRANSVERSE** N.T.S.



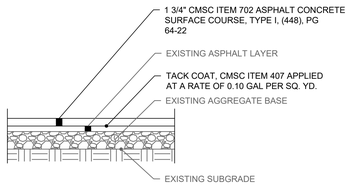

NOTES:
1. PROVIDE SIGN IN ACCORDANCE WITH CMSC ITEM 630.
2. PROVIDE 0.063 THICK, FLAT ALUMINUM SIGN PANELS.
3. PROVIDE REFLECTIVE FINISH ON SIGN.
4. PROVIDE PERMANENT WEATHERPROOF ALUMINUM CAP ON POST TOP.
5. PROVIDE "VAN ACCESSIBLE" SIGN WHERE NOTED ON DRAWINGS.
6. ATTACH SIGNS WITH UNISTRUT UNIVERSAL DRIVE RIVET OR APPROVED EQUAL.
7. ACCESSIBLE SIGNAGE TO BE AS SHOWN UNLESS OTHERWISE SPECIFIED BY LOCAL CODE.

## B DETAIL
**PARKING SIGNS** N.T.S.



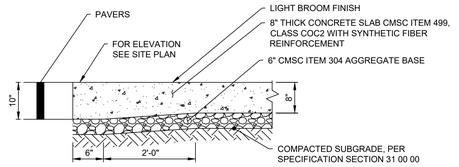

NOTES:
1. PLACE ISOLATION JOINTS WHERE NEW CONCRETE SLAB ABUTS STRUCTURES OR FIXED OBJECTS INCLUDING: BUILDINGS, WALLS, COLUMNS, POLE BASES, CURBS, CATCH BASINS, EXISTING CONCRETE, OR AS NOTED ON THE STAKING PLAN.
2. PROVIDE AT FORMED EDGE OF PREVIOUSLY POURED SLABS. SEAL JOINT WITH JOINT SEALANT, SEE SPECIFICATION SECTION 32 13 00.
3. SUBMIT SAMPLE FOR COLOR APPROVAL. PRE-FORMED JOINT FILLER - NON-IMPREGNATED TYPE, CLOSED CELL RESILIENT POLYETHYLENE FOAM, 1/2" THICK UNLESS OTHERWISE NOTED, CERAMAR FLEXIBLE FOAM EXPANSION JOINT BY W.R. MEADOWS OR EQUAL MEETING THE REQUIREMENTS OF ASTM D 1752 SECTIONS 5.1 THROUGH 5.4. REFER TO SPECIFICATION SECTION 32 13 00.

## F DETAIL
**CONCRETE ISOLATION JOINT** N.T.S.



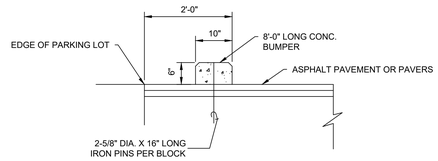

NOTES:
1. COMPOSE HOT MIX ASPHALT MIXTURE WITH AGGREGATE AND ASPHALT BINDER MEETING ODOT REQUIREMENTS.
2. SUBMIT AN APPROVED JOB MIX FORMULA INCLUDING MIX TYPE PROPOSED FOR USE, AGGREGATE SOURCE, TYPE, AND GRADATION, PERCENT OF ASPHALT BINDER, AND UNIT WEIGHT OF THE MIXTURE.
3. OBTAIN JOB MIX FORMULA APPROVAL BY PROVIDING A PREVIOUSLY ODOT APPROVED FORMULA.
4. PROVIDE COMPACTION RANGING FROM 90 TO 97.9% OF THE AVERAGE MAXIMUM SPECIFIC GRAVITY FOR SURFACE COURSE AND 90 TO 96.9% FOR INTERMEDIATE COURSE. REMOVE AND REPLACE MATERIAL PLACED OUTSIDE OF SAID RANGES. PROVIDE REPLACEMENT PAVEMENT AND QUALITY ASSURANCE TESTING AT NO ADDITIONAL COST TO THE OWNER.

## C DETAIL
**ALTERNATE 1: MILL AND FILL ASPHALT PAVEMENT** N.T.S.

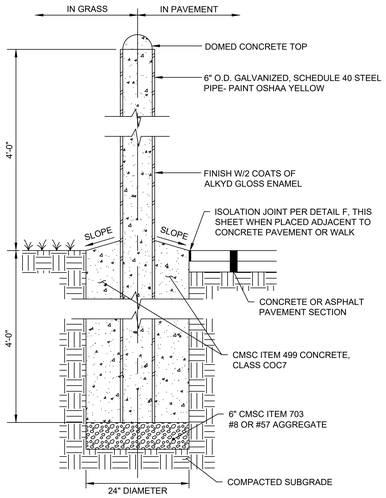



NOTES:
1. PROVIDE JOINTS AS INDICATED ON DRAWINGS. IN ABSENCE OF INFORMATION ON THE DRAWINGS, LOCATE AS SPECIFIED IN SECTION 32 13 00.
2. PROVIDE CONTROL AND ISOLATION JOINTS PER DETAILS E AND F, THIS SHEET.
3. SYNTHETIC FIBER REINFORCEMENT: ASTMC1116/C1116M-10A(2015). ACCEPTABLE PRODUCTS OR APPROVED EQUAL:
   a. NYCON RC OR PROCON-M POLYPROPYLENE FIBER NYLON FIBERS BY NYCON.
   b. NYLO-MONO NYLON FIBERS OR MIGHTY-MONO POLYPROPYLENE FIBERS BY FORTA
   c. FIBERMESH 150 POLYPROPYLENE FIBERS BY PROPEX.
   d. SINTA F19 OR SINTA M2219 BY GCP APPLIED TECHNOLOGIES
   e. PSI FIBERSTRAND 150 BY EUCLID.
4. SYNTHETIC FIBER REINFORCEMENT SHALL BE USED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. DOSAGE RATE SHALL BE AS RECOMMENDED BY THE MANUFACTURER, BUT NOT LESS THAN 1 POUND PER CUBIC YARD.
5. DISSIPATING CURING COMPOUND: COMPLY WITH ASTM C309-98A, TYPE 1, CLASS B (CLEAR), EXCEPT MOISTURE LOSS NOT TO EXCEED 0.40 KG/SQ M. IN 72 HOURS. COMPOUND SHALL COMPLY WITH EPA'S VOC REQUIREMENTS. APPLY AT THE MANUFACTURER'S WRITTEN RECOMMENDED APPLICATION RATE. COMPLETELY REMOVE CURING COMPOUND PRIOR TO APPLICATION OF PENETRATING SEALER.
6. PENETRATING SEALER: ACCEPTABLE PRODUCTS OR APPROVED EQUAL:
   A. L&M CONSTRUCTION CHEMICALS - AQUAPEL PLUS 40
   B. PROSOCO - SALTGUARD WB
   C. HULS AMERICA INC. - CHEM-TRETE BSM 40
   D. MASTER BUILDERS INC. - MASTERSEAL SL 40
   E. LYMTAL INTERNATIONAL - ISO-FLEX 618-50 WB
   F. BASF - ENVIROSEAL 40 OR HYDROZO SILANE 40
   G. TEX-COTE - RAINSTOPPER RS140
7. IF CONCRETE INSTALLED OCTOBER-MARCH, WAIT UNTIL APRIL-SEPTEMBER TO APPLY PENETRATING SEALER. IF SCHEDULE DOES NOT ALLOW FOR APPLICATION OF SEALER, PROVIDE CREDIT FOR NON-PERFORMANCE.

## G DETAIL
**HEAVY DUTY CONCRETE SLAB** N.T.S.




## D DETAIL
**BUMPER BLOCK** N.T.S.




## H DETAIL
**STEEL PIPE BOLLARD** N.T.S.

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
181 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215

PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:
# STAKING DETAILS

KORDA
KORDA: NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

| | |
|---|---|
| DRAWN BY: | AWM |
| DESIGNED BY: | AWM |
| CHECKED BY: | EJW |
| PROJECT NUMBER: | 2020-4014 |

STATE OF OHIO PROFESSIONAL ENGINEER
ERIC J. WALSH
E-80715
REGISTERED

*APRIL 4, 2022*

DRAWN BY: **AWM** CHECKED BY: **EJW**

*Proj. #20643*

# C102

*PERMIT & BID SET*

# CITY OF COLUMBUS, FRANKLIN COUNTY, OHIO
# PRIVATE STORM SEWER AND STORMWATER FACILITIES
## FOR
# HARRIET'S HOPE
## 2021

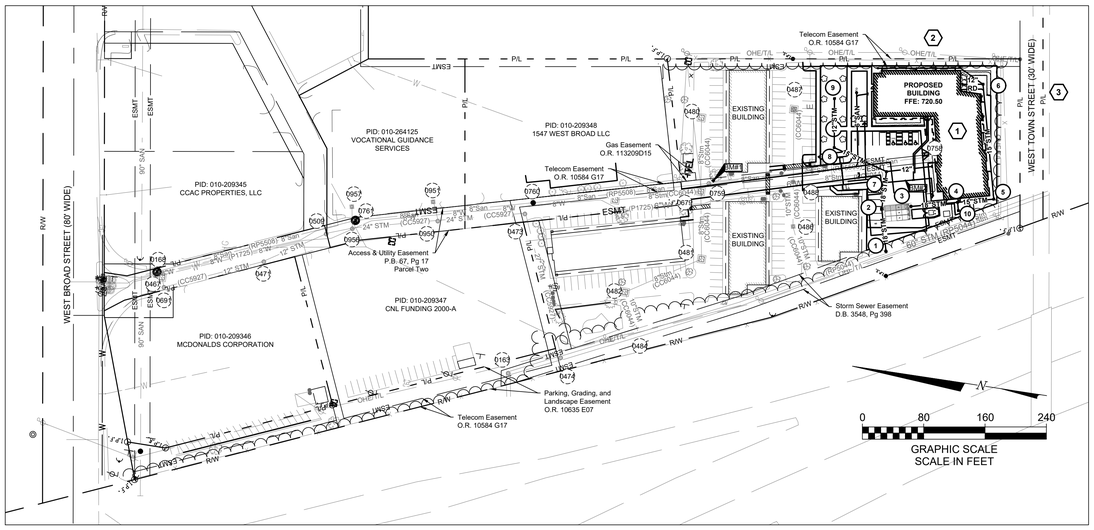
### ESTIMATE OF QUANTITIES

These quantities have been provided only as an estimate to the scope of the work for inspection purposes only. The Contractor is soley responsible to evaluate the complete project as detailed in the notes, plans, and specifications and procedures necessary for the completion of the plan improvements and submit his total project cost accordingly. Deviation between the plans and the quantities shall not be cause for additional compensation. Submission of bid means acceptance of entire project, whether or not described in the table below.
Calculated By: AWM Date: 9/9/2021 Checked By: EJW Date: 9/9/2021

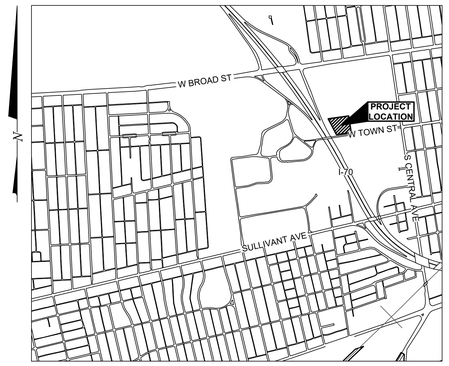
| ITEM | QUANTITY | UNIT | DESCRIPTION |
|---|---|---|---|
| | | | **STORM SEWER DEMOLITION** |
| 202 | 5 | EA | CATCH BASIN REMOVAL |
| 202 | 343 | LF | 8" STORM SEWER REMOVAL |
| | | | **EROSION CONTROL** |
| 207 | 1 | EA | STABILIZED CONSTRUCTION ENTRANCE |
| 207 | 15 | EA | INLET PROTECTION |
| 207 | 1 | EA | CONCRETE WASHOUT |
| 207 | 595 | LF | SILT FENCE |
| | | | **STORM SEWER** |
| 604 | 1 | EA | MANHOLE PER AA-S104 |
| 604 | 1 | EA | MANHOLE PER AA-S102 |
| 604 | 4 | EA | CATCH BASIN PER AA-S133A |
| 604 | 2 | EA | CATCH BASIN PER AA-S130 |
| 604 | 1 | EA | OUTLET CONTROL STRUCTURE PER DETAIL A/6 |
| 605 | 40 | LF | 4" PAVEMENT UNDERDRAIN |
| 605 | 35 | LF | 6" PIPE UNDERDRAIN |
| 901 | 64 | LF | 12" REINFORCED CONCRETE PIPE (CLASS IV), WITH TYPE I BEDDING |
| 901 | 75 | LF | 15" REINFORCED CONCRETE PIPE (CLASS IV), WITH WATER TIGHT JOINTS AND TYPE I BEDDING |
| 901 | 217 | LF | 15" PIPE, WITH TYPE 1 BEDDING |
| 901 | 146 | LF | 18" PIPE, WITH TYPE 1 BEDDING |
| SPEC | 1 | EA | ADS MC-3500 UNDERGROUND STORMWATER DETENTION STRUCTURE (12 TOTAL CHAMBERS, 3 INSPECTION PORTS) |

### PROPERTY OWNERS

| X | OWNER NAME | PARCEL | ADDRESS | ACREAGE |
|---|---|---|---|---|
| 1 | COLUMBUS METROPOLITAN HOUSING AUTHORITY | 010-209349 | 1551 BROAD ST REAR | 3.84 |
| 2 | BD OF EDUCATION OF COLS | 010-077323 | 145 S CENTRAL AVE | 10.77 |
| 3 | FRANKLIN COUNTY COMM | 010-217129 | 1481 W TOWN ST | 9.81 |




**INDEX MAP**
**1"=80'**




**LOCATION MAP**
(NOT TO SCALE)

### ARCHITECT
MOODY-NOLAN, INC.
300 SPRUCE ST, STE 300
COLUMBUS, OH 43215
CONTACT: ANUP JANARDHANAN
P: 614-461-4664
EMAIL: ANUPJ@MOODYNOLAN.COM

### OWNER
COLUMBUS METROPOLITAN HOUSING AUTHORITY (CMHA)
880 E. 11TH AVE
COLUMBUS, OH 43211
CONTACT: MIKE WAGNER
P: 614-421-6102
EMAIL: MWAGNER@CMHANET.COM

### ENGINEER
KORDA/NEMETH ENGINEERING
1650 WATERMARK DR
COLUMBUS, OH 43215
CONTACT: ERIC WALSH
P: 614-487-1650
EMAIL: ERIC.WALSH@KORDA.COM

### SHEET INDEX

| CC SHEET | SHEET | DESCRIPTION |
|---|---|---|
| 1/11 | C201 | TITLE SHEET |
| 2-3/11 | C202-C203 | GENERAL NOTES |
| 4/11 | C204 | STORM SEWER DEMOLITION PLAN |
| 5/11 | C205 | GRADING & STORM SEWER PLAN |
| 6/11 | C206 | STORM SEWER PROFILES |
| 7/11 | C207 | STORM SEWER DETAILS |
| 8-9/11 | C208-C209 | ADS DETAILS |
| 10/11 | C210 | EROSION & SEDIMENT CONTROL PLAN |
| 11/11 | C211 | EROSION & SEDIMENT CONTROL DETAILS |

### SANITARY SEWER NOTE
CONNECTION TO SANITARY SEWER CANNOT BE MADE WITHOUT OBTAINING A PERMIT FROM SEWER PERMIT OFFICE 111 N. FRONT ST. (614) 645-7490.

### SANITARY SEWER CAPOFF NOTE
SEWER CAPOFF PERMIT IS REQUIRED PRIOR TO ISSUANCE OF DEMOLITION PERMIT. OBTAIN CAPOFF PERMIT FROM SEWER PERMIT OFFICE 111 N. FRONT ST., 1ST FLOOR (614) 645-7490.

| PRELIMINARY SITE COMPLIANCE PLAN | 21601-00121 |
|---|---|
| FINAL SITE COMPLIANCE PLAN | 22345-00015 |
| WATER SERVICE PLAN | P-1725 |

### BENCHMARKS[1.]

| NO. | ELEV. | DESCRIPTION |
|---|---|---|
| 1 | 718.62 | 5/8" REBAR W/ CAP (CW DESIGN GROUP) |
| 2 | 718.45 | 5/8" REBAR W/ CAP (CW DESIGN GROUP) |
| 3 | 714.24 | SOURCE BENCHMARK. BRASS DISK LABELED 66/18 |

1. ELEVATIONS ARE BASED ON NAVD 88 DATUM.

### CONTROL POINTS[2.]

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 1 | 712505.45 | 1816739.61 | 5/8" REBAR W/ CAP (CW DESIGN GROUP) |
| 2 | 712258.01 | 1816778.00 | 5/8" REBAR W/ CAP (CW DESIGN GROUP) |
| 3 | 713333.11 | 1816279.26 | GRANITE STONE SET IN A CONCRETE FOUNDATION ON THE NORTH SIDE OF WEST BROAD STREET |

2. THE PROJECT IS BASED ON NAVD 88 DATUM.

### STANDARD DRAWINGS
THE STANDARD DRAWINGS LISTED ON THIS PLAN SHALL BE CONSIDERED A PART THEREOF.

| | |
|---|---|
| AA-S102 | AA-S145 |
| AA-S104 | AA-S149 |
| AA-S125A | AA-S150 |
| AA-S130 | AA-S151 |
| AA-S133A | 2230 (4/30/18) |
| AA-S141 | 1441 (07/01/21) |

### 100 YEAR DETENTION TABLE

| LOCATION | OUTLET CONTROL STRUCTURE | DETENTION VOLUME REQUIRED | DETENTION VOLUME PROVIDED | VOLUME PROVIDED AT ELEVATION | 100 YEAR ELEVATION |
|---|---|---|---|---|---|
| UNDERGROUND DETENTION | 2 | 2,008 CF | 2,566 CF | 716.50 | 714.84 |

ELEV. 716.50 - TOP OF UNDERGROUND STORAGE SYSTEM

### SUMMARY OF POST-CONSTRUCTION STORMWATER CONTROL FACILITIES*

| CONTROL/OUTLET STRUCTURE NO. (AS REFERENCED ON PLANS) | PLAN VIEW & DETAIL PAGE NUMBERS FOR BMP | CONTROL FUNCTION | DRAINAGE AREA TO CONTROL FACILITY | FACILITY TYPE | GREEN INFRASTRUCTURE (SQUARE FEET) |
|---|---|---|---|---|---|
| 2 | 5 & 7 | WATER QUANTITY | 1.05 ACRES | UNDERGROUND DETENTION W/ ISOLATOR ROW | N/A |

NOTE: 1. THE PROPOSED DEVELOPMENT IS TRIBUTARY TO THE CITY OF COLUMBUS COMBINED SEWER SYSTEM AND THEREFOR WILL NOT NEED OR PROVIDE STORMWATER QUALITY TREATMENT PER SECTION 3.3.1.1 OF THE CITY OF COLUMBUS STORMWATER DRAINAGE MANUAL (AUGUST 2012)
*REFER TO SHEET 10 (C210) FOR INSPECTION AND MAINTENANCE SCHEDULE.

### FEMA NOTE
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE MAP (DATED JUNE 17, 2008) THE SUBJECT PARCEL SHOWN HEREIN LIES WITH ZONE X, COMMUNITY PANEL NO 39049C0308K. THIS PROJECT WILL NOT REQUIRE ANY WORK IN THE FLOOD PLAIN, FLOOD WAY, OR STREAM CORRIDOR PROTECTION ZONE.

### BMP WATER QUALITY STRUCTURE NOTE
THE WATER QUALITY STRUCTURE 2 AND THE ADS UNDERGROUND DETENTION BASIN ARE STORMWATER QUALITY BMPS AND ARE AN INTEGRAL PART OF THE PRIVATE STORM SEWER SYSTEM DEPICTED IN THESE DRAWINGS. RESPONSIBILITY AND ASSURANCE OF PERIODIC MAINTENANCE AND THE CONTINUOUS FUNCTIONALITY OF THESE STORMWATER QUALITY DEVICES IS PERPETUAL; BEGINNING WITH THE OWNER AT THE TIME OF INSTALLATION AND CONTINUING TO ALL FUTURE OWNERS OF SAID PRIVATE STORM SEWER SYSTEM (REFER TO SHEET 9 FOR POST-CONSTRUCTION BMP MAINTENANCE).

### SITE DATA TABLE

| HARRIET'S HOPE SITE | |
|---|---|
| TOTAL SITE: | 4.25 AC. |
| TOTAL SITE "DISTURBED":* | 1.20 AC. |
| PRE-DEVELOPMENT IMPERVIOUS: | 0.95 AC. |
| POST-DEVELOPMENT IMPERVIOUS: | 0.80 AC. |

*INCLUDES R/W DISTURBANCE R/W DISTURBANCE IS ADDRESSED AND ACCOUNTED FOR WITH DETENTION PROVIDED UNDER THIS STORM CC

OHIO Utilities Protection SERVICE
Click, Call or Tap Before You Dig

### EASEMENT REFERENCE

| CITY NO. | COUNTY RECORDER VOL. | COUNTY RECORDER PAGE | GRANTOR |
|---|---|---|---|
| | | | |

### REVISIONS

| NO. | DESCRIPTION | APPROVAL/DATE |
|---|---|---|
| | | |
| | | |
| | | |

**PLAN PREPARED BY:**
KORDA Korda/Nemeth Engineering, Inc - Consulting Engineers
1650 Watermark Drive, Suite 200 - Columbus, Ohio 43215-7010
TEL 614-487-1650 - FAX 614-487-0881 - WEB www.korda.com

STATE OF OHIO ERIC J. WALSH E-80715 REGISTERED PROFESSIONAL ENGINEER

3/29/2022
REGISTERED ENGINEER NO. DATE

**APPROVED:** APPROVALS: SIGNATURES BELOW SIGNIFY ONLY CONCURRENCE WITH THE GENERAL PURPOSES AND GENERAL LOCATION OF THE PROJECT. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE ENGINEER PREPARING THE PLANS. **APPROVED FOR STORM SEWERS ONLY.**

CITY ENGINEER / ADMINISTRATOR, DIVISION OF DESIGN AND CONSTRUCTION — DATE
ADMINISTRATOR, DIVISION OF POWER — DATE
ADMINISTRATOR, DIVISION OF SEWERAGE AND DRAINAGE — DATE
ADMINISTRATOR, DIVISION OF WATER — DATE

**PROJECT TITLE**
PRIVATE STORM SEWER AND STORMWATER FACILITIES FOR
HARRIET'S HOPE APARTMENTS
1581 WEST BROAD STREET
TITLE SHEET

DIVISION USE ONLY | OWNER | CONTRACTOR | INSPECTOR | AGREEMENT | COMPLETED | RPD | CKD | CID | CON.DR. | INDEX DETAIL | RECORD FILE

**CITY OF COLUMBUS, OHIO**
**DEPARTMENT OF PUBLIC UTILITIES**
**DIVISION OF SEWERAGE AND DRAINAGE**
DIVISION USE ONLY

SCALE: HORIZ 1" = 80' | SHEET: 1 / 11
CONTRACT DRAWING NO. CC-19393 | RECORD PLAN NO.

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

**HARRIET'S HOPE**
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:
**TITLE SHEET**

KORDA
KORDA/NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215
DRAWN BY: AWM
DESIGNED BY: AWM
CHECKED BY: EJW
PROJECT NUMBER: 2020-4014

STATE OF OHIO ERIC J. WALSH E-80715 REGISTERED PROFESSIONAL ENGINEER

APRIL 4, 2022
DRAWN BY: AWM | CHECKED BY: EJW
Proj. #20643
**C201**
PERMIT & BID SET

File: H:\Projects\2020\2020-4014_00 CMHA - Harriet's Hope\Civil\Drawings\Finals\sheets\C201 CC TITLE SHEET 2.dwg Saved Date: 29-Mar-2022 5:22 PM Plot Date: 8:49 AM Saved By: AMMY

**1. 2018 SPECIFICATIONS -** THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMSC), 2018 EDITION, REVISION (04/01/2019), INCLUDING ALL REVISIONS AND SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS THAT ARE A PART OF THIS PLAN UNLESS NOTED OTHERWISE.

ANY MODIFICATION TO THE SPECIFICATIONS OR CHANGES TO THE WORK AS SHOWN ON THE DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE ADMINISTRATOR OF THE DIVISION OF SEWERAGE AND DRAINAGE.

**2. EMERGENCY PROVISIONS -** THE CONTRACTOR SHALL PROVIDE TO THE CITY OF COLUMBUS PROJECT REPRESENTATIVE A LIST OF 24-HOUR EMERGENCY TELEPHONE NUMBERS (IN WRITING) PRIOR TO THE START OF CONSTRUCTION.

**3. NOTIFICATION -** THE CONTRACTOR SHALL NOTIFY THE FOLLOWING DIVISIONS AT LEAST 24 HOURS IN ADVANCE OF THE ANTICIPATED START OF CONSTRUCTION:
DIVISION OF SEWERAGE AND DRAINAGE (614) 645-7102
DIVISION OF DESIGN AND CONSTRUCTION (CONSTRUCTION SECTION) (614) 645-0433
THE CONTRACTOR SHALL NOTIFY, IN WRITING, ALL ADJACENT PROPERTY LANDOWNERS A MINIMUM OF ONE WEEK IN ADVANCE OF WORK NEAR THEIR PROPERTY. THE CONTRACTOR SHALL CONTACT THE DIVISION OF SEWERAGE AND DRAINAGE FOR A SUGGESTED FORMAT FOR THE NOTICE.

**4. PERMITS -** THE CONTRACTOR IS TO OBTAIN NECESSARY PERMITS. AN ORIGINAL PERMIT, WITH RED SIGNATURES, SHALL BE KEPT ONSITE AT ALL TIMES.

WHEN OCCUPYING OR EXCAVATING WITHIN PUBLIC RIGHT OF WAY LIMITS, THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM THE CITY OF COLUMBUS, DEPARTMENT OF PUBLIC SERVICE- PERMIT OFFICE BETWEEN THE HOURS OF 7:30 AM AND 4:30 PM MONDAY THROUGH FRIDAY. PHONE: (614) 645-7497; FAX: (614) 645-1876; EMAIL: ColsPermits@columbus.gov

**5. FIRE HYDRANT PERMIT -** THE CONTRACTOR SHALL OBTAIN THE PROPER HYDRANT PERMIT(S), AND PAY ANY APPLICABLE FEES, FOR ANY APPROVED HYDRANT USAGE DEEMED NECESSARY FOR WORK UNDER THIS IMPROVEMENT. PERMITS MAY BE OBTAINED THROUGH THE DIVISION OF WATER PERMIT OFFICE (645-7330). THE CONTRACTOR SHALL ADHERE TO ALL RULES & REGULATIONS GOVERNING SAID PERMIT AND MUST HAVE THE ORIGINAL PERMIT ON SITE ANYTIME IN WHICH THE HYDRANT IS IN USE. PERMITS MAY BE OBTAINED BY ACCESSING HTTP://PORTAL.COLUMBUS.GOV/PERMITS/. COST TO BE INCLUDED IN THE VARIOUS BID ITEMS.

**6. MANHOLES TO BE REBUILT -** ALL SEWER MANHOLES BEING REBUILT TO ACCOMMODATE GRADE CHANGES WILL NEED TO BE BUILT BY A LICENSED SEWER CONTRACTOR, FOR THE CITY OF COLUMBUS, UNDER SEPARATE SEWER PERMIT. CONTACT THE SEWER PERMIT COUNTER AT (614) 645-7490 FOR ADDITIONAL INFORMATION.

**7. EASEMENTS -** CONSTRUCTION OF THIS PROJECT MAY NOT BEGIN UNTIL THE EASEMENTS SHOWN ON THESE PLANS HAVE BEEN RECORDED BY THE CITY OF COLUMBUS.

**8. PRIVATE DETENTION AREAS -** THE PONDING OR DETENTION AREAS AS SHOWN ON THIS PLAN ARE PART OF THE STORM SEWER FACILITIES. THE OWNER WILL ASSUME RESPONSIBILITY TO MAINTAIN PONDING OR DETENTION AREAS IN A WAY AS NOT TO REDUCE THE CAPACITY OF THE WATER STORAGE OR DETENTION AREAS. IF THE OWNER WILL NOT MAINTAIN THE PONDING OR DETENTION AREAS, THE PLAN BECOMES VOID AND THE CITY WILL PLUG THE SEWER AT THE OUTLET.

AS A CONDITION OF FINAL ACCEPTANCE, THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT SURVEYS TO VERIFY THE FINAL GRADES AND ELEVATIONS OF STORMWATER CONTROL FACILITIES. AT THE COMPLETION OF THE CONSTRUCTION, THE OWNER/DEVELOPER SHALL FIELD SURVEY THE STORMWATER DETENTION FACILITY TO VERIFY THAT THE FACILITIES ARE CONSTRUCTED ACCORDING TO APPROVED PLANS. SHOULD A DISCREPANCY BETWEEN THE PLANS AND CONSTRUCTED GRADES EXIST, THE DESIGN STORAGE OF THE DETENTION FACILITY SHALL BE RESTORED BY THE OWNER/DEVELOPER AS DIRECTED BY THE CITY OF COLUMBUS.

**9. TREE AND BRUSH REMOVAL -** THE CONTRACTOR SHALL INCLUDE FOR PAYMENT UNDER VARIOUS STORM SEWER ITEMS, COST FOR REMOVAL AND DISPOSAL OF ALL TREES, BRUSH, AND STUMPS WITHIN THE SCOPE OF PROPOSED STORM SEWERS.

**10. BENCHMARKS -** THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCH MARKS, PROPERTY CORNERS, REFERENCE POINTS, STAKES, AND OTHER SURVEY REFERENCE MONUMENTS OR MARKERS. IN CASES OF WILLFUL OR CARELESS DESTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATIONS. RESETTING OF MARKERS SHALL BE PERFORMED BY AN OHIO PROFESSIONAL SURVEYOR AS APPROVED BY THE CITY ENGINEER. THE CONTRACTOR SHALL CONTACT THE FRANKLIN COUNTY SURVEY DEPARTMENT (614) 642-3026, PRIOR TO CONSTRUCTION TO COORDINATE PROPER PROCEDURES FOR THE RESETTING, RELOCATION OR REPLACEMENT OF ANY FRANKLIN COUNTY CERTIFIED BENCHMARK OR SURVEY MONUMENT.

**11. ELEVATION DATUM -** ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON NAVD88.

**12. STANDBY INSPECTION -** STAND BY INSPECTION BY THE DIVISION OF DESIGN AND CONSTRUCTION IS MANDATORY DURING CONSTRUCTION. THE OWNER SHALL, PRIOR TO STARTING ANY CONSTRUCTION OPERATION, DEPOSIT WITH THE CITY THE TOTAL ESTIMATED COST FOR INSPECTION AND, WHERE REQUIRED, A RE-PAVING GUARANTEE.

THE CONTRACTOR SHALL REQUEST A PARTIALLY COMPLETED CONSTRUCTION INSPECTION DEPOSIT FORM (CID) FROM THE DESIGN ENGINEER; COMPLETE THE FORM AND SUBMIT TO THE CITY OF COLUMBUS AT 111 N. FRONT STREET, 1ST FLOOR, PRIOR TO BEGINNING WORK ON THE PROJECT.

THE DEVELOPER/OWNER SHALL, PRIOR TO ANY CONSTRUCTION OPERATION, DEPOSIT WITH THE CITY THE TOTAL ESTIMATED COSTS FOR INSPECTION AND WHERE REQUIRED A REPAVING GUARANTEE.

**13. GRADE CHECKS -** THE CONTRACTOR SHALL ENSURE THERE IS A SURVEYOR'S LEVEL AND ROD ON THE PROJECT FOR USE IN PERFORMING GRADE CHECKS WHENEVER SEWER LINE STRUCTURES OR PIPE ARE BEING INSTALLED. THE CONTRACTOR SHALL MAKE THIS EQUIPMENT AVAILABLE FOR USE AND ASSIST THE CITY INSPECTOR IN PERFORMING GRADE CHECKS WHEN REQUESTED BY THE INSPECTOR. THE INSPECTOR WILL MAKE ALL REASONABLE ATTEMPTS TO CONFINE REQUEST FOR ASSISTANCE IN PERFORMING GRADE CHECKS TO TIMES CONVENIENT TO THE CONTRACTOR.
THESE CHECKS WILL BE PERFORMED TO ENSURE THE FOLLOWING:
1. PROPER PLACEMENT OF EACH STRUCTURE.
2. PROPER INSTALLATION OF INITIAL RUNS OF PIPE FROM A STRUCTURE.
3. GRADE, AFTER AN OVERNIGHT OR LONGER SHUTDOWN.
4. GRADE, AT ANY OTHER TIME THE INSPECTOR HAS REASON TO QUESTION GRADE OF INSTALLATION.

GRADE CHECKS PERFORMED BY THE CITY INSPECTOR IN NO WAY RELIEVE THE CONTRACTOR OF THE ULTIMATE RESPONSIBILITY TO ENSURE CONSTRUCTION TO THE PLAN GRADE.

**14. SAFETY -** THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INITIATE, MAINTAIN, AND SUPERVISE SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK.

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR FOLLOWING THE OSHA REQUIREMENTS FOR "CONFINED SPACE ENTRY (CSE)", TITLE #29 OF THE CODE OF FEDERAL REGULATIONS, PART 1910.146, WHILE PERFORMING WORK INSIDE ANY MANHOLE OR OTHER CONFINED SPACE REQUIRING A PERMIT.

**15. NON-RUBBER TIRED VEHICLES -** NON-RUBBER TIRED VEHICLES SHALL NOT BE MOVED ON PUBLIC STREETS, EXISTING PRIVATE ROADWAYS, OR PARKING LOTS. EXCEPTIONS MAY BE GRANTED BY THE CITY WHERE SHORT DISTANCES AND SPECIAL CIRCUMSTANCES ARE INVOLVED. GRANTING OF EXCEPTIONS MUST BE IN WRITING AND ANY RESULTING DAMAGE MUST BE REPAIRED TO THE SATISFACTION OF THE CITY, AND AT THE CONTRACTOR'S EXPENSE.

**16. RIGHT-OF-WAY -** IN ADDITION TO DIRECT REQUIREMENTS OF THE CONTRACT SPECIFICATIONS, THE CONTRACTOR SHALL OBSERVE AND CONFORM TO THE SPECIFIC REQUIREMENTS OF ALL RIGHTS-OF-WAY INCLUDING EASEMENTS, COURT ENTRIES, RIGHTS-OF-ENTRY, OR ACTION FILED IN COURT IN ACCORDANCE WITH THE CODE OF THE APPLICABLE GOVERNING AGENCY. THE COST OF OPERATIONS NECESSARY TO FULFILL SUCH REQUIREMENTS SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS OF THE CONTRACT PER CMSC 105.05 UNLESS SPECIFIC PROVISION IS MADE IN THE CONTRACT SPECIFICATIONS FOR SUCH COST UNDER SPECIFIC ITEMS OF THE CONTRACT.

**17. OPEN EXCAVATIONS -** WITHIN ROADWAYS AND RIGHT-OF-WAY EXCAVATIONS AND TRENCHES OVER 24 INCHES DEEP SHALL BE SECURELY PLATED, OR BACKFILLED WITH CMSC ITEM 304 DURING NON-WORKING HOURS. OPERATIONS SHALL BE MAINTAINED AS SAFE AS POSSIBLE BY THE CONTRACTOR AT ALL TIMES AND BACKFILLED AT THE END OF EACH WORK DAY. OUTSIDE RIGHT-OF-WAY AND NOT WITHIN ROADWAYS, OPEN EXCAVATIONS OVER 24 INCHES AFTER WORK HOURS REQUIRE SECURE TRAFFIC PLATES AND/OR LIGHTED BARRICADES AND CONSTRUCTION FENCE.

**18. STORAGE OF EQUIPMENT AND MATERIALS -** EQUIPMENT, MATERIALS, INCLUDING PIPE, SHALL NOT AT ANY TIME (WORKING OR NON-WORKING HOURS) BE STORED WITHIN THE RIGHT-OF-WAY OR WITHIN ONE HUNDRED (100) FEET OF ANY INTERSECTING STREET OR DRIVEWAY, WITHOUT PRIOR WRITTEN APPROVAL FROM THE CITY OF COLUMBUS. COMPLIANCE WITH THIS REQUIREMENT ALONG WITH ADDITIONAL PROVISIONS OF THE CONTRACT SPECIFICATIONS SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS LEGAL RESPONSIBILITIES OR LIABILITIES FOR THE SAFETY OF THE PUBLIC.

**19. SIGNS, MAILBOXES, FENCES, ETC. -** THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL SIGNS, MAILBOXES, FENCES, GAURDRAIL, SHRUBS, DRAINAGE STRUCTURES, VALVE BOXES AND OTHER PHYSICAL FEATURES REMOVED OR DISTURBED OR DAMAGED DURING CONSTRUCTION WHETHER SHOWN ON THE PLANS OR NOT TO THEIR FORMER CONDITION AND LOCATION. COST TO BE INCLUDED IN THE BID PRICE FOR THE VARIOUS ITEMS OF THE CONTRACT PER CMSC 105.05

**20. MAIL SERVICE -** THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING MAIL SERVICE IN THE CONSTRUCTION AREA. PRIOR TO DISTURBING ANY MAIL BOXES, THE CONTRACTOR SHALL CONTACT THE POSTAL AUTHORITY AND SHALL TEMPORARILY RELOCATE MAIL BOXES IN ACCORDANCE WITH POSTAL REQUIREMENTS. THE CONTRACTOR SHALL RESTORE MAIL BOXES TO THEIR FORMER CONDITION AND LOCATION. COST TO BE INCLUDED IN THE BID PRICE FOR THE VARIOUS ITEMS OF THE CONTRACT PER CMSC 105.05.

**21. TRASH COLLECTION -** THE CONTRACTOR SHALL CONTACT THE CITY OF COLUMBUS, DIVISION OF REFUSE (614) 645-4729 OR PRIVATE REFUSE SERVICE FOR CURRENT COLLECTION DATE EACH WEEK PRIOR TO STARTING WORK AND BE RESPONSIBLE FOR MAINTAINING A 20-FOOT WIDE CLEAR AREA FOR TRASH PLACEMENT, COLLECTION AND REPLACEMENT IN THE CONSTRUCTION AREA ON THE DESIGNATED TRASH PICK-UP DAY.

**22. CONSTRUCTION DEBRIS -** THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE CLEANUP OF ANY DEBRIS, MUD, OR DIRT TRACKED OR SPILLED ON CITY AND/OR PUBLIC STREETS OR PRIVATE DRIVES WHETHER INSIDE OR OUTSIDE THE PROJECT AREA. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF ANY SERVICES CONTRACTED AND/OR COMPLETED BY THE CITY OF COLUMBUS IN THE CLEANUP OF ANY TRACKING OR SPILLAGE ANYTIME DURING PROJECT CONSTRUCTION.

**23. CONSTRUCTION LAYOUT -** ALL CONSTRUCTION LAYOUT SERVICES FOR THIS PROJECT SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

**24. SITE VISIT -** THE CONTRACTOR SHALL PERFORM FIELD RECONNAISSANCE TO BECOME ACQUAINTED WITH THE EXISTING SITE CONDITIONS AND THE POTENTIAL EFFECTS UPON THE WORK SCOPE. ANY PERFORMANCE OF ADDITIONAL SITE SUBSURFACE INVESTIGATIONS (TEST HOLES) SHALL BE COORDINATED IN ADVANCE WITH THE OWNER. EXCAVATED MATERIAL SHALL BE REPLACED IN A CONTROLLED MANNER TO MINIMIZE IMPACT ON FIELD EARTHWORK OPERATIONS.

**25. CONVENIENCE FACILITIES -** THE CONTRACTOR SHALL FURNISH AND MAINTAIN SANITARY CONVENIENCE FACILITIES FOR THE WORKMEN AND INSPECTORS FOR THE DURATION OF THE WORK. COST TO BE INCLUDED IN THE BID PRICE FOR THE VARIOUS ITEMS OF THE CONTRACT

**26. UTILITIES -** THE IDENTITY AND LOCATION OF THE EXISTING UNDERGROUND UTILITY FACILITIES KNOWN TO BE LOCATED IN THE CONSTRUCTION AREA HAVE BEEN SHOWN ON THE PLANS AS ACCURATELY AS PROVIDED BY OWNER OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC. THE UTILITY LOCATIONS INDICATED ARE NOT NECESSARILY COMPLETE OR CORRECT. THE CITY OF COLUMBUS AND/OR DESIGN ENGINEER ASSUMES NO RESPONSIBILITY AS TO THE ACCURACY OF THE LOCATION OR DEPTHS OF THE UNDERGROUND FACILITIES SHOWN ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR IS ALSO RESPONSIBLE FOR COORDINATION OF ANY NECESSARY UTILITY RELOCATION WITH THE UTILITY OWNER. THE UTILITY COMPANY SHALL RELOCATE PRIVATE UTILITIES IN THE RIGHT-OF-WAY AT THEIR EXPENSE. PUBLIC UTILITIES (WATERLINES, SEWERS, ETC.) SHALL BE RELOCATED AS SHOWN ON THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EXPOSE ALL UTILITIES OR STRUCTURES PRIOR TO CONSTRUCTION TO VERIFY THE VERTICAL AND HORIZONTAL EFFECT ON THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL CALL TOLL FREE THE OHIO UTILITIES PROTECTION SERVICE (1-800-362-2764) 48 HOURS PRIOR TO CONSTRUCTION AND SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO WORK IN THE VICINITY OF THEIR UNDERGROUND LINES. THE COST OF UTILITY RELATED WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CMSC ITEM 901, UNLESS OTHERWISE SPECIFIED.

MECHANICAL DIGGING EQUIPMENT SHALL NOT BE USED TO EXPOSE ANY UNDERGROUND UTILITIES, ONLY HAND TOOLS MAY BE USED TO UNCOVER THE UTILITY AND THE UTILITY COMPANY SHALL BE NOTIFIED AND HAVE A REPRESENTATIVE PRESENT WHEN THE UTILITY IS EXPOSED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE RELOCATION AND/OR PROTECTION OF ANY UTILITIES AS REQUIRED BY THE PLAN WITH THE OWNER OF THE AFFECTED UTILITY. PRIVATE UTILITY MANHOLES WITHIN THE LIMITS OF THE WORK SHALL BE ADJUSTED TO GRADE BY THE RESPECTIVE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.

WHERE POTENTIAL GRADE CONFLICTS MIGHT OCCUR WITH EXISTING UTILITIES AND AT LOCATIONS NOTED ON THE PLANS, THE CONTRACTOR WILL BE REQUIRED TO UNCOVER SUCH UTILITIES SUFFICIENTLY IN ADVANCE OF LAYING PIPE OR DUCT AND PROVIDE THE ENGINEER THE LOCATION AND ELEVATION OF SAID UTILITY SO THE ENGINEER CAN DETERMINE IF ANY ADJUSTMENTS ARE NECESSARY.

IN ALL CONFLICTS IN GRADE BETWEEN 18" AND SMALLER WATER MAINS AND GRAVITY SEWERS, THE WATER MAIN SHALL BE LOWERED DURING CONSTRUCTION. ALL EXISTING WATER MAINS SHALL BE LOCATED AT LEAST 10' HORIZONTALLY AND AT LEAST 18" VERTICALLY FROM STORM SEWERS, UNLESS OTHERWISE APPROVED BY THE CITY.

THE CONTRACTOR SHALL LOCATE EXISTING UNDERGROUND UTILITIES IN THE AREAS OF WORK. IF UTILITIES ARE TO REMAIN IN PLACE, PROVIDE ADEQUATE MEANS OF PROTECTING DURING EXCAVATION OPERATIONS.

SHOULD UNCHARTED OR INCORRECTLY CHARTED PIPING OR OTHER UTILITIES BE ENCOUNTERED DURING EXCAVATION, CONSULT THE ENGINEER IMMEDIATELY FOR DIRECTIONS. COOPERATE WITH THE OWNER AND PUBLIC UTILITY COMPANIES IN KEEPING THEIR RESPECTIVE SERVICES AND FACILITIES IN OPERATION. REPAIR DAMAGED UTILITIES TO THE SATISFACTION OF THE UTILITY OWNER.

DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED AND OWNED BY THE OWNER EXCEPT WHEN PERMITTED IN WRITING BY THE OWNER AND THEN ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICES HAVE BEEN PROVIDED.

THE FOLLOWING UTILITIES MAY BE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT AND SUBSCRIBE TO THE OHIO UTILITIES PROTECTION SERVICE (OUPS).

| UTILITY | ADDRESS | TELEPHONE |
|---|---|---|
| AMERICAN ELECTRIC POWER SOLUTION CENTER | 850 TECH CENTER DR. GAHANNA, OH 43230 | (800) 277-2177 |
| AT&T (FKA SBC) | 920 W GOODALE BLVD. COLUMBUS, OH 43212 24-HR CONTACT | (800) 460-2223 |
| VERIZON BUSINESS (MCI) | 120 RAVINE ST. AKRON, OH 44303 | (330)-329-5495 |
| COLUMBUS FIBERNET | 1366 DUBLIN RD. COLUMBUS, OH 43215 | (614) 274-8100 |
| WATER FACILITIES | CITY OF COLUMBUS DIVISION OF WATER 910 DUBLIN ROAD COLUMBUS, OH 43215 | (614) 645-7788 |
| SEWER FACILITIES | CITY OF COLUMBUS DIVISION OF SEWERAGE AND DRAINAGE 1250 FAIRWOOD AVE. COLUMBUS, OH 43206 | (614) 645-7102 |
| ELECTRIC FACILITIES | CITY OF COLUMBUS DIVISION OF POWER 3500 INDIANOLA AVE. COLUMBUS, OH 43214 | (614) 645-7627 |
| CITY OF COLUMBUS DEPT OF PUBLIC SERVICE TRAFFIC MANAGEMENT | 1820 EAST 17TH AVENUE COLUMBUS, OH 43219 | (614) 645-7393 |
| CITY OF COLUMBUS SUPPORT SERVICES DIVISION COMMUNICATIONS | 4211 GROVES ROAD COLUMBUS, OH 43232 | (614) 724-7047 RADIO ROOM: (614) 724-4006 |
| CITY OF COLUMBUS DEPT OF TECHNOLOGY | 1355 MCKINLEY AVE, BLDG C COLUMBUS, OH 43222 | (614) 645-7756 |

**27. COLUMBIA GAS DAMAGE PREVENTION CENTER -** FOR INFORMATION CONCERNING COLUMBIA GAS LINES OR EQUIPMENT, OR IF DAMAGE OCCURS TO GAS LINES OR EQUIPMENT, THE CONTRACTOR CAN CALL THE COLUMBIA GAS DAMAGE PREVENTION CENTER AT (614) 280-7372 OR TOLL FREE AT (866) 632-6243.

**28. GRADE CHANGES -** IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING SEWER, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN SEWER SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED SEWER WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED SEWER WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING ANY PORTION OF THE PROPOSED SEWER WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

GRADE AND ELEVATIONS SHOWN ON THE PLANS SHALL NOT BE REVISED UNDER ANY CIRCUMSTANCES WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE ENGINEER. INVERT ELEVATIONS SHALL NOT DEVIATE FROM PLAN ELEVATION BY MORE THAN 0.05 FOOT. FAILING TO MEET THE ABOVE REQUIREMENTS IS CAUSE FOR REJECTION OF THE AFFECTED SECTION OF SEWER.

THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE TESTING AGENCY, AND ALLOW THE TESTING AGENCY ACCESS TO THE WORK. THE OWNER SHALL RECEIVE A COPY OF ALL TEST REPORTS THE DAY THE TESTS ARE PERFORMED.

**29. "WATER, SANITARY, STORM AND PRIVATE UTILITY SERVICE LINES" -** THE EXISTING WATER, SANITARY, STORM AND PRIVATE UTILITY SERVICE LINES THAT ARE SHOWN ON THE PLANS HAVE BEEN LOCATED AS ACCURATELY AS POSSIBLE USING AVAILABLE INFORMATION FIELD MARKED, TAP CARD RECORDS, PLAN LOCATION, USE OF VALVE BOXES, ETC.)

ANY DAMAGE TO AN EXISTING SANITARY OR WATER SERVICE LINE NOT IN PHYSICAL CONFLICT WITH THE NEW STORM SEWER AND ITS APPURTENANCES AND FOUND TO BE BEYOND 5 FEET OF ITS LOCATION SHOWN ON THE PLANS SHALL BE REPAIRED AND PAID FOR UNDER THE APPLICABLE ITEM "ITEM SPECIAL - SANITARY RELOCATED/REPAIR". ANY DAMAGE TO TO AN EXISTING SANITARY OR WATER SERVICE LINE NOT IN PHYSICAL CONFLICT WITH THE NEW STORM SEWER AND ITS APPURTENANCES AND IS WITHIN 5 FEET OF ITS LOCATION SHOWN ON THE PLANS SHALL BE RESTORED BY THE CONTRACTOR AT THEIR OWN EXPENSE.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL OTHER UTILITY LINES AND INCLUDE THE COST OF CROSSING THESE LINES UNDER THE VARIOUS PAY ITEMS OF THIS CONTRACT. REQUESTS FOR EXTRA COMPENSATION FOR THE DELAY OR LOSS OF PRODUCTIVITY CAUSED BY THESE CROSSINGS WILL BE DENIED. THE CONTRACTOR SHALL RESTORE ANY DAMAGE TO THE SERVICE LINE AT THEIR OWN EXPENSE.

**30. INTERRUPTION OF WATER SERVICE -** CONTRACTOR SHALL GIVE WRITTEN NOTICE TO ALL AFFECTED PROPERTY OWNERS AT LEAST 24 HOURS, BUT NOT MORE THAN 72 HOURS PRIOR TO ANY TEMPORARY INTERRUPTION OF WATER SERVICE. INTERRUPTION OF WATER SERVICE SHALL BE HELD TO A MINIMUM AND SHALL BE APPROVED BY THE CITY.

**31. SERVICE BOX ADJUSTMENT -** THE CONTRACTOR SHALL ADJUST EXISTING UTILITY VALVE BOXES AND SERVICE BOXES TO GRADE WITHIN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL REPLACE ANY DAMAGED CURB BOX ENCOUNTERED WHILE RELOCATING WATER SERVICE TAPS AS DIRECTED BY THE ENGINEER. ANY DAMAGE TO CURB, UTILITY AND SERVICE BOXES CAUSED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR AT THEIR WON EXPENSE AS REQUIRED BY CMSC 105.08.

**32. GAS SERVICE VALVES ADJUSTED TO GRADE -** THE CONTRACTOR SHALL CONTACT COLUMBIA GAS (614) 460-2244 TO COORDINATE THE ADJUSTMENT OF GAS MAIN LINE OR SERVICE VALVES.

**33. UTILITY POLE SUPPORT -** UTILITY POLES WITHIN INFLUENCE OF THE CONSTRUCTION OPERATIONS SHALL BE REINFORCED BY THE UTILITY COMPANY PRIOR TO THESE CONSTRUCTION ACTIVITIES. NOTIFICATION OF THE UTILITY COMPANY PRIOR TO CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COST TO BE INCLUDED IN THE BID PRICE FOR THE VARIOUS ITEMS OF THE CONTRACT.

**34. ABANDONMENT OF UNDERGROUND STRUCTURES -** PROVISIONS FOR ABANDONMENT OF ANY UNDERGROUND STRUCTURE (SEPTIC TANK, CISTERN, ETC.) SHALL BE CONSIDERED AS WARRANTED. THE WORK SHALL CONFORM WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REQUIREMENTS AND SHALL INCLUDE PLUGGING/SEALING OF ANY OUTLET PIPES, PUMPING OUT AND DISPOSING OF CONTENTS, ALONG WITH THE PLACEMENT OF SUITABLE BACKFILL TO FILL THE STRUCTURE. (AT 100% STANDARD PROCTOR DENSITY UNLESS OTHERWISE SPECIFIED BY THE SITE SOIL ENGINEER)

**35. TRENCHING -** ALL TRENCHES THAT CROSS PAVEMENT OR WHERE THE FRONT FACE OF TRENCHES PARALLELING THE PAVEMENT IS WITHIN 24" OF THE FACE OF CURB OR EDGE OF PAVEMENT SHALL BE BACKFILLED WITH COMPACTED GRANULAR MATERIAL AS PER ITEM 912. THE MATERIAL SHALL EXTEND LATERALLY 36" BEYOND FACE OF CURB OR EDGE OF PAVEMENT. OTHER AREAS OUTSIDE ABOVE REQUIREMENT SHALL BE COMPACTED AS PER ITEM 911.

ANY SETTLEMENT WHICH OCCURS DURING THE GUARANTEE PERIOD SHALL BE REPAIRED AT NO COST TO THE OWNER.

ANY EXCAVATION PERFORMED BEYOND THE MINIMUM TRENCH WIDTH, AS DEFINED ON DIVISION OF SEWERAGE AND DRAINAGE CONSTRUCTION DRAWINGS AA-S149, AA-S151 AND AA-S152 DUE TO SITE CONDITIONS OR THE CONTRACTOR'S METHODS ARE DONE SO SOLELY AT THE CONTRACTOR'S EXPENSE. NO EXTRA PAYMENT WILL BE MADE FOR UNAUTHORIZED EXCAVATION. BLASTING IS NOT PERMITTED

IF UNSUITABLE SUBGRADE MATERIAL IS FOUND, REPLACE UNSUITABLE MATERIAL WITH STONE FOUNDATION AS SPECIFIED IN CMSC ITEM 906 SHALL BE REQUIRED IF DEWATERING OF THE SUBGRADE DOES NOT PRODUCE A SUBGRADE ACCEPTABLE TO THE ENGINEER.

**36. TRENCH BACKFILL -** TRENCH BACKFILL SHALL BE PER CMSC ITEM 901.17. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR TRENCHES REQUIRING CMSC 911, COMPACTED BACKFILL. THE COST FOR BACKFILLING TRENCHES WITH CMSC ITEM 912, COMPACTED GRANULAR MATERIAL SHALL BE PAID FOR UNDER THE APPLICABLE "ITEM 901 __.INCH PIPE, WITH TYPE ___ BEDDING, INCLUDING ITEM 912 BACKFILL", NO SEPARATE PAYMENT SHALL BE MADE FOR ITEM 912, COMPACTED GRANULAR MATERIAL.

AT ALL POINTS OF CROSSING WATER MAINS OR OTHER STORM SEWERS, THE BACKFILL SHALL BE GRANULAR MATERIAL BETWEEN THE DEEPER AND SHALLOWER PIPES.

ALL TRENCHES WITHIN THE ROAD RIGHT-OF-WAY SHALL BE BACKFILLED OR SECURELY PLATED DURING NON-WORKING HOURS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONDITION OF THE TRENCHES FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL INSPECTION. THE COST OF THIS WORK SHALL BE INCLUDED IN THE BID PRICE OF THE VARIOUS ITEMS WITHIN THE CONTRACT.

**37. DEWATERING -** IN THE EVENT THAT DEWATERING IS NECESSARY, THE CONTRACTOR IS REQUIRED TO PREPARE A DEWATERING PLAN THAT WILL DESCRIBE HOW THE DEWATERING OPERATION WILL BE COMPLETED AND HOW THE PUMP EFFLUENT WILL BE MANAGED. THIS PLAN WILL BE PRESENTED TO THE CITY FOR REVIEW PRIOR TO ANY DEWATERING OPERATIONS.

INSTALLATION OF ANY WELL, WELL POINT PIT OR OTHER WITHDRAWAL DEVICE USED FOR THE PURPOSE OF REMOVING GROUNDWATER FROM ANY AQUIFER SHALL BE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR).

INSTALLATION OF ANY WELL, WELL POINT PIT OF OTHER DEVICE USED FOR THE PURPOSE OF LOWERING THE GROUNDWATER LEVEL TO FACILITATE CONSTRUCTION OF THIS PROJECT SHALL BE PROPERLY ABANDONED IN THE PROVISIONS OF SECTION 3745-9-10 OF THE OHIO ADMINISTRATIVE CODE OR AS DIRECTED BY THE OHIO DEPARTMENT OF NATURAL RESOURCES DIRECTOR OR THEIR REPRESENTATIVES. THE CONTRACTOR IS SOLELY RESPONSIBLE TO THE ODNR FOR REGISTRY, MAINTENANCE AND ABANDONMENT OF ANY WITHDRAWAL DEVICES USED FOR IN THE CONSTRUCTION OF THIS PROJECT.

THE CONTRACTOR SHALL BE REQUIRED TO COMPLETE AND FILE A WELL LOG AND A DRILLING REPORT FORM WITH ODNR, DIVISION OF WATER WITHIN 30 DAYS OF THE COMPLETION OF INSTALLATION OF ANY WELL, WELL POINT, PIT OR OTHER DEVICE USED FOR THE PURPOSE OF REMOVING GROUNDWATER FROM AN AQUIFER. THIS IN ACCORDANCE WITH SECTION 1521.01 AND 1521.05 OF THE OHIO REVISED CODE. IN ADDITION, ANY SUCH FACILITY THAT HAS A CAPACITY TO WITHDRAWAL WATERS OF THE STATE IN AN AMOUNT GREATER THAN 100,000 GALLONS PER DAY FROM ALL SOURCES SHALL BE REGISTERED BY THE CONTRACTOR WITH THE CHIEF OF THE ODNR, DIVISION OF WATER, WITHIN THREE MONTHS OF THE COMPLETION OF THE FACILITY IN ACCORDANCE WITH SECTION 1521.16 OF THE OHIO REVISED CODE. COPIES OF THE NECESSARY PAPERWORK CAN BE OBTAINED A

**39. EXISTING DRAINAGE SYSTEMS -** EXISTING DRAINAGE SYSTEMS (FIELD TILES, ROOF DRAIN OUTLETS, SUMP PUMPS, ETC.) ENCOUNTERED DURING CONSTRUCTION OF THE NEW STORM SEWER OR REMOVAL OF EXISTING STORM SEWERS SHALL BE EXTENDED AS NECESSARY AND BLIND TAPPED TO THE NEW STORM SEWER PER DIVISION OF SEWERAGE AND DRAINAGE STANDARD DRAWINGS AA-S159 OR CONNECTED TO THE CATCH BASIN AS DIRECTED BY THE ENGINEER. ALL COSTS ASSOCIATED WITH THE WORK SHALL BE INCLUDED IN THE VARIOUS ITEMS OF THE CONTRACT.

IF THE CONTRACTOR ENCOUNTERS A PIPE OR CONNECTION TO THE STORM SEWER THAT IN THE ESTIMATE OF THE ENGINEER MAY BE AN ILLICIT CONNECTION FROM AN ON-SITE SEWAGE DISPOSAL SYSTEM, COLUMBUS PUBLIC HEALTH SHALL BE CONTACTED AT (614) 645-6448 TO DETERMINE WHETHER THE PIPE MAY BE RECONNECTED TO THE CITY'S STORM SEWER SYSTEM.

**40. CLEAN WATER CONNECTIONS TO SANITARY SEWERS -** ROOF DRAINS, DOWN SPOUTS, FOUNDATION DRAINS, DRAIN TILES AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.

**41. MAINTAIN DRAINAGE -** THE FLOW IN ALL SEWERS, DRAINS, FIELD TILES AND WATERCOURSES ENCOUNTERED SHALL BE MAINTAINED BY THE CONTRACTOR AT THEIR OWN EXPENSE AND WHENEVER SUCH WATERCOURSES AND DRAINS ARE DISTURBED OR DESTROYED DURING THE CONSTRUCTION ACTIVITIES, THEY SHALL BE RESTORED BY THE CONTRACTOR AT THEIR OWN EXPENSE TO THEIR ORIGINAL CONDITION.

ALL DRAIN TILES AND SEWERS DAMAGED, DISTURBED OR REMOVED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH THE SAME QUALITY PIPE OR BETTER, MAINTAINING THE SAME GRADIENT AS EXISTING.

ANY DRAIN TILE AND/OR STORM SEWER ENCOUNTERED BY CONSTRUCTION, NOT SHOWN ON THE PLANS SHALL BE CONNECTED WITH THE CURB UNDERDRAIN, STORM SEWER SYSTEM OR PROVIDED WITH AN OUTLET INTO THE ROADWAY DITCH AS APPROPRIATE REPLACED DRAIN TILE/STORM SEWER SHALL BE LAID ON COMPACTED BEDDING EQUAL IN DENSITY TO THE SURROUNDING STRATUM. REPLACEMENT SHALL BE DONE AT THE TIME OF THE BACKFILL OPERATION. COST SHALL BE INCLUDED IN THE BID PRICE OF VARIOUS ITEMS WITHIN THE CONTRACT.

**42. STORM SEWER AND STRUCTURES -** PIPE SPECIFICATIONS FOR THE PLAN IMPROVEMENTS MAY BE IN ACCORDANCE WITH THE FOLLOWING (EXCEPT AS DESIGNATED WITHIN THE PROFILES) OR AS LISTED ON THE CITY OF COLUMBUS APPROVED SEWER PIPE CONSIGNMENT LIST, LATEST EDITION.

A. REINFORCED CONCRETE PIPE - ASTM C-76 (CMSC ITEM 706.02). CONCRETE CLASSIFICATION SHALL BE IN CONFORMANCE WITH THE FOLLOWING UNLESS OTHERWISE REFERENCED BY THE PROFILES:

12-INCH TO 15-INCH DIAMETER PIPE - CLASS IV
18-INCH TO 24-INCH DIAMETER PIPE - CLASS III
30-INCH TO 48-INCH DIAMETER PIPE - CLASS II
60-INCH TO 72-INCH DIAMETER PIPE - CLASS II

B. PVC SEWER PIPE (CMSC ITEM 720.08) ASTM D3034 WITH JOINTS AS PER ASTM D3212. PVC SEWER PIPE SHALL BE LIMITED TO SEWERS 15-INCHES IN DIAMETER AND UNDER.

C. SMOOTH-LINED CORRUGATED POLYETHYLENE PIPE (CMSC ITEM 720.12). PLACEMENT SHALL BE LIMITED TO SEWERS 60-INCHES IN DIAMETER AND UNDER.

**43. CERTIFICATION OF PIPE AND STRUCTURES -** ALL CONCRETE PIPE, STORM AND SANITARY STRUCTURES SHALL BE STAMPED OR HAVE SUCH IDENTIFICATION NOTING THAT SAID PIPE, STORM AND SANITARY STRUCTURES HAVE BEEN INSPECTED BY THE DESIGNATED REPRESENTATIVE OF THE CITY OF COLUMBUS AND MEETS THEIR STANDARDS. PIPE AND STRUCTURES WITHOUT PROPER IDENTIFICATION WILL NOT BE PERMITTED FOR INSTALLATION.

**44. CHANNELIZE STRUCTURES -** ALL STORM AND SANITARY STRUCTURES SHALL BE CHANNELIZED PER AA-S117.

**45. UNDERDRAIN OPENINGS -** OPENINGS SHALL BE PROVIDED IN THE DRAINAGE STRUCTURES TO ACCOMMODATE UNDERDRAIN OUTLETS AS DETAILED IN THE PROJECT SPECIFICATIONS.

**46. STRUCTURE STEPS -** CATCH BASIN, CURB INLET AND MANHOLE STEPS SHALL BE REINFORCED POLYPROPYLENE PLASTIC PER AA-S119. PAYMENT FOR MANHOLE STEPS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPLICABLE CMSC ITEM 604.

**47. STORM STRUCTURE ADJUSTMENT -** THE CONTRACTOR SHALL FIELD VERIFY THE TOP OF CASTING ELEVATION OF ALL NEW STORM WATER STRUCTURES. IF PRECAST STRUCTURES ARE UTILIZED, THE TOP 6 INCHES MINIMUM SHALL BE FIELD PLACED WITH GRADE RINGS TO ALLOW FOR FIELD ADJUSTMENT. COST FOR THE WORK SHALL BE INCLUDED N THE UNIT PRICE BID FOR THE APPLICABLE CMSC ITEM 604.

IF THE ENGINEER DETERMINED THAT AN INLET IS TOO LOW/HIGH AFTER IT HAS BEEN PLACED AND ROUGH GRADING PERFORMED, THE CONTRACTOR SHALL ADJUST THE INLET AS DIRECTED BY THE ENGINEER AND REGRADE THE AREAS ACCORDINGLY. FOR ADJUSTMENTS OF +/- 6-INCHES, THE COST TO ADJUST THE INLET SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPLICABLE CMSC ITEM 604. FOR ADJUSTMENTS GREATER THAN +/- 6-INCHES, THE COST TO ADJUST THE INLET SHALL BE PAID FOR IN A UNIT PRICE FOR CMSC ITEM SPECIAL - INLET ADJUSTED, AS DIRECTED BY ENGINEER, AND SHALL CONSTITUTE FULL PAYMENT FOR ADJUSTING THE INLET INCLUDING GRADE RINGS, CONCRETE SAWING, MOTOR, EXCAVATION, BACKFILL, REGRADING, ETC.

**48. MANHOLE FRAMES AND COVERS -** THE TOP OF NEW OR MODIFIED MANHOLE CASTING SHALL BE SET FLUSH WITH THE EXISTING GRADE SURFACE. THE CONTRACTOR SHALL FIELD VERIFY THE TOP OF CASTING ELEVATION PRIOR TO ORDERING MATERIALS.

**49. INLET AND MANHOLE GRATES -** PROVIDE HEAVY DUTY FRAMES AND GRATES ON ALL STRUCTURES UNLESS OTHERWISE NOTED N THE PROFILES.

**50. SEWER BEDDING -** ALL BEDDING SHALL BE IN ACCORDANCE WITH AA-S151 FOR RIGID SEWER PIPE AND AA-S149 FOR FLEXIBLE SEWER PIPE.

**51. UNDERDRAINS -** EXTEND UNDERDRAINS TO THE NEAREST STORM STRUCTURE. SLOPE TO DRAIN. PROVIDE THE UNDERDRAIN IN ACCORDANCE WITH THE DETAILS WITHIN THESE PLANS.

**52. DEFLECTION TESTING -** ALL PLASTIC SEWERS SHALL BE DEFLECTION TESTED AFTER INSTALLATION IN CONFORMANCE WITH THE REQUIREMENTS OF ITEM 901 OF THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT VERSION.

**53. END TREATMENT -** IMMEDIATELY AFTER PLACEMENT OF ANY CONDUITS, THE CONTRACTOR SHALL CONSTRUCT THE END TREATMENTS REQUIRED BY THE PLANS AT BOTH THE OUTLET AND INLET ENDS. THIS SHALL INCLUDE HEADWALLS, POURING CONCRETE BOTTOMS, RIPRAP, ROCK CHANNEL PROTECTION, SODDING, MUDDING LIFT HOLES, ETC.

**54. DIVISION OF POWER NOTE -** THE DIVISION OF POWER (DOP) MAY HAVE OVERHEAD AND UNDERGROUND PRIMARY, SECONDARY, AND STREET LIGHTING AT THIS WORK LOCATION. THE CONTRACTOR IS HEREBY REQUIRED TO CONTACT DOP'S AT 811 OR 1-800-362-2764 FORTY-EIGHT HOURS PRIOR TO CONDUCTING ANY ACTIVITY WITHIN THE CONSTRUCTION AREA. ANY REQUIRED RELOCATION, SUPPORT, PROTECTION, OR ANY OTHER ACTIVITY CONCERNED WITH THE CITY'S ELECTRICAL FACILITIES IN THE CONSTRUCTION AREA IS TO BE PERFORMED BY THE CONTRACTOR UNDER THE DIRECTION OF DOP PERSONNEL AND AT THE EXPENSE OF THE PROJECT. DOP SHALL MAKE ALL FINAL CONNECTIONS TO DOP'S EXISTING ELECTRICAL SYSTEM AT THE EXPENSE OF THE PROJECT. THE CONTRACTOR SHALL USE MATERIAL AND MAKE REPAIRS TO A CITY OF COLUMBUS STREET LIGHTING SYSTEM BY FOLLOWING DOP'S "MATERIAL AND INSTALLATION SPECIFICATIONS" (MIS) AND THE CITY OF COLUMBUS "CONSTRUCTION AND MATERIAL SPECIFICATIONS" (CMS). ANY NEW OR RE-INSTALLED UNDERGROUND STREETLIGHT SYSTEM SHALL REQUIRE TESTING AS REFERRED TO IN SECTION 1000.18 OF THE CMS MANUAL. THE CONTRACTOR SHALL CONFORM TO DOP'S EXISTING STREET LIGHT LOCKOUT/TAGOUT PROCEDURE, MIS-1 , COPIES OF WHICH ARE AVAILABLE FROM DOP. IF ANY ELECTRIC FACILITY BELONGING TO DOP IS DAMAGED IN ANY MANNER BY THE CONTRACTOR, ITS AGENTS, SERVANTS, OR EMPLOYEES, AND REQUIRES EMERGENCY REPAIRS, THE DOP DISPATCH OFFICE SHOULD BE CONTACTED IMMEDIATELY AT (614) 645-7627. DOP SHALL MAKE ALL NECESSARY REPAIRS, AND THE EXPENSE OF SUCH REPAIRS AND OTHER RELATED COSTS SHALL BE PAID BY THE CONTRACTOR TO THE DIVISION OF POWER, CITY OF COLUMBUS, OHIO.

**55. PERMANENT PAVEMENT REPLACEMENT -** PAVEMENT REPLACEMENT SHALL BE PER STANDARD DRAWINGS 1441, UNLESS OTHERWISE NOTED. PAYMENT SHALL BE BASED ON THE MINIMUM TRENCH WIDTH AS SHOWN ON STANDARD CONSTRUCTION DRAWINGS AA-S149, AA-S151 AND AA-S153. ANY EXCAVATION PERFORMED OR PAVEMENT REMOVED BEYOND THE MINIMUM TRENCH WIDTH, AND THE SUBSEQUENT PAVEMENT REPLACEMENT DUE TO SITE CONDITIONS OR THE CONTRACTOR'S METHODS ARE DONE SOLELY AT THE CONTRACTOR'S EXPENSE, NO ADDITIONAL PAYMENT SHALL BE MADE FOR PERMANENT PAVEMENT REPLACEMENT.

**56. PUBLIC TREE PRESERVATION NOTE -** ALL PUBLIC TREES AND THE GROUND BELOW THEIR RESPECTIVE DRIP LINES, WHETHER SHOWN OR NOT SHOWN ON THE PLANS, ARE TO BE PRESERVED UNLESS APPROVAL TO REMOVE OR PRUNE IS GIVEN IN WRITING BY COLUMBUS RECREATION & PARKS (CRPD)/CITY FORESTER OR IF THE PUBLIC TREE REMOVAL HAS BEEN DESIGNATED ON THE APPROVED FINAL SITE COMPLIANCE PLAN. TREES APPROVED FOR REMOVAL BY EITHER OF THE CRPD/CITY FORESTER SHALL BE PAID FOR UNDER CMSC ITEM 201, CLEARING AND GRUBBING, UNLESS OTHERWISE PROVIDED FOR BY UNIT PRICE BID UNDER ITEM 201. THE CONTRACTOR SHALL PROTECT TREES NEAR OR ADJACENT TO THE WORK AREA TO AVOID DAMAGE TO ALL TREES THAT ARE TO REMAIN. ALL TREE REMOVAL SHALL INCLUDE STUMP REMOVAL TO EIGHTEEN (18) INCHES BELOW GRADE. ALL CLEARING AND GRUBBING DONE ON CRPD PROPERTY, RIGHT-OF-WAY, OR ANY CITY OF COLUMBUS PROPERTY SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. HEAVY EQUIPMENT WILL NOT BE ALLOWED TO COMPACT THE SOIL OVER THE ROOT ZONE OF EXISTING PUBLIC TREES. RESTRICTED EQUIPMENT ACCESS ROUTES SHALL BE COORDINATED WITH CRPD INSPECTOR, KEITH MAY, AT (614) 645-3014 OR KAMAY@COLUMBUS.GOV BEFORE WORK IS BEGUN. TEMPORARY PAVING MATERIALS, SUCH AS PLYWOOD, LUMBER OR RUBBER MATTING, SPREAD OVER THE ROOT ZONE OF PUBLIC TREES MAY BE REQUIRED TO PREVENT COMPACTION. IF A PUBLIC TREE NEEDS TO BE REMOVED, THE CONTRACTOR SHALL PROVIDE A TREE MITIGATION PLAN TO JIM LONG AT (614) 645-2864 OR JALONG@COLUMBUS.GOV AND EMAIL AND REFER TO THE CRPD TREE MITIGATION PLAN GUIDANCE, ANSI A300 AND/OR CITY OF COLUMBUS EXECUTIVE ORDER 2015-01 FOR TREE REPLACEMENT STANDARDS.

**57. PUBLIC TREE PROTECTION NOTE -** A TREE PROTECTION PLAN WITH A DRAWING OF ANY WORK LOCATED WITHIN THE DRIP LINE OF A PUBLIC TREE SHALL BE INCLUDED IN THE APPROVED FINAL SITE COMPLIANCE PLAN (FSCP). REFER TO CRPD STANDARD DRAWING FOR TREE PROTECTION. CONSTRUCTION MATERIALS, EXCAVATION DEBRIS, FUEL, EQUIPMENT OR VEHICLES ARE NOT TO BE STOCKPILED, STORED, DUMPED OR PARKED WITHIN THE DRIP LINE OF PUBLIC TREES. ALL TREES MUST BE PROTECTED AGAINST INJURY OR DAMAGE TO BRANCHES, TRUNKS, OR ROOTS FROM CONSTRUCTION AND EXCAVATION, AS DESCRIBED IN THE "BEST MANAGEMENT PRACTICES - MANAGING TREES DURING CONSTRUCTION" A COMPANION PUBLICATION TO ANSI A300 PART 5. IF THERE IS A QUESTION WHETHER A TREE OR NOT NEEDS TO BE PROTECTED, THE CONTRACTOR MUST CONTACT THE CITY FORESTRY REPRESENTATIVE JIM LONG AT (614) 645-2864 OR JALONG@COLUMBUS.GOV . FAILURE TO CONTACT THE CITY FORESTRY REPRESENTATIVE IN ADVANCE OF CONSTRUCTION WILL RESULT IN THE CONTRACTOR REIMBURSING CITY FORESTRY FOR THE COST OF ANY AND ALL DAMAGE AS DETERMINED BY THE CURRENT ANSI A300/CITY OF COLUMBUS EXECUTIVE ORDER 2015-01 FOR TREE PROTECTION AND REPLACEMENT.

**58. TOPSOIL -** THE REQUIREMENTS OF CMSC ITEM 653 SHALL GOVERN THE CONSTRUCTION OF THIS WORK. SIX INCHES OF TOPSOIL SHALL BE PLACED OVER ALL DISTURBED AREAS THAT ARE TO BE SEEDED AND MULCHED. FINAL GRADES SHALL CONFORM TO THOSE SHOWN ON THE PLANS. TOPSOIL FOUND SUITABLE BY THE PROJECT ENGINEER DURING CLEARING AND GRUBBING SHALL BE SEGREGATED FROM THE OTHER EXCAVATED MATERIAL AND STOCKPILES FOR REUSE. PAYMENT FOR SEGREGATING, STOCKPILING AND REUSE OF STOCKPILED TOPSOIL SHALL BE INCLUDED IN THE AMOUNT BID FOR CMSC ITEM 901. IF STOCKPILED TOPSOIL IS INSUFFICIENT, THE ENGINEER MAY DIRECT THE CONTRACTOR TO IMPORT ADDITIONAL TOPSOIL. IMPORTED TOPSOIL SHALL BE PAID FOR UNDER THE UNIT PRICE BID FOR CMSC ITEM 653, TOPSOIL FURNISHED AND PLACED, AS DIRECTED BUY THE ENGINEER.

**59. SEEDING AND MULCHING -** THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS IN CONFORMANCE WITH CMSC ITEM 659 - SEEDING AND MULCHING. ANY DISTURBED AREAS OUTSIDE THE PROJECT LIMITS SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL WATER SEEDED AREAS AT A RATE OF 120 GALLONS PER 1,000 SQUARE FEET AS SOON AS THE SEED IS COVERED. THE CONTRACTOR SHALL WATER ALL SEEDED AREAS AT A RATE OF 120 GALLONS FOR 1,000 SQUARE FEET EVERY OTHER DAY FOR FOUR WEEKS. WATERING SHALL BE PERFORMED IN THE MORNING BETWEEN 6:00 AM AND 10:00 AM AND SHALL BE APPLIED BY MEANS OF A HYDROSEEDER OR WATER TANKS UNDER PRESSURE WITH A NOZZLE THAT WILL PRODUCE A SPRAY THAT WILL NOT DISLODGE THE MULCHING MATERIAL. THE COST OF WATER SHALL BE INCLUDED N THE UNIT PRICE BID FOR ITEM 659 SEEDING AND MULCHING.

MAINTENANCE SHALL INCLUDED RESEEDING, MOWING, TO MAINTAIN A HEIGHT OF 3 INCHES, WATERING, WEEDING, FERTILIZING AND RESETTING AND STRAIGHTENING PROTECTIVE BARRIERS. MAINTENANCE SHALL ALSO INCLUDE CHEMICAL TREATMENTS AS REQUIRED FOR FUNGUS AND/OR PEST CONTROL

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND MAINTAIN THE SEEDED AREAS. AFTER THE GRASS IN SEEDED AREAS HAS APPEARED, ALL AREAS AND PARTS OF AREAS THAT IN THE OPINION OF THE ENGINEER, FAIL TO SHOW A UNIFORM STAND OF GRASS FOR ANY REASON WHATSOEVER SHALL BE RESEEDED AND SUCH AREAS AND PARTS OF AREAS SHALL BE RESEEDED REPEATELY UNTIL ALL AREAS ARE COVERED WITH A SATISFACTORY GROWTH OF GRASS. RESEEDING TOGETHER WITH NECESSARY GRADING, FERTILIZING, WATERING AND TRIMMING SHALL BE DONE AT THE EXPENSE OF THE CONTRACTOR.

**60. DUST CONTROL -** THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DUST CONTROL MEASURES IN ACCORDANCE WITH ITEM 616. DUST CONTROL OPERATIONS SHALL BE PERFORMED ON A PERIODIC BASIS AND/OR AS DIRECTED BY THE OWNER TO ALLEVIATE OR PREVENT THE DUST NUISANCE ORIGINATING WITHIN THE PROJECT WORK LIMITS. CALCIUM CHLORIDE ON AREAS TO BE SEEDED AND MULCHED WILL NOT BE PERMITTED.

**61. UTILITY AND SEWER CROSSINGS -** AT ALL POINTS OF CROSSING WATER MAINS OR OTHER SEWERS, THE BACKFILL SHALL BE OF GRANULAR MATERIAL BETWEEN THE DEEPER AND SHALLOWER PIPES.

**62. EROSION AND SEDIMENT CONTROL -** EROSION AND SEDIMENT CONTROL MEASURES ARE REQUIRED AS PART OF THIS PROJECT. EROSION AND SEDIMENT CONTROL MEASURES SPECIFIC TO THIS SITE MAY BE FOUND ON SHEET NO. 10-11 (C210-C211) OF THIS PLAN. LAND-DISTURBING ACTIVITIES MUST COMPLY WITH ALL PROVISIONS OF THE DIVISION OF SEWERAGE AND DRAINAGE EROSION AND SEDIMENT POLLUTION CONTROL REGULATION. ALL LAND-DISTURBING ACTIVITIES SHALL BE SUBJECT TO INSPECTION AND SITE INVESTIGATION BY THE CITY OF COLUMBUS AND/OR THE OHIO EPA.

ALL EROSION SEDIMENTATION CONTROL PRACTICES ARE SUBJECT TO FIELD MODIFICATIONS AT THE DISCRETION OF THE CITY OF COLUMBUS, PROJECT ENGINEER, AND/OR THE OHIO EPA.

IT IS THE RESPONSIBILITY OF THE SITE OWNER TO NOTIFY THE CITY OF COLUMBUS TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF INITIAL SITE LAND DISTURBANCES ON ANY SITE OF ONE (1) OR MORE ACRES. THIS INCLUDES SITE CLEARING, GRUBBING, AND ANY EARTH MOVING. PRIMARY EROSION AND SEDIMENT CONTROL PRACTICES ARE MANDATED BY REGULATION TO BE IN PLACE FROM THE BEGINNING OF THE CONSTRUCTION ACTIVITY. PLEASE CONTACT THE STORMWATER SECTION AT ARE NO EXCEPTIONS TO THIS REGULATION. ALL DETAILS OF THIS REQUIREMENT MAY BE FOUND IN THE REGULATION FOR CONTROL OF STORMWATER POLLUTION FROM LAND DISTURBANCE. FAILURE TO COMPLY MAY RESULT IN ENFORCEMENT ACTION.

THE NPDES PERMIT HOLDER SHALL PROVIDE QUALIFIED PERSONNEL TO CONDUCT SITE INSPECTIONS ENSURING PROPER FUNCTIONALITY OF THE EROSION AND SEDIMENTATION CONTROLS. ALL EROSION AND SEDIMENTATION CONTROLS ARE TO BE INSPECTED ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A ½ INCH STORM EVENT OR GREATER THAT OCCURS OVER A 24 HOUR PERIOD. RECORDS OF THE SITE INSPECTIONS SHALL BE KEPT BY THE CONTRACTOR AND MADE AVAILABLE TO JURISDICTIONAL AGENCIES IF REQUESTED.

THIS PLAN MUST BE POSTED ON-SITE. A COPY OF THE SWPPP PLAN AND THE APPROVED EPA STORM WATER PERMIT (WITH THE SITE-SPECIFIC NOI NUMBER) SHALL BE KEPT ON-SITE AT ALL TIMES.

**63. SOIL STOCKPILES -** ALL SOIL STOCKPILES, INCLUDING TRENCH EXCAVATION STOCKPILES SHALL BE PROTECTED FROM EROSION BY PERIMETER CONTROL DEVISES SUCH AS STRAW BALE DIKES OR SILT FENCES. THESE PERIMETER CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT. EXCAVATED MATERIALS SHALL NOT BE STORED ON EXISTING PUBLIC ROADWAY PAVEMENTS. THIS INCLUDES EXCESS OR UNSUITABLE EXCAVATED SOIL.

STOCKPILING OF TOP SOIL AND/OR EXCESS MATERIAL FOR THESE IMPROVEMENTS OR OFFSITE HAULING OF TOPSOIL/SUITABLE MATERIAL, ETC. SHALL BE COORDINATED WITH THE OWNER. APPROPRIATE MEANS FOR SEDIMENTATION CONTROL OF THE ONSITE STOCKPILES SHALL BE PROVIDED AS A MATTER OF GENERAL PRACTICE IN ACCORDANCE WITH THE REQUIRED STANDARDS REFERENCED AS A PART OF THE DETAILS SHOWN ON SHEET 4. IT IS THE CONTRACTORS RESPONSIBILITY TO ASSURE THAT A SUFFICIENT AMOUNT OF TOPSOIL REMAINS AS SHOWN ON THE PLANS.

**64. STORM SEWER INLET PROTECTION -** ALL STORM SEWER INLETS SHALL BE PROTECTED FROM EXCESSIVE AMOUNTS OF SEDIMENTS USING ADEQUATE FILTERING DEVICES AS APPROVED BY THE DIVISION OF SEWERAGE AND DRAINAGE. THESE DEVICES SHALL BE MAINTAINED UNTIL THE DENUDED AREA HAS BEEN STABILIZED OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CMSC ITEM 207 - INLET PROTECTION. STRAW OR HAY BALES ARE NOT APPROVED AS INLET PROTECTION.

**65. DISPOSAL OF EXCESS EXCAVATION -** THE CONTRACTOR SHALL DISPOSE OF ALL EXCESS EXCAVATION. IF MATERIALS ARE DISPOSED ON PROPERTY WITHIN THE CITY LIMITS, THE CONTRACTOR SHALL PROVIDE A COPY OF THE SIGNED AGREEMENT AND A COPY OF THE GRADE AND FILL PERMIT OBTAINED FROM THE DEVELOPMENT DEPARTMENT.

**66. STREET CLEANING -** THE CONTRACTOR SHALL KEEP STREETS FREE OF DIRT, SEDIMENT OR MUD ON OR OFF THE PROJECT SITE. THE ENGINEER MAY DIRECT THE CONTRACTOR TO PERFORM STREET CLEANING PERIODICALLY OR ON A REGULAR INTERVAL IF EXCESSIVE AMOUNTS OF DIRT AND MUD ARE LEFT ALONG THE STREET. CONTRACTOR SHALL PROVIDE AT A MINIMUM DAILY STREET CLEANING AND IMMEDIATELY FOR SPECIFIC EVENTS DESCRIBED IN "CONSTRUCTION DEBRIS" GENERAL NOTE. AT A MINIMUM, CLEANING SHALL BE PERFORMED ON ADJACENT PUBLIC ROADWAYS AT THE END OF EACH DAY. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS ITEMS WITHIN THE PROJECT. STREET CLEANING (ON AN AS-NEEDED BASIS) IS REQUIRED THROUGH THE DURATION OF THIS CONSTRUCTION PROJECT. THIS INCLUDES SWEEPING, POWER CLEANING AND (IF NECESSARY) MANUAL REMOVAL OF DIRT OR MUD IN THE STREET GUTTERS.

**67. NON PERFORMANCE -** IN THE EVENT THAT IT BECOMES NECESSARY FOR THE CITY TO PERFORM WORK OF AN IMMEDIATE NATURE (SUCH AS PLACEMENT OF BARRICADES OR REPLACEMENT OF SIGNS OR OTHER WARNING OR PROTECTIVE DEVICES) REQUIRED OF THE CONTRACTOR BY THIS CONTRACT BECAUSE OF FAILURE OR REFUSAL OF THE CONTRACTOR TO PERFORM THE WORK, THE CONTRACTOR SHALL REIMBURSE THE CITY AT A RATE OF 2.5 TIMES THE ACTUAL COST OF LABOR, MATERIAL AND EQUIPMENT NECESSARY TO PERFORM SUCH WORK. IF THE CONTRACTOR REFUSES OR FAILS WITHIN A REASONABLE TIME TO PERFORM OR CAUSE THE PERFORMANCE OF SUCH WORK, THE CITY SHALL BE REIMBURSED BY THE CONTRACTOR IN THE AMOUNT PROVIDED HEREIN BY WAY OF DEDUCTION FROM THE CONTRACTOR'S NET PAYMENT UNDER THE CONTRACT. REASONABLE TIME FOR ALL STREET INVOLVED ON THIS CONTRACT IS A MAXIMUM 1 HOUR FROM THE TIME OF NOTIFICATION BY THE CITY.

**68. CLEARING AND GRUBBING -** CLEARING AND GRUBBING WITHIN THE DESIGNATED WORK LIMITS SHALL BE COMPLETED AS A PART OF THIS CONTRACT. THE CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXTENT OF CLEARING AND GRUBBING LIMITS WITH THE OWNER/ENGINEER. NO CLEARING SHALL BE PERFORMED UNTIL FORMAL AUTHORIZATION HAS BEEN OBTAINED FROM THE OWNER. ESTABLISHMENT OF THIS WORK SHALL INCLUDE THE OFFSITE REMOVAL AND DISPOSAL OF ALL STUMPS AND CLEARING DEBRIS, UNLESS OTHERWISE DIRECTED BY THE OWNER.

**69. PAVEMENT CUTTING, SAWING AND EXCAVATION NOTES -** ALL PUBLIC AGENCIES AND PRIVATE CONTRACTORS PERFORMING PAVEMENT CUTTING OPERATIONS ON CITY OF COLUMBUS STREETS AND ROADWAYS SHALL PROTECT THE ENVIRONMENT FROM DISCHARGES CREATED BY THEIR PAVEMENT CUTTING OPERATIONS. NOTE THAT COLUMBUS CITY CODE 1145 PROHIBITS NON-STORMWATER DISCHARGE INTO THE CITY OF COLUMBUS SEWER SYSTEM, CURB INLETS AND ANY PART OF ITS MS4 (MUNICIPAL SEPARATE STORM SEWER SYSTEM).

THE REQUIREMENT INCLUDES BUT IS NOT LIMITED TO WET OR DRY SAW-CUTTING, JACK HAMMERING, EXCAVATION EQUIPMENT USE, ETC. THE PUBLIC AGENCY AND/OR PRIVATE CONTRACTOR WORK CREWS SHALL RECOVER AND DISPOSE OF DETRITUS, POLLUTED WATERS, OR OTHER SUCH DISCHARGES RESULTING FROM THEIR PAVEMENT CUTTING OPERATIONS AND PROTECT ALL STORM SEWER INLETS FROM RECEIVING AND DISCHARGES FROM THE CONSTRUCTION OPERATIONS. THE AGENCY OR CONTRACTOR RESPONSIBLE FOR EACH PAVEMENT CUTTING ACTIVITY SHALL BE SOLELY LIABLE FOR NOTICE OF VIOLATIONS (NOV/S) AND FINES ISSUED BY CITY OF COLUMBUS AND/OR STATE OF OHIO AUTHORITIES.

EQUIPMENT, MATERIALS AND METHODS SHALL BE PROVIDED BY THE RESPONSIBLE PUBLIC AGENCY AND/OR PRIVATE CONTRACTOR TO WORK CREWS PERFORMING THE PAVEMENT CUTTING ACTIVITY AND MADE AVAILABLE TO WORK CREWS FOR USE IN CLEANING UP DISCHARGES RESULTING FROM SUCH CUTTING ACTIVITIES AND PREVENTING RUNOFF. ALL WORK CREWS SHALL BE TRAINED TO EXERCISE AND EMPLOY EQUIPMENT, MATERIALS, AND ENVIRONMENTAL PROTECTIVE MEASURES TO PREVENT POLLUTED DISCHARGES FROM ENTERING THE CITY OF COLUMBUS STORM SEWER SYSTEM AND WATERS OF THE STATE OF OHIO.

THE PUBLIC AGENCY AND/OR PRIVATE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT THE INLET PROTECTION IS ADEQUATE. THE MOST STRINGENT PROJECT PLANS, NOTES AND/OR DRAWINGS INCLUDING STORMWATER POLLUTION PREVENTION PLAN (SWP3) OR SPILL PREVENTION/REMEDIATION PLAN SHALL APPLY TO ALL PAVEMENT CUTTING, SAWING OR EXCAVATION OPERATIONS. SEE STORMWATER POLLUTION PREVENTION PLAN NOTES AND DETAILS ON SHEET 10 (C210).

THE CONTRACTOR SHALL CALL, TOLL FREE, THE OHIO UTILITIES PROTECTION SERVICE (1-800-362-2764) TO LOCATE UTILITIES PRIOR TO PAVEMENT CUTTING, SAWING , AND EXCAVATION.

**70. SOILS REPORT -** A SUBSURFACE INVESTIGATION REPORT HAS BEEN PREPARED FOR THIS PROJECT BY PROFESSIONAL SERVICE INDUSTRIES, INC. DATED 8/16/2021. ENTITLED "GEOTECHNICAL EXPLORATION REPORT" PROJECT NUMBER 01021958. RECOMMENDATIONS PRESENTED ARE PROVIDED AS A PART OF THE SPECIFICATIONS FOR THE IMPROVEMENT WORK. THE RECOMMENDATIONS SERVE AS THE PROJECT GUIDELINES AND ARE NOT INTENDED TO LIMIT THE DESIGN OR THE WORK PRODUCT. COPIES OF THE REPORT ARE PROVIDED AS PART OF THE PROJECT DOCUMENTS.

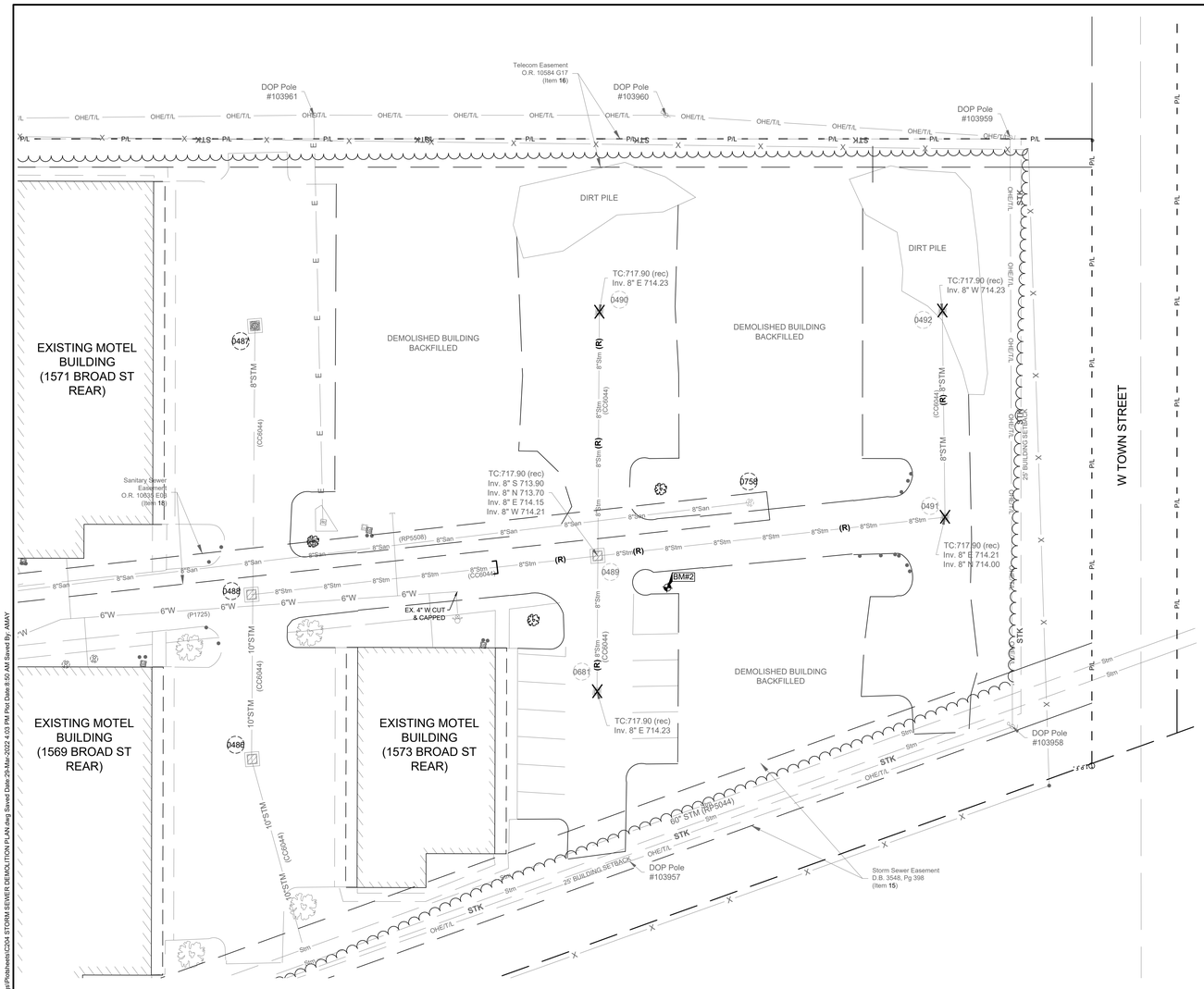
**71. ABANDON OR REMOVE EXISTING UTILITIES OR STRUCTURES -** THE CONTRACTOR SHALL ABANDON (FILL IN PLACE) ALL EXISTING SEWER PIPES OUTSIDE THE PROPOSED TRENCH LABELED AS (AB) PER ITEM 202. AT THE CONTRACTOR'S OPTION, EXISTING UTILITY OUTSIDE THE SEWER TRENCH MAY BE REMOVED AND DISPOSED AT AN APPROVED DISPOSAL SITE. ANY EXISTING UTILITY LABELED (R) SHALL BE REMOVED PER ITEM 202. BULKHEAD ALL SEWERS ABANDONED PER CMSC ITEM 901.08. COST OF ABANDONING AND/OR REMOVING AND DISPOSING OF EXISTING UTILITY PIES OUTSIDE THE TRENCH TO BE INCLUDED IN ITEM 202 ABANDON SEWER PIPE. THE COST OF REMOVAL AND DISPOSAL OF ANY EXISTING UTILITY PIPE WITHIN NORMAL TRENCH EXCAVATION WIDTH SHALL BE INCLUDED IN THE UNIT COST OF THE NEW PIPE.

THE CONTRACTOR REMOVE ALL EXISTING STRUCTURES (MANHOLES, CATCH BASINS, HEADWALLS, ETC.) OUTSIDE PROPOSED SEWER TRENCH LABELED WITH AN "X" PER ITEM 202. COST OF REMOVAL AND DISPOSAL OF ANY EXISTING STRUCTURES WITHIN NORMAL TRENCH EXCAVATION WIDTH SHALL BE INCLUDED UNDER THE UNIT COST OF THE NEW PIPE.

**72. AIR/NOISE CONTROL -** CONSTRUCTION EQUIPMENT SHALL BE PROVIDED WITH INTAKE SILENCERS AND MUFFLERS. ALL CONSTRUCTION VEHICLES SHALL BE EQUIPPED WITH PROPER EMISSION CONTROL EQUIPMENT. PERIODICALLY CHECK EQUIPMENT AND MACHINERY FOR PROPER TUNING TO MINIMIZE EXHAUST EMISSION AND NOISE. BAFFLES SHALL BE INSTALLED ON BOILER TRUCKS TRUCKS TO MINIMIZE NOISE.

**73. DRIVE APPROACH, PEDESTRIAN FACILITIES AND CURB RAMPS -** ALL DRIVE APPROACHES, PEDESTRIAN FACILITIES, CURBS AND RAMPS CONSTRUCTED WITH THIS PROJECT SHALL MEET THE REQUIREMENTS OF THE CITY OF COLUMBUS STANDARDS AND ADA REQUIREMENTS. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MEET THESE CONSTRUCTION STANDARDS.

**74. TESTING AGENCY COORDINATION -** THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE TESTING AGENCY AND ALLOW THE TESTING AGENCY FREE ACCESS TO THE WORK. THE OWNER SHALL RECEIVE A COPY OF ALL TEST REPORTS THE DAY THE TESTS ARE PERF




0 20 40 60

GRAPHIC SCALE
SCALE IN FEET

## GRADING LEGEND

### EXISTING

REFER TO SHEET TS1

### PROPOSED

- CUT AND PLUG EXISTING UTILITY
- (R) REMOVE EXISTING UTILITY
- REMOVE EX. STRUCTURE

## GENERAL NOTES:

1. CONSTRUCTION WORK WILL NOT BE PERMITTED WITHOUT APPROVED PLANS AND INSPECTION.
2. PERFORM WORK IN ACCORDANCE WITH CITY OF COLUMBUS MATERIAL SPECIFICATIONS AND STANDARD CONSTRUCTION DRAWINGS. IN CASE OF A DISCREPANCY BETWEEN CITY OF COLUMBUS REQUIREMENTS AND PROJECT SPECIFICATIONS, CITY OF COLUMBUS STANDARDS SHALL GOVERN.
3. SOIL EROSION AND SEDIMENTATION BMP MEASURES, PER SHEET 10 (C210), SHALL BE INSTALLED PRIOR TO START OF ANY CONSTRUCTION AND SHALL BE MAINTAINED UNTIL CONSTRUCTION HAS BEEN COMPLETED, INCLUDING GRASS BEING WELL ESTABLISHED AND/OR PERMANENT EROSION AND SEDIMENTATION BMP MEASURES IN PLACE. BMP MEASURES SHALL BE TO THE SATISFACTION OF THE CITY OF COLUMBUS.
5. STREET CLEANING (ON AN AS-NEEDED BASIS) IS REQUIRED THROUGH THE DURATION OF THIS CONSTRUCTION PROJECT. THIS INCLUDES SWEEPING, POWER CLEANING, AND (IF NECESSARY) MANUAL REMOVAL OF DIRT AND/OR MUD IN THE STREET GUTTERS.
6. COORDINATES AND ELEVATIONS BASED ON SURVEY PERFORMED BY CW DESIGN GROUP, LLC. DATED 8/23/2021.
7. DISPOSE EXCESS EXCAVATED MATERIALS AND UNACCEPTABLE/UNSUITABLE SOILS OFF SITE IN ACCORDANCE WITH LOCAL CODES. NO PERMANENT STOCKPILES WILL REMAIN ON SITE.
8. ANY EXISTING STORM INLETS IMPACTED BY THE NEW CONSTRUCTION ACTIVITY WILL NEED THE APPROPRIATE INLET PROTECTION FOR SEDIMENT CONTROL.

| EASEMENT REFERENCE | | | | REVISIONS | | |
|---|---|---|---|---|---|---|
| CITY NO. | COUNTY RECORDER VOL. | COUNTY RECORDER PAGE | GRANTOR | NO. | DESCRIPTION | APPROVAL/DATE |
| | | | | | | |

PLAN PREPARED BY:

KORDA

Korda/Nemeth Engineering, Inc - Consulting Engineers
1650 Watermark Drive, Suite 200 - Columbus, Ohio 43215-7010
TEL. 614-487-1650 - FAX 614-487-9881 - WEB www.korda.com

PROJECT TITLE

PRIVATE STORM SEWER AND STORMWATER FACILITIES FOR
HARRIET'S HOPE APARTMENTS
1581 WEST BROAD STREET
STORM SEWER DEMOLITION PLAN

| DIVISION USE ONLY | OWNER | | |
|---|---|---|---|
| | CONTRACTOR | | |
| | INSPECTOR | | |
| | AGREEMENT | COMPLETED | |
| RPD / CKD / CID / CON.DR. | | | |
| INDEX DETAIL | RECORD FILE | | |

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE AND DRAINAGE

DIVISION USE ONLY

SCALE: HORIZ 1" = 20'

SHEET: 4 / 11

CONTRACT DRAWING NO. CC-19393

RECORD PLAN NO.

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

HARRIET'S HOPE
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
CMHA

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215

PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:
STORM SEWER DEMOLITION PLAN

STATE OF OHIO
ERIC J. WALSH
E-80715
REGISTERED
PROFESSIONAL ENGINEER

APRIL 4, 2022

DRAWN BY: AWM CHECKED BY: EJW

Proj. #20643

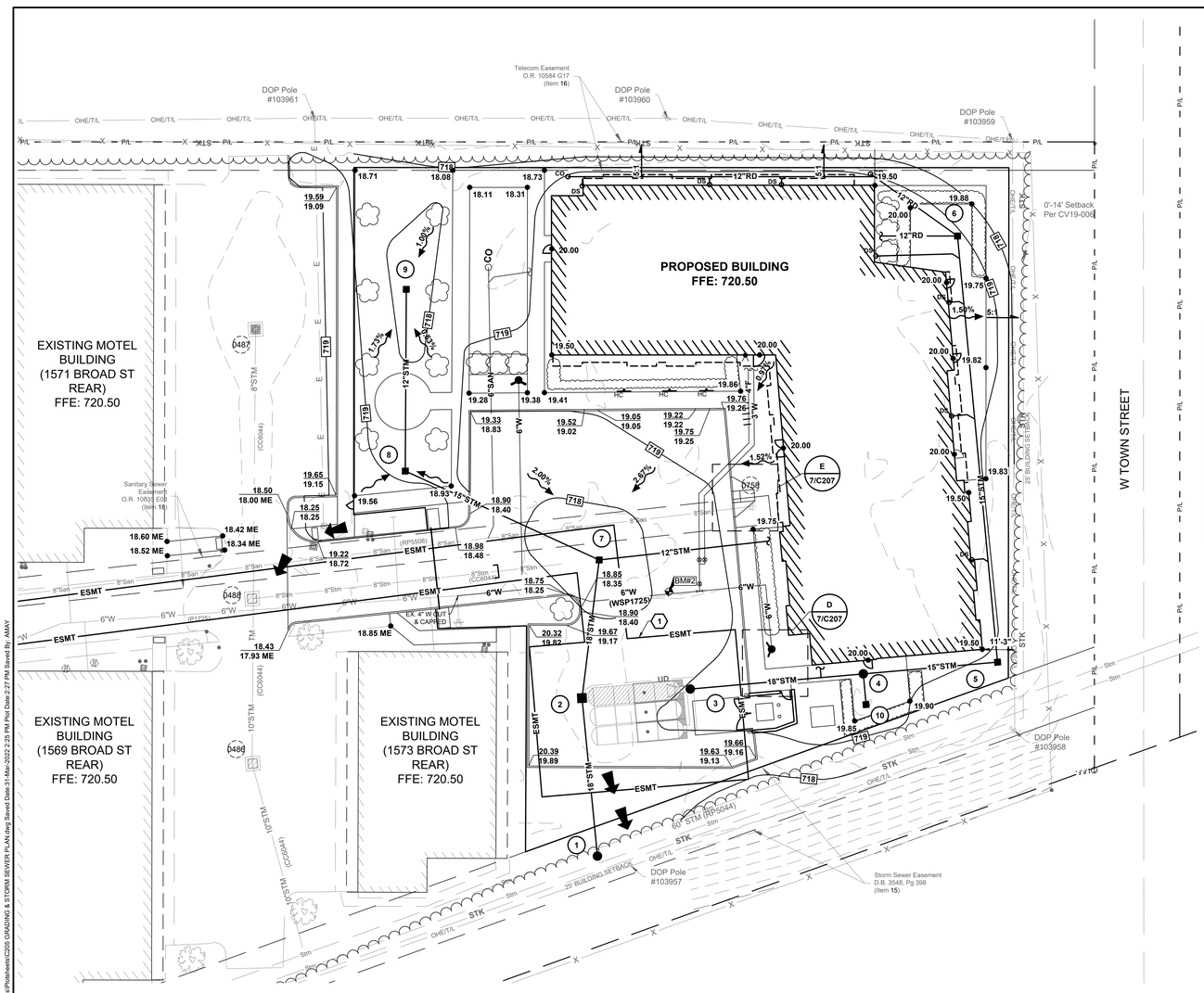
C204

PERMIT & BID SET

KORDA
KORDA/NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

DRAWN BY: AWM
DESIGNED BY: AWM
CHECKED BY: EJW
PROJECT NUMBER: 2020-4014

File: H:\Projects\2020\2020-4014_00 Clients - Harriet's Hope\Civil\Drawings\Plotsheets\0204 STORM SEWER DEMOLITION PLAN.dwg Saved Date:29-Mar-2022 4:03 PM Plot Date:8:50 AM Saved By: AMAY




## STORM SEWER TABLE

| Line | Length | Bearing | Size |
|---|---|---|---|
| 1-2 | 55.90 | N75°47'09.08"E | 18" STM |
| 3-4 | 61.09 | S13°37'55.67"E | 18" STM |
| 4-5 | 47.33 | S13°37'55.67"E | 15" STM |
| 5-6 | 150.52 | N75°59'46.56"E | 15" STM |
| 2-7 | 48.92 | N88°21'32.97"E | 18" STM |
| 7-8 | 74.89 | N16°00'49.03"E | 15" STM |
| 8-9 | 63.89 | N81°40'09.94"E | 12" STM |

## STORM SEWER STRUCTURE COORDINATES

| Structure | TC | Northing | Easting | Northing As-Built | Easting As-Built |
|---|---|---|---|---|---|
| 1 | 718.23 | 712268.91 | 1816682.23 | | |
| 2 | 718.85 | 712282.64 | 1816736.42 | | |
| 3 | 719.02 | 712245.47 | 1816745.23 | | |
| 4 | 719.94 | 712186.11 | 1816759.63 | | |
| 5 | 718.74 | 712140.11 | 1816770.78 | | |
| 6 | 719.70 | 712176.53 | 1816916.83 | | |
| 7 | 717.45 | 712284.04 | 1816785.32 | | |
| 8 | 718.53 | 712356.02 | 1816805.98 | | |
| 9 | 717.63 | 712365.28 | 1816869.19 | | |
| 10 | 719.75 | 712183.56 | 1816749.10 | | |

## GRADING LEGEND

### EXISTING

REFER TO SHEET TS1

### PROPOSED

- 800 — INDEX CONTOUR
- 799 — INTERMEDIATE CONTOUR
- BUILDING/WALL
- W — WATER LINE
- F — FIRE PROTECTION SERVICE LINE
- STM — STORM SEWER
- UD — UNDERDRAIN
- SAN — SANITARY SEWER
- CATCH BASIN PER STD. DWG. AA-S133B
- CURB INLET PER STD. DWG. AA-S125A
- MANHOLE
- W — FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- CO — CLEAN OUT STD. DWG. AA-S161
- X — STRUCTURE NUMBER
- GRADE BREAK (CROWN) LINE
- GRADING/SEEDING LIMITS
- 708.53 — SPOT ELEVATION
- TC — TOP OF CASTING
- 700.00 / 699.50 — TOP OF CURB ELEVATION / PAVEMENT ELEVATION AT FACE OF CURB
- FLOW DIRECTION ARROW
- EMERGENCY OVERFLOW
- M.E. — MATCH EXISTING ELEVATION

## (X) CODED NOTES:

1. STORMWATER CONTROL PRACTICE ACCESS EASEMENT TO BE PROVIDED TO CITY OF COLUMBUS.

## GENERAL NOTES:

1. PROVIDE 10' UNDERDRAINS IN FOUR DIRECTIONS AT CATCH BASINS IN PAVEMENT. REFER TO DETAIL B/7 (C207).
2. PAVEMENT ELEVATIONS REFER TO FINISHED PAVEMENT ELEVATION AT FACE OF CURB UNLESS OTHERWISE NOTED.
3. ADD 700 TO SPOT ELEVATIONS TO OBTAIN U.S.G.S. ELEVATIONS.
4. CONSTRUCTION WORK WILL NOT BE PERMITTED WITHOUT APPROVED PLANS AND INSPECTION.
5. PERFORM WORK IN ACCORDANCE WITH CITY OF COLUMBUS MATERIAL SPECIFICATIONS AND STANDARD CONSTRUCTION DRAWINGS. IN CASE OF A DISCREPANCY BETWEEN CITY OF COLUMBUS REQUIREMENTS AND PROJECT SPECIFICATIONS, CITY OF COLUMBUS STANDARDS SHALL GOVERN.
6. SOIL EROSION AND SEDIMENTATION BMP MEASURES, PER SHEET 10 (C210), SHALL BE INSTALLED PRIOR TO START OF ANY CONSTRUCTION AND SHALL BE MAINTAINED UNTIL CONSTRUCTION HAS BEEN COMPLETED, INCLUDING GRASS BEING WELL ESTABLISHED AND/OR PERMANENT EROSION AND SEDIMENTATION BMP MEASURES IN PLACE. BMP MEASURES SHALL BE TO THE SATISFACTION OF THE CITY OF COLUMBUS.
5. STREET CLEANING (ON AN AS-NEEDED BASIS) IS REQUIRED THROUGH THE DURATION OF THIS CONSTRUCTION PROJECT. THIS INCLUDES SWEEPING, POWER CLEANING, AND (IF NECESSARY) MANUAL REMOVAL OF DIRT AND/OR MUD IN THE STREET GUTTERS.
6. REMOVE SEDIMENT FROM DETENTION AREAS, OUTLET STRUCTURES, AND UNDERDRAINS ONCE FINAL SEED HAS BEEN ESTABLISHED.
7. DIMENSIONS AND COORDINATES ARE TO FACE OF CURB OR FACE OF BUILDING UNLESS OTHERWISE NOTED.
8. EXTEND UTILITIES TO WITHIN 5'-0" OF FACE OF BUILDING UNLESS OTHERWISE NOTED. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR. FINAL CONNECTION BY PLUMBING CONTRACTOR.
9. MAXIMUM FINISH SLOPES SHALL BE 4:1 UNLESS OTHERWISE NOTED.
10. COORDINATES AND ELEVATIONS BASED ON SURVEY PERFORMED BY CW DESIGN GROUP, LLC. DATED 8/23/2021.
11. CONTRACTOR SHALL STRIP AND STOCKPILE EXISTING TOPSOIL THROUGHOUT THE SITE PRIOR TO EXCAVATION. UPON COMPLETION OF FINAL GRADING, PROVIDE 6 INCHES OF TOPSOIL AND SEED AREAS DISTURBED BY CONSTRUCTION, INCLUDING LAYDOWN AREAS AND TRAILER LOCATIONS IF LOCATED OUTSIDE THE GRADING/SEEDING LIMITS.
12. DISPOSE EXCESS EXCAVATED MATERIALS AND UNACCEPTABLE/UNSUITABLE SOILS OFF SITE IN ACCORDANCE WITH LOCAL CODES. NO PERMANENT STOCKPILES WILL REMAIN ON SITE.
13. EXISTING VALVES, MANHOLES, AND OTHER APPURTANCES TO REMAIN LOCATED WITHIN THE WORK LIMITS SHALL BE ADJUSTED TO FINISH GRADE.
14. OUTLET CURB UNDERDRAINS TO ADJACENT EXISTING UNDERDRAINS OR STORM SEWER SYSTEM.
15. EXPOSE UTILITIES NOTED THUS EXPOSE PRIOR TO BEGINNING WORK ON THAT UTILITY TO DETERMINE EFFECTS ON THE PROPOSED ALIGNMENT AND PROFILE. REPORT ELEVATION AND LOCATION TO THE ENGINEER IN ORDER THAT ANY CORRECTIONS TO THE ELEVATION AND LOCATION CAN BE MADE.
16. CONCRETE ADJACENT TO BUILDING SHALL BE SLOPED AWAY FROM BUILDING AT 2.0% UNLESS OTHERWISE NOTED.
17. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.
18. ANY EXISTING STORM INLETS IMPACTED BY THE NEW CONSTRUCTION ACTIVITY WILL NEED THE APPROPRIATE INLET PROTECTION FOR SEDIMENT CONTROL.

## EARTHWORK NOTES:

REFER TO GEOTECHNICAL EXPLORATION REPORT, PREPARED BY PROFESSIONAL SERVICE INDUSTRIES, PROJECT NO. 0102195B, DATED AUGUST 16, 2021 FOR SITE SOILS INFORMATION. SITE PREPARATION SHALL BE PER SPECIFICATION SECTION 31 00 00 UNLESS OTHERWISE NOTED IN THESE PLANS. PLEASE NOTE THE FOLLOWING SOIL REMEDIATION PROVISIONS FOR THIS PROJECT:

1. CONTRACTOR SHALL STRIP AND STOCKPILE EXISTING TOPSOIL THROUGHOUT THE SITE PRIOR TO EXCAVATION. UPON COMPLETION OF FINAL GRADING, ALL ADDITIONAL TOPSOIL SHALL BE HAULED OFF-SITE AT THE CONTRACTOR'S EXPENSE.
2. OLD FOUNDATIONS AND OTHER ITEMS ENCOUNTERED DURING EXCAVATION SHOULD BE COMPLETELY REMOVED AND BACKFILLED PER THE GEOTECHNICAL REPORT RECOMMENDATIONS. POTENTIAL UNDOCUMENTED FILL MAY EXIST WITHIN THE DEMOLISHED STRUCTURE AREAS.
3. EXISTING SITE CONSISTS OF RUBBLE PILES FROM PREVIOUS BUILDING DEMOLITION. CONTRACTOR IS RESPONSIBLE FOR HAULING EXCESS MATERIAL OFF-SITE IN ACCORDANCE WITH LOCAL CODES.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT ANY DEWATERING OPERATIONS NECESSARY FOR EARTHWORK ACTIVITIES, AS SPECIFIED IN SPECIFICATION SECTION 31 00 00.

## EXISTING FILL SOIL REMOVAL NOTES:

1. AFTER STRIPPING TO PROPOSED SUBGRADE LEVEL, PREPARE SUBGRADE PER SPECIFICATION SECTION 31 00 00 AND THE GEOTECHNICAL REPORT PRIOR TO PROOFROLL AND ADDITIONAL FILL PLACEMENT.
2. DURING PROOFROLLING, SOILS THAT ARE OBSERVED TO RUT OR DELFECT EXCESSIVELY (TYPICALLY GREATER THAN 1-INCH) UNDER THE MOVING LOAD SHOULD BE UNDERCUT AND REPLACED WITH PROPERLY COMPACTED LOW PLASTICITY FILL MATERIAL.
3. PLACE FILL IN ACCORDANCE WITH SPECIFICATION SECTION 31 00 00.
4. PROVIDE APPROVAL FROM TESTING AGENCY, IN WRITING SEALED BY A REGISTERED GEOTECHNICAL ENGINEER, FOR PLACEMENT OF SHALLOW SPREAD FOUNDATIONS AND SLAB ON NEW FILL MATERIALS PER THE GEOTECHNICAL REPORT.
5. SOME EXISTING FILL SOIL WILL BE ACCEPTABLE AS FILL MATERIAL. PROVIDE ANY ADDITIONAL SOIL AS NECESSARY TO COMPLETE FILL CONSTRUCTION. DISPOSE OF ANY UNSUITABLE FILL OFF-SITE IN ACCORDANCE WITH LOCAL CODES.

| EASEMENT REFERENCE | | | | REVISIONS | | |
|---|---|---|---|---|---|---|
| CITY NO. | COUNTY RECORDER VOL. | COUNTY RECORDER PAGE | GRANTOR | NO. | DESCRIPTION | APPROVAL/DATE |
| | | | | | | |

PLAN PREPARED BY:

KORDA

Korda/Nemeth Engineering, Inc - Consulting Engineers
1650 Watermark Drive, Suite 200 - Columbus, Ohio 43215-7010
TEL 614-487-1650 - FAX 614-487-9981 - WEB www.korda.com

PROJECT TITLE

PRIVATE STORM SEWER AND STORMWATER FACILITIES FOR
HARRIET'S HOPE APARTMENTS
1581 WEST BROAD STREET
GRADING & STORM SEWER PLAN

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE AND DRAINAGE

DIVISION USE ONLY

| DIVISION USE ONLY | OWNER |
|---|---|
| | CONTRACTOR |
| | INSPECTOR |
| | AGREEMENT / COMPLETED |
| RPD / CKD / CID / CON.DR. | |
| INDEX DETAIL / RECORD FILE | |

SCALE: HORIZ 1" = 20'

SHEET: 5 / 11

CONTRACT DRAWING NO.: CC-19393

RECORD PLAN NO.:

| # | DATE | CHANGE DESCRIPTION |
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| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

HARRIET'S HOPE
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
CMHA

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215

PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:
GRADING & STORM SEWER PLAN

STATE OF OHIO
ERIC J. WALSH
E-80715
REGISTERED PROFESSIONAL ENGINEER

APRIL 4, 2022

DRAWN BY: AWM | CHECKED BY: EJW

Proj. #20643

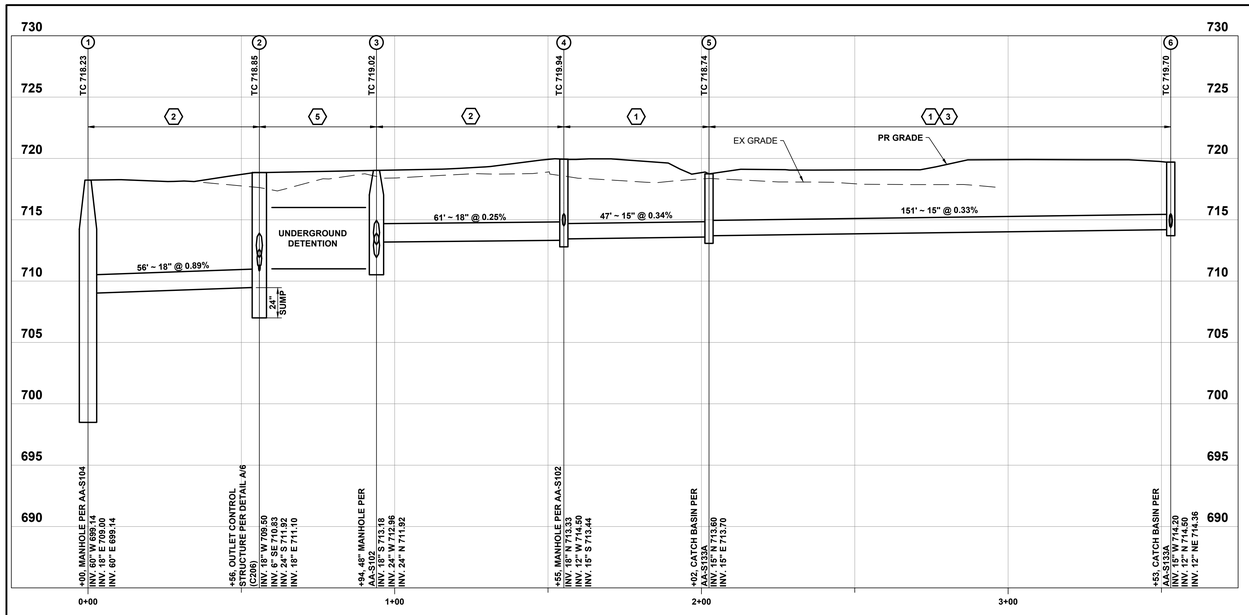
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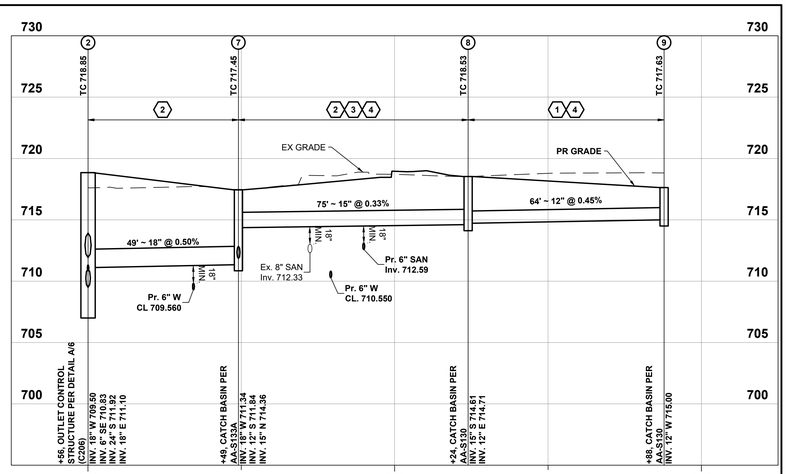
KORDA
KORDA/NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

DRAWN BY: AWM
DESIGNED BY: AWM
CHECKED BY: EJW
PROJECT NUMBER: 2020-4014

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**Storm Sewer 1 - 6 Profile**
**Scale: 1"=20' Horiz. 1"=5' Vert.**




**Storm Sewer 2 - 9 Profile**
**Scale: 1"=20' Horiz. 1"=5' Vert.**

## (X) CODED NOTES:

1. BACKFILL WITH COMPACTED BACKFILL PER CMSC ITEM 911
2. BACKFILL WITH COMPACTED GRANULAR BACKFILL PER CMSC ITEM 912
3. PROVIDE SEWER PIPE WITH WATERTIGHT JOINTS PER CMSC ITEM 901.15
4. PROVIDE REINFORCED CONCRETE PIPE PER CMSC ITEM 901
5. REFER TO SHEET 8-9 (C208-C209) FOR UNDERGROUND DETENTION INSTALLATION AND BACKFILL.

| EASEMENT REFERENCE | | | | REVISIONS | | |
|---|---|---|---|---|---|---|
| CITY NO. | COUNTY RECORDER VOL. | COUNTY RECORDER PAGE | GRANTOR | NO. | DESCRIPTION | APPROVAL/DATE |
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PLAN PREPARED BY:
KORDA
Korda/Nemeth Engineering, Inc - Consulting Engineers
1650 Watermark Drive, Suite 200 - Columbus, Ohio 43215-7010
TEL 614-487-1650 - FAX 614-487-9881 - WEB www.korda.com

PROJECT TITLE
PRIVATE STORM SEWER AND STORMWATER FACILITIES FOR
HARRIET'S HOPE APARTMENTS
1581 WEST BROAD STREET
STORM SEWER PROFILES

| DIVISION USE ONLY | OWNER |
|---|---|
| | CONTRACTOR |
| | INSPECTOR |
| | AGREEMENT / COMPLETED |
| RPD / CKD / CID / CON.DR. | |
| INDEX DETAIL / RECORD FILE | |

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE AND DRAINAGE
DIVISION USE ONLY

SCALE: HORIZ 1" = 20' VERT 1" = 5'
SHEET: 6 / 11
CONTRACT DRAWING NO. CC-19393
RECORD PLAN NO.

| # | DATE | CHANGE DESCRIPTION |
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COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMPETENCE. COLLABORATION.

HARRIET'S HOPE
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
CMHA

MOODY•NOLAN
300 SPRUCE STREET
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COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:
STORM SEWER PROFILES

KORDA
KORDA/NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

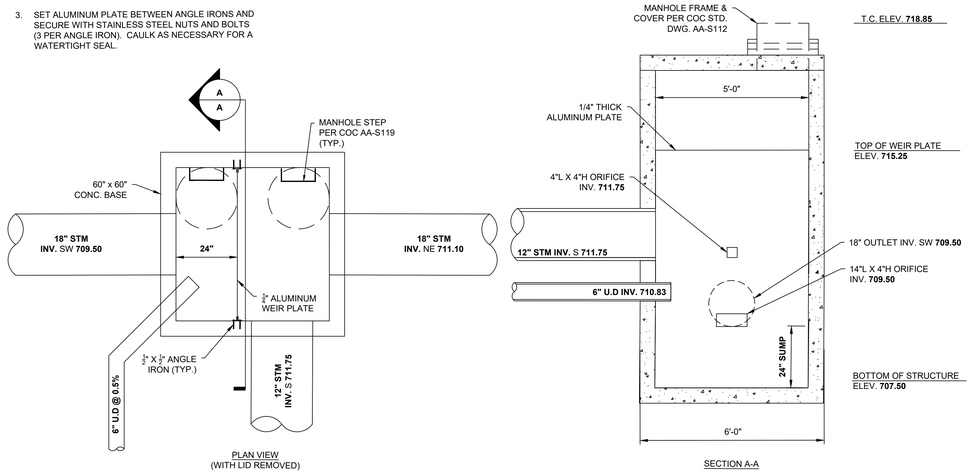
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| DRAWN BY: | AWM |
| DESIGNED BY: | AWM |
| CHECKED BY: | EJW |
| PROJECT NUMBER: | 2020-4014 |

STATE OF OHIO
ERIC J. WALSH
E-80715
REGISTERED
PROFESSIONAL ENGINEER

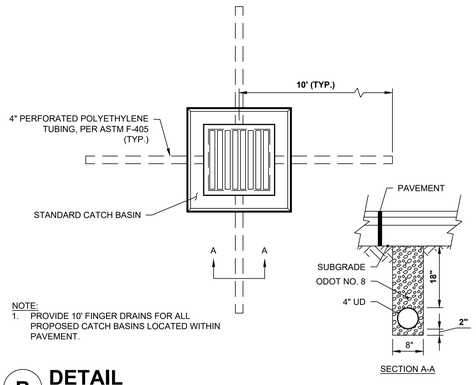
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DRAWN BY: AWM CHECKED BY: EJW
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NOTES:
1. 60"X60" PRECAST CONCRETE BASE WITH SLAB TOP AND MANHOLE FRAME AND LID PER ODOT SCD MH-1.2 MODIFIED.
2. SECURELY ANCHOR 1½"X1½" ANGLE IRONS TO CATCH BASIN WALLS WITH STAINLESS STEEL BOLTS (3 PER ANGLE IRON) SET IN EXPANDABLE GROUT.
3. SET ALUMINUM PLATE BETWEEN ANGLE IRONS AND SECURE WITH STAINLESS STEEL NUTS AND BOLTS (3 PER ANGLE IRON). CAULK AS NECESSARY FOR A WATERTIGHT SEAL.

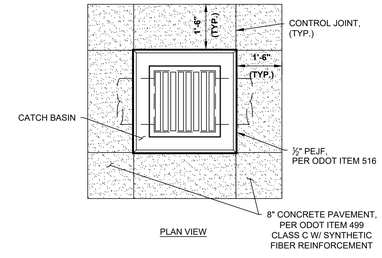



## A DETAIL
**OUTLET CONTROL STRUCTURE (STRUCTURE #2)** N.T.S.



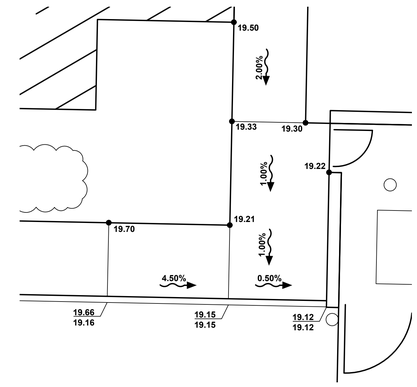

NOTE:
1. PROVIDE 10' FINGER DRAINS FOR ALL PROPOSED CATCH BASINS LOCATED WITHIN PAVEMENT.

## B DETAIL
**PAVEMENT UNDERDRAIN** N.T.S.

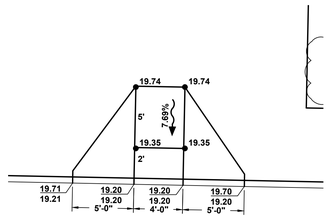



NOTES:
1. SYNTHETIC FIBER REINFORCEMENT: ASTM C1116-97 AND ASTM C1018-97. ACCEPTABLE PRODUCTS INCLUDE:
   a. NYCON NYLON FIBERS
   b. FORTA NYLO-MONO FIBERS
   c. FIBERMESH FIBERMIX STEALTH POLYPROPYLENE FIBERS
   d. GRACE POLYPROPYLENE FIBERS
   SYNTHETIC FIBER REINFORCEMENT SHALL BE USED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. DOSAGE RATE SHALL BE AS RECOMMENDED BY THE MANUFACTURER, BUT NOT LESS THAN 1 POUND PER CUBIC YARD.
2. DISSIPATING CURING COMPOUND: COMPLY WITH ASTM C309-98A, TYPE 1, CLASS B (CLEAR), EXCEPT MOISTURE LOSS NOT TO EXCEED 0.40 KG/M² IN 72 HOURS. COMPOUND SHALL COMPLY WITH EPA'S VOC REQUIREMENTS. APPLY AT THE MANUFACTURER'S WRITTEN RECOMMENDED APPLICATION RATE. COMPLETELY REMOVE CURING COMPOUND PRIOR TO APPLICATION OF PENETRATING SEALER.
3. PENETRATING SEALER: ACCEPTABLE PRODUCTS INCLUDE, BUT ARE NOT LIMITED TO:
   a. L&M CONSTRUCTION CHEMICALS - AQUAPEL PLUS 40
   b. PROSOSO - SALTGUARD WB
   c. HULS AMERICA INC. - CHEM-TRETE BSM 40
   d. MASTER BUILDERS INC. - MASTERSEAL SL 40
   e. LYMTAL INTERNATIONAL - ISO-FLEX 618-50 WB
   f. BASF - ENVIROSEAL 40 OR HYDROZO SILANE 40
   g. TEX-COTE - RAINSTOPPER RS140

## C DETAIL
**CATCH BASIN COLLAR** N.T.S.




## D DETAIL
**SIDEWALK GRADING** N.T.S.




## E DETAIL
**ADA RAMP GRADING** N.T.S.

| EASEMENT REFERENCE | | | | REVISIONS | | | PLAN PREPARED BY: | | PROJECT TITLE | | CITY OF COLUMBUS, OHIO<br>DEPARTMENT OF PUBLIC UTILITIES<br>DIVISION OF SEWERAGE AND DRAINAGE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CITY NO. | COUNTY RECORDER VOL. | COUNTY RECORDER PAGE | GRANTOR | NO. | DESCRIPTION | APPROVAL/DATE | KORDA<br>Korda/Nemeth Engineering, Inc - Consulting Engineers<br>1650 Watermark Drive, Suite 200 - Columbus, Ohio 43215-7070<br>TEL 614-487-1650 - FAX 614-487-8881 - WEB www.korda.com | | PRIVATE STORM SEWER AND STORMWATER FACILITIES FOR<br>HARRIET'S HOPE APARTMENTS<br>1581 WEST BROAD STREET<br>STORM SEWER DETAILS | | DIVISION USE ONLY |
| | | | | | | | | | DIVISION USE ONLY | OWNER | |
| | | | | | | | | | | CONTRACTOR | |
| | | | | | | | | | | INSPECTOR | |
| | | | | | | | | | | AGREEMENT / COMPLETED | SCALE: HORIZ 1" = N/A — SHEET: 7 / 11 |
| | | | | | | | | | | RPD / CKD / CID / CON.DR. | CONTRACT DRAWING NO. CC-19393 — RECORD PLAN NO. |
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COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

*HARRIET'S HOPE*
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215

PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:
# STORM SEWER DETAILS

KORDA
KORDA NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

DRAWN BY: AWM
DESIGNED BY: AWM
CHECKED BY: EJW
PROJECT NUMBER: 2020-4014

STATE OF OHIO — ERIC J. WALSH E-60715 — REGISTERED PROFESSIONAL ENGINEER

*APRIL 4, 2022*
DRAWN BY: **AWM** CHECKED BY: **EJW**
*Proj. #20643*
# C207
*PERMIT & BID SET*

## BURIED DETENTION SYSTEM

### GENERAL NOTES

1. PROVIDE BURIED DETENTION SYSTEM AS DESCRIBED ON PAGE 5. THIS SYSTEM CONSISTS OF ADS STORMTECH CHAMBER MC-3500.
2. THE CONTRACTOR SHALL PROVIDE THE CITY REPORTS FROM A CERTIFIED LABORATORY VERIFYING THE AGGREGATE FOR THE WATER DETENTION LAYS OF THE STORMWATER DETENTION FACILITY MEETS OR EXCEEDS 40% VOID SPACE.

**USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.**

### STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500 OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MADE FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

### IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

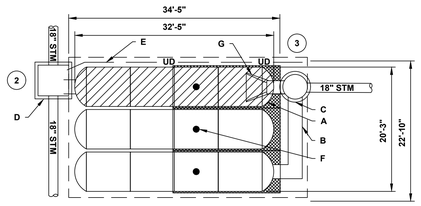
1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

### NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.
4. CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

| UNDERGROUND DETENTION VOLUME SUMMARY | | | | | |
|---|---|---|---|---|---|
| CHAMBER BED | NO. & TYPE OF CHAMBERS | VOID SPACE (%) | CHAMBER VOLUME (C.F.) | STONE VOLUME (C.F) | TOTAL STORAGE VOUME (C.F.) |
| STONE | (12) MC-3500 | 30 | 1,409 | 868 | 2,277 |

THE CONTRACTOR SHALL PROVIDE THE CITY REPORTS FROM A CERTIFIED LABORATORY VERIFYING THE AGGREGATE FOR THE WATER DETENTION LAYERS OF THE STORMWATER DETENTION FACILITY MEETS OR EXCEEDS 40% VOID SPACE




| PART TYPE | ITEM ON LAYOUT | DESCRIPTION |
|---|---|---|
| PREFABRICATED END CAP | A | 24" BOTTOM CORED END CAP, PART # MC3500IEPP24BC / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS |
| ELEVATED MANIFOLD | B | 24" X 24" BOTTOM MANIFOLD, ADS N-12 |
| CONCRETE STRUCTURE | C | MANHOLE PER STD. DWG. AA-S102 |
| CONCRETE STRUCTURE W/ WEIR | D | OUTLET CONTROL STRUCTURE PER DETAIL A, SHEET 7 |
| UNDERDRAIN | E | 6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN |
| INSPECTION PORT | F | 10" SEE DETAIL E/9 (TYP. 3 PLACES) |
| FLAMP | G | INSTALL FLAMP ON 24" ACCESS PIPE / PART #: MC350024RAMP |

| PROPOSED LAYOUT | |
|---|---|
| QUANTITY | DESCRIPTION |
| 12 | STORMTECH MC-3500 CHAMBERS |
| 6 | STORMTECH MC-3500 END CAPS |
| 12 | STONE ABOVE (IN) |
| 9 | STONE BELOW (IN) |
| 30 | % STONE VOID |
| 2,277 | INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) |
| 786 | SYSTEM AREA (SF) |
| 114.5 | SYSTEM PERIMETER (FT) |

**NOTES:**
1. SEE TECH SHEET FOR MANIFOLD SIZING GUIDANCE.
2. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
3. THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
4. THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY.
5. NOT FOR CONSTRUCTION. THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY.

ISOLATOR ROW (SEE DETAIL)

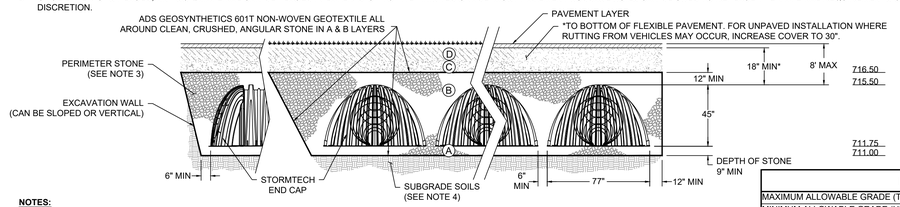
PLACE MINIMUM 17.50' OF ADSPLUS125 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

## A DETAIL
**ADS UNDERGROUND DETENTION SYSTEM** — NTS

| ACCEPTABLE FILL MATERIALS | | | | |
|---|---|---|---|---|
| | MATERIAL LOCATION | DESCRIPTION | AASHTO MATERIAL CLASSIFICATIONS | COMPACTION / DENSITY REQUIREMENT |
| D | **FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER | ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS. | N/A | PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS. |
| C | **INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER. | GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE.<br>MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER. | AASHTO M145[1]<br>A-1, A-2-4, A-3<br>OR<br>AASHTO M43[1]<br>3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10 | BEGIN COMPACTIONS AFTER 24" OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. |
| B | **EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE. | CLEAN, CRUSHED, ANGULAR STONE | AASHTO M43[1]<br>3, 4 | NO COMPACTION REQUIRED. |
| A | **FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER. | CLEAN, CRUSHED, ANGULAR STONE | AASHTO M43[1]<br>3, 4 | PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE[2,3] |

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY 'COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.




**NOTES:**
1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
4. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

| ELEVATIONS | | AS-BUILT |
|---|---|---|
| MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED): | 723.50 | |
| MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC): | 717.50 | |
| MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC): | 717.00 | |
| MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE): | 717.00 | |
| MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT): | 717.00 | |
| TOP OF STONE: | 716.50 | |
| TOP OF MC-3500 CHAMBER: | 715.50 | |
| 24" ISOLATOR ROW INVERT: | 711.92 | |
| BOTTOM OF MC-3500 CHAMBER: | 711.75 | |
| UNDERDRAIN INVERT: | 711.00 | |
| BOTTOM OF STONE: | 711.00 | |

## B SECTION
**ADS UNDERGROUND DETENTION SYSTEM** — NTS

| EASEMENT REFERENCE | | | | REVISIONS | | |
|---|---|---|---|---|---|---|
| CITY NO. | COUNTY RECORDER VOL. | COUNTY RECORDER PAGE | GRANTOR | NO. | DESCRIPTION | APPROVAL/DATE |
| | | | | | | |

PLAN PREPARED BY:

KORDA

Korda/Nemeth Engineering, Inc - Consulting Engineers
1650 Watermark Drive, Suite 200 - Columbus, Ohio 43215-7010
TEL 614-487-1650 - FAX 614-487-9981 - WEB www.korda.com

PROJECT TITLE

PRIVATE STORM SEWER AND STORMWATER FACILITIES FOR
HARRIET'S HOPE APARTMENTS
1581 WEST BROAD STREET
ADS DETAILS

| DIVISION USE ONLY | OWNER |
|---|---|
| | CONTRACTOR |
| | INSPECTOR |
| | AGREEMENT / COMPLETED |
| RPD / CKD / CID / CON.DR. | |
| INDEX DETAIL / RECORD FILE | |

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE AND DRAINAGE
DIVISION USE ONLY

SCALE: HORIZ 1" = N/A — SHEET: 8 / 11

CONTRACT DRAWING NO. CC-19393

RECORD PLAN NO.

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

HARRIET'S HOPE
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
CMHA

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

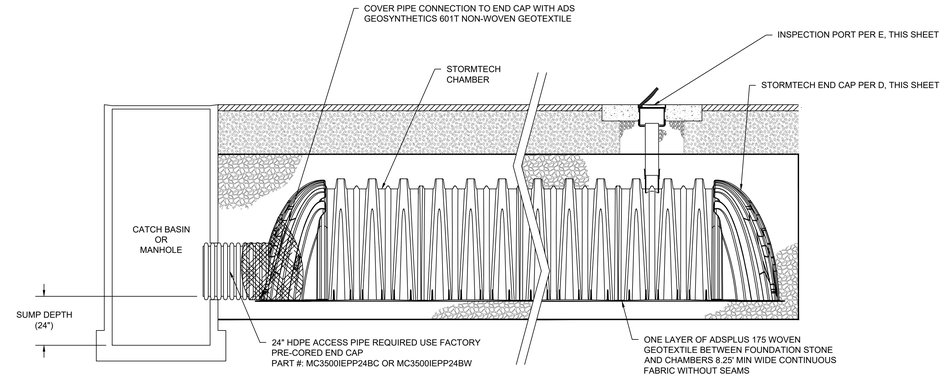
DRAWING TITLE:
ADS DETAILS

STATE OF OHIO — ERIC J. WALSH E-80715 — REGISTERED PROFESSIONAL ENGINEER

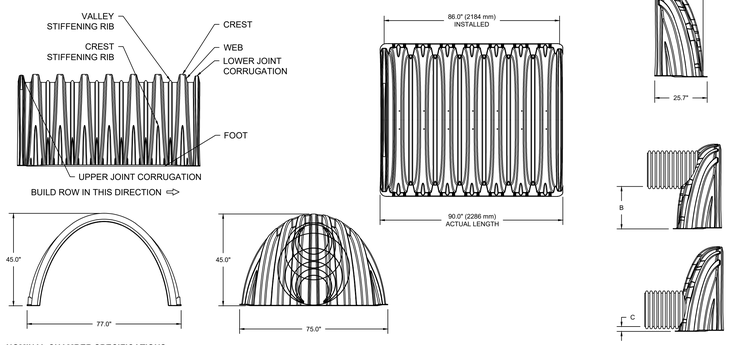
APRIL 4, 2022
DRAWN BY: AWM | CHECKED BY: EJW
Proj. #20643
C208
PERMIT & BID SET

KORDA
KORDA/ NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215
DRAWN BY: AWM
DESIGNED BY: AWM
CHECKED BY: EJW
PROJECT NUMBER: 2020-4014

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## A DETAIL
**ISOLATOR ROW** — NTS




**NOMINAL CHAMBER SPECIFICATIONS**

| | |
|---|---|
| SIZE (W X H X INSTALLED LENGTH) | 77.0" X 45.0" X 86.0" |
| CHAMBER STORAGE | 109.9 CUBIC FEET |
| MINIMUM INSTALLED STORAGE* | 178.9 CUBIC FEET |
| WEIGHT | 134 lbs. |

**NOMINAL END CAP SPECIFICATIONS**

| | |
|---|---|
| SIZE (W X H X INSTALLED LENGTH) | 75.0" X 45.0" X 22.2" |
| END CAP STORAGE | 14.9 CUBIC FEET |
| MINIMUM INSTALLED STORAGE* | 46.0 CUBIC FEET |
| WEIGHT | 49 lbs. |

**NOTES**
1. END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10".
2. ALL DIMENSIONS ARE NOMINAL.
3. THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.
4. STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B".
5. STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T".
6. END CAPS WITH A WELDED CROWN PLATE END WITH "C".
7. END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W".

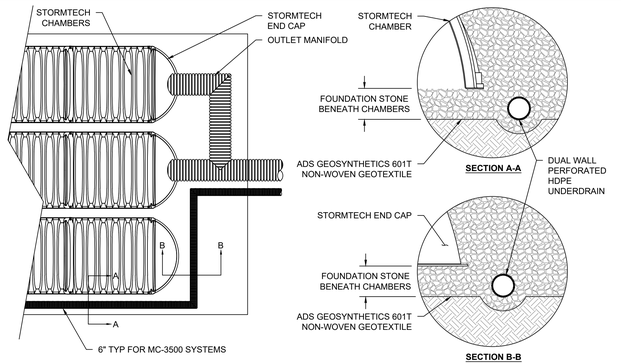
*ASSUMES 12" STONE ABOVE, 9" STONE FOUNDATION AND BETWEEN CHAMBERS, 6" STONE PERIMETER IN FRONT OF END CAPS AND 30% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

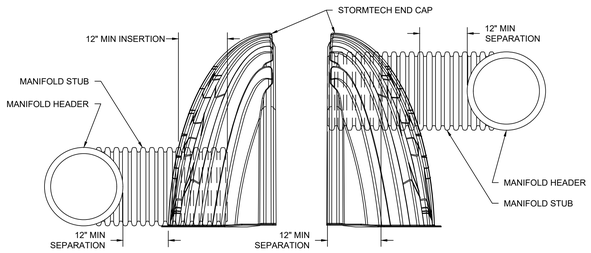
| PART # | STUB | B | C |
|---|---|---|---|
| MC3500IEPP06T | 6" | 33.21" | --- |
| MC3500IEPP06B | | --- | 0.66" |
| MC3500IEPP08T | 8" | 31.16" | --- |
| MC3500IEPP08B | | --- | 0.81" |
| MC3500IEPP10T | 10" | 29.04" | --- |
| MC3500IEPP10B | | --- | 0.93" |
| MC3500IEPP12T | 12" | 26.36" | --- |
| MC3500IEPP12B | | --- | 1.35" |
| MC3500IEPP15T | 15" | 23.39" | --- |
| MC3500IEPP15B | | --- | 1.50" |
| MC3500IEPP18TC | 18" | 20.03" | --- |
| MC3500IEPP18TW | | | |
| MC3500IEPP18BC | | --- | 1.77" |
| MC3500IEPP18BW | | | |
| MC3500IEPP24TC | 24" | 14.48" | --- |
| MC3500IEPP24TW | | | |
| MC3500IEPP24BC | | --- | 2.06" |
| MC3500IEPP24BW | | | |
| MC3500IEPP30BC | 30" | --- | 2.75" |

NOTE: ALL DIMENSIONS ARE NOMINAL

## B DETAIL
**MC-3500 TECHNICAL SPECIFICATIONS** — NTS

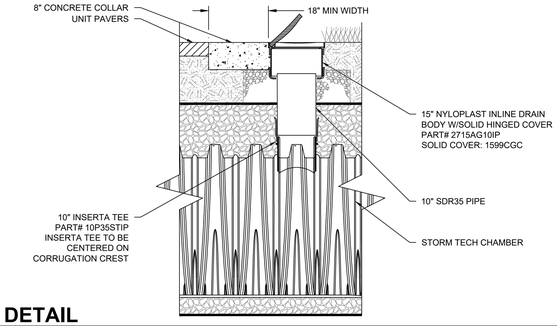



## C DETAIL
**UNDERDRAIN** — NTS




**NOTES:**
1. MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

## D DETAIL
**END CAP INSERTION** — NTS




## E DETAIL
**10" INSPECTION PORT** — NTS

| EASEMENT REFERENCE | | | |
|---|---|---|---|
| CITY NO. | COUNTY RECORDER VOL. | COUNTY RECORDER PAGE | GRANTOR |
| | | | |

| REVISIONS | | |
|---|---|---|
| NO. | DESCRIPTION | APPROVAL/DATE |
| | | |
| | | |
| | | |

**PLAN PREPARED BY:**

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**PROJECT TITLE**

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**CITY OF COLUMBUS, OHIO**
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DIVISION USE ONLY

| DIVISION USE ONLY | OWNER |
|---|---|
| | CONTRACTOR |
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| | AGREEMENT / COMPLETED |
| | RPD / CKD / CID / CON.DR. |
| | INDEX DETAIL / RECORD FILE |

SCALE: HORIZ 1" = N/A
SHEET: 9 / 11
CONTRACT DRAWING NO. CC-19393
RECORD PLAN NO.

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

**HARRIET'S HOPE**
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:
**ADS DETAILS**

KORDA
KORDA: NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

DRAWN BY: AWM
DESIGNED BY: AWM
CHECKED BY: EJW
PROJECT NUMBER: 2020-4014

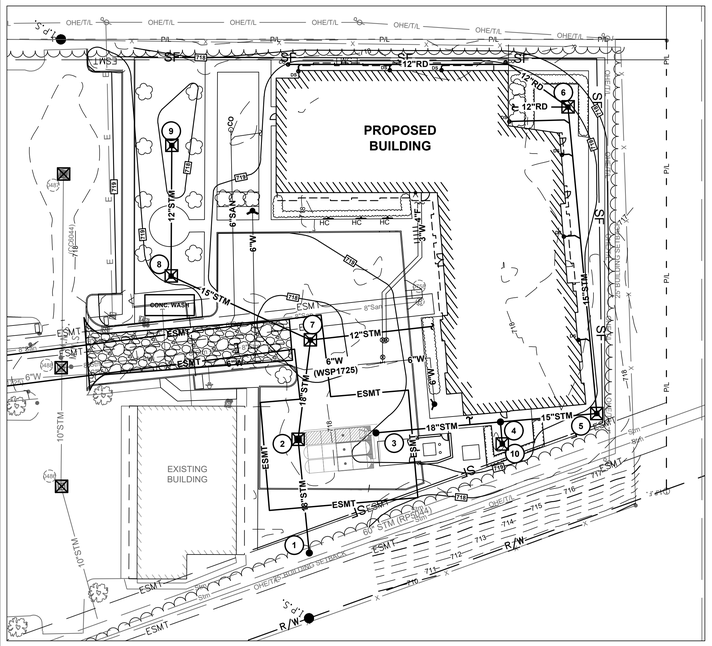
STATE OF OHIO — ERIC J. WALSH — E-80715 — REGISTERED PROFESSIONAL ENGINEER

APRIL 4, 2022
DRAWN BY: AWM | CHECKED BY: EJW
Proj. #20643

**C209**

PERMIT & BID SET

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0 30 60 90

GRAPHIC SCALE
SCALE IN FEET

## LEGEND

### EXISTING

REFER TO ORIGINAL SURVEY, SHEET TS.1

### PROPOSED

- 800 — INDEX CONTOUR
- 799 — INTERMEDIATE CONTOUR
- LIMITS OF CONSTRUCTION
- SF — SILT FENCE PER DETAIL E/11 (C211)
- INLET FILTER PER DETAIL D/11 (C211)
- STABILIZED CONSTRUCTION ENTRANCE PER DETAIL B/11 (C211)
- CW — CONCRETE WASHOUT PER DETAIL C/11 (C211)

## BURIED DETENTION/WATER QUANTITY POST-CONSTRUCTION INSPECTION AND MAINTENANCE SCHEDULE

### OWNER'S RESPONSIBILITY

UNDERGROUND DETENTION SYSTEMS NATURALLY COLLECT SEDIMENT, INCLUDING GRAVEL, SAND, AND MUD, AS WELL AS OTHER DEBRIS, SUCH AS LITTER. TO MAINTAIN ITS CAPACITY AND FUNCTION, THE UNDERGROUND DETENTION SYSTEM SHOULD BE KEPT FREE OF EXCESSIVE DEBRIS, LITTER, AND SEDIMENT. THE UNDERGROUND DETENTION SYSTEM SHOULD BE INSPECTED BIANNUALLY (BY VISUAL OR CAMERA INSPECTION) FOR THE FIRST YEAR AND THEN ANNUALLY FOR SUBSEQUENT YEARS TO ENSURE THE SYSTEM IS FREE OF SEDIMENT AND DEBRIS. IF FIRST YEAR INSPECTIONS INDICATE HIGH LEVELS OF SEDIMENT ACCUMULATION (REQUIRING MORE THAN ONE REMOVAL OF SEDIMENT/DEBRIS BY JETVAC PROCESS IN THE FIRST YEAR), THE FREQUENCY OF INSPECTION SHOULD BE MODIFIED TO BE BI-ANNUAL UNTIL LOWER LEVELS OF SEDIMENT ACCUMULATION ARE OBSERVED BETWEEN INSPECTION PERIODS. SEDIMENT AND DEBRIS REMOVED FROM THE FEATURES SHOULD BE STORED PROPERLY UNTIL DISPOSAL, ACCORDING TO LOCAL OR OTHER GOVERNING REGULATIONS, TO ENSURE NO EXPOSURE TO STORMWATER RUNOFF. THE FOLLOWING TABLE INDICATES ITEMS TO BE INSPECTED AND THEIR FREQUENCY WHICH MAY VARY FROM THAT NOTED ABOVE.

| INSPECTION ITEM | MAINTENANCE PROCEDURE | FREQUENCY |
|---|---|---|
| OUTLET STRUCTURE | REMOVE ACCUMULATED SEDIMENT AND DEBRIS FROM THE STRUCTURE. | EVERY 6 MONTHS |
| UNDERGROUND DETENTION SYSTEM | INSPECT AND REMOVE SEDIMENT AND DEBRIS ACCUMULATION WHEN GREATER THAN 6" IN DEPTH. | BI-ANNUALLY (FIRST YEAR) ANNUALLY (EACH SUBSEQUENT YEAR, REFER TO NOTE ABOVE) |
| INSPECTION PORT | INSPECT AND REMOVE SEDIMENT AND DEBRIS ACCUMULATION WHEN GREATER THAN 3" IN DEPTH. | 6 MONTHS (FIRST YEAR) ANNUALLY (EACH SUBSEQUENT YEAR, REFER TO NOTE ABOVE) |
| ISOLATOR ROW | INSPECT AND REMOVE SEDIMENT AND DEBRIS ACCUMULATION WHEN GREATER THAN 3" IN DEPTH. | 6 MONTHS (FIRST YEAR) ANNUALLY (EACH SUBSEQUENT YEAR, REFER TO NOTE ABOVE) |
| STORM SEWER SYSTEM | INSPECT AND REMOVE (AS NECESSARY) DEBRIS FROM THE SEWER SYSTEM TO ENSURE POSITIVE FLOW TO THE STORM SEWER OUTFALL. | EVERY 6 MONTHS |

### MAINTENANCE LOGS

THE OWNER SHALL BE RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE OF THE UNDERGROUND DETENTION SYSTEM AND ASSOCIATED OUTLET STRUCTURE, AS NOTED ABOVE. INSPECTIONS AND MAINTENANCE THAT ARE CONDUCTED SHALL BE DOCUMENTED AND FILED FOR FUTURE REVIEWS BY THE CITY OF COLUMBUS. SAMPLE LOG SHEETS FOR STORMWATER BMPS ARE FOUND IN THE STORMWATER DRAINAGE MANUAL (SWDM) APPENDIX E (USING ONLY SECTIONS THAT WOULD APPLY TO UNDERGROUND DETENTION/WATER QUANTITY FACILITIES). THESE RESPONSIBILITIES ARE FOR PERPETUITY AND APPLY TO THE OWNER OR ANY FUTURE OWNERS.

THE PROPERTY OWNER SHALL MAINTAIN COPIES OF COMPLETE DATED AND SIGNED INSPECTION CHECKLISTS IN A MAINTENANCE INSPECTION LOG, ALONG WITH RECORDED DATES AND DESCRIPTIONS OF MAINTENANCE ACTIVITIES PERFORMED BY THE PROPERTY OWNER TO REMEDY THE DEFICIENCIES OBSERVED DURING PRIOR INSPECTIONS. THE MAINTENANCE LOG SHALL BE KEPT ON PROPERTY AND SHALL BE MADE AVAILABLE TO THE CITY UPON REQUEST. A COPY OF THE MAINTENANCE INSPECTION LOG SHALL BE SUBMITTED ANNUALLY BY DECEMBER 31ST OF EACH YEAR TO THE DIVISION OF SEWERAGE AND DRAINAGE. MAINTENANCE INSPECTION LOGS SHALL BE SUBMITTED TO:

CITY OF COLUMBUS
DIVISION OF SEWERAGE AND DRAINAGE
STORMWATER AND REGULATORY MANAGEMENT SECTION
1250 FAIRWOOD AVENUE
COLUMBUS, OHIO 43206

SEDIMENT CLEAN OUT PROCEDURES

1. SET UP ANY NECESSARY SAFETY EQUIPMENT AROUND THE ACCESS PORT OR GRATE AS STIPULATED BY LOCAL ORDINANCES. SAFETY EQUIPMENT SHOULD NOTIFY PASSING PEDESTRIAN AND ROAD TRAFFIC THAT WORK IS BEING DONE.
2. REMOVE THE LIDS TO THE MANHOLE/STRUCTURE.
3. WITHOUT ENTERING THE VESSEL, LOOK DOWN INTO THE CHAMBER TO INSPECT THE INSIDE. MAKE NOTE OF ANY IRREGULARITIES.
4. USING THE FLOATABLES PORT FOR ACCESS, REMOVE OIL AND FLOATABLES STORED ON THE SURFACE OF THE WATER WITH THE VACTOR HOSE OR THE SKIMMER NET.
5. USING A SEDIMENT PROBE SUCH AS A SLUDGE JUDGE®, MEASURE THE DEPTH OF SEDIMENT THAT HAS COLLECTED IN THE SUMP OF THE VESSEL AND RECORD IT IN THE MAINTENANCE LOG. IF THE UNDERGROUND SYSTEM HAS LOST 20% OR MORE OF STORAGE CAPACITY, SEDIMENT REMOVAL NEEDS TO BE COMPLETED. THIS ROUGHLY EQUALS TO DEPTH OF SEDIMENT OF 16".
6. ONCE ALL FLOATABLES HAVE BEEN REMOVED, DROP THE VACUUM HOSE TO THE BASE OF THE SUMP VIA THE CENTRAL ACCESS PORT. VACUUM OUT THE SEDIMENT AND GROSS DEBRIS OFF THE SUMP FLOOR.
7. REMOVE THE VACUUM HOSE FROM THE VESSEL.
8. ON THE MAINTENANCE LOG PROVIDED RECORD THE DATE, UNIT LOCATION, ESTIMATED VOLUME OF FLOATABLES AND GROSS DEBRIS REMOVED, AND THE DEPTH OF SEDIMENT MEASURED. ALSO NOTE ANY APPARENT IRREGULARITIES SUCH AS DAMAGED COMPONENTS OR BLOCKAGES.
9. SECURELY REPLACE THE GRATE OR LID.

## EROSION AND SEDIMENT CONTROL NARRATIVE

EROSION AND SEDIMENT CONTROL NARRATIVE:

**PLAN DESIGNER:** KORDA/NEMETH ENGINEERING INC. 1650 WATERMARK DRIVE, SUITE 200 COLUMBUS, OHIO 43215 PHONE: (614) 487-1650 FAX: (614) 487-8981

**OWNER:** NAME: COLUMBUS METROPOLITAN HOUSING AUTHORITY ADDRESS: 880 E. 11TH AVE., COLUMBUS, OH 43211 CONTACT: MIKE WAGNER PHONE: (614) 421-6102 EMAIL: MWAGNER@CMHA.NET

**NOI PERMIT:** 4GC08417*AG

**EXISTING SITE CONDITIONS:** THE SITE CONSISTS OF EXISTING ONE-STORY MOTEL BUILDINGS AND PARKING LOTS.

**PROJECT DESCRIPTION:** THE PROJECT INCLUDES A NEW THREE STORY APARTMENT BUILDING WITH ASSOCIATED PARKING LOT, AND ALSO INCLUDES IMPROVEMENTS TO THE STORM WATER SYSTEM WITH UNDERGROUND STORAGE.

**DISTURBED AREA:** 1.20 ACRES

**SITE DRAINS TO:** SITE GENERALLY DRAINS TO A CITY OF COLUMBUS MUNICIPAL STORM SEWER WHICH EVENTUALLY DISCHARGES TO THE SCIOTO RIVER.

**SITE BMPS:** LOCATIONS OF SITE BMPS, INCLUDING DUMPSTERS, VEHICLE FUELING AREAS, CONCRETE TRUCK WASH, MATERIAL STORAGE, AND TOPSOIL STOCKPILES SHALL BE DETERMINED BY CONTRACTOR. IF FINAL LOCATION OF BMPS DIFFER FROM THE LOCATIONS SHOWN, CONTRACTOR SHALL MODIFY SWPPP AND INFORM OHIO EPA OF NEW LOCATION OF BMPS. NO POST-CONSTRUCTION BMPS WILL BE NECESSARY.

**ADJACENT AREAS:** THE SITE IS BOUNDED BY EXISTING BUSINESSES TO THE NORTH, W TOWN STREET TO THE SOUTH, A SCHOOL PROPERTY TO THE EAST, AND HIGHWAY I-70 TO THE WEST.

**SOILS:** ACCORDING TO SOIL SURVEY RECORDS, THE SOIL TYPES ON THE SITE ARE ELDEAN-URBAN LAND COMPLEX (EMB) WHICH IS HYDROLOGIC SOIL GROUP B.

**EROSION AND SEDIMENT CONTROL MEASURES:** PROVIDE SILT FENCE AT CRITICAL AREAS AS SHOWN ABOVE. ANY NEW OR EXISTING STORM INLETS IMPACTED BY THE NEW CONSTRUCTION ACTIVITY WILL NEED THE APPROPRIATE INLET PROTECTION FOR SEDIMENT CONTROL. PROVIDE INLET PROTECTION AT EXISTING AND PROPOSED DRAINAGE STRUCTURES. ANY OFFSITE BORROW OR SPOIL AREAS SHALL BE SUBJECT TO THE REQUIREMENTS SET FORTH BY THE OHIO EPA. ALL EROSION AND SEDIMENT CONTROL MEASURES FOR OFFSITE AREAS NOT COVERED BY A SEPERATE NOI OR SWP3 SHALL BE COORDINATED WITH THE OHIO EPA. TRENCH GROUNDWATER CONTAINING SEDIMENT MUST BE EFFECTIVELY TREATED PRIOR TO DISCHARGE INTO THE STORM SEWER SYSTEM. USE MEANS NECESSARY TO CONTROL DUST ONSITE AND PREVENT TRACKING SOIL OFFSITE.

**JURISDICTION:** EROSION AND SEDIMENT CONTROL PRACTICES ARE SUBJECT TO FIELD MODIFICATION AT THE DISCRETION OF THE CITY OF COLUMBUS AND/OR THE OHIO EPA.

**COEFFICIENTS:** PRE-DEVELOPED CURVE NUMBER = 94
POST-DEVELOPED CURVE NUMBER = 84
EXISTING IMPERVIOUS AREA = 0.93 ACRES
PROPOSED IMPERVIOUS AREA = 0.73 ACRES

CONSTRUCTION SEQUENCE

UNLESS NOTED OTHERWISE, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL EROSION AND SEDIMENT CONTROL MEASURES REQUIRED THROUGHOUT THE DURATION OF THE PROJECT.

1. UTILIZE EXISTING PAVEMENT AS STABILIZED CONSTRUCTION ENTRANCE.
2. CONSTRUCT TEMPORARY SEDIMENT CONTROLS, PERIMETER EROSION CONTROL MEASURES. MEASURES SHALL BE IMPLEMENTED AS THE FIRST STEP OF CONSTRUCTION.
3. DEMOLISH.
4. BACKFILL.
5. ROUGH GRADING. ADD ADDITIONAL SILT FENCE IF NECESSARY.
6. COMPLETE FINE GRADING AND PAVEMENT REPLACEMENT.
7. ONCE FINAL SEEDING HAS BEEN ESTABLISHED, CLEAN SEDIMENT FROM UNDERDRAINS AND STRUCTURES.
8. REMOVE TEMPORARY EROSION CONTROL MEASURES.

MAINTENANCE/INSPECTION PROCEDURES

1. CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EACH WEEK AND WITHIN 24-HOURS FOLLOWING ANY STORM EVENT OF 0.5 INCHES OR GREATER.
2. MEASURES SHALL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
3. TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.
4. A MAINTENANCE INSPECTION REPORT SHALL BE MADE AFTER EACH INSPECTION, AND A WRITTEN LOG MUST BE KEPT. THIS LOG SHALL INDICATE THE DATE OF THE INSPECTION, NAME OF THE INSPECTOR, WEATHER CONDITIONS, OBSERVATIONS, ANY CORRECTIVE ACTIONS TAKEN, AND BE SIGNED IN ACCORDANCE WITH THE CONDITIONS OF THE NPDES PERMIT. ANY CONTROL MEASURE MUST BE REPAIRED/REPLACED WITHIN THREE DAYS OF INSPECTION.
5. PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE RESPONSIBILITIES SHALL BE TRAINED IN INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER. A WRITTEN DOCUMENT CONTAINING THE SIGNATURES OF CONTRACTORS AND SUBCONTRACTORS INVOLVED IN THE IMPLEMENTATION OF EROSION AND SEDIMENT CONTROL MEASURES MUST BE MAINTAINED AS PROOF ACKNOWLEDGING THAT THEY REVIEWED AND UNDERSTAND THE CONDITIONS AND RESPONSIBILITIES OF THE PLAN. THE DOCUMENT SHALL BE CREATED BY THE CONTRACTOR SIGNED PRIOR TO THE START OF CONSTRUCTION.

DISPOSAL OF SOLID/SANITARY/TOXIC WASTES

1. SOLID, SANITARY AND TOXIC WASTES MUST BE DISPOSED OF IN A PROPER MANNER IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
2. IT IS PROHIBITED TO BURN, BURY OR POUR OUT ONTO THE GROUND OR INTO A STORM WATER CONVEYANCE ANY SOLVENTS, PAINTS, STAINS, GASOLINE, DIESEL FUEL, USED MOTOR OIL, HYDRAULIC FLUID, ANTIFREEZE, CEMENT CURING COMPOUNDS AND OTHER SUCH SOLID AND HAZARDOUS WASTES.
3. ANY RINSE WATERS OF SUCH MATERIAL ARE ALSO PROHIBITED FROM BEING PLACED WHERE THEY MAY ENTER DRAINAGEWAYS.
4. WASH OUT OF CEMENT TRUCKS SHOULD OCCUR IN A DIKED, DESIGNATED AREA, AWAY FROM ANY CONVEYANCE CHANNEL
5. COORDINATE WASH OUT AREA WITH CONSTRUCTION MANAGER.

STABILIZATION PROCEDURES

CONTRACTOR SHALL BE RESPONSIBLE TO KEEP A RECORD OF DATES WHEN MAJOR GRADING ACTIVITIES OCCUR, WHEN EARTH DISTURBANCE HAS TEMPORARILY OR PERMANENTLY CEASED ON A PORTION OF THE SITE, AND WHEN STABILIZATION MEASURES HAVE BEEN INITIATED.

DEWATERING

DISCHARGES FROM DEWATERING ACTIVITIES, INCLUDING DISCHARGES FROM DEWATERING OF TRENCHES AND EXCAVATIONS ARE PROHIBITED UNLESS MANAGED BY APPROPRIATE CONTROLS.

## TEMPORARY STABILIZATION

| AREA REQUIRING TEMPORARY STABILIZATION | TIME FRAME TO APPLY EROSION CONTROLS |
|---|---|
| ANY DISTURBED AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND NOT AT FINAL GRADE. | WITHIN TWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS. |
| FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A SURFACE WATER OF THE STATE. | WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA.<br>FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOT(S). |
| DISTURBED AREAS THAT WILL BE IDLE OVER WINTER. | PRIOR TO THE ONSET OF WINTER WEATHER. |

## PERMANENT STABILIZATION

| AREA REQUIRING PERMANENT STABILIZATION | TIME FRAME TO APPLY EROSION CONTROLS |
|---|---|
| ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE. | WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE. |
| ANY AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND AT FINAL GRADE. | WITHIN TWO DAYS OF REACHING FINAL GRADE. |
| ANY OTHER AREAS AT FINAL GRADE. | WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA. |

WHERE VEGETATIVE STABILIZATION TECHNIQUES MAY CAUSE STRUCTURAL INSTABILITY OR ARE OTHERWISE UNOBTAINABLE, ALTERNATIVE STABILIZATION TECHNIQUES MUST BE EMPLOYED. PERMANENT AND TEMPORARY STABILIZATION ARE DEFINED IN PART VII OF THE PERMIT.

## GENERAL NOTES:

1. A COPY OF THE SWPPP PLAN AND THE APPROVED EPA STORMWATER PERMIT (WITH THE SITE-SPECIFIC NOI NUMBER) SHALL BE KEPT ONSITE AT ALL TIMES.
2. PROVIDE INLET SEDIMENT FILTER PER DETAIL D/11 (C211) AT ALL EXISTING AND PROPOSED STORM INLET STRUCTURES RECEIVING FLOW FROM DISTURBED AREAS.
3. SOIL EROSION AND BMP MEASURES SHALL BE INSTALLED PRIOR TO START OF ANY CONSTRUCTION AND SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. BMP MEASURES SHALL BE TO THE SATISFACTION OF THE OHIO EPA. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND MODIFYING BMPS AND SWPPP AS NECESSARY DUE TO CONSTRUCTION PHASING AS THE PROJECT ADVANCES TO SATISFY THE OHIO EPA TO COMPLY WITH OHIO EPA PERMIT NO. OHC000005 "GENERAL PERMIT AUTHORIZATION FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM".
4. EROSION AND SEDIMENTATION CONTROL PRACTICES ARE SUBJECT TO FIELD MODIFICATION AT THE DISCRETION OF THE CITY OF COLUMBUS AND/OR THE OHIO EPA.
5. UNDER NORMAL CIRCUMSTANCES, NO OVERLAND DISCHARGE SHALL BE ALLOWED FROM SEDIMENT BASIN.
6. STREET CLEANING (ON AN AS-NEEDED BASIS) IS REQUIRED THROUGH THE DURATION OF THIS CONSTRUCTION PROJECT. THIS INCLUDES SWEEPING, POWER CLEANING, AND (IF NECESSARY) MANUAL REMOVAL OF DIRT OR MUD IN THE STREET GUTTERS. AT A MINIMUM CLEAN AT THE END OF EACH WORK DAY.
7. DIRECT DISCHARGE OF SEDIMENT LADEN WATER TO THE CITY'S SEWER SYSTEM OR A RECEIVING STEAM IS A VIOLATION OF OHIO EPA AND CITY OF COLUMBUS REGULATIONS. THE CONTRACTOR WILL BE HELD LIABLE FOR THE VIOLATION AND SUBSEQUENT FINES.
8. ANY EXISTING STORM INLETS IMPACTED BY THE NEW CONSTRUCTION ACTIVITY WILL NEED THE APPROPRIATE INLET PROTECTION FOR SEDIMENT CONTROL.

## SUMMARY OF POST-CONSTRUCTION STORMWATER CONTROL FACILITIES

| CONTROL/OUTLET STRUCTURE NO. (AS REFERENCED ON PLANS) | CONTROL FUNCTION | DRAINAGE AREA TO CONTROL FACILITY (ACRES) | FACILITY TYPE |
|---|---|---|---|
| 2 | QUANTITY AND QUALITY | 1.10 | UNDERGROUND DETENTION W/ ISOLATOR ROW |

## TEMPORARY SEDIMENT BASIN

DRAINAGE AREA TRIBUTARY TO EACH INLET PROTECTION IS LESS THAN 1.0 ACRE, THEREFORE NO TEMPORARY SEDIMENT BASIN WILL BE PROVIDED

**EASEMENT REFERENCE**

| CITY NO. | COUNTY RECORDER VOL. | COUNTY RECORDER PAGE | GRANTOR |
|---|---|---|---|
| | | | |

**REVISIONS**

| NO. | DESCRIPTION | APPROVAL/DATE |
|---|---|---|
| | | |
| | | |
| | | |

**PLAN PREPARED BY:**

KORDA
Korda/Nemeth Engineering, Inc - Consulting Engineers
1650 Watermark Drive, Suite 200 - Columbus, Ohio 43215-7010
TEL. 614-487-1650 - FAX 614-487-8981 - WEB www.korda.com

**PROJECT TITLE**

PRIVATE STORM SEWER AND STORMWATER FACILITIES FOR
HARRIET'S HOPE APARTMENTS
1581 WEST BROAD STREET
EROSION & SEDIMENT CONTROL PLAN

DIVISION USE ONLY | OWNER | CONTRACTOR | INSPECTOR | AGREEMENT | COMPLETED | RPD | CKD | CID | CON.DR. | INDEX DETAIL | RECORD FILE

**CITY OF COLUMBUS, OHIO**
**DEPARTMENT OF PUBLIC UTILITIES**
**DIVISION OF SEWERAGE AND DRAINAGE**

DIVISION USE ONLY

SCALE: HORIZ 1" = 30' | SHEET: 10 / 11

CONTRACT DRAWING NO. CC-19393 | RECORD PLAN NO.

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

*HARRIET'S HOPE*
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

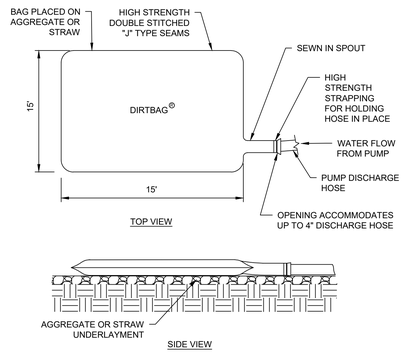
DRAWING TITLE:
# EROSION & SEDIMENT CONTROL PLAN

STATE OF OHIO — ERIC J. WALSH E-80715 — REGISTERED PROFESSIONAL ENGINEER

*APRIL 4, 2022*
DRAWN BY: AWM | CHECKED BY: EJW
*Proj. #20643*
**C210**
*PERMIT & BID SET*

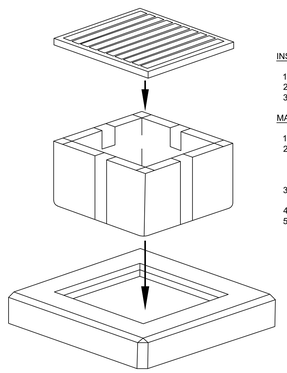
KORDA
KORDA/NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215
DRAWN BY: AWM
DESIGNED BY: AWM
CHECKED BY: EJW
PROJECT NUMBER: 2020-4014

File: H:\Projects\2020\2020-4014_00 CMHA - Harriet's Hope\Civil\Drawings\Plotsheets\C210 EROSION & SEDIMENT CONTROL PLAN.dwg Saved Date:29-Mar-2022 4:41 PM Plot Date:8:51 AM Saved By: AWM




NOTES:
1. THE PUMPING OR DIRECT DISCHARGE OF SEDIMENT-LADEN (MUDDY) WATER TO THE CITY'S SEWER SYSTEM OR A RECEIVING STREAM IS A VIOLATION OF OHIO EPA AND CITY OF COLUMBUS REGULATIONS.
2. ALL INLETS RECEIVING FLOW FROM RUNOFF, PUMPING ACTIVITIES, OR OTHER DIRECT DISCHARGES SHALL BE FITTED WITH AN INLET PROTECTION DEVICE THAT IS PROPERLY SIZED AND SECURED TO REDUCE THE DISCHARGE OF SEDIMENT INTO THE STORM SEWER AND RECEIVING STREAM. INLET PROTECTION IS REQUIRED ON ALL INLETS RECEIVING DISCHARGE REGARDLESS OF WHETHER OR NOT THE INLET IS TRIBUTARY TO ANY DOWNSTREAM EROSION AND SEDIMENT CONTROLS.
3. DISCHARGE HOSES USED DURING PUMPING ACTIVITIES SHALL BE FITTED WITH SEDIMENT BAGS THAT ARE PROPERLY SIZED PER MANUFACTURER'S RECOMMENDATIONS REGARDLESS OF WHAT OTHER SEDIMENT CONTROLS ARE IN PLACE FURTHER DOWNSTREAM. SEDIMENT BAGS MUST BE PROPERLY SECURED TO THE DISCHARGE HOSE AND PLACED OVER VEGETATED AREAS, WHERE FEASIBLE, DURING DISCHARGE. SEE DETAIL ABOVE OF A TYPICAL SEDIMENT BAG INSTALLATION.

## A DETAIL
**DEWATERING BAG** — **N.T.S.**



INSTALLATION:
1. REMOVE GRATE.
2. INSTALL BAG (RESTS ON LIP OF CASTING).
3. REINSTALL GRATE.

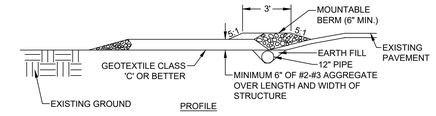
MAINTENANCE:
1. REMOVE GRATE.
2. BAG CAN BE CLEANED SEVERAL WAYS:
   A) PICK UP BAG AND DUMP IT.
   B) SHOVELING DEBRIS OUT OF BAG
   C) VAC-UNIT
3. SHAKE LOOSE DEBRIS OUT OF BAG OR RINSE WITH WATER.
4. REINSTALL BAG.
5. REINSTALL GRATE.

TO BE USED ON STRUCTURES:

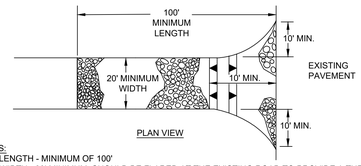
EXISTING: EX2, EX3, EX4, EX5, EX6, EX7, EX8, EX9

PROPOSED: 2, 5, 6, 7, 8, 9, 10

## D DETAIL
**INLET FILTER (BELOW GRATE INLET PROTECTION)** — **N.T.S.**



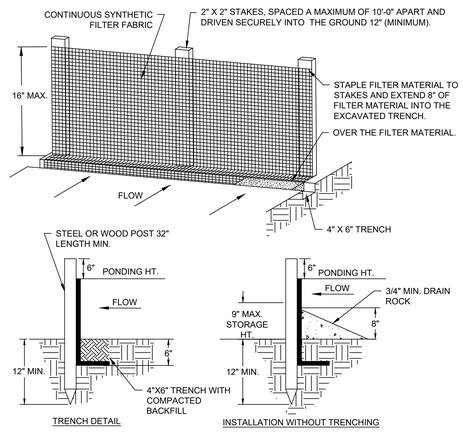
PROFILE



PLAN VIEW

NOTES:
1. LENGTH - MINIMUM OF 100'
2. WIDTH - 20' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
3. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE.
4. STONE - CRUSHED AGGREGATE (#2 TO #3) OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
5. SURFACE WATER - ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 6" OF STONE OVER THE PIPE.
6. LOCATION - A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAYS. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

## B DETAIL
**STABILIZED CONSTRUCTION ENTRANCE** — **N.T.S.**



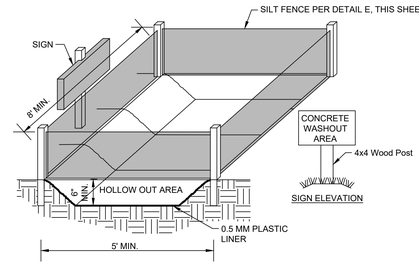

## E DETAIL
**SILT FENCE** — **N.T.S.**

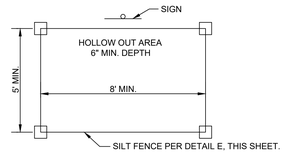
NOTES:

GENERAL
1. CONSTRUCT SILT FENCE BEFORE UPSLOPE DISTURBANCE BEGINS.
2. BRING ENDS OF SILT FENCE UPSLOPE SLIGHTLY SO THAT PONDING WATER WILL BE PREVENTED FROM FLOWING AROUND ENDS.
3. WHEN POSSIBLE PRESERVE VEGETATION 5 FEET UP UPSLOPE OF THE SILT FENCE. IF REMOVED, REESTABLISH WITHIN 7 DAYS FROM INSTALLATION OF FENCE.
4. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
5. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM OF A 6 INCH OVERLAP, AND SECURELY SEALED.
6. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
7. THE TRENCH SHALL BE BACKFILLED AND SOIL COMPACTED OVER THE FILTER FABRIC.
8. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
9. THE USE OF STRAW WATTLES HAS PROVEN TO BE A VERSATILE AND EFFECTIVE ESC BMP, ESPECIALLY IN RESIDENTIAL SETTINGS. STRAW WATTLES MAY BE SUBSTITUTED FOR SILT FENCE.
10. THE USE OF COMPOST FILTER SOCKS AND COMPOST BLANKETS ARE GAINING WIDER ACCEPTANCE NATIONWIDE. THEY ARE NOW APPROVED FOR USE ON ALL COLUMBUS SWP3 PLANS AND CONSTRUCTION SITES.
11. STRAW WATTLES AND COMPOST ROLLS TO BE A MINIMUM OF 12" IN DIAMETER.

MAINTENANCE
1. SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
2. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
3. ANY SEDIMENT DEPOSITS REMAINING AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

## E DETAIL
**SILT FENCE** — **N.T.S.**




NOTES:
1. CONCRETE TRUCKS SHALL UTILIZE AREAS TO WASHOUT TRUCKS.
2. ACCUMULATED CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED PROPERLY.
3. PLACE PLASTIC LINER OVER THE ENTIRE HOLLOW OUT AREA PRIOR TO USE.
4. PROVIDE ITEMS NOTED ABOVE INCLUDING REMOVAL OF CONCRETE WASHOUT UPON COMPLETION OF THE PROJECT AS NOTED IN THE BID PRICE FOR THE PROJECT.
5. FILL HOLLOW AREA TO A DEPTH OF 4 TO 6 INCHES WITH CMSC ITEM 703 AGGREGATE, SIZE #57, #2, OR #4.
6. USE OF ROLL AWAY OR OTHER PORTABLE CONTAINERS IS AN ACCEPTABLE ALTERNATIVE (AND HIGHLY ENCOURAGED) PROVIDED THEY ARE USED IN ACCORDANCE WITH NPDES GUIDELINES ON CONCRETE WASHOUT.

## C DETAIL
**CONCRETE TRUCK WASHOUT AREA** — **N.T.S.**

| EASEMENT REFERENCE | | | | REVISIONS | | | PLAN PREPARED BY: | | PROJECT TITLE | CITY OF COLUMBUS, OHIO<br>DEPARTMENT OF PUBLIC UTILITIES<br>DIVISION OF SEWERAGE AND DRAINAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| CITY NO. | COUNTY RECORDER VOL. | COUNTY RECORDER PAGE | GRANTOR | NO. | DESCRIPTION | APPROVAL/DATE | KORDA<br>Korda/Nemeth Engineering, Inc - Consulting Engineers<br>1650 Watermark Drive, Suite 200 - Columbus, Ohio 43215-7010<br>TEL 614-487-1650 - FAX 614-487-9981 - WEB www.korda.com | | PRIVATE STORM SEWER AND STORMWATER FACILITIES FOR<br>HARRIET'S HOPE APARTMENTS<br>1581 WEST BROAD STREET<br>EROSION & SEDIMENT CONTROL DETAILS | DIVISION USE ONLY |
| | | | | | | | | | DIVISION USE ONLY | OWNER |
| | | | | | | | | | | CONTRACTOR |
| | | | | | | | | | | INSPECTOR |
| | | | | | | | | | | AGREEMENT / COMPLETED |
| | | | | | | | | | | RPD / CKD / CID / CON.DR. |
| | | | | | | | | | | INDEX DETAIL / RECORD FILE |

SCALE: — SHEET: 11 / 11
CONTRACT DRAWING NO.: CC-19393 — RECORD PLAN NO.:

File: H:\Projects\2020\2020-4014_00 CMHA - Harriet's Hope\Civil\Drawings\Finished\C211 EROSION & SEDIMENT CONTROL DETAILS.dwg Saved Date: 29-Mar-2022 9:28 AM Plot Date: 6:32 AM Saved By: AMAY

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

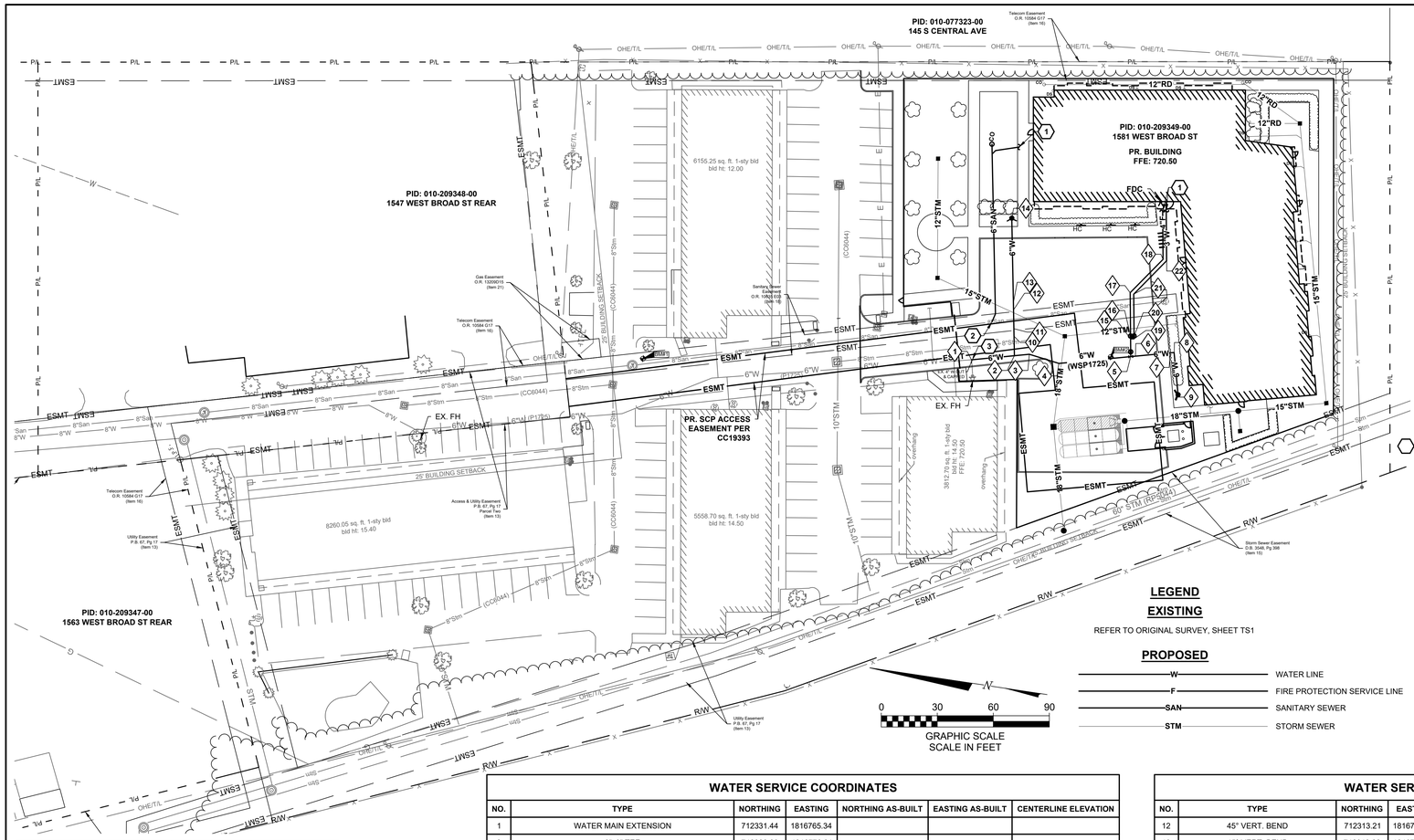
DRAWING TITLE:
# EROSION & SEDIMENT CONTROL DETAILS

KORDA
KORDA/NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

DRAWN BY: AWM — DESIGNED BY: AWM — CHECKED BY: EJW
PROJECT NUMBER: 2020-4014

STATE OF OHIO — ERIC J. WALSH — E-80715 — REGISTERED PROFESSIONAL ENGINEER

*APRIL 4, 2022*
DRAWN BY: AWM — CHECKED BY: EJW
*Proj. #20643*
**C211**
*PERMIT & BID SET*




## LOCATION MAP
(NOT TO SCALE)

## CODED NOTES:

1. CAP AND MARK FOR FUTURE CONNECTION. COORDINATE FINAL LOCATION AND ELEVATION WITH PLUMBING CONTRACTOR. FINAL CONNECTION BY PLUMBING CONTRACTOR.
2. CONNECT TO EXISTING SANITARY MAIN. MAINTAIN MINIMUM 2.08% SLOPE.
3. CONNECT TO EXISTING WATER MAIN.

## GENERAL NOTES:

1. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY TO COMPLETE THE WORK SHOWN.
2. DIMENSIONS AND COORDINATES ARE FROM FACE OF CURB OR EXTERIOR FACE OF BUILDING, UNLESS OTHERWISE NOTED.
3. EXTEND UTILITIES TO WITHIN FIVE (5) FEET OF FACE OF BUILDING, UNLESS OTHERWISE NOTED. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR. FINAL CONNECTION BY PLUMBING CONTRACTOR.
4. MAINTAIN MINIMUM FOUR FOOT ZERO INCH (4'-0") COVER OVER ALL WATERLINES. REFER TO SHEET 3 FOR PROFILE.
5. MAINTAIN MINIMUM EIGHTEEN (18) INCH VERTICAL CLEARANCE FROM THE OUTSIDE OF ANY WATERLINE PIPE TO THE OUTSIDE OF ANY STORM OR SANITARY SEWER.
6. PROVIDE THRUST BLOCKS OR RESTRAINED MECHANICAL JOINT PIPE AT EACH VALVE, TEE, FITTING, OR CHANGE IN DIRECTION OF WATERLINE.
7. REFER TO CITY OF COLUMBUS STANDARD DRAWINGS FOR TYPICAL FIRE HYDRANT INSTALLATION DETAILS.
8. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.
9. ALL COORDINATES AND ELEVATIONS BASED ON SURVEY PERFORMED BY CW DESIGN GROUP, LLC DATED 8/24/2021.
10. THE CONTRACTOR SHALL CALL, TOLL FREE, THE OHIO UTILITIES PROTECTION SERVICE (1-800-362-2764) SEVENTY-TWO (72) HOURS PRIOR TO CONSTRUCTION AND SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO WORK IN VICINITY OF THEIR UNDERGROUND LINES.
11. WHERE PLANS PROVIDE FOR A PROPOSED UTILITY TO BE CONNECTED TO, OR CROSS OVER, OR UNDER AN EXISTING UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES, BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED UTILITY. THESE LOCATIONS ARE NOTED THUS: EXPOSE. IF IT IS DETERMINED THAT THE ELEVATION OF THE EXPOSED UTILITY DIFFERS FROM THE PLAN ELEVATION, RESULTS IN A CHANGE IN THE PLAN SEWER SLOPE, OR WILL INTERSECT AN EXISTING UTILITY AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED UTILITY WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.
12. ALL AREAS DISTURBED BY UTILITY CONSTRUCTION SHALL BE RESTORED TO THE ORIGINAL CONDITION TO THE SATISFACTION OF THE OWNER. CONTRACTOR SHALL SAW CUT PAVEMENT AT LIMITS OF REMOVAL, WITH NEAT STRAIGHT LINES TO A FULL DEPTH. REMOVE CONCRETE SIDEWALK AND CURB AND GUTTER AT NEAREST JOINT. PROVIDE JOINTS BETWEEN NEW AND EXISTING ASPHALT.
13. PERFORM ALL UTILITY WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CITY OF COLUMBUS STANDARDS. IN CASE OF A DISCREPANCY BETWEEN THESE CONTRACT DOCUMENTS AND CITY OF COLUMBUS STANDARDS SHALL GOVERN.
14. SUPPORT AND PROTECT ALL UTILITIES EXPOSED DURING EXCAVATION AND TRENCHING.
15. SANITARY SEWER NOTE: CONNECTION TO SANITARY SEWER CANNOT BE MADE WITHOUT OBTAINING A PERMIT FROM SEWER PERMIT OFFICE 11 N FRONT ST (614) 645-7490.
16. ALL PROPOSED WATER SERVICE WORK SHOWN ON THIS PLAN COMES AFTER THE EXISTING 6" WATER MATER AND 6" ASSE 1013 BACKFLOW PREVENTER.

## LEGEND

### EXISTING

REFER TO ORIGINAL SURVEY, SHEET TS1

### PROPOSED

- W — WATER LINE
- F — FIRE PROTECTION SERVICE LINE
- SAN — SANITARY SEWER
- STM — STORM SEWER

GRAPHIC SCALE
SCALE IN FEET
0 30 60 90

### BENCHMARKS[1]

| NO. | ELEV. | DESCRIPTION |
|---|---|---|
| 1 | 718.62 | 5/8" REBAR W/ CAP (CW DESIGN GROUP) |
| 2 | 718.45 | 5/8" REBAR W/ CAP (CW DESIGN GROUP) |
| 3 | 714.24 | SOURCE BENCHMARK. BRASS DISK LABELED |

1. ELEVATIONS ARE BASED ON NAVD 88 DATUM.

### CONTROL POINTS[2]

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 1 | 712505.45 | 1816739.61 | 5/8" REBAR W/ CAP (CW DESIGN GROUP) |
| 2 | 712258.01 | 1816778.00 | 5/8" REBAR W/ CAP (CW DESIGN GROUP) |
| 3 | 713333.11 | 1816279.26 | GRANITE STONE SET IN A CONCRETE FOUNDATION ON THE NORTH SIDE OF WEST BROAD STREET |

2. THE PROJECT IS BASED ON NAVD 88 DATUM.

### WATER SERVICE COORDINATES

| NO. | TYPE | NORTHING | EASTING | NORTHING AS-BUILT | EASTING AS-BUILT | CENTERLINE ELEVATION |
|---|---|---|---|---|---|---|
| 1 | WATER MAIN EXTENSION | 712331.44 | 1816765.34 | | | |
| 2 | 6"x6" TEE | 712309.09 | 1816770.91 | | | |
| 3 | 22.5° VERT. BEND | 712301.25 | 1816772.87 | | | |
| 4 | 22.5° VERT. BEND | 712284.87 | 1816770.43 | | | |
| 5 | 6"x4" FULL BODY CAST IRON TAPPING SLEEVE & VALVE | 712247.41 | 1816779.77 | | | |
| 6 | 22.5° VERT. BEND | 712244.97 | 1816780.38 | | | |
| 7 | 22.5° VERT. BEND | 712226.88 | 1816784.89 | | | |
| 8 | 90° HORIZ. BEND | 712224.77 | 1816785.41 | | | |
| 9 | FIRE HYDRANT PER L-6337A | 712219.28 | 1816763.39 | | | |
| 10 | 45° VERT. BEND | 712310.84 | 1816781.23 | | | |
| 11 | 45° VERT. BEND | 712311.53 | 1816785.19 | | | |

### WATER SERVICE COORDINATES

| NO. | TYPE | NORTHING | EASTING | NORTHING AS-BUILT | EASTING AS-BUILT | CENTERLINE ELEVATION |
|---|---|---|---|---|---|---|
| 12 | 45° VERT. BEND | 712313.21 | 1816795.10 | | | |
| 13 | 45° VERT. BEND | 712313.88 | 1816799.07 | | | |
| 14 | FIRE HYDRANT PER L-6337A | 712321.47 | 1816843.59 | | | |
| 15 | 4"x3" TEE | 712248.91 | 1816789.17 | | | |
| 16 | 4" VALVE | 712249.15 | 1816790.65 | | | |
| 17 | 45° HORIZ. BEND ROTATED TO GRADE | 712252.81 | 1816813.58 | | | |
| 18 | 45° HORIZ. BEND ROTATED TO GRADE | 712238.10 | 1816833.89 | | | |
| 19 | 90° HORIZ. BEND | 712247.04 | 1816789.46 | | | |
| 20 | 3" VALVE | 712247.27 | 1816790.95 | | | |
| 21 | 45° HORIZ. BEND ROTATED TO GRADE | 712250.82 | 1816813.11 | | | |
| 22 | 45° HORIZ. BEND ROTATED TO GRADE | 712236.10 | 1816833.41 | | | |

OHIO Utilities Protection SERVICE
Click, Call or Tap Before You Dig.

### EASEMENT REFERENCE

| CITY NO. | COUNTY RECORDER VOL. | COUNTY RECORDER PAGE | GRANTOR |
|---|---|---|---|
| | | | |

### REVISIONS

| NO. | DESCRIPTION | APPROVAL/DATE |
|---|---|---|
| | | |
| | | |
| | | |

**PLAN PREPARED BY:**

STATE OF OHIO · ERIC J. WALSH E–80715 · REGISTERED PROFESSIONAL ENGINEER

KORDA
Korda/Nemeth Engineering, Inc - Consulting Engineers
1650 Watermark Drive, Suite 200 - Columbus, Ohio 43215-7010
TEL 614-487-1650 - FAX 614-487-0981 - WEB www.korda.com

PE SIGNATURE: Eric Walsh DATE: 3/22/2022

**APPROVED FOR GENERAL ARRANGEMENTS ONLY**
DIVISION OF WATER
CITY OF COLUMBUS

PROJECT TITLE

**HARRIET'S HOPE APARTMENTS**
1591 WEST BROAD STREET
010-209349

**WSP1725**

**SHEET: 1/3**

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

*HARRIET'S HOPE*
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**


MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881


DRAWING TITLE:
**UTILITY PLAN**


KORDA
KORDA: NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215


DRAWN BY: AWM
DESIGNED BY: AWM
CHECKED BY: EJW
PROJECT NUMBER: 2020-4014

STATE OF OHIO · ERIC J. WALSH E-80715 · REGISTERED PROFESSIONAL ENGINEER

*APRIL 4, 2022*
DRAWN BY: AWM | CHECKED BY: EJW
*Proj. #20643*

**C301**

*PERMIT & BID SET*

## CITY OF COLUMBUS WATER SERVICE PLAN NOTES:

1. NO WATER SERVICE CONSTRUCTION, BEFORE OR AFTER THE WATER METER(S), SHALL BEGIN PRIOR TO FEE PAYMENT TO THE UTILITY PERMITS OFFICE AT 111 N. FRONT STREET (614-645-7330).
2. THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMSC), 2018 EDITION AND ALL REVISIONS, INCLUDING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN THIS IMPROVEMENT, UNLESS OTHERWISE NOTED.
3. ALL WATERLINE MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT APPROVED MATERIALS LIST AND RULES AND REGULATIONS OF THE CITY OF COLUMBUS, DIVISION OF WATER, UNLESS OTHERWISE SHOWN ON THE PLANS OR APPROVED BY THE CITY OF COLUMBUS DIVISION OF WATER. ONLY PRODUCTS LISTED ON THE CURRENT APPROVED MATERIALS LIST WILL BE PERMITTED TO BE INSTALLED.
4. IT SHALL BE UNLAWFUL FOR ANY PERSON TO PERFORM ANY WORK ON THE PUBLIC WATER DISTRIBUTION SYSTEM WITHOUT FIRST SECURING LICENSE TO ENGAGE IN SUCH WORK, AS INDICATED IN COLUMBUS CITY CODE SECTION 1103.02 AND 1103.06. THIS WORK INCLUDES ANY ATTACHMENTS, ADDITIONS TO OR ALTERATIONS IN ANY CITY SERVICE PIPE OR APPURTENANCES (INCLUDING WATER SERVICE LINES AND WATER SERVICE TAPS). THIS REQUIREMENT MAY BE MET BY UTILIZATION OF A SUBCONTRACTOR WHO POSSESSES A CITY OF COLUMBUS WATER CONTRACTOR LICENSE OR A COMBINED WATER/SEWER CONTRACTOR LICENSE TO PERFORM THIS WORK. UTILIZATION OF A SUBCONTRACTOR MUST MEET THE LICENSING REQUIREMENTS OF CITY OF COLUMBUS BUILDING CODE, IN PARTICULAR SECTION 4114.119 AND 4114.529.
5. FOR ANY EMERGENCIES THAT OCCUR AFTER NORMAL WORKING HOURS INVOLVING THE WATER DISTRIBUTION SYSTEM, PLEASE CONTACT THE DIVISION OF WATER DISTRIBUTION MAINTENANCE OFFICE AT 614-645-7788.
6. THERE SHALL BE A 10 FOOT MINIMUM HORIZONTAL AND 18 INCH VERTICAL SEPARATION BETWEEN WATER SERVICE TAP(S), WATER SERVICE LINE(S), PRIVATE WATER SYSTEMS AND ANY SANITARY AND/OR STORM SEWER SYSTEMS.
7. ALL INSPECTIONS REQUIRE A 24 HOUR ADVANCE NOTICE.
8. SITE UTILITY CONTRACTOR SHALL CALL COLUMBUS DIVISION OF WATER AT 614-645-5781 FOR INSPECTION OF UNDERGROUND PRIVATE DOMESTIC AND/OR FIRE WATER SYSTEM(S) AFTER THE CITY WATER METER(S). THIS WILL INCLUDE DOMESTIC WATER LOOPS AND FIRE WATER LOOPS INCLUDING PRIVATE FIRE HYDRANTS THRU THE SITE BEFORE COVERING.
9. SITE UTILITY CONTRACTOR SHALL CALL CITY OF COLUMBUS - DIVISION OF FIRE AT 614-645-8673 FOR FLUSHING AND/OR PRESSURE TEST INSPECTION OF PRIVATE COMBINED (I.E. DOMESTIC AND FIRE) SYSTEM AFTER THE CITY WATER SERVICE METER AND BACKFLOW PREVENTER.
12. 4" AND LARGER PIPE MATERIAL FOR THE UNDERGROUND PRIVATE WATER SYSTEM AFTER THE CITY WATER METER SHALL BE DUCTILE IRON, C-900 OR C-909 PIPE ONLY TO THE POINT 5' OUTSIDE THE BUILDING FOOTPRINT.
13. 3" PIPE MATERIAL FOR THE UNDERGROUND PRIVATE WATER SYSTEM AFTER THE CITY WATER METER SHALL BE DUCTILE IRON OR SDR-21 PIPE ONLY TO A POINT 5' OUTSIDE THE BUILDING FOOTPRINT.

## WATER FLOW TEST REPORT

| | |
|---|---|
| Job Name: | 1567 W Broad St |
| Date: | 06/30/2021 |
| Time: | 1:35 pm |
| Static Pressure: | 77 psi |
| Residual Pressure: | 55 psi |
| Pitot Pressure: | 32 psi (4" Hydrant Connection-0.90 Coefficient) |
| Flow: | 2430 gpm |
| Flowed Hydrant: | HYDRANT 1 |
| Gauged Hydrant: | HYDRANT 2 |
| Hydrant Elevation: | Elevation = 7' – 0" above building Finish Floor |

*Test Taken by*:

SA Comunale Co.

Designer: DEVIN ROSS

| EASEMENT REFERENCE | | | | REVISIONS | | |
|---|---|---|---|---|---|---|
| CITY NO. | COUNTY RECORDER VOL. | COUNTY RECORDER PAGE | GRANTOR | NO. | DESCRIPTION | APPROVAL/DATE |
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PLAN PREPARED BY:

KORDA
Korda/Nemeth Engineering, Inc - Consulting Engineers
1650 Watermark Drive, Suite 200 - Columbus, Ohio 43215-7010
TEL 614-487-1650 - FAX 614-487-9981 - WEB www.korda.com

**UTILITY NOTES & DETAILS**

PROJECT TITLE

**HARRIET'S HOPE APARTMENTS**

**1591 WEST BROAD STREET**
**010-209349**

**WSP1725**

**SHEET: 2/3**

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

*HARRIET'S HOPE*
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**


MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
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PHONE: (614) 461-4664
FAX: (614) 280-8881


DRAWING TITLE:
**UTILITY NOTES & DETAILS**


KORDA
KORDA: NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215


DRAWN BY: AWM
DESIGNED BY: AWM
CHECKED BY: EJW
PROJECT NUMBER: 2020-4014

STATE OF OHIO
ERIC J. WALSH
E-80715
REGISTERED PROFESSIONAL ENGINEER

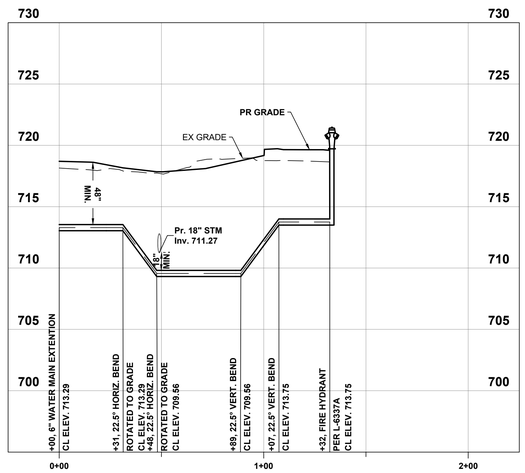
*APRIL 4, 2022*

DRAWN BY: **AWM** | CHECKED BY: **EJW**

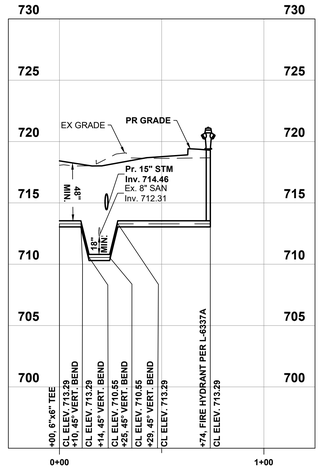
*Proj. #20643*

**C302**

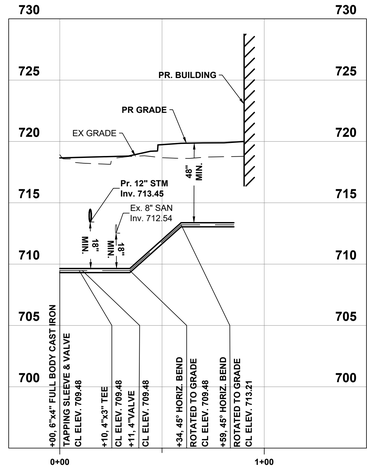
*PERMIT & BID SET*



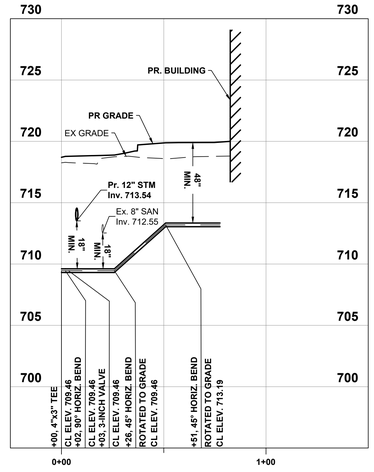

**6-INCH Hydrant Profile**
**Scale: 1"=30' Horiz. 1"=5' Vert.**



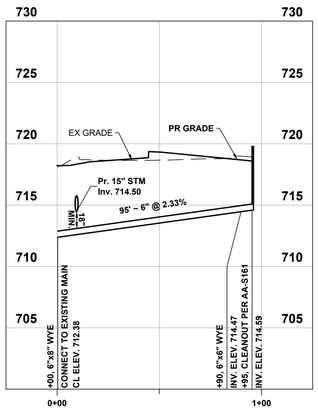

**6-INCH HYDRANT Profile**
**Scale: 1"=30' Horiz. 1"=5' Vert.**




**4-INCH FIRE Profile**
**Scale: 1"=30' Horiz. 1"=5' Vert.**




**3-INCH WATER Profile**
**Scale: 1"=30' Horiz. 1"=5' Vert.**




**6-INCH SANITARY Profile**
**Scale: 1"=30' Horiz. 1"=5' Vert.**

| EASEMENT REFERENCE | | | | REVISIONS | | | PLAN PREPARED BY: | | PROJECT TITLE | |
|---|---|---|---|---|---|---|---|---|---|---|
| CITY NO. | COUNTY RECORDER | | GRANTOR | NO. | DESCRIPTION | APPROVAL/DATE | KORDA<br>Korda/Nemeth Engineering, Inc - Consulting Engineers<br>1650 Watermark Drive, Suite 200 - Columbus, Ohio 43215-7010<br>TEL 614-487-1650 - FAX 614-487-0981 - WEB www.korda.com | UTILITY PROFILES | HARRIET'S HOPE APARTMENTS<br>1591 WEST BROAD STREET<br>010-209349 | WSP1725<br>SHEET: 3/3 |
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COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
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DRAWING TITLE:
**UTILITY PROFILES**

KORDA
KORDA/NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

| | |
|---|---|
| DRAWN BY: | AWM |
| DESIGNED BY: | AWM |
| CHECKED BY: | EJW |
| PROJECT NUMBER: | 2020-4014 |

STATE OF OHIO
ERIC J. WALSH
E-80715
REGISTERED
PROFESSIONAL ENGINEER

*APRIL 4, 2022*

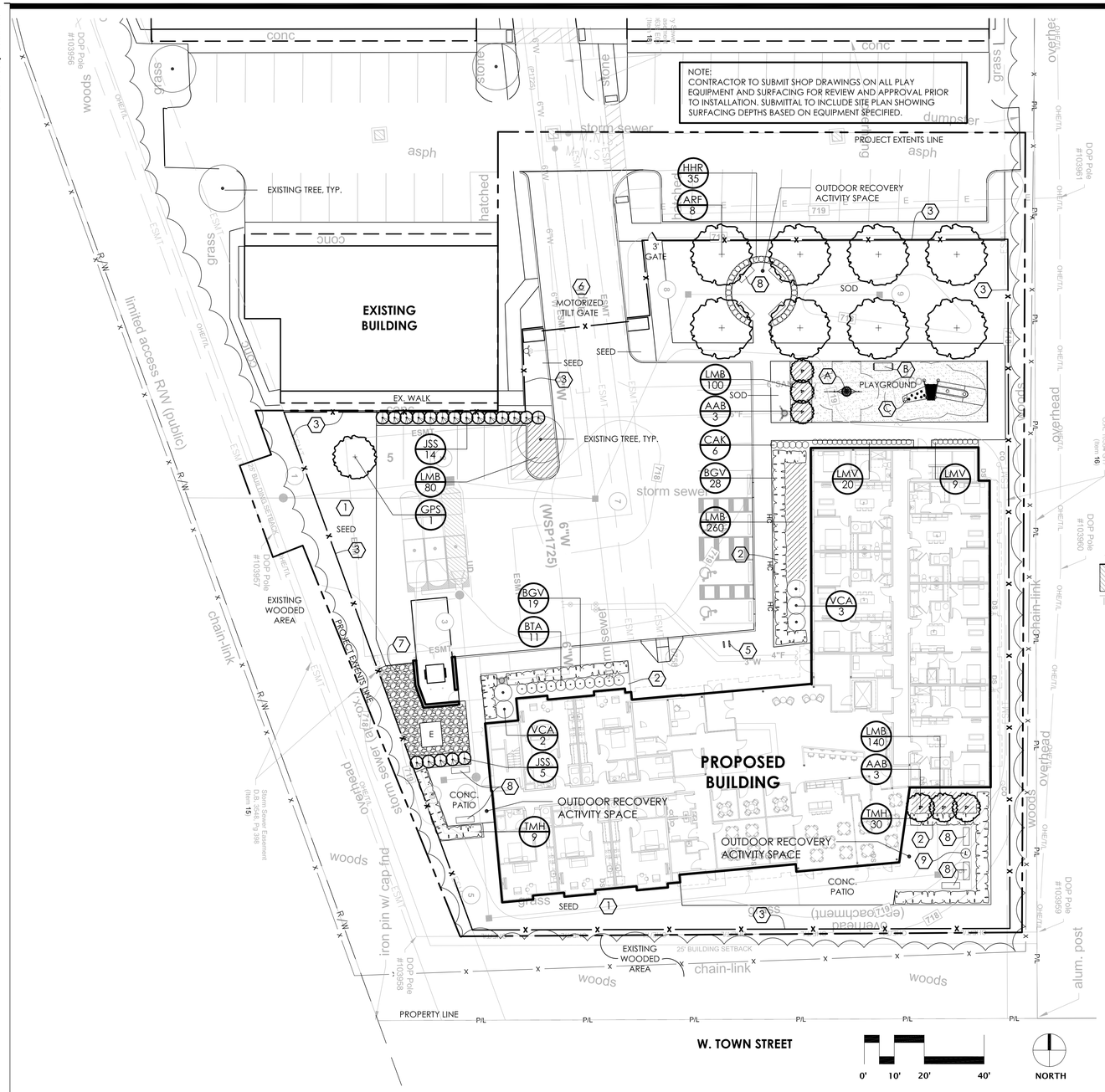
DRAWN BY: **AWM** CHECKED BY: **EJW**

*Proj. #20643*

**C303**

*PERMIT & BID SET*

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## PLANT MATERIALS LIST

CONTRACTOR RESPONSIBLE FOR ALL PLANT QUANTITIES SHOWN ON PLAN

| QTY | ABR | COMMON NAME | BOTANICAL NAME | SIZE | ROOT | REMARKS |
|---|---|---|---|---|---|---|
| TREES | | | | | | |
| 8 | ARF | RED SUNSET RED MAPLE | Acer rubrum 'Franksred' | 2-1/2" Cal. | B&B | MATCHED FORM |
| 6 | AAB | AUTUMN BRILLIANCE SERVICEBERRY | Amelanchier x grandiflora 'Autumn Brilliance' | 6'-7' Hgt. | B&B | MULTI-STEM |
| 1 | GPS | PRINCETON SENTRY GINKGO | Ginkgo biloba 'Princeton Sentry' | 2-1/2" Cal. | B&B | |
| SHRUBS | | | | | | |
| 39 | TMH | HICKS YEW | Taxus x media 'Hicksii' | 36" Hgt. | B&B | 3'-0" O.C. |
| 5 | VCA | KOREAN SPICE VIBURNUM | Viburnum carlesii | 30"-36" Hgt. | B&B | |
| 47 | BGV | GREEN VELVET BOXWOOD | Buxus x 'Green Velvet' | 18"-24" Hgt. | Cont. | 3'-0" O.C. |
| 11 | BTA | ROSE GLOW BARBERRY | Berberis thunbergii f. atropurpurea 'Rose Glow' | 24" Hgt. | Cont. | |
| 19 | JSS | SKYROCKET JUNIPER | Juniperus scopulorum 'Skyrocket' | 5' Hgt. | B&B | |
| PERENNIALS/ ORNAMENTAL GRASSES | | | | | | |
| 605 | LMB | BIG BLUE LILYTURF | Liriope muscari 'Big Blue' | 1 Qt. | CONT. | |
| 13 | HHR | HAPPY RETURNS DAYLILY | Hemerocallis 'Happy Returns' | 1 Gal. | CONT. | |
| | | | | | | |

### PLAYGROUND EQUIPMENT

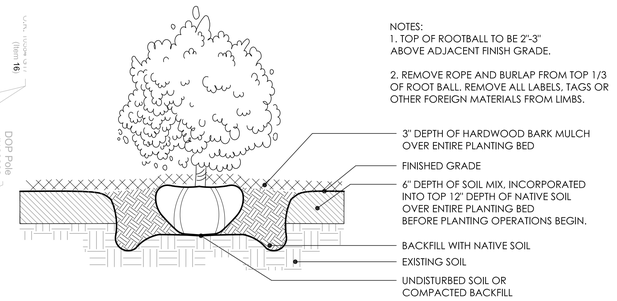
- A PALMETTO SAUCER BASKET SWING
  MANUFACTURER: BERLINER
  MODEL: 95.190.578
- B BACKLESS BENCH
  MANUFACTURER: PLAYWORLD
  MODEL: ZZCN435P
- C UNITY SLIDE CLIMBER
  MANUFACTURER: PLAYWORLD
  MODEL: ZZXX0346

### ZONING COMPLIANCE

SECTION 3312.21 A INTERIOR LANDSCAPE. PROVIDE ONE TREE FOR EVERY TEN PARKING SPACES.
13 SPACES/ 10 = 1.3 OR 2 TREES REQUIRED
TREES PROVIDED = 5

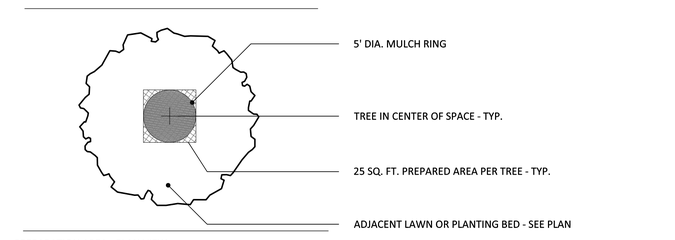
SECTION 3312.49 BICYCLE PARKING
PROVIDE 1 BICYCLE SPACE PER 20 VEHICLE SPACES
BICYCLE SPACE REQUIRED = 2
BICYCLE SPACES PROVIDED = 2

SECTION 3321.07 LANDSCAPING - ONE TREE REQUIRED FOR EVERY (10) DWELLING UNITS
52 UNITS/ 10 = 5.2 OR 6 TREES REQUIRED
TREES PROVIDED = 6

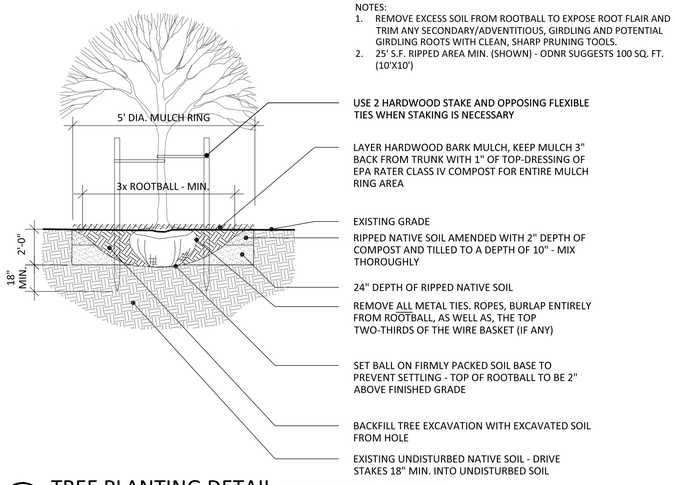



## 1 SHRUB PLANTING DETAIL

SCALE = 1"=1'-0"




PREPARATION AREA - PLAN VIEW




## 2 TREE PLANTING DETAIL

FOR SHADE TREE PLANTING ONLY

SCALE 1/4" = 1' -0"

### GENERAL NOTES

1. EACH CONTRACTOR IS TO VERIFY WITH OWNER AND UTILITY COMPANIES THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION, TO DETERMINE IN THE FIELD THE ACTUAL LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL CALL UTILITY PROTECTION SERVICE 72 HOURS PRIOR TO CONSTRUCTION.
2. EXAMINE FINISH SURFACE, GRADES, TOPSOIL QUALITY AND DEPTH. DO NOT START ANY WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. VERIFY LIMITS OF WORK BEFORE STARTING.
3. CONTRACTOR RESPONSIBLE FOR COST OF REPAIRS TO EXISTING SITE CONDITIONS WHEN DAMAGED BY CONTRACTOR. REPAIR TO THE SATISFACTION OF THE OWNER.
4. ALL PLANT MASSES TO BE CONTAINED WITHIN 3" DEEP HARDWOOD BARK MULCH BED.
5. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE IN LAWN AREAS.
6. FINE GRADE LAWN AREAS TO PROVIDE A SMOOTH AND CONTINUAL GRADE FREE OF IRREGULARITIES OR DEPRESSIONS.
7. CONTRACTOR SHALL SEED OR SOD ALL AREAS DISTURBED DURING CONSTRUCTION, SEE PLAN.
8. ALL PLANTS SHALL MEET OR EXCEED STANDARDS SET IN THE U.S.A. STANDARD FOR NURSERY STOCK.
9. ALL PLANTING OPERATIONS SHALL ADHERE TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS.

### CONSTRUCTION NOTES

1. NEW LAWN AREA, FILL AREA WITH CLEAN FILL, AS REQUIRED TO BRING TO GRADE, PROVIDING TOPSOIL ON TOP 6" AND MEETING ADJACENT SURFACES FLUSH. PROVIDE POSITIVE DRAINAGE ACROSS ALL SURFACES.
2. LANDSCAPE AREA, FILL WITH TOPSOIL, MINIMUM DEPTH SHALL BE 18". MEET ADJACENT SURFACES FLUSH. MOUND TO PROVIDE POSITIVE DRAINAGE ACROSS ALL SURFACES.
3. DECORATIVE STEEL FENCE (6' HGT.) - SEE DETAIL 1 & 2, SHEET L1.02.
4. DECORATIVE BOLLARD, TYP. OF 3
   MANUFACTURER: TBD
   MODEL: TBD
5. LOOP STYLE BACK RACK, TYP. OF 2 - SEE DETAIL 3, L1.02.
6. MOTORIZED TILT GATE - SEE SPEC 11 12 00 PARKING CONTROL EQUIPMENT.
7. DECORATIVE GRAVEL (MINERAL MULCH) - SEE DETAIL 4, L1.02.
8. 6' BENCH WITH BACK (TYP. OF 8), SURFACE MOUNTED
   MANUFACTURER: DUMOR, INC.
   MODEL:#505-60PLA
   FRAME COLOR: ARGENTO
   SLAT OPTIONS: GREY
9. LITTER RECEPTACLE
   MANUFACTURER: DUMOR, INC.
   MODEL:#158-32SH-FTO
   COLOR: ARGENTO

EDGE
PLANNING • LANDSCAPE ARCHITECTURE • URBAN DESIGN

330 WEST SPRING STREET, SUITE 350
COLUMBUS, OHIO 43215
614-486-3343

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COMMUNITY. COMMITMENT. COLLABORATION.

**HARRIET'S HOPE**
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215

PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

LANDSCAPE PLAN

STATE OF OHIO · BASILIO M. FORESI · REGISTERED LANDSCAPE ARCHITECT

*APRIL 4, 2022*

DRAWN BY: **BDF** | CHECKED BY: **TS**

*#20643*

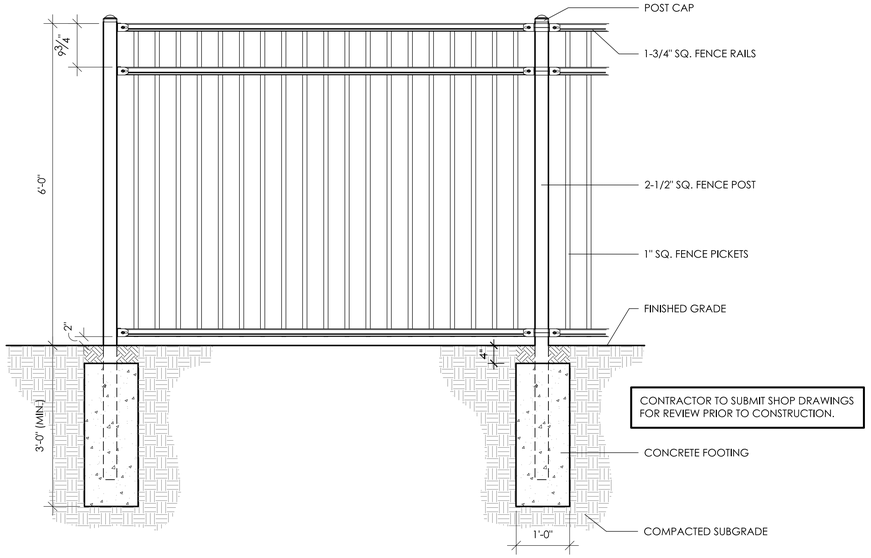
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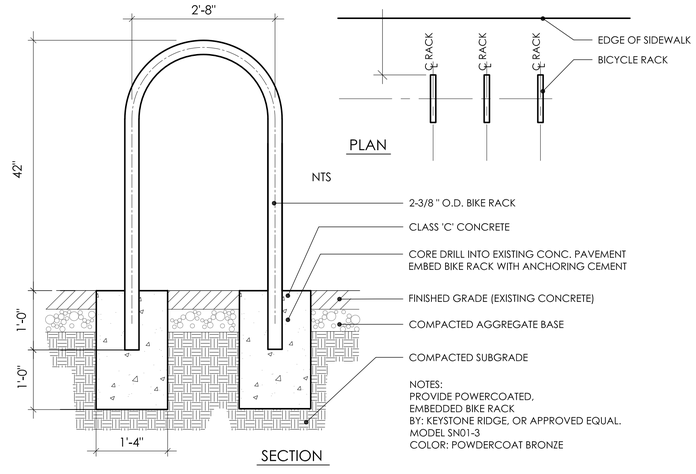
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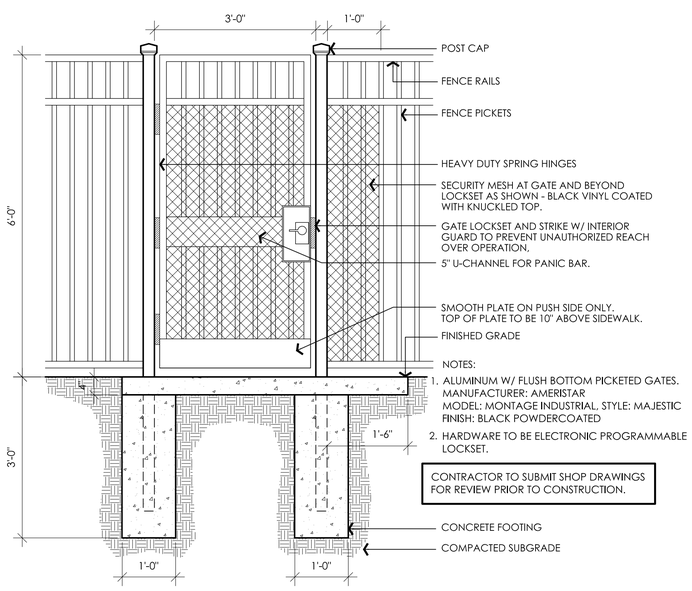
NOTES:
STEEL W/ FLUSH BOTTOM PICKETED GATES.
MANUFACTURER: AMERISTAR
MODEL: MONTAGE INDUSTRIAL
STYLE: MAJESTIC
FINISH: BLACK POWDERCOATED



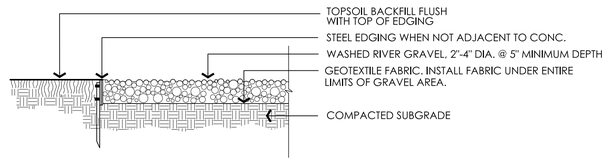

## 1 DECORATIVE FENCE
NTS




## 3 BIKE RACK
SCALE = 1"=1'-0"




## 2 PEDESTRIAN GATE
NTS




## 4 DECORATIVE GRAVEL (MINERAL MULCH)
NTS

EDGE
PLANNING • LANDSCAPE ARCHITECTURE • URBAN DESIGN
330 WEST SPRING STREET, SUITE 350
COLUMBUS, OHIO 43215
614-486-3343

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DRAWING TITLE:
DETAILS

STATE OF OHIO
BASILIO DE FOREST DOS
REGISTERED LANDSCAPE ARCHITECT

APRIL 4, 2022
DRAWN BY: BDF | CHECKED BY: TS
#20643

L1.02

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PRINT DATE: 10/29/2020 11:01:45 AM
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**GENERAL STRUCTURAL NOTES**

**GENERAL**

1. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE CONSTRUCTION IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER BRACING, SHEETING, TEMPORARY BRACING, GUYS, OR TIEDOWNS WHICH MIGHT BE NECESSARY. SUCH MATERIAL IS TO REMAIN THE CONTRACTOR'S PROPERTY AFTER COMPLETION OF THE PROJECT.

2. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.

3. MECHANICAL EQUIPMENT LOADS, OPENINGS AND STRUCTURE IN ANY WAY RELATED TO MECHANICAL REQUIREMENTS ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR IS TO OBTAIN APPROVAL OF MECHANICAL AND OTHER TRADES BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK. EXCESS COST RELATED TO VARIATION IN MECHANICAL REQUIREMENTS TO BE BORNE BY MECHANICAL CONTRACTOR.

4. DO NOT SCALE THE DRAWINGS WHERE DIMENSIONS ARE NOT SPECIFICALLY GIVEN. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS NOT SHOWN. COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE NOT INTENDED TO AUGMENT, NOR SUPERSEDE THOSE SHOWN ON THE ARCHITECTURAL DRAWINGS.

5. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY THE ARCHITECT IMMEDIATELY WHERE CONFLICTS EXIST WITHIN THE DRAWINGS OR BETWEEN THE DRAWINGS AND FIELD CONDITIONS.

6. THROUGHOUT THESE PLANS, THE TERM "PROVIDE" IS DEFINED AS "SUPPLY AND INSTALL".

7. SHOP DRAWINGS ARE TO BE SUBMITTED BY COMPLETE ERECTION PHASE OR SEQUENCE. LIMITS OF EACH INDIVIDUAL ERECTION PHASE OR SEQUENCE ARE TO BE CLEARLY INDICATED ON THE PLANS. IN THE STRUCTURAL DRAWINGS IS SPECIFICALLY NOTED AS RETURNED PRIOR TO REVIEW. RESUBMITTALS ARE TO HAVE REVISIONS CLEARLY MARKED OR IDENTIFIED. THE CONTRACTOR SHALL REVIEW AND ACCEPT FULL RESPONSIBILITY FOR DIMENSIONAL CORRECTNESS. ALL SHOP DRAWINGS MUST BEAR THE APPROVAL STAMP OF THE CONTRACTOR PRIOR TO REVIEW BY THE ARCHITECT OR ENGINEER.

8. PREFABRICATED ITEMS SHOWN ON THE STRUCTURAL DRAWINGS ARE REFERENCED FOR GENERAL COORDINATION PURPOSES ONLY, AND MAY INCLUDE BUT NOT BE LIMITED TO: STAIRS, HANDRAILS, CURTAIN WALLS, STOREFRONT SYSTEMS, AWNINGS, COLD-FORMED METAL FRAMING, AND PREFABRICATED FRAMING MEMBERS. THESE SYSTEMS SHALL BE DESIGNED, FURNISHED, AND INSTALLED AS REQUIRED BY OTHER PORTIONS OF THE CONTRACT DOCUMENTS. JEZERINAC GEERS WILL REVIEW THE DESIGN METHODOLOGY, LOADS, AND INSTALLATION DETAILS AS PART OF THE SHOP DRAWING REVIEW PROCESS, AND MAY REQUEST A SEALED CALCULATION PACKAGE FOR REVIEW.

9. SHOULD ANY OF THE DETAILED INSTRUCTIONS SHOWN ON THE PLANS CONFLICT WITH THE GENERAL STRUCTURAL NOTES, THE SPECIFICATIONS OR WITH EACH OTHER, THE STRICTEST PROVISION WILL GOVERN.

10. CODE INFORMATION:
- GOVERNING CODE: 2017 OHIO BUILDING CODE
- BUILDING RISK CATEGORY: CATEGORY II

FLOOR LIVE LOADS (WITH ALLOWABLE REDUCTIONS WERE APPLICABLE):
- RESIDENTIAL:
  - PRIVATE ROOMS & CORRIDORS SERVING THEM: 40 PSF
  - STAIRS & EXITS: 100 PSF

ROOF LIVE LOADS
- ORDINARY FLAT, PITCHED, AND CURVED ROOFS: 20 PSF

SNOW LOADS
- GROUND SNOW LOAD (Pg): 20 PSF
- FLAT ROOF SNOW LOAD (Pf): 20 PSF
- SNOW EXPOSURE FACTOR (Ce): 1.0
- SNOW LOAD IMPORTANCE FACTOR (Is): 1.0
- THERMAL FACTOR (Ct): 1.0
- SNOW DRIFTING: SEE PLAN

WIND LOADS
- WIND IMPORTANCE FACTOR: 1.0
- BASIC ULTIMATE WIND SPEED (V ult): 115 MPH
- BASIC ALLOWABLE WIND SPEED (V asd): 90 PSF
- SITE EXPOSURE CATEGORY: B
- INTERNAL PRESSURE COEFFICIENT: +/- 0.18

SEISMIC LOADS:
- SEISMIC IMPORTANCE FACTOR: 1.0
- MAPPED SPECTRAL RESPONSE ACCELERATION (Ss): 0.114
- MAPPED SPECTRAL RESPONSE ACCELERATION (S1): 0.060
- SEISMIC SITE CLASS: D
- DESIGN SPECTRAL RESPONSE ACCELERATION (Sds): 0.122
- DESIGN SPECTRAL RESPONSE ACCELERATION (Sd1): 0.096
- SEISMIC DESIGN CATEGORY: B
- RESPONSE MODIFICATION COEFFICIENT (R): 6.5
- SEISMIC RESPONSE COEFFICIENT (Cs): 0.019
- SEISMIC DESIGN BASE SHEAR (V): K
- ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE
- BASIC SEISMIC FORCE-RESISTING SYSTEM: LIGHT FRAMED WALL SYSTEMS WITH WOOD SHEATHED SHEARWALLS

SPECIAL LOADS
- INTERIOR WALLS & PARTITIONS: 5 PSF HORIZONTAL
- HANDRAIL LOADS (ANY DIRECTION): 50 PLF/200# CONC.

GEOTECHNICAL:
- GEOTECHNICAL ENGINEER: INTERTEK, PSI
- REFERENCE REPORT I.D. OR NUMBER: 01021998
- REFERENCE REPORT DATE: AUGUST 16, 2021
- ALLOWABLE DESIGN BEARING PRESSURE: 1,500 PSF
- FOUNDATION TYPE: SHALLOW SPREAD FOOTING

**REINFORCED CONCRETE**

1. SPECIFICATIONS: IN GENERAL, COMPLY WITH ACI-301-16, "SPECIFICATIONS FOR STRUCTURAL CONCRETE".

2. MATERIALS:
A. STRUCTURAL CONCRETE:

| MIX USAGE | f'c (PSI) | MAX w/cm | AIR CONTENT |
|---|---|---|---|
| CLEAN CONCRETE | 1,500 | --- | --- |
| FOOTINGS & INTERIOR COLUMN PIERS | 3,000 | 0.60 | --- |
| INTERIOR SLABS ON GRADE | 3,500 | 0.50 | --- |
| EXTERIOR FOUNDATION STEMWALLS, EXTERIOR FOUNDATION WALLS, & EXTERIOR COLUMN PIERS | 4,000 | 0.45 | 5%-7% |
| EXTERIOR UNREINFORCED SLABS ON GRADE & EXTERIOR CONCRETE NOT SUBJECT TO DEICERS | 4,500 | 0.45 | 5%-7% |

B. ALL DEFORMED REINFORCING BARS: FY = 60,000 PSI.
C. CEMENT: PORTLAND CEMENT, ASTM C150, TYPE 1. ALL CEMENT FOR CONCRETE EXPOSED TO VIEW IS TO BE FROM THE SAME MILL.
D. AGGREGATES: ASTM C33, USE SIZE NO. 57 FOR ALL MIXES UNLESS NOTED OTHERWISE.
E. ADMIXTURES:
1. WATER-REDUCING, LOW AND MID RANGE: ASTM C494, TYPE A OR D.
2. HIGH-RANGE WATER-REDUCING, SUPERPLASTICIZER: ASTM C494, TYPE F OR G.
F. AIR-ENTRAINING: ASTM C260.
G. FLY ASH: ASTM C618, TYPE C OR F.
H. NON-CHLORIDE, NON-CORROSIVE ACCELERATOR: ASTM C494, TYPE C OR E.
I. VAPOR RETARDER SHALL CONFORM TO ASTM E1745 "STANDARD SPECIFICATION FOR PLASTIC WATER VAPOR RETARDERS USED IN CONTACT WITH SOIL OR GRANULAR FILL UNDER CONCRETE SLABS", CLASS A.
J. VAPOR RETARDER SHALL BE INSTALLED IN ACCORDANCE WITH ASTM E1643 "STANDARD PRACTICE FOR INSTALLATION OF WATER VAPOR RETARDERS USED IN CONTACT WITH EARTH OR GRANULAR FILL UNDER CONCRETE SLABS. THE VAPOR RETARDER/BARRIER SHALL BE A MINIMUM OF 10 MILS THICK AND PLACED DIRECTLY ON THE GRANULAR FILL, BELOW THE CONCRETE FLOOR SLAB. LAP JOINTS A MINIMUM OF 6 INCHES AND SEAL WITH MANUFACTURER'S RECOMMENDED TAPE OR ADHESIVE.

3. FIELD MANUAL: PROVIDE AT LEAST ONE COPY OF THE ACI FIELD REFERENCE MANUAL, SP-15 IN THE FIELD OFFICE AT ALL TIMES.

4. SUBMITTALS:
A. SUBMIT A MIX DESIGN FOR EACH MIXTURE USAGE REQUIRED FOR THE PROJECT. CONCRETE PROPORTIONS ARE TO BE ESTABLISHED ON THE BASIS OF PREVIOUS FIELD EXPERIENCE OR TRIAL MIXTURES.
B. SUBMIT PLACING DRAWINGS FOR ALL REINFORCING. INDICATE STRENGTH, SIZE, AND DETAILS OF ALL BAR REINFORCING.
C. SUBMIT PRODUCT LITERATURE FOR ADMIXTURES AND CURING COMPOUNDS PROPOSED FOR USE.
D. SUBMIT REPORTS OF ALL REQUIRED TESTING AND INSPECTIONS.

5. CONTINGENCIES:
A. PROVIDE LEAN CONCRETE UNDER FOUNDATIONS FOR ACCIDENTAL OVER EXCAVATION. SOFT SPOTS, AND UTILITY TRENCHES.

6. FOOTINGS, PIERS, WALLS:
A. DOWELS IN FOOTINGS TO MATCH VERTICAL PIER OR WALL REINFORCING.
B. PROVIDE CORNER BARS AT WALL AND FOOTING CORNERS TO MATCH HORIZONTAL REINFORCING. MINIMUM LENGTH OF EACH LEG - 36 BAR DIAMETERS.

7. SPLICES:
A. LAP SPLICE REINFORCING BARS AS SCHEDULED. MINIMUM LAP = 36 DIAMETERS.

8. CONSTRUCTION JOINTS:
A. CONSTRUCTION JOINTS PERMITTED ONLY WHERE SHOWN OR AS APPROVED BY THE STRUCTURAL ENGINEER.

9. FINISHES:
A. PER ACI 117, SURFACES OF INTERIOR SLABS ON GRADE ARE TO BE FINISHED TO THE FOLLOWING TOLERANCES: FLOOR FLATNESS FF=30 AND LEVELNESS F(L)=20 UNLESS NOTED OTHERWISE IN SPECIFICATIONS.
B. TYPICAL INTERIOR FLOOR AREAS TO RECEIVE CARPET, RESILIENT FLOOR COVERING, OR TO REMAIN EXPOSED - TROWELED FINISH.
C. INTERIOR FLOOR AREAS TO RECEIVE QUARRY TILE OR CERAMIC TILE - FLOATED FINISH.
D. EXTERIOR SLABS - BROOM FINISH.

10. CURING:
A. CURING IS TO COMMENCE IMMEDIATELY AFTER CONCRETE PLACEMENT AND CONTINUE FOR AT LEAST 7 DAYS. DO NOT ALLOW CURING TO BE DELAYED OVERNIGHT.
B. INTERIOR SLABS TO RECEIVE QUARRY TILE OR CERAMIC TILE ARE TO BE MOIST-CURED WITHOUT THE USE OF A CURING COMPOUND.
C. ALL OTHER SLABS MAY BE EITHER MOIST-CURED OR RECEIVE AN APPLICATION OF CURING COMPOUND.

11. FIELD QUALITY CONTROL:
A. OBTAIN CONCRETE FOR REQUIRED TESTS AT POINT OF PLACEMENT. IF CONCRETE IS PUMPED, OBTAIN CONCRETE AT DISCHARGE END.
B. FOR EACH CLASS OF CONCRETE, OTHER THAN LEAN CONCRETE, PERFORM ONE STRENGTH TEST FOR EACH 50 YARDS, OR FRACTION THEREOF, FOR ONE DAY PLACEMENT.
C. DETERMINE SLUMP FOR EACH STRENGTH TEST.
D. DETERMINE AIR CONTENT FOR EACH STRENGTH TEST OF EXTERIOR EXPOSED CONCRETE.
E. MAINTAIN RECORDS OF ALL TESTS INDICATING EXACT LOCATION OF THE STRUCTURE REPRESENTED BY EACH TEST.

**MASONRY**

1. MATERIALS:
A. CONCRETE BLOCK: ASTM C90 (HOLLOW AND SOLID), MINIMUM NET AREA COMPRESSIVE STRENGTH OF CONCRETE MASONRY UNITS = 2,600 PSI.
B. MORTAR: ASTM 270 TYPE S, MINIMUM COMPRESSIVE STRENGTH = 1,800 PSI
C. GROUT FOR BOND BEAM AND CORE FILL: ASTM C476, COARSE TYPE WITH f'c = 2,500 PSI MIN.
D. DESIGN COMPRESSIVE STRENGTH OF MASONRY SYSTEM: f'm = 2,250 PSI
E. HORIZONTAL JOINT REINFORCING: STANDARD LADDER TYPE, 9 GA., MILL GALVANIZED FINISH. PROVIDE AT 8" O.C. BELOW GRADE, AND 16" O.C. ABOVE GRADE, UNLESS NOTED OTHERWISE.

2. CONTROL JOINTS:
A. PROVIDE CONTROL JOINTS IN ALL MASONRY WALLS AT A SPACING NOT TO EXCEED THREE TIMES THE WALL HEIGHT OR 24 FEET ON CENTER, WHICHEVER IS SMALLER. IN ADDITION, PROVIDE CONTROL JOINTS AT THE ENDS OF LINTELS, CHANGES IN WALL HEIGHT, CHANGES IN WALL THICKNESS, WITHIN 2 FEET OF WALL CORNERS AND INTERSECTIONS, TRANSITIONS FROM INTERIOR WALL TO EXTERIOR WALL, AND TRANSITIONS FROM WALL BEARING ON FOUNDATION TO WALL BEARING ON FLOOR SLAB.

3. MISCELLANEOUS:
A. PROVIDE 100% SOLID CMU BEARING, MINIMUM 3 COURSES UNDER BEAMS, 2 COURSES UNDER JOISTS, UNLESS DETAILED OTHERWISE.
B. PROVIDE SOLID OR GROUT-FILLED CMU FOR ALL BELOW-GRADE FOUNDATION WALLS
C. FILL CORE SOLID AROUND CAST-IN ANCHOR RODS.
D. PROVIDE SOLID CMU OR SOLIDLY FILLED HOLLOW CMU AT ALL EPOXY ANCHOR AND WEDGE ANCHOR LOCATIONS. EXTEND SOLID AREA AT LEAST 8" IN ALL DIRECTIONS FROM CENTER OF ANCHOR.
E. SET WELD PLATES IN BOND BEAMS AFTER THE GROUT IS PLACED, BUT WHILE IT IS STILL PLASTIC.
F. FILL ALL BEARING POCKETS AROUND BEAM AND JOIST SEATS WITH SOLID CMU.
G. HOLLOW MASONRY UNITS TO BE LAID WITH FULL MORTAR COVERAGE ON HORIZONTAL AND VERTICAL FACE SHELLS. WEBS ARE TO ALSO BE BEDDED IN ALL COURSES OF PIERS, PILASTERS, THE STARTING COURSE ON FOOTINGS, AND WHEN ADJACENT TO CELLS OR CAVITIES TO BE REINFORCED OR FILLED WITH CONCRETE OR GROUT. SOLID UNITS TO BE LAID WITH FULL HEAD AND BED JOINTS.
H. PROVIDE APPROPRIATE MASONRY ANCHORS AT 16" O.C. MAX. TO TIE MASONRY TO ABUTTING STEEL COLUMNS, STEEL BEAM WEBS, AND ALL ABUTTING CONCRETE SURFACES.
I. WHERE HOLLOW MASONRY UNITS ARE USED ABOVE HOLLOW MASONRY UNITS OF A DIFFERENT THICKNESS, PROVIDE A CONTINUOUS COURSE OF SOLID MASONRY AT LEAST 8" HIGH BELOW THE TRANSITION.
J. AT CORBELLED WALLS, USE SOLID MASONRY FOR THE COURSE BELOW THE FIRST CORBEL AND FOR EACH CORBELLED COURSE. MAXIMUM CORBEL PER COURSE = 1", UNLESS DETAILED OTHERWISE.
K. LAP SPLICE REINFORCING BARS AS SCHEDULED.
L. ALL GROUTING OF MASONRY WALLS IS TO BE BY THE LOW-LIFT GROUTING METHOD (MAXIMUM LIFT HEIGHT 5'-0"), UNLESS CLEAN-OUTS AND INSPECTIONS ARE PROVIDED.

**STRUCTURAL STEEL**

1. MATERIALS:
A. STRUCTURAL STEEL WIDE FLANGE SHAPES: ASTM A992, Fy = 50 KSI
B. STRUCTURAL STEEL CHANNELS, ANGLES, ETC.: ASTM A36, Fy = 36 KSI
C. STRUCTURAL STEEL PLATES: UNLESS NOTED OTHERWISE - ASTM A36, Fy = 36 KSI; ASTM A529 OR A572, Fy = 50 KSI, WHERE NOTED
D. HIGH STRENGTH BOLTS: ASTM A325 OR A490
E. ANCHOR RODS: ASTM F1554, GRADE 36, UNLESS NOTED OTHERWISE
F. ELECTRODES: SERIES E70
G. RECTANGULAR HSS: ASTM A500, GRADE C, FY = 50 KSI
H. ROUND HSS: ASTM A500, GRADE C, FY = 46 KSI
I. STRUCTURAL PIPES: ASTM A53, GRADE B, FY = 35 KSI
J. SHEAR STUDS: ASTM A108, FY = 60 KSI
K. DEFORMED BAR ANCHORS: ASTM A496, Fy = 70 KSI

2. SPECIFICATIONS:
A. WELDING PERSONNEL AND PROCEDURES ARE TO BE QUALIFIED PER AWS D1.1. UNLESS SPECIFICALLY SHOWN OTHERWISE, DESIGN, FABRICATION AND ERECTION TO BE GOVERNED BY THE LATEST REVISIONS OF:
1. AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
2. AISC CODE OF STANDARD PRACTICE.
3. STRUCTURAL WELDING CODE, AWS D1.1 OF THE AMERICAN WELDING SOCIETY.
4. SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.

3. SUBMITTALS:
A. SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL WHICH INCLUDE ERECTION PLANS, CONNECTION DETAILS, AND SHOP DETAILS INDICATING CUTS, CORES, CAMBERS, CONNECTIONS, HOLES, THREADED FASTENER TYPES AND SIZES, AND SIZES AND LENGTHS OF WELDS.
B. INDICATE MATERIAL SPECIFICATIONS, STRENGTHS, AND FINISHES.

4. CONNECTIONS:
A. FIELD CONNECTIONS ARE TO BE BOLTED, EXCEPT AS INDICATED OTHERWISE. SHOP CONNECTIONS MAY BE WELDED OR BOLTED.
B. CONNECTIONS ARE TO BE DESIGNED BY THE FABRICATOR TO DEVELOP EITHER 100% OF THE FULL UNIFORM LOAD CAPACITY OF THE MEMBER, OR THE FORCES SHOWN ON THE PLANS. COMPOSITE BEAM CONNECTIONS ARE TO BE DESIGNED FOR 100% OF THE UNIFORM LOAD CAPACITY OF THE MEMBER, OR THE FORCES SHOWN ON THE PLANS. MINIMUM CONNECTION CAPACITY TO BE 10 KIPS. FOLLOW INSTRUCTIONS ON DRAWINGS FOR GENERAL ARRANGEMENT OF PARTIAL CONNECTION DETAILS.
C. MISCELLANEOUS STEEL MEMBERS (ANGLES, CHANNELS, ETC.) THAT SUPPORT DECK AROUND THE PERIMETER OF A FLOOR OR ROOF SHALL BE CONTINUOUS. WHERE SPLICES IN THESE MEMBERS MUST OCCUR TO FACILITATE ERECTION, PROVIDE PARTIAL PENETRATION SQUARE GROOVE WELD (BUTT JOINT) W/ 3/16" EFFECTIVE THROAT ON ONE SIDE, EACH LEG.

5. COATINGS:
A. DO NOT PAINT STEEL OR ANCHOR RODS WHICH WILL BE ENCASED IN CONCRETE OR MASONRY, NOR ANY STEEL WHICH IS SCHEDULED TO RECEIVE SPRAY-APPLIED OR INTUMESCENT-MASTIC FIREPROOFING.
B. HOT DIP GALVANIZE EXPOSED STEEL (INCLUDING ANCHOR RODS) UNLESS NOTED OTHERWISE.
C. PAINT ALL EXPOSED STEEL WITH ONE COAT OF RUST-INHIBITIVE PRIMER.
D. PROVIDE A FIELD-APPLIED COAT OF ASPHALT MASTIC PAINT FOR ALL BELOW-GRADE STEEL (INCLUDING ANCHOR RODS, NUTS, WASHERS, BASE PLATES, AND BELOW-GRADE PORTION OF COLUMNS) WHICH IS NOT FULLY ENCASED IN CONCRETE.
E. INTERIOR NON-EXPOSED STEEL NEED NOT BE PRIME PAINTED.

6. MISCELLANEOUS:
A. PROVIDE HOLES FOR OTHERS. IF OPENING IS NOT SHOWN ON THE STRUCTURAL DRAWINGS, OBTAIN PRIOR APPROVAL.
B. STEEL SUPPORTING OR CONNECTING TO MECHANICAL AND OTHER EQUIPMENT AND ROOF OPENINGS AS SHOWN ON ARCHITECTURAL AND MECHANICAL DRAWINGS IS SCHEMATIC ON THE STRUCTURAL DRAWINGS IS SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR IS TO RECONCILE EXACT SIZE AND LOCATION WITH MECHANICAL AND OTHER REQUIREMENTS BEFORE PROCEEDING WITH THIS WORK.
C. GROUT UNDER BEARING PLATES TO BE NON-METALLIC, NON-SHRINKING TYPE.
D. STEEL BELOW GRADE TO BE PROTECTED BY A MINIMUM OF 3" OF CONCRETE, 4" OF SOLID MASONRY, OR A FIELD-APPLIED COAT OF ASPHALT MASTIC PAINT.
E. PROVIDE 1/4" THICK BEARING PLATES FOR ALL BEAMS AND BEAM LINTELS BEARING ON MASONRY OR CONCRETE WHICH DO NOT REQUIRE A THICKER BEARING PLATE.
F. PROVIDE HEAVY FLAT WASHERS AT ALL ANCHOR RODS.
G. FINISH ENDS OF ALL COLUMNS, STIFFENERS AND ALL OTHER MEMBERS IN DIRECT BEARING.
H. PROVIDE BOLT HOLES IN WOOD NAILERS AND JOISTS BOLTED TO BEAMS.
I. PROVIDE ATTACHMENT FOR JOINING EXTENDED JOIST BOTTOM CHORDS.
J. STEEL IN CONTACT WITH PRESSURE-TREATED LUMBER IS TO BE PROTECTED FROM CORROSION FROM PRESERVATIVE CHEMICALS WITH A ZI 06L (MIN.) VAPOR BARRIER. BOLTS AND SCREWS THROUGH PRESSURE-TREATED LUMBER ARE TO BE HOT DIPPED GALVANIZED PER ASTM A153 WITH A MINIMUM G185 COATING OR STAINLESS STEEL WITH CHEMICAL COMPOSITION CONFORMING TO AISI 303/304 OR AISI 316.
K. PROVIDE MISCELLANEOUS ANGLES OR CHANNELS TO SUPPORT DECK EDGES AROUND COLUMNS THAT EXTEND THROUGH THE DECK.
L. PROVIDE ADDITIONAL SUPPORT FOR ALL DECK OPENINGS THAT ARE EQUAL TO OR GREATER THAN 12" IN WIDTH OR DIAMETER, NOT ALL DECK OPENINGS ARE SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE SIZE AND LOCATION WITH ARCHITECTURAL, MECHANICAL, PLUMBING AND OTHER TRADES.
M. SEE ARCHITECTURAL SECTIONS AND DETAILS FOR ALL MISCELLANEOUS STRUCTURAL STEEL NOT OTHERWISE INDICATED IN THE STRUCTURAL DRAWINGS.

7. FIELD QUALITY CONTROL:
A. INSPECTION AGENCY IS TO PERFORM INSPECTION OF BOLTED CONNECTIONS PER THE REQUIREMENTS OF AISC SPECIFICATION FOR STRUCTURAL JOINTS.

8. CONTINGENCY:
A. PROVIDE AND ERECT 1.5 TONS OF STRUCTURAL AND/OR MISCELLANEOUS STEEL (STRUCTURAL SHAPES, ANGLES, PLATES, ETC.) TO BE USED AS DIRECTED BY THE ARCHITECT/ENGINEER. CONNECTIONS TO BE FIELD-WELDED IF REQUIRED.

**STRUCTURAL LUMBER**

1. MATERIALS:
A. STRUCTURAL LUMBER: ALL DESIGN VALUES PER 2015 NFPA NATIONAL DESIGN SPECIFICATION. ANY SUBSTITUTIONS ARE TO MEET MINIMUM DESIGN VALUES OF ABOVE MEMBERS. UNLESS NOTED OTHERWISE FRAMING MATERIALS SHALL BE:
1) BEAMS, STUDS, HEADERS, JOISTS, AND RAFTERS - SPRUCE-PINE-FIR NO. 1/NO.2
2) MICRO-LAM (MHL) OR LAMINATED VENEER LUMBER (LVL): Fb = 2,800 PSI, Fv = 285 PSI, Fc (PERP.) = 750 PSI, E = 1,900 KSI.
3) PARALLAM OR PARALLEL STRAND LUMBER (PSL):
a. BEAMS: Fb = 2,900 PSI, Fv = 290 PSI, Fc (PERP.) = 750 PSI, E = 2,000 KSI.
b. COLUMNS: Fb = 2,400 PSI, Fv = 190 PSI, Fc (PERP.) = 540 PSI, E = 1,800 KSI.
4) DECKING AND SHEATHING (OSB OR PLYWOOD):
FLOORS: 3/4" NOMINAL APA RATED STURD-I-FLOOR, 48/24, EXP. 1, TONGUE AND GROOVE
ROOFS: 19/32 (5/8" NOMINAL) APA RATED SHEATHING, 32/16, EXPOSURE 1
WALL SHEATHING: 7/16" APA RATED SHEATHING, WALL-24, EXPOSURE 1
B. ALL LUMBER IN CONTACT WITH CONCRETE, MASONRY, GROUNDSIDE, OR USED IN CONDITIONS WITH MOISTURE PRESENT, IS TO BE PRESSURE-TREATED TO RESIST DECAY. PRESERVATIVES USED FOR PRESSURE TREATMENT ARE TO BE ALKALINE COPPER QUAT, ACQ-C OR ACQ-D. OTHER PRESERVATIVES PROPOSED FOR USE ARE TO BE SUBMITTED FOR REVIEW PRIOR TO ERECTION OR INSTALLATION ON THE PROJECT.

2. SPECIFICATIONS:
A. UNLESS SPECIFICALLY SHOWN OTHERWISE, DESIGN, FABRICATION AND ERECTION ARE TO BE GOVERNED BY THE LATEST REVISIONS OF:
1. NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION.
2. U.S. PRODUCT STANDARD PS-1 FOR CONSTRUCTION AND INDUSTRIAL PLYWOOD.
3. APA PS 2-18, PERFORMANCE STANDARD FOR WOOD STRUCTURAL PANELS.
4. APA DESIGN/CONSTRUCTION GUIDE - RESIDENTIAL AND COMMERCIAL.

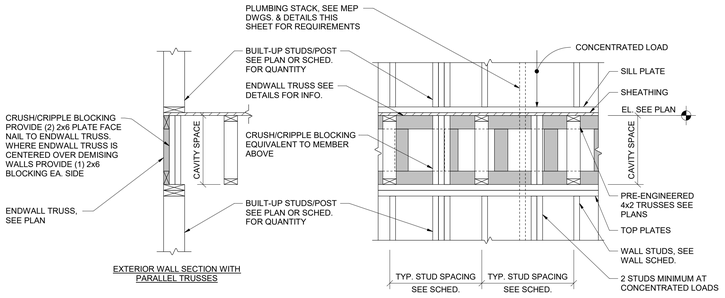
3. CONNECTIONS:
A. CONNECTIONS FOR WOOD MEMBERS SHALL BE MINIMALLY FASTENED AS PRESCRIBED IN TABLE 2304.10.1 OF THE REFERENCED BUILDING CODE UNLESS DETAILED OTHERWISE. ALL NAILS ARE TO BE COMMON WIRE NAILS UNLESS SPECIFICALLY NOTED OTHERWISE.
B. ALL CONNECTION PLATES ON CONCRETE OR MASONRY WALLS SHALL BE PRESSURE TREATED LUMBER, 20 PT #2 GRADE MINIMUM. SILLS SHALL BE ANCHORED TO CONCRETE OR MASONRY WITH 1/2" DIAMETER - 12" LONG ANCHOR RODS SPACED AT 48" O.C. MAXIMUM, UNLESS NOTED OTHERWISE. THERE SHALL BE A MINIMUM OF 3 BOLTS PER SILL PIECE WITH ONE BOLT LOCATED WITHIN 12" OF EACH END OF EACH PIECE. DO NOT PROVIDE A SILL PLATE SPLICE UNDER ANY DOOR OR STUD. SEE SHEARWALL SCHEDULE AND DETAILS FOR ADDITIONAL REQUIREMENTS.
C. JOISTS TO BEAMS OR JOISTS TO TRUSSES - 16 GA. STD. JOIST HANGERS, UNLESS SHOWN OTHERWISE. BEAMS TO BEAMS - 16 GA. BEAM HANGERS, UNLESS SHOWN OTHERWISE.
D. ALL HANGERS, STRAPS, CLIP ANGLES, BASES, HOLDOWNS, TIES OR OTHER CONNECTORS IN CONTACT WITH PRESSURE-TREATED LUMBER ARE TO BE BATCH/POST HOT DIPPED GALVANIZED PER ASTM A123 WITH A MINIMUM G185 COATING OR STAINLESS STEEL WITH CHEMICAL COMPOSITION CONFORMING TO AISI 303/304 OR AISI 316.
E. ALL FASTENERS INCLUDING NAILS, ANCHOR RODS, POWDER ACTUATED FASTENERS, SCREWS, BOLTS, AND THREADED RODS, IN CONTACT WITH PRESSURE TREATED LUMBER ARE TO BE HOT DIPPED GALVANIZED PER ASTM A153 WITH A MINIMUM G185 COATING OR STAINLESS STEEL WITH CHEMICAL COMPOSITION CONFORMING TO AISI 303/304 OR AISI 316. FASTENERS AND CONNECTORS ARE TO BE OF THE SAME MATERIAL, STAINLESS STEEL OR HOT DIPPED GALVANIZED. DO NOT MIX MATERIALS.
F. ALL MECHANICAL ANCHORS INCLUDING WEDGE ANCHORS AND SLEEVE ANCHORS IN CONTACT WITH PRESSURE TREATED LUMBER ARE TO BE STAINLESS STEEL WITH CHEMICAL COMPOSITION CONFORMING TO AISI 303/304 OR AISI 316.
G. SHEATHING TO FRAMING:
1. FLOORS - GLUED AND NAILED WITH ADHESIVES MEETING APA SPECIFICATIONS APG-01 AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, USE 10d COMMON NAILS AT 6" ON CENTER AT PANEL EDGES AND 12" ON CENTER AT INTERMEDIATE SUPPORTS (UNO).
2. ROOFS - USE 10d NAILS AT 6" ON CENTER AT PANEL EDGES AND 12" ON CENTER AT INTERMEDIATE SUPPORTS (UNO).
3. STUD WALLS - USE 8d COMMON OR GALVANIZED BOX NAILS AT 6" ON CENTER AT PANEL EDGES AND 12" ON CENTER AT INTERMEDIATE SUPPORTS (UNO). SEE SHEARWALL SCHEDULES FOR ADDITIONAL FASTENING REQUIREMENTS.
4. GYPSUM-SHEATHED WALLS - USE 5d COOLER OR 6d GALVANIZED BOX NAILS AT 7" ON CENTER AT PANEL EDGES AND 12" ON CENTER AT INTERMEDIATE SUPPORTS (UNO).
H. TRUSS TO WALL OR RAFTERS TO WALL - STANDARD HURRICANE ANCHORS AT EACH BEARING POINT. ADDITIONAL ANCHORS MAY BE REQUIRED BASED UPON FINAL LAYOUT AND DESIGN BY THE TRUSS MANUFACTURER DURING THE SHOP DRAWING PROCESS.

4. MISCELLANEOUS:
A. PROVIDE ONE LINE OF SOLID BLOCKING OR CROSS BRIDGING AT 8'-0" O/C MAX. FOR ALL FLOOR JOISTS. USE SOLID BLOCKING AT ALL JOIST AND RAFTER BEARINGS.
B. PROVIDE SOLID BLOCKING AT MID-HEIGHT OF WALLS FOR EACH OF THE FOLLOWING CONDITIONS: EXTERIOR STUD WALLS, INTERIOR BEARING PARTITIONS, AND ALL WALL FRAMING WHICH IS NOT SHEATHED ON EACH SIDE WITH GYPSUM OR WOOD SHEATHING.
C. USE SINGLE JACK STUDS UNDER BEAM AND HEADER BEARINGS FOR ROUGH OPENINGS UP AND INCLUDING 4'-0", AND DOUBLE JACK STUDS UNDER BEAM AND HEADER BEARINGS FOR SPANS GREATER THAN 4'-0", UNLESS SHOWN OTHERWISE.
D. APPLY CONTINUOUS BEAD OF GLUE ON JOISTS AND GROOVE OF TONGUE-AND-GROOVE PANELS.
E. BEFORE APPLYING FINISH FLOORING, SET NAILS 1/8" BUT DO NOT FILL. AND SMOOTHLY SAND ANY SURFACE ROUGHNESS, PARTICULARLY AT JOINTS AND AROUND NAILS.
F. EACH MEMBER OF MULTIPLE MEMBER BEAMS AND COLUMNS ARE TO BE NAILED TOGETHER WITH 2 ROWS OF 10d NAILS AT 6" ON CENTER, STAGGERED. THE FULL LENGTH OF THE MEMBER. FOR MULTIPLE MEMBER LVL OR LSL PRODUCTS, FOLLOW MINIMUM FASTENING REQUIREMENTS OF THE MANUFACTURER.

**ENGINEERED WOOD TRUSSES**

1. MATERIALS:
A. LUMBER: AS REQUIRED BY THE TRUSS MANUFACTURER. MINIMUM GRADE TO BE SYP NO. 2 KD 15 PERCENT MC, EXCEPT FOR WEB MEMBERS WHICH MAY BE MINIMUM GRADE OF SYP NO. 3 KD 15 PERCENT MC.
B. CONNECTIONS: ALL INTERNAL TRUSS CONNECTIONS ARE TO BE DESIGNED BY THE TRUSS MANUFACTURER. CONNECTORS ARE TO BE DEFORMED PLATE TYPE, OF MINIMUM 20 GAUGE GALVANIZED STEEL SHEET. ALL JOINTS ARE TO BE DESIGNED USING METHODS AS SET FORTH IN TPI STANDARDS.
C. ALL HANGERS, STRAPS, CLIP ANGLES, BASES, HOLDOWNS, TIES OR OTHER CONNECTORS IN CONTACT WITH PRESSURE-TREATED LUMBER ARE TO BE BATCH/POST HOT DIPPED GALVANIZED PER ASTM A123 WITH A MINIMUM G185 COATING OR STAINLESS STEEL WITH CHEMICAL COMPOSITION CONFORMING TO AISI 303/304 OR AISI 316.
D. ALL FASTENERS INCLUDING NAILS, ANCHOR RODS, POWDER ACTUATED FASTENERS, SCREWS, BOLTS, AND THREADED RODS, IN CONTACT WITH PRESSURE TREATED LUMBER ARE TO BE HOT DIPPED GALVANIZED PER ASTM A153 WITH A MINIMUM G185 COATING OR STAINLESS STEEL WITH CHEMICAL COMPOSITION CONFORMING TO AISI 303/304 OR AISI 316. FASTENERS AND CONNECTORS ARE TO BE OF THE SAME MATERIAL, STAINLESS STEEL OR HOT DIPP

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EXTERIOR WALL SECTION WITH PARALLEL TRUSSES

TYPICAL LOAD BEARING WALL ELEVATION

NOTES:

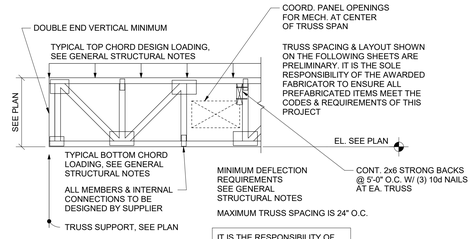
1) ALL CONCENTRATED LOADS FROM COLUMNS/POSTS TO HAVE CONTINUOUS LOAD PATH TO FOUNDATION. PROVIDE CRUSH/CRIPPLE BLOCKING WITHIN FLOOR CAVITY SPACES EQUIVALENT TO MEMBER SIZE ABOVE

2) ALL CONCENTRATED LOADS ON WALL TO HAVE A MINIMUM OF 2-2x BUILT-UP STUD POST AT SUPPORTS UNLESS NOTED OTHERWISE ON PLAN

3) ENDWALL TRUSS TO HAVE A MINIMUM 2x4 TOP & BOTTOM CHORD AND 2x4 VERTICALS @ 16" O.C. WHEN CARRYING 3 STORIES OR LESS AND 2x4 VERTICALS @ 12" O.C. WHEN CARRYING 4 STORIES OR MORE

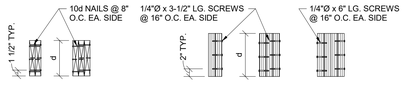
**TYPICAL CRIPPLE BLOCKING REQUIRMENTS**

DETAIL 1 — 3/4" = 1'-0"



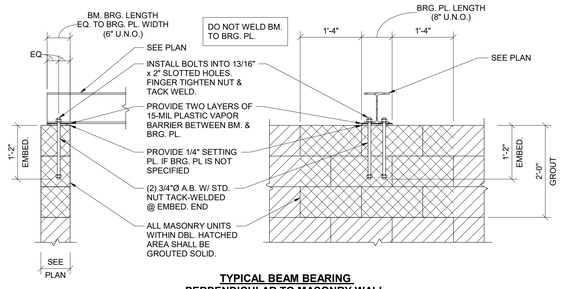

**TYPICAL PRE-ENGINEERED 4x2 FLOOR TRUSS REQUIREMENTS**

DETAIL 2 — 3/4" = 1'-0"



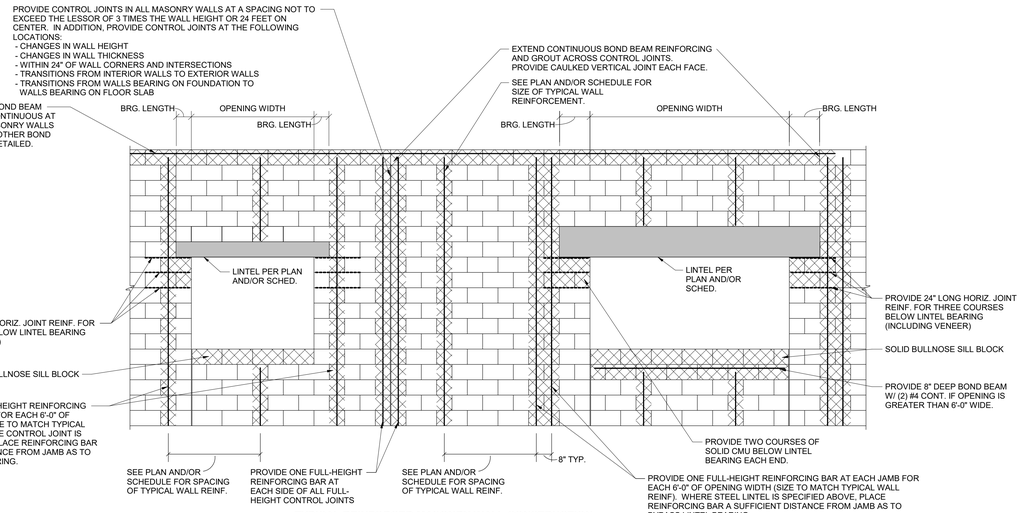

**TYPICAL MULTIPLE WOOD MEMBER CONNECTION REQUIREMENTS**

DETAIL 3 — 3/4" = 1'-0"




**TYPICAL BEAM BEARING PERPENDICULAR TO MASONRY WALL**

DETAIL 5 — 3/4" = 1'-0"



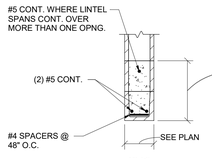

**TYPICAL REINFORCED MASONRY WALL CONSTRUCTION**

DETAIL 4 — 3/8" = 1'-0"




**DETAIL AT PLUMBING STACK**

DETAIL 6 — 3/4" = 1'-0"




| MARK | DEPTH (d) | MAX. SPAN (UNO) |
|---|---|---|
| ML8 | 7 5/8" | 6'-0" |
| ML16 | 1'-3 5/8" | 8'-4" |
| ML24 | 1'-11 5/8" | 10'-8" |

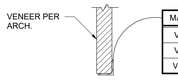
ML(d)

**MASONRY LINTEL NOTES**

1. FILL IS 2500 PSI (MINIMUM) GROUT. USE FINE GROUT FOR WALLS 6 INCHES AND LESS.
2. FOR TYPE OF CMU AND TYPE OF BOND, SEE SPECIFICATION SECTION 042000.
3. LINTELS SHALL BEAR ON SOLID CMU OR ON 2 FILLED COURSES.
4. MAXIMUM SPANS DO NOT APPLY TO LOAD BEARING WALLS.
5. BOND PATTERN OF LINTEL TO MATCH THAT OF SURROUNDING WALL.
6. BOTTOM OF LINTEL SHALL BE SMOOTH MASONRY WITH NO CORES EXPOSED.
7. PROVIDE 8" MINIMUM BEARING EACH END FOR 8" AND 16" DEEP LINTELS. USE 16" MINIMUM BEARING FOR 24" (AND DEEPER) LINTELS.
8. PROVIDE SCORED BLOCK AS REQUIRED TO MATCH ADJACENT WALL FINISH. REFER TO INTERIOR FINISH SCHEDULE FOR LOCATION OF ALL SCORED BLOCK.

**MASONRY LINTELS**

*NOTE FOR "VL8" LINTELS: SPECIAL VENEER SHAPES MUST BE USED, OR TYPICAL SHAPES MUST BE MODIFIED, TO ACCOMMODATE ANGLE THICKNESS AND MAINTAIN EVEN MORTAR JOINT THICKNESS AT BEARING




| MARK | SIZE | MAX. SPAN (UNO) |
|---|---|---|
| VL4 | L4 x 4 x 5/16 | 6'-0" |
| VL6 | L6 x 4 x 5/16 LLV | 8'-4" |
| VL8* | L8 x 4 x 7/16 LLV | 10'-8" |

VL(d)

**VENEER LINTEL NOTES**

1. LINTELS SHALL BEAR ON SOLID MASONRY OR ON TWO CMU COURSES FULLY GROUTED.
2. FURNISH AND INSTALL ALL LOOSE LINTELS REQUIRED FOR ALL OPENINGS IN MASONRY, INCLUDING MECHANICAL AND ELECTRICAL WORK, WHETHER SPECIFICALLY NOTED ON DRAWINGS OR NOT.
3. ALL LINTELS AT EXTERIOR LOCATIONS OR OTHERWISE SUBJECT TO WEATHER OR CORROSIVE ATMOSPHERE SHALL BE GALVANIZED.
4. PROVIDE 6" MINIMUM BEARING EACH END.
5. PROVIDE TWO LAYERS OF 15-MIL PLASTIC VAPOR BARRIER BELOW ALL LINTEL BEARINGS AND CAULK FACE JOINT.

**VENEER LINTELS**

**LAP SPLICE SCHEDULE FOR CONCRETE REINFORCING**

3,000 psi & 3,500 psi CONCRETE UNCOATED REINFORCING BARS

| BAR SIZE | 3/4" CLR. | | 1 1/2" CLR. AND GREATER | |
|---|---|---|---|---|
| #4 | 3'-1" | 2'-4" | 3'-1" | 2'-4" |
| #5 | 3'-10" | 3'-0" | 3'-10" | 3'-0" |
| #6 | 4'-8" | 3'-7" | 4'-8" | 3'-7" |
| #7 | 7'-6" | 5'-9" | 6'-9" | 5'-2" |
| #8 | 9'-3" | 7'-1" | 7'-9" | 5'-11" |
| #9 | 11'-2" | 8'-7" | 8'-8" | 6'-8" |
| #10 | 13'-6" | 10'-4" | 9'-10" | 7'-6" |
| #11 | 15'-10" | 12'-2" | 10'-11" | 8'-4" |

**LAP SPLICE SCHEDULE FOR CONCRETE REINFORCING**

4,000 psi & 4,500 psi CONCRETE UNCOATED REINFORCING BARS

| BAR SIZE | 3/4" CLR. | | 1 1/2" CLR. AND GREATER | |
|---|---|---|---|---|
| #4 | 2'-8" | 2'-1" | 2'-8" | 2'-1" |
| #5 | 3'-4" | 2'-7" | 3'-4" | 2'-7" |
| #6 | 4'-0" | 3'-1" | 4'-0" | 3'-1" |
| #7 | 6'-6" | 5'-0" | 5'-10" | 4'-6" |
| #8 | 8'-0" | 6'-2" | 6'-8" | 5'-2" |
| #9 | 9'-8" | 7'-6" | 7'-6" | 5'-10" |
| #10 | 11'-8" | 9'-0" | 8'-6" | 6'-6" |
| #11 | 13'-8" | 10'-6" | 9'-5" | 7'-3" |

1. TOP BARS / OTHER BARS — TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BAR.
2. BAR SPACING TO BE A MINIMUM OF THREE DIAMETERS UNLESS NOTED OR SCHEDULED OTHERWISE.
3. APPLICABLE ONLY FOR 60 KSI STEEL AND NORMAL WEIGHT CONCRETE.
4. IN LIEU OF LAP SPLICING, BARS MAY BE SPLICED BY MECHANICAL MEANS WHICH DEVELOP AT LEAST 125% OF THE BAR'S SPECIFIED YIELD STRENGTH.

**LAP SPLICE SCHEDULE FOR MASONRY REINFORCING**

| f'm = 1,500 psi | BAR CENTERED IN WALL d = t/2 | | | |
|---|---|---|---|---|
| | ld (in) | | | |
| BAR # | 8" CMU | 10" CMU | 12" CMU | 14" CMU |
| #3 | 1'-0" | 1'-0" | 1'-0" | 1'-0" |
| #4 | 1'-3" | 1'-0" | 1'-0" | 1'-0" |
| #5 | 1'-11" | 1'-6" | 1'-3" | 1'-2" |
| #6 | 3'-7" | 2'-10" | 2'-4" | 1'-11" |
| #7 | 5'-0" | 3'-10" | 3'-2" | 2'-8" |
| #8 | 7'-8" | 5'-11" | 4'-9" | 4'-0" |
| #9 | - | 7'-7" | 6'-2" | 5'-2" |

1. " * " INDICATES LAP LENGTH GREATER THAN MAXIMUM ALLOWABLE HEIGHT OF 5'-0" FOR LOW-LIFT GROUTING.
2. APPLICABLE ONLY FOR BARS CENTERED IN MASONRY CELL.
3. APPLICABLE ONLY FOR 60 KSI STEEL AND ASTM C90 BLOCK.

**REINFORCING COVER/TOLERANCE (#3 - #11 BARS)**

| EXPOSURE CONDITION | MIN. COVER (U.N.O.) | PLACEMENT TOLERANCE |
|---|---|---|
| CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: | 3" | 0", +3" |
| EXPOSED TO EARTH OR WEATHER<br>- #5 AND SMALLER BARS:<br>- #6 AND LARGER BARS: | 1-1/2"<br>2" | -1/4", +1/2"<br>-1/4", +1/2" |
| NEITHER EXPOSED TO WEATHER, NOR IN CONTACT WITH GROUND<br>- SLABS AND WALLS:<br>- BEAMS, COLUMNS, & PIERS: (TO TIES OR STIRRUPS) | 3/4"<br>1-1/2" | -1/4", +3/8"<br>-1/4", +1/2" |

"-" INDICATES TOLERANCE TOWARDS MEMBER FACE.
"+" INDICATES TOLERANCE AWAY FROM MEMBER FACE.

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
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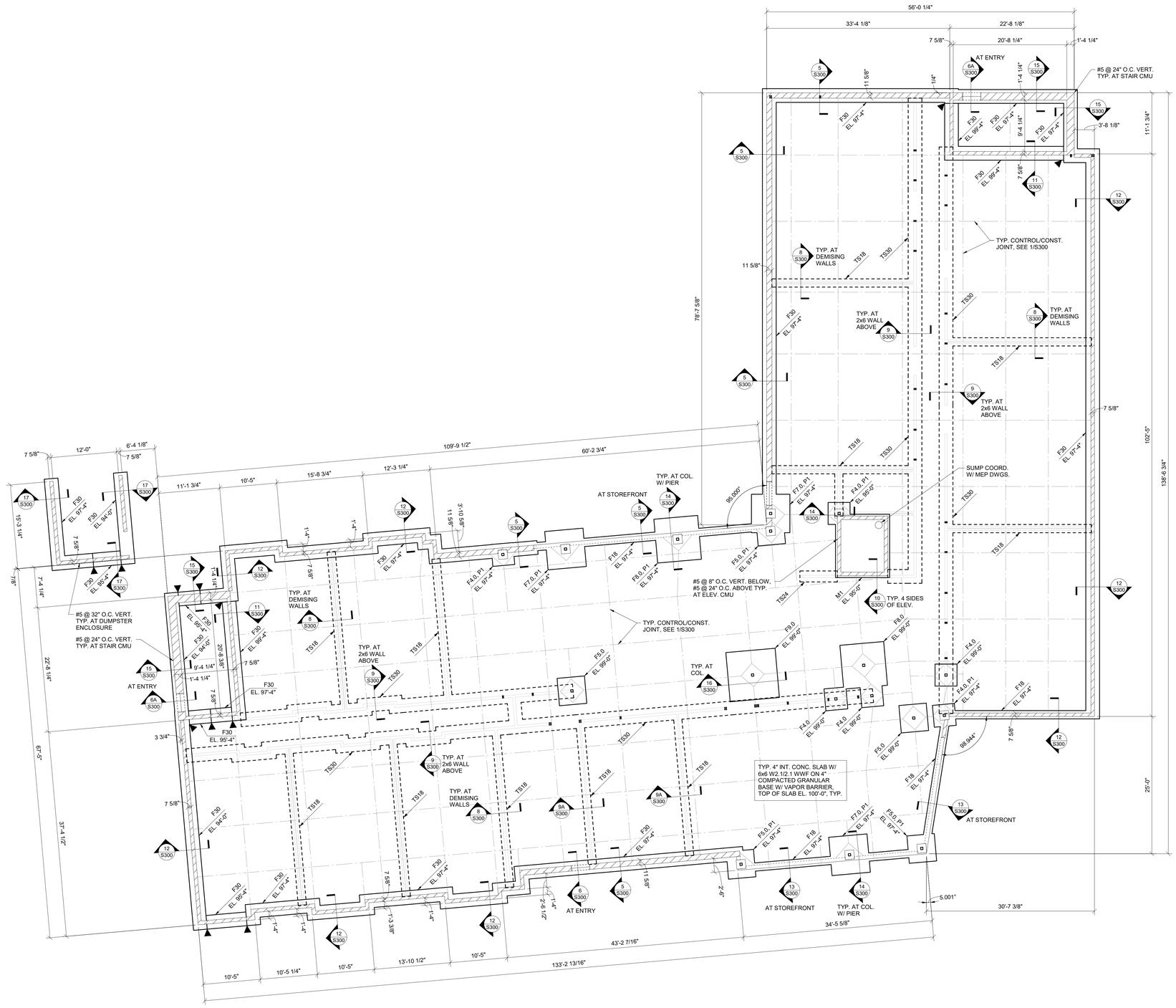
DRAWING TITLE:
# GENERAL STRUCTURE INFORMATION

STATE OF OHIO — ROBERT L. JOHNSON, JR. — E-71804 — REGISTERED PROFESSIONAL ENGINEER

*APRIL 4, 2022*
DRAWN BY: **JGA** CHECKED BY: **JGA**
*Proj. #20643*
**S002**
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# FOUNDATION PLAN

1/8" = 1'-0"

**FOUNDATION NOTES**

1. DESIGN SOIL BEARING PRESSURE = 1,500 PSF. SEE S001 FOR REFERENCE SOILS REPORT INFORMATION. REFERENCE THIS REPORT FOR ANY REQUIRED SITE BUILDING PAD PREPARATION PRIOR TO FOUNDATION AND/OR SLAB-ON-GRADE CONSTRUCTION. FOOTING EXCAVATIONS MAY BE REQUIRED TO EXTEND THROUGH EXISTING FILL REGIONS IN ORDER TO BEAR ON SUITABLE MATERIAL. FOOTING EXCAVATIONS ARE TO BE FILLED WITH LEAN CONCRETE UP TO THE PLANNED BOTTOM OF FOOTING ELEVATION. NOTIFY ENGINEER AND CONCRETE PRIOR TO INSPECTION AND APPROVAL OF BEARING SURFACES BY SOILS ENGINEER.
2. KEEP FOUNDATIONS FREE OF WATER AT ALL TIMES. REPLACE WEAKENED SOIL WITH LEAN CONCRETE OR FLOWABLE FILL.
3. BOTTOM OF FOOTINGS ARE TO BE AT LEAST 36-INCHES BELOW THE ADJACENT EXTERIOR FINISHED GRADE FOR FROST PROTECTION.
4. ELEVATIONS SHOWN ON FOOTINGS INDICATE ELEVATION AT TOP OF FOOTING. REFERENCE ELEVATION TOP OF CONCRETE SLAB ELEVATION AS NOTED ON PLANS. COORDINATE ABSOLUTE ELEVATION OF TOP OF SLAB WITH SITE DRAWINGS.
5. COORDINATE THE LOCATION AND DEPTH OF ALL UNDERGROUND MECHANICAL, ELECTRICAL, PLUMBING, AND/OR CIVIL WORK PRIOR TO CONSTRUCTION. NOT ALL UNDERGROUND UTILITIES ARE SHOWN ON THE STRUCTURAL DRAWINGS. SEE SECTION 3/S300 FOR TRENCH EXCAVATION AND UTILITY PLACEMENT REQUIREMENTS FOR WORK THAT IS LAID ADJACENT TO FOOTINGS.
6. PROVIDE CORNER BARS AT ALL FOOTING AND CONCRETE WALL INTERSECTIONS PER DETAIL 4/S300.
7. ▼ INDICATES FOOTING STEP PER 2/S300
8. SEE SHEET S001 FOR GENERAL STRUCTURAL INFORMATION.

| CONT. WALL FOOTING SCHEDULE | | |
|---|---|---|
| MARK | SIZE | REINFORCING |
| F18 | 1'-6" x 1'-0" DP. | (2) #5 CONT. BOT. |
| F30 | 2'-6" x 1'-0" DP. | (3) #5 CONT. BOT. |
| TS18 | 1'-6" x 1'-6" DP. | (2) #5 CONT. BOT. |
| TS24 | 2'-0" x 1'-6" DP. | (2) #5 CONT. BOT. |
| TS30 | 2'-6" x 1'-6" DP. | (3) #5 CONT. BOT. |

| SPREAD FOOTING SCHEDULE | | |
|---|---|---|
| MARK | SIZE | REINFORCING |
| F4.0 | 4'-0" x 4'-0" x 1'-0" DP. | (4) #5 EA. WAY |
| F5.0 | 5'-0" x 5'-0" x 1'-0" DP. | (5) #5 EA. WAY |
| F7.0 | 7'-0" x 7'-0" x 1'-4" DP. | |
| F8.0 | 8'-0" x 8'-0" x 1'-8" DP. | (8) #6 EA. WAY |
| F9.0 | 9'-0" x 9'-0" x 1'-8" DP. | (9) #6 EA. WAY |

| MAT FOOTING SCHEDULE | | |
|---|---|---|
| MARK | THICKNESS | REINFORCING |
| M1 | 1'-4" | |

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

## FOUNDATION PLAN

STATE OF OHIO
ROBERT L. JOHNSON, JR.
E-71804
REGISTERED
PROFESSIONAL ENGINEER

*APRIL 4, 2022*

DRAWN BY: **JGA** | CHECKED BY: **JGA**

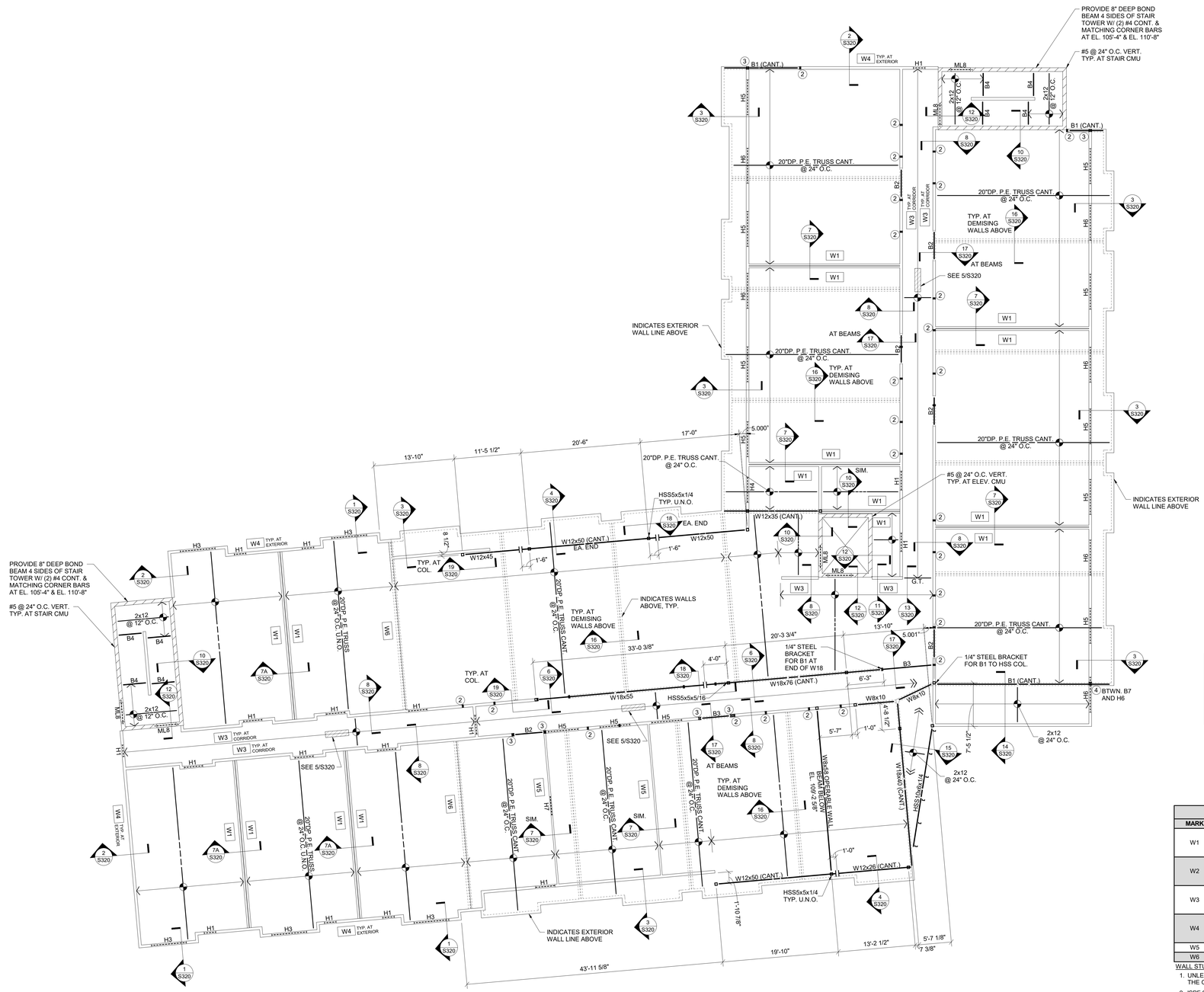
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# S101

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# SECOND FLOOR FRAMING PLAN

1/8" = 1'-0"

**FLOOR FRAMING NOTES**

1. DESIGN LIVE LOADS:
   - RESIDENTIAL:
   - PRIVATE ROOMS AND CORRIDORS — 40 PSF
   - STAIRS AND EXITS — 100 PSF
2. FLOOR CONSTRUCTION:
   3/4" GYPCRETE, SEE ARCH. FOR LOCATIONS OF 1/4" SOUNDMAT OVER 3/4" NOMINAL TONGUE-AND-GROOVE, APA RATED STURD-I-FLOOR, EXPOSURE 1, WITH A 48/24 MINIMUM SPAN RATING. GLUE AND NAIL WITH ADHESIVES MEETING APA SPECIFICATIONS AFG-01 AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE 10d COMMON NAILS AT 6" O.C. AT ALL PANEL EDGES AND 12" O.C. AT ALL INTERMEDIATE SUPPORTS UNLESS NOTED OTHERWISE. PANEL EDGES NEED NOT BE BLOCKED UNLESS NOTED OR DETAILED OTHERWISE.
3. REFERENCE ELEVATION IS 100'-0" = TOP OF FIRST FLOOR SLAB ON GRADE. REFERENCE CIVIL DRAWINGS FOR ABSOLUTE ELEVATION. TOP OF FLOOR SHEATHING FOR EACH LEVEL IS AS FOLLOWS:
   - 2ND FLOOR: EL. = 110'-9 7/8"
   - 3RD FLOOR: EL. = 120'-7 3/4"
4. ML# — INDICATES MASONRY LOOSE LINTEL FOR WALL OPENINGS. SEE ARCHITECTURAL DRAWINGS FOR OPENING DIMENSIONS AND SHEET S002 FOR MASONRY LINTEL TYPES AND SCHEDULE.
5. B# — INDICATES WOOD BEAM PER SCHEDULE. SEE DETAILS S002 FOR TYPICAL BEAM CONNECTIONS.
6. H# — INDICATES WOOD HEADER FOR WALL OPENINGS PER SCHEDULE. SEE ARCHITECTURAL DRAWINGS FOR OPENING SIZES AND DETAILS ON S002 FOR STANDARD HEADER CONSTRUCTION.
7. (#) — INDICATES THE NUMBER OF 2x6 WOOD STUDS REQUIRED TO CREATE A STUD COLUMN SUPPORT UNDER BEAM OR GIRDER BEARING. PROVIDE A MINIMUM OF (2) 2x STUDS AT ALL BEAMS AND GIRDER TRUSSES, UNLESS NOTED OTHERWISE.
8. SEE ARCHITECTURAL DRAWINGS FOR ANY DIMENSIONS NOT INDICATED HEREIN.
9. SEE SHEET S001 FOR GENERAL STRUCTURAL INFORMATION AND S200 FOR SHEAR WALL INFORMATION.

## WOOD BEAM SCHEDULE

| MARK | SIZE | REMARKS |
|---|---|---|
| B1 | (3) 1-3/4" x 20" LVL | - |
| B2 | (3) 2x10 | - |
| B3 | (3) 1-3/4" x 9-1/4" LVL | - |
| B4 | (3) 2x12 | SOUTHERN PINE NO.1 |

WOOD BEAM SCHEDULE NOTES:

1. SEE PLAN FOR COLUMN/SUPPORT POST SIZE.
2. BEAMS SHALL BEAR FULLY ON SUPPORT POSTS WITH POST CAP OR BLOCK ENDS TO RESTRAIN BEAM FROM ROTATION.
3. SEE GENERAL STRUCTURAL NOTES FOR MINIMUM LUMBER GRADES FOR BEAM FRAMING, U.N.O.
4. SEE GENERAL STRUCTURAL NOTES FOR MINIMUM STRUCTURAL COMPOSITE LUMBER DESIGN VALUES.

## WALL STUD SCHEDULE

| MARK | FLOOR | STUD SIZE & SPACING | WOOD MATERIAL |
|---|---|---|---|
| W1 | 3RD FLOOR | 2 x 4 @ 24" O.C. | SPF STUD GRADE |
| | 2ND FLOOR | 2 x 4 @ 24" O.C. | SPF STUD GRADE |
| | 1ST FLOOR | 2 x 4 @ 24" O.C. | SPF STUD GRADE |
| W2 | 3RD FLOOR | 2 x 4 @ 16" O.C. | SPF STUD GRADE |
| | 2ND FLOOR | 2 x 4 @ 16" O.C. | SPF STUD GRADE |
| | 1ST FLOOR | 2 x 4 @ 16" O.C. | SPF STUD GRADE |
| W3 | 3RD FLOOR | 2 x 6 @ 24" O.C. | SPF STUD GRADE |
| | 2ND FLOOR | 2 x 6 @ 24" O.C. | SPF STUD GRADE |
| | 1ST FLOOR | 2 x 6 @ 16" O.C. | SPF STUD GRADE |
| W4 | 3RD FLOOR | 2 x 6 @ 16" O.C. | SPF STUD GRADE |
| | 2ND FLOOR | 2 x 6 @ 16" O.C. | SPF STUD GRADE |
| | 1ST FLOOR | 2 x 6 @ 16" O.C. | SPF STUD GRADE |
| W5 | 1ST FLOOR | 2 x 4 @ 16" O.C. | SPF STUD GRADE |
| W6 | 1ST FLOOR | 2 x 6 @ 16" O.C. | SPF STUD GRADE |

WALL STUD SCHEDULE NOTES:

1. UNLESS NOTED OTHERWISE, STUD MATERIAL GRADE SHALL BE AS INDICATED IN THE GENERAL STRUCTURAL NOTES.
2. "SPF STUD GRADE" INDICATES SPRUCE-PINE-FIR STUD GRADE LUMBER MATERIAL AS GRADED BY N.L.G.A.
3. FRAMING OF ALL STUDS IN MULTI-STORY APPLICATIONS ARE TO ALIGN VERTICALLY WITH EACH OTHER WHERE NO RIM BOARD IS PRESENT TO DISTRIBUTE LOADING. SEE STRUCTURAL DETAILS FOR DISTINCTION.

## WOOD HEADER SCHEDULE

| MARK | SIZE | JACK STUDS | KING STUDS | Remarks |
|---|---|---|---|---|
| H1 | (3) 2x6 | (1) 2x | (2) 2x | |
| H2 | (3) 2x8 | (1) 2x | (2) 2x | |
| H3 | (3) 2x10 | (2) 2x | (2) 2x | |
| H4 | (3) 1-3/4" x 7-1/4" LVL | (2) 2x | (1) 2x | |
| H5 | (3) 1-3/4" x 9-1/4" LVL | (2) 2x | (2) 2x | |
| H6 | (3) 1-3/4" x 11-1/4" LVL | (3) 2x | (2) 2x | |
| H7 | (2) 2x8 | (1) 2x | (1) 2x | |

HEADER SCHEDULE NOTES:

1. JACK AND KING STUDS SHALL MATCH WALL FRAMING SIZE AND SPECIES OF DESIGNATED STUD WALLS THEY ARE INTEGRAL WITH, U.N.O.
2. SEE GENERAL STRUCTURAL NOTES FOR MINIMUM LUMBER GRADES FOR HEADER FRAMING, U.N.O.
3. SEE GENERAL STRUCTURAL NOTES FOR MINIMUM STRUCTURAL COMPOSITE LUMBER DESIGN VALUES.
4. PROVIDE 'H1' HEADER FOR ALL OPENINGS NOT DESIGNATED ON THE FRAMING PLANS.

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
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COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:
**SECOND FLOOR FRAMING PLAN**

STATE OF OHIO — ROBERT L. JOHNSON, JR. — E-71804 — REGISTERED PROFESSIONAL ENGINEER

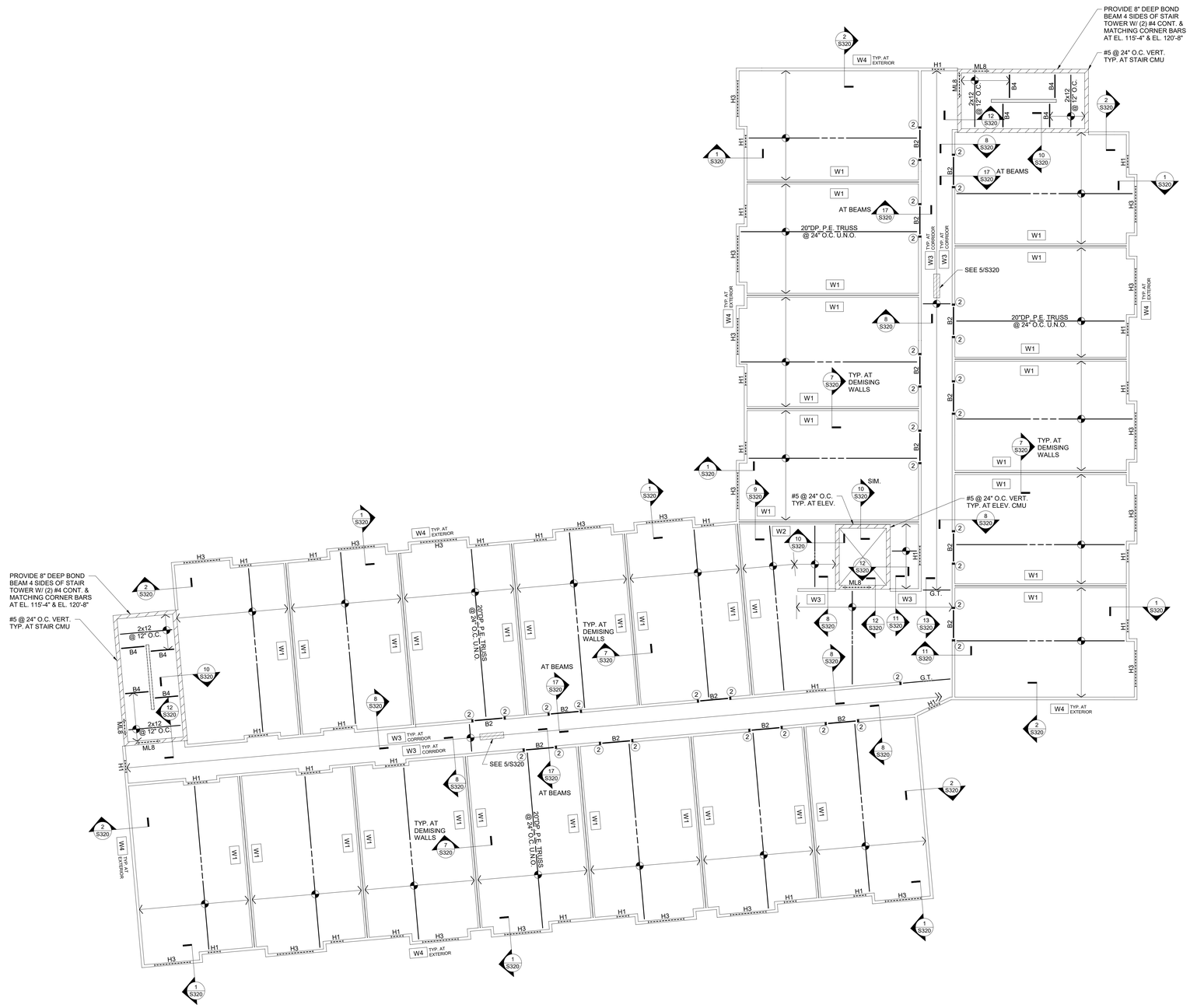
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# THIRD FLOOR FRAMING PLAN

1/8" = 1'-0"

**FLOOR FRAMING NOTES**

1. DESIGN LIVE LOADS:
   RESIDENTIAL:
   PRIVATE ROOMS AND CORRIDORS 40 PSF
   STAIRS AND EXITS 100 PSF
2. FLOOR CONSTRUCTION:
   3/4" GYPCRETE, SEE ARCH. FOR LOCATIONS OF 1/4" SOUNDMAT OVER 3/4" NOMINAL TONGUE-AND-GROOVE, APA RATED STURD-I-FLOOR, EXPOSURE 1, WITH A 48/24 MINIMUM SPAN RATING. GLUE AND NAIL WITH ADHESIVES MEETING APA SPECIFICATIONS APG-01 AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE 10d COMMON NAILS AT 6" O.C. AT ALL PANEL EDGES AND 12" O.C. AT ALL INTERMEDIATE SUPPORTS UNLESS NOTED OTHERWISE. PANEL EDGES NEED NOT BE BLOCKED UNLESS NOTED OR DETAILED OTHERWISE.
3. REFERENCE ELEVATION IS 100'-0" = TOP OF FIRST FLOOR SLAB ON GRADE. REFERENCE CIVIL DRAWINGS FOR ABSOLUTE ELEVATION. TOP OF FLOOR SHEATHING FOR EACH LEVEL IS AS FOLLOWS:
   2ND FLOOR: EL. = 110'-9 7/8"
   3RD FLOOR: EL. = 120'-7 3/4"
4. ML# INDICATES MASONRY LOOSE LINTEL FOR WALL OPENINGS. SEE ARCHITECTURAL DRAWINGS FOR OPENING DIMENSIONS AND SHEET S002 FOR MASONRY LINTEL TYPES AND SCHEDULE.
5. B# INDICATES WOOD BEAM PER SCHEDULE. SEE DETAILS S002 FOR TYPICAL BEAM CONNECTIONS.
6. H# INDICATES WOOD HEADER FOR WALL OPENINGS PER SCHEDULE. SEE ARCHITECTURAL DRAWINGS FOR OPENING SIZES AND DETAILS ON S002 FOR STANDARD HEADER CONSTRUCTION.
7. (#) INDICATES THE NUMBER OF 2x6 WOOD STUDS REQUIRED TO CREATE A STUD COLUMN SUPPORT UNDER BEAM OR GIRDER BEARING. PROVIDE A MINIMUM OF (2) 2x STUDS AT ALL BEAMS AND GIRDER TRUSSES, UNLESS NOTED OTHERWISE.
8. SEE ARCHITECTURAL DRAWINGS FOR ANY DIMENSIONS NOT INDICATED HEREIN.
9. SEE SHEET S001 FOR GENERAL STRUCTURAL INFORMATION AND S200 FOR SHEAR WALL INFORMATION.

**WOOD BEAM SCHEDULE**

| MARK | SIZE | REMARKS |
|---|---|---|
| B1 | (3) 1-3/4" x 20" LVL | - |
| B2 | (3) 2x10 | - |
| B3 | (3) 1-3/4" x 9-1/4" LVL | - |
| B4 | (3) 2x12 | SOUTHERN PINE NO.1 |

WOOD BEAM SCHEDULE NOTES:

1. SEE PLAN FOR COLUMN/SUPPORT POST SIZE.
2. BEAMS SHALL BEAR FULLY ON SUPPORT POSTS WITH POST CAP OR BLOCK ENDS TO RESTRAIN BEAM FROM ROTATION.
3. SEE GENERAL STRUCTURAL NOTES FOR MINIMUM LUMBER GRADES FOR BEAM FRAMING, U.N.O.
4. SEE GENERAL STRUCTURAL NOTES FOR MINIMUM STRUCTURAL COMPOSITE LUMBER DESIGN VALUES.

**WALL STUD SCHEDULE**

| MARK | FLOOR | STUD SIZE & SPACING | WOOD MATERIAL |
|---|---|---|---|
| W1 | 3RD FLOOR | 2 x 4 @ 24" O.C. | SPF STUD GRADE |
| | 2ND FLOOR | 2 x 4 @ 24" O.C. | SPF STUD GRADE |
| | 1ST FLOOR | 2 x 4 @ 24" O.C. | SPF STUD GRADE |
| W2 | 3RD FLOOR | 2 x 4 @ 24" O.C. | SPF STUD GRADE |
| | 2ND FLOOR | 2 x 4 @ 16" O.C. | SPF STUD GRADE |
| | 1ST FLOOR | 2 x 4 @ 16" O.C. | SPF STUD GRADE |
| W3 | 3RD FLOOR | 2 x 6 @ 24" O.C. | SPF STUD GRADE |
| | 2ND FLOOR | 2 x 6 @ 24" O.C. | SPF STUD GRADE |
| | 1ST FLOOR | 2 x 6 @ 16" O.C. | SPF STUD GRADE |
| W4 | 3RD FLOOR | 2 x 6 @ 16" O.C. | SPF STUD GRADE |
| | 2ND FLOOR | 2 x 6 @ 16" O.C. | SPF STUD GRADE |
| | 1ST FLOOR | 2 x 6 @ 16" O.C. | SPF STUD GRADE |
| W5 | 1ST FLOOR | 2 x 4 @ 16" O.C. | SPF STUD GRADE |
| W6 | 1ST FLOOR | 2 x 6 @ 16" O.C. | SPF STUD GRADE |

WALL STUD SCHEDULE NOTES:

1. UNLESS NOTED OTHERWISE, STUD MATERIAL GRADE SHALL BE AS INDICATED IN THE GENERAL STRUCTURAL NOTES.
2. "SPF STUD GRADE" INDICATES SPRUCE-PINE-FIR STUD GRADE LUMBER MATERIAL AS GRADED BY N.L.G.A.
3. FRAMING OF ALL STUDS IN MULTI-STORY APPLICATIONS ARE TO ALIGN VERTICALLY WITH EACH OTHER WHERE NO RIM BOARD IS PRESENT TO DISTRIBUTE LOADING. SEE STRUCTURAL DETAILS FOR DISTINCTION.

**WOOD HEADER SCHEDULE**

| MARK | SIZE | JACK STUDS | KING STUDS | Remarks |
|---|---|---|---|---|
| H1 | (3) 2x6 | (1) 2x | (2) 2x | |
| H2 | (3) 2x8 | (1) 2x | (2) 2x | |
| H3 | (3) 2x10 | (2) 2x | (2) 2x | |
| H4 | (3) 1-3/4" x 7-1/4" LVL | (2) 2x | (1) 2x | |
| H5 | (3) 1-3/4" x 9-1/4" LVL | (2) 2x | (2) 2x | |
| H6 | (3) 1-3/4" x 11-1/4" LVL | (3) 2x | (2) 2x | |
| H7 | (2) 2x8 | (1) 2x | (1) 2x | |

HEADER SCHEDULE NOTES:

1. JACK AND KING STUDS SHALL MATCH WALL FRAMING SIZE AND SPECIES OF DESIGNATED STUD WALLS THEY ARE INTEGRAL WITH, U.N.O.
2. SEE GENERAL STRUCTURAL NOTES FOR MINIMUM LUMBER GRADES FOR HEADER FRAMING, U.N.O.
3. SEE GENERAL STRUCTURAL NOTES FOR MINIMUM STRUCTURAL COMPOSITE LUMBER DESIGN VALUES.
4. PROVIDE 'H1' HEADER FOR ALL OPENINGS NOT DESIGNATED ON THE FRAMING PLANS.

| # | DATE | CHANGE DESCRIPTION |
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COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLUMBUNITY.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

**THIRD FLOOR FRAMING PLAN**

STATE OF OHIO
ROBERT L. JOHNSON, JR.
E-71804
REGISTERED
PROFESSIONAL ENGINEER

*APRIL 4, 2022*

DRAWN BY: **JGA** CHECKED BY: **JGA**

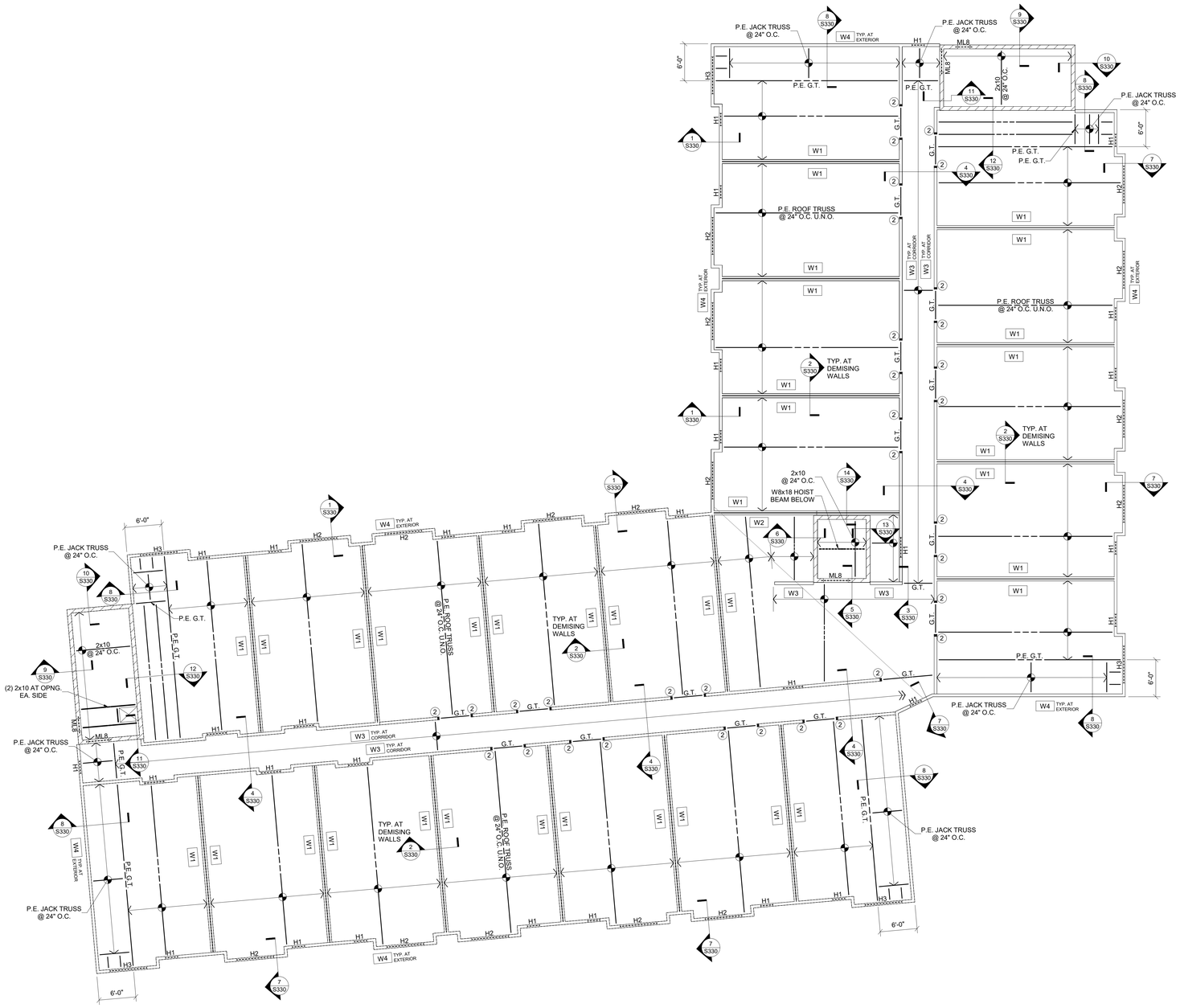
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**S103**

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# ROOF FRAMING PLAN

1/8" = 1'-0"

**ROOF FRAMING NOTES**

1. DESIGN LIVE LOADS:
   ROOF LIVE 20 PSF
   WIND (ASD NET UPLIFT) 15 PSF
2. ROOF CONSTRUCTION:
   5/8" NOMINAL APA RATED SHEATHING ON PRE-ENGINEERED WOOD TRUSSES OR 2x FRAMING. UNLESS NOTED OTHERWISE, FASTEN SHEATHING TO SUPPORTS AS INDICATED IN THE GENERAL STRUCTURAL NOTES.
3. TRUSS BEARING ELEVATION = 12'-8 7/8" UNLESS NOTED OTHERWISE. REFERENCE ELEVATION 100'-0" = TOP OF FIRST FLOOR SLAB ON GRADE.
4. B# INDICATES WOOD BEAM PER SCHEDULE. SEE DETAILS ON S002 FOR TYPICAL BEAM BEARING CONNECTIONS.
5. H# INDICATES WOOD HEADER FOR WALL OPENINGS PER SCHEDULE. SEE ARCHITECTURAL DRAWINGS FOR OPENING SIZES AND DETAILS ON S002 FOR STANDARD HEADER CONSTRUCTION.
6. (#) INDICATES THE NUMBER OF 2x6 WOOD STUDS REQUIRED TO CREATE A STUD COLUMN SUPPORT UNDER BEAM OR GIRDER BEARING. PROVIDE A MINIMUM OF (2) 2x STUDS AT ALL BEAMS AND GIRDER TRUSSES, UNLESS NOTED OTHERWISE.
7. SEE ARCHITECTURAL DRAWINGS FOR ANY DIMENSIONS NOT INDICATED HEREIN.
8. SEE SHEET S001 FOR GENERAL STRUCTURAL INFORMATION AND S200 FOR SHEAR WALL INFORMATION.

**WOOD BEAM SCHEDULE**

| MARK | SIZE | REMARKS |
|---|---|---|
| B1 | (3) 1-3/4" x 20" LVL | - |
| B2 | (3) 2x10 | - |
| B3 | (3) 1-3/4" x 9-1/4" LVL | - |
| B4 | (3) 2x12 | SOUTHERN PINE NO.1 |

WOOD BEAM SCHEDULE NOTES:

1. SEE PLAN FOR COLUMN/SUPPORT POST SIZE.
2. BEAMS SHALL BEAR FULLY ON SUPPORT POSTS WITH POST CAP OR BLOCK ENDS TO RESTRAIN BEAM FROM ROTATION.
3. SEE GENERAL STRUCTURAL NOTES FOR MINIMUM LUMBER GRADES FOR BEAM FRAMING, U.N.O.
4. SEE GENERAL STRUCTURAL NOTES FOR MINIMUM STRUCTURAL COMPOSITE LUMBER DESIGN VALUES.

**WALL STUD SCHEDULE**

| MARK | FLOOR | STUD SIZE & SPACING | WOOD MATERIAL |
|---|---|---|---|
| W1 | 3RD FLOOR | 2 x 4 @ 24" O.C. | SPF STUD GRADE |
| | 2ND FLOOR | 2 x 4 @ 24" O.C. | SPF STUD GRADE |
| | 1ST FLOOR | 2 x 4 @ 24" O.C. | SPF STUD GRADE |
| W2 | 3RD FLOOR | 2 x 4 @ 24" O.C. | SPF STUD GRADE |
| | 2ND FLOOR | 2 x 4 @ 16" O.C. | SPF STUD GRADE |
| | 1ST FLOOR | 2 x 4 @ 16" O.C. | SPF STUD GRADE |
| W3 | 3RD FLOOR | 2 x 6 @ 24" O.C. | SPF STUD GRADE |
| | 2ND FLOOR | 2 x 6 @ 24" O.C. | SPF STUD GRADE |
| | 1ST FLOOR | 2 x 6 @ 16" O.C. | SPF STUD GRADE |
| W4 | 3RD FLOOR | 2 x 6 @ 16" O.C. | SPF STUD GRADE |
| | 2ND FLOOR | 2 x 6 @ 16" O.C. | SPF STUD GRADE |
| | 1ST FLOOR | 2 x 6 @ 16" O.C. | SPF STUD GRADE |
| W5 | 1ST FLOOR | 2 x 4 @ 16" O.C. | SPF STUD GRADE |
| W6 | 1ST FLOOR | 2 x 6 @ 16" O.C. | SPF STUD GRADE |

WALL STUD SCHEDULE NOTES:

1. UNLESS NOTED OTHERWISE, STUD MATERIAL GRADE SHALL BE AS INDICATED IN THE GENERAL STRUCTURAL NOTES.
2. "SPF STUD GRADE" INDICATES SPRUCE-PINE-FIR STUD GRADE LUMBER MATERIAL AS GRADED BY N.L.G.A.
3. FRAMING OF ALL STUDS IN MULTI-STORY APPLICATIONS ARE TO ALIGN VERTICALLY WITH EACH OTHER WHERE NO RIM BOARD IS PRESENT TO DISTRIBUTE LOADING. SEE STRUCTURAL DETAILS FOR DISTINCTION.

**WOOD HEADER SCHEDULE**

| MARK | SIZE | JACK STUDS | KING STUDS | Remarks |
|---|---|---|---|---|
| H1 | (3) 2x6 | (1) 2x | (2) 2x | |
| H2 | (3) 2x8 | (1) 2x | (2) 2x | |
| H3 | (3) 2x10 | (2) 2x | (2) 2x | |
| H4 | (3) 1-3/4" x 7-1/4" LVL | (2) 2x | (1) 2x | |
| H5 | (3) 1-3/4" x 9-1/4" LVL | (2) 2x | (2) 2x | |
| H6 | (3) 1-3/4" x 11-1/4" LVL | (3) 2x | (2) 2x | |
| H7 | (2) 2x8 | (1) 2x | (1) 2x | |

HEADER SCHEDULE NOTES:

1. JACK AND KING STUDS SHALL MATCH WALL FRAMING SIZE AND SPECIES OF DESIGNATED STUD WALLS THEY ARE INTEGRAL WITH, U.N.O.
2. SEE GENERAL STRUCTURAL NOTES FOR MINIMUM LUMBER GRADES FOR HEADER FRAMING, U.N.O.
3. SEE GENERAL STRUCTURAL NOTES FOR MINIMUM STRUCTURAL COMPOSITE LUMBER DESIGN VALUES.
4. PROVIDE 'H1' HEADER FOR ALL OPENINGS NOT DESIGNATED ON THE FRAMING PLANS.

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

**HARRIET'S HOPE**
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215

PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

**ROOF FRAMING PLAN**

STATE OF OHIO
ROBERT L. JOHNSON, JR.
E-71804
REGISTERED
PROFESSIONAL ENGINEER

APRIL 4, 2022

DRAWN BY: JGA CHECKED BY: JGA

Proj. #20643

**S104**

PERMIT & BID SET

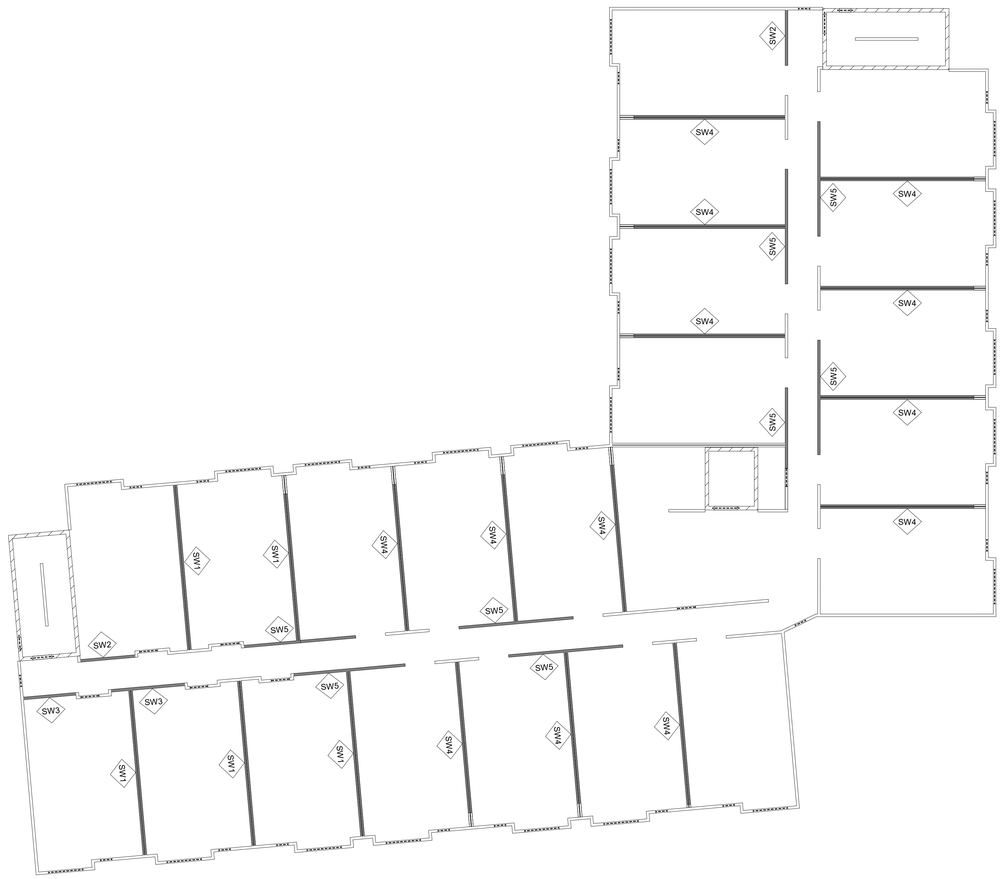
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FILE INFO: BIM 360://21.35.035 - CMHA Harriets Hope/21.35.035 - CMHA Harriets Hope_Struct (R21).rvt

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## FIRST FLOOR SHEARWALL PLAN

3/32" = 1'-0"




## SECOND/THIRD FLOOR SHEARWALL PLAN

3/32" = 1'-0"

**SHEAR WALL SCHEDULE**

| MARK | LEVEL | SHEATHING PANEL | PANEL APPLICATION | SHEATHING PANEL FASTENING | | | BOUNDARY END STUDS | HOLDOWN (LOCATE EA. END) | SOLE PLATE ANCHORAGE | ADDITIONAL REQUIREMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | FASTENER | PANEL EDGES | PANEL FIELD | | | | |
| SW1 | 3RD FLOOR | 5/8" GYPSUM | EACH SIDE | 6d COOLER | 7" | 7" | 2 | CSHP20 | 16d NAILS @ 16" O.C. | - |
| | 2ND FLOOR | 5/8" GYPSUM | EACH SIDE | 6d COOLER | 7" | 7" | 2 | CSHP20 | 16d NAILS @ 8" O.C. | - |
| | 1ST FLOOR | 5/8" GYPSUM | EACH SIDE | 6d COOLER | 4" | 4" | 2 | DTT2Z-SDS2.5 | 1/2" DIA. x 5-1/2" LG TITEN HD @ 32" O.C. | - |
| SW2 | 3RD FLOOR | 5/8" GYPSUM | ONE SIDE | 6d COOLER | 7" | 7" | 2 | - | 16d NAILS @ 16" O.C. | - |
| | 2ND FLOOR | 5/8" GYPSUM | ONE SIDE | 6d COOLER | 4" | 4" | 2 | - | 16d NAILS @ 12" O.C. | - |
| | 1ST FLOOR | 5/8" GYPSUM | ONE SIDE | 6d COOLER | 4" | 4" | 2 | - | 1/2" DIA. x 5-1/2" LG TITEN HD @ 32" O.C. | - |
| SW3 | 3RD FLOOR | 5/8" GYPSUM | ONE SIDE | 6d COOLER | 7" | 7" | 2 | - | 16d NAILS @ 16" O.C. | - |
| | 2ND FLOOR | 5/8" GYPSUM | ONE SIDE | 6d COOLER | 4" | 4" | 2 | - | 16d NAILS @ 12" O.C. | - |
| | 1ST FLOOR | 7/16" APA RATED | ONE SIDE | 8d COMMON | 6" | 12" | 2 | - | 1/2" DIA. x 5-1/2" LG TITEN HD @ 32" O.C. | - |
| SW4 | 3RD FLOOR | 5/8" GYPSUM | EACH SIDE | 6d COOLER | 7" | 7" | 2 | CSHP20 | 16d NAILS @ 16" O.C. | - |
| | 2ND FLOOR | 5/8" GYPSUM | EACH SIDE | 6d COOLER | 7" | 7" | 2 | CSHP20 | 16d NAILS @ 8" O.C. | DTT2Z-SDS @ STEEL BEAM OR COLUMN |
| | 1ST FLOOR | - | - | - | - | - | 2 | DTT2Z-SDS2.5 | - | - |
| SW5 | 3RD FLOOR | 5/8" GYPSUM | ONE SIDE | 6d COOLER | 7" | 7" | 2 | - | 16d NAILS @ 16" O.C. | - |
| | 2ND FLOOR | 5/8" GYPSUM | ONE SIDE | 6d COOLER | 4" | 4" | 2 | - | 16d NAILS @ 12" O.C. | - |
| | 1ST FLOOR | - | - | - | - | - | 2 | - | - | - |
| SW6 | 1ST FLOOR | 5/8" GYPSUM | EACH SIDE | 6d COOLER | 4" | 4" | 2 | DTT2Z-SDS2.5 | 1/2" DIA. x 5-1/2" LG TITEN HD @ 32" O.C. | - |
| SW7 | 1ST FLOOR | 5/8" GYPSUM | ONE SIDE | 6d COOLER | 4" | 4" | 2 | - | 1/2" DIA. x 5-1/2" LG TITEN HD @ 32" O.C. | - |
| SW8 | 1ST FLOOR | 7/16" APA RATED | ONE SIDE | 8d COMMON | 6" | 12" | 2 | - | 1/2" DIA. x 5-1/2" LG TITEN HD @ 32" O.C. | - |

SHEARWALL SCHEDULE NOTES:

1. 'APA RATED' SHEATHING INCLUDES PLYWOOD OR ORIENTED STRAND BOARD (OSB) MATERIALS AS RATED BY THE AMERICAN PLYWOOD ASSOCIATION (APA).
2. ALL PANEL EDGES SHALL BE LOCATED ON STUDS, BLOCKING, BLOCKING LAID FLATWAYS AGAINST SHEATHING, PLATES, OR RIM BOARD.
3. FASTENER SUBSTITUTIONS ARE NOT PERMITTED, UNLESS APPROVED ENGINEER REVIEW IS COMPLETED AT CONTRACTOR'S EXPENSE.
4. 'BOUNDARY END STUDS' ARE STUD PACKS OR POSTS LOCATED AT THE EACH END OF SHEARWALLS. STUDS AND POSTS SHALL BE OF SAME SIZE AND MATERIAL AS THE WALL THEY ARE INTEGRAL WITH; POST DEPTH SHALL MATCH STUD DEPTH AND WIDTH SHALL BE AS INDICATED IN SCHEDULE. SEE GENERAL STRUCTURAL NOTES FOR MINIMUM 'PSL' MATERIAL STANDARDS.
5. ALL HOLDOWNS AND SOLE PLATE ANCHORS INDICATED (OTHER THAN NAILS) ARE MANUFACTURED BY SIMPSON STRONG-TIE. FOLLOW ALL MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS. HOLDOWNS INDICATED ARE APPLIED TO THE BASE OF LEVEL INDICATED AND HOLDOWNS INDICATED AT THE BASE OF UPPER FLOORS SHALL BE TIED THROUGH FLOOR FRAMING TO THE TOP OF THE SHEARWALL BELOW AS INDICATED IN DETAILS 5/S201 AND 2/S201.
6. COORDINATE SOLE PLATE ANCHORAGES WITH TYPICAL CONSTRUCTION DETAILS INDICATED THROUGHOUT STRUCTURAL DRAWINGS.
7. ALL SHEARWALL TOP PLATES MUST BE A MINIMUM OF TWO IN NUMBER, HAVE STAGGERED SPLICED LOCATIONS, AND OCCUR OVER STUD LOCATIONS. SEE STRUCTURAL DETAILS FOR TRIPLE TOP PLATE REQUIREMENTS, IF ANY. SEE 6/S201 FOR TYPICAL TOP PLATE SPLICING DETAIL.
8. CAST-IN-PLACE (CIP) ANCHORS SHALL BE EMBEDDED IN CONCRETE A MINIMUM OF 6".

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

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SUITE 300
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DRAWING TITLE
**SHEARWALL PLANS AND SCHEDULE**

STATE OF OHIO
ROBERT L. JOHNSON, JR.
E-71804
REGISTERED
PROFESSIONAL ENGINEER

*APRIL 4, 2022*

DRAWN BY: **Author** | CHECKED BY: **Checker**

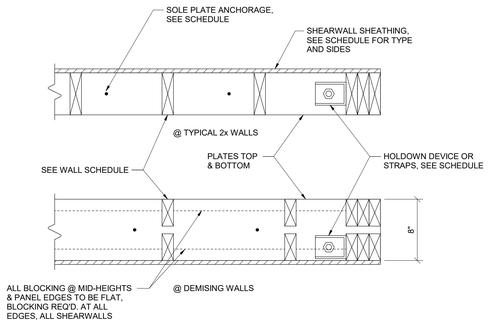
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**S200**

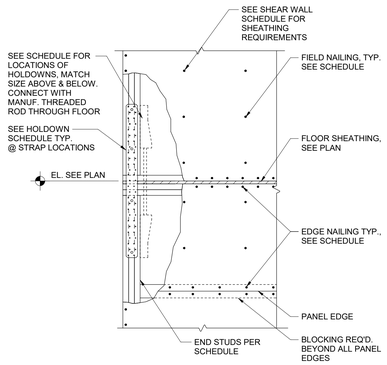
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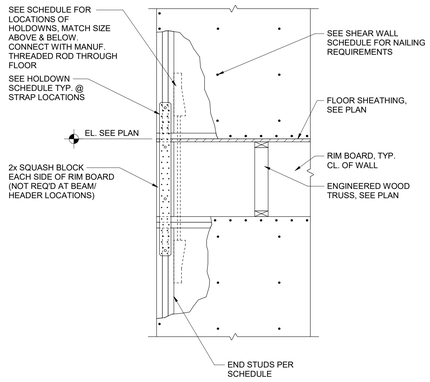



DETAIL 1 — 1 1/2" = 1'-0"



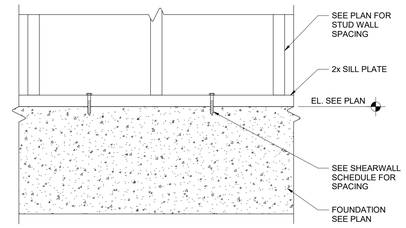

**TYP. SHEARWALL HOLD-DOWN AT FULL HEIGHT WALL**

DETAIL 2 — 3/4" = 1'-0"

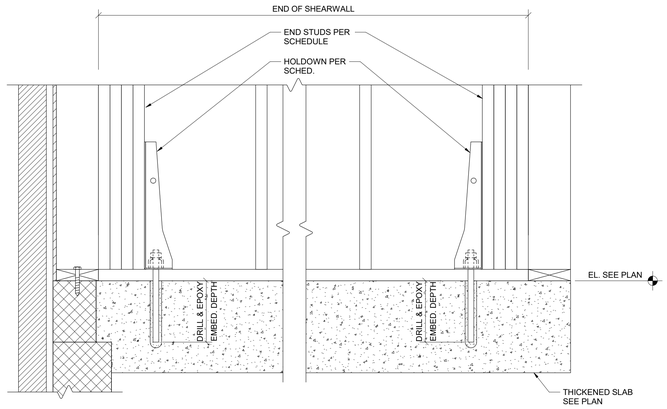



**TYP. SHEARWALL HOLD-DOWN AT BEARING WALL**

DETAIL 3 — 3/4" = 1'-0"

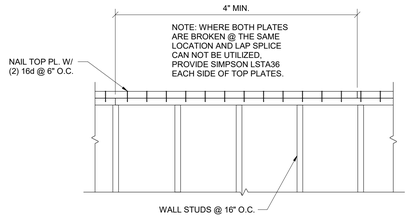



DETAIL 4 — 1 1/2" = 1'-0"



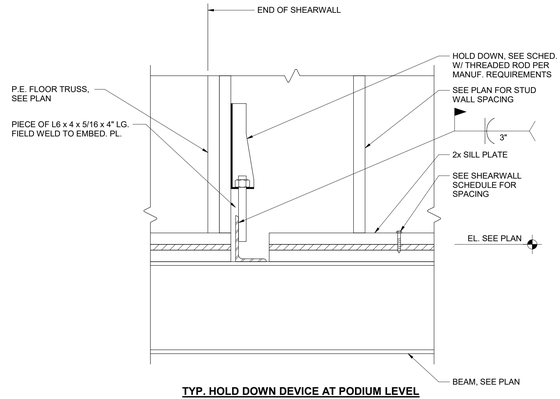

**TYPICAL AT EXTERIOR** **TYPICAL AT INTERIOR**

| ANCHOR EMBEDMENT SCHEDULE | | |
|---|---|---|
| HOLDOWN | ANCHOR Ø | EMBED. |
| DTT2Z | 1/2" | 6" |




**TYPICAL SHEARWALL-TOP PLATE SPLICE**

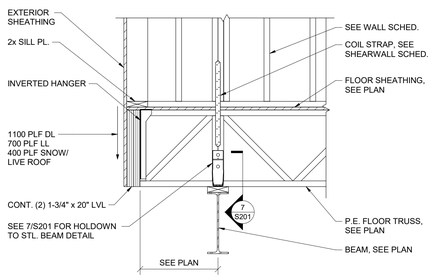
DETAIL 6 — 3/4" = 1'-0"



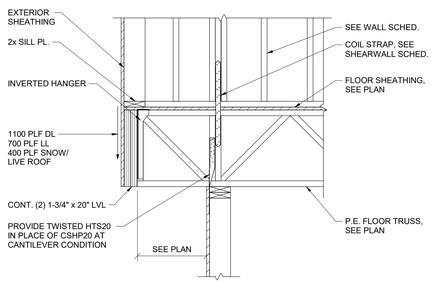

**TYP. HOLD DOWN DEVICE AT PODIUM LEVEL**

DETAIL 7 — 1 1/2" = 1'-0"

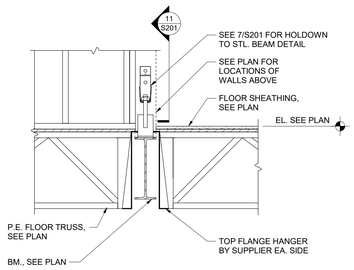
DETAIL 5 — 1 1/2" = 1'-0"



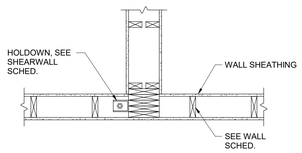

DETAIL 8 — 3/4" = 1'-0"




DETAIL 9 — 3/4" = 1'-0"




DETAIL 10 — 3/4" = 1'-0"




DETAIL 11 — 3/4" = 1'-0"

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DRAWING TITLE:

# SHEARWALL DETAILS

STATE OF OHIO — ROBERT L. JOHNSON, JR. — E-71804 — REGISTERED PROFESSIONAL ENGINEER

*APRIL 4, 2022*

DRAWN BY: **JGA** CHECKED BY: **JGA**

*Proj. #20643*

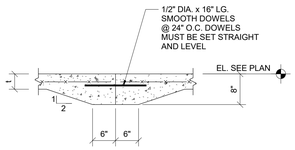
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*PERMIT & BID SET*

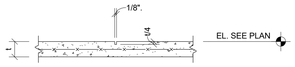
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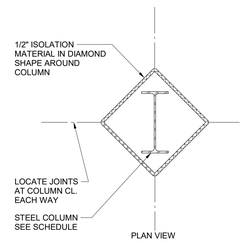
# TYP. SLAB ON GRADE DETAILS




**TYPICAL FLOOR CONSTRUCTION JOINT**

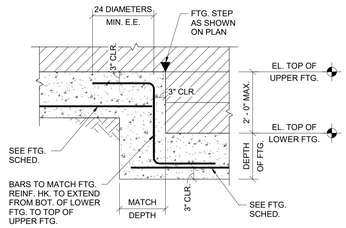



**TYPICAL FLOOR CONTROL JOINT**



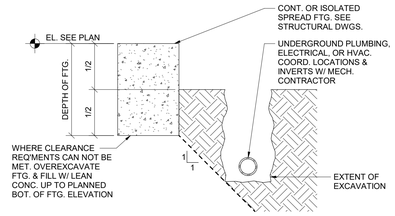

**TYP. CONTROL JOINT @ STEEL COLUMN**

SECTION 1 — 3/4" = 1'-0"



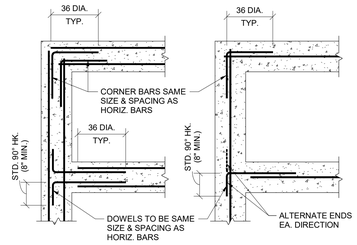

**TYPICAL FOOTING STEP**

SECTION 2 — 3/4" = 1'-0"



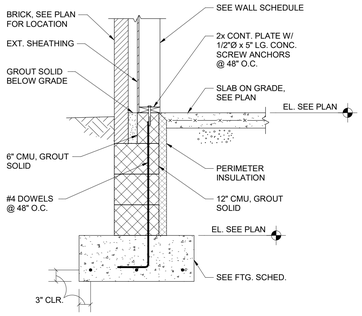

**TYPICAL EXCAVATION CLEARANCE REQUIREMENTS**

SECTION 3 — 3/4" = 1'-0"

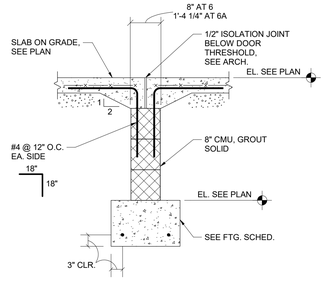



**TYPICAL CORNER BARS FOR CONCRETE WALL AND FOOTING CONSTRUCTION**

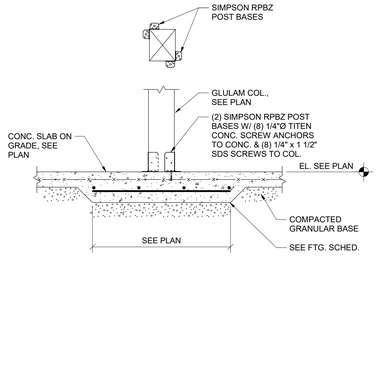
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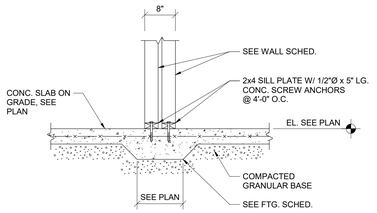

SECTION 5 — 3/4" = 1'-0"




SECTION 6 6A — 3/4" = 1'-0"

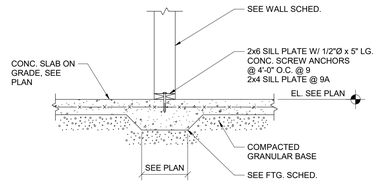



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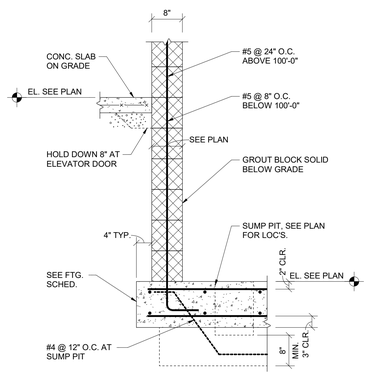



**TYP. @ DBL. 2x4 WALL**

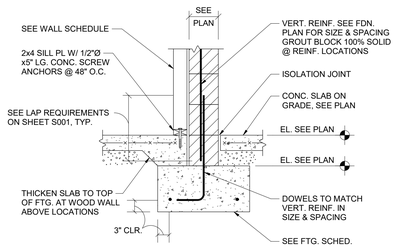
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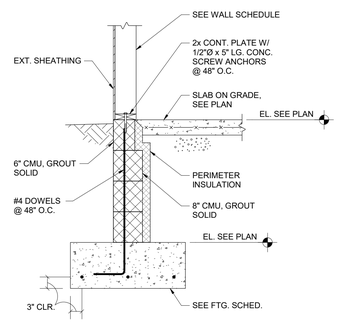

SECTION 9 9A — 3/4" = 1'-0"



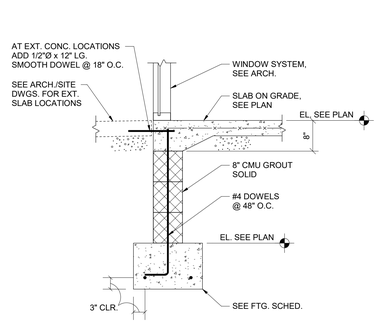

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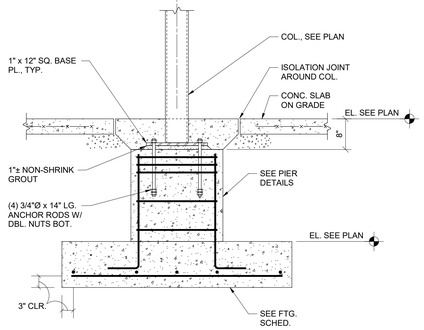

SECTION 11 — 3/4" = 1'-0"



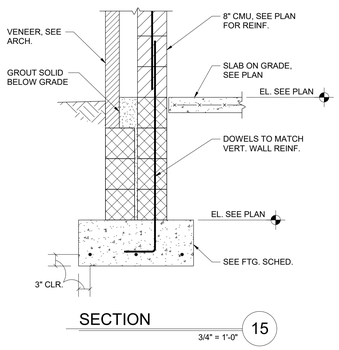

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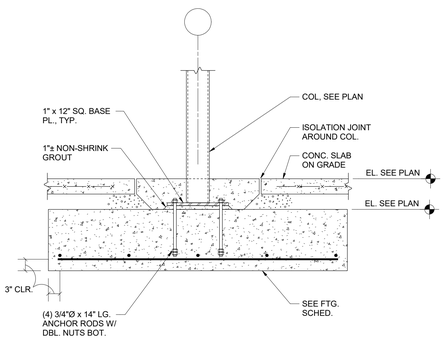

SECTION 13 — 3/4" = 1'-0"



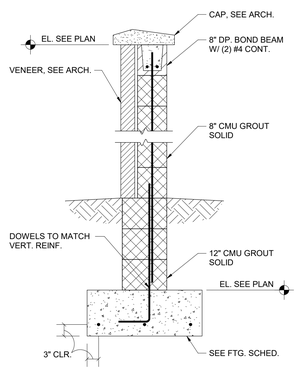

SECTION 14 — 3/4" = 1'-0"



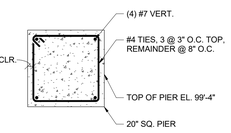

SECTION 15 — 3/4" = 1'-0"




SECTION 16 — 3/4" = 1'-0"




SECTION 17 — 3/4" = 1'-0"




**PIER P1**

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLUMBUSHOUSING.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

## FOUNDATION DETAILS

STATE OF OHIO — ROBERT L. JOHNSON, JR. E-71804 — REGISTERED PROFESSIONAL ENGINEER

*APRIL 4, 2022*

DRAWN BY: **JGA** | CHECKED BY: **JGA**

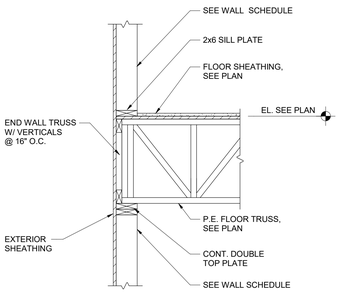
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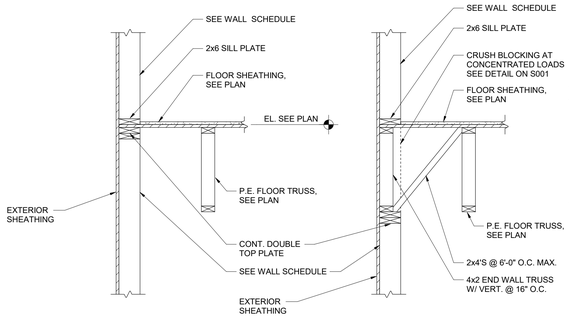
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**PRINT DATE:** 3/29/2022 5:05:46 PM
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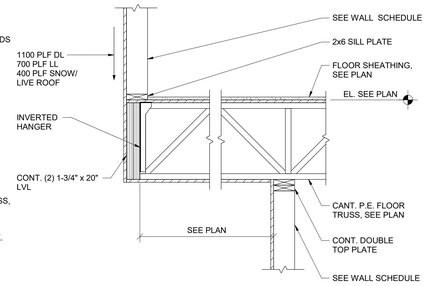



SECTION 1 — 3/4" = 1'-0"

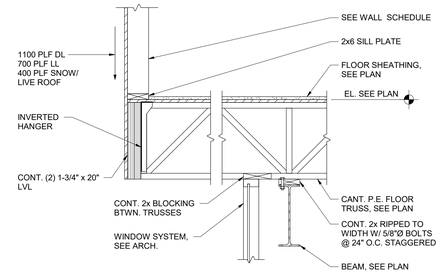



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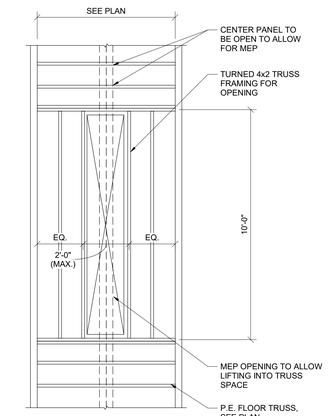
SECTION 2 — 3/4" = 1'-0"



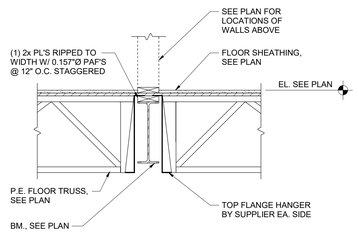

SECTION 3 — 3/4" = 1'-0"



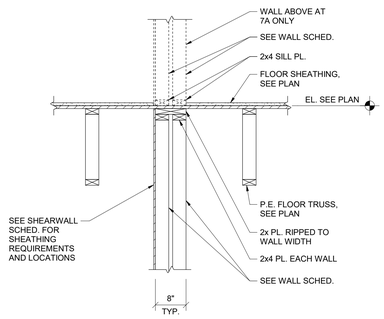

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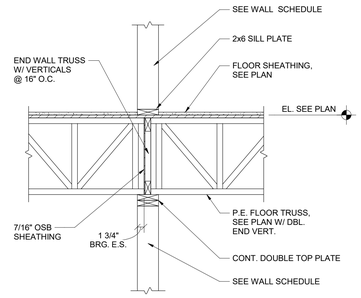

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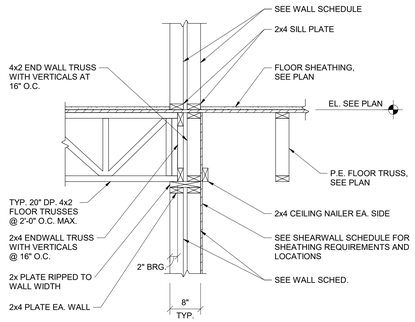

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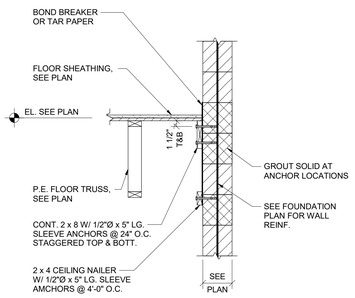

SECTION 7 7A — 3/4" = 1'-0"



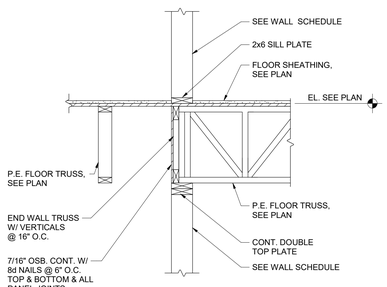

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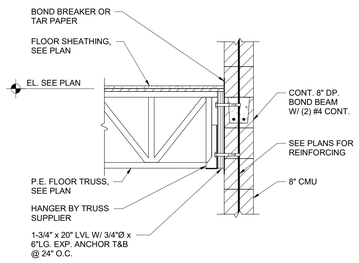

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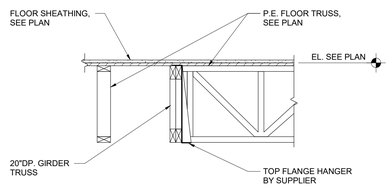

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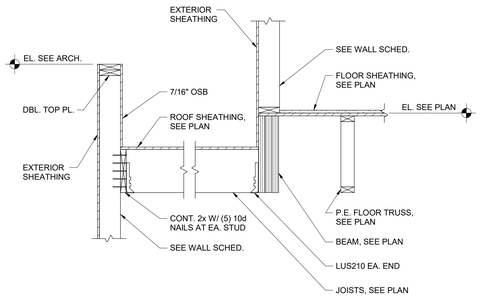

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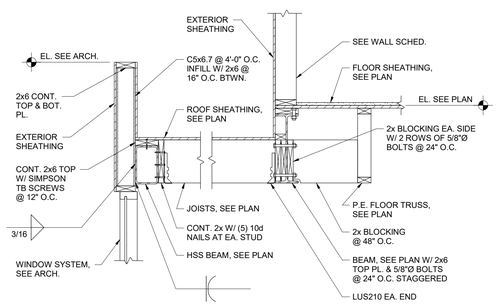

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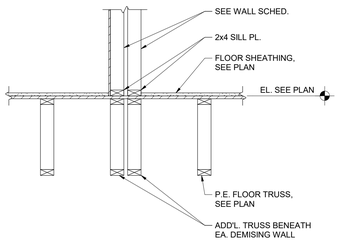

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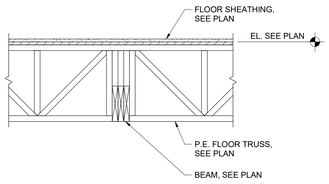

SECTION 14 — 3/4" = 1'-0"



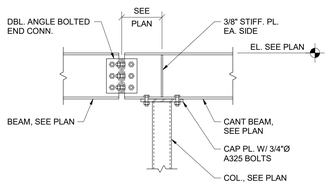

SECTION 15 — 3/4" = 1'-0"



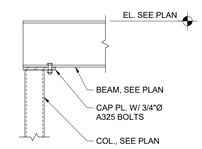

SECTION 16 — 3/4" = 1'-0"




SECTION 17 — 3/4" = 1'-0"




SECTION 18 — 3/4" = 1'-0"




SECTION 19 — 3/4" = 1'-0"

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLUMBUS/FCRN.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215

PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

# FRAMING DETAILS

STATE OF OHIO
ROBERT L. JOHNSON, JR.
E-71804
REGISTERED
PROFESSIONAL ENGINEER

*APRIL 4, 2022*

DRAWN BY: **JGA** | CHECKED BY: **JGA**

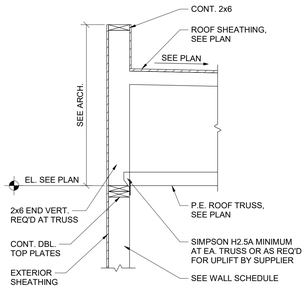
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**S320**

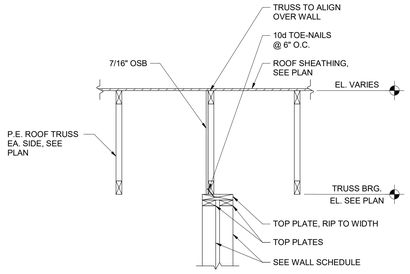
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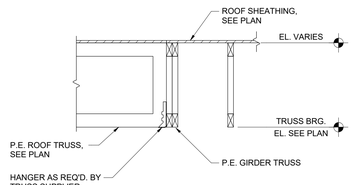
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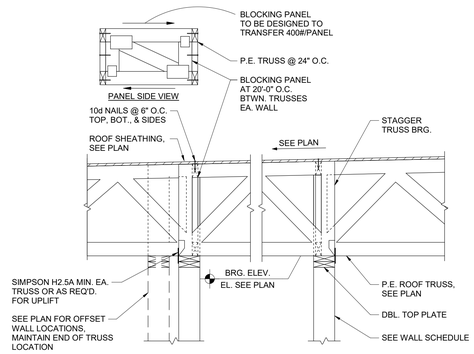

SECTION 1 — 3/4" = 1'-0"



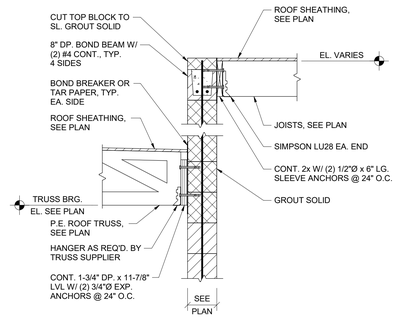

SECTION 2 — 3/4" = 1'-0"



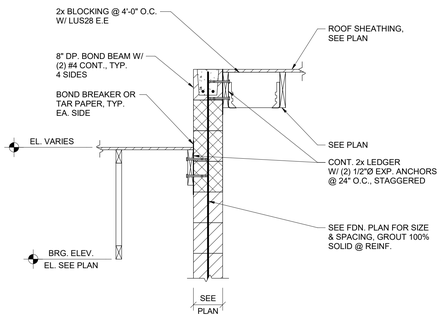

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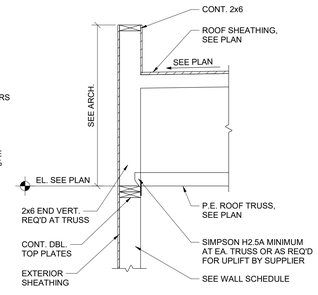

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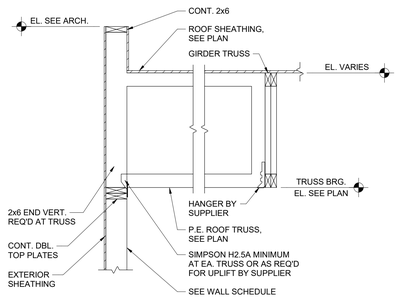

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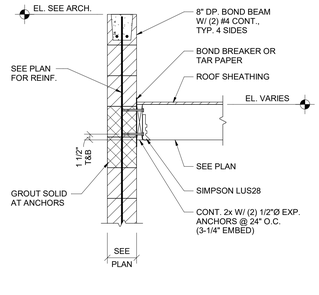

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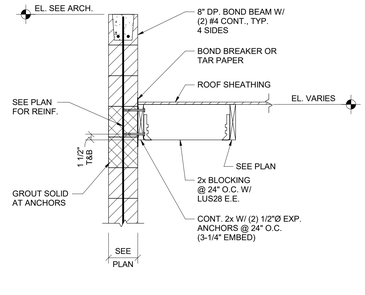

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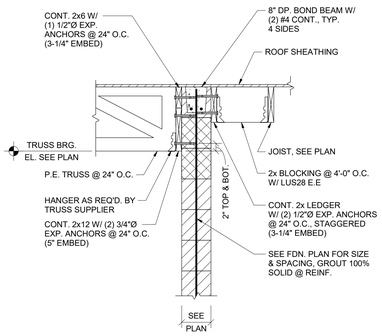

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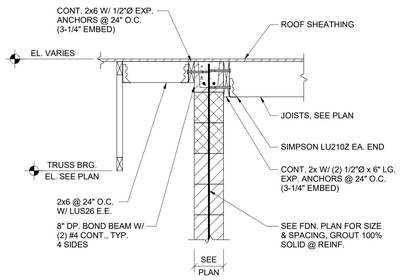

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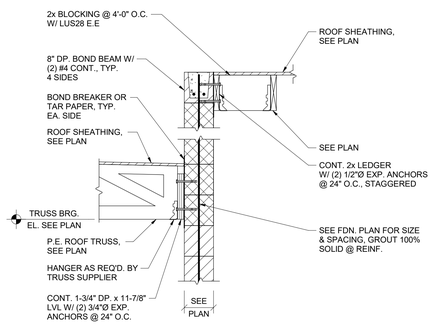

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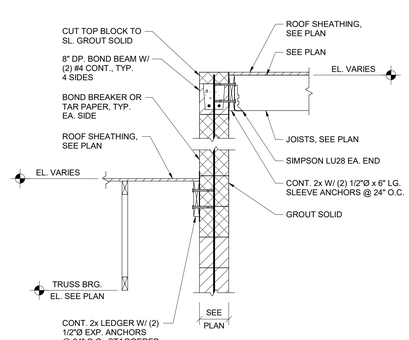

SECTION 11 — 3/4" = 1'-0"




SECTION 12 — 3/4" = 1'-0"




SECTION 13 — 3/4" = 1'-0"




SECTION 14 — 3/4" = 1'-0"

| # | DATE | CHANGE DESCRIPTION |
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COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLUMBUS.

**HARRIET'S HOPE**
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215

PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

# FRAMING DETAILS

STATE OF OHIO — ROBERT L. JOHNSON, JR. E-71804 — REGISTERED PROFESSIONAL ENGINEER

APRIL 4, 2022

DRAWN BY: JGA | CHECKED BY: JGA

Proj. #20643

**S330**

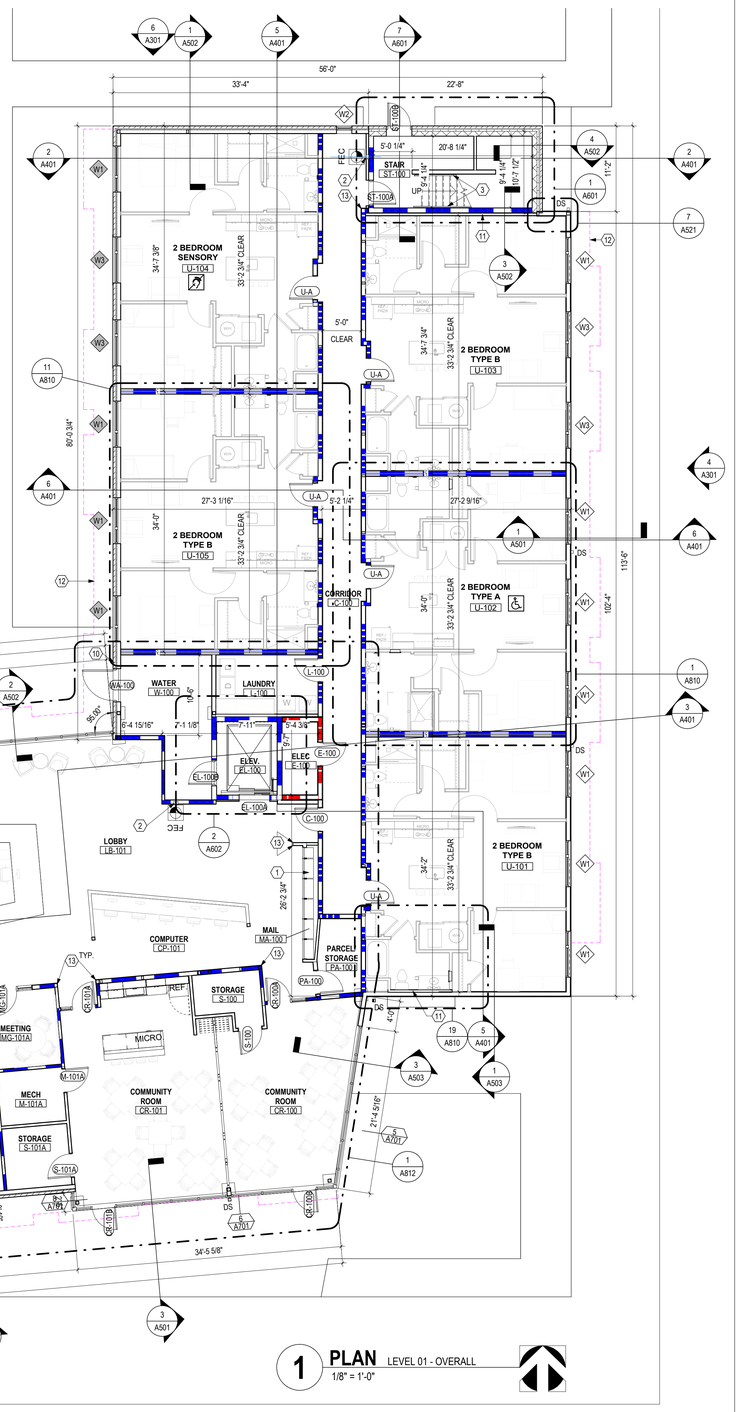
PERMIT & BID SET

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FILE INFO: BIM 360://1.35.035 - CMHA Hamels Hope2/1.35.035 - CMHA Hamels Hope - Short (R21).rvt

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## CODED NOTE LEGEND

1. METAL MAILBOXES AND PARCEL BOXES AS SHOWN IN FLOORS PLANS. DESIGN BASED ON THE MAILBOX WORKS OR EQUAL. PROVIDE ONE MAILBOX PER UNIT AND ONE PARCEL BOX PER EVERY FIVE MAILBOXES. BOTTOM OF UNIT SHALL NOT BE MOUNTED LOWER THAN 15 INCHES AFF AND TOP OF THE HIGHEST KEY HOLE SHALL NOT BE MOUNTED HIGHER THAN 48 INCHES AFF. SEE DETAIL FOR MORE INFORMATION.
2. INSTALL SEMI-RECESSED FIRE EXTINGUISHERS CABINETS SO THE INTEGRITY OF THE RATED WALL IS MAINTAINED. PROVIDE RATED CABINTES AT RATED WALL LOCATIONS.
3. PAINTED METAL RAILING AT STAIRS.
4. SEMI-RECESSED AIPHONE. COORDINATE EXACT LOCATION WITH ARCHITECT AND MOUNT NO HIGHER THAN 4 FEET AFF. SEE ELECTRICAL INFORMATION.
5. KNOX BOX- COORDINATE FINAL LOCATION WITH FIRE DEPARTMENT
6. NOT USED.
7. DRINKING FOUNTAIN. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
8. JANITOR'S SINK. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
9. ROOF HATCH ABOVE, LOCKABLE FROM STAIR SIDE.
10. FIRE DEPARTMENT CONNECTION. SEE FIRE PROTECTION AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
11. FURR OUT WALL W/ PARTITION TYPE 1'LJ W/ SOUND BATT INSULATION AT THIS LOCATION.
12. PROJECTION OF FLOOR ABOVE (DASHED)
13. CORNER GUARDS, TYPICAL.
14. 48" x 96" WHITEBOARD, TYPICAL. SEE SPECIFICATIONS.
15. 48" X 48" TACKBOARD, TYPICAL. SEE SPECIFICATIONS.




1 **PLAN** LEVEL 01 - OVERALL
1/8" = 1'-0"

## GENERAL NOTES - FLOOR PLAN

A. EXTERIOR WALL DIMENSIONS ARE TO EXTERIOR FACE OF EXTERIOR SHEATHING OR EXTERIOR FACE OF BRICK. ALL OTHER DIMENSIONS ARE TO FACE OF STUD (UNLESS NOTED OTHERWISE).
B. SEE STRUCTURAL DRAWINGS FOR LOCATIONS OF ALL STEEL REINFORCING IN WALL & FLOOR CONSTRUCTION.
C. SEE ENLARGED PLANS AND FINISH SCHEDULE FOR ADDITIONAL INFORMATION OF LOCATIONS AND TYPES OF FINISH MATERIALS.
D. SEE ELEVATIONS & STRUCTURAL DRAWINGS FOR LOCATIONS OF EXPANSION & CONTROL JOINTS. CONTRACTOR SHALL PROVIDE ADDITIONAL INTERIOR CONTROL JOINTS AS REQUIRED TO COMPLY WITH MAXIMUM SPACING REQUIREMENTS IN SPECIFICATIONS AND NATIONAL MASONRY INSTITUTE.
E. MECHANICAL & ELECTRICAL EQUIPMENT SHALL BE ON HOUSEKEEPING PADS. PADS ARE TO BE PROVIDED BY THE TRADE SUPPLYING THE EQUIPMENT. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION. WORK TO BE COORDINATED THROUGH THE GENERAL TRADES CONTRACTOR. PADS 4" MIN. 4" THICK W/ W.W.F., UNLESS NOTED OTHERWISE.
F. FURNITURE IS INCLUDED IN CONTRACT. SEE FF&E DRAWINGS FOR ADDITIONAL INFO. PROVIDE RESIDENTIAL APPLIANCES IN RESIDENTIAL UNITS AND PUBLIC AREAS UNLESS NOTED OTHERWISE. ALL APPLIANCES TO BE PROVIDED AND INSTALLED BY CC.
G. ALL INTERIOR GYPSUM BOARD PARTITIONS TO INCLUDE THE USE OF 5/8" GYPSUM BOARD. WHERE NEW TUBS, SHOWERS & SURROUNDS, ALL SINKS, WATER HEATERS AND CLOTHES WASHERS ARE BEING PROVIDED AND INSTALLED, GYPSUM BOARD / SUBSTRATE IS TO BE MOISTURE-RESISTANT SUBSTRATE (NON-PAPER FACED), WITHIN 4 FEET OF ANY WATER SOURCES WHERE DRYWALL CAN BE SPLASHED.
H. FOR 1-PIECE TUB/SHOWER UNIT, IT IS NOT REQUIRED TO INSTALL DRYWALL OR TYVEK BEHIND UNIT EXCEPT AT FIRE RATED WALL ASSEMBLIES. INSTALL GYPSUM BOARD AS REQUIRED.
I. ALL DOORS LOCATED FOR PUBLIC ACCESS, ALL RESIDENTIAL ENTRANCES AND ALL USABLE DOORS IN ANSI TYPE A UNITS SHALL BE INSTALLED TO MAINTAIN THE DOOR CLEARANCE REQUIREMENTS OUTLINED ON THE TYPICAL PROJECT DETAILS SHEETS.
J. THRESHOLDS, IF PROVIDED AT PUBLIC DOORWAYS AND IN **ANSI TYPE A** UNITS, MUST BE 1/2 INCH HIGH MAXIMUM. CHANGES IN LEVEL OF 1/4 INCH HIGH MAXIMUM ARE PERMITTED TO BE VERTICAL. CHANGES IN LEVEL BETWEEN 1/4 INCH HIGH MINIMUM AND 1/2 INCH HIGH MAXIMUM MUST BE BEVELED WITH A SLOPE NOT STEEPER THAN 1:2.
K. **GYPSUM UNDERLAYMENT:** SHALL BE PROVIDED AT ALL FLOOR / CEILING ASSEMBLIES EXCEPT STAIR TREADS. ALL GYPSUM UNDERLAYMENT SHALL RECEIVE A FLOORING MATERIAL. GYPSUM UNDERLAYMENT SHALL NOT BE VISIBLE TO VIEW. FLOORING MATERIAL IS NOT REQUIRED UNDERNEATH BASE CABINETS BUT REQUIRED UNDER REMOVABLE BASE CABINETS.
L. **ACOUSTICAL MAT:** SHALL BE PROVIDED ON ALL WOOD FLOOR / CEILING ASSEMBLIES.
M. WHERE TUBS ARE LOCATED, PROVIDE AND INSTALL WOOD BLOCKING IN WALLS AROUND TUBS FOR FUTURE INSTALLATION OF GRAB BARS. WHERE ROLL-IN SHOWERS ARE LOCATED, PROVIDE AND INSTALL WOOD BLOCKING AND GRAB BARS IN WALLS AROUND SHOWER. SEE TYPICAL PROJECT DETAILS AND MEP DRAWINGS FOR ADDITIONAL INFORMATION.
N. PROVIDE BLOCKING FOR CURVED SHOWER RODS, LOCATED DIRECTLY ABOVE THE TOP OF THE SHOWER ENCLOSURE.
O. REFER TO MOUNTING HEIGHTS SCHEDULE FOR MOUNTING HEIGHTS.
P. PROVIDE AND INSTALL WINDOW COVERINGS AND HEAVY DUTY WINDOW SCREENS AT ALL RESIDENTIAL UNIT WINDOWS. PROVIDE AND INSTALL WINDOW COVERINGS AT COMMUNITY ROOMS CR-100 AND CR-101.
Q. CAULK ALL EXTERIOR PENETRATIONS. REFER TO SPEC SECTION 07 92 00 JOINT SEALANTS FOR DETAILS.
R. ANY PENETRATIONS AT FIRE RATED WALLS ARE TO BE FIRESTOPPED.
S. PROVIDE AND INSTALL PASSIVE RADON REMEDIATION SYSTEM AS NOTED. REFER TO TYPICAL PROJECT DETAILS, PLUMBING PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
T. PROVIDE AND INSTALL CORNER GUARDS AT ALL WALL CORNER LOCATIONS IN CORRIDORS AND PUBLIC AREAS.

## LEGEND - FLOOR PLAN

- 2 HR FIRE RATED WALLS
- 1 HR FIRE RATING - INCLUDING BUT NOT LIMITED TO STAIR WALLS, ELEVATOR WALLS AND UNIT DEMISING WALLS.
- 1 HR FIRE RATED CORRIDOR WALLS
- INTERIOR PARTITION
- **SENSORY (HEARING / VISUALLY IMPAIRED) UNIT -** SEE OVERALL FLOOR PLANS FOR LOCATIONS. LOCATE MEP EQUIPMENT AND DEVICES TO MAINTAIN CLEARANCES AS NOTED AND AS DASHED IN FLOOR PLANS. SEE MEP DRAWINGS FOR ADDITIONAL INFO.
- **ANSI TYPE A UNIT -** SEE OVERALL FLOOR PLANS FOR LOCATIONS. LOCATE MEP EQUIPMENT AND DEVICES TO MAINTAIN CLEARANCES AS NOTED AND AS DASHED IN FLOOR PLANS. UNITS TO ALSO INCLUDE SENSORY (HEARING / VISUALLY IMPAIRED) UNIT FEATURES. SEE MEP DRAWINGS FOR ADDITIONAL INFO.
- PLAN ELEVATION
- F.E.C. SEMI-RECESSED, RATED FIRE EXTINGUISHER CABINET (F.E.C.) AND FIRE EXTINGUISHER. UNIT SHALL NOT ENCROACH MORE THAN 4" INTO THE PATH OF EGRESS.
- DIRECTION OF INSTALLATION OF LVT FLOORING. SEE A800 SERIES SHEETS FOR FINISH SCHEDULE.
- DOOR TYPE
- REQUIRED 30"x48" CLEAR FLOOR SPACE - 48" SHALL BE CENTERED AT APPLIANCES AND SINKS
- ACCESSIBLE ROUTE, MINIMUM 36" CLEAR
- WINDOW TYPE. SEE A700 SERIES SHEETS FOR SIZES. SIZES & LOCATIONS SHOWN FOR REFERENCE ONLY.
- WINDOW TYPE. SEE A700 SERIES SHEETS FOR SIZES. SIZES & LOCATIONS SHOWN FOR REFERENCE ONLY. (NOISE MITIGATION = OITC 27)

| # | DATE | CHANGE DESCRIPTION |
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COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:
# LEVEL 01 - FLOOR PLAN - OVERALL

STATE OF OHIO — JAY W BOONE — 10740 — REGISTERED ARCHITECT
JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*
DRAWN BY: XXX | CHECKED BY: XXX
*Proj. #20643*
# A101
*PERMIT & BID SET*

PRINT DATE: 4/1/2022 10:29:25 AM
FILE INFO: C:\$$Local Revit Projects\2021 Projects\20643 Hamads Hope FSH - ARCH_RKnoll-APRSQ.rvt

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## CODED NOTE LEGEND

1. METAL MAILBOXES AND PARCEL BOXES AS SHOWN IN FLOORS PLANS. DESIGN BASED ON THE MAILBOX WORKS OR EQUAL. PROVIDE ONE MAILBOX PER UNIT AND ONE PARCEL BOX PER EVERY FIVE MAILBOXES. BOTTOM OF UNIT SHALL NOT BE MOUNTED LOWER THAN 15 INCHES AFF AND TOP OF THE HIGHEST KEY HOLE SHALL NOT BE MOUNTED HIGHER THAN 48 INCHES AFF. SEE DETAIL FOR MORE INFORMATION.
2. INSTALL SEMI-RECESSED FIRE EXTINGUISHERS CABINETS SO THE INTEGRITY OF THE RATED WALL IS MAINTAINED. PROVIDE RATED CABINTES AT RATED WALL LOCATIONS.
3. PAINTED METAL RAILING AT STAIRS.
4. SEMI-RECESSED AIPHONE. COORDINATE EXACT LOCATION WITH ARCHITECT AND MOUNT NO HIGHER THAN 4 FEET AFF. SEE ELECTRICAL INFORMATION.
5. KNOX BOX- COORDINATE FINAL LOCATION WITH FIRE DEPARTMENT
6. NOT USED.
7. DRINKING FOUNTAIN. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
8. JANITOR'S SINK. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
9. ROOF HATCH ABOVE, LOCKABLE FROM STAIR SIDE.
10. FIRE DEPARTMENT CONNECTION. SEE FIRE PROTECTION AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
11. FURR OUT WALL W/ PARTITION TYPE 1 1/ W/ SOUND BATT INSULATION AT THIS LOCATION.
12. PROJECTION OF FLOOR ABOVE (DASHED)
13. CORNER GUARDS, TYPICAL.
14. 48" x 96" WHITEBOARD, TYPICAL. SEE SPECIFICATIONS.
15. 48" X 48" TACKBOARD, TYPICAL. SEE SPECIFICATIONS.




1 **PLAN** LEVEL 02 - OVERALL
1/8" = 1'-0"

## GENERAL NOTES - FLOOR PLAN

A. EXTERIOR WALL DIMENSIONS ARE TO EXTERIOR FACE OF EXTERIOR SHEATHING OR EXTERIOR FACE OF BRICK. ALL OTHER DIMENSIONS ARE TO FACE OF STUD (UNLESS NOTED OTHERWISE).
B. SEE STRUCTURAL DRAWINGS FOR LOCATIONS OF ALL STEEL REINFORCING IN WALL & FLOOR CONSTRUCTION.
C. SEE ENLARGED PLANS AND FINISH SCHEDULE FOR ADDITIONAL INFORMATION OF LOCATIONS AND TYPES OF FINISH MATERIALS.
D. SEE ELEVATIONS & STRUCTURAL DRAWINGS FOR LOCATIONS OF EXPANSION & CONTROL JOINTS. CONTRACTOR SHALL PROVIDE ADDITIONAL INTERIOR CONTROL JOINTS AS REQUIRED TO COMPLY WITH MAXIMUM SPACING REQUIREMENTS IN SPECIFICATIONS AND NATIONAL MASONRY INSTITUTE.
E. MECHANICAL & ELECTRICAL EQUIPMENT SHALL BE ON HOUSEKEEPING PADS. PADS ARE TO BE PROVIDED BY THE TRADE SUPPLYING THE EQUIPMENT. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION. WORK TO BE COORDINATED THROUGH THE GENERAL TRADES CONTRACTOR. PADS 4" MIN. 4" THICK W/ W.W.F., UNLESS NOTED OTHERWISE.
F. FURNITURE IS INCLUDED IN CONTRACT. SEE FF&E DRAWINGS FOR ADDITIONAL INFO. PROVIDE RESIDENTIAL APPLIANCES IN RESIDENTIAL UNITS AND PUBLIC AREAS UNLESS NOTED OTHERWISE. ALL APPLIANCES TO BE PROVIDED AND INSTALLED BY GC.
G. ALL INTERIOR GYPSUM BOARD PARTITIONS TO INCLUDE THE USE OF 5/8" GYPSUM BOARD. WHERE NEW TUBS, SHOWERS & SURROUNDS, ALL SINKS, WATER HEATERS AND CLOTHES WASHERS ARE BEING PROVIDED AND INSTALLED, GYPSUM BOARD / SUBSTRATE IS TO BE MOISTURE-RESISTANT SUBSTRATE (NON-PAPER FACED), WITHIN 4 FEET OF ANY WATER SOURCES WHERE DRYWALL CAN BE SPLASHED.
H. FOR 1-PIECE TUB/SHOWER UNIT, IT IS NOT REQUIRED TO INSTALL DRYWALL OR TYVEK BEHIND UNIT EXCEPT AT FIRE RATED WALL ASSEMBLIES. INSTALL GYPSUM BOARD AS REQUIRED.
I. ALL DOORS LOCATED FOR PUBLIC ACCESS, ALL RESIDENTIAL ENTRANCES AND ALL USABLE DOORS IN ANSI TYPE A UNITS SHALL BE INSTALLED TO MAINTAIN THE DOOR CLEARANCE REQUIREMENTS OUTLINED ON THE TYPICAL PROJECT DETAILS SHEETS.
J. THRESHOLDS, IF PROVIDED AT PUBLIC DOORWAYS AND IN **ANSI TYPE A** UNITS, MUST BE 1/2 INCH HIGH MAXIMUM. CHANGES IN LEVEL OF 1/4 INCH HIGH MAXIMUM ARE PERMITTED TO BE VERTICAL. CHANGES IN LEVEL BETWEEN 1/4 INCH HIGH MINIMUM AND 1/2 INCH HIGH MAXIMUM MUST BE BEVELED WITH A SLOPE NOT STEEPER THAN 1:2.
K. **GYPSUM UNDERLAYMENT:** SHALL BE PROVIDED AT ALL FLOOR / CEILING ASSEMBLIES EXCEPT STAIR TREADS. ALL GYPSUM UNDERLAYMENT SHALL RECEIVE A FLOORING MATERIAL. GYPSUM UNDERLAYMENT SHALL NOT BE VISIBLE TO VIEW. FLOORING MATERIAL IS NOT REQUIRED UNDERNEATH BASE CABINETS BUT REQUIRED UNDER REMOVABLE BASE CABINETS.
L. **ACOUSTICAL MAT:** SHALL BE PROVIDED ON ALL WOOD FLOOR / CEILING ASSEMBLIES.
M. WHERE TUBS ARE LOCATED, PROVIDE AND INSTALL WOOD BLOCKING IN WALLS AROUND TUBS FOR FUTURE INSTALLATION OF GRAB BARS. WHERE ROLL-IN SHOWERS ARE LOCATED, PROVIDE AND INSTALL WOOD BLOCKING AND GRAB BARS IN WALLS AROUND SHOWER. SEE TYPICAL PROJECT DETAILS AND MEP DRAWINGS FOR ADDITIONAL INFORMATION.
N. PROVIDE BLOCKING FOR CURVED SHOWER RODS, LOCATED DIRECTLY ABOVE THE TOP OF THE SHOWER ENCLOSURE.
O. REFER TO MOUNTING HEIGHTS SCHEDULE FOR MOUNTING HEIGHTS.
P. PROVIDE AND INSTALL WINDOW COVERINGS AND HEAVY DUTY WINDOW SCREENS AT ALL RESIDENTIAL UNIT WINDOWS. PROVIDE AND INSTALL WINDOW COVERINGS AT COMMUNITY ROOMS CR-100 AND CR-101.
Q. CAULK ALL EXTERIOR PENETRATIONS. REFER TO SPEC SECTION 07 92 00 JOINT SEALANTS FOR DETAILS.
R. ANY PENETRATIONS AT FIRE RATED WALLS ARE TO BE FIRESTOPPED.
S. PROVIDE AND INSTALL PASSIVE RADON REMEDIATION SYSTEM AS NOTED. REFER TO TYPICAL PROJECT DETAILS, PLUMBING PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
T. PROVIDE AND INSTALL CORNER GUARDS AT ALL WALL CORNER LOCATIONS IN CORRIDORS AND PUBLIC AREAS.

## LEGEND - FLOOR PLAN

- 2 HR FIRE RATED WALLS
- 1 HR FIRE RATING - INCLUDING BUT NOT LIMITED TO STAIR WALLS, ELEVATOR WALLS AND UNIT DEMISING WALLS.
- 1 HR FIRE RATED CORRIDOR WALLS
- INTERIOR PARTITION
- **SENSORY (HEARING / VISUALLY IMPAIRED) UNIT** - SEE OVERALL FLOOR PLANS FOR LOCATIONS. LOCATE MEP EQUIPMENT AND DEVICES TO MAINTAIN CLEARANCES AS NOTED AND AS DASHED IN FLOOR PLANS. SEE MEP DRAWINGS FOR ADDITIONAL INFO.
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1581 W. BROAD STREET
COLUMBUS, OH 43222
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300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:
# LEVEL 02 - FLOOR PLAN - OVERALL

STATE OF OHIO — JAY W BOONE — 10740 — REGISTERED ARCHITECT
JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*
DRAWN BY: XXX | CHECKED BY: XXX
*Proj. #20643*
**A102**
*PERMIT & BID SET*

PRINT DATE: 4/1/2022 10:29:31 AM
FILE INFO: C:\$$Local Revit Projects\2021 Projects\20643-Hamels Hope PSH - ARCH_RKostMPROGD.rvt

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1 **PLAN** LEVEL 03 - OVERALL
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- LV DIR. DIRECTION OF INSTALLATION OF LVT FLOORING. SEE A800 SERIES SHEETS FOR FINISH SCHEDULE.
- X DOOR TYPE
- REQUIRED 30"x48" CLEAR FLOOR SPACE - 48" SHALL BE CENTERED AT APPLIANCES AND SINKS
- ACCESSIBLE ROUTE, MINIMUM 36" CLEAR
- W WINDOW TYPE. SEE A700 SERIES SHEETS FOR SIZES, SIZES & LOCATIONS SHOWN FOR REFERENCE ONLY.
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COLUMBUS METROPOLITAN HOUSING AUTHORITY
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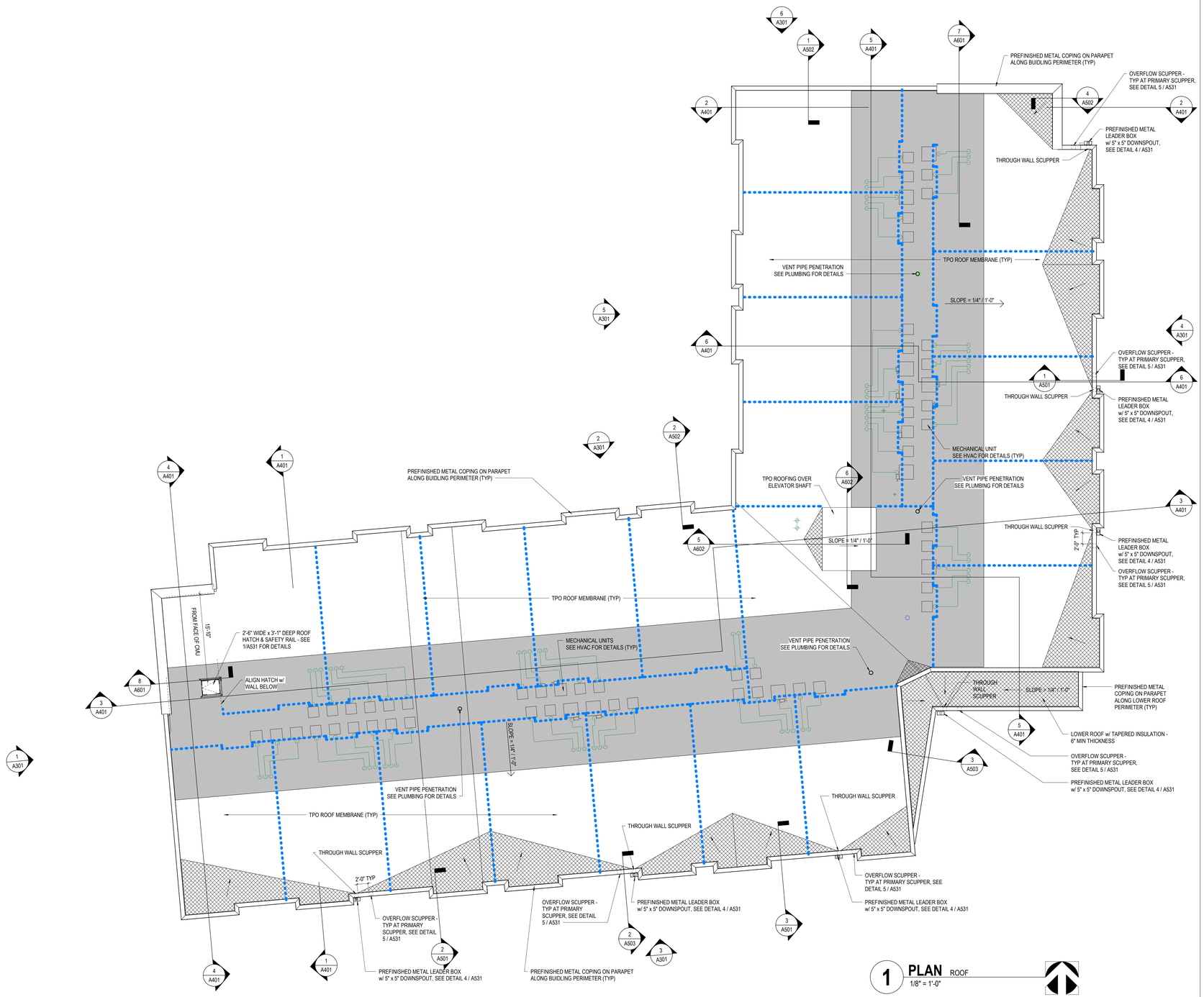
DRAWING TITLE:
# LEVEL 03 - FLOOR PLAN - OVERALL

STATE OF OHIO · JAY W BOONE · 10740 · REGISTERED ARCHITECT
JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*
DRAWN BY: XXX | CHECKED BY: XXX
*Proj. #20643*
# A103
*PERMIT & BID SET*

PRINT DATE: 4/1/2022 10:29:37 AM
FILE INFO: C:\$Local Revit Projects\2021 Projects\20643 Harriets Hope PSH - ARCH_RKrisl.APRSQ.rvt

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1 **PLAN** ROOF
1/8" = 1'-0"

## GENERAL NOTES - ROOF PLAN

1. SEE STRUCTURAL DRAWINGS FOR TOP OF BEARING (T.O.B.) AT ALL PROPOSED ROOFS.
2. REFER TO MECHANICAL AND ARCHITECTURAL DRAWINGS FOR PIPE PENETRATION DETAIL AT ROOF.
3. REFER TO PLUMBING, HVAC AND ELECTRICAL DRAWINGS FOR INFORMATION REGARDING ROOF MOUNTED EQUIPMENT AND ALL REQUIRED ROOF PENETRATIONS.
4. INSTALL ROOF SADDLE OR CRICKET AT LOCATIONS ON ROOF WHERE EQUIPMENT ROOF PENETRATIONS BLOCKS DOWN FLOW OF WATER TO DRAINS.
5. GRAPHIC REPRESENTATION OF TAPERED INSULATION IS SIMPLIFIED AND SHALL SERVE FOR REFERENCE ONLY. IT IS CONTRACTOR RESPONSIBILITY TO PROVIDE POSITIVE DRAINAGE TO ROOF OR DECK DRAINS AT SLOPE 1/4" PER FOOT MINIMUM ON THE ENTIRE ROOF.
6. ROOFING ASSEMBLY SHALL CONTAIN A MINIMUM R-30 CONTINUOUS INSULATION ABOVE DECK.
7. ALL MECHANICAL EQUIPMENT SHALL BE LOCATED A MINIMUM OF 10'-0" AWAY FROM ROOF EDGES TO AVOID GUARDRAILS AS REQUIRED BY CODE.
8. SEE A500 SERIES SHEETS FOR TYPICAL ROOF DETAILS.
9. REFER TO TYPICAL PROJECT DETAILS FOR ADDITIONAL RADON MITIGATION SYSTEM INFORMATION.

## ROOF PLAN LEGEND

- WEAR MEMBRANE. PROVIDE WITHIN 10' OF ALL ROOFTOP MECHANICAL UNITS.
- TAPERED ROOF INSULATION. MINIMUM SLOPE 1/4":12"
- WOOD DRAFT STOPPING SEALED TO UNDERSIDE OF ROOF DECK. UNLESS OTHERWISE DICTATED ON STRUCTURAL DRAWINGS, ASSEMBLY TO BE 2X FRAMING/PLYWOOD. SEALED TO ROOF DECK WITH FIRE CAULKING TO PROVIDE COMPARTMENTAL SMOKE SEPARATION. IN RATED PARTITION LOCATIONS, RATED ASSEMBLY PARTITION SHALL TERMINATE TO THE UNDERSIDE OF THE ROOF SHEATHING AND SERVE AS DRAFT STOPPING.

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

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1581 W. BROAD STREET
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MOODY•NOLAN
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SUITE 300
COLUMBUS, OHIO 43215

PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

# ROOF PLAN - OVERALL

STATE OF OHIO
JAY W BOONE
10740
REGISTERED ARCHITECT

JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*

DRAWN BY: **Author** | CHECKED BY: **Checker**

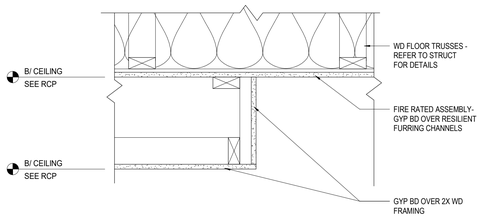
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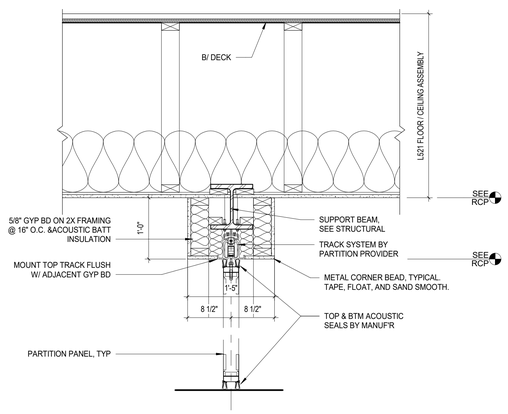
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**4 DETAIL** SOFFIT
1 1/2" = 1'-0" REF: 20 / A810




**2 DETAIL** MOVABLE PARTITION @ HEAD
1" = 1'-0"




**1 RCP** FIRST FLOOR
1/8" = 1'-0"

## GENERAL NOTES - RCP

A. PAINT DESIGNATED FOR EXPOSED OVERHEAD STRUCTURE IS TO INCLUDE ALL EXPOSED COMPONENTS INCLUDING (BUT NOT EXCLUSIVE TO) DECKING, STRUCTURAL MEMBERS, MECHANICAL AND ELECTRICAL DELIVERY SYSTEMS, FIRE PROTECTION SYSTEMS (EXCLUDING SPRINKLER HEADS), AND ALL OTHER MISCELLANEOUS BUILDING SYSTEMS LOCATED OVERHEAD. EACH OF THE AFOREMENTIONED CATEGORIES IS TO INCLUDE ANY AND ALL ASSOCIATED SUPPORTS, FASTENERS, HANGERS, STRUTS, BRACES, BRACKETS, ETC.
B. LIGHT FIXTURES SHOWN TO INDICATE PROPOSED FIXTURES & GENERAL DESIGN INTENT.
C. FINISHED CEILING HEIGHTS ARE MARKED FROM TOP OF FINISH FLOOR (UNLESS NOTED OTHERWISE).
D. COORDINATE LOCATION OF FIXTURES WITH MECHANICAL, ELECTRICAL, PLUMBING, FIRE SUPPRESSION AND TECHNOLOGY DRAWINGS. ANY CONFLICT BETWEEN TRADES, NOTIFY ARCHITECT PRIOR TO INSTALLATION.
E. FACE OF BULKHEADS ARE TO ALIGN WITH FACE OF ADJACENT WALLS TO WHICH BULKHEADS ARE PARALLEL, UNLESS NOTED OTHERWISE OR DIMENSIONED.
F. ALL GYPSUM BOARD SOFFITS & CEILINGS TO BE PAINTED FLAT CEILING WHITE (UNLESS NOTED OTHERWISE).
G. PAINT DUCTWORK INSIDE AIR GRILLES FLAT BLACK.
H. CEILING GRIDS ARE CENTERED ON ROOM, U.N.O. OR DIMENSIONED.
I. WHERE EXIT SIGNS OCCUR OVER A DOOR OR PAIR OF DOORS, CENTER SIGN ON DOOR OPENING.
J. ALL CEILING DEVICES TO BE CENTERED IN TILE, U.N.O.
K. GYPSUM BOARD CEILINGS FRAMED TO THE UNDERSIDE OF WOOD TRUSSES SHALL BE INSTALLED TIGHT TO THE BOTTOM CHORD WITH A 1/2" RESILIENT CHANNEL. CEILINGS BELOW 2x WOOD FRAMING SHALL MATCH THE HEIGHT OF THE CEILINGS BELOW THE WOOD TRUSSES, U.N.O. ALL CEILING ASSEMBLIES AND WALLS MUST MAINTAIN THE INTEGRITY OF THE RATED CEILING ASSEMBLY. CONTINUE RATED GYPSUM BOARD ABOVE ANY DROP CEILINGS AND SOFFITS.
L. COORDINATE FINAL SOFFIT LOCATIONS WITH ARCHITECT.
M. SEE ELECTRICAL DRAWINGS FOR THE REQUIRED ELECTRICAL DEVICES. RCP'S SHOW GENERAL LOCATION OF LIGHTING IN CORRIDORS.
N. INSTALL AND PROVIDE A RATED ACCESS PANEL AT ALL SMOKE DAMPER LOCATIONS. COORDINATE FINAL LOCATIONS WITH ARCHITECT.

## CODED NOTE LEGEND

X

1. ALIGN FEATURES
2. OPEN TO ABOVE
3. PREFINISHED ALUM SOFFIT - SOLID
4. ROOF HATCH W/ STL LADDER - SEE 1/A531 FOR DETAILS.

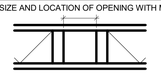
## RCP LEGEND

- AL1 PREFINISHED ALUM SOFFIT - SOLID
- E1 EXPOSED STRUCTURE ABOVE
- G1 GYPSUM BOARD CEILING OR SOFFIT (INSTALLED DIRECT TO STRUCTURE)
- G2 GYPSUM BOARD CEILING OR SOFFIT (ADDITIONAL LOWER CEILING)
- 2x2 LIGHT FIXTURE
- 1x4 LIGHT FIXTURE (SHADING DENOTES EMERGENCY FIXTURE)
- SURFACE MOUNTED LIGHT (SHADING DENOTES EMERGENCY FIXTURE)
- WALL MOUNTED VANITY LIGHT
- WALL MOUNTED EXTERIOR LIGHT
- EMERGENCY LIGHT
- EXIT LIGHT WITH DIRECTIONAL ARROW
- EXIT LIGHT
- SUPPLY DIFFUSER
- LINEAR DIFFUSER
- EXHAUST/RETURN GRILLE
- ACCESS PANEL (FIRE RATED)
- XX XX-XX" CEILING TAG WITH HEIGHT

**NOTE:** COORDINATE ARCHITECTURAL REFLECTED CEILING PLANS WITH THE MECHANICAL AND ELECTRICAL DRAWINGS FOR NUMBER OF, AND LOCATIONS OF, AND TYPES OF FIXTURES AND GRILLES. NOT ALL ITEMS SHOWN ON LEGEND MAY BE PRESENT IN PROJECT.

## TRUSS OPENING DIAGRAM AT UNITS

COORDINATE SIZE AND LOCATION OF OPENING WITH MECHANICAL



| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

# LEVEL 01 - RCP - OVERALL

STATE OF OHIO
JAY W. BOONE
10740
REGISTERED ARCHITECT
JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*
DRAWN BY: XXX CHECKED BY: XXX
*Proj. #20643*

# A201

*PERMIT & BID SET*

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**1 RCP** SECOND FLOOR
1/8" = 1'-0"

## GENERAL NOTES - RCP

A. PAINT DESIGNATED FOR EXPOSED OVERHEAD STRUCTURE IS TO INCLUDE ALL EXPOSED COMPONENTS INCLUDING (BUT NOT EXCLUSIVE TO) DECKING, STRUCTURAL MEMBERS, MECHANICAL AND ELECTRICAL DELIVERY SYSTEMS, FIRE PROTECTION SYSTEMS (EXCLUDING SPRINKLER HEADS), AND ALL OTHER MISCELLANEOUS BUILDING SYSTEMS LOCATED OVERHEAD. EACH OF THE AFOREMENTIONED CATEGORIES IS TO INCLUDE ANY AND ALL ASSOCIATED SUPPORTS, FASTENERS, HANGERS, STRUTS, BRACES, BRACKETS, ETC.
B. LIGHT FIXTURES SHOWN TO INDICATE PROPOSED FIXTURES & GENERAL DESIGN INTENT.
C. FINISHED CEILING HEIGHTS ARE MARKED FROM TOP OF FINISH FLOOR (UNLESS NOTED OTHERWISE).
D. COORDINATE LOCATION OF FIXTURES WITH MECHANICAL, ELECTRICAL, PLUMBING, FIRE SUPPRESSION AND TECHNOLOGY DRAWINGS. ANY CONFLICT BETWEEN TRADES, NOTIFY ARCHITECT PRIOR TO INSTALLATION.
E. FACE OF BULKHEADS ARE TO ALIGN WITH FACE OF ADJACENT WALLS TO WHICH BULKHEADS ARE PARALLEL, UNLESS NOTED OTHERWISE OR DIMENSIONED.
F. ALL GYPSUM BOARD SOFFITS & CEILINGS TO BE PAINTED FLAT CEILING WHITE (UNLESS NOTED OTHERWISE).
G. PAINT DUCTWORK INSIDE AIR GRILLES FLAT BLACK.
H. CEILING GRIDS ARE CENTERED ON ROOM, U.N.O. OR DIMENSIONED.
I. WHERE EXIT SIGNS OCCUR OVER A DOOR OR PAIR OF DOORS, CENTER SIGN ON DOOR OPENING.
J. ALL CEILING DEVICES TO BE CENTERED IN TILE, U.N.O.
K. GYPSUM BOARD CEILINGS FRAMED TO THE UNDERSIDE OF WOOD TRUSSES SHALL BE INSTALLED TIGHT TO THE BOTTOM CHORD WITH A 1/2" RESILIENT CHANNEL. CEILINGS BELOW 2x WOOD FRAMING SHALL MATCH THE HEIGHT OF THE CEILINGS BELOW THE WOOD TRUSSES, U.N.O. ALL CEILING ASSEMBLIES AND WALLS MUST MAINTAIN THE INTEGRITY OF THE RATED CEILING ASSEMBLY. CONTINUE RATED GYPSUM BOARD ABOVE ANY DROP CEILINGS AND SOFFITS.
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N. INSTALL AND PROVIDE A RATED ACCESS PANEL AT ALL SMOKE DAMPER LOCATIONS. COORDINATE FINAL LOCATIONS WITH ARCHITECT.

## CODED NOTE LEGEND

1. ALIGN FEATURES
2. OPEN TO ABOVE
3. PREFINISHED ALUM SOFFIT - SOLID
4. ROOF HATCH W/ STL LADDER - SEE 1/A531 FOR DETAILS.

## RCP LEGEND

- AL1 PREFINISHED ALUM SOFFIT - SOLID
- E1 EXPOSED STRUCTURE ABOVE
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- ACCESS PANEL (FIRE RATED)
- XX XX'-XX" CEILING TAG WITH HEIGHT

**NOTE:** COORDINATE ARCHITECTURAL REFLECTED CEILING PLANS WITH THE MECHANICAL AND ELECTRICAL DRAWINGS FOR NUMBER OF, AND LOCATIONS. OF, AND TYPES OF FIXTURES AND GRILLES. NOT ALL ITEMS SHOWN ON LEGEND MAY BE PRESENT IN PROJECT.

## TRUSS OPENING DIAGRAM AT UNITS

COORDINATE SIZE AND LOCATION OF OPENING WITH MECHANICAL

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

# LEVEL 02 - RCP - OVERALL

STATE OF OHIO
JAY W. BOONE
10740
REGISTERED ARCHITECT

JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*

DRAWN BY: XXX | CHECKED BY: XXX

*Proj. #20643*

**A202**

*PERMIT & BID SET*

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**1 RCP** THIRD FLOOR
1/8" = 1'-0"

## GENERAL NOTES - RCP

A. PAINT DESIGNATED FOR EXPOSED OVERHEAD STRUCTURE IS TO INCLUDE ALL EXPOSED COMPONENTS INCLUDING (BUT NOT EXCLUSIVE TO) DECKING, STRUCTURAL MEMBERS, MECHANICAL AND ELECTRICAL DELIVERY SYSTEMS, FIRE PROTECTION SYSTEMS (EXCLUDING SPRINKLER HEADS), AND ALL OTHER MISCELLANEOUS BUILDING SYSTEMS LOCATED OVERHEAD. EACH OF THE AFOREMENTIONED CATEGORIES IS TO INCLUDE ANY AND ALL ASSOCIATED SUPPORTS, FASTENERS, HANGERS, STRUTS, BRACES, BRACKETS, ETC.
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## CODED NOTE LEGEND

(X)

1. ALIGN FEATURES
2. OPEN TO ABOVE
3. PREFINISHED ALUM SOFFIT - SOLID
4. ROOF HATCH W/ STL LADDER - SEE 1/A531 FOR DETAILS.

## RCP LEGEND

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**NOTE:** COORDINATE ARCHITECTURAL REFLECTED CEILING PLANS WITH THE MECHANICAL AND ELECTRICAL DRAWINGS FOR NUMBER OF, AND LOCATIONS. OF, AND TYPES OF FIXTURES AND GRILLES. NOT ALL ITEMS SHOWN ON LEGEND MAY BE PRESENT IN PROJECT.

## TRUSS OPENING DIAGRAM AT UNITS

COORDINATE SIZE AND LOCATION OF OPENING WITH MECHANICAL

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

# LEVEL 03 - RCP - OVERALL

STATE OF OHIO — JAY W BOONE — 10740 — REGISTERED ARCHITECT

JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*

DRAWN BY: **XXX** | CHECKED BY: **XXX**

*Proj. #20643*

# A203

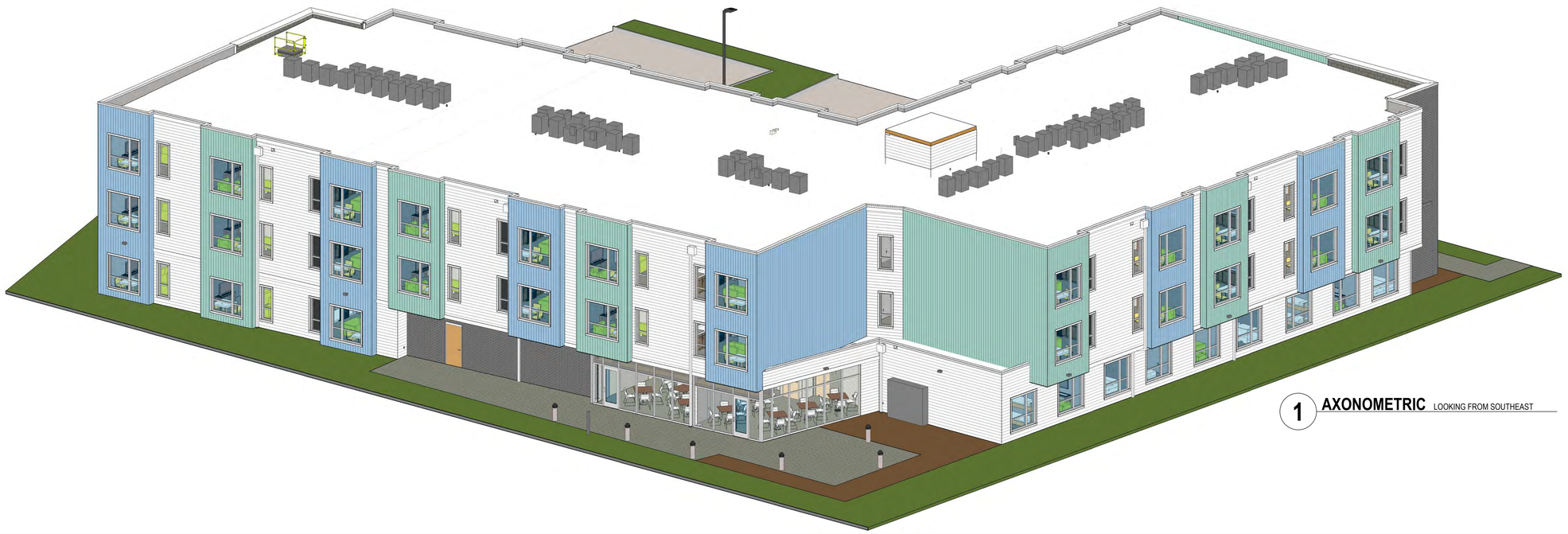
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2 **AXONOMETRIC** LOOKING FROM NORTHWEST



1 **AXONOMETRIC** LOOKING FROM SOUTHEAST

## GENERAL NOTES - 3D VIEWS

A. FOR GENERAL REFERENCE ONLY. ALL BUILDING COMPONENTS MAY NOT BE REPRESENTED ACCURATELY. SITE AND LANDSCAPE INFORMATION FOR GENERAL REFERENCE. SEE ARCHITECTURAL, CIVIL AND LANDSCAPE DRAWINGS.

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215

PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

**AXONOMETRIC VIEWS**

STATE OF OHIO
JAY W. BOONE
10740
REGISTERED ARCHITECT

JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*

DRAWN BY: **Author** | CHECKED BY: **Checker**

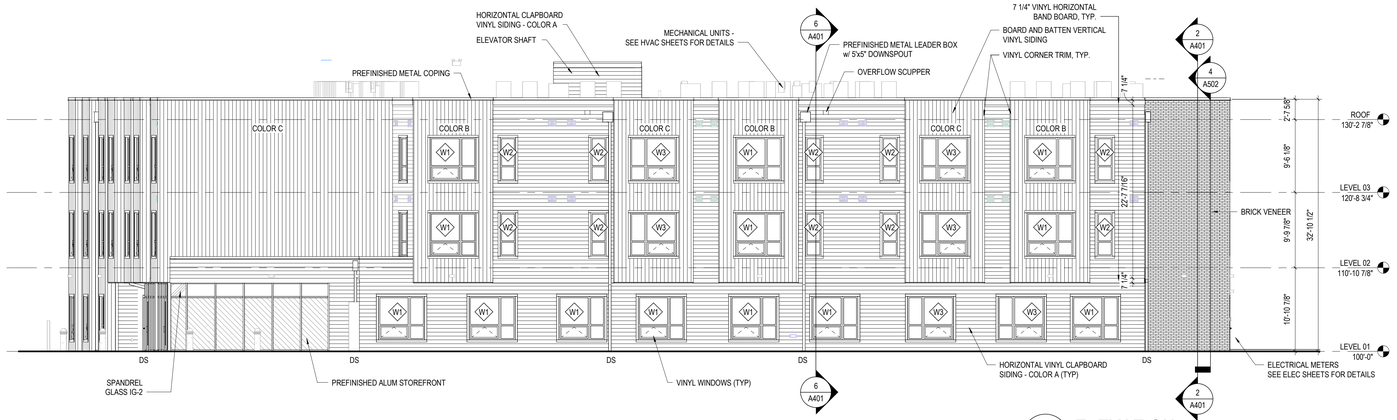
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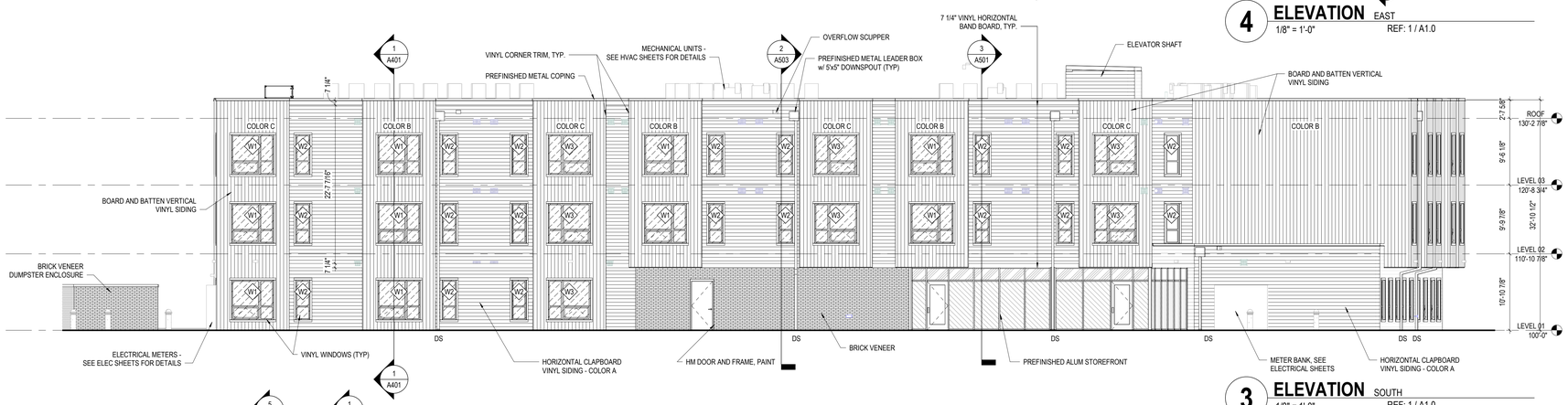
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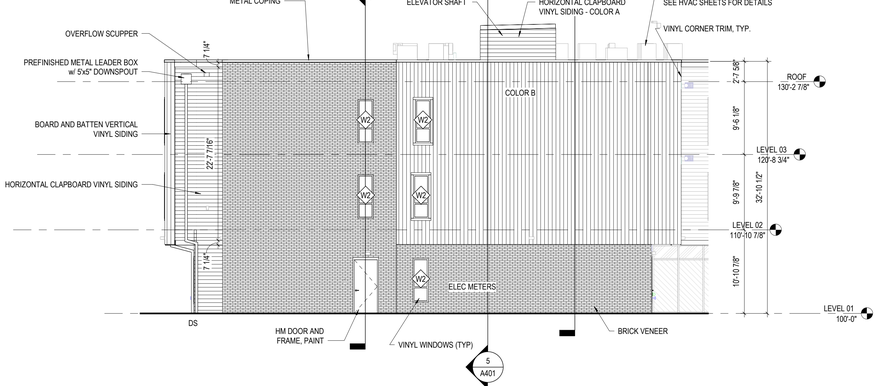
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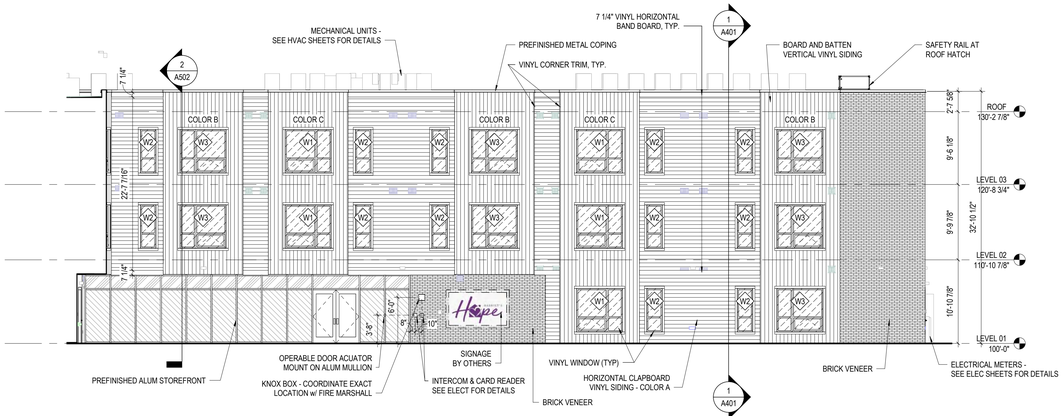

## 4 ELEVATION EAST
1/8" = 1'-0" REF: 1 / A1.0



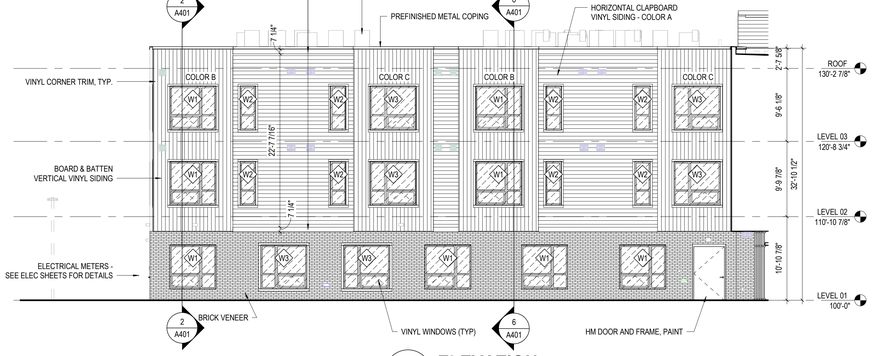

## 3 ELEVATION SOUTH
1/8" = 1'-0" REF: 1 / A1.0



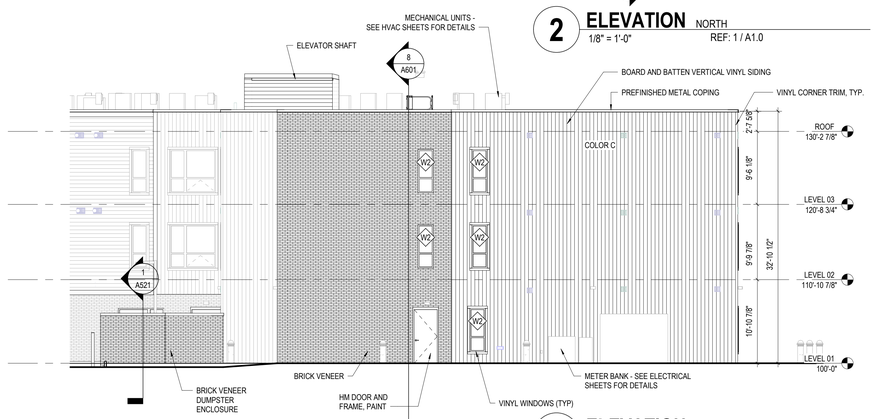

## 1 ELEVATION WEST - END WALL
1/8" = 1'-0" REF: 1 / A1.0




## 2 ELEVATION NORTH
1/8" = 1'-0" REF: 1 / A1.0




## 6 ELEVATION NORTH - END WALL
1/8" = 1'-0" REF: 1 / A1.0




## 1 ELEVATION WEST - END WALL
1/8" = 1'-0" REF: 1 / A1.0

## GENERAL NOTES - EXTERIOR ELEVATIONS

1. REFER TO A700 SERIES FOR WINDOW AND DOOR DETAILS.
2. REFER TO REFLECTED CEILING PLANS FOR EXTERIOR SOFFIT INFORMATION
3. SEE ELEVATIONS AND STRUCTURAL DRAWINGS FOR LOCATIONS OF EXPANSION AND CONTROL JOINTS. CONTRACTOR SHALL PROVIDE ADDITIONAL INTERIOR CONTROL JOINTS AS REQUIRED TO COMPLY WITH MAXIMUM SPACING REQUIREMENTS IN SPECIFICATIONS AND NATIONAL MASONRY INSTITUTE. PROVIDE CONTROL JOINTS AT ALL MASONRY REENTRANT CORNERS.
4. ALL RESIDENTIAL WINDOWS TO RECEIVE WINDOW TREATMENTS.
5. 4" WIDE MIN. VINYL CORNER TRIM TYPICAL AT ALL 90 DEGREE CORNERS WHERE FINISH MATERIAL IS VINYL SIDING.
6. PROVIDE SIDING IN THREE (3) COLORS FROM MANUFACTURER'S STANDARD SELECTION OF COLORS.
7. REFER TO A500 SERIES FOR TYPICAL EXTERIOR WALL ASSEMBLIES.

## EXTERIOR GLAZING TYPES

- **IG-1** EXTERIOR INSULATED GLAZING
- **IG-1A** EXTERIOR INSULATED GLAZING (NOISE MITIGATION = OITC 27)
- **IG-2** EXTERIOR INSULATED GLAZING (SAFETY)
- **IG-3** EXTERIOR INSULATED GLAZING (SPANDREL - COLOR BY ARCHITECT)

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

**HARRIET'S HOPE**
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:
# EXTERIOR ELEVATIONS - OVERALL

STATE OF OHIO — JAY W BOONE — 10740 — REGISTERED ARCHITECT
JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*
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*Proj. #20643*

# A301

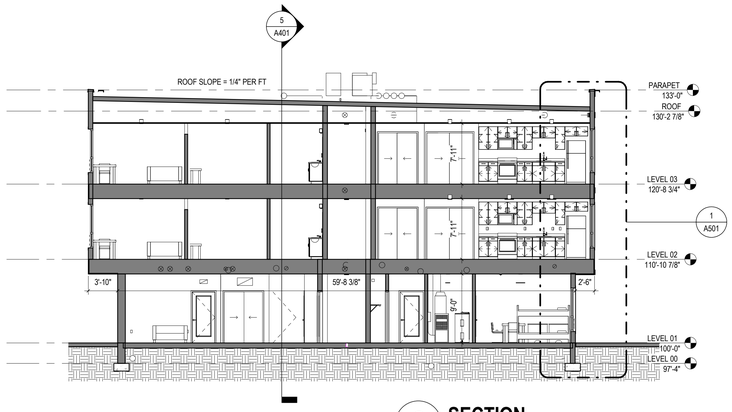
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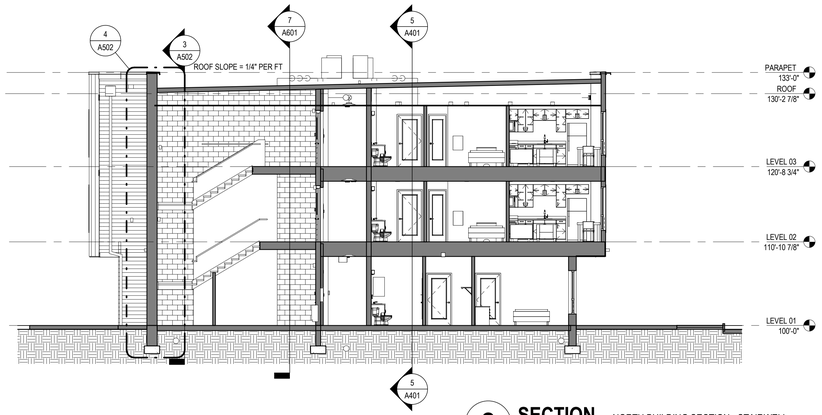
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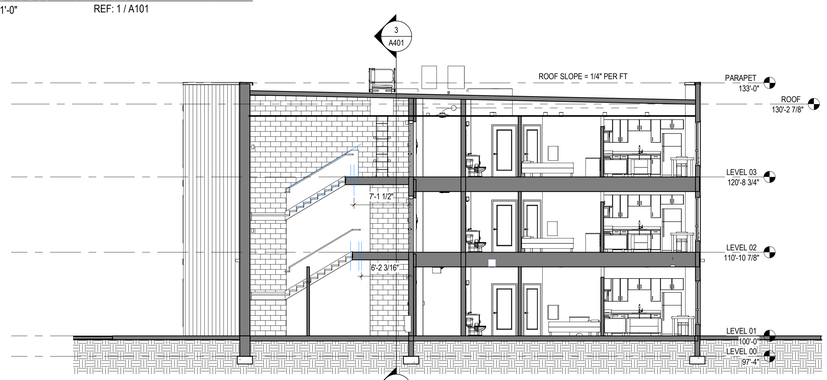

**3 SECTION** EAST-WEST BUILDING SECTION
1/8" = 1'-0" REF: 1 / A101



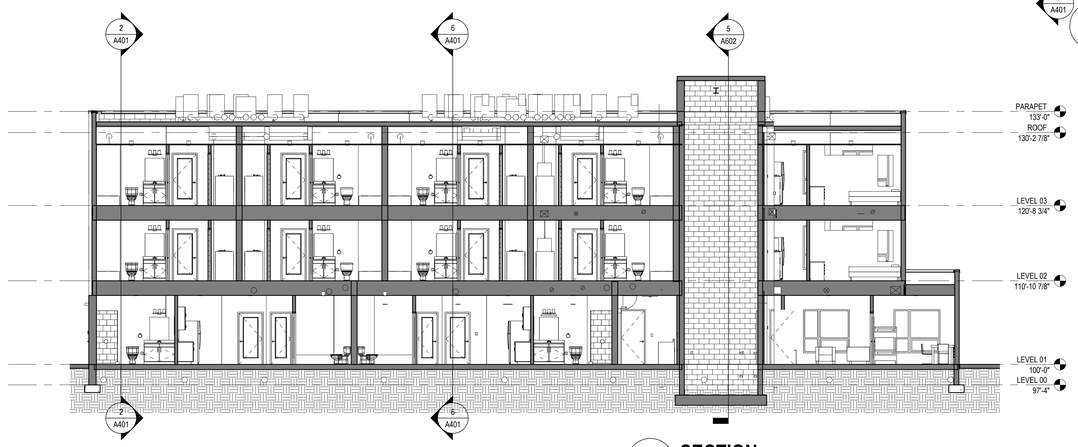

**6 SECTION** BUILDING SECTION - NORTH WING
1/8" = 1'-0" REF: 1 / A101



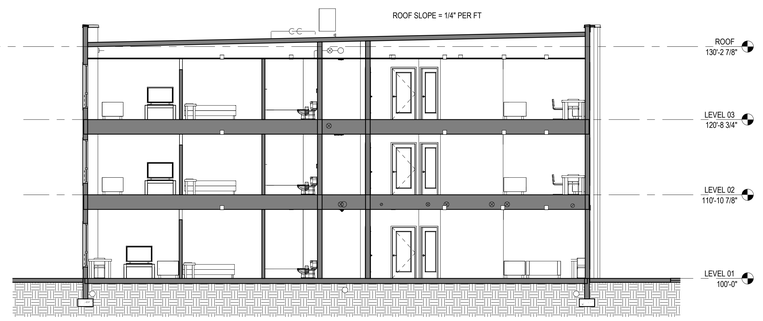

**2 SECTION** NORTH BUILDING SECTION - STAIRWELL
1/8" = 1'-0" REF: 1 / A1.0




**4 SECTION** WEST BUILDING SECTION - STAIRWELL
1/8" = 1'-0" REF: 1 / A101




**5 SECTION** NORTH-SOUTH BUILDING SECTION
1/8" = 1'-0" REF: 1 / A101




**1 SECTION** WEST BUILDING SECTION
1/8" = 1'-0" REF: 1 / A1.0

**GENERAL NOTES - BUILDING SECTIONS**

A. X

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215

PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

**BUILDING SECTIONS**

STATE OF OHIO
JAY W BOONE
10740
REGISTERED ARCHITECT

JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*

DRAWN BY: XXX | CHECKED BY: XXX

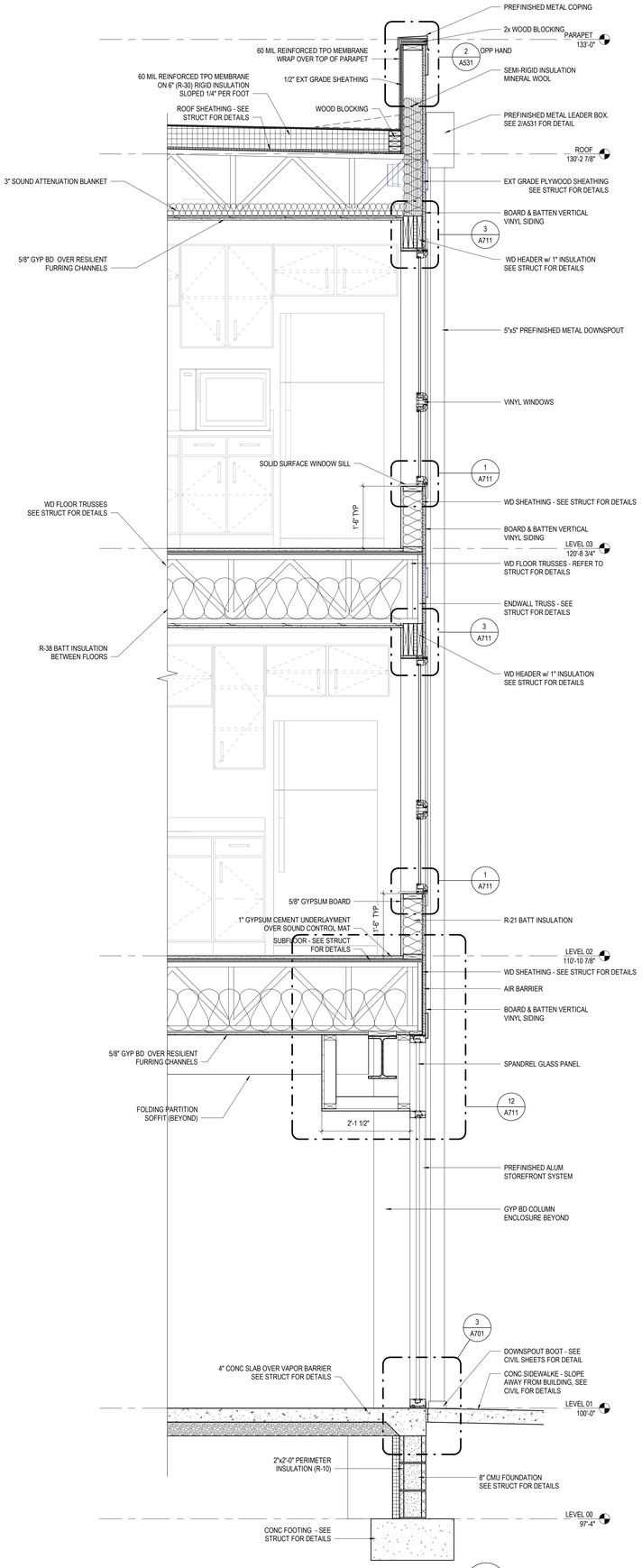
*Proj. #20643*

**A401**

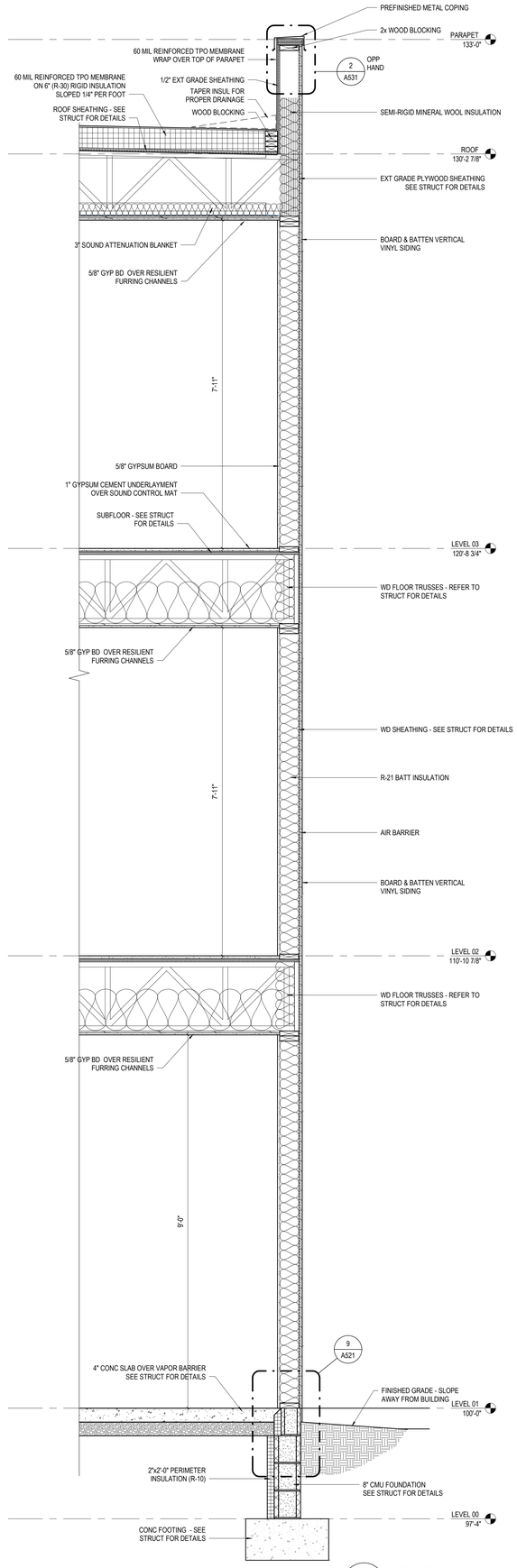
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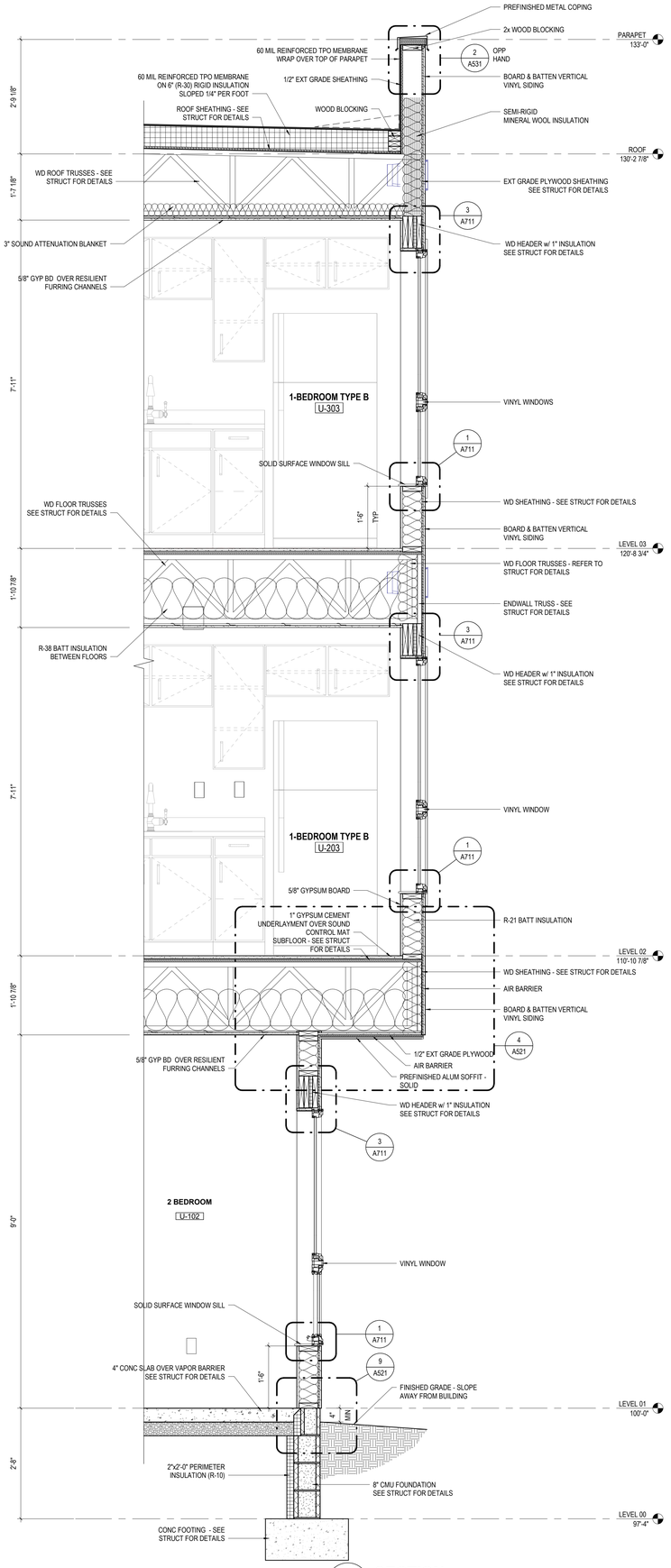
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**3 SECTION** WALL SECTION @ SOUTH STOREFRONT
3/4" = 1'-0" REF: 1 / A101




**2 SECTION** WALL SECTION - TYPICAL
3/4" = 1'-0" REF: 1 / A101




**1 SECTION** WALL SECTION @ BUILDING OVERHANG
3/4" = 1'-0" REF: 1 / A101

## GENERAL NOTES - WALL SECTIONS

A. REFER TO GEOTECHNICAL REPORT AS INCLUDED IN THE CONTRACT DOCUMENTS.

## GENERAL NOTES- BLDG ENVELOPE

IN ACCORDANCE WITH ASHRAE 90.1-2010 (5.4.3.1)
BUILDING ENVELOPE SEALING, THE FOLLOWING AREAS OF THE BUILDING ENVELOPE SHALL BE SEALED, CAULKED, GASKETED, OR WEATHER-STRIPPED TO MINIMIZE AIR LEAKAGE:

A. JOINTS AROUND FENESTRATION AND DOOR FRAMES.
B. JUNCTIONS BETWEEN WALLS AND FOUNDATIONS, BETWEEN WALLS AT BUILDING CORNERS, BETWEEN WALLS AND STRUCTURAL FLOORS OR ROOFS, AND BETWEEN WALLS AND ROOF OR WALL PANELS.
C. OPENINGS AT PENETRATIONS OF UTILITY SERVICES THROUGH ROOFS, WALLS, AND FLOORS.
D. SITE-BUILT FENESTRATION AND DOORS.
E. BUILDING ASSEMBLIES USED AS DUCTS OR PLENUMS.
F. JOINTS, SEAMS, AND PENETRATIONS OF VAPOR RETARDERS.
G. ALL OTHER OPENINGS IN THE BUILDING ENVELOPE.
H. SEAL DUCT BOOTS AT PENETRATIONS THROUGH DRYWALL/SUBFLOOR (BEFORE INSTALLING SUPPLY AND RETURN GRILLS)
I. ALL WALLS TOPS INCLUDING STOREFRONT ASSEMBLIES SHALL BE ATTACHED WITH A MINIMUM OF TWO 2X TOP PLATES
J. SEE "WALL DETAILS" SHEET FOR TYPICAL EXTERIOR WALLS
K. BATT INSULATION AT EXTERIOR WALLS TO BE A MINIMUM OF R-19. BATT INSULATION AT ROOF ATTICS TO BE A MINIMUM OF R-38 ADJACENT TO UNIT BALCONIES. AVERAGE INSULATION AT FLAT ROOFS AND SLOPED ROOFS ABOVE THE WOOD SHEATHING TO BE A MIN OF R-20.
L. **SEE 1/A501 FOR TYPICAL EXTERIOR WALL ASSEMBLIES.**

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
1581 W. BROAD STREET
COLUMBUS, OH 43222
FOR
**CMHA**

MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

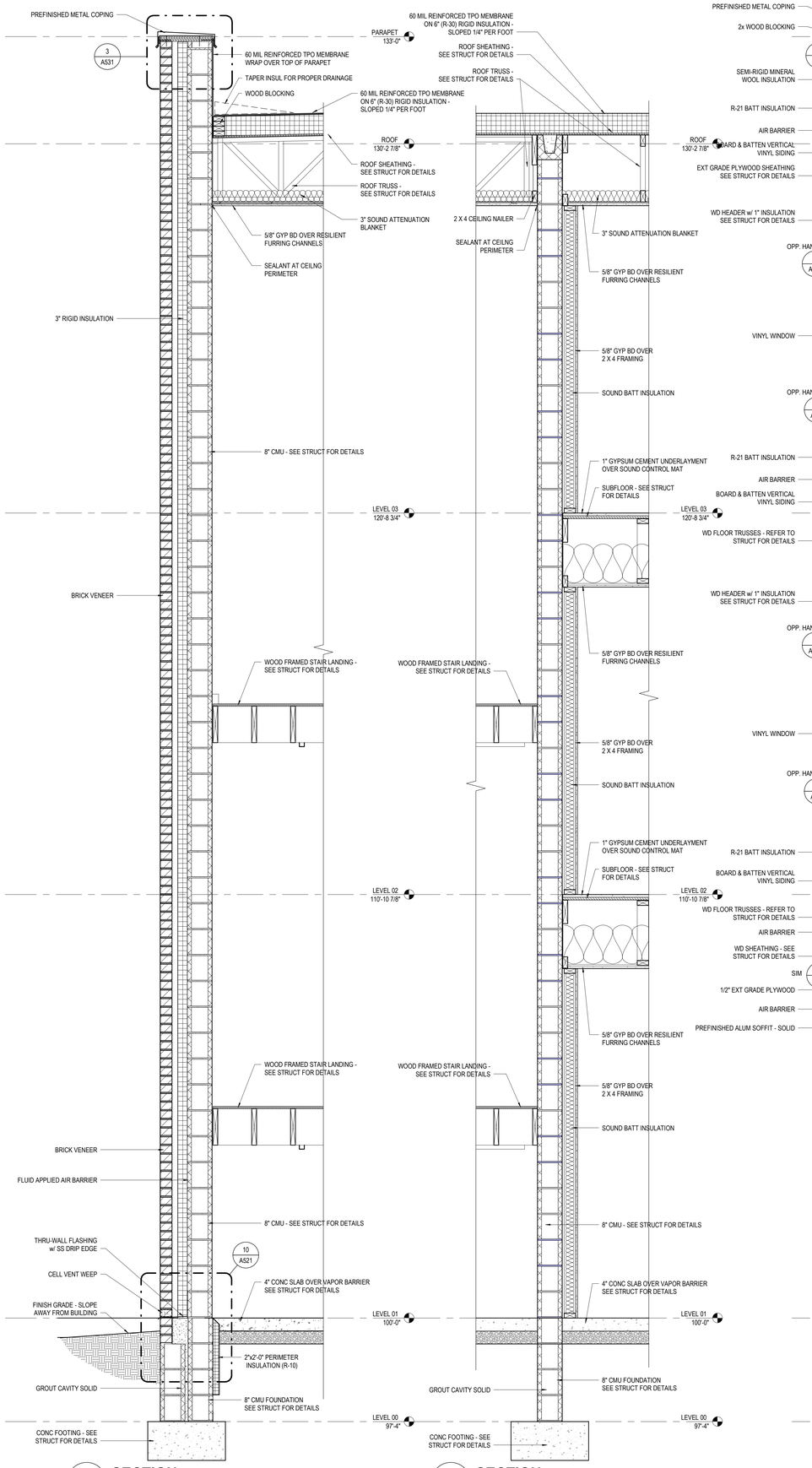
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# WALL SECTIONS

STATE OF OHIO
JAY W BOONE
10740
REGISTERED ARCHITECT
JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*
DRAWN BY: **XXX** CHECKED BY: **XXX**
*Proj. #20643*
# A501
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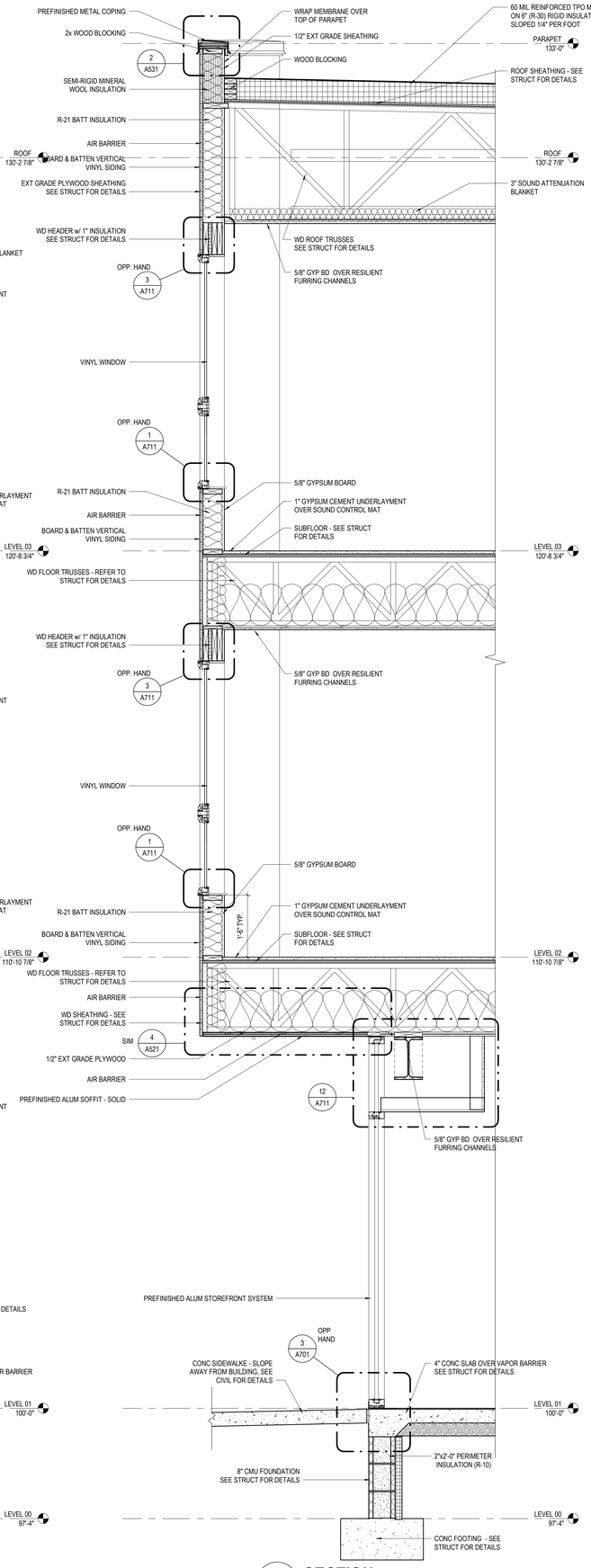
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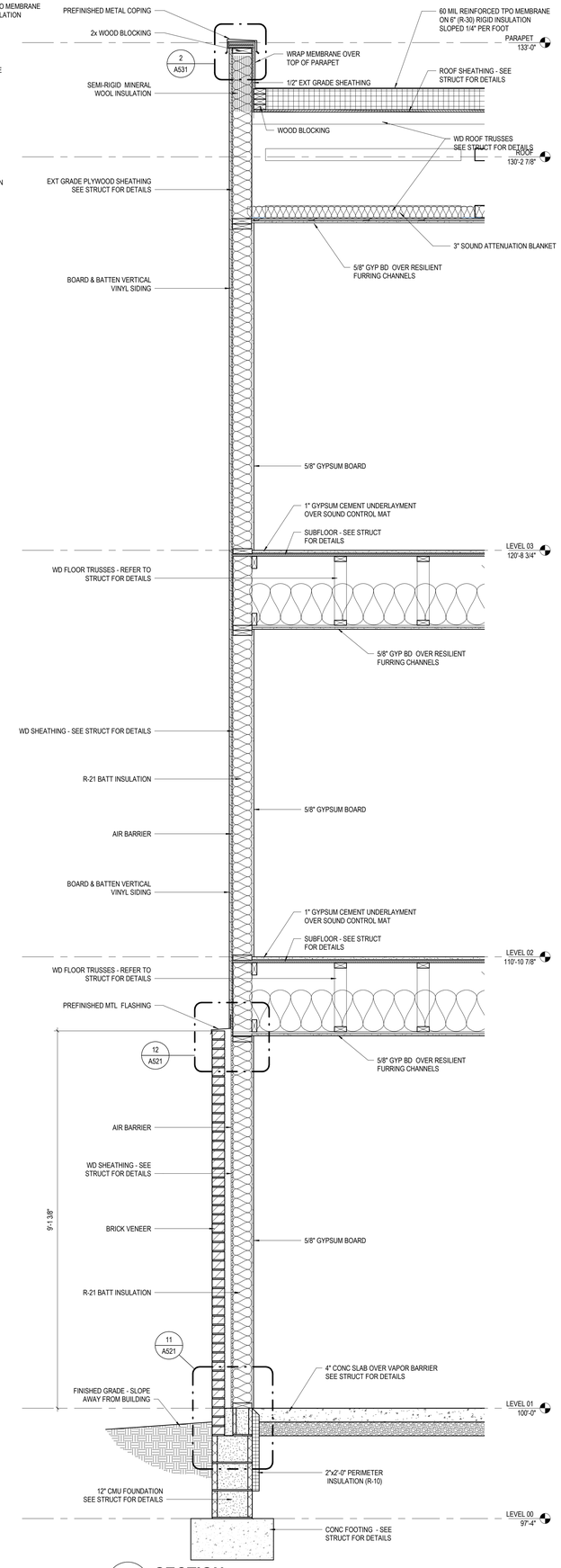

**4 SECTION** EXTERIOR STAIR WALL
3/4" = 1'-0" REF: 1 / A101




**3 SECTION** INTERIOR STAIR WALL
3/4" = 1'-0" REF: 1 / A101




**2 SECTION** NORTH WALL STOREFRONT AT OVERHANG
3/4" = 1'-0" REF: 1 / A101




**1 SECTION** NORTH WALL
3/4" = 1'-0" REF: 1 / A101

## GENERAL NOTES - WALL SECTIONS

A. REFER TO GEOTECHNICAL REPORT AS INCLUDED IN THE CONTRACT DOCUMENTS.

## GENERAL NOTES- BLDG ENVELOPE

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L. **SEE 1/A501 FOR TYPICAL EXTERIOR WALL ASSEMBLIES.**

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

***HARRIET'S HOPE***
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300 SPRUCE STREET
SUITE 300
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PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

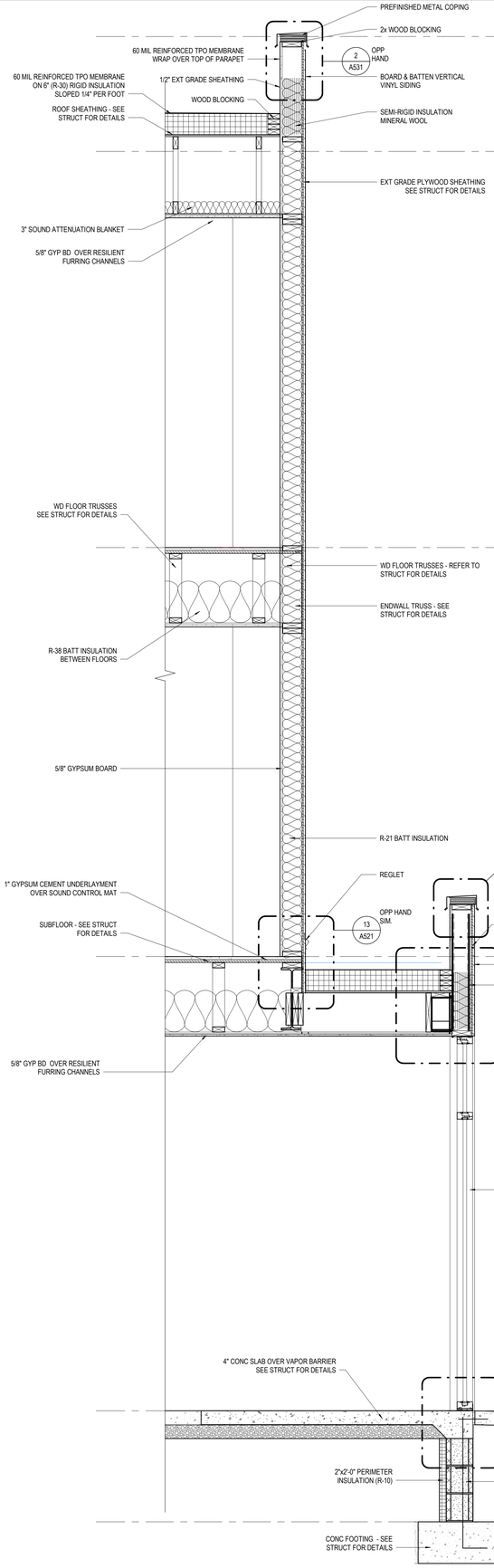
# WALL SECTIONS

STATE OF OHIO
JAY W BOONE
10740
REGISTERED ARCHITECT
JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

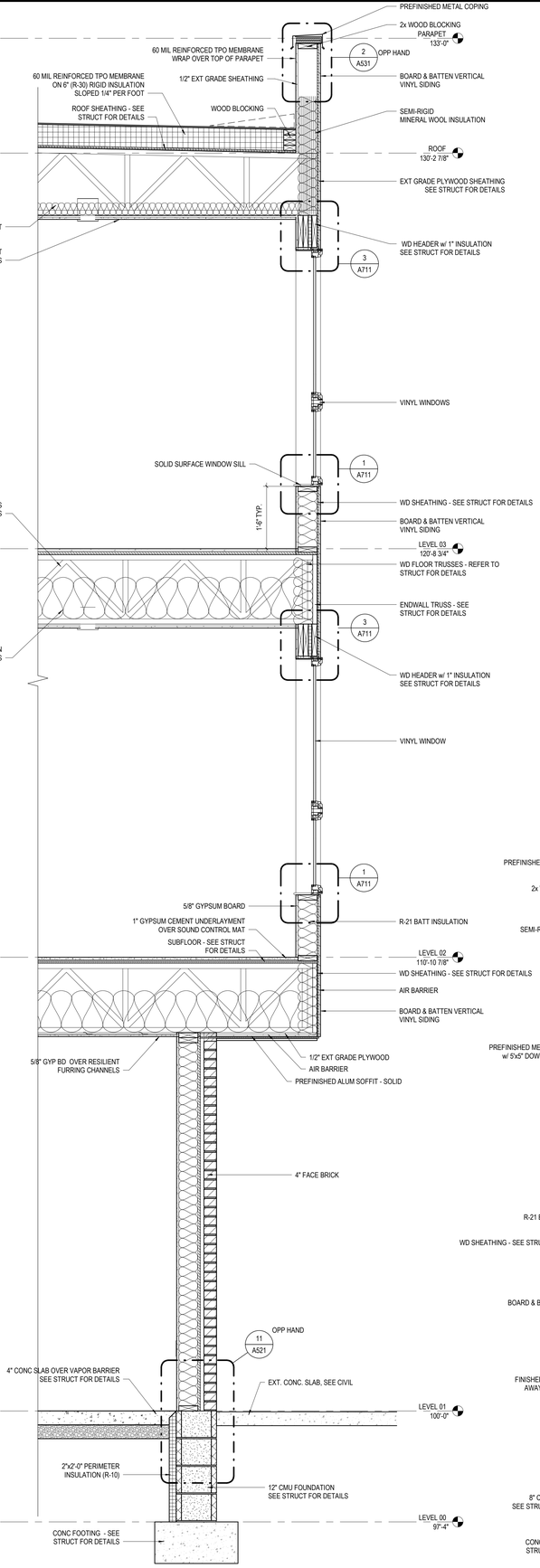
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*PERMIT & BID SET*

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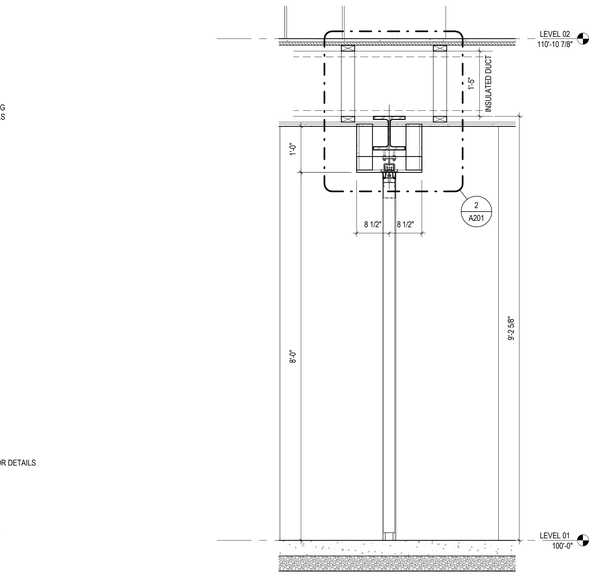
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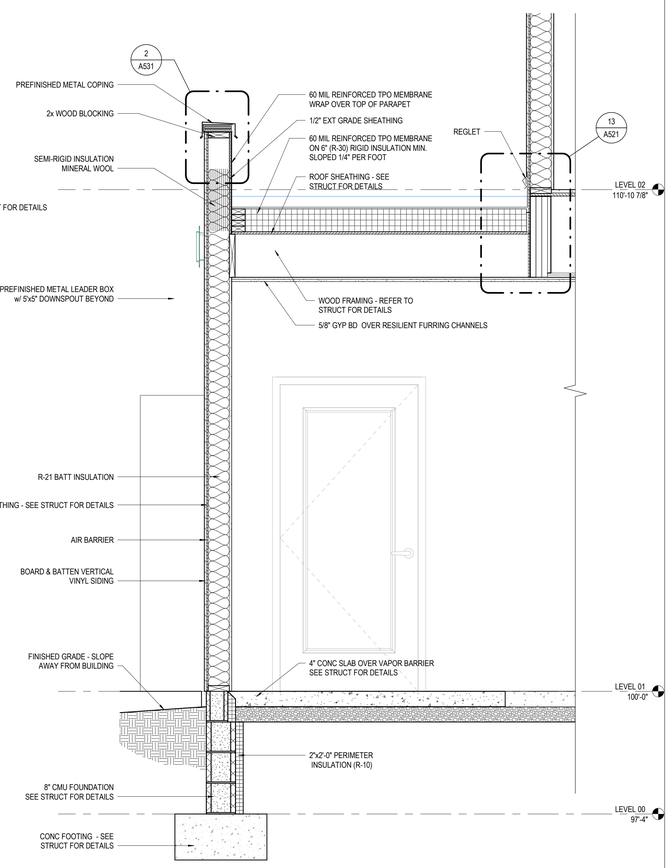

**3 SECTION** COMMUNITY ROOM PROJECTION
3/4" = 1'-0" REF: 1 / A101




**2 SECTION** SOUTH RECESSED BRICK WALL
3/4" = 1'-0" REF: 1 / A101




**4 SECTION** OPERABLE PARTITION
3/4" = 1'-0" REF: 1 / A812




**1 SECTION** UNIT PROJECTION
3/4" = 1'-0" REF: 1 / A101

## GENERAL NOTES - WALL SECTIONS

A. REFER TO GEOTECHNICAL REPORT AS INCLUDED IN THE CONTRACT DOCUMENTS.

| KEY VALUE | KEYNOTE TEXT |
|---|---|

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
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SUITE 300
COLUMBUS, OHIO 43215
PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

# WALL SECTIONS

STATE OF OHIO — JAY W BOONE — 10740 — REGISTERED ARCHITECT

JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*

DRAWN BY: XXX | CHECKED BY: XXX

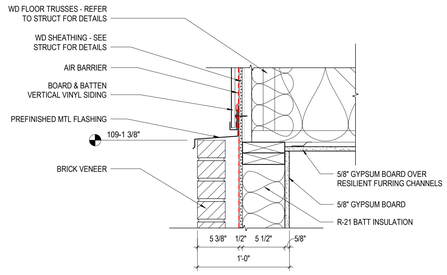
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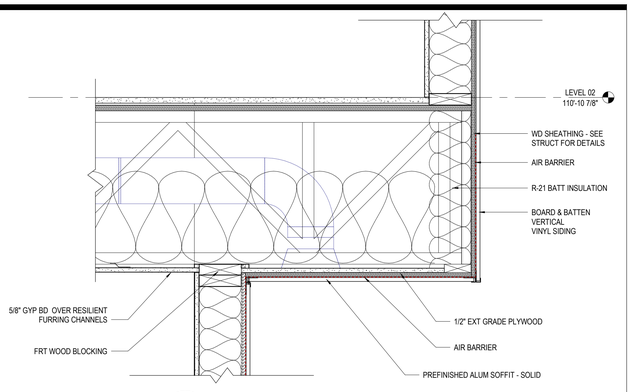
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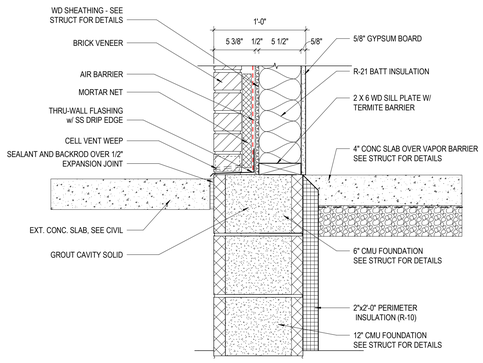
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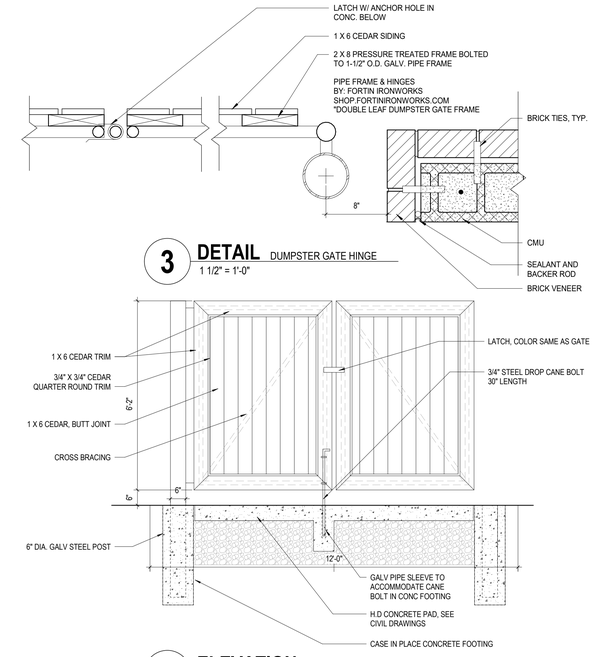

**12 DETAIL** VINYL SIDING AND BRICK VENEER
1 1/2" = 1'-0"




**4 DETAIL** 2ND FLOOR BUILDING OVERHANG
1 1/2" = 1'-0" REF: 1 / A501

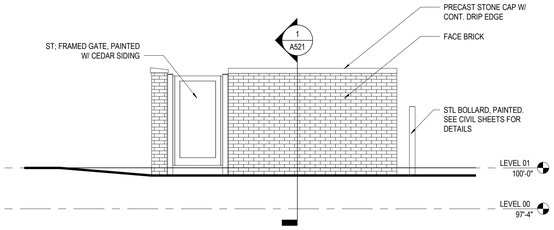



**11 DETAIL** FOUNDATION @ BRICK VENEER
1 1/2" = 1'-0"

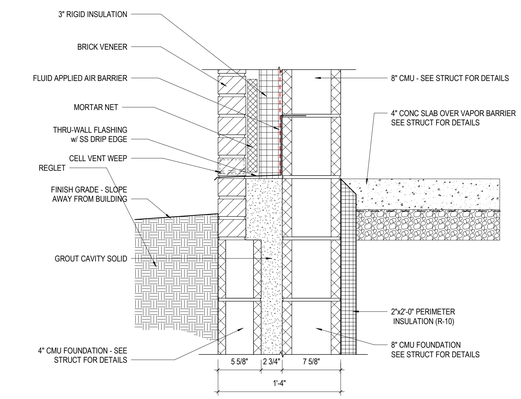



**3 DETAIL** DUMPSTER GATE HINGE
1 1/2" = 1'-0"

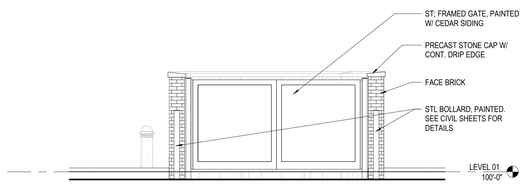
**2 ELEVATION** DUMPSTER GATE
1/2" = 1'-0"



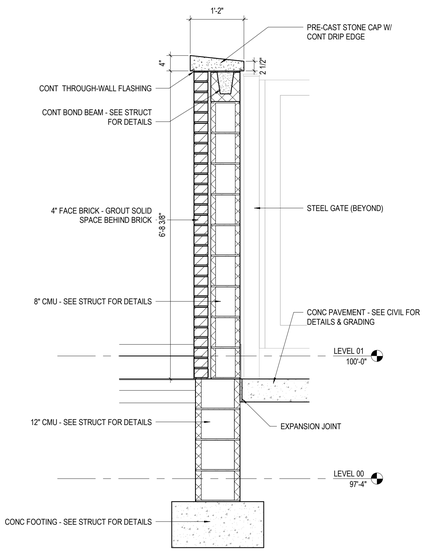

**7 DETAIL** BRICK VENEER / VINYL SIDING TRANSITION @ STAIR
1 1/2" = 1'-0" REF: 1 / A101




**10 DETAIL** FOUNDATION @ STAIRWELL
1 1/2" = 1'-0"




**6 ELEVATION** DUMPSTER ENCLOSURE - NORTH ELEVATION
1/4" = 1'-0" REF: 1 / A1.0

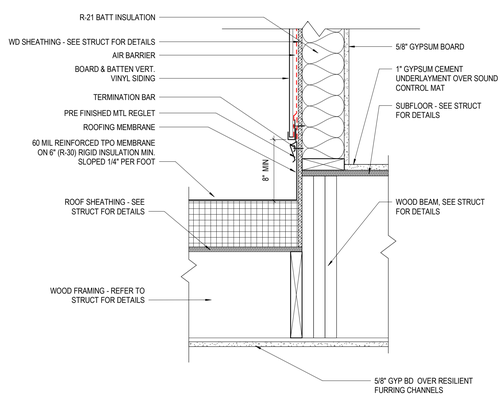




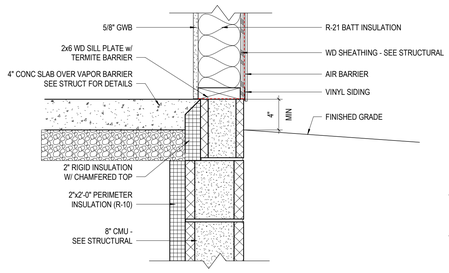


**5 ELEVATION** DUMPSTER ENCLOSURE - EAST ELEVATION
1/4" = 1'-0" REF: 1 / A1.0

**1 DUMPSTER ENCLOSURE**
3/4" = 1'-0"




**13 DETAIL** LOW ROOF
1 1/2" = 1'-0" REF: 1 / A503




**9 DETAIL** TYPICAL FOUNDATION / EXT WALL DETAIL
1 1/2" = 1'-0" REF: 1 / A501

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| # | DATE | CHANGE DESCRIPTION |
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COLUMBUS METROPOLITAN HOUSING AUTHORITY
COMMUNITY. COMMITMENT. COLLABORATION.

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MOODY•NOLAN
300 SPRUCE STREET
SUITE 300
COLUMBUS, OHIO 43215

PHONE: (614) 461-4664
FAX: (614) 280-8881

DRAWING TITLE:

# SITE & WALL DETAILS

STATE OF OHIO
JAY W BOONE
10740
REGISTERED ARCHITECT
JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*

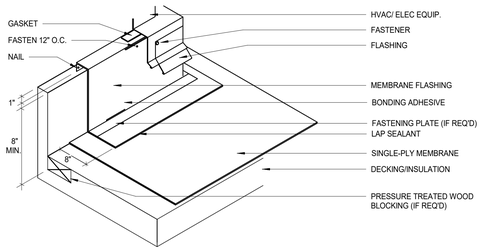
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*Proj. #20643*

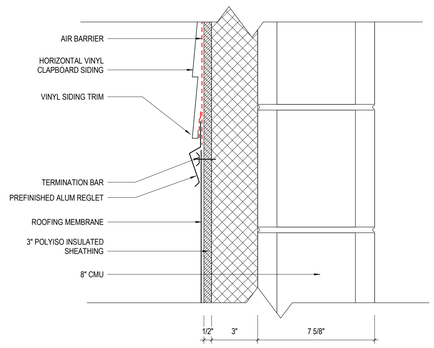
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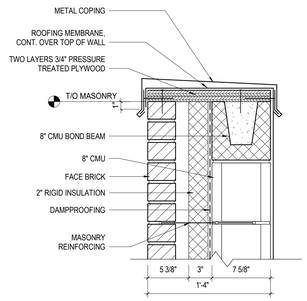
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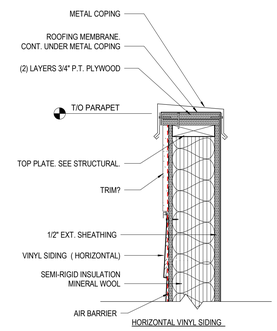

**10 DETAIL** DETAIL - HVAC/ELEC CURB - MEMBRANE ROOFING
NTS

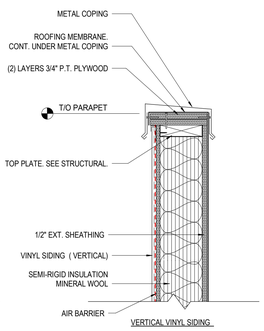



**6 DETAIL** MASONRY WALL @ PARAPET
3" = 1'-0"

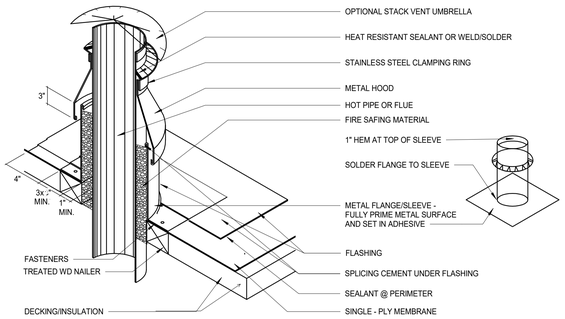



**3 DETAIL** MASONRY WALL @ PARAPET
1 1/2" = 1'-0"

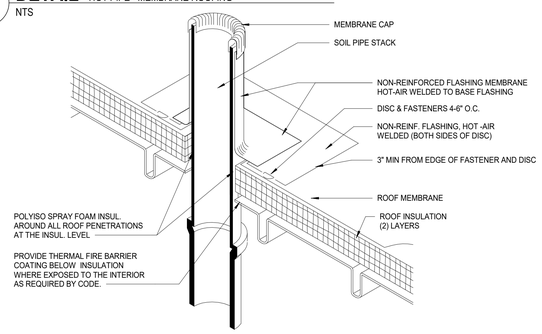


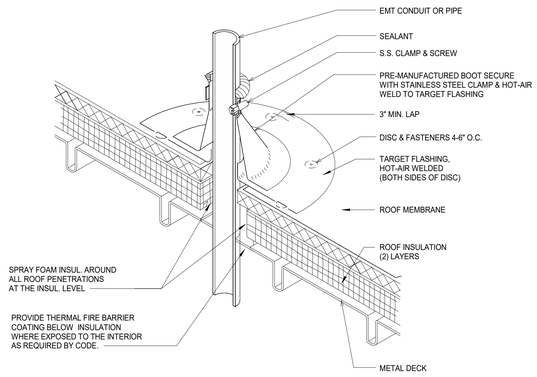

**2 DETAIL** VINYL SIDINT @ PARAPET
1 1/2" = 1'-0"



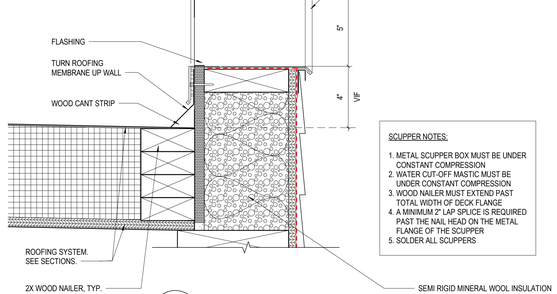

**9 DETAIL** HOT PIPE - MEMBRANE ROOFING
NTS




**8 DETAIL** VENT PIPE
1/2" = 1'-0"

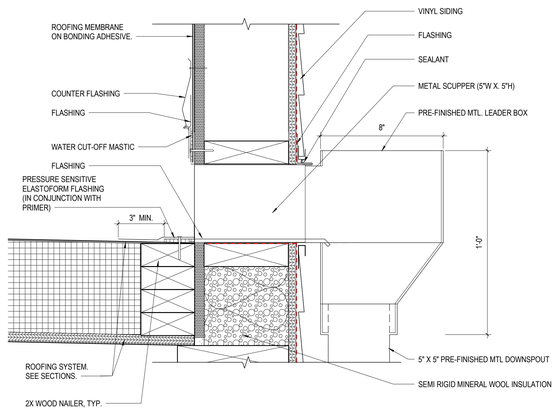



**7 DETAIL** SMALL PIPE PENETRATION
1/2" = 1'-0"

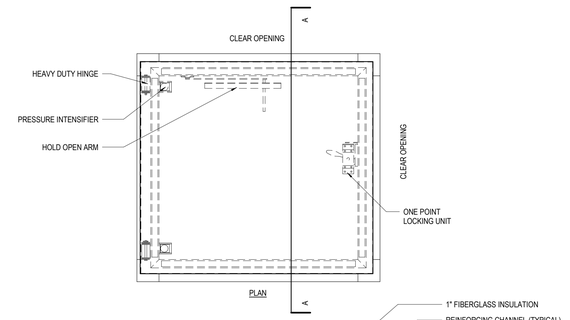



SCUPPER NOTES:
1. METAL SCUPPER BOX MUST BE UNDER CONSTANT COMPRESSION
2. WATER CUT-OFF MASTIC MUST BE UNDER CONSTANT COMPRESSION
3. WOOD NAILER MUST EXTEND PAST TOTAL WIDTH OF DECK FLANGE
4. A MINIMUM 2" LAP SPLICE IS REQUIRED PAST THE NAIL HEAD ON THE METAL FLANGE OF THE SCUPPER
5. SOLDER ALL SCUPPERS

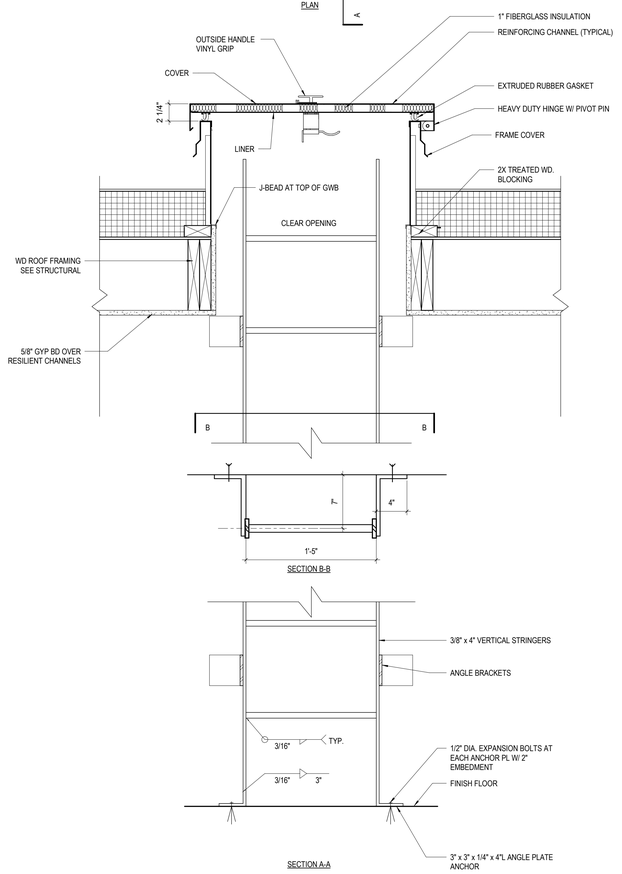
**5 DETAIL** OVERFLOW
3" = 1'-0"




**4 DETAIL** PRIMARY SCUPPER $ COLLECTION BOX
3" = 1'-0"




PLAN




SECTION B-B




SECTION A-A

**1 DETAIL** ROOF HATCH
1 1/2" = 1'-0"

| # | DATE | CHANGE DESCRIPTION |
|---|---|---|
| | | |

COLUMBUS METROPOLITAN HOUSING AUTHORITY
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***HARRIET'S HOPE***
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COLUMBUS, OH 43222
FOR
**CMHA**

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DRAWING TITLE:

# ROOF DETAILS

STATE OF OHIO — JAY W BOONE — 10740 — REGISTERED ARCHITECT

JAY W BOONE, LIC. #10740
EXP. DATE: 12/31/2022

*APRIL 4, 2022*

DRAWN BY: **Author** | CHECKED BY: **Checker**

*Proj. #20643*

**A531**

*PERMIT & BID SET*

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