KIMMEL BOGRETTE ARCHITECTURE

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ADDENDUM TO CONSTRUCTION DOCUMENTATION

ADDENDUM NO. 2

PROJECT: **Montgomery County – Norristown Public Library**

DATE ISSUED **9.15.2026**

PREPARED BY: Kimmel Architecture

I. GENERAL

This Addendum is hereby included in and made part of the contract drawings and specifications, whether or not attached thereto. All requirements of the original specifications and drawings shall remain in force except as modified by this Addendum.

1. **Refer to all bidding related RFIs and responses.**
2. **Furniture plans are for reference only.**
3. **Existing roofing (including lightweight fill) is to be removed down to concrete on lower levels and to metal deck on upper roof level per demolition scope of work.**

II. CHANGES TO THE DRAWINGS

Landscape:

1. L6.1 - Supplemental trellis information including components, shop drawings, mockup, and installation.
2. L70 - Detail 8/L7.0, Suspended Paving System and Tree Pit: Dimension correction.
3. L7.1 - Detail 2/L7.1, Retaining Wall: clarification that damp proofing in Section 07 11 13 also applies to L-series retaining walls. Detail 3/L7.1, Seat Wall: adds paint specification for top of concrete; adds 1/8” per foot pitch to top of concrete.

Architecture:

1. A4.2 – Added missing tag are display case
2. A8.3 – Modified insulation @ detail 1/A8.3 to be continuous at concrete wall.
3. A8.8 – Revised Cover board notes at detail 14/A8.8
4. A8.18 – Added damp-proofing at retaining wall @ detail 9/A8.18 and updated retaining wall elevation at 1/A8.18.

Mechanical:

1. M1.1a
2. M1.1b
3. M1.2a
4. M1.2b

Plumbing:

1. P1.4a
2. P2.2

Fire Protection:

1. FP0.1
2. FP2.1

Electrical:

1. E1.1a
2. E1.5b
3. E2.2
4. E2.3
5. E2.4

III. CHANGES TO THE SPECIFICATIONS (Changes indicated in ***BOLD ITALICS***)

Table of Contents
00 03 02 MC Bid Form Update
00 03 03 EC Bid Form Update
00 04 02 A232-2019 Gen Conditions CMA
01 10 01 Added RACP Compliance Guidelines
01 12 00 MCS – Section 2.0 # 66 – Added Language for GC to provide a sign.
01 21 00 Allowances
01 23 00 Alternate Clarifications
01 29 00 – Added 5% closeout language to schedule of values with list and breakdown.
AIA 232 – Struck 16.1.1
07 27 26 Fluid applied air barrier
07 42 29 Terra Cotta
07 81 23 Intumescent Fireproofing
08 33 23 Overhead Coiling Door
08 33 26 Overhead Coiling Grilles
09 96 46 Intumescent Painting
Added Specification: Digital Display, in conjunction with RFI response

MPEFP Specification: updated table of contents, updated 21 13 13, updated 21 31 13, strike 21 31 13

IV. REFERENCE DOCUMENTS

Survey performed by Control Point dated 08 29 2024
Existing As-built drawings from Ewing Cole

IV. ACKNOWLEDGE OF RECIPIENTS – Addendum #2

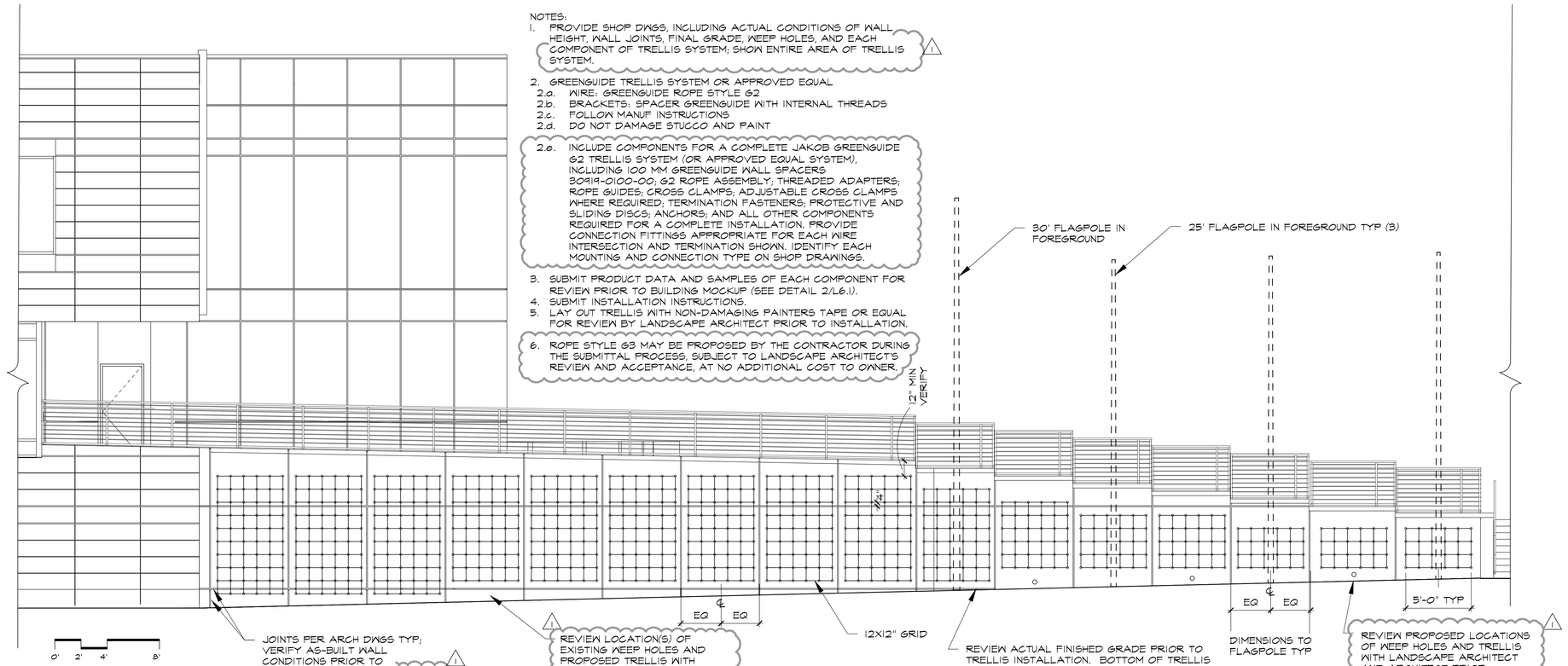
Acknowledge receipt of this Addendum in the space below and **return only this page with your Bid Form**. Failure to do so may subject the Company to disqualification.

ACKNOWLEDGEMENT: _____
Contractor Name

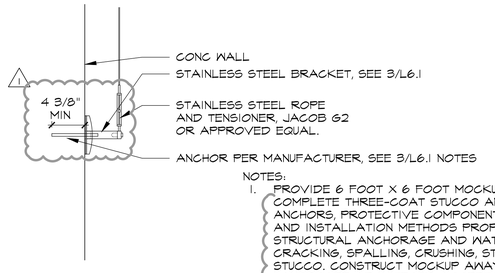
_____
Authorized Signature

NOTES:

1. PROVIDE SHOP DWGS, INCLUDING ACTUAL CONDITIONS OF WALL HEIGHT, WALL JOINTS, FINAL GRADE, WEEP HOLES, AND EACH COMPONENT OF TRELLIS SYSTEM; SHOW ENTIRE AREA OF TRELLIS SYSTEM. (1)
2. GREENGUIDE TRELLIS SYSTEM OR APPROVED EQUAL
   - 2.a. WIRE: GREENGUIDE ROPE STYLE G2
   - 2.b. BRACKETS: SPACER GREENGUIDE WITH INTERNAL THREADS
   - 2.c. FOLLOW MANUF INSTRUCTIONS
   - 2.d. DO NOT DAMAGE STUCCO AND PAINT
   - 2.e. INCLUDE COMPONENTS FOR A COMPLETE JAKOB GREENGUIDE G2 TRELLIS SYSTEM (OR APPROVED EQUAL SYSTEM), INCLUDING 100 MM GREENGUIDE WALL SPACERS 30919-0100-00; G2 ROPE ASSEMBLY; THREADED ADAPTERS; ROPE GUIDES; CROSS CLAMPS; ADJUSTABLE CROSS CLAMPS WHERE REQUIRED; TERMINATION FASTENERS; PROTECTIVE AND SLIDING DISCS; ANCHORS; AND ALL OTHER COMPONENTS REQUIRED FOR A COMPLETE INSTALLATION. PROVIDE CONNECTION FITTINGS APPROPRIATE FOR EACH WIRE INTERSECTION AND TERMINATION SHOWN. IDENTIFY EACH MOUNTING AND CONNECTION TYPE ON SHOP DRAWINGS.
3. SUBMIT PRODUCT DATA AND SAMPLES OF EACH COMPONENT FOR REVIEW PRIOR TO BUILDING MOCKUP (SEE DETAIL 2/L6.1).
4. SUBMIT INSTALLATION INSTRUCTIONS.
5. LAY OUT TRELLIS WITH NON-DAMAGING PAINTERS TAPE OR EQUAL FOR REVIEW BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
6. ROPE STYLE G3 MAY BE PROPOSED BY THE CONTRACTOR DURING THE SUBMITTAL PROCESS, SUBJECT TO LANDSCAPE ARCHITECT'S REVIEW AND ACCEPTANCE, AT NO ADDITIONAL COST TO OWNER.



1 / L6.1 **TRELLIS ELEVATION**
1/4" = 1'-0"



NOTES:

1. PROVIDE 6 FOOT X 6 FOOT MOCKUP INCLUDING CONCRETE WALL, COMPLETE THREE-COAT STUCCO AND PAINT SYSTEM, TRELLIS MOUNTS, ANCHORS, PROTECTIVE COMPONENTS, SEALANT, AND WIRES. USE MATERIALS AND INSTALLATION METHODS PROPOSED FOR THE WORK. DEMONSTRATE STRUCTURAL ANCHORAGE AND WATERTIGHT PENETRATIONS WITHOUT VISIBLE CRACKING, SPALLING, CRUSHING, STAINING, OR DAMAGE TO THE FINISHED STUCCO. CONSTRUCT MOCKUP AWAY FROM THE FINAL WALL. OBTAIN LANDSCAPE ARCHITECT'S ACCEPTANCE BEFORE PROCEEDING WITH TRELLIS INSTALLATION. LEAVE ACCEPTED MOCKUP IN PLACE UNTIL AT LEAST HALF OF THE TRELLIS INSTALLATION HAS BEEN COMPLETED AND ACCEPTED BY LANDSCAPE ARCHITECT. (1)
2. REVIEW MOCKUP WITH LANDSCAPE ARCHITECT.

2 / L6.1 **TRELLIS MOUNT TO CONCRETE WALL**
1-1/2" = 1'-0"

Spacer GreenGuide with internal thread



No.	a	b6	c1	c2	k	ø d1	ø d2	sw	kg
30919-0100-00	M8	100	24	29	6	50	20	18	0.2890

Further informations

Surface: ground, grain 320
Weight: 0.2890 kg
Material group: material group AISI 316L/1.4404

3 / L6.1 **TRELLIS BRACKET DETAIL**
NTS
METRIC DIMENSIONS

(1) NOTES:

1. JAKOB GREENGUIDE SPACER 30919-0100-00 WITH MANUFACTURER'S PROTECTIVE NEOPRENE WASHER AND SLIDING DISC.
2. A4-70 STAINLESS-STEEL THREADED ANCHOR OF SUFFICIENT LENGTH TO PASS THROUGH THE COMPLETE STUCCO ASSEMBLY, ACHIEVE 110 MM (4-3/8 INCHES) MINIMUM EMBEDMENT IN STRUCTURAL CONCRETE, AND FULLY ENGAGE THE SPACER. SET ANCHOR IN MANUFACTURER-APPROVED EPOXY-RESIN OR VINYLESTER-URETHANE INJECTABLE ANCHOR ADHESIVE. DO NOT ANCHOR TO OR ADHESIVELY BOND TO STUCCO.
3. PROVIDE A CLEAN CLEARANCE PENETRATION THROUGH THE STUCCO, COMPLETELY SEAL AROUND THE ANCHOR AT THE EXTERIOR FACE WITH NONSTAINING, EXTERIOR-GRADE ELASTOMERIC SEALANT COMPATIBLE WITH THE STUCCO, LOXON COATING, AND STAINLESS STEEL, CONCEAL SEALANT BEHIND THE SPACER PLATE. TIGHTEN SPACER WITHOUT CRACKING, CRUSHING, OR OTHERWISE DAMAGING THE STUCCO FINISH.
4. VERIFY ANCHOR LENGTH, EMBEDMENT, ADHESIVE, AND INSTALLATION REQUIREMENTS AND COORDINATE THE SEQUENCE OF TRELLIS ANCHORAGE, STUCCO, AND PAINT WORK WITH THE TRELLIS MANUFACTURER AND STUCCO INSTALLER.

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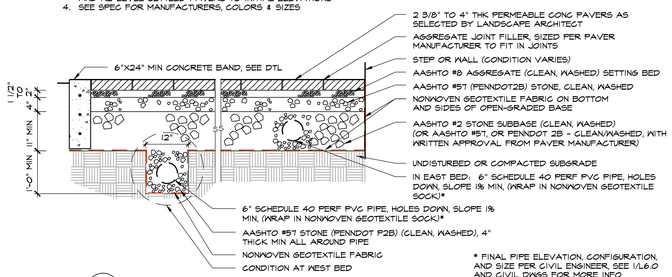
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SCALE: AS NOTED

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NO.	DESCRIPTION	DATE
	BID & PERMIT	10/3/2025
1	ADDENDUM #2	9/10/2026

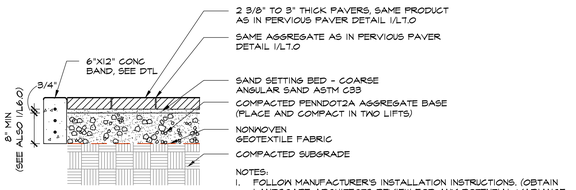
L6.1

NOTES:
1. COMPACT #57 STONE AND #2 STONE IN MAX 6" LIFTS WITH MULTIPLE PASSES OF COMPACTION EQUIPMENT UNTIL STABLE AND STONE FACETS BECOME LOCKED AND ALIGNED.
2. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS. (OBTAIN LANDSCAPE ARCHITECTS REVIEW FOR ANY POTENTIAL VARIANCE FROM THIS DETAIL.)
3. INSTALLATION CONTRACTOR SHALL RETURN TO THE SITE AFTER SIX MONTHS FROM COMPLETION OF THE WORK AND PROVIDE THE FOLLOWING AS REQUIRED: FILL PAVER JOINTS WITH JOINT FILLER, REPLACE BROKEN OR CRACKED PAVERS, AND RE-LEVEL SETTLED PAVERS TO INITIAL ELEVATIONS
4. SEE SPEC FOR MANUFACTURERS, COLORS & SIZES



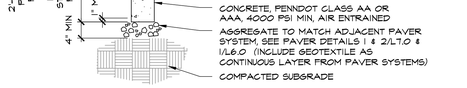
* FINAL PIPE ELEVATION, CONFIGURATION, AND SIZE PER CIVIL ENGINEER, SEE 1/L6.0 AND CIVIL DWGS FOR MORE INFO

1 / L7.0 **PERVIOUS PAVERS**
N.T.S.

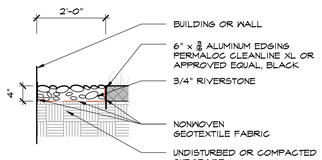


NOTES:
1. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS. (OBTAIN LANDSCAPE ARCHITECTS REVIEW FOR ANY POTENTIAL VARIANCE FROM THIS DETAIL.)
2. COMPACT AGGREGATE BASE AND SUBGRADE TO MIN 95% STANDARD PROCTOR. OBTAIN INSPECTION OF COMPACTED SUBGRADE BY OWNERS REPRESENTATIVE PRIOR TO LAYING GEOTEXTILE.
3. INSTALLATION CONTRACTOR SHALL RETURN TO THE SITE AFTER SIX MONTHS FROM COMPLETION OF THE WORK AND PROVIDE THE FOLLOWING AS REQUIRED: FILL PAVER JOINTS WITH JOINT FILLER, REPLACE BROKEN OR CRACKED PAVERS, AND RE-LEVEL SETTLED PAVERS TO INITIAL ELEVATIONS
4. SEPARATE AGGREGATE BASE FROM PERVIOUS PAVER AGGREGATE BASE WITH NONWOVEN GEOTEXTILE

2 / L7.0 **PAVERS**
N.T.S.



3 / L7.0 **CONCRETE BAND**
NTS



4 / L7.0 **DRIP STRIP**
N.T.S.

GENERAL NOTES FOR L-SERIES DETAILS

1. CLASS AA OR AAA CONCRETE, 4,000 PSI MIN, AIR ENTRAINED, UNLESS HIGHER QUALITY OR HIGHER PSI IS OTHERWISE INDICATED.
2. PLACE PENNDOT 2A AGGREGATE BASE IN LIFTS NOT EXCEEDING SIX INCHES LOOSE THICKNESS, AND COMPACT TO A MINIMUM OF 95% OF MAXIMUM DRY DENSITY PER ASTM D698, STANDARD PROCTOR (UNLESS HIGHER OR STRICTER COMPACTION IS OTHERWISE INDICATED). OBTAIN INSPECTION AND APPROVAL OF EACH COMPACTED LIFT BY OWNER'S INSPECTOR (OWNER'S GEOTECHNICAL ENGINEER) PRIOR TO PROCEEDING WITH PLACING MATERIAL ABOVE EACH LIFT.
3. PLACE OPEN-GRADED AGGREGATES SUCH AS PENNDOT 2B, AASHTO #57 AND AASHTO #2 AGGREGATES IN LIFTS NOT EXCEEDING SIX INCHES LOOSE THICKNESS AND COMPACT USING MULTIPLE PASSES OF A VIBRATORY PLATE COMPACTOR OR ROLLER UNTIL INTERLOCK IS ACHIEVED AND NO FURTHER MOVEMENT OCCURS (UNLESS STRICTER REQUIREMENTS ARE OTHERWISE INDICATED). OBTAIN INSPECTION AND APPROVAL OF EACH COMPACTED LIFT BY OWNER'S INSPECTOR (OWNER'S GEOTECHNICAL ENGINEER) PRIOR TO PROCEEDING WITH PLACING MATERIAL ABOVE EACH LIFT.
4. COMPACT SUBGRADE UNDER PAVERS AND PAVING TO 95% OF MAXIMUM DRY DENSITY PER ASTM D698, STANDARD PROCTOR, AT MOISTURE CONTENT WITHIN ±2% OF OPTIMUM, UNLESS HIGHER OR STRICTER COMPACTION IS OTHERWISE INDICATED. OBTAIN INSPECTION AND APPROVAL OF COMPACTED IN-PLACE SUBGRADE AND EACH COMPACTED LIFT BY OWNER'S INSPECTOR (OWNER'S GEOTECHNICAL ENGINEER) PRIOR TO PROCEEDING WITH PLACING MATERIAL ABOVE IN-PLACE SUBGRADE AND EACH SUBGRADE LIFT.

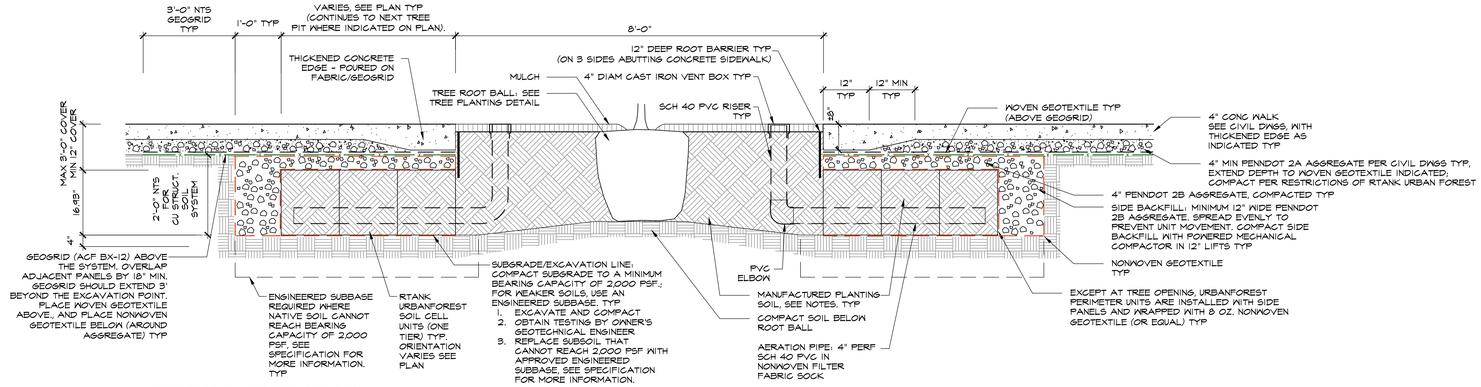
SUSPENDED PAVING SYSTEM NOTES:

Provide RTank UrbanForest Cells as the basis of design for suspended paving system.

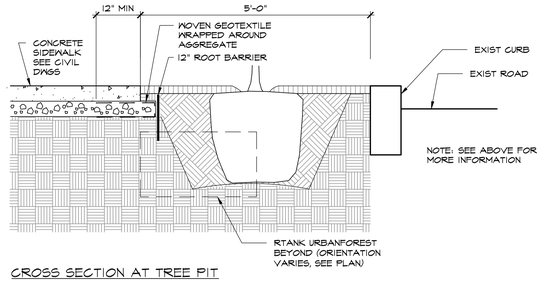
GU Structural Soil, licensed by EMEREQ Inc, is also acceptable and may be included in the base bid and will not be considered a substitution, provided the following requirements are met:

1. Installer must be a current GU Structural Soil Certified Installer. Submit installer certification within one month of Notice to Proceed or construction contract completion.
2. Structural soil and all component materials must meet the strict requirements of GU Structural Soil and be mixed and installed in strict accordance with GU Structural Soil specifications.
   2.1. Composition: Provide a mixture of non-calcitic crushed, angular stone (3/4 inch to 1-1/2 inch), clay loam (minimum 20% clay, 2-5% organic matter), and Gelscape® hydrogel.
   2.2. Proportion: Blend must be approximately 80% stone to 20% soil by dry weight, and as required per GU Structural Soil Requirements.
3. Installation: Install in maximum 6-inch lifts and compact each lift in accordance with GU Structural Soil requirements.
4. Soil characteristics must support healthy tree growth; pH to be as determined by the Landscape Architect. Horticultural soil amendments may be required in addition to standard GU Structural Soil, at no additional cost to the Owner.
5. Contractor is responsible for all system adjustments required to accommodate adjacent conditions, including utilities, curbs, paving, and structures; include in the base bid pricing.
6. Submit manufacturer's cross section(s) of the system including fabrics, each required component and any offset requirements.
7. Submit each material and component for review and provide each submittal and test results indicated by GU soil specifications; the stricter of project specifications and GU soil requirements apply.
8. Contractor must include one system in the base bid. Both systems are considered acceptable if in compliance with these requirements.
9. Aeration pipes, tree pit, tree pit soil and root barrier remain in the base bid. 4" PennDOT 2A aggregate under the sidewalk remains in the base bid (however it's reduced at thickened edge).
10. 24" GU soil thickness, as indicated.

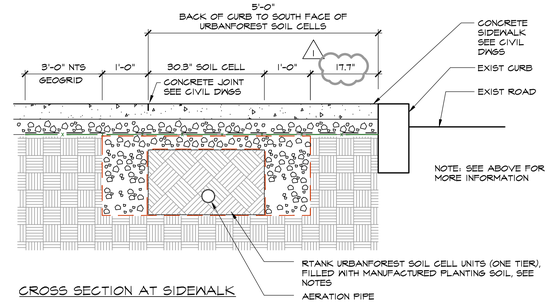
Substitution requests for structural soil other than GU Structural Soil must prove equal or better of each aspect of structural soil, procedures and installer certification, and prove equal or better results and performance; mix must have a track record of 10 years minimum of proven results (provide addresses and contacts of at least 5 successful installations) and the installer must have a minimum of 5 years experience installing the specific substitute structural soil at a minimum of 5 projects (provide dates and locations, and owner contact email and phone number). Projects with poor tree growth or sinking paving will not be considered successful.



LONGITUDINAL CROSS SECTION



CROSS SECTION AT TREE PIT



CROSS SECTION AT SIDEWALK

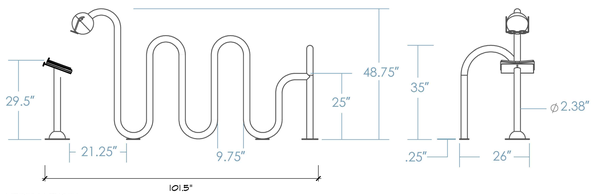
8 / L7.0 **SUSPENDED PAVING SYSTEM AND TREE PIT**
N.T.S.

NOTE: DETAIL SHOWS RTANK URBAN FOREST SYSTEM. SEE NOTES REGARDING GU STRUCTURAL SOIL SYSTEM

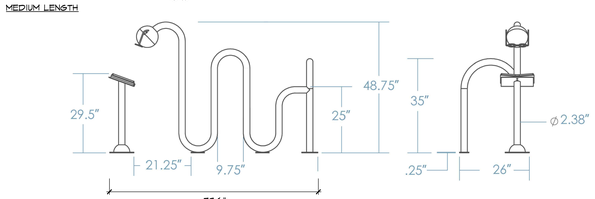
NOTES:
1. 5'X8' TREE PIT
2. IDENTIFY UTILITIES PRIOR TO WORK. DIG CAREFULLY AND DO NOT DAMAGE UTILITIES AND UTILITY BEDDING; FOLLOW PROJECT AND REGULATORY REQUIREMENTS.
3. PLANTING SOIL: MANUFACTURED SOIL MIX FOR TREE PITS AND SUSPENDED PAVING SYSTEM: PER L5.0.
   3.1. AT TREE PIT, LIGHTLY COMPACT BOTTOM 12" LIFTS TO 80%-85% STANDARD PROCTOR. LIGHTLY TAMP TOP 12" WITH FOOT ONLY. CHECK FOR SETTLEMENT AFTER ONE MONTH AND INSTALL ADDITIONAL TREE PIT PLANTING SOIL, AND RE-MULCH, IF IT SINKS MORE THAN 1".
   3.2. AT RTANK URBANFOREST, INSTALL MANUFACTURED PLANTING SOIL IN METHOD PER WRITTEN INSTRUCTIONS FROM RTANK URBAN FOREST.
4. SOIL CELLS: RTANK URBANFOREST CELLS, OR APPROVED EQUAL. WIDTH OF ANY "OR EQUAL" MUST BE IN WIDTH RANGE OF 30" TO 31" DUE TO SITE CONSTRAINTS.
   4.1. FOLLOW MANUFACTURERS WRITTEN INSTRUCTIONS
   4.2. SIDEWALK IS INTENDED FOR PEDESTRIAN USE, BUT FOLLOW RTANK URBANFOREST'S VEHICULAR SYSTEM REQUIREMENTS WHERE FEASIBLE (THE 36" GEOGRID EXTENSION IS TO BE TRUNCATED AT THE CURB AND UTILITY VAULTS).
   4.3. PROVIDE MANUFACTURERS SHOP DRAWINGS INDICATING PRODUCT INCLUDING FULL SITE PLAN LAYOUT, AND SECTIONS.
5. AGGREGATES: NOT FROM CRUSHED CONCRETE, NOT FROM LIMESTONE SOURCE
6. ROOT BARRIER: DEEPROOT GREEN INFRASTRUCTURE TREE ROOT BARRIER OR APPROVED EQUAL
7. RTANK URBANFOREST MANUFACTURERS REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION OPERATIONS, AT NO ADDITIONAL COST TO OWNER.
8. WRAP TOP, BOTTOM AND SIDES OF PENNDOT 2B AGGREGATE (AND ANY SIMILAR OPEN GRADED AGGREGATE) WITH NONWOVEN GEOTEXTILE, OVERLAP 12" MIN (OR AS OTHERWISE SPECIFIED IF WIDER).
9. WHERE SYSTEM INTERFACES WITH UTILITIES AND UTILITY BEDDING, PROVIDE BRIDGING PER RTANK URBANFOREST WRITTEN INSTRUCTIONS (AND OBTAIN CIVIL ENGINEER'S REVIEW PRIOR TO INSTALLATION).
10. CAST IRON VENT: JONES STEPHENS 4" CAST IRON PHILADELPHIA VENT BOX J60004; SECURELY CONNECT VENT BOX TO PVC PIPE BELOW USING A SHIELDED NO-HUB TRANSITION COUPLING WITH STAINLESS STELL BANDS, HIDDEN BELOW GRADE, OR AS OTHERWISE APPROVED BY LANDSCAPE ARCHITECT.



ILLUSTRATIVE



MEDIUM LENGTH

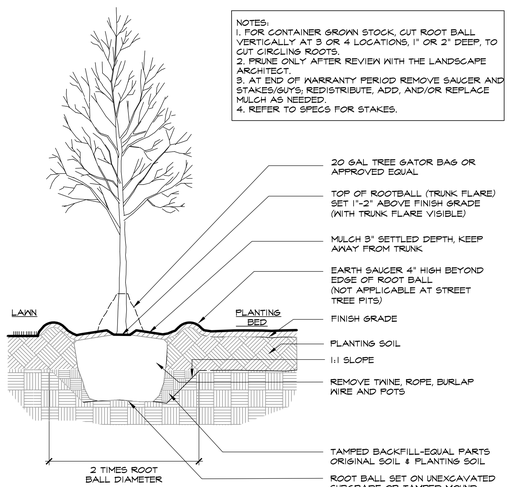


SMALL LENGTH

NOTES:
1. "BOOKNORM BIKE RACK", POWDER COAT FINISH, AS MANUFACTURED BY PARKITECT LLC OR APPROVED EQUAL. LENGTHS VARY.
2. INSTALLATION AS RECOMMENDED BY MANUFACTURER
3. MOUNTING: SURFACE MOUNT ON CONCRETE PER MANUFACTURER; WHERE SUBSLAB CONCRETE AT PAVERS IS INDICATED ON PLAN, USE EXTENDED ANCHOR BOLTS

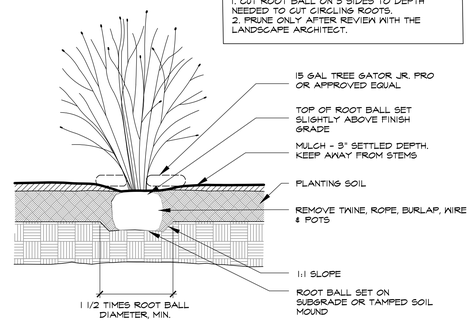
7 / L7.0 **BIKE RACK**
NTS

NOTES:
1. FOR CONTAINER GROWN STOCK, CUT ROOT BALL VERTICALLY AT 3 OR 4 LOCATIONS, 1" OR 2" DEEP, TO CUT CIRCLING ROOTS.
2. PRUNE ONLY AFTER REVIEW WITH THE LANDSCAPE ARCHITECT.
3. AT END OF WARRANTY PERIOD REMOVE SAUCER AND STAKES/GUYS. REDISTRIBUTE, ADD, AND/OR REPLACE MULCH AS NEEDED.
4. REFER TO SPECS FOR STAKES.



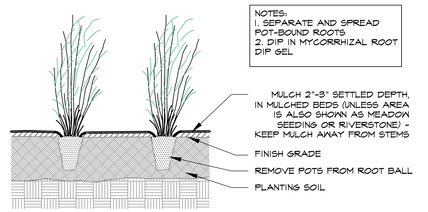
9 / L7.0 **TREE PLANTING**
N.T.S.

NOTES:
1. CUT ROOT BALL ON 3 SIDES TO DEPTH NEEDED TO CUT CIRCLING ROOTS.
2. PRUNE ONLY AFTER REVIEW WITH THE LANDSCAPE ARCHITECT.



10 / L7.0 **SHRUB PLANTING**
NTS

NOTES:
1. SEPARATE AND SPREAD POT-BOUND ROOTS
2. DIP IN MYCORRHIZAL ROOT DIP GEL



11 / L7.0 **HERBACEOUS PLANTING**
NTS

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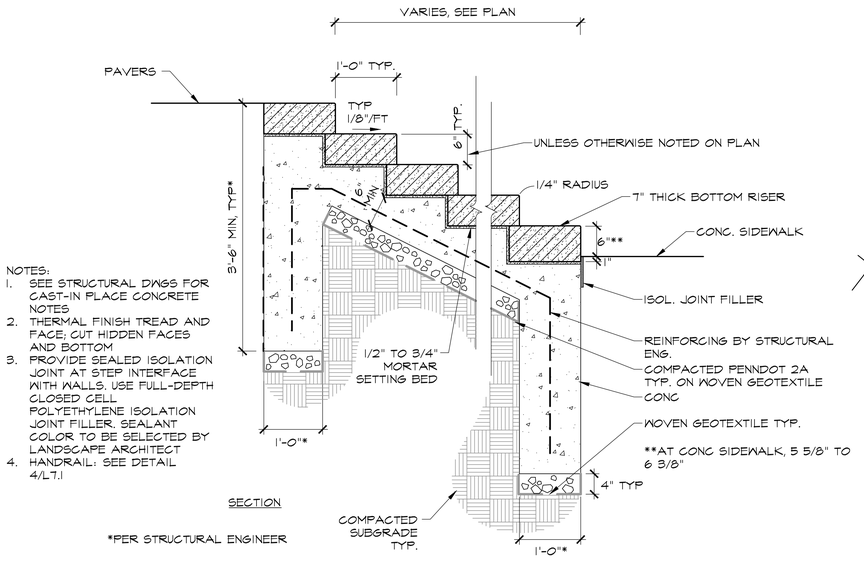
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Sheet Name: Details

NO.	DESCRIPTION	DATE
	BID & PERMIT	10/3/2025
△	ADDENDUM #2	9/10/2026

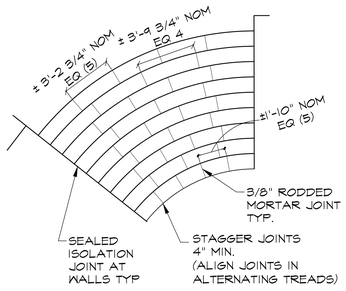
L7.0



SECTION

*PER STRUCTURAL ENGINEER

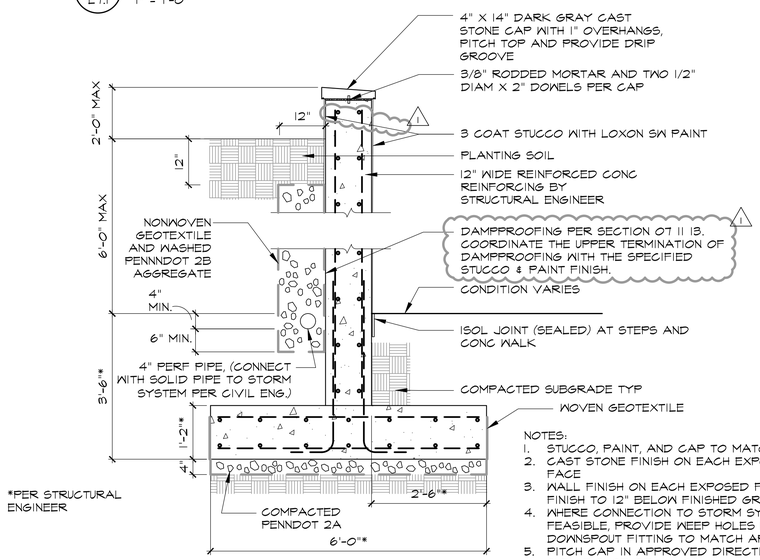
NOTES:
1. SEE STRUCTURAL DWGS FOR CAST-IN PLACE CONCRETE NOTES
2. THERMAL FINISH TREAD AND FACE; CUT HIDDEN FACES AND BOTTOM
3. PROVIDE SEALED ISOLATION JOINT AT STEP INTERFACE WITH WALLS. USE FULL-DEPTH CLOSED CELL POLYETHYLENE ISOLATION JOINT FILLER. SEALANT COLOR TO BE SELECTED BY LANDSCAPE ARCHITECT
4. HANDRAIL: SEE DETAIL 4/LT.1



PLAN
NTS

NOTES:
1. PROVIDE SHOP DWGS
2. PROVIDE END PIECES 6" MIN LONGER AND CUT ON SITE TO PROVIDE 3/8" JOINT AT WALLS.
3. CHECK DIMENSIONS OF WALLS ON SITE PRIOR TO FABRICATION

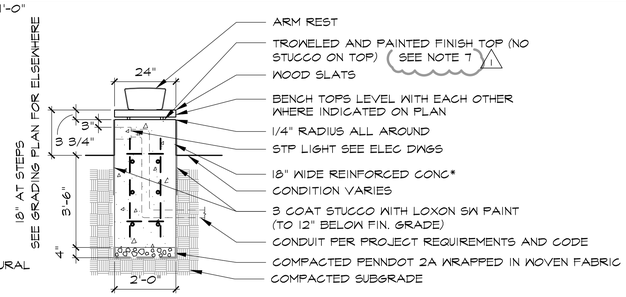
1 / LT.1 BLUESTONE STEPS
1" = 1'-0"



*PER STRUCTURAL ENGINEER

NOTES:
1. STUCCO, PAINT, AND CAP TO MATCH ARCHITECT'S WALLS
2. CAST STONE FINISH ON EACH EXPOSED CAST STONE FACE
3. WALL FINISH ON EACH EXPOSED FACE, EXTEND WALL FINISH TO 12" BELOW FINISHED GRADE MIN
4. WHERE CONNECTION TO STORM SYSTEM IS NOT FEASIBLE, PROVIDE WEEP HOLES 10'-0" O.C. MAX, WITH DOWNSPOUT FITTING TO MATCH ARCHITECT'S WALLS
5. PITCH CAP IN APPROVED DIRECTION
6. SUBMIT SHOP DRAWINGS
7. SEE STRUCTURAL DWGS FOR CAST-IN PLACE CONCRETE NOTES

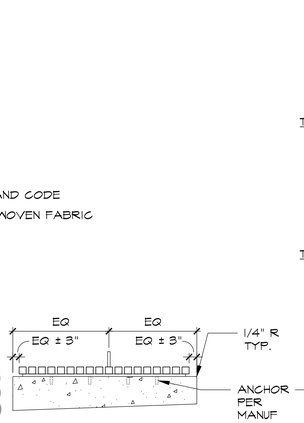
2 / LT.1 RETAINING WALL
3/4"=1'-0"



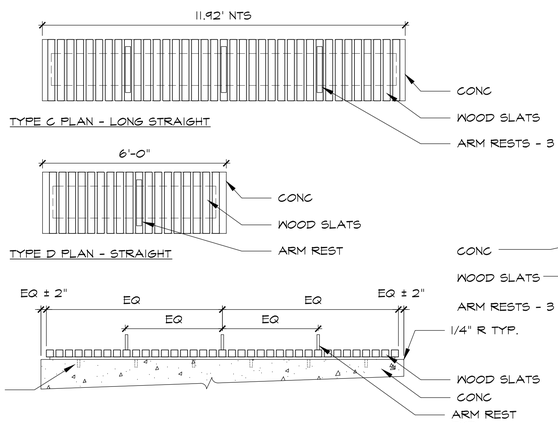
*PER STRUCTURAL ENGINEER

NOTES:
1. 2 3/4"X 2 3/4" WOOD SLATS WITH 1" GAPS, SOLID CURVED TOP SEATS AND SOLID CROSSWISE TOP SEATS, UNTREATED FSC CUMARU. SEAT SYSTEM BY STREETLIFE OR APPROVED EQUAL
2. MANUFACTURER STANDARD ARM RESTS: STAINLESS STEEL
3. SUBMIT SHOP DWGS
4. STUCCO AND PAINT FOR VERTICAL FACES OF WALLS. MATCH ARCHITECT'S WALLS.
5. SEE STRUCTURAL DWGS FOR CAST-IN PLACE CONCRETE NOTES
6. CONFIRM DIMENSIONS ON SITE PRIOR TO FINAL FABRICATION; REVIEW DISCREPANCIES WITH LANDSCAPE ARCHITECT
7. TOP OF CONCRETE (HORIZONTAL SURFACE): APPLY TWO COATS OF SHERWIN-WILLIAMS H&C COLORTOP WATER-BASED SOLID COLOR CONCRETE STAIN, OR APPROVED EQUAL. COLOR TO MATCH THE LOXON XP COATING ON ADJACENT WALL SURFACES. SLOPE TOP OF CONCRETE WALL 1/8 INCH PER FOOT TOWARD PLANTING BED. CURE AND PREPARE CONCRETE, AND APPLY COATING IN ACCORDANCE WITH COATING MANUFACTURER'S WRITTEN INSTRUCTIONS.

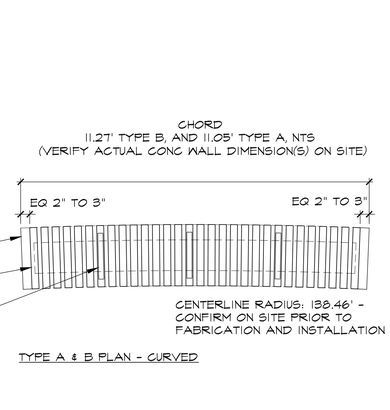
3 / LT.1 SEATWALL
1/2" = 1'-0"



LONGITUDINAL CROSS SECTION - 6' BENCH

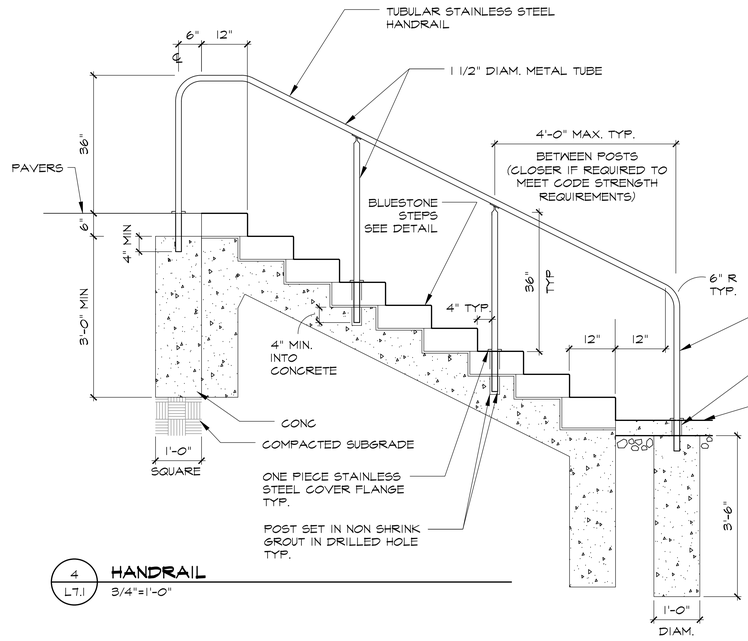


LONGITUDINAL CROSS SECTION - LONG STRAIGHT BENCH

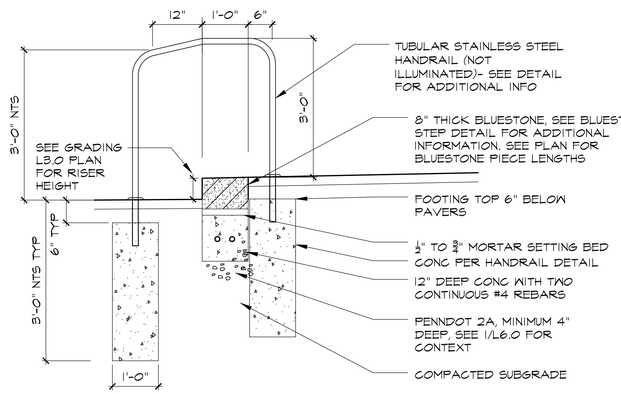


TYPE A & B PLAN - CURVED

NOTES:
1. SUBMIT SHOP DWGS
2. METAL: STAINLESS STEEL #316
3. FINISH: #6 SATIN
4. LIGHTING: BY HANDRAIL COMPANY AS INTEGRATED ASSEMBLY
   4.1. REFER TO ELECTRICAL DRAWINGS
   4.2. ASYMETRIC LIGHT DISTRIBUTION PER ELECTRICAL DWGS
5. PROVIDE ENGINEERED SHOP DRAWINGS SIGNED AND SEALED BY PA REGISTERED PROFESSIONAL ENGINEER (OF EACH HANDRAIL CONFIGURATION) FOR REVIEW. MEET STRENGTH REQUIREMENTS OF APPLICABLE CODE(S).
6. CONFIRM ON-SITE CONDITIONS PRIOR TO FINAL FABRICATION
7. MOUNT WITH 1.5" CLEAR MINIMUM.
8. BASIS OF DESIGN: IRAIL LINEAR LED SYSTEM BY VIVA RAILINGS
   8.1. NON ILLUMINATED HANDRAILS AT SINGLE STEPS TO MATCH IRAIL WITHOUT ILLUMINATION



4 / LT.1 HANDRAIL
3/4"=1'-0"



5 / LT.1 SINGLE STEP AND HANDRAIL
3/4"=1'-0"

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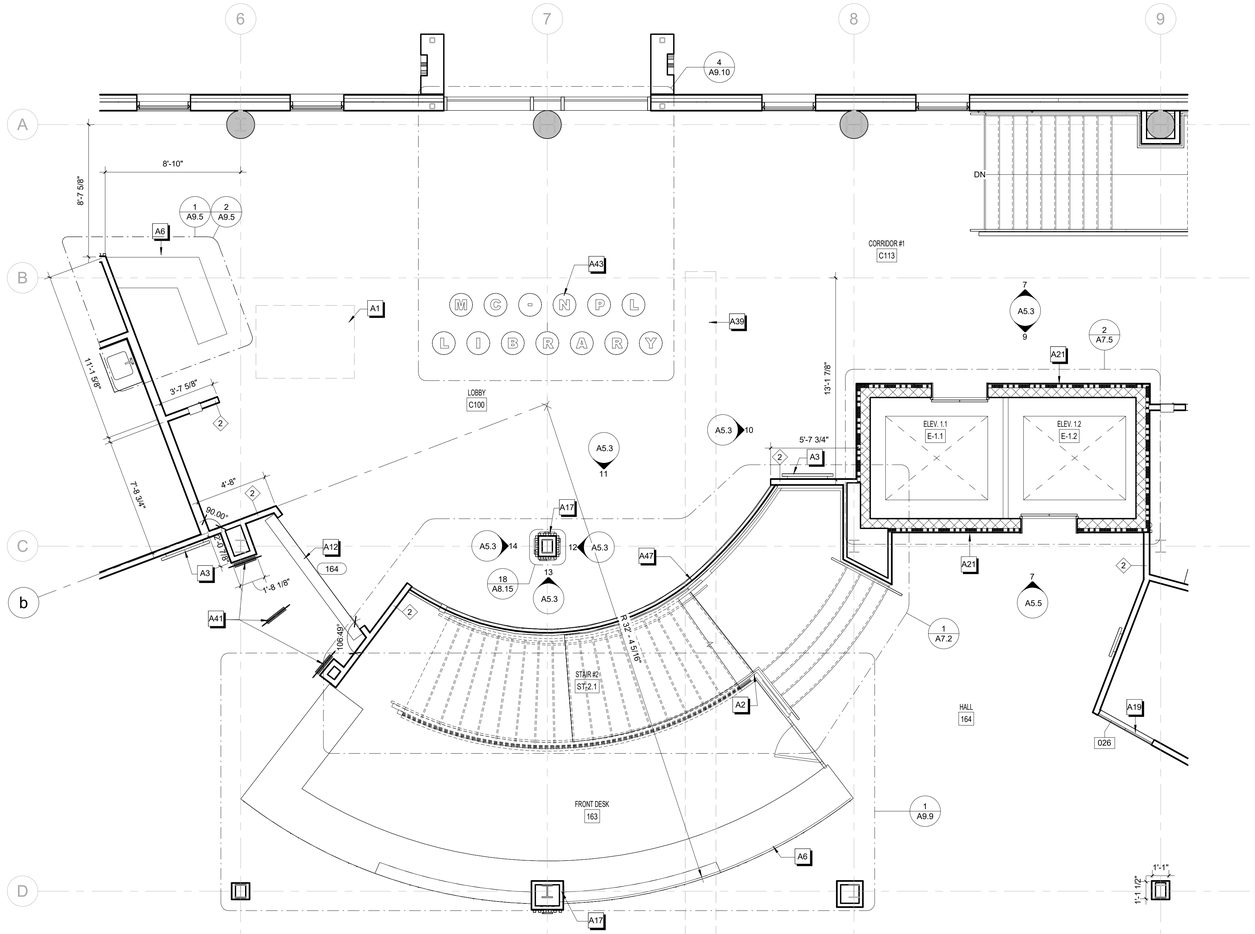
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Sheet Name: Details

NO.	DESCRIPTION	DATE
	BID & PERMIT	10/3/2025
1	ADDENDUM #2	9/10/2026

L7.1



2 ENLARGED PLAN - 1ST FL LOBBY
1/4" = 1'-0"

1 ENLARGED PLAN - GROUND FLOOR CAREER LINK BUSINESS OFFICE
1/4" = 1'-0"

GENERAL FLOOR PLAN NOTES

1. GWB INTERIOR PARTITIONS ARE TYPE (1) UNLESS OTHERWISE NOTED.
2. F.E. = FIRE EXTINGUISHER (F.E.) OR F.C. = FIRE EXTINGUISHER CABINET [F.E.]
3. REFER TO SHEET A10 SERIES FOR DOOR SCHEDULE. (100)
4. REFER TO SHEET A10 SERIES FOR INTERIOR WINDOW SCHEDULE.
5. REFER TO SHEET A11 SERIES FOR ROOM FINISH SCHEDULE. ROOM NAME #
6. MECHANICAL DUCT AS PER MECHANICAL DWGS.
7. PATCH AND REPAIR ALL SURFACES TO REMAIN IF DAMAGED AS A RESULT OF DEMOLITION. SURFACES SHOULD PROVIDE A SUITABLE SUBSTRATE TO THE EXTENT NECESSARY FOR NEW MATERIALS AND CONSTRUCTION AS PER CONSTRUCTION DOCUMENTS AND SPECS.
8. ALL DIMENSIONS, ELEVATIONS AND PHYSICAL CONDITIONS SHOWN ON DRAWINGS FOR EXISTING STRUCTURES ARE BASED ON LIMITED FIELD INSPECTIONS AND OTHER AVAILABLE SOURCES. SUCH DEPICTIONS OF EXISTING CONSTRUCTION ARE INTENDED TO BE GENERAL, APPROXIMATE AND LIMITED TO THOSE AREAS FOR WHICH WORK IS REQUIRED, AND ARE PROVIDED ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. CONDUCT A CAREFUL EXAMINATION OF EXISTING CONDITIONS AT THE SITE APPLICABLE TO THE WORK.
9. THE EXACT EXTENT OF THE CONSTRUCTION WORK CANNOT BE NECESSARILY OR ACCURATELY DETERMINED PRIOR TO COMMENCEMENT OF WORK. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO THE CONSTRUCTION DETAILS, MATERIAL QUANTITIES AND EXTENT OF THE MODIFICATION WORK SHOWN ON CONTRACT DRAWINGS. PERFORM THE WORK TO MEET FIELD CONDITIONS ENCOUNTERED.
10. EXAMINE AND FIELD VERIFY ALL EXISTING AND GIVEN DIMENSIONS, AND CONDITIONS, PRIOR TO COMMENCEMENT OF THE WORK AND FABRICATION OF CONSTRUCTION MATERIALS. REPORT VARIANCES FROM DRAWINGS AND POTENTIAL INTERFACES PROMPTLY TO THE ARCHITECT, INCORPORATE ACTUAL FIELD CONDITIONS AND DIMENSIONS IN THE WORK AND INDICATE CHANGES AND ADJUSTMENTS ON DRAWINGS SUBMITTED FOR APPROVAL.
11. PROVIDE DEFLECTION TRACK AT ALL METAL STUD FRAMING WHERE WALL PARTITION GOES TO UNDERSIDE OF EXISTING STRUCTURE. ALL PARTITIONS SHOULD GO TO UNDERSIDE OF STRUCTURE, EXCEPT WHERE NOTED.
12. PROVIDE FIRE RATED CAULKING AT TOP AND BOTTOM OF ALL RATED WALL ASSEMBLIES AND THRU-FLOOR PENETRATIONS AS PER SPECS.
13. ALL GWB TO BE ABUSE RESISTANT TO 6' A.F.F. UNLESS OTHERWISE NOTED.
14. PROVIDE MOISTURE RESISTANT GWB AT ALL WET WALLS.
15. ALL PLAN DIMENSIONS OF WALLS ARE SHOWN TO FACE OF STUD AND ALL CLEAR DIMENSIONS ARE FACE OF GWB TO GWB. COORDINATE WITH PARTITION TYPE SCHEDULE FOR REQUIRED GWB THICKNESS.
16. ALL EXPOSED STEEL, STEEL DECK, AND BEAMS TO BE PAINTED. REFER TO FINISH SCHEDULE.
17. ANY FLASHING, COPING, LOUVERS, ETC. TO MATCH ADJACENT EXTERIOR CLADDING. ARCHITECT TO SELECT FROM FULL RANGE.
18. COORDINATE ALL MEP PENETRATIONS, REGARDLESS OF ILLUSTRATION ON ARCHITECTURAL ROOF PLANS, WITH TYPICAL ROOFING DETAILS.
19. ALL COLUMNS FULLY ENCLOSED IN DRYWALL SHALL BE PROVIDED WITH A 1-HOUR FIRE-RESISTANCE RATING USING 5/8" TYPE X GYPSUM BOARD.

CONSTRUCTION PLAN LEGEND

EXISTING		CMU WALLS	
NEW WALL		CRICKET	
CONSTRUCTION ABOVE		HP	HIGH POINT
GLAZING		LP	LOW POINT
SWING DOORS		GREEN ROOF	
CASEWORK ABOVE			

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
A1	INFILL EXISTING FLOOR OPENING WITH NEW CONCRETE FLOOR SLAB AS INDICATED ON PLANS. REFER TO STRUCTURAL DWGS.
A2	GLASS RAILING SYSTEM AS PER DETAILS AND SPECS.
A3	WALL MOUNTED TELEVISION/ MONITOR; COORDINATE HEIGHT WITH AV. PROVIDE BLOCKING AS REQUIRED.
A4	JANITOR MOP SINK AS PER PLUMBING DWGS.
A5	ACCESSIBLE DRINKING FOUNTAIN AS PER PLUMBING DWGS. PROVIDE ADDITONAL F.R.T. BLOCKING IN WALL AS PER MANUFACTURER'S STANDARD INSTALLATION DETAILS.
A6	MILLWORK AS PER DETAILS AND SPECS. REFER TO FINISH PLANS FOR MORE DETAILS ON FINISH.
A7	CARD READER AS PER ELECTRICAL DWGS.
A8	RAMP; PROVIDE GUARDRAILS AND HANDRAILS AS PER DETAILS AND SPECS.
A10	2 TIER LOCKERS; REFER TO SPECS FOR MORE INFORMATION
A11	REFER TO MEP DRAWINGS FOR PLUMBING FIXTURES
A12	OVERHEAD SECURITY DOOR. REFER TO SPECS FOR MORE INFORMATION
A13	PERIMETER RADIATOR; REFER TO MECHANICAL DWGS.
A14	APPLIANCES; CONTRACTOR PROVIDED AND CONTRACTOR INSTALLED.
A16	DIGITAL SIGNAGE BOARD.
A17	2X2 WOOD SLAT WALL; REFER TO INTERIOR ELEVATIONS.
A18	PROVIDE NEW GUARDRAIL AND HANDRAIL AS PER DETAILS.
A19	INTERIOR STOREFRONT; REFER TO WINDOW SCHEDULE FOR MORE INFORMATION
A20	BUILT-IN WOOD BENCH. WOOD VENEER APPLIED TO PLYWOOD FACE AND SOLID WOOD FRAMING
A21	RESIN PANEL APPLIED TO FACE OF GYP. BOARD; REFER TO FINISH PLANS FOR MORE DETAILS ON FINISH.
A22	SLOP SINK; REFER TO PLUMBING DWGS.
A23	EXTERIOR WALL CONSTRUCTION EXTENDS INTO INTERIOR SPACE; MAINTAIN CONTINUITY OF MATERIALS AND FINISHES PER DRAWINGS.
A24	FLOATING QUARTZ COUNTERTOP W/ CONCEALED METAL BRACKET SUPPORTS
A25	INFILL CONCRETE TO MATCH THE WIDTH AND ELEVATION OF THE EXISTING RAMP
A26	FULL-HEIGHT ACOUSTICAL OPERABLE PARTITION WITH MAN DOOR
A27	WALL-MOUNTED ADA-COMPLIANT PUSH PADDLE FOR AUTOMATIC DOOR OPERATION
A28	EXTERIOR MONUMENT SIGNAGE; SEE DETAIL. COORDINATE EXACT LOCATION WITH CIVIL DRAWINGS.
A29	REFER TO CIVIL DWGS FOR ELECTRONIC CANTILEVERED GATE SYSTEM.
A30	INSTALL MEDIUM-SIZE VERTICAL PULL RAIL AND WALL-MOUNTED CARD READER PER ELECTRICAL/SECURITY DRAWINGS
A31	DISPLAY CASE. SEE A8 SHEETS AND SPECIFICATIONS.
A32	24"X24" PEDESTAL PAVER SYSTEM. REFER TO SHEET A2.2a FOR RADIUS.
A33	12"X24" SEDUM TRAY, TYP. TRIM EDGES OF TRAY, INFILL, AND SPLICE AS REQUIRED FOR CURVE. REFER TO SHEET A2.2a FOR RADIUS. COORDINATE INSTALLATION OF GREEN ROOF SYSTEM WITH MANUFACTURER AND PROVIDE SHOP DWGS PRIOR TO INSTALLATION. [redacted]
A34	INFILL GAPS AT EDGES OF CURVE WITH SEDUM. TRIM EDGES OF TRAYS AND SPLICE AS REQUIRED FOR CURVE. [redacted]
A35	ROOF DRAIN, TYP. REFER TO MEP DWGS. PROVIDE BALLAST GUARD IF ROOF DRAIN IS LOCATED WITHIN FOOTPRINT OF GREEN ROOF.
A36	PROVIDE STONE BALLAST AROUND ROOF DRAINS LOCATED WITHIN FOOTPRINT OF GREEN ROOF. REFER TO GREEN ROOF DETAILS IN A8 SERIES DWGS, SPECIFICATIONS AND MANUFACTURER'S DETAILS. [redacted]
A37	12"X12" SEDUM TRAY, AS REQUIRED. TRIM EDGES OF TRAY, INFILL, AND SPLICE AS REQUIRED FOR CURVE. REFER TO SHEET A2.2a FOR RADIUS. [redacted]
A38	ALIGN TOP OF PEDESTAL PAVERS WITH LANDING AT TOP OF INTERIOR RAMP.
A39	INFILL EXISTING TRENCH RACEWAY. RACEWAY SHOWN IN APPROXIMATE LOCATION FOR COORDINATION ONLY. REFER TO STRUCTURAL DWGS.
A40	LINE OF BULKHEAD ABOVE
A41	RFID GATE. COORDINATE WITH AV AND ELECTRICAL DRAWINGS.
A42	NEW WINDOW INSTALLED ON PARTIAL EXISTING WALL AT BASE. SEE DEMO AND NEW CONSTRUCTION ELEVATIONS.
A43	CONCRETE SCULPTURE SEATING - "TYPEWRITER KEYS". SEE DETAILS IN A9 SERIES DWGS.
A44	NEW DECORATIVE RAILING ON TOP OF EXISTING RETAINING WALL. PALMSHIELD RUGA RAILING, ARCHITECTURAL BRONZE, 42" HIGH.
A45	NEW 42" DECORATIVE RAILING ON TOP OF EXISTING RETAINING WALL. MATCH COLOR TO ADJACENT BRONZE FINISHES, ARCHITECT TO SELECT FROM FULL RANGE. ALTERNATE PALMSHIELD RUGA RAILING, ARCHITECTURAL BRONZE FINISH. SEE DETAILS ON SHEET A8.18.
A46	PROVIDE BLOCKING IN STEEL WEB, WITH INTUMESCENT PAINT TO MATCH P-2. SEE DETAIL.
A47	THIS ENTIRE GLASS WALL TO RECEIVE GLASS FILM (GL-1). SEE ELEVATIONS AND FINISH LEGEND FOR DETAILS
A48	BUILDING EXPANSION JOINT. SEE DETAILS IN A8 SERIES AND SPEC.

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ENLARGED PLANS

NO.	DESCRIPTION	DATE
	DESIGN DEVELOPMENT	02/21/25
	75% GMP	08/22/25
	BID & PERMIT	10/03/25
2	ADDENDUM #2	09/10/26

A4.2

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CONSTRUCTION GENERAL NOTES

1. PLAN DETAILS DO NOT ILLUSTRATE FIREPROOFING. ALL STRUCTURAL ELEMENTS SHALL RECEIVE SPRAY-APPLIED FIREPROOFING TO ACHIEVE A 1-HOUR FIRE-RESISTANCE RATING.

2. PROVIDE SPRAY-APPLIED FIREPROOFING ON ALL METAL DECKING TO ACHIEVE A 1-HOUR FIRE-RESISTANCE RATING.

3. ALL COLUMNS FULLY ENCLOSED IN DRYWALL SHALL BE PROVIDED WITH A 1-HOUR FIRE-RESISTANCE RATING USING 5/8" TYPE X GYPSUM BOARD.

TYP. NEW ROOF CONSTRUCTION

- TPO ROOFING MEMBRANE
- 1/4" COVER BOARD
- 6" PLYISO INSULATION (R-30) W/ TAPERED INSULATION WHERE REQ.
- TEMP ROOF & VAPOR BARRIER, ADHERED. (PROVIDE TEMP DRAINAGE)
- 1 1/2" METAL DECKING AS PER STRUCTURAL DWGS.

HIGH PRESSURE LAMINATE WALL PANEL ON DOUBLE STUDS

- 10MM HIGH PRESSURE LAMINATE ON H PROFILE ATTACHMENT WITH 1" AIRSPACE AS REQUIRED BY MANUFACTURER ON
- 2 1/2" FIBERGLASS Z GIRT ATTACHED HORIZONTALLY
- 2 1/2" MW/FG SEMI-RIGID RAINSCREEN INSULATION, MECHANICALLY FASTENED (R-7.5 MIN)
- LIQUID APPLIED AIR AND WEATHER BARRIER ON
- 5/8" FIBERGLASS MAT GYPSUM SHEATHING ON
- 10" COLD FORMED METAL FRAMING W/ 2" CLOSED CELL SPRAY INSULATION (R-13 MIN.)
- 1 3/8" AIRSPACE
- 10" COLD FORMED METAL FRAMING WITH
- 2 LAYERS OF 5/8" FIBERGLASS MAT GYPSUM SHEATHING
  10MM HIGH PRESSURE LAMINATE ON H PROFILE
- ATTACHMENT WITH 1" AIRSPACE AS REQUIRED BY MANUFACTURER

TYP. NEW CONCRETE FLOOR SLAB

- FINISH FLOOR AS PER FINISH SCHEDULE
- 3 1/4" LIGHT WEIGHT CONCRETE AS PER STRUCTURAL DWGS.
- 1 1/2" METAL DECK

6" NEW SLAB ON GRADE FLOOR

- FINISH FLOOR AS PER FINISH SCHEDULE
- 6" SLAB ON GRADE CONCRETE AS PER STRUCTURAL DWGS.
- 15 MIL. VAPOR BARRIER AS PER SPECS.
- 6" CRUSHED STONE AS PER SPECS.
- COMPACTED FILL

NEW FOUNDATION WALL CONSTRUCTION (AT GRADE)

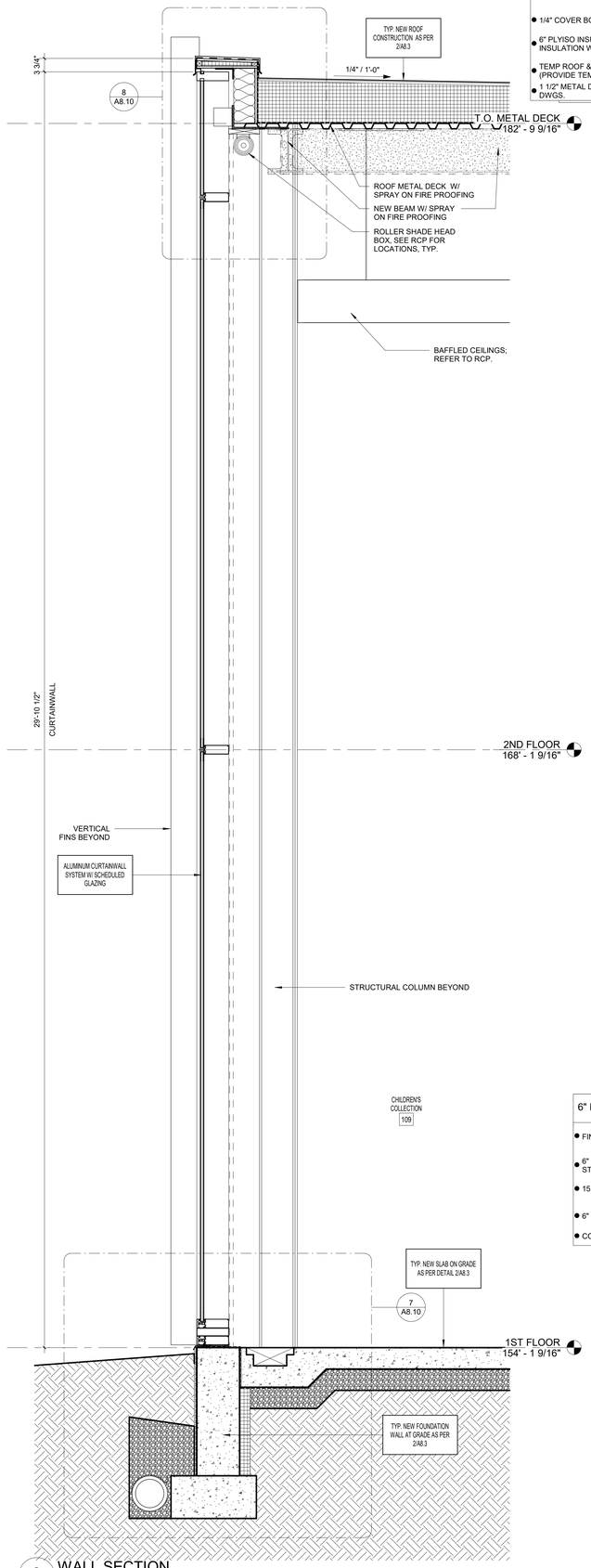
- CONTINUOUS DRAINAGE MAT
- DAMPPROOFING MEMBRANE
- 12" CONCRETE AS PER STRUCTURAL DWGS.
- 3" RIGID INSULATION (R-15)

STUCCO ON CONCRETE FOUNDATION WALL (ABOVE GRADE)

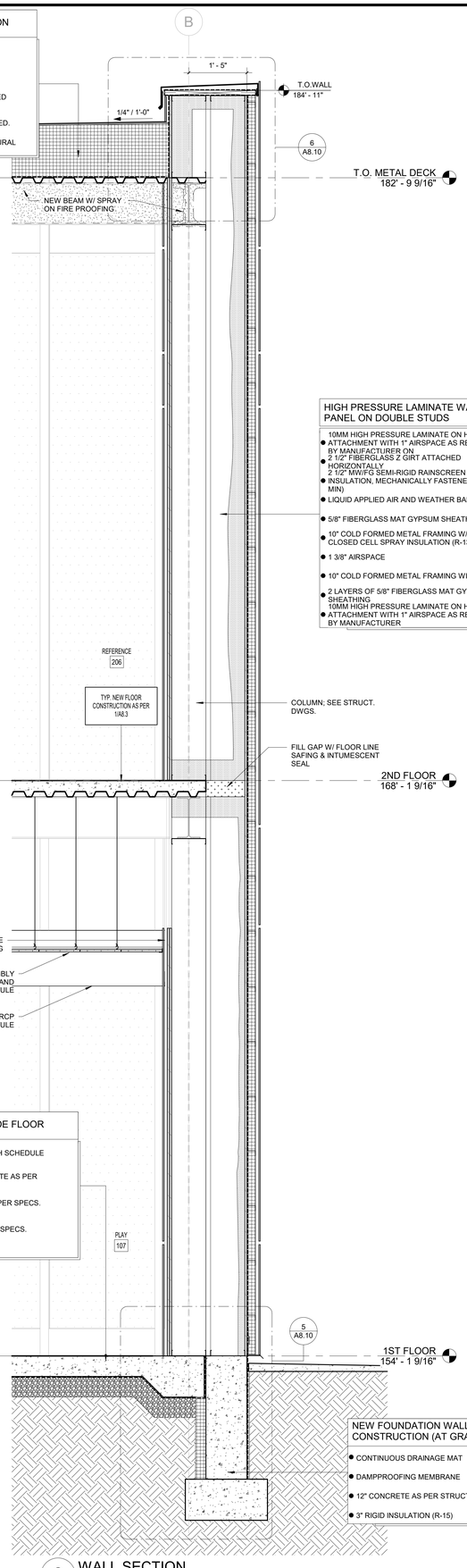
- 3/4" STUCCO
- WATER-RESISTIVE AIR BARRIER
- 10" CONCRETE WALL

5" NEW SLAB ON GRADE FLOOR

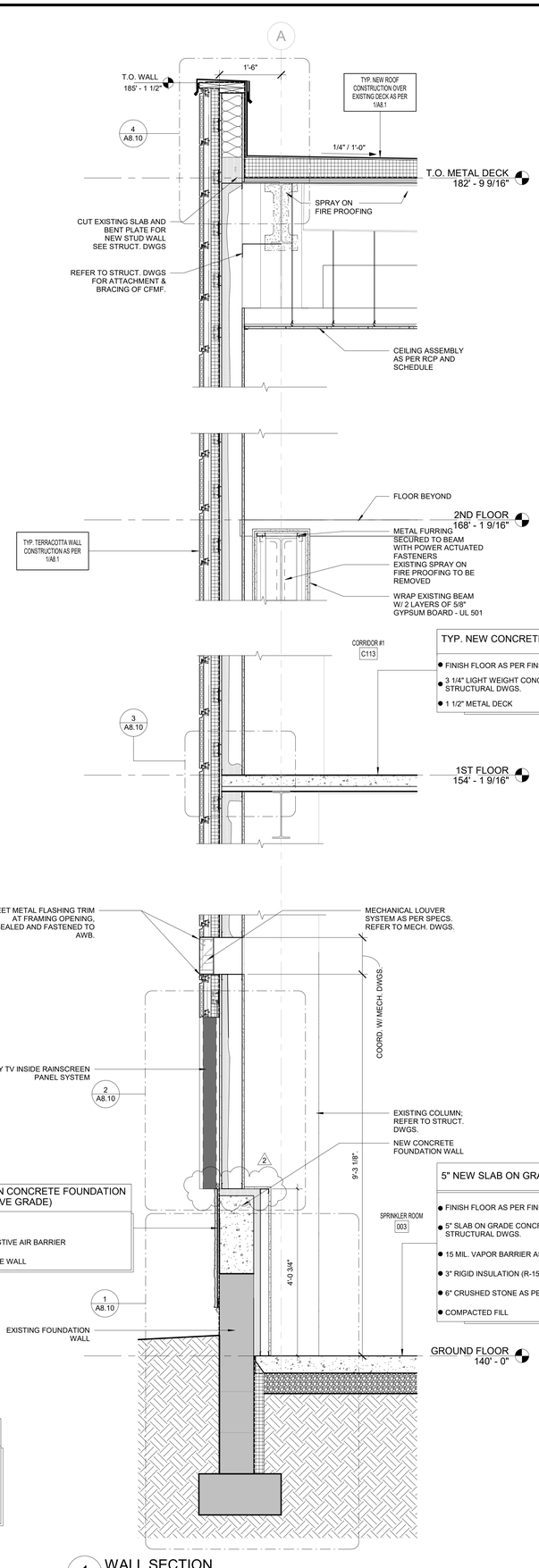
- FINISH FLOOR AS PER FINISH SCHEDULE
- 5" SLAB ON GRADE CONCRETE AS PER STRUCTURAL DWGS.
- 15 MIL. VAPOR BARRIER AS PER SPECS.
- 3" RIGID INSULATION (R-15 MIN.)
- 6" CRUSHED STONE AS PER SPECS.
- COMPACTED FILL



3 WALL SECTION
3/4" = 1'-0"

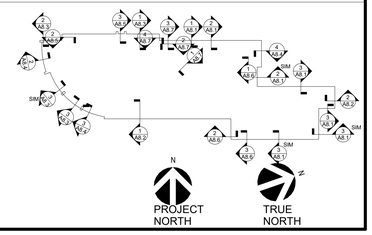


2 WALL SECTION
3/4" = 1'-0"



1 WALL SECTION
3/4" = 1'-0"

KEY PLAN



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WALL SECTIONS

NO.	DESCRIPTION	DATE
	75% GMP	08/22/25
	BID & PERMIT	10/03/25
2	ADDENDUM #2	09/10/26

A8.3

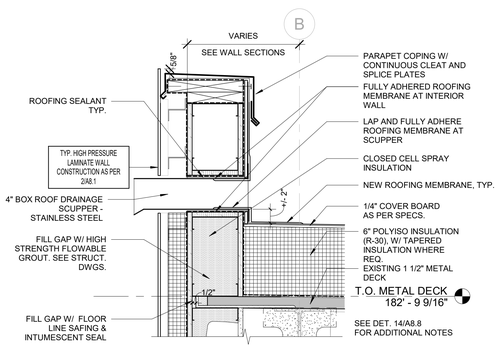
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CONSTRUCTION GENERAL NOTES

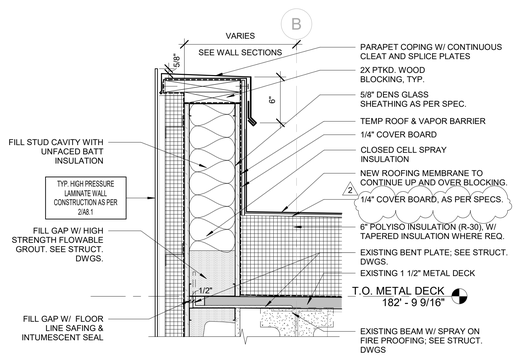
1. PLAN DETAILS DO NOT ILLUSTRATE FIREPROOFING. ALL STRUCTURAL ELEMENTS SHALL RECEIVE SPRAY-APPLIED FIREPROOFING TO ACHIEVE A 1-HOUR FIRE-RESISTANCE RATING.

2. PROVIDE SPRAY-APPLIED FIREPROOFING ON ALL METAL DECKING TO ACHIEVE A 1-HOUR FIRE-RESISTANCE RATING.

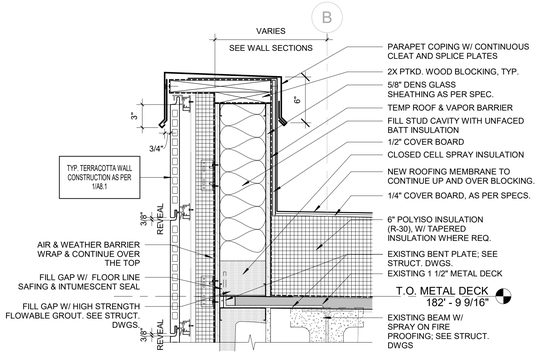
3. ALL COLUMNS FULLY ENCLOSED IN DRYWALL SHALL BE PROVIDED WITH A 1-HOUR FIRE-RESISTANCE RATING USING 5/8" TYPE X GYPSUM BOARD.



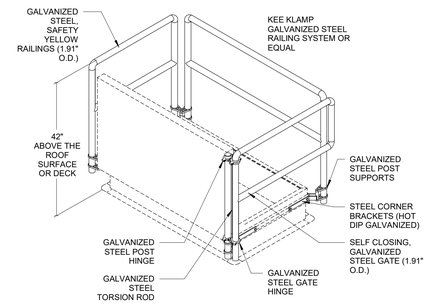
18 TYP. SCUPPER DETAIL
1 1/2" = 1'-0"



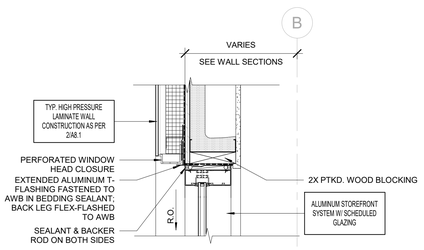
14 TYP. PARAPET SECTION DTL. @ HPL
1 1/2" = 1'-0"



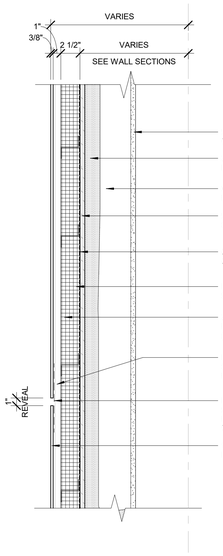
7 TYP. PARAPET SECTION DTL @ RAINSCREEN
1 1/2" = 1'-0"



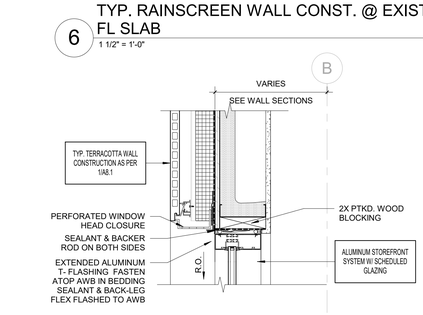
17 HATCH RAILING SYSTEM
1" = 1'-0"



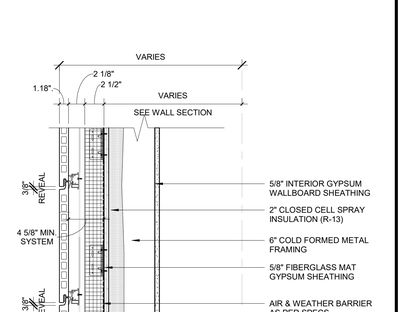
12 TYP. STOREFRONT HEAD DTL. @ HPL
1 1/2" = 1'-0"



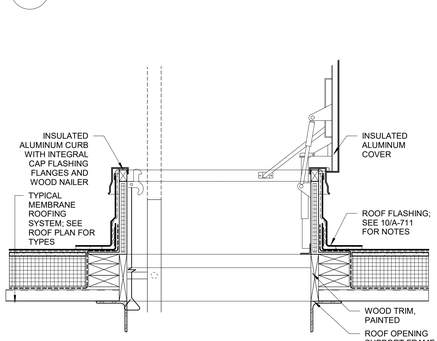
9 TYP. DETAIL SECTION @ HIGH PRESSURE LAMINATE CONSTR.
1 1/2" = 1'-0"



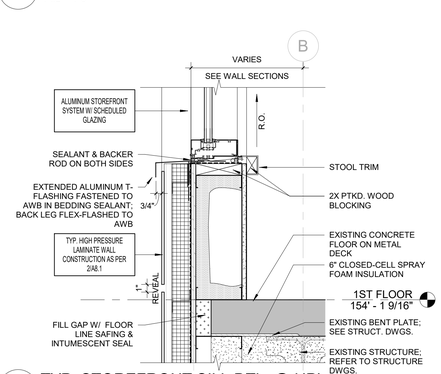
5 TYP. STOREFRONT HEAD DTL. @ RAINSCREEN
1 1/2" = 1'-0"



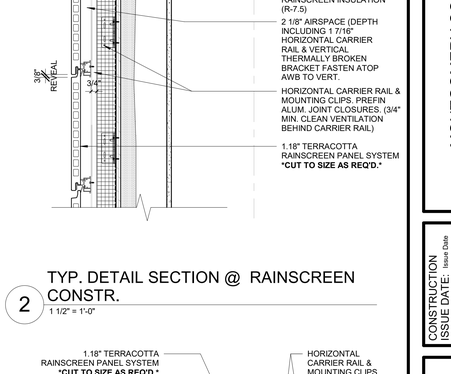
2 TYP. DETAIL SECTION @ RAINSCREEN CONSTR.
1 1/2" = 1'-0"



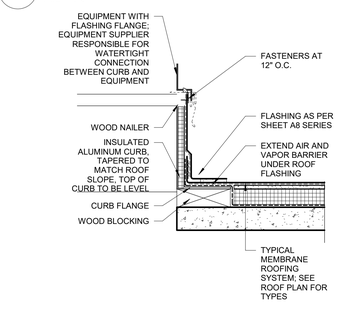
16 TYP. ROOF HATCH SECTION DTL.
1 1/2" = 1'-0"



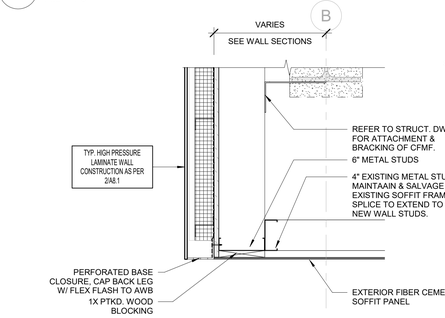
11 TYP. STOREFRONT SILL DTL. @ HPL
1 1/2" = 1'-0"



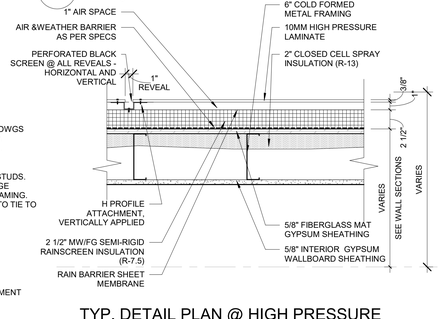
4 TYP. STOREFRONT SILL DTL. @ RAINSCREEN
1 1/2" = 1'-0"



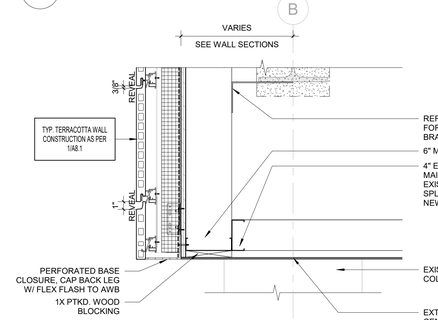
15 TYP. EQIPMENT CURB DTL.
1 1/2" = 1'-0"



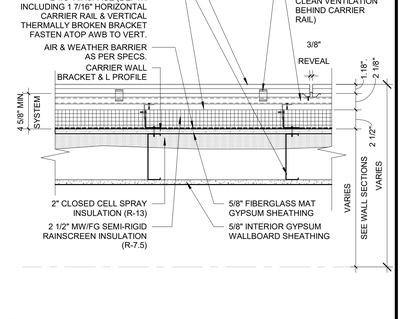
10 TYP. HPL TO EXTERIOR SOFFIT
1 1/2" = 1'-0"



8 TYP. DETAIL PLAN @ HIGH PRESSURE LAMINATE CONSTR.
1 1/2" = 1'-0"



3 TYP. RAINSCREEN TO EXTERIOR SOFFIT
1 1/2" = 1'-0"



1 TYP. DETAIL PLAN @ RAINSCREEN CONSTR.
1 1/2" = 1'-0"

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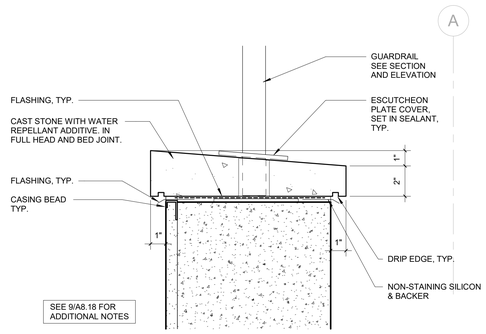
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DETAILS

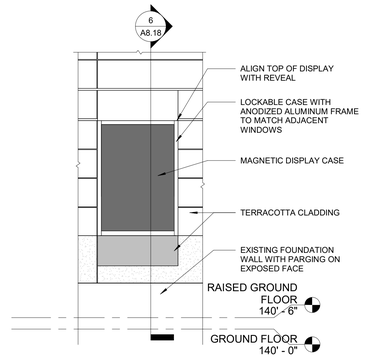
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	BID & PERMIT	10/03/25
2	ADDENDUM #2	09/10/26

A8.8

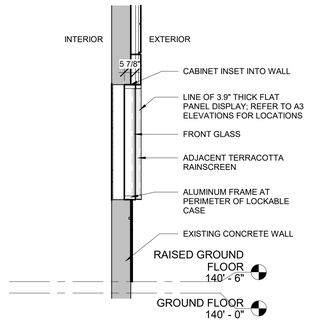
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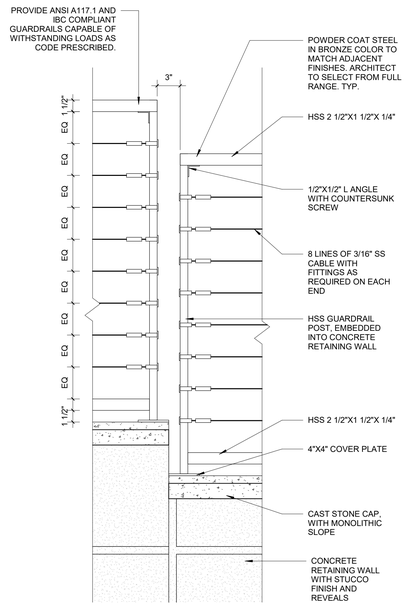
10 RETAINING WALL CAST STONE DETAIL
3" = 1'-0"



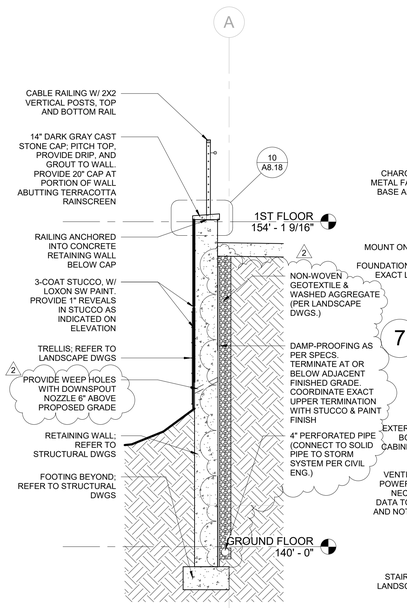
8 EXTERIOR CABINET DISPLAY CASE
3/8" = 1'-0"



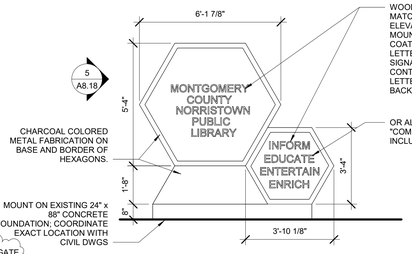
6 EXTERIOR CABINET DISPLAY CASE
3/8" = 1'-0"



11 DETAIL AT CABLE RAIL
1 1/2" = 1'-0"

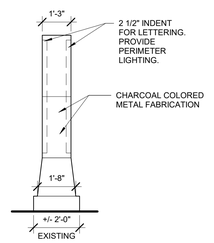


9 RETAINING WALL DETAIL
3/8" = 1'-0"

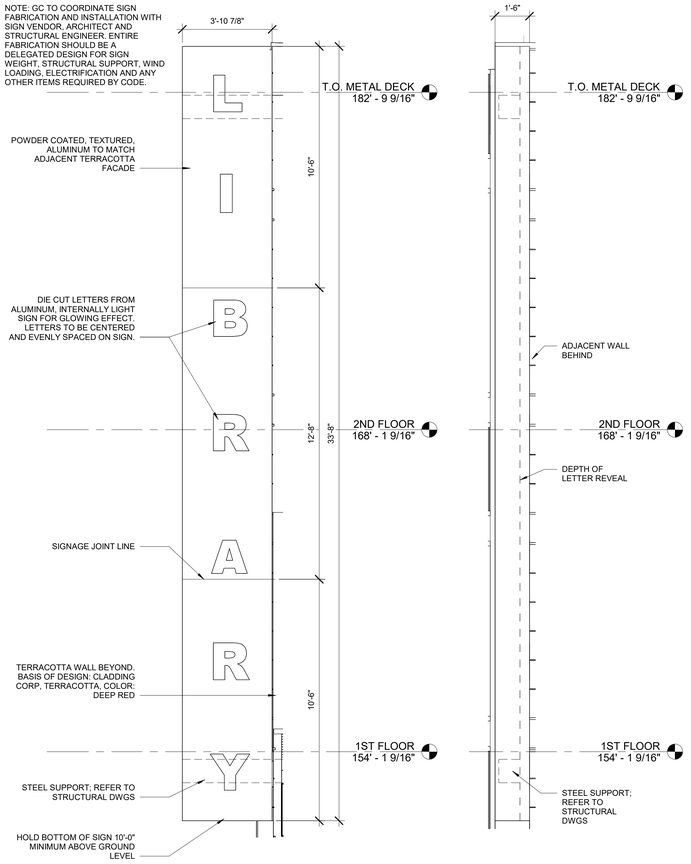


7 EXTERIOR SIGNAGE DETAIL
3/8" = 1'-0"

4 EXTERIOR SIGNAGE DETAIL
3/8" = 1'-0"

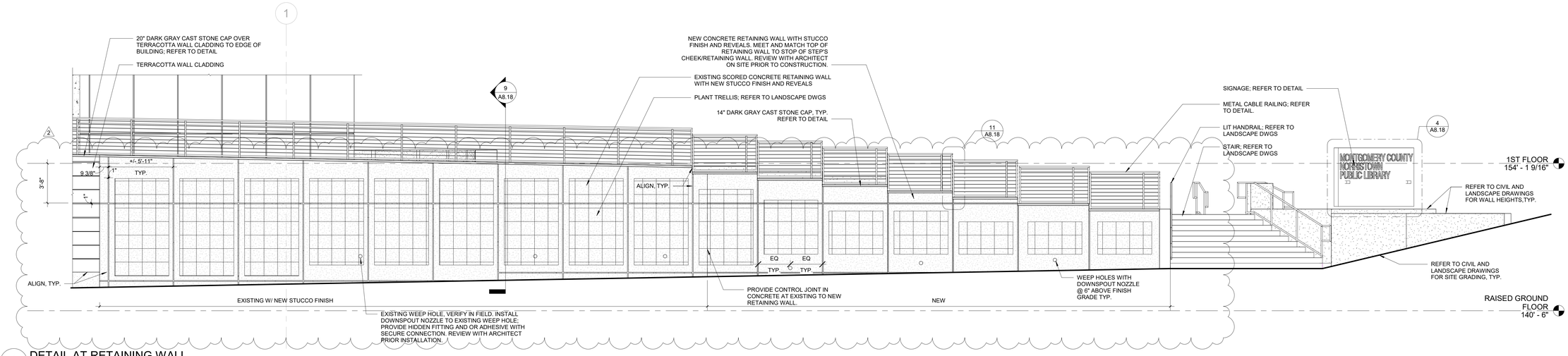


5 EXTERIOR SIGNAGE DETAIL
3/8" = 1'-0"



3 EXTERIOR SIGNAGE INTENT DETAIL
3/8" = 1'-0"

2 EXTERIOR SIGNAGE INTENT DETAIL
3/8" = 1'-0"



1 DETAIL AT RETAINING WALL
1/4" = 1'-0"

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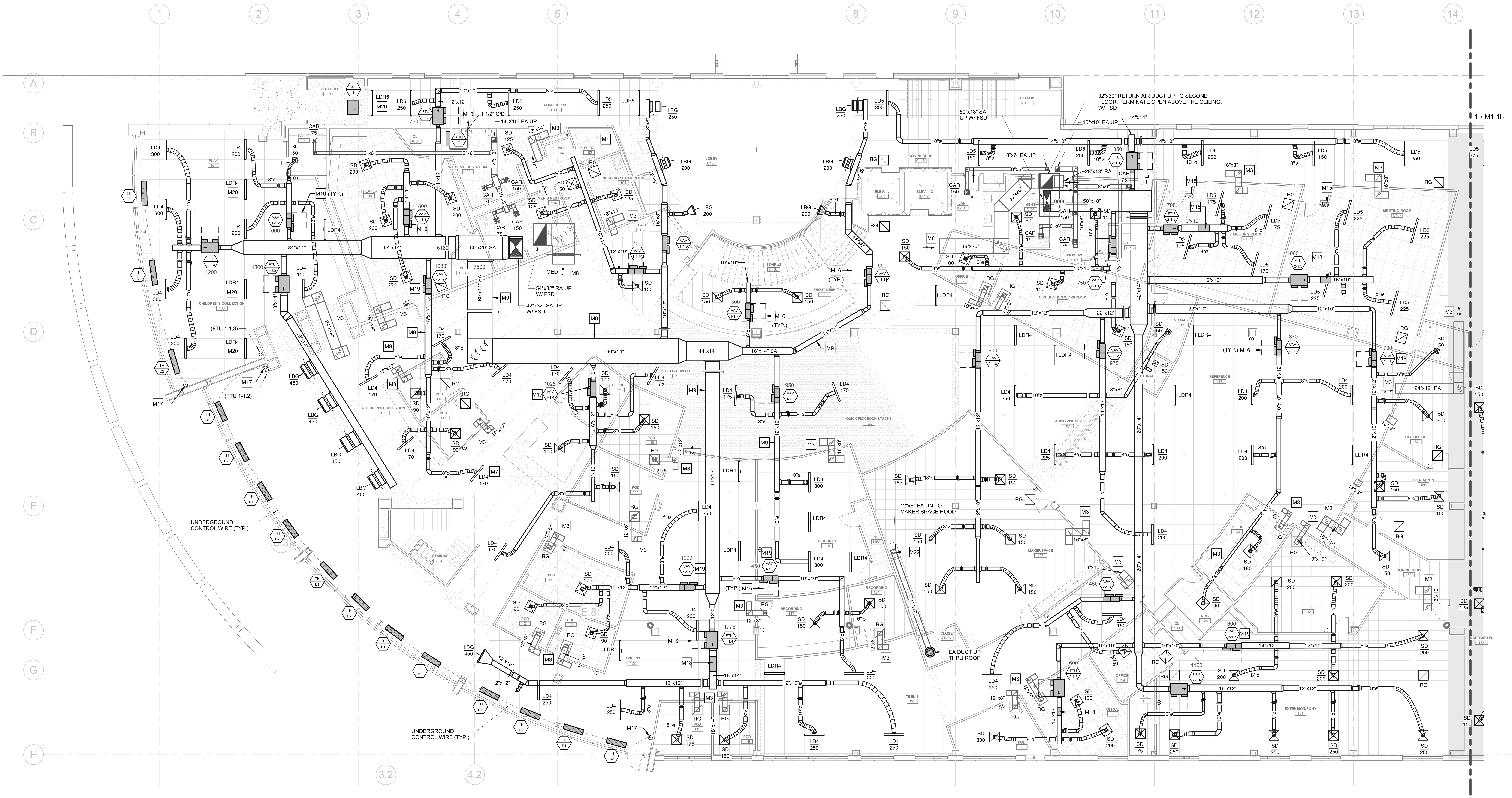
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DRAWN BY:SM
CHECKED BY:LG
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EXTERIOR SIGNAGE DETAILS

NO.	DESCRIPTION	DATE
	75% GMP	08/22/25
	BID & PERMIT	10/03/25
2	ADDENDUM #2	09/10/26

A8.18

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1 1ST FLR- NEW CONSTRUCTION PLAN- MECHANICAL - AREA A

1/8" = 1'-0"

MECHANICAL KEY NOTES

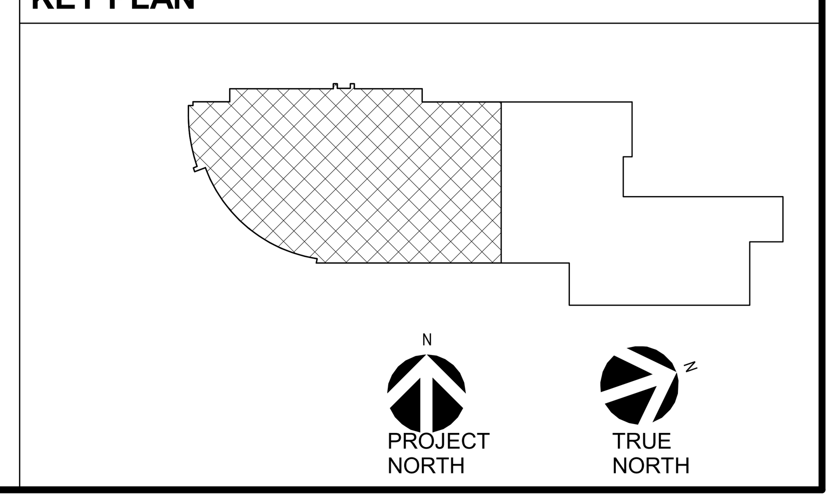
[-] NOTED THUS

- M1 NO DUCTWORK OR PIPING SHALL EXTEND OVER ELECTRICAL PANEL.
- M3 INSTALL TRANSFER DUCT WITH 1" INTERNAL ACOUSTICAL LINING WITH TWO 90 DEGREE ELBOWS. TERMINATE WITH OPEN END DUCT ABOVE THE CEILING. REFER TO PLANS FOR DUCT SIZE.
- M7 PROVIDE HANGERS FOR LINEAR DIFFUSERS.
- M8 BELL MOUTH OPENING WITH WIRE MESH SCREEN. ALL RETURN DUCTWORK SHALL BE INTERNALLY LINED.
- M9 SECTIONS OF EXPOSED DUCTWORK SHALL BE PROVIDED WITH 1.5" OF INTERNAL LINER AND NO EXTERNAL DUCT INSULATION. DUCT SHALL BE PAINTED BLACK (MATCH P-4 ON FINISH SCHEDULE). DUCT DIMENSIONES NOTED ARE INSIDE CLEAR DIMENSIONS. LINER TO BE JOHNS MANVILLE LINACOUSTIC RC, OR APPROVED EQUAL. (4)
- M10 CONDENSATE PIPING TO DISCHARGE INTO INDIRECT WASTE OUTLET PROVIDED BY PLUMBING CONTRACTOR WITH AIR GAP.
- M15 CO□ SENSOR TO BE INTERLOCKED WITH MODULATING FRESH AIR CONTROLS. REFER TO SEQUENCE IN VAV / FTU / RTU SCHEDULE.
- M16 PROVIDE 36" CLEARANCE IN FRONT SERVICE SIDE OF THE UNIT.
- M17 WALL MOUNTED THERMOSTAT TO CONTROL SEVERAL TRENCH HEATERS, AS INDICATED ON THE PLANS. CONTROL WIRE SHALL BE INSTALLED UNDER THE SLAB, ALONGSIDE WITH THE ELECTRICAL CONDUIT. THERMOSTAT SHALL BE INTEGRATED INTO THE BAS.
- M18 INSTALL 3 FEET LONG SOUND ATTENUATOR. PRICE INDUSTRIES, MODEL RH36. 0.05" PRESSURE DROP.
- M19 INSTALL INTERNAL ACOUSTICAL LINING ON THE SUPPLY DUCT FOR THE FIRST 10 FEET DOWNSTREAM OF THIS TERMINAL. FOR EXPOSED DUCTS, THE LINING SHALL BE 1.5" WITH NO EXTERNAL INSULATION. FOR CONCEALED DUCTS, 1" LINING WITH EXTERNAL INSULATION. LINER TO BE JOHNS MANVILLE LINACOUSTIC RC, OR APPROVED EQUAL. (4)
- M20 LINEAR SLOT RETURN OPEN TO PLENUM ABOVE CEILING. TYPICAL.
- M22 MAKER SPACE HOOD TO BE PROVIDED BY OTHERS. FINAL AIRFLOW AND DUCT CONNECTIONS AND SIZE TO BE COORDINATED WITH ENGINEER.

GENERAL MECHANICAL NOTES:

1. ALL DUCTWORK SIZES INDICATED ARE INSIDE DIMENSIONS UNLESS OTHERWISE NOTED.
2. DUCT SIZES INDICATED ON DRAWING ARE BASED AFTER THE LAST DIFFUSER AND/OR BRANCH TAKE-OFF.
3. CONTRACTOR TO PROVIDE A CLEAN OUT AT EVERY CHANGE IN DIRECTION OF A CONDENSATE LINE AND AT 25 FT. CENTERS.
4. RUN ALL CONDENSATE PIPING TO POINT OF DISCHARGE, PROVIDE REQUIRED AIR GAP AT DISCHARGE POINT, REFER TO PLANS & SPECIFICATIONS FOR SIZES AND REQUIREMENTS.
5. SHARP THROAT, RADIUS HEEL 90 DEGREE FITTINGS ARE UNACCEPTABLE. RADIUS ELBOWS (INNER AND OUTER) OR MITERED ELBOWS WITH TURNING VANES SHALL BE PROVIDED FOR ALL 90 DEGREE ELBOWS
6. ALL EXHAUSTS AND VENT TERMINALS MUST BE LOCATED AT LEAST 10'-0" FROM FRESH AIR INTAKE TERMINALS AND OPERABLE PORTIONS OF ANY WINDOW.
7. ALL OUTSIDE AIR DUCTWORK SHALL HAVE MINIMUM 2" EXTERNAL FIBERGLASS DUCTWRAP INSULATION.
8. THE FIRST 10'-0" OF RETURN DUCTWORK FROM THE AIR HANDLER SHALL HAVE 1" OF INTERNAL ACOUSTICAL LINING.
9. EXHAUST AIR DUCTWORK SHALL NOT BE INSULATED UNLESS EXTENDING THROUGH UNCONDITIONED SPACES. PROVIDE 1 1/2" DUCTWRAP THROUGH UNCONDITIONED SPACES.
10. CEILINGS ARE USED AS RETURN AIR PLENUMS. NO PVC IS ALLOWED.
11. ALL CONCEALED SUPPLY DUCTWORK SHALL BE EXTERNALLY INSULATED. REFER TO SPECIFICATIONS FOR INSULATION TYPE AND THICKNESS.
   A. EXPOSED DUCTWORK SHALL BE PROVIDED WITH INTERNAL LINING AND NO EXTERIOR INSULATION. EXPOSED DUCT SHALL BE PAINTED BLACK.
12. LIMIT FLEXIBLE DUCT TO 3 FEET MAX. ON EXPOSED CEILINGS.
13. REFER TO THE SECTION 230933 OF THE SPECIFICATIONS FOR THE EQUIPMENT SEQUENCE OF OPERATIONS.

KEY PLAN



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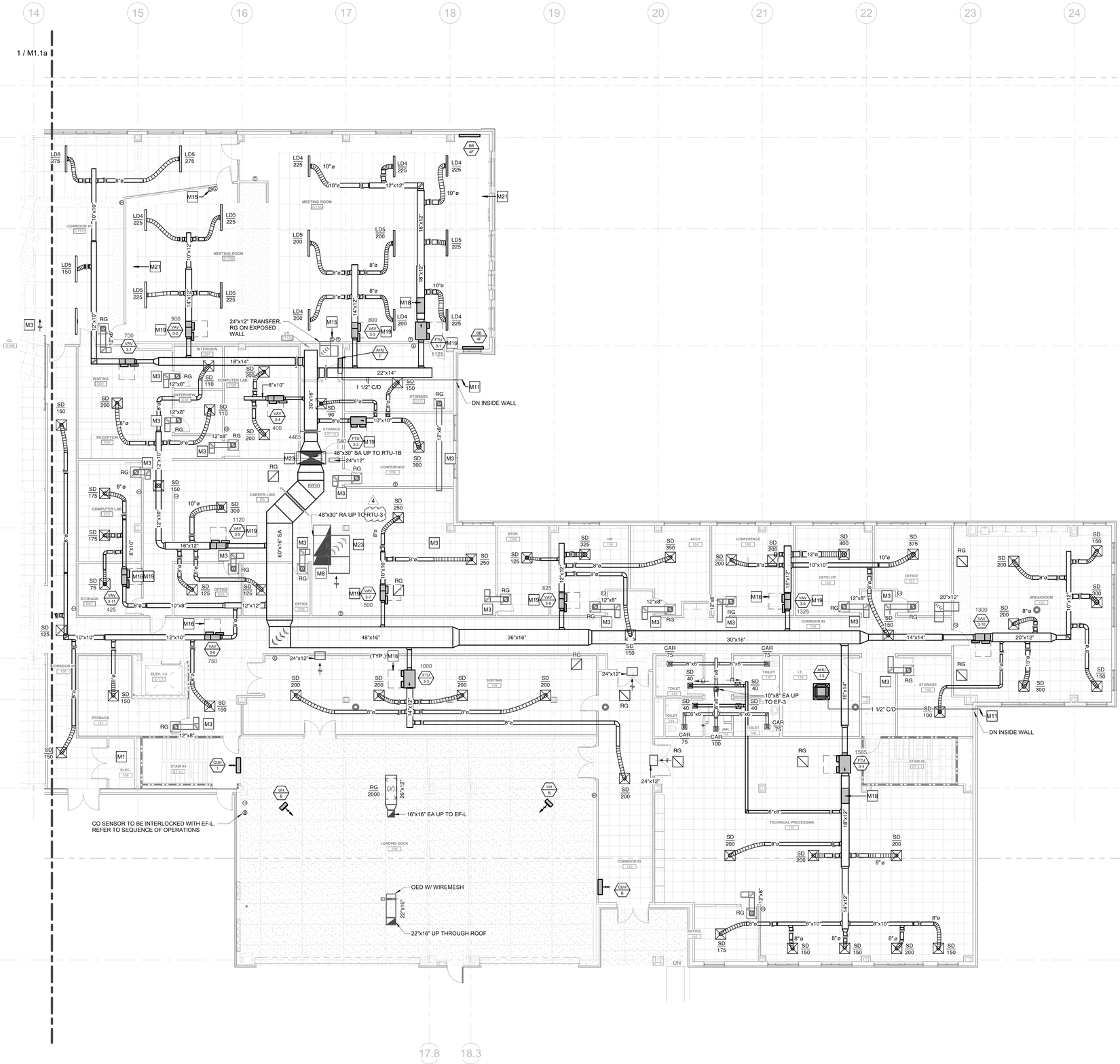
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DRAWN BY: RC
CHECKED BY: Checker
SCALE: AS NOTED

FIRST FLOOR NEW CONSTRUCTION PLAN AREA A- MECHANICAL

NO.	DESCRIPTION	DATE
	SCHEMATIC DESIGN	10/25/24
	DESIGN DEVELOPMENT	02/21/25
	BID & PERMIT	10/03/25
4	ADDENDUM #2	09/10/26

M1.1a

9/10/2026 2:40:49 PM



1 1ST FLR- NEW CONSTRUCTION PLAN- MECHANICAL - AREA B
1/8" = 1'-0"

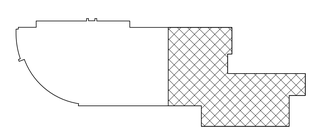
GENERAL MECHANICAL NOTES:

1. ALL DUCTWORK SIZES INDICATED ARE INSIDE DIMENSIONS UNLESS OTHERWISE NOTED.
2. DUCT SIZES INDICATED ON DRAWING ARE BASED AFTER THE LAST DIFFUSER AND/OR BRANCH TAKE-OFF.
3. CONTRACTOR TO PROVIDE A CLEAN OUT AT EVERY CHANGE IN DIRECTION OF A CONDENSATE LINE AND AT 25 FT. CENTERS.
4. RUN ALL CONDENSATE PIPING TO POINT OF DISCHARGE, PROVIDE REQUIRED AIR GAP AT DISCHARGE POINT, REFER TO PLANS & SPECIFICATIONS FOR SIZES AND REQUIREMENTS.
5. SHARP THROAT, RADIUS HEEL 90 DEGREE FITTINGS ARE UNACCEPTABLE. RADIUS ELBOWS (INNER AND OUTER) OR MITERED ELBOWS WITH TURNING VANES SHALL BE PROVIDED FOR ALL 90 DEGREE ELBOWS
6. ALL EXHAUSTS AND VENT TERMINALS MUST BE LOCATED AT LEAST 10'-0" FROM FRESH AIR INTAKE TERMINALS AND OPERABLE PORTIONS OF ANY WINDOW.
7. ALL OUTSIDE AIR DUCTWORK SHALL HAVE MINIMUM 2" EXTERNAL FIBERGLASS DUCTWRAP INSULATION.
8. THE FIRST 10'-0" OF RETURN DUCTWORK FROM THE AIR HANDLER SHALL HAVE 1" OF INTERNAL ACOUSTICAL LINING.
9. EXHAUST AIR DUCTWORK SHALL NOT BE INSULATED UNLESS EXTENDING THROUGH UNCONDITIONED SPACES. PROVIDE 1 1/2" DUCTWRAP THROUGH UNCONDITIONED SPACES.
10. CEILINGS ARE USED AS RETURN AIR PLENUMS. NO PVC IS ALLOWED.
11. ALL CONCEALED SUPPLY DUCTWORK SHALL BE EXTERNALLY INSULATED. REFER TO SPECIFICATIONS FOR INSULATION TYPE AND THICKNESS.
    A. EXPOSED DUCTWORK SHALL BE PROVIDED WITH INTERNAL LINING AND NO EXTERIOR INSULATION. EXPOSED DUCT SHALL BE PAINTED BLACK.
12. LIMIT FLEXIBLE DUCT TO 3 FEET MAX. ON EXPOSED CEILINGS.
13. REFER TO THE SECTION 230933 OF THE SPECIFICATIONS FOR THE EQUIPMENT SEQUENCE OF OPERATIONS.

MECHANICAL KEY NOTES [-] NOTED THUS

M1 NO DUCTWORK OR PIPING SHALL EXTEND OVER ELECTRICAL PANEL.
M3 INSTALL TRANSFER DUCT WITH 1" INTERNAL ACOUSTICAL LINING WITH TWO 90 DEGREE ELBOWS. TERMINATE WITH OPEN END DUCT ABOVE THE CEILING. REFER TO PLANS FOR DUCT SIZE.
M8 BELL MOUTH OPENING WITH WIRE MESH SCREEN. ALL RETURN DUCTWORK SHALL BE INTERNALLY LINED
M11 CONDENSATE PIPING TO DISCHARGE ON GRADE. PROVIDE SPLASH BLOCK.
M15 CO□ SENSOR TO BE INTERLOCKED WITH MODULATING FRESH AIR CONTROLS. REFER TO SEQUENCE IN VAV / FTU / RTU SCHEDULE.
M16 PROVIDE 36" CLEARANCE IN FRONT SERVICE SIDE OF THE UNIT.
M18 INSTALL 3 FEET LONG SOUND ATTENUATOR, PRICE INDUSTRIES, MODEL RH36. 0.05" PRESSURE DROP.
4 M19 INSTALL INTERNAL ACOUSTICAL LINING ON THE SUPPLY DUCT FOR THE FIRST 10 FEET DOWNSTREAM OF THIS TERMINAL. FOR EXPOSED DUCTS, THE LINING SHALL BE 1.5" WITH NO EXTERNAL INSULATION. FOR CONCEALED DUCTS, 1" LINING WITH EXTERNAL INSULATION. LINER TO BE JOHNS MANVILLE LINACOUSTIC RC, OR APPROVED EQUAL.
M21 PERIMETER SPACE OPEN TO RETURN AIR PLENUM ABOVE CEILING REFER TO ARCHITECTURAL PLANS.
M23 INSTALL ELBOW SOUND TRAPS. 16 GAUGE DUCTWORK FROM UNIT TO SOUND TRAP. INSTALL 1" ACOUSTICAL DUCT LINER FOR FIRST 10 FEET OF SUPPLY AND RETURN DUCT COMING FROM THE RTU.

KEY PLAN



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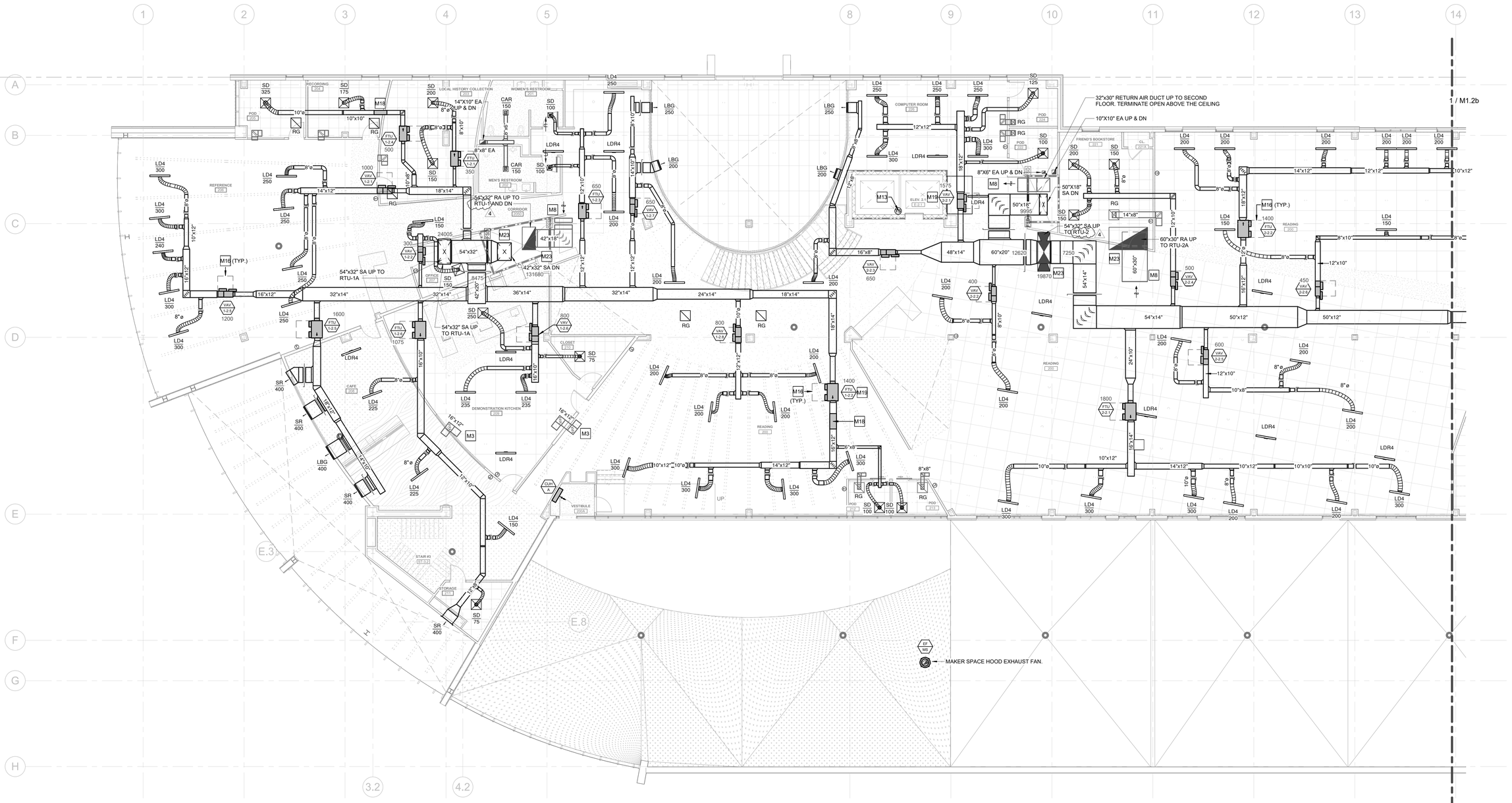
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DRAWN BY: RC
CHECKED BY: Checker
SCALE:AS NOTED

FIRST FLOOR NEW CONSTRUCTION PLAN AREA B-MECHANICAL

NO.	DESCRIPTION	DATE
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	DESIGN DEVELOPMENT	02/21/25
	BID & PERMIT	10/03/25
4	ADDENDUM #2	09/10/26

M1.1b

9/10/2026 2:40:58 PM



1 2ND FLR- NEW CONSTRUCTION PLAN- MECHANICAL - AREA A
1/8" = 1'-0"

MECHANICAL KEY NOTES [-] NOTED THUS

M3 INSTALL TRANSFER DUCT WITH 1" INTERNAL ACOUSTICAL LINING WITH TWO 90 DEGREE ELBOWS. TERMINATE WITH OPEN END DUCT ABOVE THE CEILING. REFER TO PLANS FOR DUCT SIZE.

M8 BELL MOUTH OPENING WITH WIRE MESH SCREEN. ALL RETURN DUCTWORK SHALL BE INTERNALLY LINED

M13 TEMPERATURE SENSOR TO BE INSTALLED AT TOP OF ELEVATOR SHAFT. TO CONTROL OPERATION OF ELEVATOR SHAFT VENT FAN. 95F SETPOINT (ADJUSTABLE). REFER TO SEQUENCE OF OPERATIONS.

M16 PROVIDE 36" CLEARANCE IN FRONT SERVICE SIDE OF THE UNIT.

M18 INSTALL 3 FEET LONG SOUND ATTENUATOR. PRICE INDUSTRIES, MODEL RHA6, 4.0IC PRESSURE DROP.

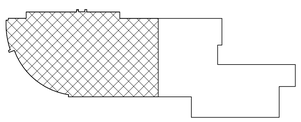
4 M19 INSTALL INTERNAL ACOUSTICAL LINING ON THE SUPPLY DUCT FOR THE FIRST 10 FEET DOWNSTREAM OF THIS TERMINAL. FOR EXPOSED DUCTS, THE LINING SHALL BE 1.5" WITH NO EXTERNAL INSULATION. FOR CONCEALED DUCTS, 1" LINING WITH EXTERNAL INSULATION. LINER TO BE JOHNS MANVILLE LINACOUSTIC RC, OR APPROVED EQUAL.

M23 INSTALL ELBOW SOUND TRAPS. 16 GAUGE DUCTWORK FROM UNIT TO SOUND TRAP. INSTALL 1" ACOUSTICAL DUCT LINER FOR FIRST 10 FEET OF SUPPLY AND RETURN DUCT COMING FROM THE RTU.

GENERAL MECHANICAL NOTES:

1. ALL DUCTWORK SIZES INDICATED ARE INSIDE DIMENSIONS UNLESS OTHERWISE NOTED.
2. DUCT SIZES INDICATED ON DRAWING ARE BASED AFTER THE LAST DIFFUSER AND/OR BRANCH TAKE-OFF.
3. CONTRACTOR TO PROVIDE A CLEAN OUT AT EVERY CHANGE IN DIRECTION OF A CONDENSATE LINE AND AT 25 FT. CENTERS.
4. RUN ALL CONDENSATE PIPING TO POINT OF DISCHARGE, PROVIDE REQUIRED AIR GAP AT DISCHARGE POINT, REFER TO PLANS & SPECIFICATIONS FOR SIZES AND REQUIREMENTS.
5. SHARP THROAT, RADIUS HEEL 90 DEGREE FITTINGS ARE UNACCEPTABLE. RADIUS ELBOWS (INNER AND OUTER) OR MITERED ELBOWS WITH TURNING VANES SHALL BE PROVIDED FOR ALL 90 DEGREE ELBOWS
6. ALL EXHAUSTS AND VENT TERMINALS MUST BE LOCATED AT LEAST 10'-0" FROM FRESH AIR INTAKE TERMINALS AND OPERABLE PORTIONS OF ANY WINDOW.
7. ALL OUTSIDE AIR DUCTWORK SHALL HAVE MINIMUM 2" EXTERNAL FIBERGLASS DUCTWRAP INSULATION.
8. THE FIRST 10'-0" OF RETURN DUCTWORK FROM THE AIR HANDLER SHALL HAVE 1" OF INTERNAL ACOUSTICAL LINING.
9. EXHAUST AIR DUCTWORK SHALL NOT BE INSULATED UNLESS EXTENDING THROUGH UNCONDITIONED SPACES. PROVIDE 1 1/2" DUCTWRAP THROUGH UNCONDITIONED SPACES.
10. CEILINGS ARE USED AS RETURN AIR PLENUMS. NO PVC IS ALLOWED.
11. ALL CONCEALED SUPPLY DUCTWORK SHALL BE EXTERNALLY INSULATED. REFER TO SPECIFICATIONS FOR INSULATION TYPE AND THICKNESS.
    A. EXPOSED DUCTWORK SHALL BE PROVIDED WITH INTERNAL LINING AND NO EXTERIOR INSULATION. EXPOSED DUCT SHALL BE PAINTED BLACK.
12. LIMIT FLEXIBLE DUCT TO 3 FEET MAX. ON EXPOSED CEILINGS.
13. REFER TO THE SECTION 230933 OF THE SPECIFICATIONS FOR THE EQUIPMENT SEQUENCE OF OPERATIONS.

KEY PLAN



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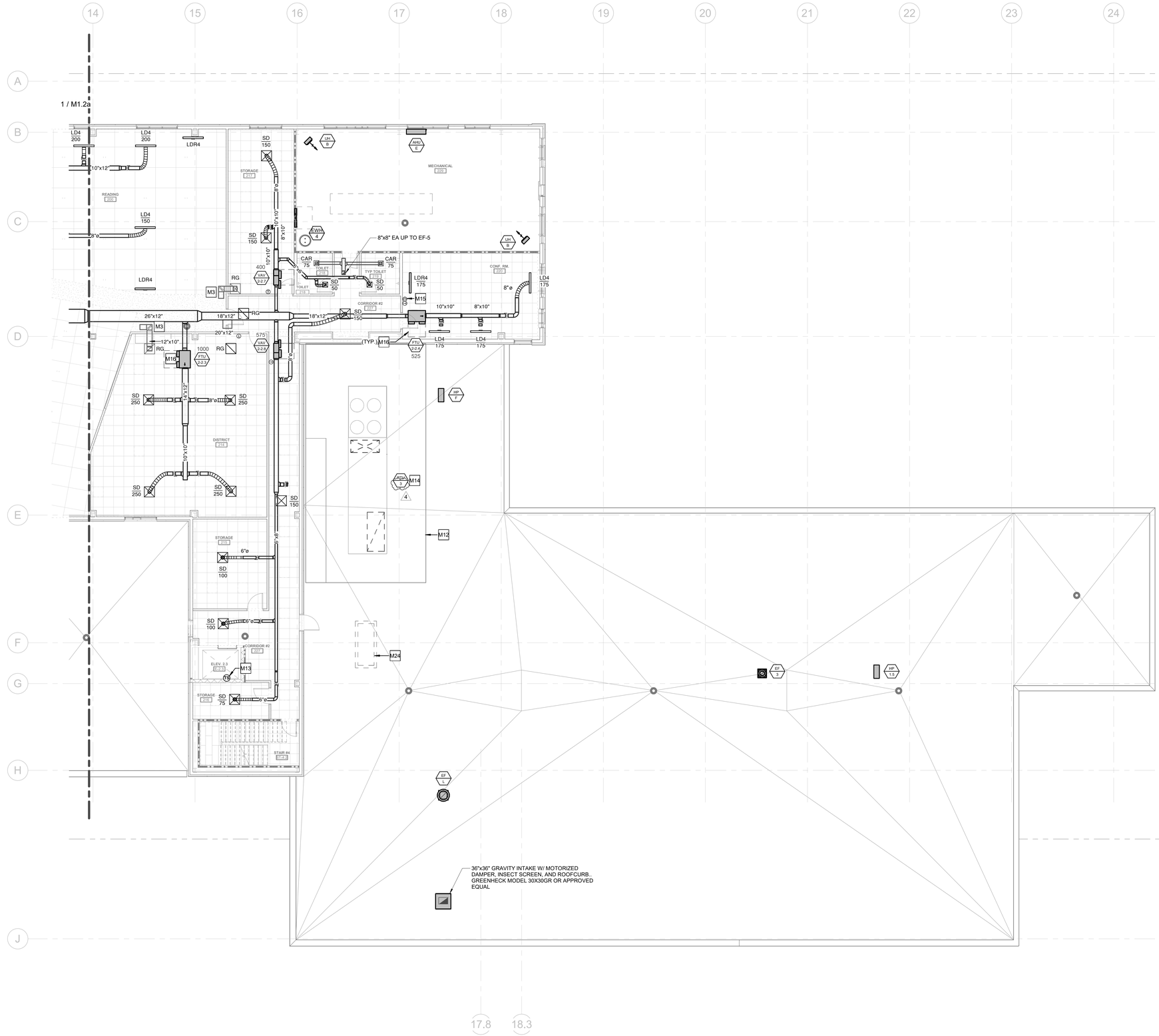
CONSTRUCTION ISSUE DATE:
DRAWN BY: RC
CHECKED BY: Checker
SCALE:AS NOTED

SECOND FLOOR NEW CONSTRUCTION PLAN AREA A- MECHANICAL

NO.	DESCRIPTION	DATE
	SCHEMATIC DESIGN	10/25/24
	DESIGN DEVELOPMENT	02/21/25
	BID & PERMIT	10/03/25
4	ADDENDUM #2	09/10/26

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9/10/2026 2:41:08 PM



1 2ND FLR- NEW CONSTRUCTION PLAN- MECHANICAL - AREA B
1/8" = 1'-0"

GENERAL MECHANICAL NOTES:

1. ALL DUCTWORK SIZES INDICATED ARE INSIDE DIMENSIONS UNLESS OTHERWISE NOTED.
2. DUCT SIZES INDICATED ON DRAWING ARE BASED AFTER THE LAST DIFFUSER AND/OR BRANCH TAKE-OFF.
3. CONTRACTOR TO PROVIDE A CLEAN OUT AT EVERY CHANGE IN DIRECTION OF A CONDENSATE LINE AND AT 25 FT. CENTERS.
4. RUN ALL CONDENSATE PIPING TO POINT OF DISCHARGE, PROVIDE REQUIRED AIR GAP AT DISCHARGE POINT, REFER TO PLANS & SPECIFICATIONS FOR SIZES AND REQUIREMENTS.
5. SHARP THROAT, RADIUS HEEL 90 DEGREE FITTINGS ARE UNACCEPTABLE. RADIUS ELBOWS (INNER AND OUTER) OR MITERED ELBOWS WITH TURNING VANES SHALL BE PROVIDED FOR ALL 90 DEGREE ELBOWS
6. ALL EXHAUSTS AND VENT TERMINALS MUST BE LOCATED AT LEAST 10'-0" FROM FRESH AIR INTAKE TERMINALS AND OPERABLE PORTIONS OF ANY WINDOW.
7. ALL OUTSIDE AIR DUCTWORK SHALL HAVE MINIMUM 2" EXTERNAL FIBERGLASS DUCTWRAP INSULATION.
8. THE FIRST 10'-0" OF RETURN DUCTWORK FROM THE AIR HANDLER SHALL HAVE 1" OF INTERNAL ACOUSTICAL LINING.
9. EXHAUST AIR DUCTWORK SHALL NOT BE INSULATED UNLESS EXTENDING THROUGH UNCONDITIONED SPACES. PROVIDE 1 1/2" DUCTWRAP THROUGH UNCONDITIONED SPACES.
10. CEILINGS ARE USED AS RETURN AIR PLENUMS. NO PVC IS ALLOWED.
11. ALL CONCEALED SUPPLY DUCTWORK SHALL BE EXTERNALLY INSULATED. REFER TO SPECIFICATIONS FOR INSULATION TYPE AND THICKNESS.
    A. EXPOSED DUCTWORK SHALL BE PROVIDED WITH INTERNAL LINING AND NO EXTERIOR INSULATION. EXPOSED DUCT SHALL BE PAINTED BLACK.
12. LIMIT FLEXIBLE DUCT TO 3 FEET MAX. ON EXPOSED CEILINGS.

MECHANICAL ROOF NOTES:

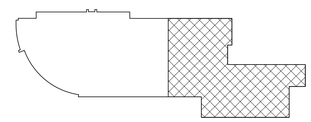
1A. REFER TO THE SECTION 230933 OF THE SPECIFICATIONS FOR THE EQUIPMENT SEQUENCE OF OPERATIONS.

1. ALL DUCTWORK SIZES ARE INSIDE DIMENSIONS UNLESS NOTED OTHERWISE.
2. ALL EXTERIOR DUCTWORK TO BE 4" WATERGAUGE DUCT CONSTRUCTION WITH 2" RIGID INSULATION AND WEATHERPROOF COVERING IN ADDITION TO 1" LINING. SEE SPEC.
3. ALL BOTTOM OF DUCTWORK TO BE MINIMUM 2'-0" ABOVE FINISHED ROOF.
4. ALL TOPS OF EXTERIOR DUCTWORK TO SLOPE SO NOT TO ALLOW WATER ACCUMULATION.
5. CONTRACTOR TO FURNISH AND INSTALL ROOF MOUNTED DUCT CURBS TO SUPPORT EXTERIOR DUCTWORK AT ALL CHANGES OF DIRECTION AND AT A MAXIMUM OF 8'-0" O.C. PATE OR EQUAL.
6. CONTRACTOR SHALL PAINT ALL EXPOSED DUCT SUPPORTS ONE COAT RUSTOLEUM PRIMER AND 2 FINISH COATS OF ENAMEL.
7. CONTRACTOR IS TO FURNISH AND INSTALL SUPPLEMENTAL GALVANIZED STEEL ANGLE DUCT SUPPORTS TO SUPPORT HIGH DUCTWORK. CONTRACTOR TO SECURE DUCTWORK TO SUPPORTS. CONTRACTOR TO FURNISH AND INSTALL ROOF PITCH POCKET AT EACH SUPPLEMENTAL STEEL SUPPORT AT ROOF OR PROVIDE PATE "PIPE-SEAL" ROOF CURB MOUNTING. CONTRACTOR TO FLASH ALL PITCH POCKET AND ROOF CURBS. ALL EXPOSED GALVANIZED DUCT SUPPORTS TO BE PAINTED ONE COAT RUSTOLEUM PRIMER AND 2 FINISH COATS OF ENAMEL.
8. CONTRACTOR TO FURNISH AND INSTALL NEW PIPE ROOF CURBS FOR ALL CONDUIT/POWER/CONTROLS/REFRIGERANT PIPING PENETRATIONS THROUGH THE ROOF. REFER TO ROOF PENETRATION DETAIL FOR ADDITIONAL INFORMATION.
9. REFRIGERANT PIPING SUPPORTS SHALL BE LOCATED NO FURTHER APART THAN 48" ON CENTER. REFER TO DETAILS.
10. LOCATE CONDENSING UNITS/HEAT PUMPS ON SECURED BASES WITH NEOPRENE PADS UNDERNEATH EACH AS A MINIMUM. UNITS MUST BE SECURED TO ROOF TO MEET WIND-LOAD AND SEISMIC REQUIREMENTS UNLESS WEIGHT IS DEMONSTRATED TO PROVIDE ADEQUATE STABILITY.
11. ANY PENETRATIONS TO THE ROOF MUST BE DONE IN ACCORDANCE WITH THE ROOFING WARRANTY SPECIFICATIONS. FOR EXISTING ROOFS, CONTRACTOR MUST CONTACT THE WARRANTING ROOFING CONTRACTOR OF THE EXISTING ROOF. PROVIDE ALL SEALING AND FLASHING REQUIRED.
12. NO EQUIPMENT SHALL BE LOCATED WITHIN 10'-0" OF ROOF EDGES UNLESS GUARDS OR HIGH PARAPET WALLS EXIST OR ARE INSTALLED.
13. PERMANENT ACCESS SHALL BE PROVIDED TO ANY ROOF WHERE EQUIPMENT IS LOCATED. REFER TO ARCHITECTURAL PLANS FOR DETAILS.
14. INSTALL ALL EQUIPMENT SUCH THAT MANUFACTURER'S RECOMMENDED CLEARANCES ARE KEPT AND AT LEAST 10'-0" BETWEEN ANY INTAKE AND EXHAUST/VENT.ZE
15. ALL ROOFTOP DIRECT-VENT TERMINALS SHALL TERMINATE A MINIMUM OF 24" ABOVE THE ROOF TO ALLOW FOR SNOW LOAD. DIRECT VENT TERMINALS SHALL BE SPACED FROM EACH OTHER IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AND NEVER LESS THAN 12" APART.
16. REFER TO REFRIGERANT PIPING NOTES AND DETAILS FOR FURTHER ROOFTOP REQUIREMENTS.

MECHANICAL KEY NOTES [-] NOTED THUS

M3	INSTALL TRANSFER DUCT WITH 1" INTERNAL ACOUSTICAL LINING WITH TWO 90 DEGREE ELBOWS. TERMINATE WITH OPEN END DUCT ABOVE THE CEILING. REFER TO PLANS FOR DUCT SIZE.
M12	ROOFTOP UNIT SCREEN. ATTACHED TO THE UNIT, ALL ALUMINUM VENTED LOUVER PANELS. MANUFACTURER: ENVISOR. COLOR TO BE SELECTED BY ARCHITECT.
M13	TEMPERATURE SENSOR TO BE INSTALLED AT TOP OF ELEVATOR SHAFT. TO CONTROL OPERATION OF ELEVATOR SHAFT VENT FAN. 95F SETPOINT (ADJUSTABLE). REFER TO SEQUENCE OF OPERATIONS.
M14	PROVIDE RTU WITH A HUSHCORE DECK SYSTEM IN-CURB ACOUSTICAL TREATMENT. MODEL DS-53. REFER TO DETAIL.
M15	CO2 SENSOR TO BE INTERLOCKED WITH MODULATING FRESH AIR CONTROLS. REFER TO SEQUENCE IN VAV / FTU / RTU SCHEDULE.
M16	PROVIDE 36" CLEARANCE IN FRONT SERVICE SIDE OF THE UNIT.
M24	GENERATOR FLUE EXHAUST TO TERMINATE AT LEAST 10 FEET AWAY (HORIZONTALLY) AND 3 FEET ABOVE THE ROOFTOP OUTSIDE AIR INTAKE.

KEY PLAN



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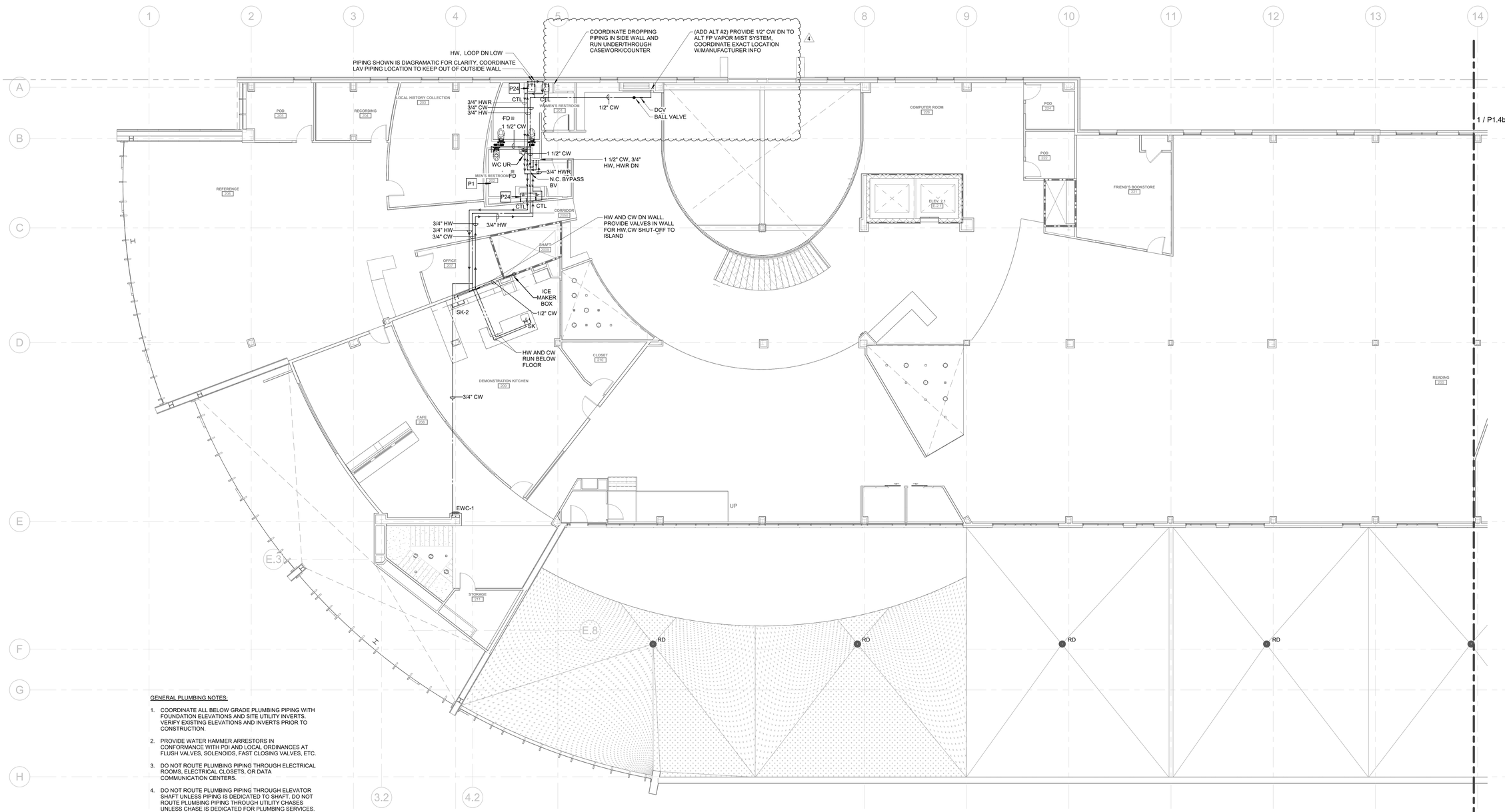
CONSTRUCTION ISSUE DATE:
DRAWN BY: RC
CHECKED BY: Checker
SCALE: AS NOTED

SECOND FLOOR NEW CONSTRUCTION PLAN AREA B- MECHANICAL

NO.	DESCRIPTION	DATE
	SCHEMATIC DESIGN	10/25/24
	DESIGN DEVELOPMENT	02/21/25
	BID & PERMIT	10/03/25
4	ADDENDUM #2	09/10/26

M1.2b

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GENERAL PLUMBING NOTES:

1. COORDINATE ALL BELOW GRADE PLUMBING PIPING WITH FOUNDATION ELEVATIONS AND SITE UTILITY INVERTS. VERIFY EXISTING ELEVATIONS AND INVERTS PRIOR TO CONSTRUCTION.
2. PROVIDE WATER HAMMER ARRESTORS IN CONFORMANCE WITH PDI AND LOCAL ORDINANCES AT FLUSH VALVES, SOLENOIDS, FAST CLOSING VALVES, ETC.
3. DO NOT ROUTE PLUMBING PIPING THROUGH ELECTRICAL ROOMS, ELECTRICAL CLOSETS, OR DATA COMMUNICATION CENTERS.
4. DO NOT ROUTE PLUMBING PIPING THROUGH ELEVATOR SHAFT UNLESS PIPING IS DEDICATED TO SHAFT. DO NOT ROUTE PLUMBING PIPING THROUGH UTILITY CHASES UNLESS CHASE IS DEDICATED FOR PLUMBING SERVICES.
5. PROVIDE SHUT OFF VALVES CLOSE TO MAINS ON EACH BRANCH AND RISER SERVING PLUMBING FIXTURES, CASEWORK OR EQUIPMENT. PROVIDE SHUT OFF VALVES ON EACH WATER SUPPLY TO PLUMBING FIXTURES THAT DO NOT HAVE SUPPLY STOPS. PROVIDE ACCESS PANELS FOR ALL VALVES.
6. PROVIDE CLOSED CELL MOLDED VINYL INSULATION ON EXPOSED ADA LAVATORY DRAINS, TRAPS, AND SUPPLIES.
7. COORDINATE LOCATIONS OF FLOOR DRAINS WITH ARCHITECTURAL PLANS.
8. PROVIDE CLEANOUTS AT THE BASE OF ALL RAINWATER CONDUCTORS AND SANITARY WASTE STACKS, AT EVERY CHANGE IN DIRECTION AND 50'-0" ON CENTER FOR STRAIGHT LENGTHS.
9. PROVIDE VENT LIMITERS ON ALL NATURAL GAS PRESSURE REGULATORS.
10. THE CONTRACTOR SHALL PROVIDE BALANCING VALVES ON ALL BRANCHES OF THE DOMESTIC HOT WATER RETURN SYSTEM, BALANCE THE SYSTEM, AND PROVIDE BALANCING REPORT TO THE OWNER/ENGINEER FOR RECORD. ALL HOT WATER BALANCING VALVES SHALL BE SET TO 1 GPM UNLESS OTHERWISE NOTED.
11. PROVIDE LOW POINT DRAIN VALVES WITH HOSE CONNECTIONS ON EACH FLOOR. LOCATE WHERE SERVICE MAINS CONNECT TO RISERS IN VALVE CLOSETS OR JANITOR'S CLOSETS. PROVIDE BLUE AND RED CIELING MARKERS ON DROP CIELINGS.
12. REFER TO DOMESTIC WATER AND SANITARY RISER DIAGRAMS FOR ADDITIONAL PIPE SIZE INFORMATION.
13. REFER TO STORM WATER RISER DIAGRAMS FOR ADDITIONAL PIPE SIZE INFORMATION.
14. REFER TO NATURAL GAS RISER DIAGRAMS FOR ADDITIONAL PIPE SIZE INFORMATION.
15. PROVIDE ASSE 1070 MIXING VALVE AT ALL PUBLIC LAVATORIES AND HAND SINKS.
16. CEILINGS ARE USED AS RETURN AIR PLENUMS. NO PVC IS ALLOWED.

1 2ND FLR- NEW CONSTRUCTION PLAN- DOMESTIC WATER & GAS- AREA A

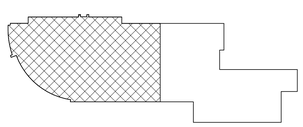
1/8" = 1'-0"

PLUMBING KEYNOTES [-] NOTED THUS

P1 INSULATE ALL SANITARY AND DOMESTIC WATER PIPING ABOVE THE BATHROOM CEILING

P24 PROVIDE ASSE 1070 MIXING VALVE AT ALL PUBLIC LAVS

KEY PLAN



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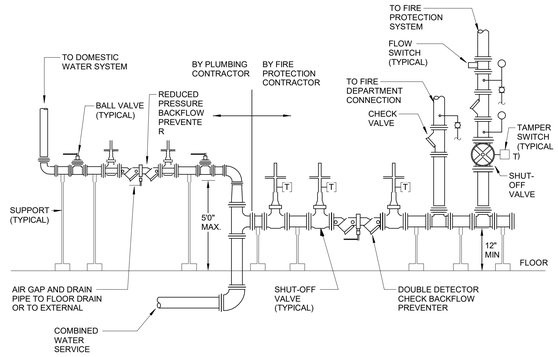
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SCALE:AS NOTED

SECOND FLOOR NEW CONSTRUCTION PLAN AREA A: DOMESTIC WATER & GAS

NO.	DESCRIPTION	DATE
	SCHEMATIC DESIGN	10/25/24
	DESIGN DEVELOPMENT	02/21/25
	BID & PERMIT	10/03/25
4	ADDENDUM #2	09/10/26

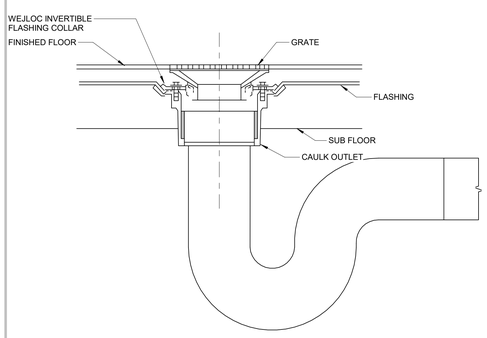
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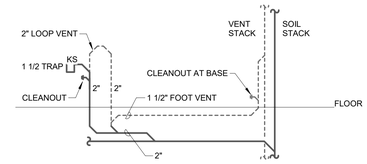
NOTES:
1. BACKFLOW PREVENTERS TO BE SET A MINIMUM OF 12" FROM FLOOR TO THE LOWEST PART OF DEVICE. AND A MAXIMUM OF 5'-0" FROM THE FLOOR TO THE TOP OF DEVICE. AND 12" FROM ANY WALL.
2. CONTRACTOR TO PROVIDE PRESSURE REDUCING VALVE IF PRESSURE EXCEEDS 80 PSI.
3. CONTRACTOR TO COORDINATE INSTALLATION REQUIREMENTS WITH LOCAL UTILITY COMPANY.

1 FIRE/DOMESTIC WATER COMBINED SERVICE DETAIL
12" = 1'-0"

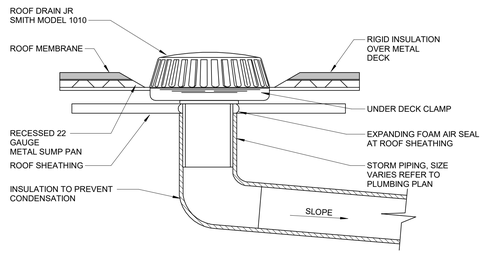


NOTE:
1. CONTRACTOR TO PROVIDE TRAP PRIMER. REFER TO TRAP PRIMER DETAIL FOR MORE INFORMATION.

2 FLOOR DRAIN DETAIL
SCALE: NONE

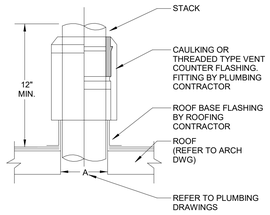


3 ISLAND SINK DETAIL
SCALE: NONE



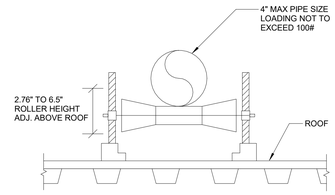
NOTE:
1. PROVIDE A 2"-6" DAM FOR ALL OVERFLOW DRAINS.

4 ROOF DRAIN DETAIL
12" = 1'-0"



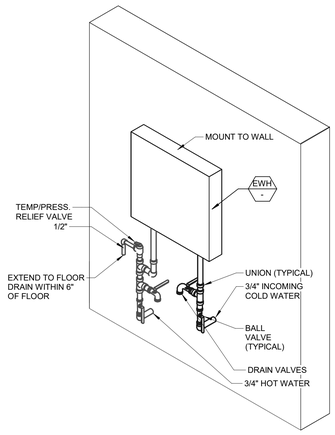
NOTES:
FITTING IS OF THE COUPLING TYPE THAT PERMITS STACK EXTENSION TO THE DESIRED HEIGHT. COUNTER FLASHING FITTING. J.R. SMITH FIG. 1740C OR 1750T.

5 ROOF VENT DETAIL
12" = 1'-0"



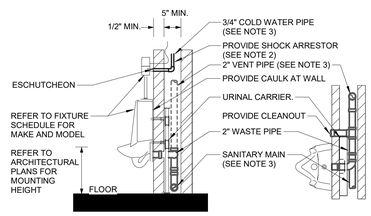
GAS PIPING NOTE:
1. SUPPORT AS MANUFACTURED BY MIRO INDUSTRIES. MODEL 4-RAH (IF NO ADJUSTMENTS IS REQUIRED AND 2" PIPE CLEARANCE IS ACCEPTABLE USE MODEL 4R) MAX SPACING OF SUPPORTS, 10'-0".
2. ALL PIPING AND HANGERS SHALL BE CLEAN AND FREE OF FOREIGN MATTER AND COATED WITH RED. LEAD PIGMENTED PRIMER AND TWO COATS OF HIGH GLOSS ALKTO ENAMEL (COLOR BY ARCHITECT).
3. PROVIDE SUPPORT AT 10'-0" O.C. FOR 1 1/4" AND LARGER AND AT ALL FITTINGS.
4. PROVIDE SUPPORT AT 8'-0" O.C. FOR 3/4" AND 1" AND AT ALL FITTINGS.
5. PROVIDE SUPPORT AT 6'-0" O.C. FOR 1/2" AND AT ALL FITTINGS.
6. PIPE SHALL BE MOUNTED NO LESS THAN 6" ABOVE GRADE OR ROOF SURFACE.

6 GAS PIPE SUPPORT ON ROOF 4" OR SMALLER PIPE SIZE
SCALE: NONE



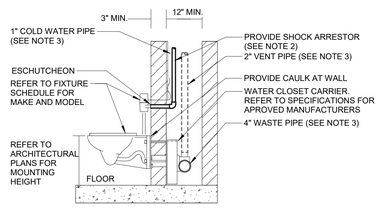
ELECTRIC TANKLESS WATER HEATER – 240V, 36.0 KW, 6.0 GRPM AT 41°F RISE, 4.0 GPM @ 62°F RISE, 5 YEAR HEATING CHAMBER WARRANTY. RHEEM "RTEX-36" SERIES OR PRIOR APPROVED EQUAL.

7 ELECTRIC INSTANTANEOUS WATER HEATER DETAIL
12" = 1'-0"



NOTES:
1. COORDINATE ELECTRICAL CONNECTIONS WITH ELECTRICAL CONTRACTOR FOR HARDWIRED FLUSH VALVES.
2. REFER TO DOMESTIC WATER RISER DIAGRAM FOR SHOCK ARRESTOR LOCATIONS. ALL SHOCK ARRESTORS SHALL BE ACCESSIBLE FOR REPLACEMENT. COORDINATE ACCESS LOCATION WITH ARCHITECT.
3. REFER TO FLOOR PLANS FOR CONTINUATION OF PIPING.
4. PROVIDE CLEANOUT FOR URINAL.
5. COODINATE FINAL CHASE SIZE WITH ARCHITECT.
6. MOUNTING HEIGHT FOR ADA URINALS SHALL BE A MAXIMUM OF 17".
7. REFER TO SPECIFICATIONS FOR APPROVED MANUFACTURERS FOR URINAL CARRIERS.

8 WALL HUNG URINAL DETAIL
12" = 1'-0"



NOTES:
1. COORDINATE ELECTRICAL CONNECTIONS WITH ELECTRICAL CONTRACTOR FOR HARDWIRED FLUSH VALVES.
2. REFER TO DOMESTIC WATER RISER DIAGRAM FOR SHOCK ARRESTOR LOCATIONS. ALL SHOCK ARRESTORS SHALL BE ACCESSIBLE FOR REPLACEMENT. COORDINATE ACCESS LOCATION WITH ARCHITECT.
3. REFER TO FLOOR PLANS FOR CONTINUATION OF PIPING.
4. WALL MATERIAL AND CARRIER CAN AFFECT MINIMUM CHASE SIZE. COODINATE FINAL CHASE SIZE WITH ARCHITECT.
5. MOUNTING HEIGHT FOR ADA WATER CLOSET SHALL BE 17"-19" TO THE TOP OF THE SEAT.

9 WALL HUNG WATER CLOSET DETAIL
12" = 1'-0"

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DETAILS- PLUMBING

NO.	DESCRIPTION	DATE
	SCHEMATIC DESIGN	10/25/24
	DESIGN DEVELOPMENT	02/21/25
	BID & PERMIT	10/03/25
4	ADDENDUM #2	09/10/26

P2.2

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ABBREVIATIONS

AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AGF	AIR GAP FITTING
AHU	AIR HANDLING UNIT
AMP	AMPERE
APPROX	APPROXIMATE
AV	ACID VENT
AVG	AVERAGE
B.O.P.	BOTTOM OF PIPE
B.F.F.	BELOW FINISHED FLOOR
BFV	BUTTERFLY VALVE
BHP	BRAKE HORSEPOWER
BLV	BALANCING VALVE
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
BWV	BACKWATER VALVE
CA	COMPRESSED AIR
C TO C	CENTER TO CENTER
C/D	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CI	CAST IRON
CISP	CAST IRON SOIL PIPE
CLG	CEILING
CO	CLEANOUT
COL	COLUMN
COND	CONDENSATE
CONN	CONNECTION
CONT	CONTINUED
CONTR	CONTRACTOR
CU FT	CUBIC FEET
CU IN	CUBIC INCH
CV	CHECK VALVE
CW	COLD WATER (DOMESTIC)
DB	DECIBEL
DCBP	DOUBLE CHECK BACKFLOW PREVENTER
DD	DECK DRAIN
DEG	DEGREE
DI	DEIONIZED WATER
DIA	DIAMETER
DIS	DISTILLED WATER
DISCH	DISCHARGE
DN	DOWN
DP	DEEP
DSP	DRY STANDPIPE
DVC	DRY VACUUM CLEANING
DWG	DRAWING
(E)	EXISTING
(ED)	EXISTING TO BE DEMOLISHED
(ER)	EXISTING TO BE RELOCATED
EFF	EFFICIENCY
EFL	EFFLUENT
EL	ELEVATION
ELEC	ELECTRICAL
EQ	EQUAL
EQUIP	EQUIPMENT
EWT	ENTERING WATER TEMPERATURE
EXT	EXTERIOR
°F	DEGREE FAHRENHEIT
F	FIRE PROTECTION WATER SUPPLY
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FHC	FIRE HOSE CABINET
FHV	FIRE HOSE VALVE
FIN	FINISH
FF	FINISHED FLOOR
FLR	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOW SWITCH
FT	FEET
FU	FIXTURE UNIT
FV	FLUSH VALVE
G	NATURAL GAS
GA	GAUGE
GAL	GALLONS
GALV	GALVANIZED
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GRD	GROUND
HC	HANDICAP
HD	HEAD
HP	HORSEPOWER
HR	HOUR
HS	HOSE STATION
HT	HEIGHT
HTR	HEATER
HVAC	HEATING VENTILATION AIR CONDITIONING
HZ	FREQUENCY-ELECTRICAL
ID	INSIDE DIAMETER
ID	INDIRECT DRAIN
IE	INVERT ELEVATION
IW	INDIRECT WASTE
KW	KILOWATT
KWH	KILOWATT HOUR
LAV	LAVATORY
LBS	POUNDS
LF	LINEAR FEET
LL	LOW LEVEL
LP	LIQUID PROPANE
MAX	MAXIMUM
MBH	1000 BTU
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
(N)	NEW
NA	NOT APPLICABLE
NC	NOISE CRITERIA
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
N.O.	NUMBER
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OED	OPEN END DUCT
PG	PRESSURE GAUGE
PH	PHASE-ELECTRICAL
PIV	POST INDICATOR VALVE
PLBG	PLUMBING
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE PIPE
PEX	CROSS LINKED POLYETHYLENE
QT	QUART
(R)	REMOVE EXISTING
(RE)	RELOCATE EXISTING
REQ	REQUIRED
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RR	RETURN AIR REGISTER
RPZ	REDUCED PRESSURE ZONE BFP
SA	SHOCK ABSORBER
SCH	SCHEDULE
SF	SQUARE FEET
SH	SHOWER
SP	STANDPIPE
SPEC	SPECIFICATION
SPR	SPRINKLER
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STR	STRAINER
SUCT	SUCTION
T&P	TEMPERATURE & PRESSURE RELIEF VALVE
TEMP	TEMPERATURE
THERM	THERMOMETER
T.O.P	TOP OF PIPE
TP	TRAP PRIMER
TYP	TYPICAL
UL	UNDERWRITER'S LABORATORY
UTIL	UTILITY
VAC	VACUUM
VB	VACUUM BREAKER
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
VOL	VOLUME
VPC	VIA PHOTOCELL
VTC	VIA TIME CLOCK
W/	WITH
WP	WEATHERPROOF
W/O	WITHOUT

CONTRACTOR NOTE:

SPRINKLER FITTING SCHEDULE	
System	Material
WET PIPE SPRINKLER	• GALVANZIED AND UNCOATED COUPLINGS: ASTM A 865/A 865M THREADED • GALVANZIED AND UNCOATED, GRAY IRON THREADED FITTINGS ASME B16.4 CLASS 125 • MALLEABLE OR DUCTILE-IRON UNIONS UL 860 • CAST IRON FLANGES ASME B16.1 CLASS 125 • CPVC FITTINGS 3/4"- 1-1/2" ASTM F438 AND UL1821, SCHEDULE 40 • CPVC FITTINGS 2"- 3" ASTM F439 AND UL1821, SCHEDULE 80
DRY PIPE SPRINKLER	• GALVANZIED STEEL NIPPLES ASTM A 733 • GALVANZIED STEEL COUPLINGS ASTM A 865/A 865M THREADED • GALVANZIED GRAY IRON THREADED FITTINGS ASME B16.4 CLASS 125 • MALLIABLE OR DUCTILE IRON UNIONS UL 860 • CAST IRON FLANGES ASME B16.1 CLASS 125

SPRINKLER PIPING SCHEDULE	
System	Material
WET PIPE SPRINKLER	• STANDARD WEIGHT GALVANZIED AND BLACK STEEL ASTM A 53/A 53 • SCHEDULE 30 GALVANIZED AND BLACK STEEL ASTM A 135/A 135M • SCHEDULE 10 BLACK STEEL ASTM A135/A 135M • CPVC PIPE: ASTM F 442/F AND UL1821, SDR 13.5
DRY PIPE SPRINKLER	• STANDARD WEIGHT GALVANZIED STEEL ASTM A 53/A 53 M • SCHEDULE 30 GALVANZIED STEEL PIPE ASTM A 135/A 135M ASTM A 795/A 795M

GENERAL NOTES

1. ALL WORK TO BE IN CONFORMANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION AND LOCAL CODE HAVING JURISDICTION. NOT ALL CODE REQUIREMENTS HAVE BEEN DESCRIBED IN THIS SPECIFICATION OR INDICATED ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE CODES AND INSTALL THE WORK IN ACCORDANCE WITH CODES.
2. OBTAIN AND PAY FOR BUILDING PERMITS, INSPECTIONS, CONNECTION CHARGES, AND FEES.
3. THE CONTRACTOR IS TO SURVEY AND VERIFY ALL EXISTING CONDITIONS PRIOR TO BID SUBMISSION AND BECOME AWARE OF ALL CONDITIONS WHICH MAY IMPACT THE REQUIRED WORK. CONTRACTOR IS TO INCLUDE ALL ASSOCIATED COSTS (MATERIALS/ LABOR) DETERMINED TO BE REQUIRED DURING SITE INSPECTIONS. CONTRACTOR'S BID SUBMISSION IS TO BE CONSIDERED PROOF THAT THIS REQUIREMENT HAS BEEN MET.
4. DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE TAKEN AS A WHOLE. IF A CONFLICT OR CONTRADICTION EXISTS BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT WILL APPLY. THE ARCHITECT'S AND ENGINEER'S INTERPRETATION OF THE DOCUMENTS ARE TO BE BINDING UPON THE CONTRACTOR.
5. ALL WORK IS TO BE COORDINATED WITH, AND APPROVED BY THE OWNER PRIOR TO ANY SHUT-DOWNS. ALL REQUESTS ARE TO BE SUBMITTED, IN WRITING, TO THE OWNER 24, TO 48 HOURS PRIOR TO REQUESTED DELETIONS.
6. COORDINATE LOCATIONS AND ROUGH-IN REQUIREMENTS WITH ALL TRADES PRIOR TO INSTALLATION.
7. COORDINATE ALL ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR PRIOR TO PURCHASING EQUIPMENT. VERIFY ALL VOLTAGE AND AMPERE REQUIREMENTS FOR FEEDERS, AND MOCP DEVICES.
8. ALL EXTERIOR WALL/ ROOF PENETRATIONS ARE TO BE SEALED, AIR, AND WATER-TIGHT. ALL PIPING PASSING THROUGH WALL, OR FLOOR PENETRATIONS IS TO HAVE SLEEVES. ALL WALL, OR FLOOR-RATED PENETRATIONS ARE TO BE SEALED WITH FIRE-RATED SEALANT FORMED IN PLACE (BY 3M OR HILTI).
9. PROVIDE ALL ACCESS DOORS FOR ALL VALVES, DEVICES, CONTROLLERS, ETC. WHICH MAY REQUIRE SERVICE. ALL ACCESS PANELS ARE BE 16 GAUGE STEEL FRAME, 20 GAUGE HINGED DOOR, LOCKABLE, AND FIRE-RATED (WHEN INSTALLED IN RATED WALLS, FLOORS, "B" LABEL, 1-1/2 HOURS). FINISH AS SELECTED BY THE ARCHITECT.
10. SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT TO BE REVIEWED BY THE ENGINEER PRIOR TO ORDERING. COORDINATE ALL ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR, AND PHYSICAL DIMENSIONS PRIOR TO SHOP DRAWING SUBMISSION.
11. ALL WORK TO BE CONCEALED UNLESS OTHERWISE INDICATED.
12. FINAL LOCATIONS OF ALL ACCESS PANELS, ETC. IN FINISHED SPACES SHALL BE COORDINATED AND APPROVED BY THE ARCHITECT/OWNER PRIOR TO ROUGH-IN AND INSTALLATION.
13. NO PVC PIPING IS PERMITTED IN RETURN AIR PLENUMS.
14. THE CONTRACTOR IS TO COORDINATE HIS WORK, AND THE WORK OF HIS SUB-CONTRACTORS TO ENSURE THAT ALL OF THE WORK IS COMPLETE AND OPERATIONAL. THE CONTRACTOR IS TO PROVIDE COMPLETE COORDINATION DRAWINGS, INCLUDING ALL TRADES (MECHANICAL, ELECTRICAL, AND FIRE PROTECTION). THE CONTRACTOR IS TO COORDINATE ALL CONNECTIONS TO SITE CIVIL WORK PRIOR ATO STARTING WORK.
15. THE CONTRACTOR IS TO PROVIDE MANUFACTURER'S START-UP OF ALL EQUIPMENT, AND SYSTEMS.
16. PROPERLY INSTRUCT OWNER'S PERSONNEL IN THE OPERATION AND MAINTENANCE OF ALL SYSTEMS AND EQUIPMENT. PROVIDE THREE INSTRUCTION AND MAINTENANCE MANUALS. SUBMIT MANUALS FOR REVIEW PRIOR TO OPERATING INSTRUCTION.
17. COORDINATE LOCATIONS AND ROUGH-IN REQUIREMENTS WITH ALL TRADES PRIOR TO INSTALLATION.
18. IF THE CONTRACTOR ELECTS TO SUBMIT ALTERNATE EQUIPMENT, MANUFACTURERS, SYSTEMS, METHODS, OR MATERIALS NOT SPECIALLY IDENTIFIED IN THE DRAWINGS AND SPECIFICATIONS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE WORK WITH OTHER TRADES AND PAY FOR ANY ADDITIONAL COSTS ASSOCIATED WITH THE SUBSTITUTION OR CHANGE.
19. PROVIDE ONE SET OF ELECTRONIC AS-BUILT DRAWINGS AT COMPLETION OF WORK. SUBMIT TO OWNER AND ENGINEER FOR REVIEW AND APPROVAL.

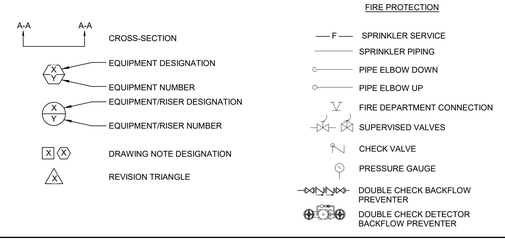
SPRINKLER NOTE:

SPRINKLER NOTES:

1. SPRINKLER CONTRACTOR SHALL DESIGN, FURNISH, AND INSTALL A SPRINKLER SYSTEM THROUGHOUT THE BUILDING IN ACCORDANCE WITH NFPA-13.
2. SPRINKLER SYSTEM SHALL BE DESIGNED PER NFPA-13 LIGHT HAZARD OCCUPANCY EXCEPT WHERE DICTATED BY NFPA-13 TO BE ORDINARY HAZARD.
3. PROVIDE DRY SPRINKLER HEADS IN AREAS SUBJECT TO FREEZING.
4. ALL WET SPRINKLER PIPING SHALL BE LOCATED WITHIN BUILDING ENVELOPE.
5. PROVIDE A DRY PIPE SYSTEM FOR AREAS OUTSIDE THE BUILDING ENVELOPE AND UNCONDITIONED SPACES. (UNDER STRUCTURE PARKING, LOADING DOCK ETC...)
6. SPRINKLER SHOP DRAWINGS AND HYDRAULIC CALCULATIONS SHALL BE SUBMITTED FOR APPROVAL TO THE LOCAL FIRE MARSHALL (AUTHORITY HAVING JURISDICTION).
7. SPRINKLER HEADS IN AREAS WITH UNFINISHED CEILINGS SHALL BE STANDARD BRASS UPRIGHT TYPE.
8. SPRINKLER HEADS IN FINISHED PUBLIC AREAS SHALL BE CONCEALED. SPRINKLER HEADS IN AREAS WITHOUT A CEILING SHALL BE PENDANT TYPE. WHEN SPRINKLER HEADS LAND IN DECORATIVE CEILINGS COLOR IS TO BE SELECTED BY ARCHITECT FROM FULL COLOR RANGE.
9. CONTRACTOR TO PROVIDE 10 PSI FACTOR OF SAFETY.

STREET PRESSURE HYDRANT TEST AT SWEDE STREET NEAR POWELL STREET, NORRISTOWN PA.
FLOW TEST INFO: - 70 PSI STATIC, 17 PSI RESIDUAL, 600 GPM.
NEW SWEDE STREET MAIN FLOW TEST PENDING.

DRAWING SYMBOLS:



FIRE PROTECTION DESIGN CRITERIA

SPRINKLER SYSTEM DESIGN SHALL BE APPROVED BY AUTHORITIES HAVING JURISDICTION AND BUILDING OWNER'S INSURANCE UNDERWRITER. DESIGN AND INSTALL FIRE SUPPRESSION SYSTEMS IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS:

- 2021 INTERNATIONAL BUILDING CODE
- NFPA-13 STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS (2019 EDITION)

MARGIN OF SAFETY FOR AVAILABLE WATER FLOW AND PRESSURE: 10 PERCENT, INCLUDING LOSSES THROUGH WATER-SERVICE PIPING, VALVES, AND BACKFLOW PREVENTERS.

SPRINKLER OCCUPANCY HAZARD CLASSIFICATIONS:
- AUTOMOBILE PARKING AREAS: ORDINARY HAZARD, GROUP 1.
- BUILDING SERVICE AREAS: ORDINARY HAZARD, GROUP 1.
- ELECTRICAL EQUIPMENT ROOMS: ORDINARY HAZARD, GROUP 1.
- DRY CLEANERS: ORDINARY HAZARD, GROUP 2
- GENERAL STORAGE AREAS: ORDINARY HAZARD, GROUP 1.
- LIBRARIES EXCEPT STACK AREAS: LIGHT HAZARD.
- LIBRARY STACK AREAS: ORDINARY HAZARD, GROUP 2.
- MACHINE SHOPS: ORDINARY HAZARD, GROUP 2.
- MECHANICAL EQUIPMENT ROOMS: ORDINARY HAZARD, GROUP 1.
- OFFICE AND PUBLIC AREAS: LIGHT HAZARD.

MINIMUM DENSITY FOR AUTOMATIC-SPRINKLER PIPING DESIGN:
- RESIDENTIAL OCCUPANCY: 0.05 GPM OVER 400-SQ. FT. AREA
- LIGHT HAZARD OCCUPANCY: 0.10 GPM OVER 1500-SQ. FT. AREA
- ORDINARY HAZARD, GROUP 1 OCCUPANCY: 0.15 GPM OVER 1500-SQ. FT. AREA
- ORDINARY HAZARD, GROUP 2 OCCUPANCY: 0.2 GPM OVER 1500-SQ. FT. AREA
- SPECIAL OCCUPANCY HAZARD: AS DETERMINED BY AUTHORITIES HAVING JURISDICTION

MAXIMUM PROTECTION AREA PER SPRINKLER: PER UL LISTING.

TOTAL COMBINED HOSE-STREAM DEMAND REQUIREMENT:
- LIGHT-HAZARD OCCUPANCIES: 100 GPM FOR 30 MINUTES.
- ORDINARY-HAZARD OCCUPANCIES: 250 GPM FOR 60 TO 90 MINUTES.

DRAWING LIST:

Drawing List- Fire Protection

Sheet Number	Sheet Name	DEMO PACKAGE PH 1 11/04/24	SCHEMATIC DESIGN 10/25/24	ADDENDUM 2 02/05/25	DESIGN DEVELOPMENT 02/21/25	50% PROGRESS SET 05/05/2025	75% PROGRESS SET 06/05/2025	BID & PERMIT SET 10/03/25	ADDENDUM #2 09/10/26	Current Revision	Current Revision Date	Current Revision Description
FP0.1	COVER SHEET- FIRE PROTECTION		•		•	•	•	•	•	4	09/10/26	ADDENDUM #2
FPD2.0a	GROUND FLOOR DEMOLITION PLAN AREA A- PH 2- FIRE PROTECTION		•		•	•	•	•				
FPD2.0b	GROUND FLOOR DEMOLITION PLAN AREA B- PH 2- FIRE PROTECTION		•		•	•	•	•				
FPD2.1a	FIRST FLOOR DEMOLITION PLAN AREA A- PH 2- FIRE PROTECTION		•		•	•	•	•				
FPD2.1b	FIRST FLOOR DEMOLITION PLAN AREA B- PH 2- FIRE PROTECTION		•		•	•	•	•				
FPD2.2a	SECOND FLOOR DEMOLITION PLAN AREA A- PH 2- FIRE PROTECTION		•		•	•	•	•				
FPD2.2b	SECOND FLOOR DEMOLITION PLAN AREA B- PH 2- FIRE PROTECTION		•		•	•	•	•				
FP1.0a	GROUND FLOOR NEW CONSTRUCTION PLAN AREA A- FIRE PROTECTION		•		•	•	•	•		3	04/10/26	CODE UPDATE CHANGES
FP1.0b	GROUND FLOOR NEW CONSTRUCTION PLAN- AREA B- FIRE PROTECTION					•	•	•				
FP1.1a	FIRST FLOOR NEW CONSTRUCTION PLAN AREA A- FIRE PROTECTION		•		•	•	•	•				
FP1.1b	FIRST FLOOR NEW CONSTRUCTION PLAN AREA B- FIRE PROTECTION		•		•	•	•	•				
FP1.2a	SECOND FLOOR NEW CONSTRUCTION PLAN AREA A- FIRE PROTECTION		•		•	•	•	•				
FP1.2b	SECOND FLOOR NEW CONSTRUCTION PLAN AREA B- FIRE PROTECTION		•		•	•	•	•				
FP2.1	DETAILS- FIRE PROTECTION						•	•	•	4	09/10/26	ADDENDUM #2

PROJECT DEDUCT/ADD ALTERNATES

1. THE CONTRACTORS SHALL PROVIDE ADD ALTERNATE PRICING FOR THE INSTALLATION OF A NEW FIRE PUMP.
2. MECHANICAL CONTRACTOR SHALL INCLUDE PRICING FOR THE INSTALLATION OF EXHAUST EQUIPMENT FOR (1) XX HP FIRE PUMP LOCATED IN MECHANICAL ROOM, ROOM XXX. CONTRACTOR SHALL COORDINATE WITH FIRE PROTECTION, PLUMBING, ELECTRICAL FOR ADDITIONAL INFORMATION.
3. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALTERNATE PRICING TO PROVIDE POWER TO THE FIRE PUMP ROOM FOR (1) XX HP FIRE PUMP, JOCKEY PUMP AND ALL ASSOCIATED MECHANICAL SYSTEMS REQUIRED. CONTRACTOR SHALL COORDINATE WITH MECHANICAL, PLUMBING, FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
4. THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE PRICING FOR THE INSTALLATION OF (1) XX HP FIRE PUMP AND ALL ASSOCIATED EQUIPMENT. COORDINATE WITH MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
5. THE PLUMBING CONTRACTOR SHALL PROVIDE ALTERNATE PRICING FOR ADDITIONAL DRAINS, GAS PIPING, ETC. REQUIRED FOR THE INSTALLATION OF (1) XX HP FIRE PUMP. COORDINATE WITH MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

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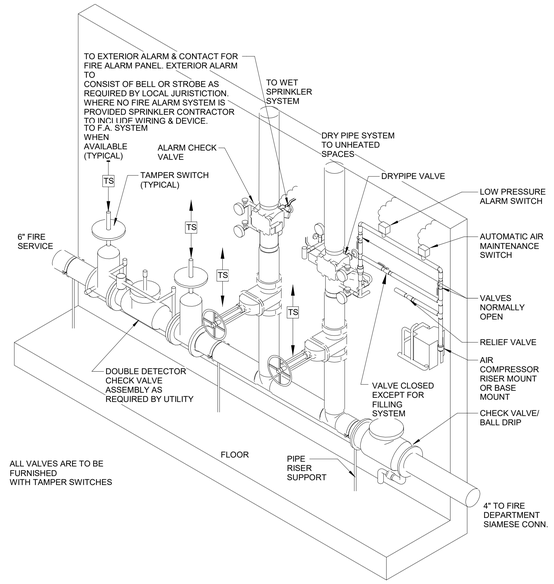
COVER SHEET- FIRE PROTECTION

NO.	DESCRIPTION	DATE
	SCHEMATIC DESIGN	10/25/24
	DEMO PACKAGE PH 1	11/04/24
	DESIGN DEVELOPMENT	02/21/25
	BID & PERMIT	10/03/25
4	ADDENDUM #2	09/10/26

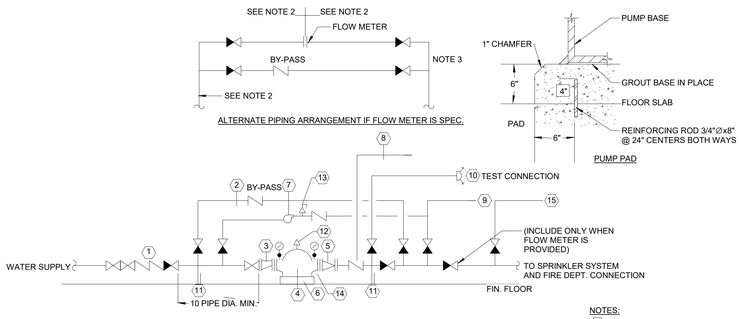
4 NEW SHEET

FP0.1

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3 SPRINKLER RISER DIAGRAM - WITH DRY PIPE VALVE
12" = 1'-0"



- DETAIL APPLIES TO HORIZONTAL SPLIT-CASE PUMP -

INSTALLATION TO CONFORM TO NFPA-20

FOR PIPE SIZING REFER TO TABLE 2-20, "SUMMARY OF FIRE PUMP" DATA.

OS&Y GATE VALVE OR INDICATING BUTTERFLY VALVE WITH TAMPER SWITCH BY SPRINKLER CONTRACTOR.

OS&Y GATE VALVE.

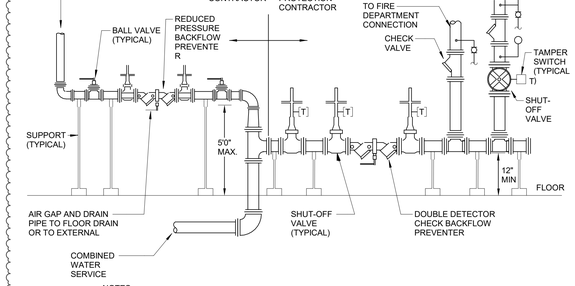
NOTES:

1. DISTANCE AS RECOMMENDED BY METER MANUFACTURER.
2. DISTANCE NOT LESS THAN 5" PIPE DIAMETER OF SUCTION PIPE FOR TOP OR BOTTOM SUCTION CONNECTION. SIDE CONNECTION NOT ACCEPTABLE.
3. AUTO AIR RELEASE IF PIPING FORMS INVERTED "U" TRAPPING AIR.
4. PROVIDE PRESSURE REDUCING VALVE WHERE PUMP DISCHARGE PRESSURE MAY EXCEED PIPE AND FITTING RATINGS.

NOTES:

(1) DOUBLE CHECK BACKFLOW PREVENTER ASSEMBLY (WHERE REQUIRED BY UTILITY).
(2) FULL SIZED BY-PASS WHERE CITY WATER PRESSURE PROVIDES LIMITED SUPPLY.
(3) ECCENTRIC TAPERED REDUCER WHERE PUMP SUCTION AND SUPPLY ARE NOT THE SAME.
(4) FIRE PUMP, FOR CAPACITY SEE SPECIFICATIONS.
(5) CONCENTRIC INCREASER WHERE PUMP DISCHARGE AND PIPING ARE NOT THE SAME.
(6) CONCRETE PAD, PUMP BASE GROUTED IN PLACE.
(7) JOCKEY PUMP.
(8) PIPING TO FIRE PUMP CONTROLLER PER NFPA-20 FIG. A-7-5-2.1(a).
(9) PIPING TO JOCKEY PUMP CONTROLLER PER NFPA FIG. A-7-5-2.1(a)(b).
(10) PUMP TEST HEADER ON EXTERIOR/REQUIRED 2 1/2" HOSE OUTLETS.
(11) PIPE SUPPORT.
(12) AIR RELEASE VALVE
(13) PRESSURE RELIEF VALVE WHERE REQUIRED.
(14) PROVIDE CASING PRESSURE RELIEF VALVE AND PIPING IF CHURN PRESSURE AND STATIC PRESSURE EXCEEDS 175 PSI.
(15) TO DRY PIPE SYSTEM

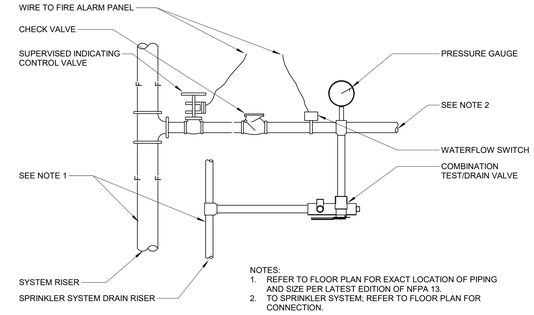
1 TYPICAL FIRE PUMP PIPING ARRANGEMENT
12" = 1'-0"



NOTES:
1. BACKFLOW PREVENTERS TO BE SET A MINIMUM OF 12" FROM FLOOR TO THE LOWEST PART OF DEVICE. AND A MAXIMUM OF 5'-0" FROM THE FLOOR TO THE TOP OF DEVICE. AND 12" FROM ANY WALL.
2. CONTRACTOR TO PROVIDE PRESSURE REDUCING VALVE IF PRESSURE EXCEEDS 80 PSI.
3. CONTRACTOR TO COORDINATE INSTALLATION REQUIREMENTS WITH LOCAL UTILITY COMPANY.

4 FIRE/DOMESTIC WATER COMBINED SERVICE DETAIL
12" = 1'-0"

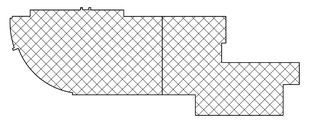
NOTE:
1. DETAIL IS DIAGRAMATIC, INTENDED TO REPRESENT THE CONTRACTOR POINT OF CONNECTION RESPONSIBILITY .



NOTES:
1. REFER TO FLOOR PLAN FOR EXACT LOCATION OF PIPING AND SIZE PER LATEST EDITION OF NFPA 13.
2. TO SPRINKLER SYSTEM; REFER TO FLOOR PLAN FOR CONNECTION.

2 FIRE SPRINKLER RISER CONNECTION
12" = 1'-0"

KEY PLAN



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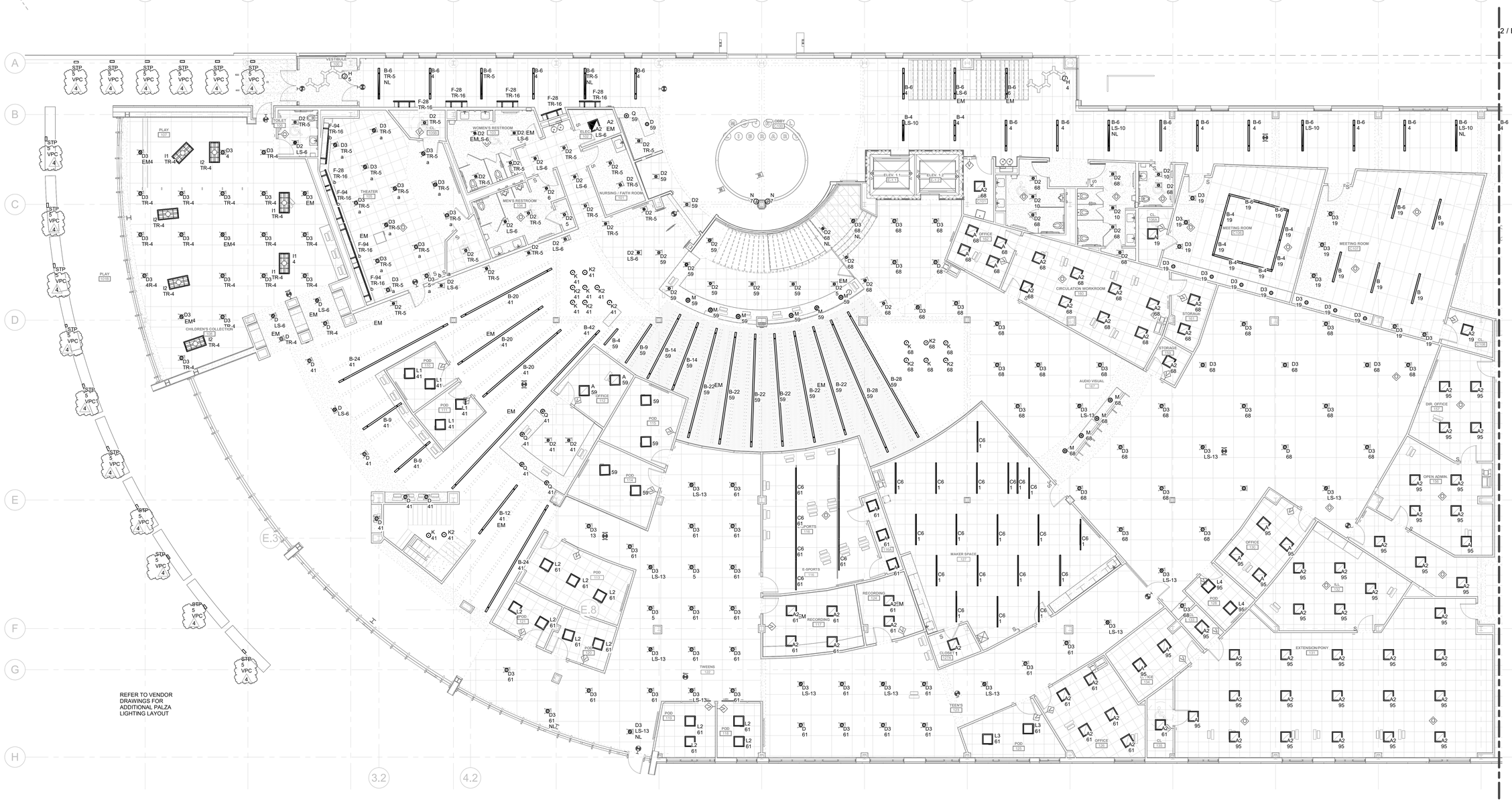
CONSTRUCTION ISSUE DATE:
DRAWN BY: Author
CHECKED BY: Checker
SCALE: AS NOTED

DETAILS- FIRE PROTECTION

NO.	DESCRIPTION	DATE
	BID & PERMIT	10/03/25
4	ADDENDUM #2	09/10/26

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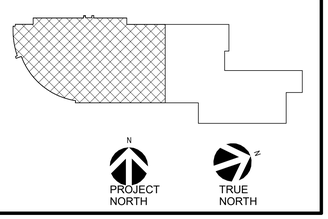
2 1ST FLR- NEW CONSTRUCTION PLAN- LIGHTING - AREA A

1/8" = 1'-0"

GENERAL LUMINAIRE NOTES:

1. ALL EXIT SIGNAGE LUMINAIRES ARE TO BE CIRCUITED VIA THE UN-SWITCHED LEG OF THE LOCAL AREA LUMINAIRE CIRCUIT.
2. ALL LUMINAIRE LOCATIONS AND MOUNTING HEIGHTS ARE TO BE COORDINATED WITH THE ARCHITECTURAL AND INTERIOR DESIGN DRAWINGS.
3. UNLESS OTHERWISE NOTED, ALL NORMAL POWER LUMINAIRE BRANCH CIRCUIT NUMBERS ARE VIA PANEL "1FL".
4. UNLESS OTHERWISE NOTED, ALL EMERGENCY POWER LUMINAIRES AND EXIT SIGNAGE ARE TO BE CIRCUITED VIA EMERGENCY PANEL "LS".
5. ALL LUMINAIRE CONTROL DEVICES ARE TO BE GANGED TOGETHER, HAVE A COMMON FACE PLATE, AND BE LABELED WITH THEIR AREA(S) OF CONTROL.
6. UNLESS OTHERWISE NOTED, ALL OCCUPANCY SENSOR DEVICES IN A SPACE ARE TO BE INTERCONNECTED SO THAT ALL LUMINAIRES WITHIN THE SPACE ARE ENERGIZED WHEN ANY OCCUPANCY SENSOR DEVICE IS ACTIVATED.
7. CONTRACTOR IS TO PROVIDE A MANUALLY CONTROLLED, OVERRIDE WALL BOX DEVICE FOR ROOM OCCUPANCY SENSORS.
8. ALL LUMINAIRE BRANCH CIRCUIT HOME-RUNS ARE TO BE WIRED VIA THE BUILDING MECHANICAL CONTROL CABINET. CONTROL CABINET IS TO BE PROVIDED BY MECHANICAL CONTRACTOR. COORDINATE CONTROL PROGRAMMING OF ALL LUMINAIRE CIRCUITS WITH THE ARCHITECT AND THE MECHANICAL CONTRACTOR.
9. MECHANICAL CONTRACTOR IS TO PROVIDE LOW VOLTAGE, PUSHBUTTON, DIGITAL CONTROL DEVICE FOR PROGRAMMED OCCUPANT OVERRIDE OF AUTOMATIC LUMINAIRE SHUTOFF FOR A MAXIMUM OF TWO HOURS (REFER TO ASHRAE/ IESNA STANDARD 90.1). DEVICE IS TO BE WIRED VIA THE BUILDING MECHANICAL/ LUMINAIRE CONTROL CABINET.
10. CEILINGS ARE USED AS RETURN AIR PLENUMS. NO PVC IS ALLOWED
11. PRVOIDE ALLOWANCE FOR AN ADDITONAL 12 EXIT SIGNS.
12. INTENT IS FOR COMMON AREA FIXTURES TO BE CONTROLLED VIA TIMECLOCK UNLESS NOTED OTHERWISE.

KEY PLAN



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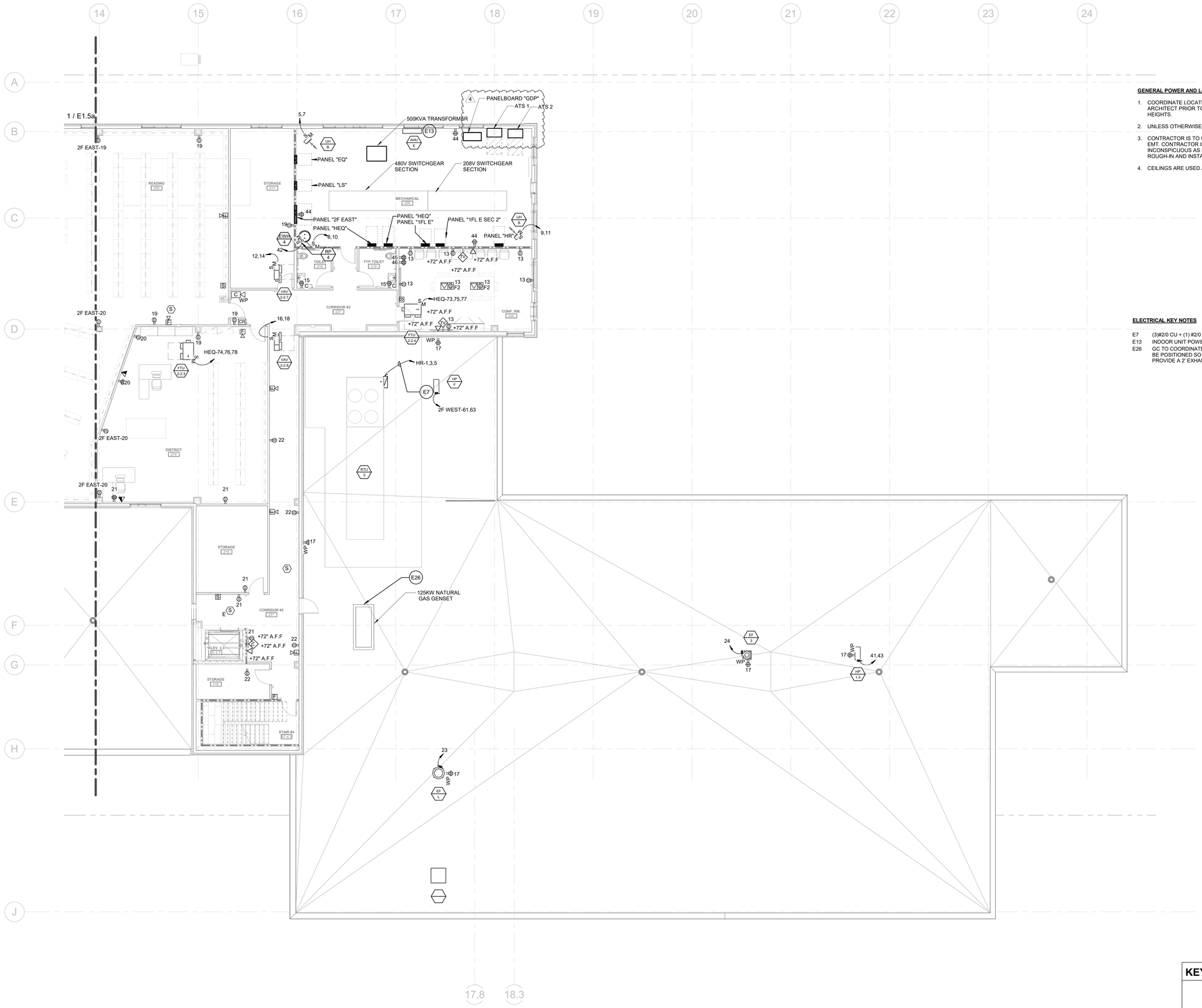
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FIRST FLOOR NEW CONSTRUCTION PLAN AREA A-LIGHTING

NO.	DESCRIPTION	DATE
	SCHEMATIC DESIGN	10/25/24
	DESIGN DEVELOPMENT	02/21/25
	BID & PERMIT	10/03/25
4	ADDENDUM #2	09/10/26

E1.1a

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1 2ND FLR- NEW CONSTRUCTION PLAN- POWER - AREA B
1/8" = 1'-0"

GENERAL POWER AND LOW VOLTAGE NOTES:

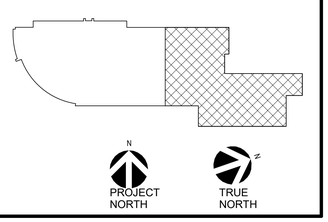
1. COORDINATE LOCATIONS AND MOUNTING HEIGHTS OF ALL WIRING DEVICES WITH OWNER/ TENANT/ ARCHITECT PRIOR TO ROUGH-IN. REFER TO DETAILS AND SPECIFICATIONS FOR TYPICAL MOUNTING HEIGHTS.
2. UNLESS OTHERWISE NOTED, BRANCH CIRCUIT NUMBERS ARE VIA PANEL 2FE.
3. CONTRACTOR IS TO CONCEAL WIRING WHENEVER POSSIBLE. ALL EXPOSED WIRING IS TO BE INSTALLED IN EMT. CONTRACTOR IS TO PAINT AS DIRECTED BY THE ARCHITECT. CONDUIT PATH IS TO BE AS INCONSPICUOUS AS POSSIBLE. COORDINATE CONDUIT ROUTE WITH ARCHITECT/ OWNER PRIOR TO ROUGH-IN AND INSTALLATION.
4. CEILINGS ARE USED AS RETURN AIR PLENUMS. NO PVC IS ALLOWED.

ELECTRICAL KEY NOTES

(~) NOTED THUS

E7 (3)#2/0 CU + (1) #2/0 CU N + (1) #6 CU GND IN (1) 2" C
E13 INDOOR UNIT POWERED FROM THE ROOF TOP HP UNIT
E26 GC TO COORDINATE SCREENING AROUND GENERATOR WITH ARCHITECTURAL PLANS. UNIT IS TO BE POSITIONED SO THAT THE EXHAUST IS POSITIONED AS FAR AS POSSIBLE FROM THE RTU UNIT. PROVIDE A 2' EXHAUST EXTENSION ABOVE THE TOP OF THE GENERATOR ENCLOSURE.

KEY PLAN



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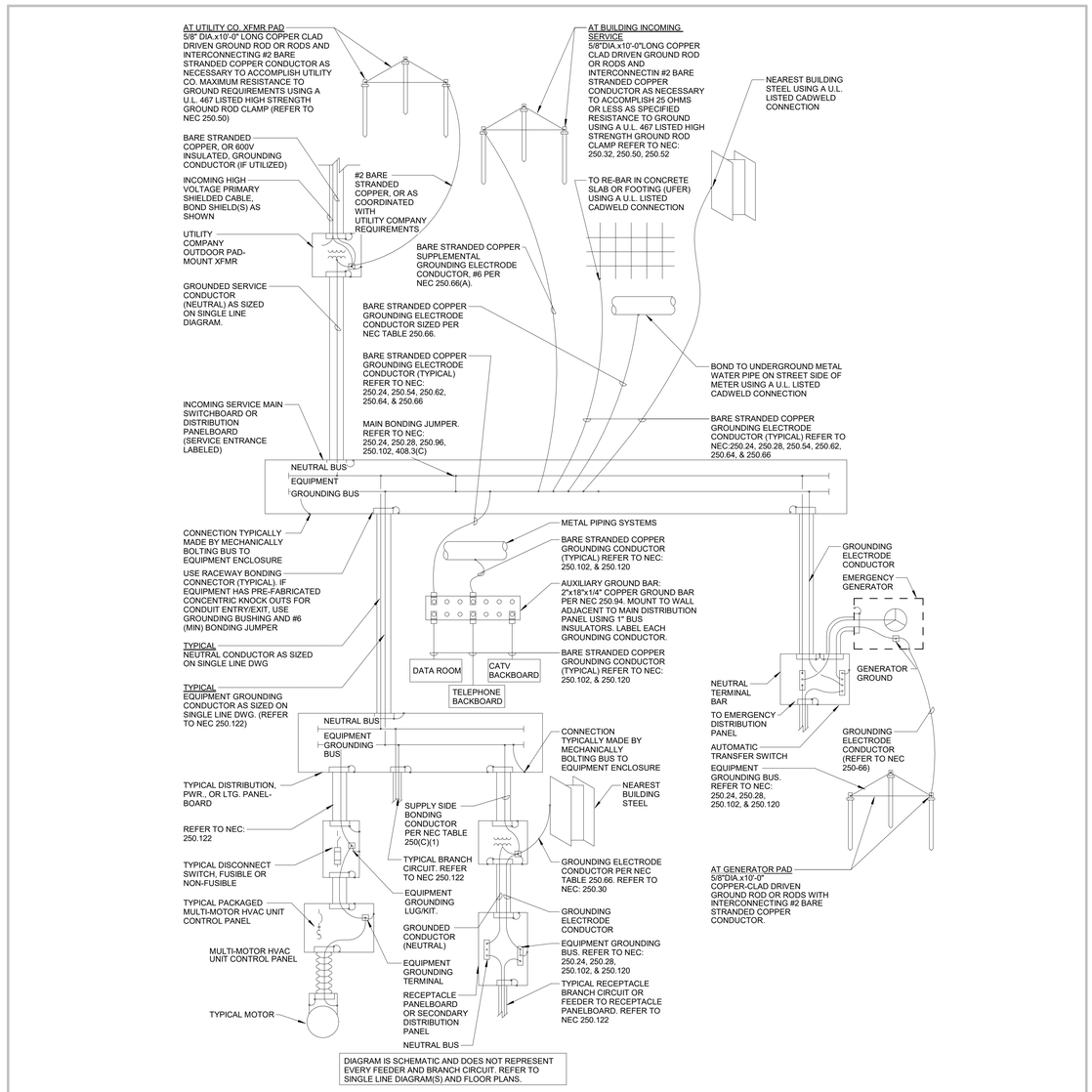
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SECOND FLOOR NEW CONSTRUCTION PLAN AREA B- POWER

NO.	DESCRIPTION	DATE
	SCHEMATIC DESIGN	10/25/24
	DESIGN DEVELOPMENT	02/21/25
	BID & PERMIT	10/03/25
4	ADDENDUM #2	09/10/26

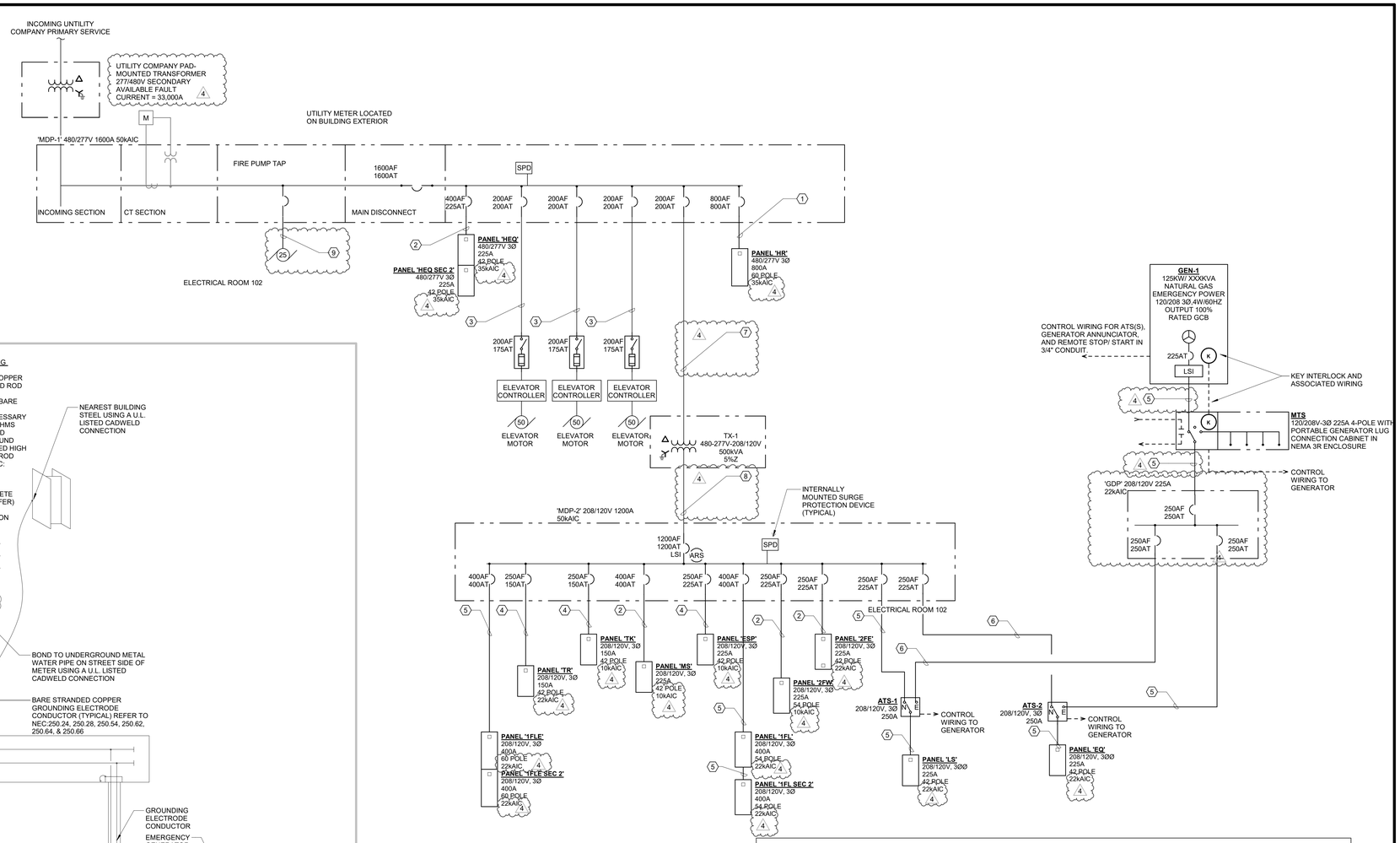
E1.5b

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2 SYSTEM GROUNDING AND BONDING DIAGRAM

SCALE: NONE



FEEDER SCHEDULE

(3-PHASE, 4-WIRE, COPPER, 75°C)

	FEEDER TYPE	PHASE CONDUCTOR NO.	PHASE CONDUCTOR SIZE	NEUTRAL CONDUCTOR NO.	NEUTRAL CONDUCTOR SIZE	EQUIPMENT GROUNDING CONDUCTOR NO.	EQUIPMENT GROUNDING CONDUCTOR SIZE	RACEWAY * NO.	RACEWAY * SIZE	REMARKS
	45 OR 50	3	#6	1	#6	1	#8	1	1"	• #8 GROUNDING CONDUCTOR FOR 30kVA TRANSFORMER PRIMARY FEEDER (NO NEUTRAL CONDUCTOR IS REQUIRED)
	60	3	#6	1	#6	1	#8	1	1"	• #8 GROUNDING CONDUCTOR FOR 15kVA TRANSFORMER SECONDARY FEEDER
	70	3	#4	1	#4	1	#8	1	1-1/4"	• #8 GROUNDING CONDUCTOR FOR 45kVA TRANSFORMER PRIMARY FEEDER (NO NEUTRAL CONDUCTOR IS REQUIRED)
	80	3	#4	1	#4	1	#8	1	1-1/4"	
	90	3	#3	1	#3	1	#6	1	1-1/4"	
(9)	100	3	#2	1	#2	1	#6	1	1-1/4"	• #8 GROUNDING CONDUCTOR FOR 30kVA TRANSFORMER SECONDARY FEEDER • GROUNDING CONDUCTOR NOT REQUIRED FOR SERVICE ENTRANCE RATED EQUIPMENT • 1-1/2" SCHEDULE 40 PVC CONDUIT
	110	3	#1	1	#1	1	#6	1	1-1/2"	• 2" SCHEDULE 40 PVC CONDUIT
	125	3	#1	1	#1	1	#6	1	1-1/2"	• #6 GROUNDING CONDUCTOR FOR 75kVA TRANSFORMER PRIMARY FEEDER (NO NEUTRAL CONDUCTOR IS REQUIRED) • 2" SCHEDULE 40 PVC CONDUIT
(4)	150	3	#1/0	1	#1/0	1	#6	1	2"	
(3)	175	3	#2/0	1	#2/0	1	#6	1	2"	• #4 GROUNDING CONDUCTOR FOR 112.5kVA TRANSFORMER PRIMARY FEEDER (NO NEUTRAL CONDUCTOR IS REQUIRED) • #4 GROUNDING CONDUCTOR FOR 45kVA TRANSFORMER SECONDARY FEEDER
(7)	200	3	#3/0	1	#4	1	#6	1	2"	• GROUNDING CONDUCTOR NOT REQUIRED FOR SERVICE ENTRANCE RATED EQUIPMENT • 3" SCHEDULE 40 PVC CONDUIT
(2)	225	3	#4/0	1	#4/0	1	#4	1	2-1/2"	• #2 GROUNDING CONDUCTOR FOR 150kVA TRANSFORMER PRIMARY FEEDER (NO NEUTRAL CONDUCTOR IS REQUIRED)
(6)	250	3	250KCMIL	1	250KCMIL	1	#4	1	2-1/2"	• 3" SCHEDULE 40 PVC CONDUIT
	275	3	300KCMIL	1	300KCMIL	1	#4	1	3"	• #2 GROUNDING CONDUCTOR FOR 75kVA TRANSFORMER SECONDARY FEEDER • 2-1/2" EMT
	300	3	350KCMIL	1	350KCMIL	1	#3	1	3"	• 2-1/2" EMT
	350	3	500KCMIL	1	500KCMIL	1	#3	1	3"	• #1/0 GROUNDING CONDUCTOR FOR 225kVA TRANSFORMER PRIMARY FEEDER (NO NEUTRAL CONDUCTOR IS REQUIRED) • 4" SCHEDULE 40 PVC CONDUIT
(5)	400	3	600KCMIL	1	600KCMIL	1	#2	1	4"	• #1/0 GROUNDING CONDUCTOR FOR 112.5kVA TRANSFORMER SECONDARY FEEDER • GROUNDING CONDUCTOR NOT REQUIRED FOR SERVICE ENTRANCE RATED EQUIPMENT • 3" EMT
	450	6	#4/0	2	#4/0	2	#2	2	2-1/2"	• #1/0 GROUNDING CONDUCTOR FOR 300kVA TRANSFORMER PRIMARY FEEDER (NO NEUTRAL CONDUCTOR IS REQUIRED)
	500	6	250KCMIL	2	250KCMIL	2	#1	2	2-1/2"	
	600	6	350KCMIL	2	350KCMIL	2	#1/0	2	3"	• #1/0 GROUNDING CONDUCTOR FOR 150kVA TRANSFORMER SECONDARY FEEDER • GROUNDING CONDUCTOR NOT REQUIRED FOR SERVICE ENTRANCE RATED EQUIPMENT • 2-1/2" EMT
	700	6	500KCMIL	2	500KCMIL	2	#1/0	2	3"	• 4" SCHEDULE 40 PVC CONDUIT
(1)	800	6	600KCMIL	2	600KCMIL	2	#2/0	2	4"	• #1/0 GROUNDING CONDUCTOR FOR 225kVA TRANSFORMER SECONDARY FEEDER • GROUNDING CONDUCTOR NOT REQUIRED FOR SERVICE ENTRANCE RATED EQUIPMENT • 3" EMT
	900	9	350KCMIL	3	350KCMIL	3	#2/0	3	3"	
	1000	9	400KCMIL	3	400KCMIL	3	#2/0	3	3"	• GROUNDING CONDUCTOR NOT REQUIRED FOR SERVICE ENTRANCE RATED EQUIPMENT
(8)	1200	12	350KCMIL	4	350KCMIL	4	#3/0	4	3"	• #3/0 GROUNDING CONDUCTOR FOR 300kVA TRANSFORMER SECONDARY FEEDER • GROUNDING CONDUCTOR NOT REQUIRED FOR SERVICE ENTRANCE RATED EQUIPMENT • PROVIDE (2) SPARE 3" CONDUITS
	1600	15	600KCMIL	5	600KCMIL	5	#2/0	5	4"	• PROVIDE (1) 4" SPARE CONDUIT

* GRS CONDUIT, SCHEDULE 40 PVC, EMT OR IMC UNLESS NOTED OTHERWISE. REFER TO SPECIFICATIONS FOR APPLICATION REQUIREMENTS.

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DETAILS- ELECTRICAL

NO.	DESCRIPTION	DATE
	SCHEMATIC DESIGN	10/25/24
	DESIGN DEVELOPMENT	02/21/25
	BID & PERMIT	10/03/25
4	ADDENDUM #2	09/10/26

E2.2

9/10/2026 2:32:21 PM

PANEL SCHEDULE — HEQ

PANEL LABEL: HEQ | MAINS: 225 A | ENCLOSURE
35 kA.I.C. (4) | MCB: | NEMA: Type 1
SERVED VIA MDPH | LUGS: | MOUNTING: SURFACE
480/277 Wye VOLT 3 Ø 4 WIRE | TOP | BOTTOM: | WIDTH: 20"

CKT	TRIP	POLE	LOAD TYPE	DESCRIPTION/ LOCATION	WATT	A	B	C	WATT	DESCRIPTION/ LOCATION	LOAD TYPE	POLE	TRIP	CKT
1														2
3	20 A	3	Other SPRINKLER ROOM 003	JP-1	1330				6000	FTU 1-1.1	Other CORRIDOR #1 C113	3	20 A	4
5														6
7														8
9	20 A	3	Other CORRIDOR #1 C113	FTU 2-1.1	11000				3500	FTU 2-1.2	Other MEETING ROOM C106	3	20 A	10
11														12
13														14
15	20 A	3	Other CHILDREN'S COLLECTION 108	FTU 1-1.2	3120				3120	FTU 1-1.3	Other CHILDREN'S COLLECTION 108	3	20 A	16
17														18
19														20
21	20 A	3	Other OFFICE 112	VAV 1-1.4	4990				4406	VAV 1-1.3	Other	3	20 A	22
23														24
25														26
27	20 A	3	Other THEATER 105	VAV 1-1.1	4406				4406	VAV 1-1.5	Other	3	20 A	28
29														30
31														32
33	35 A	3	Other	FTU 1-1.4	22197				4500	FTU 2-1.5	Other OFFICE 126	3	20 A	34
35														36
37														38
39	20 A	3	Other EXTENSION/PONY 131	FTU 2-1.4	4500				102663	HEQ SECTION 2	MEA- Panelboard, 277 V/480 V, Three Phase, 4 Wires,...	3	160 A	40
41														42
				TOTAL WATTS	180138 VA						TOTAL AMPS	217 A		

PANEL SCHEDULE — HEQ

PANEL LABEL: HEQ | MAINS: 225 A | ENCLOSURE
35 kA.I.C. (4) | MCB: | NEMA: Type 1
SERVED VIA HEQ | LUGS: | MOUNTING: SURFACE
480/277 Wye VOLT 3 Ø 4 WIRE | TOP | BOTTOM: | WIDTH: 20"

CKT	TRIP	POLE	LOAD TYPE	DESCRIPTION/ LOCATION	WATT	A	B	C	WATT	DESCRIPTION/ LOCATION	LOAD TYPE	POLE	TRIP	CKT
43														44
45	20 A	3	Other MEETING ROOM C107	FTU 2-1.3	6000				4988	VAV 3-3	Other MEETING ROOM C110	3	20 A	46
47														48
49														50
51	20 A	3	Other MEETING ROOM C110	FTU 3-1	9000				4500	FTU 3-2	Other CONFERENCE D36	3	20 A	52
53														54
55														56
57	20 A	3	Other CAREER LINK D3	VAV 3-5	5653				8000	FTU 3-3	Other SORTING 138	3	20 A	58
59														60
61														62
63	20 A	3	Other HR 155	VAV 3-8	4822				6900	VAV 3-9	Other DEVELOP. 152	3	20 A	64
65														66
67														68
69	20 A	3	Other BREAKROOM 150	VAV 3-1.0	6900				12500	FTU 3-4	Other TECHNICAL PROCESSING 141	3	20 A	70
71														72
73														74
75	25 A	3	Other CONF. RM. 220	FTU 2-2.4	14400				8000	FTU 2-2.3	Other DISTRICT 214	3	20 A	76
77														78
79														80
81	20 A	3	Other READING 200	FTU2-2.3	11000									82
83														84
				TOTAL WATTS	102663 VA						TOTAL AMPS	123 A		

PANEL SCHEDULE — ESP

PANEL LABEL: ESP | MAINS: 150 A | ENCLOSURE
10 kA.I.C. (4) | MCB: | NEMA: Type 1
SERVED VIA MDPL | LUGS: | MOUNTING: SURFACE
208/120 Wye VOLT 3 Ø 4 WIRE | TOP | BOTTOM: | WIDTH: 20"

CKT	TRIP	POLE	LOAD TYPE	DESCRIPTION/ LOCATION	WATT	A	B	C	WATT	DESCRIPTION/ LOCATION	LOAD TYPE	POLE	TRIP	CKT
1	20 A	1	SPARE	LIGHTING	--				1080	COMPUTER-1/2/3	RECEPTACLE...	1	20 A	2
3	20 A	1	RECEPTACLE...	COMPUTER-4/5/6	1080				540	COMPUTER-7/8/9	RECEPTACLE...	1	20 A	4
5	20 A	1	RECEPTACLE...	COMPUTER-10/11/12	540				360	COMPUTER-13/14	RECEPTACLE...	1	20 A	6
7	20 A	1	RECEPTACLE...	COMPUTER 14/15	360				1080	E-SPORTS RECPT	RECEPTACLE C...	1	20 A	8
9	20 A	2	Other E-SPORTS 116	VAV1-1.8	2496				720	RECORDING 117	RECEPTACLE...	1	20 A	10
11									1260	POD119	RECEPTACLE	1	20 A	12
13									540	POD 118	RECEPTACLE...	1	20 A	14
15									900	TEENS 123	POWER TEEN'S...	1	20 A	16
17	20 A	1	RECEPTACLE...	POD 125	900				1260	OFFICE 126	RECEPTACLE...	1	20 A	18
19	20 A	2	Other	TH-B2-1	1000				1000	TH-B2-2	Other	2	20 A	20
21														22
23	20 A	2	Other	TH-B2-3	1000				668	TH-B2-4	Other	2	20 A	24
25														26
27	20 A	1	RECEPTACLE...	RECORDING 124	720				--		SPARE	1	20 A	28
29	20 A	1	SPARE		--				--		SPARE	1	20 A	30
31	20 A	1	SPARE		--				--		SPARE	1	20 A	32
33	20 A	1	SPARE		--				--		SPARE	1	20 A	34
35	20 A	1	SPARE		--				--		SPARE	1	20 A	36
37	20 A	1	SPARE		--				--		SPARE	1	20 A	38
39														40
41														42
				TOTAL WATTS	17504 VA						TOTAL AMPS	49 A		

PANEL SCHEDULE — TK

PANEL LABEL: TK | MAINS: 150 A | ENCLOSURE
10 kA.I.C. (4) | MCB: | NEMA: Type 1
SERVED VIA MDPL | LUGS: | MOUNTING: SURFACE
208/120 Wye VOLT 3 Ø 4 WIRE | TOP | BOTTOM: | WIDTH: 20"

CKT	TRIP	POLE	LOAD TYPE	DESCRIPTION/ LOCATION	WATT	A	B	C	WATT	DESCRIPTION/ LOCATION	LOAD TYPE	POLE	TRIP	CKT
1	20 A	1	REFRIGERATOR...	FRIDGE	900				720	KITCHEN COUNTER 1	RECEPTACLE...	1	20 A	2
3	20 A	1	RECEPTACLE...	KITCHEN COUNTER 2	900				8000	ELECTRIC RANGE*	RANGE DEMONSTRATIO...	2	40 A	4
5	40 A	2	RANGE DEMONSTRATIO...	OVEN 1*	8000									6
7									8000	OVEN 2*	RANGE DEMONSTRATIO...	2	40 A	8
9	20 A	1	RECEPTACLE...	GENERAL RECPT	1080									10
11	20 A	1	LIGHTING	KITCHEN LIGHTING	866									12
13														14
15														16
17														18
19														20
21														22
23														24
25														26
27														28
29														30
31	20 A	1	SPARE		--				--		SPARE	1	20 A	32
33	20 A	1	SPARE		--				--		SPARE	1	20 A	34
35	20 A	1	SPARE		--				--		SPARE	1	20 A	36
37	20 A	1	SPARE		--				--		SPARE	1	20 A	38
39	20 A	1	SPARE		--				--		SPARE	1	20 A	40
41														42
				TOTAL WATTS	28466 VA						TOTAL AMPS	79 A		

*GFCI CIRCUIT BREAKER

PANEL SCHEDULE — TR

PANEL LABEL: TR | MAINS: 150 A | ENCLOSURE
10 kA.I.C. (4) | MCB: | NEMA: Type 1
SERVED VIA MDPL | LUGS: | MOUNTING: SURFACE
208/120 Wye VOLT 3 Ø 4 WIRE | TOP | BOTTOM: | WIDTH: 20"

CKT	TRIP	POLE	LOAD TYPE	DESCRIPTION/ LOCATION	WATT	A	B	C	WATT	DESCRIPTION/ LOCATION	LOAD TYPE	POLE	TRIP	CKT
1	20 A	1	RECEPTACLE...	THEATER RECPT	900				720	CHILDRENS AREA	RECEPTACLE...	1	20 A	2
3	20 A	1	RECEPTACLE...	CHILDRENS AREA COMPUTERS	1080				854	CHILDRENS LIGHTING	LIGHTING	1	20 A	4
5	20 A	1	LIGHTING	THEATER LIGHTING	951				720	CHILDRENS AREA RECPT 2	RECEPTACLE...	1	20 A	6
7	20 A	2	Other CHILDREN'S COLLECTION 108	VAV1-1.2	3120				668	TH-B-12	Other	1	20 A	8
9									668	TH-B-2	Other CHILDREN'...	1	20 A	10
11	20 A	1	RECEPTACLE...	CHILDRENS COLLECTION RECPT	720				668	TH-C-3	Other CHILDREN'S COLLECTION 108	2	20 A	12
13	20 A	1	Other	TH-A-1	500									14
15	20 A	1	RECEPTACLE...	POD 110	1440				890	TH-B-5	LIGHTING...	1	20 A	16
17	20 A	1	RECEPTACLE...	POD 111	1440				668	TH-B-6	Other	1	20 A	18
19	20 A	1	RECEPTACLE	REFERENCE COMPUTERS-1	1260				668	TH-B-7	Other	1	20 A	20
21	20 A	1	RECEPTACLE	REFERENCE COMPUTERS 2	1260				668	TH-B-8	Other	1	20 A	22
23	20 A	1	RECEPTACLE...	POD 120	900				668	TH-9	Other PLAY 107	2	20 A	24
25	20 A	1	RECEPTACLE...	POD 121	720									26
27	20 A	1	RECEPTACLE...	OFFICE 112	1260				668	TH-B-10	Other	2	20 A	28
29	20 A	1	RECEPTACLE...	POD 115	1260									30
31	20 A	1	RECEPTACLE...	POD 114	1260				360	THEATER IT RACK	RECEPTACLE C...	1	20 A	32
33	20 A	1	RECEPTACLE	CHILDRENS STAFF DESK	1260				668	TH-B-14	Other	1	20 A	34
35	20 A	1	POWER TWEEN...	TWEENS 122	720				3744	VAV1-1.6	Other	2	20 A	36
37	20 A	2	Other	TH-B2-11	1000									38
39														40
41	20 A	1	SPARE		--									42
				TOTAL WATTS	34351 VA						TOTAL AMPS	95 A		

PANEL SCHEDULE — 1FL E

PANEL LABEL: 1FL E | MAINS: 400 A | ENCLOSURE
22 kA.I.C. (4) | MCB: | NEMA: Type 1
SERVED VIA MDPL | LUGS: | MOUNTING: SURFACE
208/120 Wye VOLT 3 Ø 4 WIRE | TOP | BOTTOM: | WIDTH: 20"

CKT	TRIP	POLE	LOAD TYPE	DESCRIPTION/ LOCATION	WATT	A	B	C	WATT	DESCRIPTION/ LOCATION	LOAD TYPE	POLE	TRIP	CKT
1	20 A	1	RECEPTACLE...	STORAGE 137	1440				1796	TECHNICAL PROCESSING 142	LIGHTING	1	20 A	2
3	20 A	1	LIGHTING	AREA B	1856				1812	DOCK 139 SORTING 138	LIGHTING	1	20 A	4
5	20 A	1	LIGHTING	AREA B	1248				435	MEETING ROOM C110 LIGHTING	LIGHTING	1	20 A	6
7	20 A	1	RECEPTACLE...	REDEMPTION D32	1080				3120	VAV3-1	Other WAITING D31	2	20 A	8
9	20 A	1	RECEPTACLE...	INTERVIEW D35	1260									10
11	20 A	1	RECEPTACLE...	INTERVIEW D27	1260				1414	VAV3-2	Other MEETING ROOM C109	2	20 A	12
13	20 A	1	RECEPTACLE	COMPUTER LAB D38-1	1260									14
15	20 A	1	RECEPTACLE	COMPUTER LAB D38-2	1080				1414	VAV3-4	Other COMPUTER LAB D38	2	20 A	16
17	20 A	1	RECEPTACLE	COMPUTER LAB D38-3	1080									18
19	20 A	1	LIGHTING...	MEETING ROOM C109	412				1080	MEETINGROOM C110-3	RECEPTACLE...	1	20 A	20
21	20 A	1	RECEPTACLE...	MEETING ROOM C110-1	900				900	MEETING ROOM C110-4	RECEPTACLE...	1	20 A	22
23	20 A	1	RECEPTACLE...	COMPUTER LAB 223-1	900				1872	VAV3-11	Other STORAGE D37	2	20 A	24
25	20 A	1	RECEPTACLE...	COMPUTER LAB 223-2	1080									26
27	20 A	1	Other MEETING...	MEETING ROOM C110 BB-4F-1	1000				1260	STORAGE D37	RECEPTACLE...	1	20 A	28
29				MEETING ROOM C110 BB-4F-2					900	CONFERENCE D36-1	RECEPTACLE...	1	20 A	30
31	20 A	1	Other MEETING...	MEETING ROOM C110 BB-4F-3	9000				900	CONFERENCE D36-2	RECEPTACLE...	1	20 A	32
33	20 A	1	RECEPTACLE...	CAREER LINK D3-1	1260				5400	VAV3-7	Other CAREER LINK D3	2	20 A	34
35	20 A	1	RECEPTACLE...	CAREER LINK D3-2	720									36
37	20 A	1	RECEPTACLE...	CAREER LINK D3-3	1260				900	OFFICE D34	RECEPTACLE...	1	20 A	38
39	20 A	1	RECEPTACLE...	CAREER LINK D3-4	1260				6480	VAV3-6	Other CORRIDOR #5 158	2	20 A	40
41	20 A	1	RECEPTACLE...	CAREER LINK D3-5	1260									42
43	20 A	1	RECEPTACLE...	SORTING 138-1	720	...			2038	CUH-1	Other	2	15 A	44
45	20 A	1	RECEPTACLE...	SORTING 138-2	1080		...							46
47	20 A	1	RECEPTACLE...	SORTING 138-3	900			...	3000	LOADING DOCK UH-A1-1	Other LOADING DOCK 139	2	15 A	48
49	20 A	1	RECEPTACLE...	LOADING DOCK	900	...								50
51	15 A	2	Other CORRIDOR #2 140	CORRIDOR 2 CUH-B	2000		...		3000	LOADING DOCK UH-A1-2	Other LOADING DOCK 139	2	15 A	52
53								...						54
55	20 A	1	RECEPTACLE H...	HR 155	1260	...								56
57	20 A	1	RECEPTACLE...	COPY MACHINE	180		...		32424	SECOND SECTION	1FL E SEC 2	3	20 A	58
59	20 A	1	RECEPTACLE...	ACCT 154	1080			...						60
				TOTAL WATTS	108881 VA						TOTAL AMPS	302 A		

PANEL SCHEDULE — 1FL E SEC 2

PANEL LABEL: 1FL E SEC 2 | MAINS: 400 A | ENCLOSURE
22 kA.I.C. (4) | MCB: | NEMA: Type 1
SERVED VIA 1FL E | LUGS: | MOUNTING: SURFACE
208/120 Wye VOLT 3 Ø 4 WIRE | TOP | BOTTOM: | WIDTH: 20"

CKT	TRIP	POLE	LOAD TYPE	DESCRIPTION/ LOCATION	WATT	A	B	C	WATT	DESCRIPTION/ LOCATION	LOAD TYPE	POLE	TRIP	CKT
61	20 A	1	RECEPTACLE...	CONFERENCE 153	1260				1260	DEVELOP. 152	RECEPTACLE...	1	20 A	62
63	20 A	1	REFRIGERATOR...	BREAKROOM FRIDGE 1	900				1080	BREAKROOM 150	RECEPTACLE...	1	20 A	64
65	20 A	1	REFRIGERATOR...	TGBREAKROOM FRIDGE 2	900				360	BREAKROOM COUNTER 1	RECEPTACLE...	1	20 A	66
67	20 A	1	RECEPTACLE...	IT 148	1260				180	BREAKROOM COUNTER 2	RECEPTACLE...	1	20 A	68
69	20 A	1	RECEPTACLE I....	IT EQUIP 1	360				900	TOILET 147	RECEPTACLE...	1	20 A	70
71	20 A	1	RECEPTACLE I....	IT EQUIP 2	360				900	TECHNICAL PROCESSING 141-1	RECEPTACLE...	1	20 A	72
73	20 A	1	RECEPTACLE...	TECHNICAL PROCESSING 141-3	1260				1440	TECHNICAL PROCESSING 141-2	RECEPTACLE...	1	20 A	74
75	20 A	1	RECEPTACLE...	TECHNICAL PROCESSING 141-4	1080				1080	TECHNICAL PROCESSING 141-5	RECEPTACLE...	1	20 A	76
77	20 A	1	RECEPTACLE...	MEETING ROOM C109	1440				4500	EWH7	Other	2	20 A	78
79	20 A	1	EQUIPMENT	BREAKROOM ELEC SHADE	1000									80
81	20 A	1	EQUIPMENT	HEAT TRACE 1	1200				1200	HEAT TRACE 2	EQUIPMENT	1	20 A	82
83	20 A	2	Other TECHNICAL PROCESSING 141	EWH-1	4500				44	RP-3	Other TOILET 144	1	20 A	84
85									360	D36-RACK1	RECEPTACLE...	1	20 A	86
87	20 A	1	RECEPTACLE...	D36-RACK2	360				360	C110 RACK 1	RECEPTACLE...	1	20 A	88
89	20 A	1	RECEPTACLE...	C110 RACK 2	360				360	C109 RACK 1	RECEPTACLE...	1	20 A	90
91	20 A	1	RECEPTACLE...	C107 RACK 1	360				360	C109 RACK 2	RECEPTACLE...	1	20 A	92
93	20 A	1	RECEPTACLE...	C107 RACK 2	360				360	C109 RACK 3	RECEPTACLE...	1	20 A	94
95	20 A	1	SPARE		--				--		SPARE	1	20 A	96
97	20 A	1	SPARE		--				--		SPARE	1	20 A	98
99	20 A	1	SPARE		--				--		SPARE	1	20 A	100
101	20 A	1	SPARE		--				--		SPARE	1	20 A	102
103	20 A	1	RECEPTACLE C...	C106 RACK 1	360				360	C106 RACK 2	RECEPTACLE C...	1	20 A	104
105														106
107														108
109														110
111														112
113														114
115														116
117														118
119														120
				TOTAL WATTS	32424 VA						TOTAL AMPS	90 A		

PANEL SCHEDULE — 1FL

PANEL LABEL: 1FL | MAINS: 400 A | ENCLOSURE
22 kA.I.C. (4) | MCB: | NEMA: Type 1
SERVED VIA MDPL | LUGS: | MOUNTING: SURFACE
208/120 Wye VOLT 3 Ø 4 WIRE | TOP | BOTTOM: | WIDTH: 20"

CKT	TRIP	POLE	LOAD TYPE	DESCRIPTION/ LOCATION	WATT	A	B	C	WATT	DESCRIPTION/ LOCATION	LOAD TYPE	POLE	TRIP	CKT
1	20 A	1	LIGHTING	CAREER LINK OFFICE LIGHTING	796				684	GF OFFICE LIGHTING	LIGHTING	1	20 A	2
3	20 A	1	LIGHTING	LOBBY 002	1000				1716	ENTRANCE LIGHTING	LIGHTING	1	20 A	4
5	20 A	1	LIGHTING	EXTERIOR LIGHTING	176				360	TWEEN LIGHTING	RECEPTACLE...	1	20 A	6
7	20 A	1	EQUIPMENT	AUDIOVISUAL LIGHTING	1000				400	LOWER LEVEL MODS	EQUIPMENT	1	20 A	8
9	20 A	1	RECEPTACLE...	ENTRANCE RECPT	360				540	RESTROOM RECPT	RECEPTACLE...	1	20 A	10
11	20 A	1	RECEPTACLE	WATER COOLER 1	180				1080	ENTRANCE DESK 1	RECEPTACLE...	1	20 A	12
13	20 A	1	SPARE	PARKING LIGHTING	--				1080	OFFICE D25	RECEPTACLE	1	20 A	14
15	20 A	1	RECEPTACLE	OFFICE D23	900				1440	OFFICE D21	RECEPTACLE	1	20 A	16
17	20 A	1	RECEPTACLE	CONFERENCE ROOM D26-1	720				180	MICROWAVE	RECEPTACLE	1	20 A	18
19	20 A	1	RECEPTACLE...	CONFERENCE ROOM D26-2	720				1000	BB-4F D26	Other...	1	15 A	20
21	15 A	1	Other TOILET D18	ERV-1	732				360	LOWER LEVEL RRTG	RECEPTACLE	1	20 A	22
23	20 A	1	RECEPTACLE	EXTERIOR RECPT LL	360				1080	CONFERENCE D11	RECEPTACLE...	1	20 A	24
25	20 A	1	RECEPTACLE...	OFFICE D12	900				900	OFFICE D13	RECEPTACLE	1	20 A	26
27	20 A	1	RECEPTACLE	OFFICE D14	1080				1080	CAREER LINK D1-1	RECEPTACLE	1	20 A	28
29	20 A	1	RECEPTACLE...	CAREER LINK BREAK ROOM	1260				900	CARREER LINK FRIDGE*	REFRIGERATOR	1	20 A	30
31	20 A	1	RECEPTACLE...	CAREER LINK D1-2	1080				1260	CAREER LINK D1-3	RECEPTACLE...	1	20 A	32
33	20 A	1	RECEPTACLE...	CAREER LINK COUNTER	540				720	LOBBY RECPT	RECEPTACLE...	1	20 A	34
35	20 A	1	RECEPTACLE...	CAREER LINK COUNTER 2	360				1500	BB-10F VESTIBULE LL	Other VESTIBUL...	1	20 A	36
37	15 A	2	Other CAREER LINK D1	ERV-2	1290				2496	VAV1-1.10	Other	2	20 A	38
39														40
41	20 A	1	LIGHTING	LOBBY C100	828				3744	VAV1-1.9	Other	2	20 A	42
43	40 A	2	Other JAN. C101	EWH-2	4500	...								44
45							...		4500	EWH-10	Other CAREER LINK D1	2	40 A	46
47	40 A	2	Other TOILET D16	EWH-11*	4500			...						48
49						...								50
51	20 A	1	RECEPTACLE	HALL 164 RECPT	540		...		66790	SECTION 2	1FL SEC 2	3	20 A	52
53	20 A	1	RECEPTACLE	EWH SERVICE RECPT	180			...						54
				TOTAL WATTS	117812 VA						TOTAL AMPS	327 A		

* GFCI CIRCUIT BREAKER

PANEL SCHEDULE — 1FL SEC 2

PANEL LABEL: 1FL SEC 2 | MAINS: 400 A | ENCLOSURE
22 kA.I.C. (4) | MCB: | NEMA: Type 1
SERVED VIA 1FL | LUGS: | MOUNTING: SURFACE
208/120 Wye VOLT 3 Ø 4 WIRE | TOP | BOTTOM: | WIDTH: 20"

CKT	TRIP	POLE	LOAD TYPE	DESCRIPTION/ LOCATION	WATT	A	B	C	WATT	DESCRIPTION/ LOCATION	LOAD TYPE	POLE	TRIP	CKT
55	15 A	2	Other SPRINKLER ROOM 003	UH-A	3000				720	LOBBY RECPT	RECEPTACLE...	1	20 A	56
57									3000	CUH-A VESTIBULE 100	Other	2	15 A	58
59	20 A	1	LIGHTING	LINEAR	1002									60
61	20 A	1	LIGHTING	TWEENS	1616				1260	FRONT DESK RECPT 1	RECEPTACLE	1	20 A	62
63	20 A	1	RECEPTACLE...	RESTROOM C103	900				1080	FRONT DESK RECEPT 2	RECEPTACLE	1	20 A	64
65	20 A	1	RECEPTACLE...	WATER COOLER	180					SPARE				66
67	40 A	2	Other BREAK AREA D2.1	EWH-9*	4500				1636	AUDIO VISUAL	LIGHTING	1	20 A	68
69									1872	VAV1-1.7	Other	2	20 A	70
71	20 A	2	Other	VAV1-1.11	3744									72
73									3744	VAV2-1.1	Other CL. 106A	2	20 A	74
75	20 A	1	RECEPTACLE C...	MEETING ROOM C106-1	900									76
77	20 A	1	RECEPTACLE...	OFFICE 162	1080				1080	CIRCUTLATION 160-1	RECEPTACLE...	1	20 A	78
79	20 A	1	RECEPTACLE	OFFICE 162-2	1080				3744	VAV2-1.2	Other CIRCULATION...	2	20 A	80
81	20 A	2	Other	VAV2-1.3	3744									82
83									1080	CIRCULATION 160-2	RECEPTACLE...	1	20 A	84
85	20 A	1	RECEPTACLE...	MEETING ROOM C106-2	1260				1260	CIRCULATION 160-3	RECEPTACLE...	1	20 A	86
87	20 A	1	RECEPTACLE...	MEETING ROOM C107	720				1080	MEETING ROOM C107-2	RECEPTACLE C...	1	20 A	88
89	20 A	2	Other	VAV2-1.4	3120				3744	VAV2-1.5	Other	2	20 A	90
91														92
93	20 A	1	RECEPTACLE...	C107-3	900				500	MOTORIZED SHADE 1	EQUIPMENT	1	20 A	94
95	20 A	1	Other	EXTENSION/PONY	1392				1260	DIR OFFICE 157	RECEPTACLE...	1	20 A	96
97	20 A	1	LIGHTING	ADMIN 156	1312	...			--	SITE LIGHTING	SPARE	1	20 A	98
99	20 A	1	SPARE	FLAGPOLE LIGHTING	--		...		40	RP-104	Other	1	20 A	100
101	40 A	2	Other	EWH-8*	4500			...	180	GATEWAY RECPT	RECEPTACLE	1	20 A	102
103						...			1500	BB-10F STAIRS-1	Other LOBBY 002	1	20 A	104
105	20 A	1	Other LOBBY 002	BB-10F STAIRS-2	1500		...		1560	SPRINKLER COMPRESSOR	Other SPRINKLER ROOM 003	2	20 A	106
107								...						108
				TOTAL WATTS	66790 VA						TOTAL AMPS	185 A		

* GFCI CIRCUIT BREAKER

PANEL SCHEDULE — MS

PANEL LABEL: MS | MAINS: 225 A | ENCLOSURE
10 kA.I.C. (4) | MCB: | NEMA: Type 1
SERVED VIA MDPL | LUGS: | MOUNTING: SURFACE
208/120 Wye VOLT 3 Ø 4 WIRE | TOP | BOTTOM: | WIDTH: 20"

CKT	TRIP	POLE	LOAD TYPE	DESCRIPTION/ LOCATION	WATT	A	B	C	WATT	DESCRIPTION/ LOCATION	LOAD TYPE	POLE	TRIP	CKT
1	20 A	1	LIGHTING	MAKERSPACE LIGHTING	32				1260	CLOSET RECPT	RECEPTACLE	1	20 A	2
3	20 A	1	RECEPTACLE	WORKBENCH 1	180				180	WORKBENCH 2	RECEPTACLE	1	20 A	4
5	20 A	1	RECEPTACLE	WORKBENCH 3	180				180	WORKBENCH 4	RECEPTACLE	1	20 A	6
7	20 A	1	RECEPTACLE	WORKBENCH 5	180				180	COPIER	RECEPTACLE	1	20 A	8
9	20 A	1	RECEPTACLE	COUNTER 1-1	180				180	COUNTER 2-1	RECEPTACLE	1	20 A	10
11	20 A	1	RECEPTACLE	COUNTER 1-2	180				180	COUNTER 2-2	RECEPTACLE	1	20 A	12
13	20 A	1	RECEPTACLE	MAKERSPACE DISPLAY	360				1080	OFFICE134	RECEPTACLE...	1	20 A	14
15	20 A	2	Other TEEN'S 123	VAV2-1.6	1872				1080	EXTENSION 131	RECEPTACLE C...	1	20 A	16
17									1440	EXTENSION 131-2	RECEPTACLE...	1	20 A	18
19	20 A	1	RECEPTACLE IL...	ILL 132	1080				2496	VAV2-1.7	Other EXTENSION/PO...	2	20 A	20
21	20 A	1	RECEPTACLE...	POD 128	900									22
23	20 A	1	RECEPTACLE...	OFFICE 130	1080				500	PAINT BOOTH	EQUIPMENT	1	20 A	24
25	20 A	1	RECEPTACLE	3-D PRINTER	180				500	RP-1	Other CLOSET...	1	20 A	26
27	40 A	2	Other CLOSET 127A	EWH-5	4500				720	EXTENSION/PONY RECPT	RECEPTACLE...	1	20 A	28
29									--		SPARE	1	20 A	30
31	20 A	1	SPARE		--				--		SPARE	1	20 A	32
33	20 A	1	SPARE		--				--		SPARE	1	20 A	34
35	20 A	1	SPARE		--				--		SPARE	1	20 A	36
37	20 A	1	SPARE		--				--		SPARE	1	20 A	38
39														40
41														42
				TOTAL WATTS	20880 VA						TOTAL AMPS	58 A		

PANEL SCHEDULE — 2F WEST

PANEL LABEL: 2F WEST | MAINS: 225 A | ENCLOSURE
10 kA.I.C. (4) | MCB: 225 A | NEMA: Type 1
SERVED VIA MDPL | LUGS: | MOUNTING: SURFACE
208/120 Wye VOLT 3 Ø 4 WIRE | TOP | BOTTOM: | WIDTH: 20"

CKT	TRIP	POLE	LOAD TYPE	DESCRIPTION/ LOCATION	WATT	A	B	C	WATT	DESCRIPTION/ LOCATION	LOAD TYPE	POLE	TRIP	CKT
1	20 A	1	RECEPTACLE...	CORR RECPT	180				116	UPPER LIGHTING	LIGHTING	1	20 A	2
3	20 A	1	LIGHTING	REFERENCE 206 LIGHTING	314				796	POD/LOCAL HISTORY LIGHTING	LIGHTING	1	20 A	4
5	20 A	1	LIGHTING	READING 200 LIGHTING	2477				775	READING 200-2 LIGHTING	LIGHTING	1	20 A	6
7	20 A	1	RECEPTACLE...	STORAGE 211	900				900	CAFE 208-1	RECEPTACLE...	1	20 A	8
9	20 A	1	RECEPTACLE...	POD 205	1080				540	LOCAL HISTORY 203	RECEPTACLE...	1	20 A	10
11	20 A	1	RECEPTACLE...	RESTROOM 201	720				1872	VAV1-2.2	Other	2	20 A	12
13	20 A	1	RECEPTACLE...	OFFICE 207	1260									14
15	20 A	1	RECEPTACLE...	REFERENCE 206	1080				3000	CUH-A	Other	2	15 A	16
17	20 A	1	RECEPTACLE...	ROOF DECK 006	180									18
19	20 A	2	Other READING 200	VAV1-2.8	3744				1080	COMPUTER ROOM 226-1	RECEPTACLE...	1	20 A	20
21									540	COMPUTER ROOM 226-2	RECEPTACLE...	1	20 A	22
23	20 A	1	RECEPTACLE...	COMPUTER ROOM 226-5	720				540	COMPUTER ROOM 226-3	RECEPTACLE...	1	20 A	24
25	20 A	1	RECEPTACLE...	COMPUTER ROOM 226-6	1080				1260	COMPUTER ROOM 226-4	RECEPTACLE...	1	20 A	26
27	20 A	1	RECEPTACLE...	READING 200 COUNTER 1	1440				900	READING 200 COUNTER 2	RECEPTACLE...	1	20 A	28
29	20 A	1	RECEPTACLE	ROOFTOP RECPT	1440				800	EF-2	EQUIPMENT	1	20 A	30
31	45 A	2	EQUIPMENT	HP-G1	6032				6032	HP-G2	EQUIPMENT	2	45 A	32
33														34
35	40 A	2	EQUIPMENT	HP-G3	5200				5200	HP-G4	EQUIPMENT	2	40 A	36
37														38
39	20 A	1	EQUIPMENT	EF-E1	100				100	EF-1	EQUIPMENT	1	20 A	40
41	20 A	1	EQUIPMENT	EF-4	100				5200	HP-G5	EQUIPMENT	2	40 A	42
43	20 A	1	EQUIPMENT	EF-2	0									44
45	20 A	1	SPARE		--				--		SPARE	1	20 A	46
47	20 A	1	SPARE		--				--		SPARE	1	20 A	48
49	20 A	1	SPARE		--				--		SPARE	1	20 A	50
51	20 A	1	SPARE		--				--		SPARE	1	20 A	52
53	20 A	1	SPARE		--				--		SPARE	1	20 A	54
55	20 A	1	SPARE		--				--		SPARE	1	20 A	56
57	55 A	2	EQUIPMENT	2F-E	7078				2080	HP-T	EQUIPMENT	2	15 A	58
59														60
61	20 A	2	EQUIPMENT	HP-F	3328									62
63														64
				TOTAL WATTS	70184 VA						TOTAL AMPS	195 A		

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DETAILS- ELECTRICAL

NO.	DESCRIPTION	DATE
	SCHEMATIC DESIGN	10/25/24
	DESIGN DEVELOPMENT	02/21/25
	BID & PERMIT	10/03/25
3	CODE UPDATE CHANGES	04/10/26
4	ADDENDUM #2	09/10/26

E2.3

9/10/2026 2:32:25 PM

LUMINAIRE SCHEDULE

LISTED, APPROVED EQUALS: IT IS NOT UNDERSTOOD THAT THIS IMPLIES THAT A STANDARD LUMINAIRE IS ACCEPTABLE. THE LUMINAIRE MUST MEET ALL TECHNICAL REQUIREMENTS AS WELL AS BEING NAMED. ALTERNATE MANUFACTURERS ARE NOT ACCEPTABLE UNLESS APPROVED BY OWNER PRIOR TO THE G.M.P. ISSUE. REFER TO SPECIFICATION SECTION 26 50 00 FOR ADDITIONAL INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR SELECTING MOUNTING TYPE (SURFACE, RECESSED, LAY-IN, FLANGED, WALL, PENDANT, ETC). UNLESS OTHERWISE NOTED, ALL CCT AND CRI RATINGS ARE TO BE CONSISTENT THOUGH OUT THE LUMINAIRE PACKAGE. ALL DRIVERS ARE TO BE ELECTRONIC WITH 0-10V DIMMING CAPABILITY. ALL LENSES ARE TO BE SHIPPED WITHIN A PROTECTIVE COVERING. EMERGENCY FIXTURES ARE INDICATED AS PARTIALLY SHADED AND/ OR WITH AN "E" SUFFIX, FOR EXAMPLE, "A4E".

TAG	DESCRIPTION MANUFACTURER: MODEL NUMBER	LAMP WATTAGE	CCT/ CRI	VOLTAGE	EQUIVALENT MANUFACTURERS
A	2'X2' TROFFER LITHONIA 2BLT233LADPLP835	27 W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
A2	2'X2' TROFFER LIHTONIA 2BLT2 40L ADP LP835	31 W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
A4	2'X4' TROFFER 2BLT4 40L ADP LP835	31 W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
B-4	SUSPENDED 2IN APERTURE LINEAR NULITE RP24-D-STF-03-L35-4	12 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
B-6	SUSPENDED 2IN APERTURE LINEAR NULITE RP24-D-STF-03-L35-6	18 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
B-12	SUSPENDED 2IN APERTURE LINEAR NULITE RP24-D-STF-03-L35-12	36 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
B-22	SUSPENDED 2IN APERTURE LINEAR NULITE RP24-D-STF-03-L35-22	66 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
B-26	SUSPENDED 2IN APERTURE LINEAR NULITE RP24-D-STF-03-L35-26	78 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
B-28	SUSPENDED 2IN APERTURE LINEAR NULITE RP24-D-STF-03-L35-28	85 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
B-42	SUSPENDED 2IN APERTURE LINEAR RP24-D-STF-03-L35-42	126 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
B-46	SUSPENDED 2IN APERTURE LINEAR NULITE RP24-D-STF-03-L35-46	221 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
B2-4	SUSPENDED 2IN APERTURE LINEAR NULITE RP24-D-STF-06-L35-4	24 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
B2-6	SUSPENDED 2IN APERTURE LINEAR NULITE RP24-D-STF-06-L35-6	36 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
B2-18	SUSPENDED 2IN APERTURE LINEAR NULITE RP24-D-STF-06-L35-18	108 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
B2-24	SUSPENDED 2IN APERTURE LINEAR NULITE RP24-D-STF-06-L35-24	144 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
B2-36	SUSPENDED 2IN APERTURE LINEAR NULITE RP24-D-STF-06-L35-36	216 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
C 6	LOW-PROFILE LINEAR LIGHTING VODE 707-Z2-XX-Z-SO-359-S4	42 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
C 24	LOW-PROFILE LINEAR LIGHTING VODE 707-Z2-XX-Z-SO-359-S4	168 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
CRCT	LOW-PROFILE LINEAR LIGHTING VODE 707-Z2-XX-Z-SO-359-S4 (SHAPE)	140 W	CCT/ CRI	120 V	EQUIVALENT MANUFACTURERS
D1	4IN ROUND DOWN LIGHT GOTHAM IVO4S D 10LM 35K 80CRI MWD P AR LD	10.5 W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
D2	4IN ROUND DOWN LIGHT GOTHAM IVO4S D 15LM 35K 80CRI MD P AR LD	15.7 W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
D3	4IN ROUND DOWN LIGHT GOTHAM IVO4S D 30LM 35K 80CRI MD P AR LD	30.7 W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
F 28	WALL MOUNT ADJUSTABLE ART LIGHT NULITE RWZERO-D-FF-08-L35-SEC-UNV-D-11-WH-WAW06-	168 W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
G	LINEAR INDUSTRIAL STRIP LITHONIA CLX L48 4000LM SEF FDL MVOLT 35K 80CRI	26 W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
G2	LINEAR INDUSTRIAL STRIP LITHONIA CLX L48 7000LM SEF FDL MVOLT 35K 80CRI	47 W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
H	CUSTOM CONNECTED CONFIGURATION LIGHTART LA2 CON CONF 4H XX 830CK STD STM WP WH	22 W/SEC	3000K/80CRI	120 V	EQUIVALENT MANUFACTURERS
I1	CUSTOM WING - BOOK DESIGN LIGHTART ACC-WING-48L-650LM	29 W/FT	3500K/80	120 V	EQUIVALENT MANUFACTURERS
I2	CUSTOM WING - BOOK DESIGN LIGHTART ACC-WING-48L-650LM	29 W/FT	3500K/80	120 V	EQUIVALENT MANUFACTURERS
K	ACCOUSTIC MOBILE LIGHTART CUSTOM	W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
K2	ACOUSTIC MOBILE CYLINDER LIGHTART CASPER	W	3500K/80	120 V	EQUIVALENT MANUFACTURERS

LUMINAIRE SCHEDULE

LISTED, APPROVED EQUALS: IT IS NOT UNDERSTOOD THAT THIS IMPLIES THAT A STANDARD LUMINAIRE IS ACCEPTABLE. THE LUMINAIRE MUST MEET ALL TECHNICAL REQUIREMENTS AS WELL AS BEING NAMED. ALTERNATE MANUFACTURERS ARE NOT ACCEPTABLE UNLESS APPROVED BY OWNER PRIOR TO THE G.M.P. ISSUE. REFER TO SPECIFICATION SECTION 26 50 00 FOR ADDITIONAL INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR SELECTING MOUNTING TYPE (SURFACE, RECESSED, LAY-IN, FLANGED, WALL, PENDANT, ETC). UNLESS OTHERWISE NOTED, ALL CCT AND CRI RATINGS ARE TO BE CONSISTENT THOUGH OUT THE LUMINAIRE PACKAGE. ALL DRIVERS ARE TO BE ELECTRONIC WITH 0-10V DIMMING CAPABILITY. ALL LENSES ARE TO BE SHIPPED WITHIN A PROTECTIVE COVERING. EMERGENCY FIXTURES ARE INDICATED AS PARTIALLY SHADED AND/ OR WITH AN "E" SUFFIX, FOR EXAMPLE, "A4E".

L1	ACOUSTIC ANGLED 2X2 A-LIGHT LEANLH35UAWFD	40 W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
L2	ACOUSTIC ANGLED 2X2 A-LIGHT LEANLH35UAWFD	40 W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
L3	ACOUSTIC ANGLED 2X2 A-LIGHT LEANLH35UAWFD	40 W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
L4	ACOUSTIC ANGLED 2X2 A-LIGHT LEANLH35UAWFD	40 W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
M	SURFACE MOUNT DECORATIVE WAC PD-20004	22.5 W	3000K/90	120 V	EQUIVALENT MANUFACTURERS
N	LARGE ACOUSTIC RING LIGHTART ACC SHPE RING 16D MOD	W	3000K/90	120 V	EQUIVALENT MANUFACTURERS
P	PARKING GARAGE FIXTURE LITHONIA VCPG LED P3 40K T5M MVOLT	44 W	4000K/80	120 V	EQUIVALENT MANUFACTURERS
O	STAIRWELL LIGHTING LITHONIA WL4-30L-MVOLT-EZ1-LP835-EL7L-MSD7	32 W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
Q	CIRCULATION DESK PENDANT ALW LIGHTING CRP3 — 20903525 — DV00 — TBBK — AC	16 W	3500K/80	120 V	EQUIVALENT MANUFACTURERS
R	EXTERIOR WALL FLEX TUBE FTXIF-22IF-XWIN	5.5W/F	3500K/80	120 V	EQUIVALENT MANUFACTURERS
S	DECORATIVE PENDANT WAC LIGHTING 35446	30W	3000K/80	120 V	EQUIVALENT MANUFACTURERS
T	BACK OF HOUSE PENDANT HE WILLIAMS 80R-8'-L60-8-30	42W	3000K/80	120 V	EQUIVALENT MANUFACTURERS

EXTERIOR LUMINAIRE SCHEDULE

LISTED, APPROVED EQUALS: IT IS NOT UNDERSTOOD THAT THIS IMPLIES THAT A STANDARD LUMINAIRE IS ACCEPTABLE. THE LUMINAIRE MUST MEET ALL TECHNICAL REQUIREMENTS AS WELL AS BEING NAMED. ALTERNATE MANUFACTURERS ARE NOT ACCEPTABLE UNLESS APPROVED BY OWNER PRIOR TO THE G.M.P. ISSUE. REFER TO SPECIFICATION SECTION 26 50 00 FOR ADDITIONAL INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR SELECTING MOUNTING TYPE (SURFACE, RECESSED, LAY-IN, FLANGED, WALL, PENDANT, ETC). UNLESS OTHERWISE NOTED, ALL CCT AND CRI RATINGS ARE TO BE CONSISTENT THOUGH OUT THE LUMINAIRE PACKAGE. ALL DRIVERS ARE TO BE ELECTRONIC WITH 0-10V DIMMING CAPABILITY. ALL LENSES ARE TO BE SHIPPED WITHIN A PROTECTIVE COVERING. EMERGENCY FIXTURES ARE INDICATED AS PARTIALLY SHADED AND/ OR WITH AN "E" SUFFIX, FOR EXAMPLE, "A4E".

TAG	DESCRIPTION MANUFACTURER: MODEL NUMBER	LAMP WATTAGE	CCT/ CRI	VOLTAGE	EQUIVALENT MANUFACTURERS
BOL	BOLLARD LUMENBLADE BLDB-TM1-120/277-FSL-N05-40K-CRI 80-5			120 V	EQUIVALENT MANUFACTURERS
COL	COLUMN LUMENBLADE BLDC-TM1-120/277-CSL-XS15-40K-CRI 80-4BLS			120 V	EQUIVALENT MANUFACTURERS
COL-5	COLUMN LUMENBLADE BLDC-TM1-120/277-CSL-XS25-40K-CRI 80-5S			120 V	EQUIVALENT MANUFACTURERS
CV	ACCLAIM FLEX TUBE FXX-22X-XXX-XEN			120 V	EQUIVALENT MANUFACTURERS
KL	ILLUMINATED HANDRAIL IRAI LINEAR 3000K			120 V	EQUIVALENT MANUFACTURERS
PL-3	DSX0 LED-P4-30K-80CRI-T3M			120 V	EQUIVALENT MANUFACTURERS
PL-4	DSX0 LED-P4-30K-80CRI-TFTM HS			120 V	EQUIVALENT MANUFACTURERS
PL-5W	DSX0 LED-P3-30K-80CRI-T5W			120 V	EQUIVALENT MANUFACTURERS
PL-32	DSX0 LED-P1-40K-80CRI-T3M HS			120 V	EQUIVALENT MANUFACTURERS
PL-BLC	DSX0 LED-P3-30K-80CRI-BLC4			120 V	EQUIVALENT MANUFACTURERS
STP	STEP LIGHT DWN-1-10-60-CT30-DC-ND-GR			120 V	EQUIVALENT MANUFACTURERS
FP	FLAG POLE LIGHTING ERCOLIGHTSCAN PROJECTOR 34891.023	21W		120 V	EQUIVALENT MANUFACTURERS

PANEL SCHEDULE — LS

PANEL LABEL: LS — **MAINS:** 100 A — **ENCLOSURE**
22 KA.I.C. (4) — **MCB:** — **NEMA:** Type 1
SERVED VIA MDPL — **LUGS:** — **MOUNTING:** SURFACE
208/120 Wye **VOLT** 3 **Ø** 4 **WIRE** — **TOP** — **BOTTOM:** — **WIDTH:** 20"

CKT	TRIP	POLE	LOAD TYPE	DESCRIPTION/ LOCATION	WATT	A	B	C	WATT	DESCRIPTION/ LOCATION	LOAD TYPE	POLE	TRIP	CKT
1	20 A	1	LIGHTING	GROUND EM LIGHTING	648				878	1F EAST EM LIGHTING	LIGHTING	1	20 A	2
3	20 A	1	LIGHTING	2F WEST EM LIGHTING	719				584	2F EAST EM LIGHTING	LIGHTING	1	20 A	4
5	20 A	1	LIGHTING	1F SOUTH EM LIGHTING	56				286	STAIR EM LIGTHING	LIGHTING	1	20 A	6
7	20 A	1	LIGHTING	STAIR 5 CIRCUIT 2	32				32	STAIR 5 EM LIGHTING	LIGHTING	1	20 A	8
9	20 A	1	LIGHTING ELEV...	ELEVATOR PIT LIGHTING	64				116	1F NORTH EM LIGHTING	LIGHTING	1	20 A	10
11	20 A	1	LIGHTING	STAIR 5 1F LIGHTING	96				0	STAIR 4 EM LIGHTING	LIGHTING	1	20 A	12
13	20 A	1	LIGHTING	TWEENS EM LIGHTING	392				192	EM LIGHTING PAKING	LIGHTING	1	20 A	14
15														16
17														18
19														20
21														22
23														24
25														26
27														28
29														30
31														32
33														34
35														36
37														38
39														40
41														42
				TOTAL WATTS	4095 VA						TOTAL AMPS	11 A		

PANEL SCHEDULE — 2F EAST

PANEL LABEL: 2F EAST — **MAINS:** 225 A — **ENCLOSURE**
22 KA.I.C. (4) — **MCB:** — **NEMA:** Type 1
SERVED VIA MDPL — **LUGS:** — **MOUNTING:** SURFACE
208/120 Wye **VOLT** 3 **Ø** 4 **WIRE** — **TOP** — **BOTTOM:** — **WIDTH:** 44"

CKT	TRIP	POLE	LOAD TYPE	DESCRIPTION/ LOCATION	WATT	A	B	C	WATT	DESCRIPTION/ LOCATION	LOAD TYPE	POLE	TRIP	CKT
1	20 A	1	LIGHTING	READING 200 LIGHTING 1	1650				1172	DISTRICT 214 LIGHTING	LIGHTING	1	20 A	2
3	20 A	1	LIGHTING	READING 200 LIGHTING 2	1128									4
5	30 A	2	Other MECHANICAL 229	MECH 229 UHB-1	5000				4500	EWH-3	Other	2	40 A	6
7														8
9	30 A	2	Other MECHANICAL 229	MECH 229 UHB-2	5000				4500	EWH-4	Other MECHANICAL 229	2	40 A	10
11														12
13	20 A	1	RECEPTACLE...	CONF ROOM 220	1440				1872	VAV2-2.7	Other STORAGE 217	2	20 A	14
15	20 A	1	RECEPTACLE...	TOILET 218	360									16
17	20 A	1	RECEPTACLE...	LOWER ROOFTOP RECPT	900				3120	VAV2-2.8	Other	2	20 A	18
19	20 A	1	RECEPTACLE...	READING 200	1080				1080	DISTRICT 214 RECPT	RECEPTACLE...	1	20 A	20
21	20 A	1	RECEPTACLE...	CORR 227	1080				720	CORR 227-2	RECEPTACLE...	1	20 A	22
23	20 A	1	EQUIPMENT	EF-L	800				100	EF-3	EQUIPMENT	1	20 A	24
25	20 A	1	POWER READIN...	READING 200-2	900				3120	VAV2-2.6	Other READING 200	2	20 A	26
27	20 A	1	RECEPTACLE...	FRIENDS BOOKSTORE	1260									28
29	20 A	2	Other READING 200	VAV2-2.4	3120				1080	READING 200-3	RECEPTACLE...	1	20 A	30
31									3120	VAV2-2.5	Other READING 200	2	20 A	32
33	20 A	1	RECEPTACLE	POD 213	900									34
35	20 A	2	Other READING 200	VAV2-2.2	3120				1260	READING 200 DESK	RECEPTACLE...	1	20 A	36
37									3000	CUH-A	Other	2	15 A	38
39	20 A	1	EQUIPMENT	ELEC SHADE-2	500									40
41	25 A	2	EQUIPMENT	HP 1.5	3328				50	BR-4	Other	1	20 A	42
43						...	...		540	ELEC ROOM RECPT	RECEPTACLE...	1	20 A	44
45	20 A	1	RECEPTACLE...	220 RACK 1	360	...	...		360	220 RACK 2	RECEPTACLE...	1	20 A	46
47														48
49														50
51														52
53														54
55														56
57														58
59														60
61														62
63														64
65														66
67														68
69														70
71														72
73	20 A	1	SPARE		--	...			--		SPARE	1	20 A	74
75	20 A	1	SPARE		--	...			--		SPARE	1	20 A	76
77	20 A	1	SPARE		--	...			--		SPARE	1	20 A	78
79	20 A	1	SPARE		--	...			--		SPARE	1	20 A	80
81	20 A	1	SPARE		--	...			--		SPARE	1	20 A	82
83	20 A	1	SPARE		--	...			--		SPARE	1	20 A	84
				TOTAL WATTS	61520 VA						TOTAL AMPS	171 A		

PANEL SCHEDULE — HR

PANEL LABEL: HR — **MAINS:** 800 A — **ENCLOSURE**
35 KA.I.C. (4) — **MCB:** — **NEMA:** Type 1
SERVED VIA MDPH — **LUGS:** — **MOUNTING:** SURFACE
480/277 Wye **VOLT** 3 **Ø** 4 **WIRE** — **TOP** — **BOTTOM:** — **WIDTH:** 20"

CKT	TRIP	POLE	LOAD TYPE	DESCRIPTION/ LOCATION	WATT	A	B	C	WATT	DESCRIPTION/ LOCATION	LOAD TYPE	POLE	TRIP	CKT
1	150 A	3	EQUIPMENT	RTU-3	132190				15000	FTU2-2.1	Other READING 200	3	20 A	2
3														4
5														6
7	30 A	3	Other READING 200	VAV2-2.3	4406				4000	FTU1-2.4	Other RECORDING 204	3	30 A	8
9														10
11														12
13	30 A	3	Other LOCAL HISTORY COLLECTION 203	FTU1-2.1	3000				4406	VAV1-2.1	Other REFERENCE 206	3	30 A	14
15														16
17														18
19	20 A	3	Other REFERENCE 206	VAV1-2.5	8147				13000	FTU1-2.5	Other REFERENCE 206	3	20 A	20
21														22
23														24
25	20 A	3	Other DEMONSTRATION KITCHEN 209	FTU1-2.6	9000				4403	VAV1-2.6	Other DEMONSTRATION KITCHEN 209	3	30 A	26
27														28
29														30
31	20 A	3	Other READING 200	FTU1-2.3	5000				11000	FTU1-2.2	Other READING 200	3	20 A	32
33														34
35														36
37	20 A	3	Other READING 200	VAV2-2.1	7482				3500	VAV 1-2.7	Other READING 200	3	30 A	38
39														40
41														42
43	250 A	3	EQUIPMENT	RTU-1	162119	...	...		132190	RTU-2	EQUIPMENT	3	250 A	44
45														46
47														48
49														50
51														52
53														54
55														56
57														58
59														60
				TOTAL WATTS	518843 VA						TOTAL AMPS	624 A		

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NO.	DESCRIPTION	DATE
	SCHEMATIC DESIGN	10/25/24
	DESIGN DEVELOPMENT	02/21/25
	BID & PERMIT	10/03/25
4	ADDENDUM #2	09/10/26

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DIVISION 11 - EQUIPMENT

11 12 00 PARKING CONTROL EQUIPMENT
11 13 13 LOADING DOCK BUMPERS

DIVISION 12 - FURNISHINGS

12 24 13 ROLLER WINDOW SHADES
12 36 61 SIMULATED STONE COUNTERTOPS
12 93 00 SITE FURNISHINGS

DIVISION 14 - CONVEYING EQUIPMENT

14 24 00 HYDRAULIC ELEVATORS

DIVISION 32 - LANDSCAPE

32 14 00 UNIT PAVING
32 92 00 TURF & GRASSES
32 93 00 PLANTS
32 93 01 TREE TRANSPLANTING
32 94 51 SOIL CELLS

END OF TABLE OF CONTENTS

BID FORM – HVAC/MECHANICAL CONTRACTOR PRIME

1. In compliance with the Notice to Bidders and the Contract Documents, we, the undersigned, do hereby agree to provide all labor, materials, services, tools, and equipment, and to perform all of the required work to complete the:

   For the:

   Montgomery County MC-NPL

   Montgomery County Bid No. 6604

   Montgomery County
   Purchasing Department
   One Montgomery Plaza
   425 Swede Street
   Norristown, PA 19401

   For: Montgomery County, Owner

   All in strict accordance with the Specifications, Schedules, Drawings, Allowances, and Conditions for the consideration of the following amounts, including federal, state, and all applicable taxes, for the sum of:

   Bid Item No. 1--Base Bid Mechanical Work: $_____

   _____
   (Write the dollar amount in words)

   ☐ Check box to confirm contract allowance are included in base bid in accordance with Specification 01 21 00.

   Required forms to be included with bid submission:

   ☐ This Proposal Form

   ☐ AIA A310 Bid Bond or Equivalent

   ☐ Non-Collusion Affidavit

   ☐ Non-Discrimination Affidavit

   ☐ Prime Contractor Information Form

   ☐ Responsible Contractor Ordinance Form

1. Allowances:

A. Allowance No. 5: Existing Conditions (MC)

1. Mechanical Prime Contractor shall include this allowance in the base bid.

2. Amount: $60,000 (Sixty Thousand Dollars and Zero Cents)

2. Alternates:

A. Alternate Add No. 5 – Local History Collection Rm203 Ducted De-humidifier
Provide a packaged ducted de-humidifier to the Local History Collection room #203.
Reference: M0.1. Basis of design for alternate is model “Quest Dual 155” or Equal.

1. Mechanical Prime Contractor (MC)

Alt.5-MC: Add / Deduct (circle one) $_____

_____
(Write the dollar amount in words)

B. Alternate Add No. 7 – Rigid Insulation at RTU Roof Curb. Provide 4” Rigid insulation around inside perimeter of roof curb in lieu of Hush core sound reduction system.
Reference: M2.2

1. Mechanical Prime Contractor (MC)

Alt.7-MC: Add / Deduct (circle one) $_____

_____
(Write the dollar amount in words)

C. Alternate Add No. 8 – Expandable Foam at Acoustical Duct Penetrations. Provide expandable foam at interior wall duct acoustic penetrations in lieu of fiberglass.
Reference: M2.1

1. Mechanical Prime Contractor (MC)

Alt.8-MC: Add / Deduct (circle one) $_____

_____
(Write the dollar amount in words)

2. Unit Prices:

No Unit Prices for this Prime Bid Package.

3. We, the undersigned, agree, if awarded the Contract, to execute an agreement for the above-stated work and compensation on the Form of Agreement contained herein specified.

4. We, the undersigned, agree, if awarded the Contract, to begin work at the site within Five (5) days after Notice to Proceed, and to complete the work in a thoroughly good and workmanlike manner to the satisfaction of the Owner, on or before the Completion Dates as stated in the bid schedule and project specifications.

5. We, the undersigned, acknowledge receipt of and have considered in our proposal Addenda and supplemental information posted on the procurement website, Bonfire.

6. Bid results are available on the web at < http://www.montcopa.org/495/Purchasing>.

7. We, the undersigned agree, if awarded the contract, to adhere to all the requirements of the Community Participation Goal Requirements. Refer to Exhibit A, included in the project documentation.

8. We, the undersigned, agree that this Proposal as submitted shall hold good through the one hundred twenty (120) days following the bid date.

Submitted By: _____

Federal ID Number: _____

PA Vendor Number: _____

Address: _____

_____

Signed By: _____
Authorized Signature

Attest: _____

Surety Name: _____

Surety Address: _____

_____

Date: _____

END OF DOCUMENT

BID FORM – ELECTRICAL CONTRACTOR PRIME

1. In compliance with the Notice to Bidders and the Contract Documents, we, the undersigned, do hereby agree to provide all labor, materials, services, tools, and equipment, and to perform all of the required work to complete the:

   For the:

   Montgomery County MC-NPL

   Montgomery County Bid No. 6604

   Montgomery County
   Purchasing Department
   One Montgomery Plaza
   425 Swede Street
   Norristown, PA 19401

   For: Montgomery County, Owner

   All in strict accordance with the Specifications, Schedules, Drawings, Allowances, and Conditions for the consideration of the following amounts, including federal, state, and all applicable taxes, for the sum of:

   Bid Item No. 1--Base Bid Electrical Work $_____

   _____
   (Write the dollar amount in words)

   ☐ Check box to confirm contract allowance are included in base bid in accordance with Specification 01 21 00.

   Required forms to be included with bid submission:

   ☐ This Proposal Form

   ☐ AIA A310 Bid Bond or Equivalent

   ☐ Non-Collusion Affidavit

   ☐ Non-Discrimination Affidavit

   ☐ Prime Contractor Information Form

   ☐ Responsible Contractor Ordinance Form

1. Allowances:

A. Allowance No. 6: Existing Conditions (EC)

1. Electrical Prime Contractor shall include this allowance amount in the base bid.

2. Amount: $100,000 (One-Hundred Thousand Dollars and Zero Cents)

B. Allowance No 7: Provide and Install Twelve (12) additional Exit Signs. (EC)

1. Electrical Prime Contractor shall include this allowance in the base bid.

2. Amount: $6,000 (Six Thousand Dollars and Zero Cents)

C. Allowance No. 10: Emergency Responder Radio System (EC)

1. Electrical Prime Contractor shall include this allowance amount in the base bid.

2. Amount: $180,000 (One Hundred Eighty Thousand Dollars and Zero Cents)

2. Alternates:

A. Alternate Add No. 1 – Domestic Water Booster Pump (Deleted)
Reference: P1.0a

1.1 Electrical Prime Contractor (EC): To not provide power:

Alt.1-EC: Add / Deduct (circle one) $_____

_____

(Write the dollar amount in words)

B. Alternate Add No. 2 - Fire Pump (Deleted)
New 24” Water Main Pipe at Swede Street Potentially increasing water pressure. Please reference: P0.1, FP1.0a

1. Electrical Prime Contractor (EC): Provide value for deleted fire pump wiring and power.

Alt.2-EC: Add / Deduct (circle one) $_____

_____
(Write the dollar amount in words)

C. Alternate Add No. 3 – 2nd Floor Fireplace
Cost to provide the referenced Fireplace. Millwork opening will be included in the base bid.
Reference: M0.1, A9.2A
ANF: AQUAFIRE DESIGN, STYLE: PRESTIGE 60" WATER VAPOR FIREPLACE
(SKU: AWPR 60-150)

1. Electrical Prime Contractor (EC): Furnish & install electric fireplace.

Alt.3-EC: Add / Deduct (circle one) $_____

_____
(Write the dollar amount in words)

D. Alternate Add No. 4 – Exterior Typewriter Key Seating & Lighted Bollards
Furnish and install Twenty-two (22) typewriter key seats (similar to but different from the lobby typewriter seating) and Three (3) lighted bollards on the project west side of the building in lieu of Five (5) Streetlife Solid Crosswise and Curved Top Seat benches and Five (5) STP lights. Reference plans (including but not limited to): L2.1, L4.0, L7.1, A4.2, A9.10, E1.7. Note: Bollard anchors must be set in concrete.

1. Electrical Prime Contractor (EC): Provide pricing alternate for lighted bollard lights in lieu of STP lights.

Alt.4-EC: Add / Deduct (circle one) $_____

_____
(Write the dollar amount in words)

E. Alternate Add No. 5 – Local History Collection Rm203 Ducted De-humidifier
Provide a packaged ducted de-humidifier to the Local History Collection room #203.
Reference: M0.1

1. 1. Electrical Prime Contractor (EC)

Alt.5-EC: Add / Deduct (circle one) $_____

_____
(Write the dollar amount in words)

F. Alternate Add No. 10 – Elevator Overcurrent Protection Device & Machine Room/Shaft Heat Detection
Eliminate shunt trip enabled overcurrent protection device requirement for elevator power. Remove heat detection from Machine room and shaft. Coordinate all work with Fire Protection Prime Contractor.
Reference: E2.1

1. Electrical Prime Contractor (EC)

Alt.10-EC: Add / Deduct (circle one) $$_____

_____
(Write the dollar amount in words)

G. Alternate Add No. 12 – Mobile Video Guard Site Security
Provide Mobile Video Guard Site Security or Equal. 24-month duration, equipment mounting and dedicated power provided.

1. Electrical Prime Contractor (EC)

Alt.12-EC: Add / Deduct (circle one) $_____

_____
(Write the dollar amount in words)

3. Unit Prices:

Fill-in clearly the numerical value of unit prices below.

No.	Item	Unit Price Add	Unit	Unit Price Deduct	Unit
A.	Unit Cost: Cost to furnish and install (1) Electrical Power Outlet - Duplex		/PC		/PC
B.	Unit Cost: Cost to furnish and install (1) Data Outlet		/UC		/UC

4. We, the undersigned, agree, if awarded the Contract, to execute an agreement for the above-stated work and compensation on the Form of Agreement contained herein specified.

5. We, the undersigned, agree, if awarded the Contract, to begin work at the site within Five (5) days after Notice to Proceed, and to complete the work in a thoroughly good and workmanlike manner to the satisfaction of the Owner, on or before the Completion Dates as stated in the bid schedule and project specifications.

6. We, the undersigned, acknowledge receipt of and have considered in our proposal Addenda and supplemental information posted on the procurement website, Bonfire.

7. Bid results are available on the web at < http://www.montcopa.org/495/Purchasing>.

8. We, the undersigned agree, if awarded the contract, to adhere to all the requirements of the Community Participation Goal Requirements. Refer to Exhibit A, included in the project documentation.

9. We, the undersigned, agree that this Proposal as submitted shall hold good through the one hundred twenty (120) days following the bid date.

Submitted By: _____

Federal ID Number: _____

PA Vendor Number: _____

Address: _____

_____

Signed By: _____
Authorized Signature

Attest: _____

Surety Name: _____

Surety Address: _____

_____

Date: _____

END OF DOCUMENT

DRAFT

AIA® Document A232® – 2019

General Conditions of the Contract for Construction, Construction Manager as Adviser Edition

for the following PROJECT:
(Name, and location or address)

«Montgomery County-Norristown Public Library-Phase 1 Interior Demolition »
Norristown, PA 190401»

THE CONSTRUCTION MANAGER:
(Name, legal status, and address)

«Skanska USA Building Inc. »
«1010 Spring Mill Avenue »
«Suite 300
Conshohocken, PA 19428 »

THE OWNER:
(Name, legal status, and address)

«County of Montgomery »
«PO Box 311 »
«Norristown, PA 19404 »

THE ARCHITECT:
(Name, legal status, and address)

«Kimmel Bogrette Architecture + Site »
«482 Norristown Road, Suite 200»
«Blue Bell, PA 19422 »

The Project is subject to the requirements of the Pennsylvania Separations Act (53 P.S. Section 1003). These General Conditions, as amended, shall be applicable to the activities and Work of each of the Contractors separately engaged by the Owner as set forth in their respective Agreements.

It is the desire of the Owner to implement and have all of the participants on the Project utilize and adhere to procedures promulgated by the Lean Construction Institute (collectively, the "Lean Procedures") which shall be coordinated by the Construction Manager. Contractor shall refer to Specification Section 01-3200.

Notwithstanding anything to the contrary contained herein, each prime Contractor is responsible for scheduling its day-to-day activities and tasks. Each prime Contractor shall provide schedules and updates to the Construction Manager in a timely manner, who shall prepare and manage the overall Construction Schedule as hereinafter defined. The Construction Manager shall oversee the overall progress of the Work and Project.

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with AIA Documents A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition; B132™–2019, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™–2019, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

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DRAFT

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents. The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement), as amended and consist of the Agreement, Conditions of the Contract (consisting of these General Conditions of the Contract, and any Supplementary and other Conditions) as amended, Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of addenda relating to bidding or proposal requirements. The Contractor shall be fully familiar with all documents relating to the Project. In the event of a conflict with other contractors regarding scope as set forth in the bid documents, the Construction Manager shall make an initial determination which shall be binding on the Contractor.

§ 1.1.2 The Contract. The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and the Construction Manager or the Construction Manager's consultants, (3) between the Owner and the Architect or the Architect's consultants, (4) between the Contractor and the Construction Manager or the Construction Manager's consultants, (5) between the Owner and a Subcontractor or Sub-subcontractor (6) between the Construction Manager and the Architect, or (7) between any persons or entities other than the Owner and Contractor. The Construction Manager and Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate the performance of their respective duties. The Owner shall be entitled to performance of the obligations intended for its benefit, and to enforcement thereof. If any Contractor fails to fulfill its responsibilities in the performance of its Work, as described in the Contract Documents, the Contractor shall remain responsible to the Owner for the final completion of the Work and for any damages, losses, costs and expenses incurred by the Owner as a result of claims by a separate contractor engaged by the Owner for the Project. The Contractor acknowledges: a) that the Work is an obligation intended for the benefit of the Owner; and b) that none of the Subcontractors of the Contractor shall have contractual or third party beneficiary rights against the Owner due to any of the Owner's obligations hereunder; and c) each of the prime Contractors engaged by the Owner for the Project may be dependent upon the timely Work of the Contractor. The Contractor shall cause its Subcontractors to so acknowledge in their respective Subcontracts. However, the Owner shall be understood to be a third-party beneficiary of the performance obligations of each and all of the Subcontractors.

§ 1.1.3 The Work. The term "Work" means the construction and services required by the Contract as defined above , whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor and the Subcontractors, Sub-subcontractors at every level, material suppliers and other entities for whom the Contractor is responsible to fulfill the Contractor's obligations, under its Contract, whether on or off the Property. The Work constitutes a part of the Project.

§ 1.1.4 The Project. The Project is the total construction of which the Work performed under the Contract Documents and which includes construction by other Contractors, and by the Owner's own forces and Separate Contractors.

§ 1.1.5 Contractors. Contractors are persons or entities, other than the Contractor or Separate Contractors, who perform Work under contracts with the Owner that are administered by the Architect and Construction Manager.

§ 1.1.6 Separate Contractors. Separate Contractors are persons or entities who perform construction under separate contracts with the Owner not administered by the Architect and Construction Manager.

§ 1.1.7 The Drawings. The Drawings are the graphic and pictorial portions of the Contract Documents applicable to the Contract and the Work thereunder, whenever issued showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

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§ 1.1.8 The Specifications. The Specifications are that portion of the Contract Documents applicable to the Contract and the work thereunder consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.9 Instruments of Service. Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.10 Property The Property is the real property and all improvements thereon known as Montgomery County Norristown Public Library and located at 1001 Powell Street, Norristown, Montgomery County, PA 19401.

§ 1.1.11. Project Site The Project Site is the Property, including the improvements thereon, and the location of the site where the Work by the respective Contractors is to be performed.

§ 1.1.12 Architect's Supplementary Instructions. Supplementary drawings, written instructions or an order for minor modifications of any of the Work issued by the Architect which does not involve an adjustment to the Contract Sum or an extension of the Contract Time.

§ 1.1.13 Addenda. Forms issued by the Architect prior to or after the execution of the Contract which interpret or modify the Bid Documents by additions, deletions, clarifications or corrections.

§ 1.1.14 Bid Documents. The drawings, specifications and other Contract Documents which are issued to prospective bidders for Contracts for the Work – in conformity with the Separations Act and applicable public bidding requirements – including any requests for proposals or other invitations to bid, and related documents that are to be executed and submitted by the Contractor with its bid proposal for the Work for the Project for which the prospective bidder submitted its bid.

1.1.15 Bulletin (or AIA Form G709 - Proposal Request). Form issued by the Architect after the execution of the Contract at the direction of the Owner, requesting a cost proposal for changes in the Work which are outlined and described in the Bulletin, which may also include revised Drawings and/or revised Specifications.

§ 1.1.16 Notice to Proceed. Written authorization to the Contractor from the Owner to commence construction activities pursuant to the Contract applicable to such Contractor. The Notice to Proceed may be delivered in person by Owner to the Contractor or mailed to the Contractor by certified or registered mail, return receipt requested.

§ 1.1.17 Indemnitees. Owner, the Architect, Construction Manager, and each of their respective officers, directors, employees, agents, representatives, successors, and assigns.

§ 1.1.18 Government Authorities (or Authorities Having Jurisdiction or AHJ). Any federal, state, local governmental entity or authority having jurisdiction over the Work, the Project or the Contractor.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents with respect to the Work of the Contractor is to include therein or by reference all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control any Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

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§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.4 Subject to the provisions of Section 1.2.5, in the event of inconsistencies within or between parts of the Contract Documents applicable to the Work of a Contractor, or between the Contract Documents and applicable standards, codes, and ordinances, the Contractor shall (i) provide the better quality or greater quantity of Work, or (ii) comply with the more stringent requirement; either or both in accordance with the Architect's interpretation and direction.

§ 1.2.5 The Architectural and Structural Drawings and details shall govern in the event of any conflicts between such Drawings and the Mechanical and Electrical Drawings, but not to the extent of allowing, nor shall the foregoing relieve the Mechanical or Electrical Contractor of responsibility for the omission of any items shown on Mechanical and Electrical Drawings.

§ 1.2.6 The provisions of the Contract Documents applicable to each Contract are binding on the Contractor, Subcontractors, and Sub-subcontractors for all Work shown or indicated on the original Contract Documents applicable thereto plus any additional work authorized by change order, interpretation or field orders pursuant to such Contract Documents.

§ 1.2.7 Should a conflict occur in or between any drawings and/or specifications, the Contractor is deemed to have estimated on and agreed to perform the more expensive way of doing the Work under its Contract. Manufacturer's equipment specifications are based on models and/or construction and installation procedures prevailing at the date of the invitation and/or advertisement to submit bid proposals. Equipment installations requiring modifications due to manufacturer's model and/or construction changes and other variations from the items specified shall be furnished and installed by the Contractor at no additional cost to Owner.

§ 1.2.8 Requests by the Contractor for written interpretations and/or detail drawings shall be made to the Architect in a timely manner such as will allow ample time for their preparation and delivery without causing delays in the Work or the Project. Failure of the Contractor to request needed clarifications and/or in the event of its proceeding with affected work prior to receiving same, shall indicate its acceptance of any and all costs and/or delays required on account of necessary corrections.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 Instruments of Service, including the Drawings and Specifications, are and shall remain property of the Owner and the Owner will retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. None of the Contractors, Subcontractors, sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution of any Drawings or Specifications to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Owner's reserved rights.

§ 1.5.2 The Contractors, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractors, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific prior written consent of the Owner.

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§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The Contractor shall use the Architect's standard Digital Agreement.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in Architect's standard 3D Model Release Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees. The Contractor acknowledges that 3D Computer Model is not a part of the Construction or Contract Documents for the Project and that Architect makes no representations or warranties, express or implied, regarding the 3D Computer Model, the accuracy or completeness of the 3D Model or the data and/or information contained therein. Contractor will be required to execute Architect's standard 3D Computer Model release form prior to Contractor's use of said Model

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Construction Manager and the Architect do not have such authority. The term "Owner" means the Owner or the Owner's authorized representative. Contractor recognizes that the Owner is a public body and may only act through its governing body.

§ 2.2 Evidence of the Owner's Financial Arrangements – Intentionally Omitted

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for Building permit and related fee that are the specific responsibility of the Owner under the Contract Documents, the Contractor shall secure and pay for all necessary approvals required for construction, and the performance of its Work. Unless otherwise provided under the Contract Documents, the Owner, assisted by the Construction Manager, shall secure and pay for the building permit. The Contractor shall cooperate with the Construction Manager as necessary to enable the Construction Manager to secure the building permit. The Contractor shall be responsible for any and all costs associated with road closures, sidewalk closures, parking fees and such other costs related to their Work including, but not limited to those identified in the Contract Documents.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 The Owner shall retain a construction manager adviser lawfully practicing construction management in the jurisdiction where the Project is located. That person or entity is identified as the Construction Manager in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.4 If the employment of the Construction Manager or Architect terminates, the Owner shall employ a successor construction manager or architect whose status under the Contract Documents shall be that of the Construction Manager or Architect, respectively.

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§ 2.3.5 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the Project Site, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work as noted below.

§ 2.3.6 Contractor shall check any surveys and if the Contractor notes any inaccuracies in such surveys with the observable physical conditions of the Property and the Contract Documents, if shall so promptly notify Owner in writing. Contractor assumes full responsibility for timely acquainting itself by visual observation and review of information contained in the documents provided by Owner, Architect and Construction Manager with the location of its Work, with the location of utilities situated on, near or under its Work site or otherwise affecting its Work as shown on the Drawings and Specifications, the soils, subsurface conditions and all other construction activity and conditions presently occurring on the Project Site, as well as that being proposed at the Project Site whether to be performed by another Contractor or otherwise.

§ 2.3.6.1 The Owner shall furnish any information or services under the Owner's control and relating to the Contractor's performance of its Work after receiving the Contractor's written request for such information or services.

§ 2.3.7 The Owner and Contractor shall forward all communications to the Construction Manager.

§ 2.3.8 The Owner shall not be precluded or estopped by any approvals made or given by them under any provision or provisions of any Contract Documents and subject thereto, at any time, either before or after completion and acceptance of the Work thereunder and payment therefor, from identifying true and correct amount and character of the Work performed and materials and equipment furnished by the Contractor and its Subcontractors; nor from showing at any time that the Work or materials, equipment or any parts thereof do not conform to the Drawings and Specifications and the other Contract Documents applicable to the Contractor. The Owner shall have the right to reject the whole or any part of the aforesaid Work or materials and equipment should the said Work be inconsistent and not in compliance with the terms of the applicable Contract, or otherwise improperly performed or defective; and the Owner shall not be precluded or estopped from demanding and recovering from the Contractor such costs, expenses or damages as it may sustain or incur by reason of their failure to comply with the terms of the Contract Documents applicable to the Contractor, or on account of any over-payments made based on any estimate or certificate. Neither the acceptance by the Owner, not any certificate approved for payment of money, nor any payments for, nor acceptance of the whole or any part of the Work by the Owner, nor any extension of time, nor any possession taken by the Owner shall operate as a waiver of any portion of the Contract Documents applicable to the obligations of the Contractor or any power herein reserved by the Owner or any right to damages by the Owner, nor shall any waiver of any breach of the such applicable Contract Documents be held to be a waiver of any other or subsequent breach by the Contractor.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner by written order signed personally or by an agent specifically so empowered by the Owner in writing, may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity. Owner's exercise of the right described in this section shall not give rise to any extension of the Contract Time nor increase in the Contract Sum. The Contractor shall commence and diligently complete correction of Work, including all Work identified on the Non-Conforming Work list. The Owner shall be entitled to withhold the reasonable value of such Non-Conforming Work from subsequent Applications for Payment should the Contractor fail to commence and diligently pursue correction within ten (10) business days of receipt of notice from the Construction Manager.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out its Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may immediately, without prejudice to any other remedies the Owner may have, correct such default or neglect and hold the Contractor responsible for all costs, and expenses associated therewith, including reasonable professional fees. The Construction Manager or Architect may, pursuant to Section 9.5.1, withhold or nullify any Certificate for Payment in whole or in part, to the extent reasonably

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necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Construction Manager's and Architect's and their respective consultants' additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

§ 2.6 Additional Rights

§ 2.6.1 The Contractor shall provide access to the Project Site and the Work so that Owner, Architect, Construction Manager and their representatives may perform their functions under the Contract Documents.

§ 2.6.2 The rights stated in this Article 2 shall be in addition to and not in limitation of any other rights of the Owner granted in the Contract Documents or at law or in equity.

§ 2.6.3 The Owner shall have the right to occupy, take possession of any/or use, or permit any designated person to occupy or use, any completed or partially completed portions of the Work, notwithstanding that the time for completing the entire Work or such portions may not have expired, but such occupancy, taking possession and use shall not be deemed an acceptance of any Work that is deficient or not completed in accordance with the Contract Documents applicable thereto. Any such occupancy, possession and/or use by the Owner will not relieve any Contractor of its obligation to maintain insurance in acceptance with Article 11 of its Contract.

§ 2.6.4 The Owner's exercise of any of its rights or remedies under any of the Contract Documents, including without limitation, ordering changes in the Work or any portion thereof, or directing suspensions, or correction of the Work or any portion thereof, and regardless of the extent or frequency of the Owner's exercise of such rights or remediates, shall not be construed as interference, active or otherwise, with the Contractor's performance of the Work under its Contract.

§ 2.6.5 The Owner will not be responsible for and will not have control or charge over construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with any of the Work and/or the Project, and Owner will not be responsible for any Contractor's failure to carry out the Work under its Contract in accordance with the applicable Contract Documents and applicable laws, rules and regulations. Owner will not be responsible for or have control or charge over the acts or omissions of any Contractors, Subcontractors, or any of their agents or employees, or any other person performing any of the Work.

§ 2.6.6 The Owner has the authority to reject any portion of the work which does not conform to the Contract Documents applicable thereto or which is otherwise deficient. Whenever, in its sole opinion, Owner considers it necessary or advisable for implementation of the intent of the Contract Documents applicable thereto, Owner will have the authority to require special inspection or testing of the Work in accordance with Section 13.5.2, whether or not such Work is then fabricated, installed or completed. However, neither the Owner's authority to act under this Section, nor any decision made by Owner in good faith, either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of Owner to any Contractors, subcontractor, any of their agents or employees, or any other person performing any of the Work.

§ 2.6.7 In the event the Owner or Construction Manager determines that the progress of the Work affecting the critical path of the Agreed Construction Schedule is behind or otherwise does not comply with the progress set forth in the Agreed Construction Schedule due to delays of any Contractor or its Subcontractors in performing the Work under its Contract pursuant to the Agreed Construction Schedule, such Contractor is not entitled to receive an extension of the Contract Time or any additional compensation in accordance with the Contract Documents. Such Contractor shall submit to the Owner and Construction Manager for their approval a "recovery Plan" within 5 business days of request by the Construction Manager which will indicate the manner in which such Contractor intends to get its Work back on schedule in accordance with the Agreed Construction Schedule, which may include, without limitation, increasing the number of workmen performing the Work, utilizing overtime work and requiring additional work shifts and such other information as the Construction Manager may require. Such plan shall be implemented within twenty-four hours of the Construction Manager's approval. The costs and expenses of preparing and implementing the Recovery Plan shall be borne solely by the Contractor and shall not be subject of a Change Order modifying the Contract Time or the Contract Sum. In addition, the Contractor shall bear responsibility for any and all costs, damages, losses, and expenses of the Owenr, including professional fees, in

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connection with any Change Orders or claims by other Contractors arising out of or related to delays or impacts from the Contractor failing to comply with the progress set forth in the Agreed Construction Schedule ("Impact Costs'). The Owner shall be entitled to offset such Impact Costs against any sums due the Contractor or if sufficient Contract Sums are not remaining, the Contractor shall pay the Owner for the Impact Costs within seven (7) days of written demand.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number, unless other noted. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

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§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Construction Manager or Architect in their administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than theContractor, except for such activities or duties specifically assumed by Owner under any of the Contract Documents.

§ 3.1.4 Except as and to the extent specifically provided in § 2.3 and § 9.7, each Contractor shall proceed diligently with the performance of the Work under its Contract at all times in accordance with the Contract Documents applicable thereto. Such performance shall continue despite any disputes or delays and pending resolution of any request for relief, claim, appeal or other legal or equitable action related to the Contract. Contractor acknowledges and agrees that the timely provision of schedule updates and information is necessary for the overall success of the Project and will be responsible for any and all damage, costs and expenses arising out of its failure to do so. In no event shall Contractor delay the Project in the event of a good faith dispute.

§ 3.2.1 Execution of the Contract by the Contractor is a representation that:

.1 Contractor has examined all of the applicable documents pertaining to the Work under its Contract and the Project Site.

.2 Contractor has visited the Project Site, has familiarized itself as to the Work to be performed by the Contractor and by the other Contractors on the Project, and job conditions, and has satisfied itself as to the accessibility to and general character of the Project Site, the nature of the Work under its Contract, visible conditions of any existing buildings and structures at the Project Site, the location of all utilities, the character of the equipment and facilities needed preliminary to and during prosecution of the Work under its Contract, the general and local conditions under which such Work is to be performed, construction hazards, and all other matters which could in any way affect the construction means, methods, techniques and procedures involved in the Contractor's Work under the Contract Documents applicable thereto, and has correlated its observations with the requirements of the Contract Documents applicable to such Work. The Contractor and each Subcontractor shall evaluate and satisfy themselves as to the conditions and limitations under which the Work is to be performed including without limitation (a) the location, condition, layout, nature of the Project Site and surrounding areas, including space available for the storage or placement of its on-site offices, materials and equipment as well as the other Contractors, as determined and coordinated by the Construction Manager, (b) generally prevailing climatic conditions, (c) anticipated labor supply and cost, (d) availability and cost of materials, tools and equipment and (e) other similar issues unless specified in the Contract Documents. The Owner assumes no responsibility or liability for the safety conditions of or at the Project Site or any thereon in connection with the Project. Contractor has satisfied itself by its own investigation and research regarding the materials and equipment to be furnished by it and as to the meaning and intention of the Drawings and Specifications and these General Conditions, and other Contract Documents, referred to herein. Contractor has based its decision to execute its Contract and the other Contract Documents on its review of the Contact Documents, its own investigation and observations and the information it has obtained from the Bid Documents, Owner, Architect or others and reviewed to its own satisfaction. No verbal agreement or conversation with any representative of Owner, either before or after the execution of its Contract shall affect or modify

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any of the terms, conditions or obligations contained in the Contract and other Contract Documents. Contractor is not relying on any representations by Owner or any other party with respect to its Work under its Contract and any of the obligations, responsibilities or liabilities imposed upon the Contractor in the Contract Documents.

.3 Contractor is fully aware of the critical time restrictions for performance and completion of its Contract, and of the importance for its coordination of its scheduling and performance of its Work with the Construction Manager and with those of the other Contractors working on the Project.

.4 Contractor is fully aware of the state, contents and provisions of the Specifications and Drawings, and other Contract Documents, as of the date of this Contract

.5 Contractor is an expert in planning and performing major construction such as the Project and the Work to be performed under its Contract, and in working on multiple prime contract projects such as the Project.

§ 3.2.2 The Contractor shall, prior to starting each portion of its Work and thereafter during the course of such Work, carefully study and compare the Contract Documents applicable thereto with each other and with information furnished by the Owner pursuant to § 2.2.3 and shall at once report to the Architect any errors, inconsistencies or omissions discovered or which the Contractor should have discovered therein or relating thereto, as well as any variance form applicable laws, statues, ordinances, building codes, rules, regulations or any lawful orders of any governmental body or public or quasi-public authority, which the Contractor know or should have known of such error, inconsistency, omission or variance, and failed to timely report it in writing to the Architect. If the Contractor performs any construction activity which it knew or should have known involved an error, inconsistency, omission, or variance in the Contract Documents without such prior notice to the Architect, the Contractor shall assume responsibility for such performance and shall bear all the attributable costs for correction irrespective of the cause or source thereof.

§ 3.2.3 The Contractor shall take field measurements and verify field conditions relating to the performance of its Work and shall carefully compare such field measurements and conditions relating to the performance of its Contractor with the Contract Documents before commencing activities. Survey drawings describing utility locations are included with the Contract Documents for information purposes only. The Contractor shall, not less than seven days prior to commencing activities, notify or inform the Pennsylvania One Call System of the commencement of any activities relation to its Work that will or may disturb utility service. Errors, inconsistencies or omissions discovered as the result thereof shall be reported to the Architect, Construction Manager and Owner at once, and the Contractor shall not proceed with its Work until written instructions have been received from the Architect. .

§ 3.2.4 Contractor shall promptly notify Architect, Construction Manager and Owner, in writing, of materials, systems, procedures or methods of construction either shown on the Drawings or specified on the Specifications which the Contractor reasonably believes are incorrect or inappropriate for the purposes intended, or for which Contractor objects to furnishing the warranties required by the applicable Contract Documents. Architect, Construction Manager and Owner will make a determination of such matters in writing. Contractor shall be responsible for any additional costs resulting from its failure to promptly notify Architect, Construction Manager and Owner in writing that such materials, systems, procedures and methods are incorrect or inappropriate to the extent Contractor was aware thereof

§ 3.2.5 The Contractor shall perform its Work in accordance with the Contract Documents applicable thereto and shop drawings and other submittals relating thereto reviewed pursuant to § 3.12. The Contractor shall make no changes therefrom without prior written acceptance by the Construction Manager and Owner. Where there is an ambiguity or discrepancy, or where detailed information is lacking, the Contractor shall inquire of and refer to the Owner, Construction Manager and Architect for clarification or information before ordering any products or proceeding with its Work. The Contractor shall perform its Work reflecting the correction of such errors, inconsistencies, and omissions subject to upon Owner's execution of appropriate Change Order therefore. Work ordered, fabricated or constructed by the Contractor, when the Contractor Documents do not clearly specify in detail the Work to be done or where the Work conflicts with such Contract Documents without is the issuance of such Change Orders, shall be corrected by Contractor without claim for an increase in the Contract Sum or an extension of the Contract Time. Recommendations of Architect with regard to such ambiguities or discrepancies shall not make Architect an arbitrator to establish the responsibilities of the Subcontractors to the Contractor with regard to the Subcontractors' portions of its Work.

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§ 3.2.6 The Contractor shall furnish, without claim for an increase in the Contract Sum or Contract Time, all work and materials not mentioned or shown, but reasonably inferable from the Contract Documents applicable to its Contract as necessary for the proper execution and completion of its Work. The Contractor shall furnish, without claim for an increase in the Contract Sum or Contract Time, any work and material not mentioned in or shown, required to conform the Contractor's Work to all applicable laws and rules and regulations involving construction means, techniques, methods and procedures promulgated by all federal, state, and local governmental and quasi-governmental agencies having jurisdiction over its Work. Except for design responsibility related to its means and methods of construction and delegated design and engineering specifically required by the Contract Documents as outlines in Section 3.12.10.1, nothing in this paragraph shall be construed to impose upon the Contractor any responsibility for the design of its Work, which the Owner acknowledges shall be the responsibility of the Architect.

§ 3.2.7 Dimensions indicated on the Drawing applicable to the Contractor's Work are required dimensions, regardless of measurement per given scale. The Contractor shall verify at the Project Site necessary levels, measurements, etc. for complete fabrication, assembly and installation, fitting of equipment, fixtures and its Work. Where dimensions are not indicated and the exact location is not apparent, the Contractor shall promptly notify the Architect, Construction Manager and Owner, and the Architect shall compute the required measurements. Inadvertent discrepancies, or contradictions, or omissions of details, figures or notes of one drawing which are correctly given on another drawing shall not be cause for additional charges or claims by the Contractor or a change in the Contract Time.

§ 3.3.1 In conjunction with and subject to the overall direction and coordination by the Construction Manager of the Contractor's Work being performed at the Project, the Contractor shall supervise and direct Work in collaboration and cooperation with the Construction Manager and other Contractors as provided in these General Conditions, using the Contractor's best skill and attention provided, however, the Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for performing and coordinating all portions of the Work under its Contract.

§ 3.3.2 The Contractor shall be responsible to the Owner for the acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing any portions of the Contractor's Work for, or on behalf of, the Contractor or any of its Subcontractors ot claiming by, through or under the Contractor, and for any damages, arising out of relating to and/or resulting from performing portions of the Contractor's Work under a contract with the Contractor.

§ 3.3.4 Notwithstanding any provision of these General Conditions, the Contractor shall not be relived of any obligations to perform its Work in accordance with the Contract Documents applicable to its Contract either by the activities or duties of the Owner, Construction Manager the Architect in their administration of the Contract, or by any tests, inspections or approvals required or performed by persons other than the Contractor

§ 3.3.5 The Contractor shall be responsible for laying out its Work and shall be responsible for all lines, elevations and measurements of its Work. The Contractor must exercise proper precautions to verify all figure shown on the applicable Drawings before laying out its Work and will be responsible for any errors or omissions resulting from the failure to exercise such precautions.

§ 3.3.6 Contractor shall not cause or permit any disruption to the streets and utilities serving any occupied portion of the Project, the remainder of the Project, work being performed by other Contractors on the project or other properties (whether or not owned by the Owner or part of the Property) without Owner's prior consent which may be conditioned upon restrictions in the time, place and manner of such disruption.

§ 3.3.7 The Contractor shall review the construction schedules, shop drawings, product data, samples and reference standards for the work of each Subcontractor to properly execute and complete the Contractor's Work without discrepancy where the work of one trade or Subcontractor joins, or is on or impacts the work of another trade or Subcontractor. The Contractor shall coordinate the relations and activities of the various Subcontractors and trades for the orderly prosecution and progress of its Work and shall ensure that required anchorage, blocking or other interactive elements are furnished and set at proper times in accordance with the detailed requirements for the proper execution of the Contractor's Work.

§ 3.3.8 Every trade or Subcontractor preparing to work in an area previously prepared or worked upon by another trade or Subcontractor sha;; review and approve the previously installed Work and the area prior commencing, and

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shall not commence their Work in the event that previously installed Work was not performed properly. Contractor ensure that any allegedly unsatisfactory conditions in the previously installed Work and/or are reported to the Construction Manager and Owner and that no Work is done in the affected area until the unsatisfactory conditions have been eliminated or corrected. Commencement of Work by a trade or a Subcontractor of the Contractor shall constitute approval and acceptance of the prior Work and the area by the Contractor and the trade or Subcontractor.

§ 3.3.9 Owner, the Contractor, Construction Manager and Architect, or any of them, shall hold meetings at the Project Site at such times as the Owner requests, including, without limitation with the Contractor and the other Contractors involved with the Project.

§ 3.3.10 Where the Contract Documents applicable to the Contractor's Work refer to particular construction means, methods, techniques, sequence or procedures or indicate or indicate or imply that such are to be used on the Contractor's Work, such mention is intended only to indicate that the operations of and as determined by the Contractor shall be such as to produce the quality of Work implied by the operations described, but that the actual determination of whether the described operations may be safely or suitable employed on the Work shall be the responsibility of the Contractor, who shall notify the Architect and Construction Manager in writing of the actual means, methods, techniques, sequences or procedures which will be employed on the Work if these differ from those mentioned in such contract Documents. All loss, damage or liability, or cost of correcting defective Work of the Contractor arising from the employment of any construction means, methods, techniques, sequences or procedures shall be borne by the Contractor, notwithstanding that such construction means, methods, techniques, sequences or procedures are referred to, indicated or implied by the Contract Documents applicable to the Contractor's Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of its Work, whether temporary or permanent and whether or not incorporated or to be incorporated in such Work.

§ 3.4.2 Intentionally omitted.
§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out its Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them. Contractors and their employees cannot engage in behavior that is rude, threatening, or offensive. Harassment of any type, including sexual harassment is strictly prohibited. Abusive, derogatory, obscene or improper language, gestures, remarks, whistling, cat calls or other disrespectful behavior shall not be tolerated by the Contractor.

§ 3.4.4 The Contractor will be held to be reasonably familiar with all conditions affecting the labor to be utilized by the Contractor in performing its Work on the Project, including but not limited to unions, incentive pay, working conditions, procurement, living and community conditions. The Contractor shall hereby assume responsibility to the Owner for all costs resulting from the failure to verify all conditions potentially affecting its labor for the Project. The Contractor shall be responsible for the maintenance and observance of sound labor practices by its own force in performing its Work, and shall be responsible for the observance of sound labor practices by its Subcontractors and all other Sub-subcontractors, vendors and suppliers performing its Work, and shall comply with the terms of all labor agreements to which it is bound and take all steps necessary to avoid labor disputes and the potential delay and disruption arising therefrom.

§ 3.4.5 All material and equipment delivered to Project Site shall be so stored, handled and secured as to preclude loss, theft, intrusion of any foreign substance or causing of any discoloration or other deterioration therein and to prevent any damage thereto which might reduce its effectiveness and/or warranted condition as part of the Contractor's Work. Any damaged or rejected material or equipment shall be immediately removed from the Project Site.

§ 3.4.6 All Work described or required as part of the Contractor's Work shall be executed in a neat, skillful, workmanlike manner in accordance with the best recognized trade practices, and the applicable Contract Documents and governmental laws, rules, regulations and ordinances. Only competent workmen who satisfactorily perform their duties shall be employed by the Contractor on the Project and, when requested by Owner, the Contractor shall

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discharge and shall not re-employ on the Project any person who commits trespass or who is, in the Owner's opinion, disorderly, dangerous, insubordinate, incompetent or otherwise objectionable.

§ 3.4.7 Any material or equipment specified in the Contract Documents applicable to the Contractor's Work by reference to the number, symbol, or title of a specific standard such as that of the American Society for Testing Materials (ASTM), a Product or Commercial Standard, Federal Specification or other similar standards, or where the applicable Specifications contain no revision date, shall comply with the requirements of the latest revision thereof and any supplement or amendment thereto, in effect on the date of receipt of bids. The standards referred to, except as specifically modified in the applicable Specifications, shall have the same force as if they were printed in full context within the Specifications.

§ 3.4.8 Where it is required in the Specifications that materials, products, processes, equipment or the like to be installed or applied in accordance with the manufacturer's instructions, directions, or specifications or words to this effect, it shall be construed to mean that said application or installation shall be in strict accordance with current published instructions furnished by the manufacturer of the materials, products, processes and/pr equipment concerned for use under conditions similar to those at the Contractor's Work site, Unless other stated, the Contractor shall furnish one (1) copy of each of instruction to Owner, the Construction Manager, and the Architect.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner, Construction Manager, and Architect that all materials and equipment furnished and installed under the Contract will be of good quality and new unless the Contract Documents appliable thereto require or permit otherwise. The Contractor further warrants that its Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of such Work that the Contract Documents require or permit. Work, materials, or equipment provided as part of the Contractor's Work not conforming to these requirements shall be considered defective. The Contractor's warranty relating to its Work excludes remedy for damage or defect caused by abuse, alterations to its Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Owner, Construction Manager or Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. Contractor shall coordinate all of its Work of like material in order to produce harmony of matching finishes, textures, colors, etc., throughout the various components of its Work and the Project Notwithstanding anything to the contrary contained in this § 3.5.1, the installation of finish materials in and as part of the Contractor's Work, including without limitation, brick, stone, glass or wood, that have a naturally occurring variation in appearance, color, grain or texture, shall be considered defective work if, in the opinion of Owner, Construction Manager or Architect, the result of such installation detracts from the appearance or aesthetic quality of the Contractor's Work or the Project, or any portion thereof. Prior to the installation of any such finish materials in and/or as part of the Contractor's Work, the Contractor shall submit a variety of samples of such finish materials to the Owner, Construction Manager and Architect. The Owner, Construction Manager and Architect shall inspect the samples and shall approves of a range of naturally occurring variations in appearance, color, grain, or texture for such materials. Finish materials that are submitted by the Contractor as provided above and within the range approved by Owner, Construction Manager and Architect shall not be considered defective.

§ 3.5.1.1 In addition, the Contractor agrees to perform its Work in such a manner so as to preserve any and all manufacturer's and other warranties or guarantees applicable thereto. The Contractor shall furnish seventy-two (72) hour callback service for all equipment provide by Contractor as part of its Work for a period of one (1) year after the making of final payment for and acceptance of its Work; provided, however, that notwithstanding the foregoing, the Contractor shall provide prompt emergency call back service for all pumping systems, security systems, emergency generator, electric switch gear, smoke exhaust fans, chillers, domestic water heaters and all other vital systems included within its Work.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4. Any fee required for the transfer of any Warranty or Guarantee shall be the sole responsibility of the Contractor.

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§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work or portions thereof provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. The Owner is tax-exempt and all tax refunds shall inure to the benefit of the Owner.

§ 3.7 Permits, Fees, Notices, and Compliance with Laws**§ 3.7.1** Unless otherwise provided in the Contract Documents, the Owner, assisted by the Construction Manager, and with cooperation from the Contractor, shall secure and pay for the building permit. The Contractor shall secure and pay for all other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of its Work that are customarily secured after execution of the Contract and legally required at the time bids are received, and shall pay all fees and charges for connections to outside utility and other services; the use of municipal or private property for the storage and/or placement of its materials, parking, storage or personnel trailers or similar facilities; all utility services, temporary obstructions, enclosures, opening and patching of streets, etc., off of the Property arising from or related to the performance and completion of its Work.

§ 3.7.2 The Contractor shall comply with and give all notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of its Work.

§ 3.7.3 If the Contractor performs Work when it knew or should have known it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of governmental authorities, the Contractor shall assume full responsibility for such Work and shall bear the costs attributable hereto.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor contends that the actual Project Site or Work site conditions differ materially from the Project Site or Work site conditions disclosed by the Owner to the Contractor in the Contract Documents or ascertainable upon visual observation thereof by the Contractor, the Contractor shall promptly give written notice to the Owner, Architect and Construction Manager of (1) any subsurface or latent physical conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents known physical conditions at the Project Site or Work site of an unusual nature that differ materially from those ordinarily encountered to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, or (3) the existence of toxic or hazardous materials or substances not specifically described and identified in the Contract Documents, the Contractor shall promptly provide notice thereof to the Owner, Construction Manager, and the Architect before conditions are disturbed and in no event later than 48 hours after the Contractor's first observance of the conditions. The Owner, Architect and Construction Manager will promptly investigate such conditions and, if the Architect, in consultation with the Construction Manager, determines that they after receiving such notice. If the condition encountered as the result of such investigation do not differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, the performance of any part of the Contractor's Work pursuant to the Contract Documents applicable thereto, whether or not changed as the result of the conditions, a mutually agreed upon adjustment shall be made in the Contract Sum, and/or Contract Time if applicable, pursuant to the Contractor's Contract. If the Owner, Architect, in consultation with the Construction Manager, if applicable, pursuant to the Contractor's Contract. If the Owner and the Contractor cannot agree on an adjustment to the Contract Sum or the Contract Time, any adjustment relating thereto shall be subject to further proceedings and to the claims and dispute resolution process as provided in Article 15. Notwithstanding anything set forth herein to the contrary, the Contractor shall not be entitled to an adjustment in the Contract Sum or the Contract Time if such unknown or concealed condition(s) is: (i) of a usual nature or does not differ materially from those ordinarily encountered and generally recognized as inherent in construction activities of the character provided for in the Contract Documents; (ii) not materially different from those conditions disclosed or which reasonable should have been discerned or anticipated by the Contractor's prior work, inspection, test and reviews; or (iii) of a nature which the Contractor or any of its Subcontractor or Sub-subcontractors should reasonably know or anticipate based on any of the foregoing.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner, Construction Manager, and Architect. Upon receipt of such notice, the Owner shall promptly take any action, if any, necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations affected by such discovery until otherwise instructed by the Owner but shall continue with all other operations that do not

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affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.7.6 A copy of the building permit(s) applicable to the Contractor's Work shall be delivered to the Architect, Construction Manager and Owner as soon as it is obtained. Upon final completion of its Work, the Contractor shall deliver all original permits, licenses and certificates relating to such Work to the Owner and shall deliver photocopies thereof to the Construction Manager and Architect.

§ 3.7.7 The Contractor shall give all notices and comply with all federal, state and local laws, ordinances and regulations bearing on the Contractor's mean, methods, techniques or procedures of the Work under its Contracts exist as of the date of the Contract, or as may be thereafter enacted during the prosecution of its work by any Governmental Authorities having any jurisdiction or authority over the Work and the performance thereof. The Contractor shall indemnity and hold harmless the Indemnitees against any claim or liability (and any and all related costs, expense or attorneys' fees) arising form, or based on, the violation of any such laws, ordinances, regulations, orders or decrees, whether by itself or its Subcontractors, Sub-subcontractors, supplies or employees.

§ 3.7.7 The Contractor shall consult with the appropriate departments of the Government Authorities form time to time to ensure that it has satisfied and is satisfying all conditions and requirements of the Government Authorities with regard to the performance and inspection of its Work, and shall use its best efforts to expedite resolution of any conflicts and discrepancies concerning any inspection and performance requirements for issuance of certificates of occupancy relating to its Work. The Owner, Construction Manager and Architect will provide their full cooperation in connection therewith. Any such conflicts or discrepancies which the Contractor may discover at any time shall be promptly brought to the attention of the Owner, Construction Manager and Architect and shall be resolved immediately by the Contactor in consultation with the Owner, the Construction Manager, the Architect and the Government Authorities involved.

§ 3.7.8 Within ten (10) days of Owner's request, the Contractor shall execute and deliver to Owner a certificate addressed to Owner confirming the compliance of the Contractor's Work with the applicable Contract Documents and applicable laws and regulations, the status of completion of its Work, the status of any payment and defaults relation to its Work, and such other matters as Owner may request.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Document. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents:

- **.1** allowances shall cover the cost to the Contractor of materials and equipment delivered at the Project Site, all labor and all required taxes, less applicable trade discounts; and
- **.2** Whenever the actual costs attributed to any allowances; and
- **.3** are more than or less than the amount of such allowance, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs incurred and the respective amounts of the allowances established under §3.8.2.1.

§ 3.8.3 Materials and equipment to be provided by the Contractor under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent and Project Manager

§ 3.9.1 The Contractor shall employ a competent Project Superintendent and necessary assistants, all of whom shall be in full-time attendance at the Project Site during the performance of the Contractor's Work and maintain their sole office at the co-location space provided by the Owner which shall be onsite. The Contractor shall also employ a Project Manager on a full-time basis at the Project Site to oversee the entire Work of the Contractor. The Project Manager(s) and Project Superintendent(s) shall be fully dedicated to this project. Such persons shall not be changed without the prior written consent of the Owner unless any of them shall cease to be in the Contractor's employ. Upon reasonable request of the Owner, the Contractor shall remove from the Project any member of the

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Contractor's staff or other employee of the Contractor who, in the Owner's sole opinion, is incompetent, uncooperative, or fails to satisfactorily discharge the Contractor's responsibilities under the Contractor's Contract, or is otherwise reasonably objectionable to the Owner, Construction Manager or Architect. The Contractor shall promptly provide replacements for such removed individuals, who shall be satisfactory to the Owner. The cost and expense of effecting such replacements shall be paid for by and the sole responsibility of the Contractor, as part of its overhead costs, unless the removal was at the Owner's request for reasons other than that the staff member or other employee was incompetent, uncooperative, or failed to satisfactorily discharge the Contractor's responsibilities under its Contract. The Project Superintendent and Project Manager shall represent the Contractor, and all communications given to the Project Manager or Project Superintendent shall be binding as if given directly to the Contractor. The Contractor's Safety Manager shall visit the site on a regular basis and as necessary to ensure the safe performance of Contractor's Work.

§ 3.9.2 The Contractor's Project Manager and Superintendent shall devote himself or herself full time to this Project and the Contractor's Work and shall maintain his or her offices in the Co-Location space. The Co-Location space will be an on-site trailer designated as the Project Office. The Project Manager and Project Superintendent shall direct, coordinate, and supervise all of the Contractor's Work under its Contract and shall inspect all material and equipment delivered to the Project Site and shall cause the immediate removal from the Project Site of all non-conforming material and equipment which is under the care, custody and control of the Contractor, its Subcontractors or anyone for whose acts it is liable. The Contractor's Project Manager and Project Superintendent shall utilize a co-location space provided by the County which will be shared with the Construction Manager and the other Contractors. No Contractor's trailers will be permitted on site. It is anticipated that the Contractors will utilize this as an opportunity to meet informally on a regular basis to discuss the Project, and their respective portions of the Work for the Project, to plan for sequencing of their Work and to provide for cooperatively anticipating, avoiding and resolving potential unforeseen events and contingencies in order to mitigate the delay and/or cost effect of such events or contingencies

§ 3.9.3 The Owner shall be entitled to withhold the sum of $250 per business day for failure or refusal to utilize the co-location costs in order to cover the additional administrative time. The Contractor shall participate in meetings with other Contractors at the Co-Location space in order to facilitate informal planning, coordination, sequencing discussions, and collaborative problem solving among all contractors.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information, and the Construction Manager's use in developing the Project schedule, a Contractor's construction schedule for its Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Contractor's Work to completion and shall not exceed the then current time limits under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Contractor's Work and Project. The Contractor shall cooperate with the Construction Manager in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of the other Contractors, or the construction or operations of or by the Owner's own forces or Separate Contractors. The Contractor shall provide updated schedule information upon request and in a timely manner.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Owner, Construction Manager's and Architect's approval. The Owner, Architect and Construction Manager's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, refer to §3.10.1, and (2) allow the Owner, Construction Manager and Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall cooperate with the other Contractors, the Construction Manager, and the Owner in reviewing and coordinating all schedules for incorporation into the Project schedule that is prepared by the Construction Manager, for the entire Project (the "Approved Project Schedule"). The Contractor shall make

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revisions to its construction schedule and submittal schedule as deemed necessary by the Construction Manager to conform to the schedule for the overall Project.

§ 3.10.4 The Contractor shall perform the Work in general accordance with the most recent construction schedules submitted to and approved by the Owner, Construction Manager, and Architect, and incorporated into the approved agreed Work schedule, for the performance of the Contractor's Work ("Approved Work Schedule"), and the Contractor's submittal schedule, and provide monthly updating thereof showing progress in its Work in comparison to the time limits current under the Contract Documents. As part of their efforts regarding the adoption and implementation of Lean Procedures, it is anticipated that the Contractors will work in a coordinated manner in the development and implementation of their respective Approved Work Schedules to sequence and coordinate their respective Work so as to minimize delay and the cost of re-handling of materials and equipment, and to anticipate, avoid and resolve potential unforeseen events and contingencies in order to mitigate the delay and/or cost effect of such events or contingencies.

§ 3.10.5 The Contractor shall prepare for presentation at each regular construction meeting with the Owner, Construction Manager and Architect an activity look-ahead schedule delineating the construction activities by Contractor planned to occur in the subsequent two weeks, and the relation of these activities to the time limits current under the Contract Documents applicable to the Contractor's Work as reflected in its Approved Work Schedule. Consistent with Lean construction principles to be utilized on the Project, the Contractors shall, with the Construction Manager, meet and confer weekly regarding the development and implementation of their respective Approved Work Schedules, and the Approved Project Schedule, to identify potential delays or obstructions, and to develop a plan of action to address them and/or to provide alternative areas within which Work can be performed while unexpected events or contingencies are being addressed.

§ 3.11 Documents and Samples at the Site

§ 3.11.1 The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Owner, Construction Manager, Architect, and Owner, and delivered in good condition in a single properly organized and complied package to the Construction Manager and Architect for their use in preparing record documents and for submittal to the Owner upon completion of the Contractor's Work and before final payment is made under its Contract to the Contractor as a record of the Contractor's Work as constructed.

§ 3.11.2 Record drawings shall be kept clean, and notations shall be made on them using clear, concise drafting techniques acceptable to the Architect.

§ 3.11.3 The Contractor shall also maintain at the Project Site for availability to the Owner, Construction Manager and Architect, all inspection reports and other written communications relating to is Work between and among the Architect, Construction Manager, Contractor and its Subcontractors, Sub-subcontractors, materials suppliers, etc.

§ 3.12 Shop Drawings, Product Data, and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for its Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of its Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Contractor's Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of its Work for which the Contract Documents require submittals. Review by the Architect and Construction Manager is subject to the limitations of§4.2.10 through §4.2.12. Informational submittals upon which the Construction Manager and Architect are not expected to take responsive

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action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Construction Manager or Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Construction Manager, Shop Drawings, Product Data, Samples, and similar submittals required by such Contract Documents, in accordance with **the Project** their submittal schedule approved by the Construction Manager and Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Contractor's Work or in the activities of the other Contractors, Separate Contractors, or the Owner's own forces. The Contractor shall cooperate with the Construction Manager in the coordination of the Contractor's Shop Drawings, Product Data, Samples, and similar submittals with related documents submitted by the other Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner, Construction Manager, and Architect, that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of its Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of its Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal thereof has been reviewed and approved by the Architect.

§ 3.12.8 The Contractor's Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Construction Manager and Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in its Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Construction Manager and Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of its Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional and who has and shall maintain professionally liability insurance of no less than $2,000,000 or such higher limits as required under the OCIP Manual. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner, the Architect, and the Construction Manager shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Construction Manager shall review submittals for sequencing, constructability, and coordination impacts on other Contractors.

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§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that its Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Construction Manager and Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

§ 3.13.1 The Contractor shall confine its operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the Project Site with materials or equipment.

§ 3.13.2 The Contractor shall coordinate the Contractor's operations with, and secure the approval of, the Construction Manager before using any portion of the Project Site. The Contractors shall meet and confer with the Construction Manager and each other no less than weekly regarding the coordination and planning of delivery and storage of their materials and equipment, and develop coordinated plans to enable each of the Contractors to minimize the need for advance delivery and storage of materials and equipment, and render more efficient the ordering and delivery of such materials and equipment to minimize handling and maintenance before staged for use in the performance of the Work of the respective Contractors at the Project Site.

§ 3.13.3 The Contractor and all of its Subcontractors and Sub-subcontractors shall keep their respective employees out of any areas that are not necessary for actual performance of the Contractor's Work.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete its Work or to make its parts and portions fit together properly as reasonable consistent with the requirements or information contained in the Contract Documents. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of its own Work or fully or partially completed construction of the Owner, Separate Contractors, or of the other Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner, Separate Contractors, or by other Contractors except with written consent of the Construction Manager, Owner, and such other Contractors or Separate Contractors. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Separate Contractors, other Contractors, or the Owner, its consent to cutting or otherwise altering the Contractor's Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of stored materials, stored waste materials and rubbish stored caused by operations or activities under or related to the Contractor's Contract. At completion of its Work, the Contractor shall remove all items including, but not limited to, waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials of the Contractor's and/or its Subcontractor and Sub-subcontractors from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Construction Manager with the Owner's approval, may cause such to be done and the Owner shall be entitled to reimbursement therefore from the Contractor. In the event that clean-up is due to one or more Contractors, the Owner shall apportion the costs among the responsible Contractors.

§ 3.15.3 Each Contractor shall be responsible for all glass broken, materials, finishes, etc. damaged by its own forces or its Subcontractors and Sub-subcontractors and, at and before completion of its Work, as directed by Owner, shall replace such damaged items or broken glass. After such broken glass has been replaced or other damages repaired or replaced, the Contractor shall remove all labels, wash, and polish both sides of all glass. Further, in addition to general broom cleaning of its Work site, the Contractor shall perform the final cleaning for all trades involved with the Contractor's Work immediately upon completion of its Work, which shall include, but not be limited to, the following: (a) remove temporary protections; (b) remove marks, stains, fingerprints and other soil or dirt from painted, decorated, and natural-finish woodwork and other portions of its Work; (c) remove spots, mortar, plaster, soil and paint from ceramic tile, marble, and other finish materials and wash or wipe clean; (d) clean fixtures,

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cabinet work and equipment, removing stains, paint, dirt, and dust and leave in undamaged, new condition; (e) clean aluminum in accordance with recommendations of the manufacturer; and (f) clean resilient floors thoroughly with a well-rinsed mop containing only enough moisture to clean off any surface dirt or dust and buff dry by machine to bring the surfaces to sheen. All remediation work shall be performed so as to preserve manufacturer's warranties.

§ 3.15.4 Costs incurred by Owner under this § 3.15 shall be deducted from any amounts otherwise due to the Contractor under its Contract, or at Owner's option, reimbursed by Contractor to Owner immediately following Owner's demand.

§ 3.16 Access to Work

The Contractor shall provide the Owner, Construction Manager, and Architect with access to its Work in preparation and progress wherever located. The Contractor shall not set up cameras at the Project Site without the prior written consent of the Owenr.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees relating to its Contract and the Work thereunder. The Contractor shall defend all suits or claims for infringement of any copyrights and patent rights and shall hold the Owner, Construction Manager, and Architect harmless from loss on account thereof, (including but not limited to, attorney's fees and any litigation costs and expenses) but shall not be responsible for defense or loss resulting when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner, Architect, or Construction Manager. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall promptly advise the Architect and Owner through the Construction Manager, in the absence of which timely notice the Contractor shall be responsible for such defense or loss.

§ 3.18 Indemnification

§ 3.18.1 The Contractor agrees to indemnify and defend and hold harmless the Owner, Construction Manager, Architect, Construction Manager's and Architect's consultants, and agents and employees of any of them (collectively "Indemnitees" or individually "Indemnitee") from and against any and all claims, demands, causes of action, damages, liabilities, losses, and/or expenses, including without limitations, attorneys' and consultants' fees, and related costs and expenses attributable to any

.**1** bodily injury, sickness, disease or death,

.2 injury to or destruction of tangible property (other than Contractor's Work itself, including the loss of use resulting from herein;

.3 governmental fines and/or penalties arising out of the performance of the Contractor's Work;

.4 corrective measures required under the Federal Occupational Safety and Health Act (hereafter referred to as OSHA);

.**5** delay in completion of the Contractor's Work beyond the Contract Time therefor, as defined in Article 8, caused by proceedings under OSHA or otherwise;

.6 any and all damages, costs and expenses associated with any delay, hinderance or impact to the work of other Contractors; and

.7 Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18. This indemnification agreement shall be applicable, and the Indemnitees shall be indemnified, regardless of whether or not such claim, demand, cause of action, damage, liability, loss or expenses is caused in whole or in part by and Indemnitee, subject to the terms of Section 3.18.3 or Section 3.18.4.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, a Sub-subcontractor, materialman or supplier, or anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor or other such employer under workers' compensation acts, disability benefit acts, or other employee benefit acts.

§ 3.18.3 The Contractor shall defend each Indemnitee, through counsel approved by such Indemnitee or the majority of such Indemnitees (if applicable), in any action, proceeding or arbitration brought against the Indemnitees(s) by reason of any such claim described in this Section 3.18. The Contractor's obligation to defend and Indemnitee shall

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not (a) extend to any action, proceeding, or arbitration that asserts or alleges only that the injury to the claimant resulted solely from the negligence or willful misconduct of the Indemnitee, and from no other cause, although the Contractor shall bre responsible for all attorneys' fees, costs and expenses relating to the defense of the Indemnitee(s) in the event it is not determined that such injury is solely caused by the negligence or willful misconduct of the Indemnitee(s), or (b) if a final judgment is obtained establishing that the claim for which indemnity is sought resulted solely from the negligence or willful misconduct of the Indemnitee, in which latter event Contractor's obligation to defend the Indemnitee shall cease upon the date such judgment becomes final, and the Indemnitee shall thereupon and thereafter reimburse Contractor for its reasonable attorneys' fees and court costs in so defending the Indemnitee.

§ 3.18.4 If any claim, any other demand for payment or security therefor, including claims or demands upon performance and payment bond sureties for the performance of the Contractor under its Contract, is made or filed with the Owner or the Property, by any person claiming that the Contractor or any Subcontractor, Sub-subcontractor or supplier or any other person claiming under them or any of them has failed to properly and timely perform its contractual obligations or to make payment for any labor, services, trust fund contributions, materials, equipment, taxes, or other items furnished or obligation incurred for, or in connection with the Contractor's Work, or if at any time established, the Owner or Property might become liable, and provided that the Owner has previously paid Contractor for the Contractor's Work for which the claim or other demand for payment has been made (less the applicable retainage, and unless Owner is otherwise permitted to withhold such payment in accordance with the terms of Section 9.5.1), then the Owner shall have the right to retain from any payment then or thereafter due under the Contractor's Contract or, at the Owner's sole option, to be promptly reimburses by the Contractor upon demand for an amount sufficient to (i) satisfy, discharge, and defend against any such claim or other demand, or any action or proceeding thereon that may be brought to judgment or award (ii) make good any such nonpayment, nonperformance, damage, failure, or default; and (iii) compensate the Owner for and indemnify it against any and all losses, liabilities, damages, costs and expenses (including attorneys' and consultants' fees and costs) sustained or incurred in connection therewith.

§ 3.18.5 In the event that the Contractor fails or refuses to indemnify any Indemnitee hereunder, in addition to all other obligations and upon an adjudication in favor of an Indemnitee, the Contractor shall be responsible for all costs associated with the enforcement of theses indemnification obligations including all attorneys' and expert fees and costs.

§ 3.19 Meetings

The Contractor shall send its qualified representative to periodic meetings or web meetings at the option of the Owner relating to the Project and/or Contractor's Work held at such time and at such place as the Architect, Construction Manager or the Owner shall designate. Prior to and in anticipation of such meetings, the Contractors, with the Construction Manager, shall meet and confer about the activities on the Project Site and the progress of the Project, and discuss ways to maintain and improve the progress of the Project and anticipate potential delay events, obstructions or other contingencies that might affect the Approved Project Schedule and their respective efforts on the Project Sites.

§ 3.20 Default

§ 3.20.1 The Contractor shall be in default of its Contract, and its duties and obligations thereunder, if:

- **.1** Contractor becomes insolvent, is adjudged bankrupt, or makes a general assignment for the benefit of its creditors, or becomes subject of any proceeding commenced under any statute or law for the relief of debtors, but only to the extent permitted by law; or
- **.2** a receiver, trustee or liquidator of any of the property or income of the Contractor shall be appointed, but only to the extent permitted by law; or
- **.3** Contractor refuses or fails to prosecute its Work in accordance with the applicable Contract Documents; or
- **.4** Contractor refuses or fails to timely supply enough properly skilled workers or proper material; or
- **.5** Contractor fails to make proper payment when due to Subcontractors or otherwise for materials or labor under its Contract in accordance with the respective agreements between the Contractor and the Subcontractors (provided Owner shall have paid to Contractor any payments due from Owner in connection with such materials or labor, subject to the other provisions of the Contract relating to the right of the Owner to withhold payment); or
- **.6** Contractor fails to coordinate its Work with the other Contractors, and its Subcontractors as required under Article 6; or

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.7 Contractor fails to timely comply with the scheduling requirements of its Contract as set forth in § 3.10 and elsewhere as they may appear throughout its Contract, including under its Approved Work Schedule and the Approved Project Schedule; or

.8 Contractor fails to promptly replace rejected material or correct rejected workmanship; or

.9 Contractor fails to observe any other terms, provisions, conditions, covenants, and agreements set forth in its Contract and the Contract Documents to be observed and/or performed on the part of the Contractor.

§ 3.20.2 In the event of any default by Contractor under its Contract, Owner shall have the right to terminate such Contract in accordance with § 14.2, in addition to any and all other remedies that Owner may now or hereafter have against the Contractor under its Contract, the Contract Documents, at law and/or at equity.

§ 3.21 Services and Responsibilities of Contractor

Contractor's services under its Contract consist of all services to be performed and rendered by the Contractor under and pursuant to its Contract and the Contract Documents.

§ 3.22 Lean Procedures

§ 3.22.1 Owner desires to implement procedures advocated by the Lean Construction Institute (collectively, the "Lean Procedures") as applicable to the activities of the Architect, Construction Managers and Contractors. Each of the Contractors shall cooperate with Architect, Construction Manager and other Contractors to assist the Construction Manager in the establishment and implementation of these procedures. Specific requirements for collaboration are also included in various locations throughout these General Conditions.

§ 3.22.2 In addition to all other duties and responsibilities of the Architect, Construction Manager and Contractors as set forth on these General Conditions and in their respective Contracts with the Owner, the following are a listing of some of the other activities to be implemented for the Project, in addition to those stated elsewhere in these General Conditions:

.1 "Last Planner System" (LPS) using Pull Scheduling and Percent Planned Complete (PPC) Tracking: The project will utilize the Last Planner System to develop and implement the detailed work plans for each phase of the project based on the master project schedule. Pull Plans and Percent Planned Complete (PPC) tracking will be utilized on the project. Contractor will actively participate in weekly work planning meetings to review past, current, and future work activities. Contractor shall attend pull planning meetings at the request of Construction Manager To implement the LPS effectively, it is critical for the Contractor's foremen to participate in all planning sessions and have necessary authority to make decisions on manpower, equipment, materials and other required resources to ensure commitments are met. Contractor's foremen shall attend training, provided by the Construction Manager, to orient to this system. Contractor/Supplier shall understand that the Construction Manager will be tracking major "promises made" on the Project via a reliable promising matrix. All "promised" tasks shall be tracked in the matrix with a task description, Contractor/Supplier responsible, and promised completion date. The Construction Manager will provide Contractor/Supplier feedback on their reliable promising performance during weekly Foreman's meetings. Overall PPC ratings will be provided to each Contractor/Supplier at the end of the project.

.2 Daily Huddle: The project will have Daily Huddle with all contractors to coordinate with one another, the meetings will be held in person, and should be held at a consistent time; ideally at the beginning, end or during a natural break in the day. Additionally, the huddles should be brief, generally not exceeding 15 minutes. However, the period/frequency of the meetings can be adjusted to meet the needs of the team and the project.

.3 Materials Management: Minimize the amount of materials being stored at the Project Site for extended periods of time through efficient scheduling, and to eliminate unnecessary handling or relocation. Contractor/Supplier shall consent that all material deliveries to the jobsite not already included in a prefabricated assembly, are to be "kitted" specific to their purpose. All "kit" deliveries must be labeled with Subcontractor's name, delivery date, and location to be

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installed. Contractors shall reference the project-specific logistics guidelines for material delivery and storage requirements.

ARTICLE 4 ARCHITECT AND CONSTRUCTION MANAGER

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 The Construction Manager is the person or entity retained by the Owner pursuant to Section 2.3.3 and identified as such in the Agreement.

§ 4.1.3 Duties, responsibilities, and limitations of authority of the Construction Manager and Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Construction Manager, Architect, and Contractor. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will advise and consult with the Owner and Construction Manager. The Construction Manager and the Architect in cooperation and coordination with one another, will each provide such administration of the Contract and Project as described in the Contract Documents in these General Conditions, and in their respective Contracts with the Owner for the Project during construction until the date the Architect issues the final Certificate for Payment. The Construction Manager and Architect will have authority to act on behalf of the Owner only to the extent expressly provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site regularly, no less than once every two weeks during the period of Pre-construction, Construction and Close-out of the Project, or as otherwise agreed with the Owner, to become generally familiar with, and review the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of the site visits, the Architect will keep the Owner and the Construction Manager reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner and Construction Manager known deviations from the Contract Documents and defects and deficiencies observed in the Work.

§ 4.2.3 The Construction Manager shall provide one or more representatives who shall be in attendance at the Project site whenever the Work is being performed. The Construction Manager will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner and Architect reasonably informed of the progress of such Work, and will promptly report to the Owner and Architect any known deviations from the Contract Documents and the most recent Approved Project Schedule, and defects and deficiencies observed in the Contractor's Work.

§ 4.2.4 The Construction Manager will be responsible for the preparation and update of the overall Project schedule based upon input from the Contractor and other contractors. It shall be the obligation of the Contractor to schedule and coordinate its activities and to cooperate and coordinate with the other contractors and Construction Manager so as to not delay the Project Schedule or impede the work of others.

§ 4.2.5 The Construction Manager, except to the extent required by Section 4.2.4, and Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Contractor's Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, and neither will be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents unless the same results from a written directive from the Architect to the Contractor. Neither the Construction Manager nor the Architect will have control over or charge of, or be responsible for acts or omissions of, the Contractor, Subcontractors, Sub-subcontractors or their agents or employees, or of any other persons or entities performing any portions of the Contractor's Work.

§ 4.2.6 Communications. The Owner shall communicate with the Contractor and the Construction Manager's consultants through the Construction Manager about matters arising out of or relating to the Contract Documents. The Owner and Construction Manager shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance

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of any direct communications between the Owner and the Construction Manager otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors, Sub-subcontractors and suppliers shall be through the Contractor. Communications by and with other Contractors shall be through the Construction Manager. Communications by and with the Owner's own forces and Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.7 The Construction Manager and Architect will review and certify all Applications for Payment by the Contractor with respect to its Work, in accordance with the provisions of Article 9.

§ 4.2.8 The Architect and Construction Manager have authority to reject Work that does not conform to the Contract Documents, and will notify each other about such rejection. Whenever the Construction Manager considers it necessary or advisable, the Construction Manager will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, upon written authorization of the Owner, whether or not the Work is fabricated, installed or completed. The foregoing authority of the Construction Manager will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations and decisions of the Architect. However, neither the Architect's nor the Construction Manager's authority to act under this Section 4.2.8 nor a decision made by either of them in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Construction Manager to the Contractor, Subcontractors, Sub-subcontractors, suppliers, their agents or employees, or other persons performing any of the Contractor's Work.

§ 4.2.9 Utilizing the submittal schedule provided by the Contractor, the Construction Manager shall prepare, and revise as necessary, a Project submittal schedule incorporating information from other Contractors, the Owner, Owner's consultants, Owner's Separate Contractors and vendors, governmental agencies, and participants in the Project under the management of the Construction Manager. The Project submittal schedule and any revisions shall be submitted to the Architect and Construction Manager for approval.

§ 4.2.10 Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's actions will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Upon the Architect's completed review, the Architect shall transmit its submittal review to the Construction Manager for dissemination to the Contractor.

§ 4.2.11 Receipt and/or review of the Contractor's submittals by the Construction Manager and Architect is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Construction Manager and Architect's receipt and/or review of the Contractor's submittals shall not relieve the Contractor of the obligations under §3.3, 3.5, and §3.12. The Construction Manager and Architect's receipt and/or review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.12 The Construction Manager will prepare Change Orders and Construction Change Directives.

§ 4.2.13 The Construction Manager and the Architect will take appropriate action on Change Orders or Construction Change Directives in accordance with Article 7, and the Architect will have authority to order minor changes in the Work as provided in Section 7.4. The Architect, in consultation with the Construction Manager, will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.14 Utilizing the documents provided by the Contractor, the Construction Manager will maintain at the site for the Owner one copy of all Contract Documents, approved Shop Drawings, Product Data, Samples, and similar required submittals, in good order and marked currently to record all changes and selections made during construction. These will be available to the Architect and the Contractor, and will be delivered to the Owner upon completion of the Project.

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§ 4.2.15 The Construction Manager will assist the Architect in conducting inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion in conjunction with the Architect pursuant to Section 9.8; and receive and forward to the Owner written warranties and related documents required by each Contract for the Project and assembled by the respective Contractors pursuant to Section 9.10. The Construction Manager will forward to the Architect a final Application and Certificate for Payment or final Project Application and Project Certificate for Payment upon the Contractor's compliance with the requirements of the Contract Documents.

§ 4.2.16 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Construction Manager of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.17 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents for the Project on written request of the Construction Manager, Owner, or Contractor through the Construction Manager. The Architect's response to such requests will be made in writing within any time limits agreed upon. If no agreement is made concerning the time within which interpretations required of the Architect shall be furnished, then the Architect's response shall be made within a reasonable time. Work which does not conform to the Architect's interpretations shall be nonconforming work subject to the provisions of Article 12.

§ 4.2.18 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions so rendered in good faith.

§ 4.2.20 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.21 The Construction Manager will receive requests for information from the Contractor, and forward each request for information to the Architect, with the Construction Manager's recommendation. The Architect will review and respond in writing, through the Construction Manager, to requests for information about the Contract Documents. The Construction Manager's recommendation and the Architect's response to each request will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with a Contractor to perform a portion of the Work at the Project Site. The term "Subcontractor" is referred to throughout the Contract Documents for the Project as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include the other Contractors or Separate Contractors or the subcontractors of other Contractors or Separate Contractors.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents for the Project as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Construction Manager, for review by the Owner, Construction Manager and Architect, of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Construction Manager may notify the Contractor whether the Owner, the Construction Manager or the Architect (1) has reasonable objection to any such proposed person or entity or, (2) requires additional time for review. Failure of the Construction Manager to provide notice within the 14-day period shall constitute notice of no reasonable objection.

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§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner, Construction Manager or Architect has made reasonable and timely objection nor enter into any subcontract to which the Owner, Construction Manager or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection. Upon written request, within three business days, the Contractor shall provide Owner with copies of all Subcontracts and Purchase Order related to Contractor's Work.

§ 5.2.3 If the Owner, Construction Manager or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Construction Manager or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner, Construction Manager or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

§ 5.3.1 All portions of the Contractor's Work that the Contractor's organization does not perform with its own personnel shall be performed under the Subcontracts or by other appropriate agreements with the Contractor. By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, that the Contractor, by these Contract Documents, assumes toward the Owner, Construction Manager and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner, Construction Manager and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors

§ 5.3.2 Any part of the Contractor's Work performed for the Contractor by a Subcontractor shall be pursuant to a written Subcontract between the Contractor and such Subcontractor, which, the Contractor has submitted to the Owner for its information. Each such Subcontract shall contain provisions that:

.1 informs the Contractor of any and all Sub-subcontractors of the Subcontractor;
.2 require that the Work to be performed thereunder be in accordance with the requirements of the Contract Documents;
.3 fully disclose the payment provisions under Article 5 of the Contract, and Article 9 of the General Conditions, and requires timely submission of applications for payment under each Subcontract in reasonable time to enable the Contractor to apply for payment in accordance with the provisions of the Contractor's Contract;
.4 waive all right the subcontracting parties may have against one another or that the Subcontractor may have against the Owner for damages caused by fire or other perils covered by the property insurance described in §11.3, except for such rights as they may have to the proceeds of such insurance held by the Owner as trustee under §11.3.8;
.5 obligate each Subcontractor, at Owner's sole election, to continue to perform under its Subcontract in the event the Contractor is terminated, and Owner takes an assignment of said Subcontract, with Owner's liability thereunder to accrue only after such assignment;

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.6 require the Subcontractor to carry and maintain insurance in accordance with the requirements of the Contract Documents;

.7 obligate the Subcontractor to specifically acknowledge and consent to the provisions of Article 8 wherein it states that all time limits in the Contract Documents are critical;

.8 require each Subcontractor to fully cooperate in order to permit the Owner to conduct Owner's Operations at the Property without interruption;

.9 require each Subcontractor to fully cooperate with the testing representatives of Owner and Contractor on the Project Site;

.10 require each Subcontractor, Sub-subcontractor and supplier to obtain prior written approval of Owner prior to the publication of any promotional material regarding the Work to be performed by or on behalf of the Contractor;

.11 preclude any right or entitlement to a Change Order for an adjustment in either the Subcontract sum or the Subcontract time for an error in the Contract Documents applicable to the Contractor's Work if the Subcontractor should reasonably have known of or anticipated the error giving rise to such requested Change Order;

.12 preserve and protect the rights of Owner under the Contractor's Contract with respect to its Work to be performed under the Subcontract so that the subcontracting thereof will not prejudice such right;

.13 include the Subcontractor's acknowledgment that Contractor has assigned its interest in the Subcontract to Owner, which assignment shall become effective only upon Contractor's default under the Contract Documents applicable to the Contractor's Work and Subcontractor's receipt of notification from Owner that (a) Contractor is in default under the applicable Contract Documents or Owner has terminated the Contractor's Contract; and (b) the assignment of the Subcontract is effective;

.14 require that all claims for additional costs, extensions of time, damages for delays or otherwise with respect to subcontracted portions of the Contractor's Work shall be submitted to the Contractor (via any Subcontractor or Sub-subcontractor where appropriate) in sufficient time so that the Contractor may comply in the manner provided in the Contract Documents for like claims by Contractor upon Owner;

.15 limit the amount which the Subcontractor may charge for overhead and profit in connection with a change in the Contractor's Work to the amounts set forth in Article 7 and

.16 contain no provisions inconsistent with any of the foregoing Subparagraphs of this §5.3.2.

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§ 5.3.3 As required by § 5.2.5, the Contractor shall at all times maintain a current list of all Subcontractors, Sub-subcontractors and suppliers performing any of Contractor's Work which it shall provide to the Owner as set forth in § 5.2.5.

§ 5.3.4 All Subcontractors, Sub-subcontractors and suppliers shall waive and release any claims, causes of action or rights against Owner for property damage caused by fire or other casualties or perils for which such Subcontractor, Sub-subcontractor or supplier is or, under the terms of the Contractor's Contract, should have been insured.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

.1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract as of the effective date of such assignment.

§ 5.4.2 Upon assignment to the Owner under section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity,

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the Contractor shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

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§ 5.5 Payments to Subcontractors by the Contractor

§ 5.5.1 The Contractor shall promptly pay each Subcontractor, materialman, supplier or any other person whom the Contractor has contracted or who is employed directly or indirectly by the Contractor on the Project, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's or other party's portion of the Contractor's Work, the amount to which said Subcontractor or other party is entitled, less the percentage retained by Owner from the payment to the Contractor. The Contractor shall, by an appropriate agreement with each Subcontractor, materialman, supplier or other person, require them to make payments to their Sub-subcontractors, materialmen and suppliers in similar manner.

§ 5.5.2 The Contractor shall defend, indemnify and hold harmless the Indemnitees from and against all claims, demands, damages, losses and expenses, including without limitation, any attorneys' fees, costs and expenses paid or incurred by Indemnitees in connection with the settlement or defense of any such claims, arising out of or in connection with the failure of Contractor to pay a Subcontractor, materialmen, supplier or any other person with whom Contractor has contracted or who is employed directly or indirectly by Contractor provided Contractor has been paid by Owner all sums due for any portion of the Contractor's Work.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction with Own Forces and to Award Other Contracts

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the General Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When the Owner performs construction or operations with the Owner's own forces or Separate Contractors, the Owner shall provide for coordination of such forces and Separate Contractors with the Work of the Contractor, who shall cooperate with them.

§ 6.1.3 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 Each Contractor shall afford the Owner's own forces, Separate Contractors, Construction Manager and other Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner's own forces, Separate Contractors or other Contractors, the Contractor shall, prior to proceeding with that portion of the Contractor's Work, promptly notify the Construction Manager and Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor or other Contractors that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Construction Manager and the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's or other Contractors' completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractors or other Contractors that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for all costs the Owner incurs, including costs that are payable to a Separate Contractors or to other Contractors, because of the Contractor's delays, improperly timed activities or defective construction.

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§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction, or to property of the Owner, Separate Contractors, or other Contractors as provided in Section 10.2.5 and the Contractor shall indemnify, defend, and hold the Owner harmless from any claims or damages brought by another Contractor arising out of any actions or omissions of the Contractor in performing its Work pursuant to its Contract.

§ 6.2.5 The Owner, Separate Contractors, and other Contractors shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, other Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner through the Construction Manager may hire additional resources to clean up and the Construction Manager, with notice to the Architect, will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Construction Manager, Architect and Contractor. A Construction Change Directive requires agreement by the Owner, Construction Manager and Architect and may or may not be agreed to by the Contractor.

§ 7.1.2.1 Should either party disagree with either the cost or time on a Change Order, the provisions herein relating to a Construction Change Directive shall be followed. In no event shall the Contractor refuse to perform any Work which is the subject of a Construction Change Directive or provide the information required therein, and such shall be considered a material breach of this Agreement.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

A Change Order is a written instrument prepared by the Construction Manager and signed by the Owner, Construction Manager, Architect, and Contractor, stating their agreement upon all of the following:

- **.1** The change in the Work;
- **.2** The amount of the adjustment, if any, in the Contract Sum; and
- **.3** The extent of the adjustment, if any, in the Contract Time.

§ 7.2.1 Methods used in determining adjustments to the Contract Sum may include those listed in § 7.3.3.

§ 7.2.2 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Contractor's Work which is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Sum and the Contract Time applicable thereto.

§ 7.2.3 Notwithstanding anything set forth herein to the contrary, Contractor shall not be entitled to a Change Order for an adjustment in either the Contract Sum or the Contract Time for an error in the Contract Documents if the Contractor should reasonably have known of or anticipated the error giving rise to such requested Change Order. The preceding sentence shall not be construed to mean that the Contractor has assumed any of the Architect's responsibilities or any of the responsibilities of any engineer retained by the Architect or retained directly by the Owner with respect to the Project.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Construction Manager and signed by the Owner, Construction Manager and Architect, directing a change in the Work or performance of Work in dispute

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prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly. Likewise, should the parties disagree on whether Work is or is not a change in the Work, a written Construction Change Directive shall be prepared by the Construction Manager and signed by the Owner, Construction Manager and Architect, directing the Contractor to perform the Work in question The Contractor shall perform the Work and if it believes that it is entitled to an adjustment in the Contract Sum or Contract Time, shall keep the information identified in Sections 7.3.3 below and submit a Claim in accordance with applicable provisions of Article 15. In no event shall the Contractor fail or refuse to perform the Work.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation, including a breakdown for each trade giving separation of material, equipment and labor, providing quantities and labor hours as outlined in § 7.3.3.4. The fee payable to the Contractor, Subcontractor or Sub-subcontractor shall be the same as permitted in §7.3.3.4 ;

.2 Unit prices stated in the Contract Documents or subsequently agreed upon; or

.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or

.4 As provided below:

(a) For extra work performed by the Prime Contractor, the Owner shall pay Prime Contractor cost of the work (materials, equipment & labor) plus 5% markup which is inclusive of all overhead and profit. For change orders in which there are multiple tiers of subcontractors and/or supplier, as noted in § 7.3.3.4 (b) and (c), the total mark- up shall not exceed 15%. Change order markup percentages are inclusive of all allowable Overhead and Profit; Overhead and profit shall be inclusive of the following: home office costs, management supervision (field & office), training, vehicles and pickups, fuel, safety, travel, reproduction, temporary facilities, computers, office equipment, small tools, and other incidentals. Small tools are defined as tools that do not have a new unit cost in excess of $750.00.

(b) For extra work performed by a Subcontractor or equipment supplier, the charges to Owner shall include the Subcontractor's cost, plus a fee (payable to the Subcontractor) in an amount equal to 5% of such cost. The "fee" is inclusive of all allowable Overhead and Profit. Overhead and profit shall be inclusive of the following: fees, insurance, home office costs, management supervision (field & office), training, vehicles and pickups, fuel, safety, travel, reproduction, temporary facilities, computers, office equipment, small tools, and other incidentals. Small tools are defined as tools that do not have a new unit cost in excess of $750.00.

(c) For extra work performed by a Sub-subcontractor, the charges to Owner may include: the Sub-subcontractor's cost, plus a fee (payable to the Sub-subcontractor) in an amount equal to 5% of such cost. The "fee" is inclusive of all allowable Overhead and Profit. Overhead and profit shall be inclusive of the following: fees, insurance, home office costs, management supervision (field & office), training, vehicles and pickups, fuel, safety, travel, reproduction, temporary facilities, computers, office equipment, small tools, and other incidentals. Small tools are defined as tools that do not have a new unit cost in excess of $750.00.

(d) "Cost" shall consist exclusively of the actual cost of those expenses for which reimbursement is permitted under § 7.3.7. Cost shall not include any provision for the cost of Contractor's supervision, overhead, profit, and any other general expenses, except as expressly provided under § 7.3.3.4 (a) above.

(e) The Contractor shall furnish satisfactory bills, payrolls, vouchers, and other supporting documentation covering all items of cost, and when requested by Owner, shall give the Owner access to accounts relating thereto.

(f) The Contractor shall provide detailed labor rate breakdowns to support change order labor rates. The Owner and/or will provide the labor rate breakdown forms that shall be

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completed a submitted for each trades classification no later than 20 days from Notice To Proceed or prior to the submission of the first payment requisition. The labor rates shall be consistent with prevailing wage rates inclusive of burdens, insurances and allowable mark up.

(g) The value of work added and deleted for each item of Work shall be computed on the net difference in quantity.

(h) The fees payable to the Contractor, Subcontractors and Sub-subcontractors under § 7.3.3.4(a), § 7.3.3.4(b), § 7.3.3.4(c) and § 7.3.3.4(d) shall constitute the total reimbursement and payment to be made to the Contractor, Subcontractors and Sub-subcontractors. Change Directive markup percentages are all inclusive of all allowable overhead and profit. Overhead and profit shall include, but not be limited to the following: home office costs, management supervision (field & office), training, vehicles and pickups, fuel, safety, travel, reproduction, temporary facilities, computers, office equipment, small tools, and other incidentals. Small tools are defined as tools that do not have a new unit cost in excess of $750.00.

The Contractor shall provide the Construction Manager with all documentation requested by the Construction Manager in order to determine costs. In no case shall the Contractor include more percentages that those noted above.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Construction Manager shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Construction Manager may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

.1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Construction Manager and Architect;

.2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and

.5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved or Work identified in the Construction Change Directive. Where the parties agree that there is a change in the Work, the Contractor shall advise the Construction Manager of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Construction Manager and Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment for

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Work which the parties agree is a change. The Construction Manager and Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Construction Manager and Architect determine to be reasonably justified. The interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Construction Manager and Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Construction Manager shall prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Construction Manager and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Construction Manager that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for the Substantial Completion of the Contractor's Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Contractor's Contract with the Owner.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Contractor's Contract with the Owner, the Contractor confirms that the Contract Time therein is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner, Architect, Construction Manager, or an employee of any of them, or of the Owner's own forces, Separate Contractors, or other Contractors; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts and the Architect, based on the recommendation of the Construction Manager, determines justify delay, then the Contract Time shall be extended for such reasonable time as the Owner may determine. Nothing herein shall be construed to allow the Contractor to recover time or money in connection with any delay, disruption or impact arising out of the Contractor's negligence or failure to perform.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

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§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

§ 8.4 Delay

.1 "Excusable/Non-compensable" Delay means any delay of the completion of the Contractor's Work beyond the expiration of the Contract Time therefor which could not have reasonably been anticipated and is caused by conditions beyond the reasonable control and without the fault or negligence of the Contractor, such as strikes, embargoes, or unavoidable casualties, unusual delays in transportation, complete shutdowns due to a pandemic, during which the Contractor's Work cannot continue. The financial inability of the Contractor or any of its Subcontractors or Sub-subcontractors and any default of any of its Subcontractors or Sub-subcontractors, without limitation, shall not be deemed conditions beyond Contractor's control. An Excusable/Non-compensable Delay may entitle the Contractor to an extension of the Contract Time applicable to its Work in accordance with § 8.3 but shall not entitle Contractor to any adjustment of the Contract Sum therefor.

.2 "Excusable/Compensable Delay" means any delay of the completion of the Contractor's Work beyond the expiration date of the Contract Time therefor, based on impact to the critical path of the Approved Work Schedule for such Work, caused by the gross negligence or willful act of the Owner, Construction Manager or Architect or of an employee of either or of another Contractor, or by changes ordered in the Contractor's Work, which delay completion of such Work unreasonably under the circumstances involved and not within the contemplation of the parties. A Compensable Delay may entitle the Contractor to an extension of the Contract Time and/or an adjustment of the Contract Sum for its Work, in accordance with § 8.3. Except as expressly provided herein, the Contractor shall have no claim or right to assert a claim for an adjustment of the Contract Sum and/or the Contract Time, or for damages or compensation for any delay, interruption, hindrance, or disruption of its Work.

.3 "Inexcusable Delay" means any delay of the completion of the Contractor's Work beyond the expiration of the Contract Time therefor resulting from causes other than those listed in § 8.1.5.1 and § 8.1.5.2 above. An Inexcusable Delay shall not entitle Contractor to an extension of the Contract Time or an adjustment of the Contract Sum for its Work.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Contract and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Contractor's Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum, the Contractor shall submit a schedule of values to the Construction Manager, before the first Application for Payment or within 20 days from the Notice to Proceed, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall not be front-loaded. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Construction Manager and the Architect. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. The Construction Manager shall forward to the Architect the Contractor's schedule of values. Any changes to the schedule of values shall be submitted to the Construction Manager and supported by such data to substantiate its accuracy as the Construction Manager and the Architect may require, and unless objected to by the Construction Manager or the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least fifteen days before the date established for each progress payment, the Contractor shall submit to the Construction Manager an itemized Application for Payment prepared in accordance with the schedule of values, if

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required under Section 9.2, for completed portions of the Work. The application shall be fully executed by an authorized agent of the Contractor, notarized, and supported by all data substantiating the Contractor's right to payment that the Owner, Construction Manager or Architect require, such as copies of requisitions, Certified Payroll documentation and releases of waivers of lien from the Contractor, Subcontractors. Sub-subcontractors and suppliers and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 Each Application for Payment by the Contractor for its Work shall be supported by the following documentation, each in a form satisfactory to the Owner:

- **.1** Contractor's release of liens and claims in the form
- **.2** Subcontractor certificates, statements and affidavits showing that the Contractor's Work covered by said Application for Payment has been performed and delivered free of liens.
- **.3** Subcontractors' release of liens and claims in the form attached to the Contractor's Contract as Exhibit D, and as reasonably required by the Owner, lien and claims releases from their Subcontractors, materialmen and suppliers.
- **.4** Statement of Account, indicating the Subcontract amounts, monies paid to date and monies due Subcontractors for Contractor's Work performed on the Project.
- **.5** Contractor's Monthly CPM Schedule updates
- **.6** Monthly update of cash flow projection to final completion of the Contractor's Work.
- **.7** Certified Payroll Reports.
- **.8** Daily Reports
- **.9** Exhibit A – Local Participation Requirements
- **.10** LEED Deliverables & Waste Management Plan
- **.11** Such other documents in form, scope and substance as the Owner or the applicable Contract Documents shall require for disbursement of funds.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 The Owner and Contractor acknowledge and agree that an Application for Payment for the Contractor's Work shall not be deemed invalid or unsatisfactory for the sole reason that any lien waiver or release as Owner may require pursuant to §9.3.1.1.3 shall be in a form that purports to make the waiver or release conditioned upon the receipt of payment for the Contractor's Work for which Application for Payment has been submitted.

§ 9.3.1.4 The initial payment by the Owner to the Contractor on account of the Contractor's Work performed by its individual Subcontractors shall be conditioned upon the Owner's prior receipt of the following documentation:

- **.1** The fully executed Subcontract;
- **.2** the Subcontractor's approved Certificate of Insurance and/or OCIP enrollment;
- **.3** the Subcontractor's approved Schedule of Values;
- **.4** the Subcontractor's labor rate breakdown sheet(s) for all labor classifications
- **.5** the Subcontractor's fully executed release of liens and claims form; and
- **.6** such other documentation as the Owner may from time to time require.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials and equipment relating to the Work.

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§ 9.4 Certificates for Payment

§ 9.4.1 Where there is only one Contractor, the Construction Manager will, within seven days after the Construction Manager's receipt of the Contractor's Application for Payment, review the Application, certify the amount the Construction Manager determines is due the Contractor, and forward the Contractor's Application and Certificate for Payment to the Architect. Within seven days after the Architect receives the Contractor's Application for Payment from the Construction Manager, the Architect will either (1) issue to the Owner a Certificate for Payment, in the full amount of the Application for Payment, with a copy to the Construction Manager; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Construction Manager and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Construction Manager and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward to the Contractor the Architect's notice of withholding certification.

§ 9.4.2 Where there is more than one Contractor performing portions of the Project, the Construction Manager will, within seven days after the Construction Manager receives all of the Contractors' Applications for Payment: (1) review the Applications and certify the amount the Construction Manager determines is due each of the Contractors; (2) prepare a Summary of Contractors' Applications for Payment by combining information from each Contractor's application with information from similar applications for progress payments from the other Contractors; (3) prepare a Project Application and Certificate for Payment; (4) certify the amount the Construction Manager determines is due all Contractors; and (5) forward the Summary of Contractors' Applications for Payment and Project Application and Certificate for Payment to the Architect.

§ 9.4.2.1 Within seven days after the Architect receives the Project Application and Project Certificate for Payment and the Summary of Contractors' Applications for Payment from the Construction Manager, the Architect will either (1) issue to the Owner a Project Certificate for Payment, with a copy to the Construction Manager; or (2) issue to the Owner a Project Certificate for Payment for such amount as the Architect determines is properly due, and notify the Construction Manager and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Project Application for Payment, and notify the Construction Manager and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward the Architect's notice of withholding certification to the Contractors.

§ 9.4.3 The Construction Manager's certification of an Application for Payment or, in the case of more than one Contractor, a Project Application and Certificate for Payment, shall be based upon the Construction Manager's evaluation of the Work and the data in the Application or Applications for Payment. The Construction Manager's certification will constitute a representation that, to the best of the Construction Manager's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is, or Contractors are, entitled to payment in the amount certified.

§ 9.4.4 The Architect's issuance of a Certificate for Payment or, in the case of more than one Contractor, Project Application and Certificate for Payment, shall be based upon the Architect's evaluation of the Work, the recommendation of the Construction Manager, and data in the Application for Payment or Project Application for Payment. The Architect's certification will constitute a representation that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is, or Contractors are, entitled to payment in the amount certified.

§ 9.4.5 The representations made pursuant to Sections 9.4.3 and 9.4.4 are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Construction Manager or Architect.

§ 9.4.6 The issuance of a Certificate for Payment or a Project Certificate for Payment will not be a representation that the Owner, Construction Manager or Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested

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by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Construction Manager or Architect may withhold a Certificate for Payment or Project Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager's or Architect's opinion the representations to the Owner required by Section 9.4.3 and 9.4.4 cannot be made. If the Construction Manager or Architect is unable to certify payment in the amount of the Application, the Construction Manager will notify the Contractor and Owner as provided in Section 9.4.1 and 9.4.2. If the Contractor, Construction Manager and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment or a Project Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Construction Manager or Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment or Project Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the acts and omissions described in Section 3.3.2 because of

.1 defective Work not remedied;

.2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;

.3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;

.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;

.5 damage to the Owner or a Separate Contractor or other Contractor;

.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or

.7 repeated failure to carry out the Work in accordance with the Contract Documents; or

.8 failure to submit timely schedule updates or recovery within the time designated by the Construction Manager or acceptable to the Construction Manager.

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§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld. In no event may the Contractor stop performing Work in connection with a good faith dispute.

§ 9.5.4 If the Architect or Construction Manager withholds certification for payment under Section 9.5.1, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Construction Manager, and both will reflect such payment on the next Certificate for Payment. Nothing herein shall require the Owner to issue joint checks.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment or Project Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents and shall so notify the Construction Manager and Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Construction Manager will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Owner, Construction Manager and Architect on account of portions of the Work done by such Subcontractor.

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§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner, Construction Manager nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 The payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.7 Failure of Payment

If the Construction Manager and Architect do not issue a Certificate for Payment or a Project Certificate for Payment, through no fault of the Contractor, within fourteen days after the Construction Manager's receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Construction Manager and Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner, Construction Manager and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately, and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use. The Work will not be considered suitable for Substantial Completion review until all Project components included in the area of the Work are operational as design and scheduled, all designated or required governmental inspections and certifications, including certificates of occupancy, have been made and posted. In general, the only remaining Work shall be minor in nature, so that the Owner can occupy the potion of the building on that date for its intended use and the completion of the Work of the Contractor would not materially affect or hamper the normal business operations or intended use of the Owner.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall notify the Construction Manager, and the Contractor and Construction Manager shall jointly prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment ("punch list"). Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. The Owner shall be entitled to withhold one and one-half times the value of the items on the punch list until they are completed or corrected.

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§ 9.8.3 Upon receipt of the punch list, the Architect, assisted by the Construction Manager, will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect, assisted by the Construction Manager, to determine Substantial Completion.

§ 9.8.4 When the Architect, assisted by the Construction Manager, determines that the Work of all of the Contractors, or designated portion thereof, is substantially complete, the Construction Manager will prepare, and the Construction Manager and Architect shall execute, a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor and Construction Manager shall jointly prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect after consultation with the Construction Manager.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Construction Manager, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Construction Manager a notice that the Work is ready for final inspection and acceptance and shall also forward to the Construction Manager a final Contractor's Application for Payment. Upon receipt, the Construction Manager shall perform an inspection to confirm the completion of Work of the Contractor. The Construction Manager shall make recommendations to the Architect when the Work of all of the Contractors is ready for final inspection and shall then forward the Contractors' notices and Application for Payment or Project Application for Payment, to the Architect, who will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Construction Manager and Architect will promptly issue a final Certificate for Payment or Project Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Construction Manager's and Architect's final Certificate for Payment or Project Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the

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Contractor's being entitled to final payment have been fulfilled. As a condition to final payment, Contractor shall assemble and provide to the Owner all warranties and manuals in the media and format acceptable to the Owner.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect through the Construction Manager (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6), other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner; (7) final as-built prints of record drawings marked by the Contractor with record information as set forth in the Contract Documents. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Construction Manager and Architect so confirm, the Owner shall, upon application by the Contractor and certification by the Construction Manager and Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect through the Construction Manager prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- **.1** liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- **.2** failure of the Work to comply with the requirements of the Contract Documents;
- **.3** terms of special warranties required by the Contract Documents; or
- **.4** audits performed by the Owner, if permitted by the Contract Documents, after final payment; or
- **.5** latent failure of the Contractor to comply with the requirements of the Contract Documents; or
- **.6** insurance and indemnity obligations hereunder.

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§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall submit the Contractor's safety program to the Construction Manager for review and coordination with the safety programs of other Contractors. The Construction Manager's responsibilities for review and coordination of safety programs shall not extend to direct control over or charge of the acts or omissions of the Contractors, Subcontractors, agents or employees of the Contractors or Subcontractors, or any other persons performing portions of the Work and not directly employed by the Construction Manager. The Owner assumes no responsibility or liability for the safety of the Project Site.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- **.1** employees on the Work and other persons who may be affected thereby;

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.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor;

.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction; and

.4 construction or operations by the Owner, Separate Contractors, or other Contractors.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner, Construction Manager or Architect or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner, Construction Manager and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party as soon as possible, but not later than 48 hours after the incident. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner, Construction Manager and Architect of the condition as soon as possible, but no later than 24 hours after the discovery.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor, Construction Manager and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor,

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the Construction Manager and the Architect will promptly reply to the Owner in writing stating whether or not any of them has reasonable objection to the persons or entities proposed by the Owner. If the Contractor, Construction Manager or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor, the Construction Manager and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Construction Manager, Architect, their consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 OWNER CONTROLLED INSURANCE PROGRAM

§ 11.1 OWNER CONTROLLED INSURANCE PROGRAM

The Owner shall, through an Owner Controlled Insurance Program (OCIP), purchase and maintain at its own expense Workers' Compensation and Employer's Liability, Comprehensive General Liability, Excess Liability, Contractor's Pollution Liability and Builder's Risk Insurance described in Section 11.1.1 below, including as Additional Named Insureds all enrolled Contractors and Subcontractors of every tier performing direct labor at the Project. Contractor shall abide by the terms and conditions of the OCIP Manual which shall be attached to the Agreement as Exhibit _ and incorporated herein by reference as though set forth at length.

While the OCIP is intended to provide coverages and high limits, the OCIP is not intended to meet all of the Contractor's and Subcontractor's insurance needs. The OCIP does not provide coverage for Automobile Liability, Equipment Floaters, Professional Liability or Performance Bonds. It is recommended that the Contractors and Subcontractors discuss the OCIP with their insurance agent to assure that other proper coverages are maintained.

Architects, engineers (not including design/build subcontractors), consultants, vendors, suppliers (who do not perform or subcontract installation), material dealers, guard services, janitorial services, truckers (including trucking to the Project where delivery is the only scope of work to be performed) asbestos abatement or other hazardous waste removal contractors and others whose sole function is to transport, pickup, deliver or carry materials, supplies, tools, equipment, parts or other items to or from the Project Site, or who do not perform any actual on-site labor shall not be covered by insurance purchased by the Owner through the OCIP. **Temporary labor services and leasing companies are to be treated as subcontractors.**

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At the discretion of the Owner, any contractor or subcontractor with a total contract value of $25,000 and under may be excluded from the OCIP. The Owner and OCIP Administrator must be notified of any such contract.

§ 11.1.1 INSURANCE PROVIDED BY THE OWNER

Participation in OCIP is mandatory but not automatic. The OCIP will provide the Contractors and Subcontractors at every tier who are enrolled in and have been assigned a contract number by the Owner with insurance described in paragraphs 11.1.1.1 through 11.1.1.4 below. This insurance shall terminate as of the date of the Certificate of Substantial Completion of the Work except for the extended coverage provisions set forth in paragraphs 11.1.1.2.1 and 11.1.1.3 below.

The Owner will provide each participant in the OCIP a Project Insurance Manual, which will include a summary of the insurance coverage, loss control procedures and claim procedures as well as enrollment forms and reporting requirements for the OCIP. The Contractor and all Subcontractors at every tier shall use and comply with the requirements contained in the OCIP Manual.

§ 11.1.1.1 Workers' Compensation and Employer's Liability Insurance. In accordance with the applicable state and federal statutes including United States Longshore and Harbor Workers Act, this insurance will cover the Contractors, Subcontractors, and Sub-subcontractor's employees only while they perform Work described in this Contract at the Project Site as defined as: That property owned by or under control of Owner on which construction activities are being conducted in connection with the Project and/or areas and ways contiguous thereto. Project Site includes any work site set up by Owner for use by an Insured exclusively for the storage of material or equipment, or for on-site fabrication of material to be used in the construction and staging and Project support areas. The payroll and losses of each participant in the OCIP will be filed with the appropriate rating bureau. Experience modifiers of the OCIP participant could be affected, either positively or negatively, by their loss experience while performing Work under this Contract. Insurance coverage will cease for any employee when he or she leaves the Project Site either to perform other Work not covered by this Contract, or for employee personal time. The policy shall include but not be limited to the following coverage:

(a) Statutory Workers' Compensation Benefits;
(b) Employer's Liability with limits of:
$1,000,000 Bodily Injury with accident — each accident
$1,000,000 bodily injury with disease — policy limit
$1,000,000 bodily injury with disease — each employee;
(c) Voluntary Compensation Coverage

§ 11.1.1.2 Commercial General Liability Insurance (excluding aircraft, watercraft, trucks and automobiles) written on a 2001 Occurrence Form, or equivalent, with the following limits:

$2,000,000 Bodily Injury and Property Damage — Per Occurrence
$4,000,000 General Aggregate — Per Project
$2,000,000 Personal Injury/Advertising Liability
$4,000,000 Products/Completed Operations Aggregate

The above limits in 11.1.1.2 will be Program specific. These limits shall replenish themselves annually except that there will be one products/completed operations aggregate limit of liability for the additional twelve (12) years extension after the Certificate of Substantial Completion of the Work has been issued by the Owner.

§ 11.1.1.2.1 Coverage under this policy includes, but is not limited to, the following:

Personal injury liability;
Blanket Contractual Liability covering contractual liability assumed under this Contract;
Employees included as Additional Insureds;
Cross Liability and Severability of Interest;
Incidental Medical Malpractice Coverage;
Explosion, Collapse and Underground Hazard;
Completed operations coverage with provision for an additional twelve (12) years extension after the Certificate of Final Acceptance of the Work has been issued by the Owner.

§ 11 .1.1.2.2 Coverage exclusions include, but are not limited to, the following:

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Any loss insurable by the Builders Risk Insurance policy including deductibles;
War and Nuclear Energy Liability;
Aircraft Helicopter Watercraft Automobile and Truck Liability;
Professional (Errors & Omissions) Liability;
Intentional Acts (except as provided by the ISO policy form);
Products Recall;
Asbestos;
Mold, Fungii and Microbial;
Silicosis; and
EIFS (The EIFS exclusion does not apply to "bodily injury" or "property damage" directly caused by the construction of a component of "your product" or "your work" from a structure containing such component, unless such "bodily injury" or "property damage" also arises out of, is caused by, or is attributable, whether in whole or in part, to mold or fungus).

§ 11.1.1.3 Owner has secured Excess Umbrella Liability insurance in the amount of One Hundred Million ($100,000,000) each occurrence and aggregate excess of underlying General Liability and Employer's Liability and as specified pursuant to paragraphs 11.1.1.1 and 11.1.1.2 above covering Work at the Project Site. This policy will contain the following extension:

Twelve (12) year completed operations extension after the Certificate of Substantial Completion of the Work has been issued by the Owner.

These limits shall replenish themselves annually, except as respects to the Product/Completed Operations limit.

§ 11.1.1.4 Builder's Risk insurance on an "all-risk" basis in amounts sufficient to cover repair or replacement cost of the work in progress covering the facilities and the procured property on or in transit to the Project Site or in storage off-site, in amounts sufficient to cover the replacement value of such facilities and procured property.

The Builder's Risk insurance provided under paragraph 11.1.1.4 above shall not cover loss by theft or disappearance of any materials (unless the materials are to be incorporated into the Project), Contractor's tools, equipment and facilities that are not to become part of the Work. In the event of a loss which due to the act(s) or negligence of the Contractor, Contractor shall reimburse the Owner for the deductible paid by the Owner.

Contractor assumes that the Builder's Risk Insurance procured by the Owner shall include the following coverages:

1) No Coinsurance Required – Agreed Amount Coverage

2) That the policy will allow "Permission to Occupy"

3) That the policy will provide coverage for glass breakage

4) That there will be no exclusions for Steam Boiler Explosion, Mechanical Breakdown, Electrical Injury/Arcing or Testing

5 A waiver of subrogation and recovery endorsement

6) That the policy will name the Contractor, consultants, and subcontractors of all tiers as additional named insureds

7) That the Owner shall be responsible for all policy deductibles, and uninsured/underinsured losses with no right of recovery against Contractor or its Subcontractors of all tiers

8) Terrorism per TRIA

§ 11.1.1.5 Other Provisions of the OCIP.

§ 11.1.1.5.1 All policies specified in 11.1.1.1 through 11.1.1.4 above will apply on a primary and non-contributory basis regardless of any other insurance available to the Program Participants. All policies shall have an A. M. Best Rating of A:IX or better.

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§ 11.1.1.5.2 All premiums associated with the OCIP including deductibles or self-insured retentions unless stated elsewhere in this contract will be paid by the Owner and all refunds will be paid to the Owner.

§ 11.1.1.5.3 The above insurance will apply only to claims arising out of operations at the Project Site and not at regularly established "away from the Project Site" offices, shops, warehouses, factories or similar location.

Note: Parties who merely make deliveries or pick-ups to or from the Project Site and materialmen are excluded from the insurance outlined in paragraphs 11.1.1.1 and 11.1.1.2 above and are not subject to the insurance requirements set forth in Article 11. Unless otherwise directed by the Owner, contractors, subcontractors not enrolled in the Project OCIP shall maintain their own insurance in accordance with coverage types and limits outlined in paragraphs 11.1.2.4.1 through 11.1.2.4.4.

§ 11.1.1.5.4 The Program Administrator will furnish separate Workers' Compensation policies to each enrolled Contractor and Subcontractor. A Certificate of Insurance evidencing Commercial General Liability Excess Liability and Builder's Risk coverage will be provided to each program participant. Policies relating hereto shall be placed on file with the Program Administrator and are available for review by approved Subcontractors and/or their designee during normal working hours.

§ 11.1.1.5.5 Insurance specified in paragraphs 11.1.1.1 through 11.1.1.4 above will be terminated at the completion of the Work by the approved Contractor and Subcontractor except as noted under paragraphs 11.1.1.2.1 and 11.1.1.3 pertaining to completed operations.

§ 11.1.1.5.6 Special Conditions – OCIP enrolled Contractor and Subcontractors will be required to:

- Provide a Certificate of Insurance in accordance with the insurance outlined in Section 11.1.2;
- Separate payroll records for the Work performed on this Project and have such records available upon request;
- Maintain separate "regular" and "overtime" payrolls in accordance with the Insurance Company's normal audit procedures;
- Submit Monthly Payroll Reports (Form 3) to the OCIP Administrator by the 10th day of the month for the preceding month; separate reports are to be submitted for each contract;
- Maintain payroll information on file for a period of not less than four (4) years beyond the termination of approved Contractor's and Subcontractor's contract;
- Assist in the reporting and investigation of any accident and, upon request, cooperate with the Insurance Company in the handling of any claim by securing and giving evidence and obtaining the cooperation of witnesses as required for any claim or suit;
- Sign a dividend release form authorizing the OCIP insurance companies to pay any dividends, refund or retrospective returns directly to the Owner;
- Allow the Owner and/or its representatives and/or the OCIP insurance company to perform periodic audits of payroll records;
- Notify its own insurance brokers, agents and insurers of the insurance coverage provided under the OCIP;
- Include these Special Conditions in its subcontracts and require each Subcontractor at any tier to do likewise.

§ 11.1.1.6 Contractor's Pollution Liability Insurance –all Contractors and Subcontractors of every tier shall be purchased and maintained by the Contractor and Subcontractors.

Limits of Liability

$10,000,000 per occurrence
$10,000,000 Combined Single Limit

The policy limits shall be dedicated solely for this Project and shall not be shared with any other Project.

Coverages:

Punitive damages coverage, where not prohibited by law
Extended reporting period of 36 months
No exclusions for asbestos, underground storage tanks and radioactive

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Mold, fungii and microbial $10,000,000 sub-limit
EIFS

§ 11.1.1.7 Contractor Insurance Credits and Audit:

§ 11.1.1.7.1 Since the Owner is purchasing the insurance described above covering the Contractor and all tiers of Subcontractors who perform direct labor at the Work Site, the Contractor and each tier of Subcontractor shall bid without the costs of the Owner provided insurance. The bid form will require the Contractor and every tier of Subcontractor to include a statement certifying that such costs have been netted out of their total bid cost and not included in their total bid cost.

§ 11.1.1.7.2 [[Intentionally Omitted]

§ 11.1.1. 7. 3 Upon completion of Work, or on policy expiration, the Owner reserves the right to allow the insurance company to audit payroll. Contractors and Subcontractors of all tiers agree to keep and maintain accurate and classified records of their payroll for operations for the Project (certified payroll is not acceptable). The Contractor and all tiers of Subcontractors will submit to the OCIP Administrator, full and accurate monthly payroll data and any additional information as may be required.

§ 11.1.1.7.4 Change Orders will be submitted net of insurance and all respective labor rates will be reduced to reflect this reduction. Contractors will itemize these net insurance costs by completing Form 4 of the OCIP manual.

§ 11.1.1.7.5 In the event that the OCIP is to be terminated by the Owner, Owner shall provide Contractor with thirty days' prior written notice of the date of termination. In said event, Contractor shall obtain the Worker's Compensation, Commercial General Liability and Excess Liability insurance described in the Contract Documents at the cost detailed in Amendment No. 1 to the Agreement. Contractor may increase the Excess Liability insurance to be provided by any first tier Subcontractor to Five Million Dollars ($5,000,000) and the Owner shall issue a Change Order to the Contractor in the amount of the actual cost to the Subcontractor for the increased Excess Liability coverage. The cost of the additional insurance will be market sensitive as respect to pricing and appropriate for this project only. Copies of invoices from the Subcontractor's insurance provider shall evidence the cost of such insurance. In the event the OCIP is terminated, within the thirty day notice period, the Contractor shall cause the EIFS Subcontractor to obtain Five Million Dollars ($5,000,000) of mold coverage and Five Million Dollars ($5,000,000) of commercial general liability coverage specific to the Project, including five (5) years of completed operations coverage. A Change Order shall be issued to cover the commercially reasonable cost thereof to the Subcontractor. Should the Subcontractor be unable to obtain such coverages, the Owner shall obtain and pay for the same.

§ 11.1.2 CONTRACTOR'S/SUBCONTRACTOR'S OBLIGATIONS UNDER THE OCIP

Insurance provided to the Contractor under OCIP does not cover the Contractor's automobiles, tools and equipment. The OCIP also does not cover Workers' Compensation claims or Commercial General Liability claims arising from "Off-Site Work." Off-Site Work as used in this document means Work performed under the Contract that is not performed at the designated Project Site. The OCIP does not cover Professional Liability claims arising from Work or services performed under contract at the designated Project Site. The Contractor/Subcontractor at their own expense must promptly furnish to the Owner certificates of insurance providing evidence that the following coverages are in force.

§ 11.1.2.1 Comprehensive Automobile Liability Insurance for contract work both occurring on-site and off-site with limits of liability not less than:

$1,000,000 Combined Single Limit

This insurance must apply to all owned, leased, non-owned or hired vehicles to be used in the performance of work and the policy shall include an additional insured endorsement naming the Owner, its affiliates, subsidiaries, their directors, officers, agents, representatives and employees and Contractor as additional insureds as respect to the operations of the contractors' automobile. This insurance must extend to all levels of Subcontractors. Such insurance shall waive subrogation against the Owner and/or its representatives and all Contractors and Subcontractors.

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Note: Automobiles are defined in accordance with the most recent ISO insurance agreement. This definition includes but is not limited to a land motor vehicle trailer or semi-trailer designed for travel on public roads, whether licensed or not (including any machinery or apparatus attached thereto).

§ 11.1.2.2 Professional Liability Insurance. Architects and Engineers of every tier hired by the Owner shall purchase and maintain Professional Liability insurance during the term of this Project.

Minimum Limits of Liability
$5,000,000 each claim
$5,000,000 annual aggregate

Coverages:
Insured's interest in joint ventures, if applicable
Punitive damages coverage, where not prohibited by law
Limited contractual liability
Retroactive date prior to work
Extended reporting period of 36 months

§ 11.1.2.3 Contractor Provided Insurance for "Off-Site Work." "Off Site Work" as used in this Contract means Work NOT performed at the Project Site.

§ 11.1.2.3.1 Workers' Compensation Insurance, including Employer's Liability with minimum limits of

$1,000,000 Bodily Injury with Accident — Each Accident
$1,000,000 Bodily Injury with Disease — Policy Limit
$1,000,000 Bodily Injury with Disease — Each Employee

Coverage to protect Contractor / Subcontractor from and against all claims arising from performance of Work outside the Project Site under the Contract. Such insurance (where permissible by law) shall waive subrogation against the Owner and/or its representatives and all Contractors and Subcontractors.

§ 11.1.2.3.2 Commercial General Liability Insurance for Contract operations not physically occurring within the Project Site with a limit of liability not less than:

$1,000,000 Each Occurrence
$1,000,000 Personal Injury and Advertising Injury
$2,000,000 General Aggregate
$2,000,000 Products/Completed Operations Aggregate

Such policy shall include coverage for contractual liability assumed under the Contract, contractors' protective liability, and explosion, collapse and underground property damage hazards, employees and Additional Insureds. Such policy shall include an Additional Insured Endorsement naming Contractor, Owner, its affiliates, subsidiaries, their directors, officers, agents, representatives and employees. This insurance must extend to all levels of Subcontractors. Such insurance shall waive subrogation against the Owner, its affiliates, subsidiaries, and/or their representatives and all Contractors and Subcontractors.

§ 11.1.2.3.3 Excess Liability insurance for Contract operations not physically occurring within the Project Site with a limit of liability not less than:

(a) Prime Contractor, Construction Manager, General Contractor Limits of Liability Liability:

(i) $25,000,000 Any one occurrence and General Aggregate annually; and
(ii) $25,000,000 Annual Aggregate Products/Completed Operations

(b) Subcontractors Limits of Liability.

(i) $5,000,000 Any one occurrence and General Aggregate annually; and

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(ii) $5,000,000 Annual Aggregate Products/Completed Operations.

NOTE: If the Contractor/Subcontractor chooses to have their policy endorsed to include the OCIP during the construction period, coverage should be Excess and/or Difference in Conditions of the OCIP. The inclusion of the OCIP on such insurance policies shall not replace the OCIP coverage or otherwise affect the cost of insurance identified on the Form I — Insurance Premium Worksheet. The cost of any other type of insurance, or any increase in the limits of liability above those outlined in section 11.1.2.4.1 through 11.1.2.4.4 which the Contractor has procured for their own protection or on account of any statute shall be the sole responsibility of the Contractor.

§ 11.1.2.3.4 Contractors Equipment insurance for all construction tools and equipment whether owned leased rented, borrowed or used on work at the Project Site is the responsibility of the Contractor and/or Subcontractor, and the Owner shall not be responsible for any loss or damage to tools and equipment. This Contractors' Equipment insurance shall contain a waiver of subrogation against Owner and/or its representatives and all Contractors and Subcontractors. If an individual Contractor or Subcontractor does not purchase such insurance, he will hold harmless Owner and/or its representatives and other Contractors and Subcontractors for damage to his tools and equipment.

§ 11.1.2.3.5 Any Contractor or Subcontractor who has completed their work at the Project site and whose OCIP insurance has been terminated, who returns to the site to perform warranty work must do so under their own insurance.

§ 11.1.2.3.6 Certificates of Insurance evidencing the required coverages outlined in the previous paragraphs and containing a provision for thirty (30) days prior written notice of cancellation must be submitted with the bid.

§ 11.1.2.3.7 Contractor may accept lesser limits of liability insurance coverages for its Subcontractors and consultants with the prior written consent of the Owner.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Construction Manager and Construction Manager's consultants; (3) the Architect and Architect's consultants; (4) other Contractors and any of their subcontractors, sub-subcontractors, agents, and employees; and (5) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Construction Manager, Construction Manager's consultants, Architect, Architect's consultants, other Contractors, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this Section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

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§ 11.4 Loss of Use

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor, Architect, and Construction Manager for loss of use of the Owner's property, due to fire or other hazards however caused, to the extent covered by insurance.

§ 11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Construction Manager, Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Construction Manager, Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in an account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

§ 11.6 Bonds The Contractor shall provide Performance Bonds and Payment Bonds in the full amount of the Contract Sum, from a company or companies lawfully authorized to issue surety bonds in the Commonwealth of Pennsylvania, listed on most recent Treasury Circular 470. Payment and Performance Bonds shall be AIA Document A312™, Payment Bond and Performance Bond, or contain provisions identical to AIA Document A312™, current as of the date of this Agreement.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Construction Manager's or Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by either, be uncovered for their examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Construction Manager or Architect has not specifically requested to examine prior to its being covered, the Construction Manager or Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Construction Manager or Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion, and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Construction Manager's and Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof, or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents,

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any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner, Construction Manager or Architect, the Owner may correct it in accordance with Section 2.5. No warranty or warranty period shall relieve the Contractor of responsibility under the Contract Documents. Nothing herein shall be construed to be a limitation of the Owner's remedies either in law or in equity.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner, Separate Contractors, or other Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made. The Owner's acceptance of the Work or any portion thereof that is not in accordance with the requirements of the Contract Documents shall be effective only when the Owner's acceptance is memorialized in writing and signed by an agent of the Owner authorized by law to do so.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the Commonwealth of Pennsylvania, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, the Contractor shall not assign the Contract as a whole without written consent of the Owner. If the Contractor attempts to make an assignment without such consent, the Contractor shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

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§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Construction Manager, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Construction Manager and Architect and Owner timely notice of when and where tests and inspections are to be made so that the Construction Manager and Architect and Owner may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. All testing required by the Contractor shall be set forth in the Specifications and as required by any manufacturer.

§ 13.4.2 If the Construction Manager, Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Construction Manager and Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Construction Manager and Architect and Owner of when and where tests and inspections are to be made so that the Construction Manager and Architect and Owner may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Construction Manager's and Architect's services and expenses, in addition to the procedures and compensation for the Owner's and the independent test and inspection firm's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Construction Manager for transmittal to the Architect.

§ 13.4.5 If the Construction Manager or Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Construction Manager or Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.4.7 Tests and inspections for the convenience of the Contractor shall be at the Contractor's expense.

§ 13.5 Interest – Intentionally Deleted

§ 13.6 Electronic Project Management Information System (PMIS)

The Owner has implemented an electronic PMIS, "Trimble Unity Connect also known as e-Builder", an internet-based information and project communication system that will allow the entire project team to collaborate in a centralized and secured repositories for all projects. The Contractor shall submit information to Procore as directed.

The Contractor shall utilize the PMIS during all phases of the project, unless directed otherwise by the Owner. All project specific correspondence, workflow processes, and documentation will be stored and routed within the PMIS. The Contractors and the Owner shall agree on file name convention of submissions in advance.

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The Contractor, or those direct-employee(s) responsible, on the Project will be expected to participate in the necessary training to use the PMIS effectively. Periodic training sessions on the PMIS will be provided by the Owner. It is the responsibility of the Contractor to coordinate with the Owner regarding the training schedule and to register as designated by the Owner. Training will be provided by Montgomery County. All costs for personnel time, travel, meals, and lodging to attend the training shall be borne by the Contractor and, as such, will not be reimbursed by the Owner.

The Contractor shall obtain, at their own cost, the necessary equipment and web connections to access and utilize the PMIS. The Contractor will not incur any registration fees or licensing costs to utilize the PMIS. The Owner will not entertain or acknowledge any amendment requests by the Contractor for claimed inefficiencies or other costs related to the implementation and subsequent use of the PMIS.

§ 13.7 Use of Unmanned Aircraft ("UA")

If the Work involves the use of UA (Drones), and if UA use is approved by the Owner, the Contractor and those Subcontractors involved in UA use must follow all applicable federal regulations, and all state and local rules, laws and regulations. In addition, a request to operate UA must be submitted to Montgomery County's Capital Projects & Programs Director, a minimum of 48 hours prior to the planned UA usage and UA flight operations may not proceed until approval is granted in writing by the Capital Projects and Programs Director.

§ 13.8 Smoking and Tobacco Policy

Smoking and the use of tobacco are prohibited in and on all County owned or leased properties, facilities, and vehicles except for designated smoking areas. Smoking inside any building may result in the Contractor's employee being immediately and permanently removed from the site.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- **.1** Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- **.2** An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- **.3** Because the Construction Manager has not certified or the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- **.4** The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is more, unless suspension or delay is the result of a governmental order or pandemic.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon fourteen days' notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner payment for Work executed, and reasonable out-of-pocket costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 120 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees, or any other persons performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

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§ 14.1.5 Notwithstanding anything to the contrary set forth herein, the parties agree that if the Work is stopped due to a pandemic and/or any related governmental laws, rules, declarations, regulations or guidance for whatever duration, the Contractor may not terminate the Contract and the parties shall modify the Contract Time and Contract Sum in accordance with the terms of this Agreement. Nothing herein shall require a modification of the Contract Time or Contact Sum to the extent stoppage is a result of the Contractor's failure to abide by governmental laws, rules, declarations, regulations or guidance in existence at the time of execution of the Contract. Contractor bears all risk relating to COVID-1 or any other pandemic and compliance with governmental laws, rules, declarations, regulations or guidance in existence at the time of execution of the Contract.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- **.1** persistently or repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- **.2** fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- **.3** repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- **.4** otherwise is guilty of substantial breach of a provision of the Contract Documents; or
- **.5** shall institute proceedings or consent to proceedings requesting relief or arrangement under the Federal Bankruptcy Code or any similar or applicable federal or state law; or if a petition under any federal or state bankruptcy or insolvency law is filed against the Contractor and such petition is not dismissed within sixty (60) days from the date of said filing; or if the Contractor admits in writing, his inability to pay his debts generally as they become due, or if it makes a general assignment for the benefit of its creditors, or if a receiver, liquidator, trustee or assignee is appointed on account of its bankruptcy or insolvency; or if a receiver of all or any substantial portion of the Contractor's properties is appointed.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- **.1** Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- **.2** Accept assignment of subcontracts pursuant to Section 5.4; and
- **.3** Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished. The Owner's right to terminate the Agreement between Owner and Contractor pursuant to this Subparagraph 14.2 shall be in addition to and not in limitation of any rights or remedies existing hereunder or pursuant hereto or at law or in equity

§ 14.2.4 If the costs and damages incurred by the Owner in finishing the Work, including but not limited to, compensation for the Architect and Construction Manager's services and expenses and professional fees and expenses and other damages incurred by the Owner and not expressly waived in writing, exceed the unpaid balance, the Contractor shall pay the difference to the Owner.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine. Any suspension by the Owner for convenience does not constitute grounds for termination by the Contractor under Section 14.

§ 14.3.2 Subject to Section 14.1.5, the Contract Sum and the Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1 to the extent permitted in accordance with the terms of this Agreement. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent:

- **.1** that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or

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.2 that an equitable adjustment is made or denied under another provision of this Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause, even though the Contractor has not failed to perform any part of the Contract. Termination by the Owner under this Section shall be by written notice of termination delivered to the Contractor specifying the extent of termination and the effective date.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

.1 cease operations as directed by the Owner in the notice;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders; and

.4 proceed to complete the performance of the Work not terminated. Deliver drawings, specifications, instruments of service, warranties, operation and maintenance manuals, project closeout documents and other necessary information to the Owner.

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§ 14.4.3 Upon such termination the Contractor shall recover as its sole remedy payment for Work properly performed prior to the effective date of termination as provided in the Agreement, and for items properly and timely fabricated off the Project site, delivered and stored in accordance with the Owner's instructions; and reasonable out-of-pocket costs incurred by reason of the termination of subcontractors, proven restocking fees and reasonable out-of-pocket demobilization costs. The Contractor hereby waives and forfeits all other claims for payment and damages, including, without limitation, anticipated and/or unearned profits, consequential or indirect damages.

Upon such termination the Contractor shall recover as its sole remedy payment for Work properly performed prior to the effective date of termination as provided in the Agreement, and for items properly and timely fabricated off the Project site, delivered and stored in accordance with the Owner's instructions; and reasonable out-of-pocket

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition. A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents. Notwithstanding anything to the contrary, the Owner is not required to file a Claim in order to impose and set-off liquidated damages as provided in the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Contractor shall commence all Claims and causes of action arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party with a copy sent to the Construction Manager and Architect. Claims by the Contractor under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the Contractor first recognizes the condition giving rise to the Claim, whichever is later. The Claim shall identify all causes of action, basis for requested relief including all facts and events, and to the extent possible, an itemization of the claim amount including supporting documentation.

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§ 15.1.3.2 Claims by the Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by written notice to the Owner. Failure of the Contractor to timely initiate a Claim in writing as required herein shall constitute an irrevocable waiver of such Claim. A statement during a meeting or that is reflected in meeting minutes, or a Change Order Request shall not constitute sufficient or timely notice of a claim.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Owner's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Owner as to Claims.

§ 15.1.5 Claims for Additional Cost. If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, where they were beyond fifteen (15) year coverages for the area could not have been reasonably anticipated and had an adverse effect on the scheduled construction. The Contractor shall anticipate adverse weather delays in all-weather dependent activities.

§ 15.1.7 Waiver of Claims for Consequential Damages. The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Miscellaneous-Claims

§ 15.2.1 In the event of a dispute giving rise to a Claim, the party making the Claim may request that representatives of the parties meet within fifteen (15) days of receipt of Notice of a Claim in an effort to reach a resolution. If unable to do resolve the Claim at the meeting or if no meeting takes place, the Claim shall be subject to the dispute resolution provisions herein.

§ 15.2.2 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety, and request the surety's assistance in resolving the controversy.

§ 15.2.3 In evaluating Claims, the Owner may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Owner in rendering a decision.

§ 15.2.4 If the Owner requests a Contractor to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Owner when the response or supporting data will be furnished, or (3) advise

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the Owner that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Owner will either reject or approve the Claim in whole or in part.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution, and after exhaustion of the informal dispute resolution process set forth in section 15.2.1.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.3.4 Mediation may include, by consolidation on joinder or in any other manner, persons or entities other than the Owner and Contractor who are substantially involved in a common question of fact or law and whose presence is required if complete relief is to be accorded in mediation. The Contractor specifically consents to the inclusion of such other persons or entities in mediation. The Contractor furthermore waives all objections (and consents) to joinder of the Contractor as a party to any mediation related to the Project in which the Owner is joined or is otherwise positioned as a party and in which the Contractor's conduct or its performance is in any way relevant to the subject of a dispute. The Contractor agrees to participate in good faith in any mediation proceeding in an effort to resolve the dispute(s) at issue therein. The provisions of this § 15.3.4 shall be specifically enforceable under applicable law in any court having jurisdiction thereof. The Contractor also agrees to include the provisions of this § 15.3.4 in all Subcontracts, Purchase Orders, and other agreements to which it is a party concerning the Project, thereby comparably committing its Subcontractors, suppliers, materialmen, and like entities.

§ 15.4 Litigation

§ 15.4.1 Any and all clais shall be subject to litigation in the Court of Common Pleas of Montgomery County, Pennsylvania which shall have exclusive jurisdiction and venue.

ARTICLE 16 ADDITIONAL PROVISIONS

§ 16.1 Project Site Requirements

§ 16.1.1 This Section is Not Used

§ 16.1.2 Work Beyond Limit of Contract. For purposes of performing the Work, the site is defined by the Limit of Contract lines shown on the drawings. The Contractor is responsible for any work performed beyond the limit of Contract.

§ 16.1.3 Advertising. No advertising is permitted within the Work area or adjacent area. This does not apply to corporate vehicles or attire.

§ 16.1.4 Storage and Stockpiling on Roofs. No materials of any type may be stored or stockpiled overnight on roofs.

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§ 16.1.5 Temporary Traffic Control. The Project site may have active pedestrian, bike or automobile traffic adjacent to site for the entire duration of the Project. If applicable, the Contractors shall, incorporate, furnish and implement the following work as part of this Project:

> **Traffic Control – Temporary Traffic Control Guidelines (Penndot Publication 213):** Publication 213 applies to Contractors; utilities; Federal, State, County, township and municipal governments; and others performing applicable construction, maintenance, emergency or utility/permit work 9on highways or so closely adjacent to a highway that workers, equipment or materials encroach on the highway or interfere with the normal movement of traffic. The needs and control of all road users (motorists, bicyclists, and pedestrians within the highway, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II, Paragraph 35.130 and Temporary Traffic Control Guidelines (PennDOT Publication 213) through a Temporary Traffic Control (TTC) zone shall be an essential part of highway construction, utility work, maintenance operations, and the management of traffic incidents.

§ 16.1.6 Noise Reduction. The Contractor must take reasonable steps to minimize noise and shall perform work in accordance with local noise ordinances. The Contractor shall perform noise-producing work in less sensitive hours of the day or week as directed by the Owner. The Contractor shall maintain noise-producing work at or below the decibel levels and within the time periods specified and shall perform construction activities involving repetitive, high-level impact noise only between 8:00 a.m. and 6:00 p.m. unless otherwise permitted by the Owner and permissible by local ordinance.

§ 16.1.7 Visible Dust Emissions. No person shall perform any construction, demolition, excavation, extraction, or other earthmoving activities unless appropriate measures are sufficiently implemented to limit Visible Dust Emissions (VDE) to 20% opacity and comply with the conditions for a stabilized surface area when applicable. The Contractor shall apply sufficient water to building exterior surfaces, and/or unpaved surface areas where equipment will operate to limit VDE to 20% opacity throughout the duration of razing and demolition activities or handling, storage, and transport of bulk materials on-site or off- site. The Contractor shall apply sufficient dust suppressants to unpaved surface areas within 100 feet where materials from razing or demolition activities will fall in order to limit VDE to 20% opacity. The Contractor shall also apply sufficient dust suppressants to unpaved surface areas where wrecking or hauling equipment will be operated in order to limit VDE to 20% opacity.

§ 16.1.8 Tobacco Use on Project Site. Use of tobacco products (smoke and smokeless, including vapor) shall be restricted on site after the building has been enclosed (with permanent or temporary enclosures). Personnel found in noncompliance with this directive may be removed from the site upon discovery of this noncompliance.

§ 16.1.9 Professionalism. All Prime Contractors shall be responsible for their own employees and those performing Work by or on behalf of the Prime Contractor, including employees of subcontractors and suppliers. There shall not be any verbal confrontations, physical altercations, graffiti, damage to any Work by any Prime Contractor or behavior which would considered unprofessional. Such unprofessional behavior or actions shall be grounds for immediate and permanent removal from the Project.

§ 16.1.10 Drug Testing. All workers that will be on site for any Prime Contractor or Subcontractor must pass a drug screening and background verification, except delivery personnel or truck drivers. There is additional information pertaining to how this is performed in Exhibit B to the Agreement..

§ 16.1.11 Testing and Inspection Reports. To the extent any Prime Contractor or Subcontractor performs or causes to be performed any testing or inspection, copies of any results or reports shall be made available to the Owner, Construction Manager and Architect within 48 hours of written request.

§ 16.2 Federal and A.S.T.M. and Other Specifications. Reference to Federal, A.S.T.M. and other standard specifications references and designations means those in effect at the date of bid. Basic codes and regulations incorporated by reference, standard regulations and codes refer to editions in effect at the date of proposals, including current addenda or errata. The most stringent section of each code applies.

§ 16.3 Prevailing Minimum Wage Predetermination. The Contractor is hereby notified that this Contract is subject to the provisions, duties, obligations, remedies and penalties of the Pennsylvania Prevailing Wage Act, 43 P.S. §165-1 et seq., as amended, which is incorporated herein by reference as if fully set forth herein. In compliance with said Pennsylvania Prevailing Wage Act, the Prevailing Minimum Wage Predetermination is hereto attached and made part hereof as approved by the Secretary of Labor and Industry. If a job classification is not covered by the

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Prevailing Wage Predetermination, the Contractor may not pay individuals in that classification less than the lowest rate for laborers, as set out in the predetermination.

§ 16.4 Tax Liability and Offset

§ 16.4.1 The Contractor, by execution of this Agreement, certifies that it has no outstanding tax liability to the Commonwealth of Pennsylvania or the Owner; authorizes the Department of Revenue to release information related to its tax liability to the Owner; and authorizes the Owner to set off any State and local tax liabilities of the Contractor or any of its subsidiaries, as well as any other amount(s) due to the Owner from the Contractor that are not being contested on appeal by the Contractor, against any payment due to the Contractor under an agreement with the Owner.

§ 16.4.2 The foregoing certification of no outstanding tax liability is a material representation of fact upon which reliance is placed by the Owner in entering this Agreement. If it is later determined that the Contractor knowingly rendered an erroneous or inaccurate certification, the Owner may find the Contractor in default and terminate this Agreement. Such erroneous or inaccurate certification may also be grounds for initiation of civil or criminal proceedings.

§ 16.5 Debarment or Suspension

The Owner shall recommend debarment or suspension action against the Contractor whenever there is substantial evidence that there exists a cause for debarment or suspension.

§ 16.6 Contractor's Responsibility

§ 16.6.1 The Contractor certifies, in writing, for itself, its Subcontractors and consultants required to be disclosed or approved by the Owner, that as of the date of its execution of this Agreement, that neither the Contractor, nor any such subcontractors or consultants, are under suspension or debarment by the Commonwealth of Pennsylvania, Owner or any other governmental entity, instrumentality, or authority and, if the Contractor cannot so certify, then it agrees to submit a written explanation of why such certification cannot be made.

§ 16.6.2 The Contractor also certifies, in writing, that as of the date of its execution of this Agreement it has no tax liabilities or other County of Montgomery, PA obligations, or has filed a timely administrative or judicial appeal if such liabilities or obligations exist or is subject to a duly approved deferred payment plan if such liabilities exist. If the Contractor cannot so certify because of the scope and nature of its organizational structure, then it agrees to make such certification to the best extent possible and to submit, along with its Bid/Contract, a written explanation of why such certification cannot be made in full.

§ 16.6.3 The Contractor's obligations pursuant to these provisions are continuing from and after the effective date of this Agreement through the termination date thereof. Accordingly, the Contractor shall have an obligation to inform the Owner if, at any time during the term of this Agreement, it becomes delinquent in the payment of taxes, or other County of Montgomery, PA obligations, or if it or any of its subcontractors or consultants are suspended or debarred by the Commonwealth of Pennsylvania, Owner, the federal government, or any other state or governmental entity. Such notification shall be made within 15 days of the date of suspension or debarment. To the extent the size or nature of the Contractor prevents it from carrying out this obligation in full, it shall provide written documentation explaining why this obligation cannot be fully complied with and shall have a continuing obligation to report to the greatest extent possible.

§ 16.6.4 The failure of the Contractor to notify the Owner of its suspension or debarment by the Commonwealth of Pennsylvania, Owner, any other state, any other county, or the federal government shall constitute an event of default of this Agreement.

§ 16.6.5 The Contractor agrees to reimburse the Owner for the reasonable costs of investigation incurred by any investigative office of the Owner for investigations of the Contractor's compliance with the terms of this or any other agreement between the Contractor and the Owner that results in the suspension or debarment of the Contractor. Such costs shall include, but shall not be limited to, salaries of investigators, including overtime; travel and lodging expenses; and expert witness and documentary fees. The Contractor shall not be responsible for investigative costs for investigations that do not result in the Contractor's suspension or debarment.

§ 16.7 Covenant Against Contingent Fees. The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission,

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percentage, brokerage or contingent fee (excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business). For breach or violation of this warranty, the Owner shall have the right to annul this Agreement without liability or, in its discretion, to deduct from the Contractor's compensation hereunder, or otherwise recover, the full amount of such commission, percentage, or contingent fee.

§ 16.8 Americans with Disabilities Act. Pursuant to federal regulations promulgated under the authority of the Americans with Disabilities Act (28 C.F.R. 35.101 et seq.), no individual with a disability shall, on the basis of the disability, be excluded from participation in this Agreement or from activities provided for under this Agreement. As a condition of accepting and executing this Agreement, the Contractor agrees to comply with the General Prohibitions Against Discrimination (28 C.F.R. 35.130), and all other regulations promulgated under Title II of the Americans with Disabilities Act which are applicable to the benefits, services, programs, and activities provided by the Owner through contracts with outside contractors. The Contractor shall be responsible for and agrees to indemnify and hold harmless the Owner from all losses, damages, expenses, claims, demands, suits, and actions brought by any party against the Owner as a result of the Contractor's failure to comply with the provisions of this section.

§ 16.9 Recycled Materials

§ 16.9.1 In accordance with Section 108, Recycled Materials, of the Commonwealth Procurement Code (62 P.S. Section 108), all insulation products incorporated into the Project shall contain the following minimum percentages, by weight, of postconsumer recovered paper or recovered material:

Cellulose Loose-Fill Spray-On	5 % Postconsumer Recovered Paper
Perlite Composite Board	23% Postconsumer Recovered Paper
Plastic Rigid Foam, Polyisocyanurate/Polyurethane:	
Rigid Foam	9% Recovered Material
Foam In-Place	5% Recovered Material
Glass Rigid Foam	6% Recovered Material
Phenolic Rigid Foam	5% Recovered Material
Rock Wool	50% Recovered Material

§ 16.9.2 "Postconsumer Recovered Paper" is defined as "any paper, paperboard, and fibrous wastes from retail stores, office buildings, homes, and so forth, after they have passed through their end-usage as a consumer item including used corrugated boxes; old newspapers; old magazines; mixed waste paper; tabulating cards and used cordage; as well as all paper, paperboard, and fibrous wastes that enter and are collected from municipal solid waste."

§ 16.9.3 "Recovered Materials" is defined as "waste material and byproducts which have been recovered or diverted from solid waste, but such term does not include those materials and byproducts generated from, and commonly reused within, an original manufacturing process."

§ 16.9.4 Materials and installations specified for the Project by the Architect shall comply with this requirement.

§ 16.10 Trade Practices Act

§ 16.11.1 The Contractor, in the preparation of the design documents for the Project, shall comply with the requirements of the Trade Practices Act (71 P.S. § 773.101, et seq.). The Act prohibits the Owner from specifying, purchasing, or permitting to be furnished or used, in any public works, aluminum or steel products made in a foreign country which has been determined as "discriminating" by the Commonwealth.

§ 16.10.2 Aluminum or Steel Products means aluminum or steel products rolled, formed, shaped, drawn, extruded, forged cast, fabricated, or otherwise similarly processed, or processed by a combination of two or more of such operations, from aluminum or steel not made in the United States.

§ 16.10.3 The countries of Brazil, South Korea, Spain, and Argentina have been found to discriminate against certain aluminum and steel products made in Pennsylvania. Therefore, the purchase or use of those countries' products, as listed below, is not permitted:

.1 **Brazil:** Welded carbon steel pipes and tubes; carbon steel wire rod; tool steel; certain stainless-steel bar; stainless steel wire rod and cold-form stainless steel bar; pre-stressed concrete steel wire strand; hot-rolled carbon steel plate in coil; hot-rolled carbon steel sheet, and cold-rolled carbon steel sheet.

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.2 **Spain:** Certain stainless-steel products, including stainless steel wire rod, hot-rolled stainless steel bars and cold-formed stainless steel bars; pre-formed stainless steel bars; pre-stressed concrete steel wire strand; certain steel products including hot-rolled steel plate, cold-rolled carbon steel plate, carbon steel structural shapes, galvanized carbon steel sheet, hot-rolled carbon steel bars, and cold-formed carbon steel sheet.

.3 **South Korea:** Welded carbon steel pipes and tubes hot-rolled carbon steel place; hot-rolled carbon steel sheet and galvanized steel sheet.

.4 **Argentina:** Carbon steel wire rod and cold-rolled carbon steel sheet.

§ 16.11 Steel Products Procurement Act

§ 16.11.1 The Contractor shall comply with the requirements of the Steel Products Procurement Act (73 P.S. 1881, et seq.). The Steel Products Procurement Act requires that any steel products being used or supplied in the performance of the Contract must be "steel products" as defined in the Act. Steel Products are considered to be products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated, or otherwise similarly processed, or processed by a combination of two or more of such operations, from steel made in the United States by the open hearth, basic oxygen, electric furnace, Bessemer, or other steel making process.

.1 Includes cast iron products.

.2 Includes machinery and equipment listed in United States Department of Commerce Standard Industrial Classification 25 (furniture and fixture), 35 (machinery; except electrical), and 37 (transportation equipment) and made of, fabricated from, or containing steel components.

.3 Does not include steel products which will not be incorporated into the Project (i.e., tools – hammers/wrenches); scaffolding used to construct the Project and removed after completion; and trailers used as offices by contractors and removed after completion of the Project.

.4 Transportation equipment shall be determined to be a United States steel product only if it complies with Section 165 of Public Law §§ 97-424 (96 Stat. 2136).

.5 Owner vs. Product. Each "product" in the Owner is identified as a separate and distinct steel product.

§ 16.11.2 When the Owner's design specifies trade names, catalog numbers, and manufacturers for materials and equipment, they are provided for the purpose of establishing a standard of quality, performance, and appearance, and for establishing a standard of competitive bidding. The use of such descriptive information will not relieve the Contractor with compliance with all respects of the Act.

Origin of Steel.

.1 If the product contains 100 percent United States manufactured steel, it is a "steel product" under the Act, no matter where the non-steel components of the product are manufactured.

.2 If the product contains 100 percent steel manufactured in a foreign country, its acquisition is prohibited.

.3 If the product contains both foreign and United States manufactured steel (no matter how little or how much of each), the product shall be determined to be a United States steel product if at least 75 percent of the total cost of the articles, materials, and supplies have been mined, produced, or manufactured in the United States.

§ 16.11.3 If 100 percent of the steel product is identifiable (i.e., stamped United States Steel), then the Contractor shall submit certification documentation. If the steel product is unidentified, the Contractor shall provide documentation including, but not limited to invoices, bills of lading, and mill certification. The Owner is authorized to withholding payments until the documentation or certification has been provided. If payments have been made but should not have been made because of noncompliance, the Owner or the Commonwealth Attorney General may recover the payments directly from the Contractor, subcontractor, or manufacturer who did not comply. Additionally, any person who willfully violates the Act shall be prohibited from submitting bids or performing work for the Commonwealth for five years.

§ 16.11.4 The Steel Products Procurement Act requirement may be waived by the Owner when the Owner determines that steel products are not produced in the United States in sufficient quantities to meet the requirements of the Contract and/or when the product appears on the Department of General Services' annual Final List of Exempt Machinery and Equipment Steel Products.

§ 16.12 Environmental Quality Control

§ 16.12.1 All Prime Contractors and their subcontractors shall perform the Work in a manner that shall minimize the possibility of air, water, land, and noise pollution. Each Prime Contractor shall comply with all statutes and

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regulations, as amended, concerning environmental quality control administered by the Pennsylvania Department of Environmental Protection, including but not limited to:

.1 Clean Streams Law
.2 Pennsylvania Sewage Facilities Act
.3 Air Pollution Control Act
.4 Surface Mining Conservation and Reclamation Act
.5 Bituminous Coal Open Pit Mining Conservation Act
.6 Dams and Encroachments Act
.7 Water Well Driller's Act
.8 Water Works Act and Atomic Energy Act

§ 16.12.2 The Contractor shall be solely responsible for securing all required permits and for any violations. Storage, collection, transportation, processing, and final disposal of solid waste shall be in accordance with regulations and standards of the Pennsylvania Department of Environmental Protection (DEP). Immediately upon notice of award of the Contract the Contractor shall apply for the necessary permits from DEP. A copy of this permit must be submitted to the Owner before commencing waste disposal.

§ 16.13 Right to Know Law

§ 16.13.1 Unless otherwise determined by a Pennsylvania appellate court subsequent to the execution of this Agreement, the Pennsylvania Right-to-Know Law, 65 P.S. §§ 67.101-3104 ("RTKL"), applies to this Agreement. Unless the Contractor provides the Owner, in writing, with the name and contact information of another person who will act on behalf of the Contractor regarding the RTKL, the Owner shall notify the Contractor if the Owner needs the Contractor's assistance in connection with a request made under the RTKL. The Contractor shall notify the Owner in writing of any change in the name or the contact information within a reasonable time prior to the change.

§ 16.13.2 Upon notification to the Contractor that the Owner has received a request for the Contractor's records under the RTKL (the "Requested Information"), the Contractor agrees to assist the Owner in responding to the request. Such assistance shall include providing the Owner, within three (3) days, with copies of any Requested Information in the Contractor's possession that the Contractor deems a Public Record, as that term is defined in the RTKL, or otherwise notify the Owner that the Requested Information is not a Public Record. If the Contractor is unable to provide the Requested Information within three (3) days for one of the reasons specified in the RTKL, the Contractor agrees to timely notify the Owner that it will need up to an additional twenty-five (25) days and must provide in writing the reason the additional time is needed. If the Contractor decides the Requested Information is within the scope of the RTKL but fails to provide the Requested Information to the Owner within the period specified in this provision, the failure shall be considered an event of default and the Contractor shall pay, indemnify, and hold the Owner harmless for any damages, penalties, detriment, or harm that the Owner may incur as a result of the Contractor's failure.

§ 16.13.3 The Contractor's determination as to whether the Requested Information is a Public Record is dispositive of the question as between the parties. The Contractor agrees to provide information and/or to appear before the Office of Open Records or Pennsylvania Courts in support of the Owner's denial of access to a record the Contractor determined was not a Public Record. The Contractor agrees to indemnify the Owner for any court costs, attorneys' fees, or civil penalties awarded against the Owner under the RTKL in connection with or as a result of the Contractor's denial of access to Requested Information.

§ 16.13.4 If in the course of this Agreement, the Owner is provided with information the Contractor clearly identifies as a Trade Secret or Confidential Proprietary Information, as those terms are defined by the RTKL, the Owner agrees to abide by the terms of Section 707 of the RTKL and timely provide the Contractor with notice of a request for this information and allow the Contractor the ability to respond, as provided by the RTKL. The Contractor reserves all rights and remedies as allowed by law relating to the Owner's unauthorized disclosure of the Contractor's Trade Secret or Confidential Proprietary Information. This provision shall not be construed to limit the sovereign immunity of the Owner.

§ 16.13.5 The Owner will reimburse the Contractor for any costs associated with complying with this provision only to the extent allowed under the applicable fee schedule established by the Office of Open Records or as otherwise provided by the RTKL if the fee schedule is inapplicable.

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§ 16.13.6 The Contractor agrees to abide by any decision to release a record to the public made by the Office of Open Records after timely appeal to the Pennsylvania Courts.

§ 16.14 Labor Harmony/Jurisdictional Disputes

§ 16.14.1 The Contractor shall hire all personnel necessary for the proper and diligent prosecution of the Work in accordance with the Project Schedule. The Contractor shall maintain labor peace and harmony throughout the duration of the Project. In the event of a labor dispute, the Contractor shall not be entitled to any increase, nor shall any adjustment be made to the Contract Sum or Contract Time.

§ 16.14.2 In the event of a jurisdictional dispute among or between any labor unions arising out of or relating to Contractor's Work, Contractor shall be solely responsible for promptly resolving the same without involvement by the Owner, Construction Manager or Architect. The Contractor shall be responsible for any delays or impacts arising out of jurisdictions disputes arising out of or relating to Contractor's Work.

§ 17 EQUAL EMPLOYMENT OPPORTUNITY AND NON-DISCRIMINATION

§ 17.1 Non-Discrimination/Sexual Harassment

During the term of this Contract, Contractor agrees as follows:

§ 17.1.1 Contractor shall not discriminate against any employee, applicant for employment, any independent Contractor or any other person because of race, color, religious creed, ancestry, national origin, service in the uniformed services

As defined in state and federal law), veteran status, age, sex, sexual orientation, marital or family status, pregnancy, pregnancy-related conditions, physical or mental disability, gender, perceived gender, gender identity, genetic information or political ideas, or any other basis prohibited by law.

Contractor shall take affirmative action to ensure that applicants are employed, and that employees or agents are treated during employment, without regard to their race, color, religious creed, ancestry, national origin, service in the uniformed services (as defined in state and federal law), veteran status, age, sex, sexual orientation, marital or family status, pregnancy, pregnancy-related conditions, physical or mental disability, gender, perceived gender, gender identity, genetic information or political ideas, or any other basis prohibited by law. Such affirmative action shall include, but is not limited to, the following: Employment upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training. Contractor shall post in conspicuous places, available to employees, agents, applicants for employment and other persons, notices to be provided by the contracting agency setting forth the provisions of this non-discrimination clause.

§ 17.1.2 Contractor shall in solicitations or advertisements placed by it or on its behalf state all qualified applicants will receive consideration for employment without regard to race, color, religious creed, ancestry, national origin, age, or sex.

§ 17.1.3 Contractor shall send each labor union or workers' representative with which it has a collective bargaining agreement or other contract or understanding, a notice advising said labor union or workers' representative of its commitment to this non-discrimination clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment. Similar notices shall be sent to every other source of recruitment utilized by Contractor.

§ 17.1.4 It shall be no defense to a finding of a non-compliance with Executive Order 1972-1 or any regulations issued by the Pennsylvania Human Relations Commission or this non-discrimination clause that recipient had delegated some of its employment practices to any union, training program or other source of recruitment which prevents it from meeting its obligations.

§ 17.1.5 Where the practices of a union or any training program or other source of recruitment will result in the exclusion of minority group persons, so that Contractor will be unable to meet its obligations under Executive Order

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1972-1 or any regulations issued by the Pennsylvania Human Relations Commission or this non-discrimination clause, the Contractor shall then employ and fill vacancies through other employment procedures without regard to race, color, religious creed, ancestry, national origin, sex, or age, taking affirmative action to obtain qualified minority group persons.

§ 17.1.6 Contractor shall comply with all rules, regulations and orders issued by the Governor, the Attorney General, and the Human Relations Commission relating to laws, prohibiting discrimination in hiring or employment opportunities. In the event of Contractor's non-compliance with the non-discrimination clause of this Contract or with any such rules, regulations or orders, this Contract may be cancelled, terminated or suspended in whole or in part, and recipient may be declared ineligible for further Commonwealth contracts, and such other sanctions may be imposed and remedies invoked as provided by rule, regulation or order of the Governor, Attorney General, or the Human Relations Commission, or as otherwise provided by law.

§ 17.1.7 Contractor shall furnish all information and reports required by the Governor, Attorney General, and the Human Relations Commission and will permit access to its books, records and accounts by the contracting agency and the Human Relations Commission, for purposes of investigation to ascertain compliance with provisions of Executive Order 1972-1 or any regulations issued by the Pennsylvania Human Relations Commission or this non-discrimination clause.

§ 17.1.8 Contractor shall actively recruit minority Subcontractors or Subcontractors with substantial minority representation among their employees.

§ 17.1.9 The Contractor and each of its subcontractors or consultants shall establish and maintain a written sexual harassment policy and shall inform their employees of the policy. The policy must contain a notice that sexual harassment will not be tolerated and employees who practice it will be disciplined.

§ 17.1.9 Contractor shall include the provisions of Paragraphs 17.1.1 through 17.1.90 in every Subcontract or Purchase Order, so that such provisions will be binding upon each Subcontractor or vendor or other person. If the Contractor cannot fully comply with this subsection due to the nature or scope of its organization, it must use best efforts to do so and provide a written explanation as to why it is unable to fully comply.

§17.1.10 The Owner may cancel or terminate this Agreement and all money due or to become due thereunder may be forfeited for a violation of the terms and conditions of this Nondiscrimination/Sexual Harassment Clause. In addition, the agency may proceed with debarment or suspension and may place the Contractor in the Contractor Responsibility File.

§ 17.1.10 The terms used in this non-discrimination clause shall have the same meaning as in the Contract Compliance Regulations issued by the Pennsylvania Human Relations Commission, 16 Pa. Code Ch. 49.

§ 17.1.11 No signs, banners, etc. may be posted.

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SECTION 01 12 00 - MULTIPLE CONTRACT SUMMARY

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes a general summary, and not all inclusive, of each contract, including responsibilities for coordination and temporary facilities and controls.

B. Specific requirements for Work of each contract are also indicated in individual Specification Sections and on Drawings.

C. Related Requirements:

1. Section 011000 "Summary" for the Work covered by the Contract Documents, restrictions on use of Project site, phased construction and work restrictions.

2. Section 013100 "Project Management and Coordination" for general coordination

1.3 DEFINITIONS

A. Construction Manager as Advisor (CMa): Referred to herein as CMa or CM.

1.4 WORK BY OWNER

A. Not Applicable

1.5 ACCESS TO SITE

A. General: Contractors shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

B. Use of Site: Limit use of Project site to work in areas indicated. Do not use or disturb portions of Project site beyond areas in which the Work is indicated except as approved by Owner.

1. Limits: Refer to drawings and logistics plan(s).

    a. Coordinate the use of the available space onsite. If necessary, provide offsite storage of materials and equipment if space is not available on site.

2. Owner Activities & Operations:

    a. The building will not be occupied during Phase 2.

C. Building Access

1. Refer to logistics plans included as an Appendix in the contract documents. The logistic plans shall be followed at all times.

2. All contractors will have full access to the site.

D. See Section 01 50 00 Temporary Facilities and Controls for further information regarding use of stairs, driveways, walkways and entrances: Refer to Construction Logistics Plans included as an appendix document.

1. Contractors' office space is provided by owner. Desks and chairs also provided for Prime Contractor's foreman along with a conference area and bathrooms on each level of office building. Individual prime contractor office trailers will not be permitted. Please refer to logistics plan for added detail.

2. Schedule deliveries to minimize use of driveways and entrances by construction operations.

3. Hoisting is not permitted over walkways, exit doors and driveways without posting a signal person to prevent personnel or vehicle traffic from entering the area.

4. Swinging loads over occupied buildings is not permitted.

1.6 COORDINATION WITH OCCUPANTS

A. WORK RESTRICTIONS

1. Work Restrictions, General: Comply with restrictions on construction operations.

    a. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

    b. On-Site Normal Work Hours: 7:00 AM – 3:30 PM Monday through Friday. Contractors intending to work outside normal work hours and/or weekends shall follow all AHJ / City of Norristown ordinances and receive approval by the CMa or Owner.

c. Off Hours: 3:30 PM to 7:00 AM.

d. If second shift is required and approved by the CMa hours shall be: 1st shift 7:00 AM – 3:30 PM / 2nd shift – 3:30 PM – 7:30 PM or to the limits approved by the AHJ / City of Norristown.

B. Project Security, Background Checks and Badging Requirements

2. Security badges / Hardhat sticker credentials will be required to perform work on site.

C. Existing Utility Interruptions: Coordinate with CMa and County prior to any utility interruptions.

3. Notify CMa not less than ten (10) business days in advance of proposed utility interruptions.

4. Obtain Owner's written permission before proceeding with utility interruptions.

D. Other General Provisions

5. The use of tobacco, alcohol, vaping, marijuana, illegal substances and/or other similar substances is prohibited. Workers found using these substances will be immediately removed from the project.

6. Weapons including but not limited to firearms, mace, explosives are prohibited on site. Any person found with weapons will be permanently removed.

1.8 PROJECT COORDINATION

A. All Prime Contractors shall each be fully responsible for the coordination of the work performed by their own forces and those of their contractors. Each of these Contractors is also responsible to cooperate with each other and with the CMa to coordinate the entire work insofar as their individual work affects the work of the others and the whole. See Section 013100 – Project Management and Coordination and Section 013200 Construction Progress Documentation for LEAN PROCEDURES which includes requirements for participation in specification coordination and scheduling activities.

B. MEP Coordination-

1. Mechanical Coordination for the above ceiling will be led by the Mechanical Prime Contractor with coordination required by all Primes. CAD drawings from the design team will be made available pending a signed release form executed by each receiving party. A final set of coordination drawings is a required submittal.

2. Underground and in concrete slab coordination will be led by the Plumbing Prime Contractor with coordination required from all Primes.

C. Scheduling: Refer to specific requirements listed in specification 013100 & 013200. All Prime Contractors shall coordinate the scheduling activities of their work and to assist in preparation of an overall project schedule. Baseline schedule and monthly updates will be managed by CMa. Each Multiple-Prime Contractor shall be fully responsible for the development and maintenance of a project schedule associated with their own work, updated as required to coordinate with the overall project schedule.

D. The CMa's coordination activities include, but are not limited to, the following:

1. Facilitate overall coordination of the Work.

2. Coordinate, schedule, and facilitate approval of interruptions of permanent and temporary utilities, including those necessary to make connections for temporary services.

3. Facilitate coordination of completion of interrelated punch list items.

4. Coordinate preparation of Project record documents if information from more than one contractor is to be integrated with information from other contractors to form one combined record.

5. Coordinate preparation of operation and maintenance manuals if information from more than one contractor is to be integrated with information from other contractors to form one combined record.

1.9 GENERAL REQUIREMENTS OF CONTRACTS (ALL PRIMES)

A. Extent of Contract: Unless the Agreement contains a more specific description of the Work of each Contract, requirements indicated on Drawings and in Specification Sections determine which contract includes a specific element of the Project.

1. Contractor acknowledges and agrees that it has taken into account all items necessary to complete the Work of each contract. The Work shall be provided in accordance with the Contract Documents and shall include, but not limited to all labor, supervision, material, supports, engineering, tools, equipment, access to work, hoisting, rigging, transportation, permits, taxes, insurance, fees, warranties and guarantees required to perform the complete Work as shown or described in this Summary and the Contract Documents. Contractor shall include all items necessary and/or implied but not necessarily detailed on the Contract Documents or as may be required by local codes and jurisdictions for complete and working systems. No extra compensation will be allowed for any errors or omissions on the part of the Contractor or its contractors and/or Suppliers.

2. It is the responsibility of each contractor to review all the Contract Documents provided. All Contract Drawings, Specifications, and supplemental information are part of each contract. Where specifications, drawings, other information

provided contain conflicting information, then the provisions, terms, and conditions of the more stringent shall take precedence.

3. Contractor has visited the site and is familiar with all work conditions. Contractor has reviewed existing conditions in the field and is familiar with security requirements, traffic regulations and other restrictions affecting access to the Work.

4. All prime and sub-tier contractors are required to be licensed with all jurisdictions required including but not limited to the State of Pennsylvania, the Municipality of Norristown, etc.

5. Contractor will secure and pay for all permits required to complete this scope of work outside of the building permit including but not limited to street & sidewalk closures (which includes lost parking revenue), utility tie ins, etc. Owner will be responsible for the cost of the general building permit. Contractor is responsible to fill out necessary forms, submit to Norristown and file after award.

6. Provide labor and supervision to assist with all AHJ inspections and specialty inspections.

7. Contractor is fully knowledgeable of all applicable Municipality of Norristown, Pennsylvania Dept. of Transportation (PENNDOT) and Manual on Uniform Traffic Control Devices (MUTCD) requirements and will comply with same throughout the duration of this project.

8. Contractor shall reference historical drawings, photographs and other information provided in conjunction with design documents to determine the full scope of work and means and methods necessary to complete the work of this bid package.

9. Contractor is responsible to resolve labor disputes and jurisdictional claims for all work associated with this bid package.

10. Parking on site for Phase 2 will be limited. At different stages of the project, parking may be restricted to essential vehicles and tool trucks only.

11. All street closures must be approved by the governing authority.

12. Delivery and Storage:

    a) Reference logistics plans provided for site storage and staging.

13. All Prime Contractors superintendents will accompany the AHJ and CMa during inspections. If re-inspection is required for incomplete work, the responsible Prime contractor will be required to compensate the CMa and AHJ for re-inspections.

14. Construction Cleaning

a. General Contractor will provide and maintain dumpsters at the exterior of the building for all prime contractors use. Each Prime Contractor shall remove trash and construction debris **DAILY** throughout the construction duration, and each Prime Contractor shall provide means of transport for trash to the exterior dumpsters provided. Each prime contractor shall rough broom sweep work areas **DAILY** at the end of each shift.
b. Access pathways shall be kept clean and free of debris.
c. Areas that are not kept clean per the contract requirements or cleaned in a timely manner (DAILY) will be cleaned by others, as directed by the CMa at the Contractor's expense.
d. All contractors are responsible for cleaning tools, work surfaces and all common surfaces as required to prevent and mitigate the spread of infectious diseases. Each prime and sub-tier contractor is required to develop and implement protocols to protect its workers including cleaning, temperature screening and other measures deemed necessary.
e. Any materials or debris that can be windblown must be secured at all times. Contractors must take into account the conditions and potential for high winds as work progresses and take all precautions necessary to prevent items from blowing off the roof.

15. Contractor understands temporary lighting will be provided at the levels required by OSHA by the Electrical Prime. If additional lighting is required to perform work of this bid package, each Prime Contractor will provide the additional temporary lighting needed.

16. All contractors are responsible to provide their own temporary power until the temporary power distribution is completed by the Electrical Prime Contractor.

17. All Prime contractors are required to use Trimble Unity Construct (E-Builder) for all project management communications and invoicing. Any training required for this system will be provided by Montgomery County.

18. Prime Contractors are required to submit a sample AIA G732 and G703 listed by project specifications (feature of work), floor level, Career Links Center, along with a labor and material breakdown for approval by the CMa. The approved AIA Schedule of Values will be for the purpose of creating the Prime Contractor's monthly Pencil Copy and Requisition. Please reference 012900 – Payment Procedures.

19. All Prime Contractors are required to participate in the Skanska Asset Management Program. Warranty, Technical Data, Closeout Documentation, Owner Training, Maintenance and Care information submitted and approved. Scheduled Value on AIA is $25,000 per Prime.

20. When submitting a change order or allowance adjustment, Prime Contractors are required to provide all subcontractor and material suppliers quotes and proposals

with a labor and material breakdown. Indicate any potential schedule impacts associated with the submitted change order. The intent is to expediate the approval process. Please reference 012600 Contract Modification Procedures.

1.10 GENERAL SAFETY REQUIREMENTS

A. Each prime contractor is fully responsible for all aspects of safety for their scope of work including but not limited to supervision, planning, training, project orientations and coordination with other contractors.

B. Prime contractors and associated contractors working onsite shall comply with all applicable government regulations, specific client rules and regulations, and requirements dictated within the project specification requirements. If any of these standards, requirements, rules or procedures conflict, the most stringent one will prevail.

C. It is the responsibility of ALL Prime Contractors to make sure their employees and contractors understand all job site rules, safety procedures and come to the site prepared to complete their scheduled work with clear direction from the Prime Contractor on the scope of the work, schedule, current drawings, specifications and sketches.

D. Minimum PPE will include hard hat, high visibility clothing, cut resistant gloves – minimum level 3, safety glasses and sturdy work boots/Foot protection & work attire including long pants and sleeved shirts. ANSI reflectivity requirements must be met when working in traffic and/or at night. It is the Prime Contractor's responsibility to provide additional PPE as required for their task. PPE shall be worn at all times.

E. Each prime shall submit a Project Specific Safety & Environmental Plan addressing the hazards of their scope of work and mitigation plans to control the hazards. Plan shall be submitted two weeks prior to the start of the prime's work for review by the CMa and Owner. The format of the PSSP shall follow the template provided by CMa. Contractors shall refer to the table contained below to reference minimum worker training requirements. The PSSP shall:

1. Identify each component of the work that the contractor is responsible for completing.

2. Identify hazards associated with the work and the proper equipment and tools to perform the work.

3. Plan adequate and sufficient controls to protect their work crews.

4. If the project specific safety plan needs revision due to scope of work changes, unanticipated or new hazards, other condition changes, etc., then all work pertaining to that work component will stop until a new project specific safety plan is completed.

PSSP Minimum Worker Training Requirements		
Topic	**Who Needs Training**	**What Training is Needed**
Project Specific Safety Orientation	All project management, supervision, and workers entering the project	Safety rules and procedures contained in the Safety & Health Management Program (SHMP), site-specific emergency action plan, each worker's responsibilities, disciplinary program, and warm up and stretching exercises
Hazard Communication	All workers entering the project	Hazard Communication Basic Training (Refer to Hazard Communication Program in this SHMP)
Hazardous Chemical or Substance	Workers exposed to a hazardous chemical or substance	Specific Hazard Communication Training (Refer to Hazard Communication Program in this SHMP)
Respiratory Protection	Workers required to wear respiratory protection, including common dust masks	OSHA 29 CFR 1910.134 & 139 or 1926.103
Fall Protection	Any worker who might be exposed to a fall hazard	• The nature of fall hazards • Procedures for erecting, disassembling, maintaining and inspecting fall protection systems. • Use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, controlled access zones and other fall protection. • Procedures for handling equipment and erection of overhead protection • Fall protection standards. • Rescue Plan
PPE	Workers using PPE	Refer to section on PPE or regulatory standards
Forklifts	Operators of powered industrial trucks	• Types of trucks operated. • Hazards of the workplace • Hands-on performance evaluation
Confined Spaces	Any worker attending to, supervising, entering or working within a confined space	• Hazards of the space • Duties of entrants, attendants, supervisors • Air monitoring
Permit-Required Confined Spaces	Any worker attending to, supervising, entering or working within a permit-required confined space	• Hazards of the space • Duties of entrants, attendants, supervisors • Measures used to eliminate or control hazards. • Air monitoring requirements • Emergency procedures/rescue equipment • Communications • Permitting procedure

		• PPE
Excavations/ Trenches	Workers entering or working within an excavation/trench	• Hazards of the space (slides, cave-ins, water accumulation, etc.) • Safe means of access/egress • Proper support system procedures (erection, maintenance, disassembly and inspection)
Lockout/Tagout	Workers affected by hazardous energy sources	• Nature of known hazardous energy sources. • Project-specific Lockout/Tagout procedures
Gas Welding & Cutting	Workers conducting gas welding and/or cutting	• The safe use of fuel gas
Arc Welding & Cutting	Workers conducting arc welding and/or cutting	• What to do with unattended machines and electrode holders • Operations around water • Shielding arc welding
Hot Work	Workers conducting hot work activities	• Hazards of the area • Permits • Duties of Fire Watch • How to use a fire extinguisher
Scaffolding	Workers working from scaffolding	• The nature of any known hazards • Proper erection, maintenance and disassembly of fall protection systems • Falling object protection • Material/equipment handling from scaffold. • Maximum load-carrying capacity • Scaffold tagging system. • Access and egress
Crane Baskets	Workers working from crane baskets	• Safe work rules • 100% fall protection • Lift plans contents • Emergency procedures
Silica	Workers potentially exposed to Respirable crystalline silica	• Hazards of Respirable crystalline silica • Understanding Table 1 • If needed, respiratory protection program

F. Crew Daily Pre-Task Safety & Hazard Analysis Planning (DHA)

1. A Daily Pre-Task Safety & Hazard Analysis Plan will be completed daily by each crew performing work on this project. The CMa will provide a template if requested by the contractors.

2. Each foreman/first-line supervisor will analyze task(s) to be performed by their crew and identify the work sequences, hazards, training, controls and emergency action plans necessary to protect workers from the identified hazards.
3. The work will be broken down into individual steps (i.e., all the steps the work crew will have to take in order to complete that task); the known hazards associated with the work; and the hazard controls (tools, safety equipment, safety rules, safe work practices, etc.). This is a time for workers to provide input into the pre-task plan.
4. Foreman/first-line supervisors will review the plan with their respective work crew so that each worker is aware of what work activities will occur during the shift, what hazards to be aware of and how to properly control or eliminate those hazards. Each worker will sign the plan stating that they understand the work activities, hazards and controls. This is also an acknowledgement that each worker agrees to work according to the plan.
5. The completed pre-task plan shall be posted in a conspicuous location near the work activity.
6. Those tasks with similar work can use prior pre-task plans, but the plan must still be dated and reviewed with crew members at the beginning of the shift. If the scope of work changes or a new hazard appears during the work, the first-line supervisor will stop their crew members and revise the pre-task plan.
7. End of shift sign off. Each worker is required to sign off at the end of shift confirming that any injuries were reported.

G. Hazardous Materials

1. All hazardous material per the Environmental Survey have been removed in the Phase 1 – Demo and Abatement portion of the project with exception of the roof membrane.
2. In the event unknown suspected hazardous materials are uncovered during the course of the work, all workers shall stop work and notify the CMa and Owner.

H. Each contractor will be held in strict accordance will all safety and environmental regulations and requirements. Any worker that fails to follow the policies will be dealt with in accordance with the disciplinary program as described below. Prime and/or contractor supervision (inclusive of onsite and office personnel) that oversee workers that have reoccurring safety or disciplinary infractions will be removed from the project site in addition to worker(s) violating the project requirements.

1. Disciplinary Program

a. At-risk behavior on this project that could contribute to an incident or injury will not be tolerated. Each worker has an individual responsibility to work safely, and each first-line supervisor is responsible to correct at-risk behavior of workers under their direction.

b. At-risk behaviors considered Immediately Dangerous to Life or Health that may result in immediate termination from the project, include, but are not limited to:
   1. Failure to follow the Fall Protection Policy
   2. Failure to follow the Substance Abuse Policy
   3. Possession of firearms, explosives or dangerous weapons
   4. Theft and other criminal activity
   5. Entering or allowing to enter an unprotected trench or excavation.
   6. Failure to follow lockout/tagout procedures.
   7. Fighting, horseplay, or practical joking
   8. Entering or allowing to enter, a confined space without following procedures.
   9. Unsafe and/or reckless operation of motorized vehicles or equipment

c. For those acts or practices not considered Immediately Dangerous to Life or Health the following will apply:
   1. First occurrence: Verbal, written warning, and/or re-training by the prime contractor
   2. Second occurrence: Written warning, re-training, suspension, or termination from the project
   3. Third occurrence: Termination from the project

I. No work will be performed on any energized electrical circuit, buss-bars, equipment, or panels unless an approved written work plan is developed in accordance with Chapter 1 of NFPA 70E and submitted to Skanska for review prior to performance of work.

J. Electrical equipment and tools used on this project shall be inspected by a competent person to prevent any worker from receiving an accidental electrical shock. This rule will apply to all cord sets, portable electrical equipment, tools and appliances not part of any permanent building or structural electrical systems.

K. All temporary cords will be three wire, 16 gauge or heavier, with a hard or extra hard duty rating.

L. Electrical Cord Management

   1. All cord sets will be elevated above the work surface when practical.

   2. Wire, nails, or other conductive material will not be used to hang or attach cord sets or welding leads.

3. Cord sets that cross roadways will be protected from damage by vehicle and equipment traffic by devices such as hose bridges.

M. General Electrical Requirements

1. Light stringers and halogen lamps will have the lamps protected from accidental contact or breakage and will be hung per manufacturer specifications.

2. UL approved covers are required on all panels, load centers, pull boxes, etc. prior to energizing. Necessary steps will be taken to prevent unauthorized or unqualified workers access to energized electrical parts or equipment.

N. Additional Fall Protection Requirements

1. Prime contractors, subcontractors, vendors, or other third-party individuals will take all practical measures to eliminate, prevent, and control fall hazards. All work will be planned with the intent to eliminate identified fall hazards. When a fall hazard has been identified and cannot be eliminated, then effective means of fall protection will be implemented. Acceptable fall protection systems included the following:

    a. Guardrail systems
    b. Safety netting
    c. Covers for floor, roof and wall openings.
    d. Positioning device systems
    e. Protection from falling objects.
    f. Personal fall arrest systems

2. Retractable lifelines shall be utilized with personal fall arrest systems; lanyards will not be acceptable.

3. 100% Fall Protection Required. All employees will be 100 percent protected while working six feet or higher off the ground or when hazards below six feet dictate enforcement at a lesser height. This policy will apply to all contractors, even when OSHA allows for exceptions. In the event where local statutes require fall protection at less than six feet the more stringent standard will apply.

4. Workers engaged in steel erection activities, including but not limited to connecting, decking, and bolt up, are not exempt from the 100 percent fall protection requirements when working from heights of six feet or greater.

O. Fire Protection and Prevention

1. Prime contractor shall develop and provide a Fire Protection Plan in accordance with OSHA 29 CFR 1926 Subpart F.

2. All activities that require welding, cutting or an open flame is present require a minimum of 2-hour fire watch. Provide continuous fire watch, including off hours, for temporary heating using open flame units. Refer to specification 01 50 00 Temporary Facilities & Controls for further fire watch requirements.

3. Any temporary structures or protection shall be construction of non-combustible material or have a fire resistance rating of one (1) hour.

4. Hot work is defined as the use of open flames, other heat sources, and/or spark producing devices in areas where combustible or flammable materials are present and/or where there is potential for explosion or fire. Hot work activities include burning, welding, cutting, grinding or other operations that produce a flame, heat, or sparks.
   a. Prior to performing “Hot Work” operations, workers shall notify the CMa in accordance with requirements set forth in the contract documents. The CMa will coordinate with the owner’s activities and provide written confirmation before any hot work can commence.

P. Flammable Liquid Storage & Dispensing

1. Storage of flammable liquids are to be stored in fireproof containers as required by OSHA.

2. No flammable, combustible, or explosive gasses or liquids are permitted to be stored on the roof over night.

3. Gas powered generators are not permitted on the roof.

Q. Prime Contractor Safety Personnel

1. Each contractor shall designate an experienced and fully trained member of the Contractor’s organization at the Project Site whose duty shall include the prevention of accidents and the enforcement of the project safety requirements relating the contractor’s work.

   a. Contactors shall coordinate, through the Construction Manager, and conduct, weekly onsite safety inspections. Prime Contractors shall designated safety representative, with a focus on the contractor’s safety duties and responsibilities. Contractors shall submit a formal report of their findings, within one day, and advise Montgomery County for corrective actions to address any issues identified during the walk through.

2. Contractors that have less than thirty (30) workers on-site (including tiered subcontractors) will designate a safety representative prior to mobilization. This on-site safety representative will be a competent worker who has completed at least 30 hours of OSHA awareness training and who may have other on-site duties. This worker must be onsite at all times to serve in this capacity.

    a. Contractors that have thirty (30) or more workers (including tiered subcontractors) will provide a full-time on-site safety professional upon mobilization. This person shall have no other responsibilities.
    b. Contractors will submit the resume of their proposed safety professional or representative to be reviewed by the CMa. The CMa will determine if the proposed safety professional or representative has the training and experience required for this project. This person will have the authority and responsibility to ensure the proper implementation of safety requirements stipulated within their PSSP and project requirements.
    c. Contractor safety professionals and representatives will have the full authority to implement safety corrections and recommendations. Subcontractor safety professionals and representatives will have authority to stop any work they deem unsafe.

3. When prime contractor crew sizes are larger than 30 workers, inclusive of sub tier contractors, the contractor shall employ a full-time on-site safety professional. This individual shall be dedicated to safety oversight and not have a dual role. The safety professional shall have the following minimum qualifications:

    a. Five years construction experience, one year of which includes on-site construction safety responsibilities.
    b. Specialized training relevant to scope of work.
    c. OSHA 30-hour construction safety awareness course.
    d. Working knowledge of safety regulations and hazard control methods.
    e. Demonstrated ability to conduct safety training.
    f. The minimum duties of the designated safety professional and/or representative will be:
        1. Investigate any incident or near miss and report the findings to Skanska.
        2. Attend safety meetings as required by CMa.
        3. Conduct regular safety meetings with workers to instruct them on project safety practices and requirements.
        4. Conduct written daily safety inspections of their work activities and make available to Skanska for review to ensure compliance with safe work practices and this Safety & Health Management Program.

R. Take direction from Owner & CMa related to timely abatement and control of hazards.

S. Safety Meetings

1. Safety personnel are required to attend all meetings stipulated in the “Lean Procedures” including but not limited to Last Planner and Daily Huddles.

2. The CMa will conduct safety meetings monthly. These meetings will last one (1) hour and review all aspects of safety onsite. Each prime contractor safety personnel and key subcontractors shall attend.

T. Silica- if there is a potential for silica exposure, the contractor shall submit a Silica Control Plan. If the contractor opts not to follow Table 1 from OSHA 1926.1153 Respirable crystalline Silica standard, historical data must be provided.

U. Radios, headphones, and other music devices are prohibited. Any contractor employee using these devices will be removed from the project.

V. Testing and Inspections

1. All Prime Contractors shall fully cooperate with any Testing and Inspection agencies retained by Montgomery County including implementation of any remedial work recommended as a result of such inspections. It will be the responsibility of the Contractors to provide proper coordination and timely notification to the testing agency, inspecting authorities, etc. Reference the design specifications provided for further information.

2. All re-inspection cost due to failures and non-conformance will be the responsibility of contractor. Any and all specialized testing and/or inspections needed for temporary or permanent construction methodologies, not described in the design specifications, are the responsibility of the appropriate Prime or sub-tier contractor.

3. All Prime Contractors shall fully cooperate with any local and/or State inspection authority and coordinate inspections including any remedial work recommended as a result of such inspections. Any premium labor costs associated with such inspections will be the responsibility of the Contractor. Contractors shall identify inspection dates on weekly work schedule.

4. Prime Contractors will provide labor to assist in inspections by the AHJ and independent testing agencies.

W. Hazardous Materials

1. The GC shall understand the potential for mold at the exterior walls caused from water infiltration. The proper regulations and guidelines shall be followed when removing the exterior façade.

2. If suspicious material is identified that potentially contains ACM or hazardous materials, the Prime Contractors shall notify the CMa and halt work operations immediately. The situation will be reviewed by the Owner and a course of action determined. If necessary, the Owner will perform additional testing of the suspicious materials.

X. Daily Construction Reports

1. Daily Construction Reports shall be submitted electronically to the CMa and should be completed per project specifications. Each Prime Contractor is required to complete and submit daily reports which shall be written and signed by the contractors lead supervisor or foreman on site. The CMa will verify the reports to ensure details are accurately documented. Payments may be withheld upon failure to submit these reports.

Y. Site Condition Reports

1. Submit at time of discovery of differing conditions. All primes are responsible to review the project conditions prior to starting their work. Contractors shall report prior to the start of work any differing conditions and/or damages part of existing materials that are existing to remain. Issues that are not reported will be the responsibility of the prime contractor.

Z. Adjacent Buildings and Structures

1. Damages

a. All Contractors are cautioned that, because this work will be performed in close proximity and adjacent to existing occupied properties, all precautions, protection and care must be exercised to protect existing structures in accordance with good safety practices. This is particularly applicable to protection of pedestrians. The Contractor is responsible for any damage, which may occur to the property of the Owner or adjacent private or public properties which in any way results from the acts or neglect of his employees. In addition to repairing the damage at the expense of the Contractor, all damages thereto including damage to existing utilities and paving arising from operations under the Contract. Repair and protection is the Contractor's responsibility regardless of the assignment of responsibility for inspection, testing or similar services.

AA. Finished Work & Protection

2. All Contractors are wholly responsible for the protection of finished work, both their own and that of others, as may be required to perform their own work. Each Contractor is responsible for any damage which may occur to the property of any other Contractor connected with the work or to adjacent private or public

properties, or to any portion of the structure that in any way results from the acts of or neglect of his/her employees.

BB. Commissioning Support

1. Project will have a commissioning agent and program. Program will include, but not be limited to regular scheduled commissioning check-in meetings, reporting, testing and final reporting per the project specifications.

CC. Substitutions: Each contractor shall cooperate with other contractors involved to coordinate approved substitutions with remainder of the work.

DD. Temporary Facilities and Controls: In addition to specific responsibilities for temporary facilities and controls indicated in this Section and in Section 015000 "Temporary Facilities and Controls," each contractor is responsible for the following:

1. Plug-in electric power cords and extension cords, supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.

2. Computers, printers and office supplies necessary for its own activities.

3. Temporary enclosures for its own construction activities.

4. Staging and scaffolding for its own construction activities.

5. General hoisting facilities for its own construction activities.

6. Waste disposal facilities, including collection and legal disposal of its own hazardous, dangerous, unsanitary, or other harmful waste materials.

7. Progress cleaning of work areas affected by its operations on a daily basis.

8. Secure lockup of its own tools, materials, and equipment.

9. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.

EE. Each Contractor must inspect the roof areas daily for material and debris that can be blown from roof and take all measures to prevent same.

Low Voltage Responsibility Matrix:

Each Prime is responsible to provide (furnish and install) all of their own raceways, pathways, junction boxes, supports, cutting, patching, sleeves, seals, blocking and connections within their systems as described within the 01 12 00 Multiple Contract Summary. Primes are to coordinate demark locations and connections with other Primes requiring.

Prime contractors are responsible to employ the designated trade required to each task to install their system as complete.

Frame and Door Preparations include internal door raceways, mortised openings, mounting brackets, and wire back boxes for hardware devices for new and existing doors and frames as listed within Division 08.

	Furnished By:							Installed By:						
	General Contractor (GC)	Electrical Contract (EC)	Mechanical Contractor (MC)	Plumbing Contractor (PC)	Fire Protection Contractor (FPC)	Owner	Utility	General Contractor (GC)	Electrical Contract (EC)	Mechanical Contractor (MC)	Plumbing Contractor (PC)	Fire Protection Contractor (FPC)	Owner	Utility
Building Security System Interface														
Division 06 Wood Blocking & Plywood for Electric, LV, & AV	X							X						
Division 08 Hardware	X							X						
Division 08 Power Supplies	X								X					
Division 08 Power Supply line voltage conduit, wire, and connections		X							X					
Division 08 Power Supply low voltage conduit, wire, and connections		X							X					
Division 08 Lockset Wiring and connections between Locksets and Door Frame Transfer Device	X							X						
Division 08 Door Hardware Wire Harnesses From Door Frame Transfer Device to junction box	X								X					
Division 08 Door Hardware Frame and Door Preparations	X							X						
Division 08 Door Hardware Conduit Connections to Frame Preparation		X							X					
Division 08 Door Hardware Wiring Connections to Junction Boxes and Controlling Equipment		X							X					
Division 08 Door System Operators	X							X						
Division 08 Pneumatic Door Operator Systems	X							X						
Division 08 Overhead Doors Integrel Control Systems & Push Button Wiring	X							X						
Division 08 Overhead Doors Power & Final Connection		X							X					
Pedi stools for Operator Actuators and Card Readers	X							X						
Drain Lines and Weeps for Door Hardware Recessed in Floors	X							X						
Glazed System Frame and Door Preparations	X							X						
Card Reader Conduit to all Div. 08 Operators and Locksets		X							X					
Card Readers and wiring to all Operators		X							X					
Division 08 Fire Alarm Interface including conduit, wiring, relays, and connections		X							X					
Hardware layout and door and frame preparations on existing doors and frames.	X							X						
Door hardware not specified in division 08 is to be provided by designated Prime as designated in Division 01 12 00.														
Knox Box	X							X						
Knox Box (Low Voltage Wiring)		X							X					
Division 11 Parking Control Equipment Power Requirements									X					
Building Automated Controls System Interface														
24 hour Remote Monitoring System using permanent HVAC systems for temporary usage			X							X				
Line Voltage Surge Protection devices			X							X				
Transient Voltage Suppression devices			X							X				
BACnet conduit, wiring, and connections to Lighting controls & Occupancy systems			X							X				
			X							X				
BACnet conduit, wiring, and connections to Rain Water Harvesting System			X							X				
BACnet equipment interface to Rain Water Harvesting Systems			X							X				
BACnet monitoring conduit, wiring, and connections to Motorized Shade Systems			X							X				
Power connections to Motorized Shade Systems per the Electrical Drawings		X							X					
Fire Alarm Interface to BAS including conduit, wiring, relays, modules, and connections		X							X					
Access Control interface with Building Automated System			X							X				
Lighting Controls System & Motorized Shades														
Lighting Controls interface connections to Motorized Shades		X							X					
Power distribution to Motorized Shade Systems	X							X						
Communications Systems - Site														
Division 27 Site Communications - Outside Plant (OSP)		X					X		X					X
Division 27 Site Communications - OSP Cabeling							X							X
Division 27 Site Communications - OSP Terminations							X							X

	Communications Systems														
	Division 27 Communications Pathways - Exterior		X							X					
	Division 27 Communications Pathways - Interior		X							X					
	Division 27 Communications - IT Room Cable Tray and Pathways		X							X					
	Division 27 Communications - Racks		X							X					
	Division 27 Communications - Fiber Patch Panels		X							X					
	Division 27 Communications - Copper Patch Panels		X							X					
	Division 27 Communications - Horizontal Cabeling and Outlets		X							X					
	Division 27 Communications - Fiber Optics and Copper Risers		X							X					
	Division 27 Communications - Fiber Optics and Copper Terminations		X							X					
	Division 27 Communications - Patch Cords		X							X					
	Division 27 Communications - Copper Patch Cords		X							X					
	Division 27 Communications - Fiber Patch Cords		X							X					
	Division 27 Communications - Cross Connects		X							X					
	Division 27 Communications - Active Electronics - Switches,						X							X	
	Division 27 Communications - Network Switches		X							X					
	Division 27 Communications - Computers, Networking Equipment						X							X	
	Division 27 Communications - PBX/VoIP						X							X	
	Division 27 Communications - Phones						X							X	
	Division 27 Communications - UPS Power - Local at Racks		X							X					
	Division 27 WLAN System - Raceways		X							X					
	Division 27 WLAN System - Cabeling and outlets		X							X					
	Division 27 WLAN System - WLAN point installation						X			X					
	Division 27 WLAN System - WLAN Point & Configure (Aruba)						X							X	
	Division 27 Paging System - Pathways		X							X					
	Division 27 Paging System - Equipment & Installation						X							X	
	Division 27 Paging System - Cabeling		X							X					
	Division 27 Audio / Visual Systems - Pathways		X							X					
	Division 27 Audio / Visual Systems - Equipment & Installation		X							X					
	Division 27 Audio / Visual Systems - Cabling		X							X					
	Division 27 Audio / Visual Systems - Blocking Behind TVs	X								X					
	Division 27 Antenna Systems - ERRC System - 800MHz - 1st Responder		X							X					
	Division 27 Antenna Systems - Cellular DAS - Complete		X							X					
	Division 27 Area of Refuge Systems		X							X					
	Division 27 Synchronized Clock Systems		X							X					
	Division 28 CCTV System - Headend Equipment and Devices (Genetec Security System) License required		X							X					
	Division 28 CCTV System - Pathways		X							X					
	Division 28 CCTV System - Cabling & Installation		X							X					
	Division 28 CCTV System - Computers		X							X					
	Division 28 Access Control - Pathways		X							X					
	Division 28 Access Control - Headend System		X							X					
	Division 28 Access Control - Cabeling		X							X					
	Division 28 Access Control - Equipment - Devices		X							X					
	Division 28 Access Control - Badging						X							X	
	Division 28 Site Security		X							X					
	Division 28 Duress System		X							X					
	Division 28 Book Security Systems - Equipment						X							X	
	Division 28 Book Security Systems - Raceways		X							X					
	Division 28 Book Security Systems - Cabling		X							X					
	Fire Protection Systems														
	Pre-action fire protection control panels.					X							X		
	Fire Alarm Interface including conduit, wiring, relays, modules, and connections		X							X					

2.0 GENERAL CONSTRUCTION CONTRACT

The work of the General Construction Prime Contract Package includes, but is not limited to, the Work detailed by the following specification sections, as shown, implied and/or indicated on the drawings and as described in the contract description. The work is not restricted by the division of drawings or specification. Unless otherwise specifically noted, all work to be performed shall consist of providing all labor, materials, equipment and other necessary requirements to complete the work in accordance with the specifications and applicable codes and governing jurisdictions.

Specifications	Description
a. Division 00	Procurement and Contract Requirements
b. Division 01	General Requirements
c. Division 02	Existing Conditions
d. Division 03	Concrete
e. Division 04	Masonry
f. Division 05	Metals
g. Division 06	Wood, Plastics, and Composites
h. Division 07	Thermal and Moisture Protection
i. Division 08	Openings
j. Division 09	Finishes
k. Division 10	Specialties
l. Division 11	Equipment
m. Division 12	Furnishings
n. Division 14	Conveying Equipment
o. Division 31	Earthwork
p. Division 32	Landscape
q. Division 32	Exterior Improvements
r. Division 33	Utilities

1. With in (15) days of notice to proceed, the General Contractor Prime is to submit all shop drawings for long lead materials pertaining to the exterior façade for review.

2. The Contractor and its demolition contractors has visited the site and reviewed all areas of disturbance related to work of this bid package. Any existing improvements that require removal, demolition, relocation and/or protection to perform the work are considered part of this Contractors scope of work.

3. Any demo / building permits will be applied and paid for by the GC Prime. This will be a pass-through cost (no mark-up) to the County, and a change order will be issued to reimburse the cost.

4. The building is empty of all owner furnishings for the start of this phase of construction.

5. Provide ALL interior and exterior demolition indicated or required on the contract documents including, but not limited to, all Architectural, Civil and MEP demolition. Exterior skin demolition includes, but is not limited to, brick, block back up, framing, window systems, brick angles, brackets, coping, fixtures, relief angles and relief angle supports, and miscellaneous items

attached to the exterior walls. It is understood that all demolition work by this contractor is required for the new work by this contractor.

6. General Construction Prime will remove all Mechanical, Electrical, Plumbing and Fire Protection demoed material which has been disconnected and dropped to a centralized location in the building. Contractor to include the removal of the existing generator on the 2nd floor.

7. Contractor will demo and remove old phone equipment and associated wiring.

8. Remove the existing first floor dry fire protection system piping. Compressor and pump associated with this system to be demolished by the GC Prime.

9. Provide all floor and elevated slab infill and patching resulting from any previously demoed pipe and duct penetrations or scheduled pipe and duct removal. This includes storm piping penetrations.

10. Provide all roof deck infill per the shown detail on the contract documents for existing penetrations and scheduled penetration related to demolition.

11. Demo and remove existing elevators and all associated elevator equipment as part of your work.

12. Include patching of any portions of the elevator shaft scheduled to remain after removal of elevator equipment, utilities and related materials. Patch prior to elevator installation.

13. Include all elevator shaft wall embeds with new elevator equipment installations.

14. Reference Logistics Plan for proposed dumpster locations. **Note dumpsters cannot be located under the covered the parking area or inside the loading dock garage.**

15. Lead paint surfaces were tested during environmental survey and came back below required levels. If any lead paint surfaces are discovered during demolition and new construction, Contractor will take necessary measures to protect its workers, workers of other Contractors and the public from lead dust exposure when demolishing, cutting, abrading, burning of drilling into painted surfaces.

16. In the event unknown suspected hazardous materials are uncovered during the course of the work, all workers shall stop work and notify the CMa and owner. The CMA will arrange for testing of materials uncovered that are not represented in the environmental assessment. Removal of unforeseen hazardous materials will be compensated for based on established unit prices.

17. GC Prime to secure the building at the end of each day.

18. It is the responsibility of this prime contractor to secure all tools, equipment and material stored on site at the end of each workday.

19. Dedication tree and plaque are to be removed, stored and replanted where shown at appropriate planting season. GC prime to hire an Arborist and store tree at a local nursery.

20. Reference the site logistics plan provided with this bid package. Should contractor utilize means and methods outside the library property line, contractor will submit to the authority having jurisdiction, any permits and / or costs associated related to the temporary logistics, including, but not limited to, sidewalk closure, lane closures and any other permits required related to logistics.

21. Contractor is required to provide and use 8-foot-high panel temporary fencing with sandbags and Yodock barriers with fence panels to secure the jobsite with gates. Yodock fence assemblies shall be installed at Swede Street and along paved and sidewalk areas where snowplows will come into contact. Utilize water filled Yodock 2001 24" W x 72" L x 46"h Barriers with fence panels and fence couplers (4 per panel) manufactured by Yodock or equal. Include post stabilizers, grommets, barrier couplers and corners. Overall height of fence and barrier not less than 96". Contractor is required to utilize PA One Call and Ground Penetrating Radar and Electromagnetic locator services to ensure safe installation of fencing. Refer to logistics plan. Existing rolling gates can be utilized during construction for additional security. General Contractor Prime is responsible for ensuring the fence is closed and weighted at all points at the end of each day.

22. Contractor is responsible for providing temporary protection of the building which includes but is not limited to temporary door access points, window openings, sections of the building not finished which may include exterior walls and roof openings.

23. Contractor is responsible for temporary heat and conditioning of the building if work is scheduled by this contractor which requires specified climatized spaces ahead of scheduled weather tight milestone date.

24. Contractor will provide and maintain safe roof access for all Contractors use.

25. The GC Prime Contractor will provide fall protection at the roof level, perimeter of each floor and at deck openings for use by all trades.

26. Protect and repair any damaged roofing because of construction activities. Provide roof protection at any location where materials will be transported from mechanical room roof access to the roof. GC is to maintain temporary ramp access at the mechanical room roof access location left from previous work.

27. Contractor will maintain all stair towers unobstructed for the duration of the work. Elevators will not be in service.

28. Contractor will avoid excessive loading on elevated decks. Remove debris without letting it accumulate on floors. If contractor intends to utilize equipment on elevated decks (scissor lifts, bobcat, skid steer, tow motor), their structural engineer must evaluate the live and dead load imposed by the equipment and confirm it's use is not detrimental to the structure.

29. GC Prime is to provide and maintain inspections for (10) Ten 20# multi use fire extinguishers for disbursement on each floor and roof level. Mount extinguishers on temporary stanchions or existing construction.

30. The GC Prime to contract the pruning of any existing to remain trees to allow for construction equipment clearance. The GC Prime is to hire an arborist to supervise any pruning.

31. Some trees may require lower-branch pruning to allow for the operation of construction equipment. It may be necessary to prune to a height of 15' or more to allow for clearance of construction vehicles. Trained personnel should do a pre-construction pruning. All work performed by pruning crews should be under the supervision of a certified Arborist. GC Prime to provide temporary protection around existing trees to remain during construction. GC Prime to provide watering and maintenance for new landscaping on until substantial completion and turnover to the Owner.

32. EC Prime Contractor will maintain temporary power and lighting left after Phase 1 construction. EC Prime will adjust and move interior temporary power and lighting during construction until permanent power and lighting have been installed and energized. EC Prime will remove temporary power and lighting.

33. Provide dust protection and containment during construction. Follow OSHA guidelines for working with, and exposure to, crystalline silica. Protect workers and the public from exposure to crystalline silica during exterior demolition work and any work that could produce airborne silica dust.

34. Contractor will provide DAILY Clean-up for its work and workers and that of its Subcontractors. Provide dumpsters for legal disposal and recycling of trash and debris. Dumpsters provided by the GC Prime Contractor will be used by all Prime Contractors. Reference logistics plan for proposed dumpster location

35. Contractor will padlock and secure all gates and building entrances at the end of each shift. Provide temporary exterior doors and cover window openings at grade for security. Provide 10 keys for locks to CM. GC must keep the building secure off hours.

36. GC Prime Contractor will provide and maintain portable temporary sanitary facilities and hand washing stations with water for use by all Contractors and workers onsite. Provide soap, and disposable towels at hand wash stations. Portable toilets are to be cleaned and sanitized a minimum of two times a week. Provide sufficient items described to support the number of workers on site.

37. All temporary construction provided by this contractor will be maintained, modified if necessary and removed when directed.

38. Contractor is to provide and maintain temporary access to all levels of the building including the roof which meet standard OSHA requirements.

39. Contractor will provide all snow removal throughout the duration of the project. This includes parking areas, walks, office trailer and building entrance areas to provide safe slip resistant access to the building.

40. Contractor will provide and maintain all lawn mowing on a regular basis to ensure there is no overgrowth of grass and weeds in the yards, parking lot and along the fence line, sidewalks and neighborhood property lines.

41. Contractor is to review and confirm if there are any abandoned underground propane tanks and assemblies in the yard / sidewalk area under the dual manholes at Spring and Grady Alley. Excavate, remove buried propane tanks and backfill.

42. Contractor should assume a 6" depth for Walker Duct trench infill. Contract documents, 3/S3.3 shows +/- 3 ¼".

43. Contractor is required to provide new base scope spray fireproofing on all new structural steel and existing steel throughout the building per the contract documents. Provide overspray protection for your work. Overspray protection includes but is not limited to protecting other prime contractor's treaded rods and hangers installed for their work. All existing spray fireproofing is to be removed by this contractor so the steel is exposed in order to create a proper bond between new spray fireproofing and the steel. Contractor is to safely remove and dispose of the existing spray fireproofing via mechanical means and power washing.

44. Contractor is responsible for all in wall wood blocking on the project. Blocking requirements are based on all contract documents including but not limited to architectural, mechanical, electrical, plumbing, fire protection, audio-visual and interiors plans. GC Prime to include Fire-Rated plywood backing for all Electrical / Low-Voltage panels.

45. Contractor is responsible for providing all miscellaneous steel required for supports and opening including but not limited to overhead toilet partition supports, handrails, guardrails and loose lintels for new openings.

46. The construction of exterior walls, elevator shafts, stair towers, electrical rooms, tele/data rooms, mechanical rooms, IDF rooms, mechanical shafts and other specialty rooms will progress ahead of the interior floor fit-out. Construct the rooms described immediately following Spray-Applied Fire-Resistive Material (SFRM) on each level. The General Construction Contract will provide mildew resistant drywall and mildew resistant shaft liner at these locations. Only the inside of these rooms will be drywalled and finished to allow other trades to install their work. Coordinate with all Contractors.

47. Provide sealants and fire stopping related to work installed as part of this bid package. Firestopping materials will be single source. Coordinate with all Contractors and select one Manufacturer for all firestopping materials.

48. Contractor is responsible for reviewing all existing and new wall construction in the building for code compliance as related to but not limited to fire rating, sound rating, air barrier. Review all new and existing steel construction passing through CMU block and drywall walls to install code complaint firestopping and caulk sealants based on the required wall rating.

49. The General Contractor prime is required to participate in MEP coordination and utilize approved reflective ceiling shop drawings in this process.

50. Coordinate interior partition construction with the MEP Contractors. Identify the sequence of partition construction, top out and fire stopping. Identify walls that must be constructed prior to the installation of overhead MEP systems.

51. The General Construction Prime will be responsible to provide and maintain control lines for use by all contractors. After the interior demolition is complete, survey the building to determine if the exterior walls are parallel and the building is square within itself. Inform the CMa and architect of any discrepancies.

52. Include flash patching and skim coating floors for installation of flooring materials and at exposed concrete floors. This includes exposed concrete floors in the basement. All existing and new concrete slabs are to be skim coated to achieve a level, uniform finish. Minimum thickness of coating is 1/8".

53. Cut temporary steel stanchions below the floor level and patch floor flush.

54. Contractor is to survey the existing floor slabs and include all costs associated with patching and infilling holes in the slabs. This includes but is not limited to core holes, abandoned duct penetrations and trenches. Refer to slab details in the contract documents for repair methods.

55. Contractor is to survey the existing CMU block walls on all floor levels and include all costs associated with infilling and patching holes left in the walls. This includes but is not limited to removed pipes, conduits and ducts openings.

56. Contractor will saw cut and patch sections of existing CMU wall at the 2nd floor, column line 16 which will remain. This is the wall separating Mechanical 229 and Storage 217.

57. Provide all layout for use by all contractors. Layout on the floor, finish walls, openings, soffits and built in items. After the interior demolition is complete, survey the building to determine if the exterior walls are parallel and the building is square within itself. Inform the CMa and architect of any discrepancies.

58. Access Panels will be furnished by each Prime Contractor for installation by the General Constructor Prime. Assume (5) Five access panels will be provided by each Prime Contractor. General Contractor will provide and install all wall and ceiling access panels shown on the architectural documents. The General Construction Contract will include layout, framing, blocking and finishing for the installation of access panels.

59. Equipment pad shown on the drawings are to be included by the GC prime. Any housekeeping pads not shown on the drawings but required will be installed by that associated prime contractor.

60. General Contractor Prime is required to provide and install a Know Box if required per the AHJ. Coordinate with the City Fire Marshall for model and specifications. EC Prime is required to provide any associated wiring if required.

61. General Contractor Prime is required to paint all mechanical equipment shown to be painted or called out on the contract documents.

62. Curtainwall testing is required. The 3rd party testing agency will conduct air and water infiltration testing. Please refer to the product specifications.

63. Book drop shown in the Civil Drawings is furnished by the owner and is to be installed by Contractor.

64. Contractor to Power Wash, scrub clean all site retaining walls and building retaining walls scheduled to remain around the parking area. Prep for paint.

65. Contractor to provide construction final cleaning.

66. Contractor to include the cost to provide and install a 36" x 48" project sign. Final graphics in color will be provided at a later date. Sign is to be mounted on pressure treated lumber anchored to the ground for the duration of the project.

2.1 ELECTRICAL CONTRUCTION CONTRACT

The work of the Electrical Prime Contract Package includes, but is not limited to, the Work detailed by the following specification sections, as shown, implied and/or indicated on the documents provided and as described in the contract description. The work is not restricted by the division of drawings or specification. Unless otherwise specifically noted, all work to be performed shall consist of providing all labor, materials, equipment and other necessary requirements to complete the work in accordance with the specifications and applicable codes.

Specifications		Description
a)	Division 00	Procurement and Contract Requirements
b)	Division 01	General Requirements
c)	Division 02	Existing Conditions
d)	Division 03	Concrete (as it applies)
e)	Division 07	Thermal and Moisture Protection (as it applies)
		including but not limited to:
	(i) 078413	Penetration Fire Stopping
	(ii) 079200	Joint Sealants
f)	Division 08	Openings (as it applies)
		including but not limited to:
	(i) 080671	Door Hardware Schedule
	(ii) 081500	Integrated Access Control Hardware Devices
	(iii) 083323	Overhead Coiling Doors
	(iv) 083326	Overhead Coiling Grilles
	(v) 084229.23	Sliding Automatic Entrances
	(vi) 087100	Door Hardware
	(vii) 087113	Power Door Operators

g)	Division 09	Finishes (as it applies)
		including but not limited to:
	(i) 092100	Gypsum Board Assemblies
h)	Division 10	Specialties (as it applies)
		including but not limited to:
	(i) 101200	Display Cases
	(ii) 101419	Dimensional Letter Signage
	(iii) 103341	Operable Partition
i)	Division 11	Equipment (as it applies)
		including but not limited to:
	(i) 111200	Parking Control Equipment
j)	Division 14	Conveying Equipment (as it applies)
		including but not limited to:
	(i) 142400	MRL Hydraulic Elevators
k)	Division 26	Electrical
l)	Division 27	Communications
m)	Division 28	Electronic Safety and Security
n)	Division 31	Earthwork (as it applies)
o)	Division 33	Utilities (as it applies)
p)	Appendix	Project: ii-3641 Norristown Public Library - Cutsheet Package

Related Sections		Description
a.	Division 14	Conveying Equipment
b.	Division 21	Fire Suppression
c.	Division 23	Heating, Ventilation, and Air-Conditioning
d.	Division 25	Integrated Automation
e.	Division 04	Masonry
f.	Division 05	Metals
g.	Division 06	Wood, Plastics, and Composites
h.	Division 12	Furnishings
i.	Division 32	Landscape
j.	Division 32	Exterior Improvements

1. Contractor will include all electric and low voltage work including pathways, back boxes, junction boxes, conduits, and wire. Refer to matrix included at the end of electrical scope.
    a. Electrical work shown and or specified and as required for a complete electrical system installation.
    b. Communications: All work shown and or specified. Final punch down and installation of actual equipment will be by others.
    c. Electronic Safety and Security work shown and or specified and as required for a complete installation.
    d. Electrical Low Voltage, Data and AV as shown to provide a complete system.
    e. Security camera system, cabling and installation by EC Prime.

f. Knox Box power and cabling if required is by EC Prime. GC Prime will provide and install Knox Box.
g. Contractor is required to attend pre-work meetings with GC Prime's Elevator Subcontractor. Contractor is required to provide coordinated power to the elevators.
h. Contractor will participate in owner / vendor IT coordination meetings to fully coordinate an integrated building system to include but not be limited to IT, Fire Alarm, Security, BAS and Library Equipment.
i. Contractor is responsible for any power and wiring to the Fire Protection system interface.
j. Contractor is responsible for all power to mechanical equipment.
k. Electric Vehicle Chargers (EV) shown on the documents are to be provided and installed by the Electrical Prime Contractor. Quantity is (2) chargers. Quantity of (6) shown on E1.3b is incorrect.

2. Investigate and make familiar all electrical panels and equipment left active after Phase 1 of construction. Temporary lighting was left in place after Phase 1. EC Prime will adjust and move interior temporary power and lighting during construction until permanent power and lighting have been installed and energized. Contractor is responsible for removal of all temporary lighting and power on the project when complete.

3. This EC is responsible to Confirm with the utility company the status of the Transformer provided by PECO.

4. Any electrical building permits are to be applied and paid for by the EC Prime. This will be submitted as a pass-through cost (no mark-up) and a change order will be issued to reimburse the cost.

5. EC Prime Contractor to subcontract with an AV vendor for all equipment installation, testing and owner training.

6. Contractor is responsible for providing a coordinated shop drawing and attending the concrete foundation pre-work meeting so all MEP sleeves and stub-ups can be located and coordinated for a proper installation.

7. Provide a minimum of (3) three Internet company feeder conduits with pull strings from building / street demarcation line to IDF closet. This included ground level or overhead service provider requirements.

8. Electrical Prime Contractor to coordinate with General Contractor Prime Contractor for the installation of all electrified door hardware. The EC Prime is to provide power and final connections associated with door hardware at each scheduled opening.

9. Electrical Prime Contractor is responsible for Cutting, coring and patching required for your work.

10. Concrete housekeeping pads and concrete curbs shown on the drawings will be provided by the GC Prime Contractor. Coordinate size and layout with the GC. Any bases, pads, handholes, or vaults needed for your installation not shown on the drawings will be included in this bid package.

11. Contractor is responsible for excavation, backfilling and one-call for electrical work.

12. Contractors will coordinate overhead MEP and Fire Protection rough-in, wall construction and ceiling framing to assure the ceiling heights indicated on the contract drawings are maintained. Notify the CM of any issues related to ceiling heights or overhead rough-in prior to installation.

13. This prime to participate in above ceiling coordination lead by the MC Prime Contractors will coordinate overhead MEP and Fire Protection rough-in, wall construction and ceiling framing to assure the ceiling heights indicated on the contract drawings are maintained. Notify the CM of any issues related to ceiling heights or overhead rough-in prior to installation.

14. Contractor will include the cost of any standby non-work observed only holidays. This cost would cover a fire watch electrician to be onsite when others are working during normal scheduled workdays.

15. Contractor will provide DAILY Clean-up for its work and workmen and that of its Subcontractors. The GC Prime Contractor will provide dumpsters.

16. It is the responsibility of this prime contractor to secure all tools, equipment and material stored on site at the end of each workday.

17. Contractors will reference OSHA requirements related to working with lead and lead painted materials. Contractor will take necessary measures to protect its workers, workers of other Contractors and the public from lead dust exposure if cutting, abrading, burning of drilling into painted surfaces.

18. Provide the complete fire detection and fire alarm system as indicated in the documents.

19. Contractor will expedite material and equipment submittals focusing on long lead items needed to meet the installation dates identified on the project schedule.

20. Within 15 days of notice to proceed, contractor will submit shop drawings and product information for all electric panels, gear, generator and other long lead equipment.

21. The existing temporary electrical service to the limit provided is available for temporary power and lighting.

22. Contractor is responsible for conducting a site survey of the existing to remain electrical equipment, panels and feeders to confirm the existing conditions at the start of construction.

Abandoned raceways and or conduits should be removed as part of the new service installation. Maintain a code complaint system.

23. Electrical gear located in the mechanical room will remain energized and be part of this Phase 2 demolition.

24. Contractor is responsible for disconnecting existing gear and generator to safe off for the GC Prime to remove when required by the project schedule. Equipment is to be unfastened and dropped to a central location for GC Prime to remove.

25. Contractor is responsible for coordinating with the other Primes the timing of the demolition and termination of existing power for the new PECO transformer and gear scheduled for installation and energization.

26. Contractor to disconnect and drop to a centralized location in the building all MEP equipment being demoed. GC Prime to remove.

27. Switch over of the temporary service to the permanent service shall be at a time so as not to affect the on-going construction activities. There will not be additional compensation if conditions require that switchover be performed on overtime.

28. Contractor will provide the interim maintenance of the new permanent electrical equipment during the construction, startup and commissioning periods until acceptance by the Owner. This Contractor will include all extended warranties for equipment used, started and operating prior to Owner acceptance. Maintenance records shall be kept during this period and turned over to the CMa upon request. At a minimum, permanent electric systems will be used for the following prior to substantial completion. Warranties commence on the date of substantial completion.

    Light and power during construction

    Elevator electrical power- temporary and permanent

    Permanent HVAC equipment used for temporary heat, cooling, and ventilation.

    Early startup of systems for testing and commissioning

29. Reference the milestone date in the project schedule for startup of permanent HVAC equipment and systems for the use of temporary conditioning. Contractor must provide permanent power for early start-up of all equipment needed for temporary conditioning.

30. Contractor will operationally test the Fire Alarm System prior to AHJ Inspection. This test shall be witnessed by the CMa. The fire alarm system and integration with the fire protection system must be completely operational and pre-tested prior to scheduling the AHJ inspections. Provide labor to assist with all AHJ inspections.

31. Contractor will install and make final connections to the Owner furnished equipment.

32. Contractor will utilize the Owner required cabling colors as listed:
    a. White (Shielded) - TV
    b. Black – VOIP Communications / Phones
    c. Blue – Public & General Use
    d. Green – ISS Cameras, Access Controls & Keypads
    e. Grey – Old Legacy
    f. Orange – WAPs
    g. Purple – ILO / DRAC Remote Connectivity
    h. Red – Clustering Heartbeat, Cross Over Cabling
    i. Yellow – Backchannel / Private Connectivity

33. Include a complete cleaning of all electrical panels, meter, gear, transformers and generator prior to final acceptance.

34. Provide sealants and fire stopping related to work installed as part of this bid package. Firestopping materials will be single source. Coordinate with all Contractors and select one Manufacturer for all firestopping materials.

35. Contractor is responsible for reviewing all existing and new wall construction in the building for code compliance as related to but not limited to fire rating, sound rating, air barrier. Review all new and existing electrical pipe and conduits passing through CMU block and drywall walls to install code complaint firestopping and caulk sealants based on the required wall rating.

36. The GC Prime Contractor will paint all MEP lines scheduled to be painted. Mark out and identify lines to be painted.

37. Provide floor, wall and ceiling access panels for work related to this bid package. Access panels to be installed by General Contractor Prime.

38. The existing fire alarm systems have been deactivated in Phase 1.

39. Contractor is responsible for providing and installing all floor boxes and pigtails for power and low voltage requirements. Installation is to be fully coordinated with the other trades.

40. Contractor is responsible for layout and core drilling for a safe installation. Active electric is contained in the slabs.

41. Contractor is to provide a working, tested and certified generator prior to elevator start-up and state certification.

42. Contractor to provide all jobsite offices with temporary power hook-up and energization. EC Prime is responsible for providing temporary poles necessary of installation temp office power. Schedule and coordinate PECO service agreement. Owner to pay for energy usage. Refer to logistics plan for office location and size.

43. Contractor to provide heat trace for office trailer temporary water service and site entrance tire wash equipment. Refer to logistics plan for office and entrance location.

44. Contractor will provide and maintain a temporary power and lighting services to satisfy OSHA, NFPA, NEC and AHJ requirements.

    a. Provide Temporary Power: (8) quad outlets on each of floors 1 & 2. Provide (2) quad outlets at the ground floor of Career Links office area. Provide temporary lighting at the ground floor area. Provide GFCI protected breakers in the panels for temporary power. All wiring is to be exposed.
    b. Consumption costs will be paid by the county to the utility company.
    c. Provide LED fixtures and bulbs for all temporary lighting.
    d. Remove temporary power and lights when no longer needed based upon the completion of permanent systems.

2.2 HEATING, VENTILATING, AND AIR CONDITIONING (HVAC) CONTRACT

The work of the HVAC Prime Contract Package includes, but is not limited to, the Work detailed by the following specification sections, as shown, implied and/or indicated on the documents provided and as described in the contract description. The work is not restricted by the division of drawings or specification. Unless otherwise specifically noted, all work to be performed shall consist of providing all labor, materials, equipment and other necessary requirements to complete the work in accordance with the specifications and applicable codes.

Specifications		Description
a)	Division 00	Procurement and Contract Requirements
b)	Division 01	General Requirements
c)	Division 2	Existing Conditions
d)	Division 07	Thermal and Moisture Protection (as it applies) *including but not limited to:*
I)	078413	Penetration Fire Stopping
II)	079200	Joint Sealants
e)	Division 23	Heating, Ventilating, and Air-Conditioning (HVAC)

Related Sections		Description
a)	Division 22	Plumbing
b)	Division 25	Integrated Automation
c)	Division 26	Electrical
d)	Division 28	Fire Alarm

1. The General Construction Prime Contractor will provide all mechanical demolition indicated.

2. Contractor will expedite material and equipment submittals focusing on long lead items needed to meet the installation dates identified on the project schedule. Provide a list of all known long lead material and equipment items.

3. Any demo / HVAC permits will be applied and paid for by the MC Prime. This will be a pass-through cost (no mark-up) to the County, and a change order will be issued to reimburse the cost.

4. Contractors will coordinate overhead MEP rough-in, wall construction and ceiling framing to assure the ceiling heights indicated on the contract drawings are maintained. Notify the CMa of any issues related to ceiling heights or overhead rough-in prior to installation. Contractor will lead and establish a process for above ceiling MEP and Fire Protection coordination with the other primes.

5. Coring, cutting and patching required for your work will be performed as part of this bid package.

6. Contractors will reference OSHA requirements related to working with lead and lead painted materials. Contractor will take necessary measures to protect its workers, workers of other Contractors and the public from lead dust exposure if cutting, abrading, burning of drilling into painted surfaces. Assume all painted surfaces contain lead.

7. Contractor to disconnect and drop to a centralized location in the building all MEP equipment being demoed. GC Prime to remove.

8. Contractor will include all hot and cold refrigerant lines, condensate lines, controls and equipment for a complete operational system. Not all piping sizes and distribution are shown on the drawings. Coordinate piping distribution and sizes with the equipment manufacturer.

9. Contractor is responsible for including all sheet metal drain pans including piping outlet penetrations and nipple. Drain pans are to be pre-engineered or custom fabricated based upon equipment sizing requirements. The final connection to the drain pans, all condensate piping, leak detection module, wiring, and sensors will be this contractor. Leak detection alarm wiring to the Building Automation System (BAS) is by the HVAC Construction Contract.

10. Contractor is responsible for providing and installing Rooftop Unit Screens attached to the units per the contract documents. Coordinate with the GC Prime.

11. Coordinate equipment start-up, both temporary and permanent, with Electrical Prime Contractor and the CMa.

12. Provide and maintain temporary heating, cooling, ventilation, and dehumidification using permanent systems for the installation of architectural finishes. Reference the bid schedule for dates related to temporary startup of permanent systems for temporary use. Contractor will have the systems in temporary operation by this date.

13. For the use of temporary HVAC during construction, develop a methodology for moving air throughout the building to distribute heating, cooling, ventilation, and dehumidification, using

permanent, and if necessary, temporary ductwork to provide adequate distribution of conditioned air.

14. Contractor will protect (via temporary filter media) all return ducts, air handling equipment, outside air plenums/louvers, and return registers during construction and during periods of operating the air handling units and equipment for temporary use. Contractor shall change and/or clean filters as required for project duration. Cost of filter changes is included in this contract. Filters are not to be pulled from the attic stock quantity.

15. It is the responsibility of this prime contractor to secure all tools, equipment and material stored on site at the end of each workday.

16. Contractor will provide means to remotely monitor the equipment operation that will provide notification if the equipment is not functioning properly. Contractor will respond to trouble shoot equipment operations. This applies to equipment in operation for temporary use.

17. Contractor will provide the interim maintenance of the equipment during construction, startup, temporary usage and commissioning periods until acceptance by the Owner. This Contractor includes all extended warranties required for equipment used, started and operating prior to Owner acceptance. Maintenance records shall be kept during this period and turned over to the CMa upon request. The warranty period starts at Substantial Completion of the Project.

18. Upon substantial completion, or as directed by CMa, this contractor will provide a complete cleaning of the entire mechanical systems. Contractor will provide filter changes for all equipment immediately prior to Owner final acceptance. Filters will be new and not from attic stock.

19. Reference reflected ceiling plans for locations of exposed to structure ceilings. Contractors will avoid installing systems in those locations when possible. All systems, piping, duct conduit and cabling serving the open ceiling areas is to be run neatly and in straight lines.

20. Concrete housekeeping pads and concrete curbs shown on the drawings will be provided by the GC Prime Contractor. Coordinate size with the GC and provide layout. Any bases or pads needed for your installation not shown on the drawings will be provided by this bidder.

21. Contractor is responsible for providing a coordinated shop drawing and attending the concrete foundation pre-work meeting so all MEP sleeves and stub-ups can be located and coordinated for a proper installation.

22. Contractor is responsible for reviewing all existing and new wall construction in the building for code compliance as related to but not limited to fire rating, sound rating, air barrier. Review all new and existing ductwork, mechanical pipe and conduit lines passing through CMU block and drywall walls to install code complaint firestopping and caulk sealants based on the required wall rating.

23. Provide floor, wall and roof penetration sealants and fire stopping related to work installed as part of this bid package. Firestopping materials will be single source. Coordinate with all Contractors and select one Manufacturer for all firestopping materials.

24. The GC Prime Contractor will paint all MEP lines scheduled to be painted. Mark out and identify lines to be painted.

25. Provide floor, wall and ceiling access panels for work related to this bid package.

26. Contractor will provide DAILY Clean-up for its work and workmen and that of its Subcontractors. The GC Prime Contractor will provide a dumpster for contractors use.

2.3 PLUMBING CONSTRUCTION CONTRACT

The work of the Plumbing Prime Contract Package includes, but is not limited to, the Work detailed by the following specification sections, as shown, implied and/or indicated on the documents provided and as described in the contract description. The work is not restricted by the division of drawings or specification. Unless otherwise specifically noted, all work to be performed shall consist of providing all labor, materials, quipment and other necessary requirements to complete the work in accordance with the specifications and applicable codes.

Specifications		Description
a.	Division 00	Procurement and Contract Requirements
b.	Division 01	General Requirements
c.	Division 02	Existing Conditions
d.	Division 03	Concrete (as it applies)
e.	Division 07	Thermal and Moisture Protection (as it applies) *including but not limited to:*
	i. 078413	Penetration Fire Stopping
	ii. 079200	Joint Sealants
f.	Division 09	Finishes (as it applies) *including but not limited to:*
	i. 092100	Gypsum Board Assemblies
g.	Division 22	Plumbing
h.	Division 31	Earthwork (as applies)
i.	Division 33	Utilities (as it applies)

Related Sections		Description
a.	Division 23	Heating, Ventilating, and Air-Conditioning (HVAC)
b.	Division 25	Integrated Automation

1. The General Trades Prime Contractor will perform all plumbing demolition indicated.

2. The GC Prime will bring temp water to the site from the existing building meter location. Provide temp water to construction trailers and tire wash. Refer to site logistics plan.

3. Provide temp water for the building from the valve provided in Phase 1 near Column Line 4.2. Provide a temporary laundry tub for hand washing only for use by all prime contractors in a location close to the water supply but not interfering with construction work.

4. Contractor will expedite material and equipment submittals focusing on long lead items needed to meet the installation dates identified on the project schedule.

5. This prime to participate in above ceiling coordination lead by the MC Prime Contractors will coordinate overhead MEP and Fire Protection rough-in, wall construction and ceiling framing to assure the ceiling heights indicated on the contract drawings are maintained. Notify the CM of any issues related to ceiling heights or overhead rough-in prior to installation.

6. Contractor is responsible for providing a coordinated shop drawing and attending the concrete foundation pre-work meeting so all MEP sleeves and stub-ups can be located and coordinated for a proper installation.

7. Any demo / plumbing permits will be applied and paid for by the PC Prime. This will be a pass-through cost (no mark-up) to the County, and a change order will be issued to reimburse the cost.

8. Site sanitary and site storm underground will be installed by the GC Prime Contractor to a flanged connection inside the first-floor foundation wall. This Bidder will complete the plumbing systems inside the building.

9. All new utilities will be brought into the building to the first flange by the civil subcontractor.

10. All below grade storm piping demo on the first floor is to be completed by this prime. Include saw-cutting, concrete removal, excavation, removal of pipe, installation of new pipe, backfill and concrete infills. Include stone and or clean fill if needed or removal any excess spoils from site.

11. Contractor to disconnected and drop to a centralized location in the building all MEP equipment being demoed. GC Prime to remove. Any storm piping demo on floors 2 or 3 can be cut and dropped to floor to be removed by the GC prime.

12. Coordinate storm piping removal with roof demo. Provide temp storm drainage as needed.

13. It is known that PAAW will be upgrading the water main along Swede Street. Determine if a water booster pump is required after flow test. See Alternates Specification Section.

14. The new gas service is at a different location from the existing gas service. The current gas meter is locked out by PECO. Include disconnecting the gas line past the meter and cap the outlet for demolition by others. The gas meter will be removed by the utility company. Coordinate with CMa and PECO regarding new service.

15. It is the responsibility of this prime contractor to secure all tools, equipment and material stored on site at the end of each workday.

16. Contractor will provide DAILY Clean-up for its work and workmen and that of its Subcontractors. The GC Prime contractor will provide a dumpster on site for contractor's use.

17. Concrete housekeeping pads and concrete curbs shown on the drawings will be provided by the GC Prime Contractor. Coordinate with the GC size and provide layout. Any bases or pads needed for your installation not shown on the drawings will be provided as part of this bid package.

18. Provide cutting, coring and patching related to the work of this bid package.

19. Contractors will reference OSHA requirements related to working with lead and lead painted materials. Contractor will take necessary measures to protect its workers, workers of other Contractors and the public from lead dust exposure if cutting, abrading, burning of drilling into painted surfaces. Assume all painted surfaces contain lead.

20. Provide sealants and fire stopping related to work installed as part of this bid package. Firestopping materials will be single source. Coordinate with all Contractors and select one Manufacturer for all firestopping materials.

21. Contractor is responsible for reviewing all existing and new wall construction in the building for code compliance as related to but not limited to fire rating, sound rating, air barrier. Review all new and existing plumbing pipe and lines passing through CMU block and drywall walls to install code complaint firestopping and caulk sealants based on the required wall rating.

22. Furnish floor, wall and ceiling access panels for work related to this bid package. Installation of access panels to be installed by the GC Prime.

23. The GC Prime Contractor will provide new sump pits in the basement shown on the Plumbing drawings. Coordinate Plumbing work with the GC Prime Contractor.

24. Provide under slab plumbing, saw cutting slab on grade, excavation, backfill and floor patching.

25. The GC Prime Contractor will paint all MEP lines scheduled to be painted. Mark out and identify lines to be painted.

2.4 FIRE PROTECTION CONSTRUCTION CONTRACT

The work of the Fire Protection Prime Contract Package includes, but is not limited to, the Work detailed by the following specification sections, as shown, implied and/or indicated on the documents provided and as described in the contract description. The work is not restricted by the division of drawings or specification. Unless otherwise specifically noted, all work to be performed shall consist of providing all labor, materials, equipment and other necessary requirements to complete the work in accordance with the specifications and applicable codes.

Specifications		Description
a.	Division 00	Procurement and Contract Requirements
b.	Division 01	General Requirements

c.	Division 02	Existing Conditions
d.	Division 07	Thermal and Moisture Protection (as it applies) *including but not limited to:*
i.	078413	Fire Stopping
ii.	079219	Joint Sealants
e.	Division 21	Fire Suppression

Related Sections		Description
a)	Division 28	Electronic Safety and Security

1. Protect existing standpipes and pumper connection as required / determined by local AHJ. Provide and maintain Temporary Fire Protection as described in the Temporary Facilities and Controls Section 01 15 00. Coordinate with Norristown Fire Marshal for installation and requirements. If required, install within 60 days of NTP.

2. Contractor will expedite material and equipment submittals focusing on long lead items needed to meet the installation dates identified on the project schedule.

3. Any demo / fire protection permits will be applied and paid for by the FPC Prime. This will be a pass-through cost (no mark-up) to the County, and a change order will be issued to reimburse the cost.

4. Submit fire pump shop drawings, product information associated equipment for the fire pump within 15 days of notice to proceed.

5. Contractors will coordinate overhead MEP rough-in, wall construction and ceiling framing to assure the ceiling heights indicated on the contract drawings are maintained. Notify the CM of any issues related to ceiling heights or overhead rough-in prior to installation.

6. This prime to participate in above ceiling coordination lead by the MC Prime Contractors will coordinate overhead MEP and Fire Protection rough-in, wall construction and ceiling framing to assure the ceiling heights indicated on the contract drawings are maintained. Notify the CM of any issues related to ceiling heights or overhead rough-in prior to installation.

7. Contractor is responsible for providing a coordinated shop drawing and attending the concrete foundation pre-work meeting so all MEP sleeves and stub-ups can be located and coordinated for a proper installation.

8. It is known that PAAW will be upgrading the water main along Swede Street. Determine if a sprinkler booster pump is required after flow test. See Alternates Specification Section.

9. Contractor to disconnect and drop to a centralized location in the building all MEP equipment being demoed. GC Prime to remove.

10. The GC Prime Contractor will install the site fire water service to a capped flange connection inside the basement wall. Include connection and fire water distribution from that point. Flush, treat and sanitize the entire system.

11. Coordinate all flushing and filling, pre-testing and testing with the Electrical Prime Contractor. If fire alarm system is impacted, flush and fill, pre-testing and testing requests shall be made 72 hours in advance notice to the Electrical Prime, CMa, and Owner

12. Concrete housekeeping pads or concrete curbs shown on the drawings will be provided by the GC Prime Contractor. Coordinate and provide layout for shown concrete pads and curbs. Any bases or pads needed for your installation not shown on the drawings will be provided by this bidder.

13. The GC Prime Contractor will paint all MEP lines scheduled to be painted. Mark out and identify lines to be painted.

14. Provide cutting, coring and patching for work related to this bid package. Contractors will reference OSHA requirements related to working with lead and lead painted materials.

15. Contractor will take necessary measures to protect its workers, workers of other Contractors and the public from lead dust exposure if cutting, abrading, burning of drilling into painted surfaces. Assume painted surfaces contain lead.

16. Provide sealants and fire stopping related to work installed as part of this bid package. Firestopping materials will be single source. Coordinate with all Contractors and select one Manufacturer for all firestopping materials.

17. Contractor is responsible for reviewing all existing and new wall construction in the building for code compliance as related to but not limited to fire rating, sound rating, air barrier. Review all new and existing fire protection pipe and lines passing through CMU block and drywall walls to install code complaint firestopping and caulk sealants based on the required wall rating.

18. Contractor will provide DAILY Clean-up for its work and workmen and that of its Subcontractors. The GC Prime Contractor will provide dumpsters for contractors use.

SECTION 01 21 00 - ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

B. Section includes administrative and procedural requirements governing allowances.

1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order. Allowances are to be used at the sole discretion of the Owner. Any unused allowance will be credited back to the Owner via a deduct change order.

2. Contractor Markup: Prime contractors are not allowed mark up on labor, material and/or equipment when allowances are used. Sub-tier contractors are allowed mark ups consistent with the Owner contract.

C. Types of allowances include the following:

1. Contingency allowances.

D. Related Requirements:

1. Section 01 22 00 "Unit Prices" for procedures for using unit prices.

1.2 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. As applicable and at CMa’s request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

1.3 ACTION SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

1.4 INFORMATIONAL SUBMITTALS

A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.5 COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.6 CONTINGENCY ALLOWANCE

A. Use the contingency allowance only as directed by CMa for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.

B. Use of allowance will be authorized on a unit price, T&M or Lump Sum basis at the Owners sole option.

C. Contractor's overhead and profit, on all work ordered by Owner under the contingency allowance are part of the Contract Sum and are not part of the allowance.

D. Each Prime Contractor's proposed Schedule of Values submitted for approval shall list the designated contract allowance as separate line items.

E. Each Prime Contractor shall proceed with all allowance work upon authorization from the Owner through CMa. When authorized on a unit price or T&M basis, the work shall be properly documented on a daily basis by Prime submissions of field tickets to the CMa for signature to verify the hours of work performed or other approved measure. Each ticket shall have a unique number listed that will be referenced during allowance reconciliation. The Owner, at their option, may reach an agreement with the Prime Contractor on a lump sum cost of the work, or a unit rate, at which the Prime Contractor shall perform the entire scope of work. The scope of the work is all inclusive and includes all labor, equipment, supervision, OSHA Safety compliance, materials and any other special conditions notated in the project documents.

F. The Owner retains sole control over the allowance amount in the contract. Upon completion of the authorized work- with a positive balance remaining for the allowance the Owner shall apply a contract credit in the form of a Change Order to each Prime's contract for the full remaining amount. If, during the course of the work the allowance amount is used up, the Owner will issue a Change order to the Prime Contractor for the overage amount. All work that has been properly authorized by the Owner and exceeds the completed allowance amount shall fall under the terms and conditions of the Change Order compensation section of the Contract Documents for allowable charges and mark-up.

1.7 ADJUSTMENT OF ALLOWANCES

A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

1. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.

2. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance No. 1: Existing Conditions (GC)

1. General Construction Prime Contractor shall include this allowance in the base bid.

2. Amount: $100,000 (One-Hundred Thousand Dollars and Zero Cents)

B. Allowance No 2: Removal of Unsuitable/Contaminated Soils (GC)

1. General Construction Prime shall include this allowance in base bid.

2. Amount: $50,000 (Fifty Thousand Dollars and Zero Cents)

C. Allowance No 3: Tree Pruning & Arborist for trees over and above what is shown on the contract documents. (GC)

1. General Construction Prime shall include this allowance in base bid.

2. Amount: $30,000 (Thirty Thousand Dollars and Zero Cents)

D. Allowance No. 4: Provide Temporary Signs as directed by the CMa. (GC)

1. General Construction Prime Contractor shall include this allowance in the base bid.

2. Amount: $8,000 (Eight Thousand Dollars and Zero Cents)

E. Allowance No. 5: Existing Conditions (MC)

1. Mechanical Prime Contractor shall include this allowance in the base bid.

2. Amount: $60,000 (Sixty Thousand Dollars and Zero Cents)

F. Allowance No. 6: Existing Conditions (EC)

1. Electrical Prime Contractor shall include this allowance amount in the base bid.

2. Amount: $100,000 (One-Hundred Thousand Dollars and Zero Cents)

G. Allowance No 7: Provide and Install Twelve (12) additional Exit Signs. (EC)

1. Electrical Prime Contractor shall include this allowance in the base bid.

2. Amount: $6,000 (Six Thousand Dollars and Zero Cents)

H. Allowance No. 8: Existing Conditions (PC)

1. Plumbing Prime Contractor shall include this allowance in the base bid.

2. Amount: $75,000 (Seventy-Five Thousand Dollars and Zero Cents)

I. Allowance No. 9: Existing Conditions (FPC)

1. Fire Protection Prime Contractor shall include this allowance in the base bid.

2. Amount: $60,000 (Sixty Thousand Dollars and Zero Cents)

J. Allowance No. 10: Emergency Responder Radio System (EC)

1. Electrical Prime Contractor shall include this allowance amount in the base bid.

2. Amount: $180,000 (One Hundred Eighty Thousand Dollars and Zero Cents)

END OF SECTION

SECTION 01 23 00 – ALTERNATES

PART 1 GENERAL

1.1 DESCRIPTION OF WORK

A. This Section identifies each Alternate by number and describes the basic changes to be incorporated into the Work, if that Alternate is made part of the Contract.

1.2 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Applicable provisions of Bidding Requirements, Contract Requirements and other Division 1 sections.

1.3 ADMINISTRATIVE PROCEDURES

A. Referenced Sections of Specifications stipulate pertinent requirements for products and methods to achieve the Work stipulated under each Alternate.

B. Coordinate pertinent related Work and modify surrounding Work as required to properly integrate the Work under each Alternate, and to provide the complete construction required by the Contract Documents.

C. Immediately following the award of the Contract, prepare and distribute to each party involved, notification of the status of each Alternate. Indicate whether Alternates have been accepted, rejected or deferred for consideration at a later date.

D. A “Schedule of Alternates” is included at the end of this Section. Specification Sections referenced in the Schedule contain requirements for materials and methods necessary to achieve the Work described under each Alternate. Include as part of each Alternate, miscellaneous devices, accessory objects and similar items incidental to or required for a complete installation whether or not mentioned as part of the Alternate.

E. Award of Alternates will be made in any order.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate Add No. 1 – Domestic Water Booster Pump (Deleted)
Reference: P1.0a

1. Plumbing Prime Contractor (PC): To not provide equipment:

   Alt.1-PC: Add / Deduct (circle one) $_____

2. Electrical Prime Contractor (EC): To not provide power:

   Alt.1-EC: Add / Deduct (circle one) $_____

B. Alternate Add No. 2 - Fire Pump (Deleted)
New 24” Water Main Pipe at Swede Street Potentially increasing water pressure. Please reference: P0.1, FP1.0a

1. Fire Protection Prime Contractor (FPP): Provide value for deleted fire pump & housekeeping pad:

   Alt.3-FPP: Add / Deduct (circle one) $_____

2. Electrical Prime Contractor (EC): Provide value for deleted fire pump wiring and power.

   Alt.3-EC: Add / Deduct (circle one) $_____

C. Alternate Add No. 3 – 2nd Floor Fireplace
Cost to provide the referenced Fireplace. Millwork opening will be included in the base bid.
Reference: M0.1, A9.2A
ANF: AQUAFIRE DESIGN, STYLE: PRESTIGE 60" WATER VAPOR FIREPLACE
(SKU: AWPR 60-150)

1. Electrical Prime Contractor (EC): Furnish & install electric fireplace.

   Alt.4-EC: Add / Deduct (circle one) $_____

2. Plumbing Prime Contractor (PC): Furnish & install water and drain connection to fireplace.

   Alt.4-PC: Add / Deduct (circle one) $_____

D. Alternate Add No. 4 – Exterior Typewriter Key Seating & Lighted Bollards
Furnish and install Twenty-two (22) typewriter key seats (similar to but different from the lobby typewriter seating) and Three (3) lighted bollards on the project west side of the building in lieu of Five (5) Streetlife Solid Crosswise and Curved Top Seat benches and Five (5) STP lights. Reference plans (including but not limited to): L2.1, L4.0, L7.1, A4.2, A9.10, E1.7. Note: Bollard anchors must be set in concrete.

1. General Prime Contractor (GC): Provide pricing alternate for typewriter key seats, and riverstone bed and edging.

   Alt.5-GC: Add / Deduct (circle one) $_____

2. Electrical Prime Contractor (EC): Provide pricing alternate for lighted bollard lights in lieu of STP lights.

   Alt.5-EC: Add / Deduct (circle one) $_____

E. Alternate Add No. 5 – Local History Collection Rm203 Ducted De-humidifier
Provide a packaged ducted de-humidifier to the Local History Collection room #203. Reference: M0.1. Basis of design for alternate is model “Quest Dual 155” or Equal.

1. Mechanical Prime Contractor (MC)

   Alt.6-MC: Add / Deduct (circle one) $_____

2. Electrical Prime Contractor (EC)

   Alt.6-EC: Add / Deduct (circle one) $_____

F. Alternate Add No. 6 – Provide Palmshield Ruga Railing, Architectural Bronze Finish at the west side per note A45 on Drawing A2.0 and A4.3. The product is in lieu of the specified railing.

1. General Prime Contractor (GC)

   Alt.7-GC: Add / Deduct (circle one) $_____

G. Alternate Add No. 7 – Rigid Insulation at RTU Roof Curb. Provide 4" Rigid insulation around inside perimeter of roof curb in lieu of Hush core sound reduction system.
Reference: M2.2

1. Mechanical Prime Contractor (MC)

Alt.8-MC: Add / Deduct (circle one) $_____

H. Alternate Add No. 8 – Expandable Foam at Acoustical Duct Penetrations. Provide expandable foam at interior wall duct acoustic penetrations in lieu of fiberglass.
Reference: M2.1

1. Mechanical Prime Contractor (MC)

Alt.9-MC: Add / Deduct (circle one) $_____

I. Alternate Add No. 9 - Pavers in Lieu of Concrete (at Plan North- Powell Street)
Install pavers instead of concrete, from the sidewalk to the benches at the intersection of Powell Street and Scott Alley.

1. General Prime Contractor (GC)

Alt.10-GC: Add / Deduct (circle one) $_____

J. Alternate Add No. 10 – Elevator Overcurrent Protection Device & Machine Room/Shaft Heat Detection
Eliminate shunt trip enabled overcurrent protection device requirement for elevator power. Remove heat detection from Machine room and shaft. Coordinate all work with Fire Protection Prime Contractor.
Reference: E2.1

1. General Prime Contractor (GC)

Alt. 11-GC: Add / Deduct (circle one) $_____

2. Electrical Prime Contractor (EC)

Alt.11-EC: Add / Deduct (circle one) $_____

3. Fire Protection Prime Contractor (FPP)

Alt.11-FPP: Add / Deduct (circle one) $_____

K. Alternate Add No. 11 – Infill Sinkhole
Cost to over excavate and infill with clean stone, existing sinkhole in the parking lot as identified on drawing D 2436-02 02. Provide a backhoe with operator, truck with driver, foreman and laborer for 1 day to repair condition.

1. General Prime Contractor (GC)

Alt.12-GC: Add / Deduct (circle one) $_____

L. Alternate Add No. 12 – Mobile Video Guard Site Security
Provide Mobile Video Guard Site Security or Equal. 24-month duration, equipment mounting and dedicated power provided.

1. General Prime Contractor (GC)
Alt.13-GC: Add / Deduct (circle one) $_____

2. Electrical Prime Contractor (EC)

Alt.13-EC: Add / Deduct (circle one) $_____

END OF SECTION

SECTION 01 29 00 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Requirements:

1. Section 01 21 00 "Allowances" for procedural requirements governing the handling and processing of allowances.

2. Section 01 22 00 "Unit Prices" for administrative requirements governing the use of unit prices.

3. Section 01 26 00 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.

4. Section 01 32 00 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

5. Section 01 81 13 “Sustainable Design Requirements”

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule. Cost-loaded Critical Path Method Schedule may serve to satisfy requirements for the schedule of values.

1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.

2. Submit the schedule of values to the Construction Manager for review and comment at earliest possible date, but no later than 20 days from NTP submittal of initial Applications for Payment. CM will coordinate review with Architect.

3. Sub-schedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide sub-schedules showing values coordinated with each phase of payment.

4. Sub-schedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide sub-schedules showing values coordinated with each element.

5. Sub-schedules for Separate Design Contracts: Where the Owner has retained design professionals under separate contracts who will each provide certification of payment requests, provide sub-schedules showing values coordinated with the scope of each design services contract, as described in Section 01 10 00 "Summary."

B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:

a. Project name and location.
b. Owner's name.
c. Owner's Project number.
d. Name of Architect.
e. Architect's Project number.
f. Contractor's name and address.
g. Date of submittal.

2. Arrange schedule of values consistent with format of AIA Document G703 Application and Certificate for Payment.

3. Arrange schedule of values to include the following General Conditions / General Requirements breakdowns:

a. General Conditions
   i. Supervision
      1. Project Manager(s)
      2. Field Supervision
      3. Project Engineer/Administration
      4. Safety
   ii. Bonds
   iii. Taxes & Insurance
   iv. Permitting
   v. Clean Up
      1. Throughout project - Labor
      2. Final cleaning
   vi. Schedule Management
      1. Baseline development
      2. Monthly Update process
      3. Submittal Schedule / Log
   vii. Coordination
      1. Below Grade and Above Ceiling
      2. BIM Coordination (Refer to 01 requirements)
   viii. Temporary Facilities & Controls
      1. Temporary utilities and usage charges

2. Temporary conditioning
3. Temporary lighting
4. Fencing & Barricades
5. Street & Sidewalk closures including signage
6. Temporary bathroom & handwashing facilities
7. Other items as required or defined in the specifications.

ix. QA/QC
1. Commissioning (As Applicable, this can be included in trade line items)
2. Testing/Inspection Requirements
    a. 3rd Party and Manufacturer req'd inspections

x. Asset management Requirements

xi. Close Out

1. As-Built Documentation
    - Complete and updated as-built drawings
    - Record drawings reflecting all field changes
    - Marked-up coordination drawings (as required)
    - Digital and hard-copy submissions per contract requirements
2. O&M Manuals
    - Operations and Maintenance manuals
    - Equipment cut sheets
    - Manufacturer data
    - Maintenance schedules
    - Recommended spare parts lists
    - Warranty procedures
3. Training
    - Owner/end-user training sessions
    - Equipment demonstrations
    - Recorded training videos (as required)
    - Training sign-in sheets and completion records
4. Commissioning Support
    - Completion of commissioning deficiencies
    - Functional performance testing
    - Commissioning documentation turnover
5. Warranties and Guarantees
    - Equipment warranties
    - Material warranties
    - System warranties
    - Contractor warranty letter
    - Warranty matrix identifying coverage periods and contacts
6. Attic Stock and Spare Parts
    - Required spare parts
    - Extra materials
    - Cataloging and turnover to owner
7. Regulatory and Permit Closeout
    - Final inspections
    - Certificate of Occupancy (CO)

- Permit sign-offs
- AHJ approvals
- Utility clearances

8. Final Cleaning
    - Final detailed cleaning
    - Removal of temporary facilities
9. Digital Turnover Requirements
    - BIM model updates (if required)
    - Asset tagging data
    - CMMS/import files
    - Electronic document archives
10. Financial Closeout
    - Final lien waivers
    - Affidavits of payment
    - Release of claims
    - Final subcontractor waivers
    - Consent of surety to final payment
11. Final Acceptance

4. Arrange the schedule of values in tabular form, with separate columns to indicate the following for each item listed:

    a. Related Specification Section or division.
    b. Description of the Work.
    c. Name of subcontractor.
    d. Name of manufacturer or fabricator.
    e. Name of supplier.
    f. Change Orders (numbers) that affect value.
    g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent. Round dollar amounts to whole dollars, with total equal to Contract Sum.

        1) Labor.
        2) Materials.
        3) Equipment.

4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.

5. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

    a. Differentiate between items stored on-site and items stored off-site.

6. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.

7. Purchase Contracts: Provide a separate line item in the schedule of values for each Purchase contract. Show line-item value of Purchase contract. Indicate Owner payments or deposits, if any, and balance to be paid by Contractor.

8. Overhead Costs, Proportional Distribution: Include total cost and proportionate share of general overhead and profit for each line item.

9. Overhead Costs, Separate Line Items: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.

10. Temporary Facilities: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.

11. Closeout Costs. Include separate line items under the Contractor's Schedule of Values and each principal subcontractor's Schedule of Values for Project Closeout requirements in an amount totaling five percent (5%) of the Contract Sum and applicable subcontract amount. This amount shall include, but is not limited to, as-built and record drawings, O&M manuals, training, commissioning support, warranties and guarantees, attic stock and spare parts, permit and regulatory closeout documentation, final cleaning, digital turnover requirements, final lien waivers, affidavits, releases, and all other closeout requirements specified in the Contract Documents. The Closeout Cost line item shall not be invoiced, in whole or in part, until all required closeout documentation, deliverables, training, inspections, certifications, and punch list items have been completed, submitted, reviewed, and approved. Submission and approval of all closeout requirements shall be a condition precedent to the release of any payment associated with the Closeout Cost line item. The CMa, Architect/Engineer (A/E), and Owner shall have sole discretion in determining the completeness, acceptability, and approval of all closeout requirements and supporting documentation.

12. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments, as certified by the Construction Manager and paid for by Owner.

1. Process shall follow as noted below:

   a. All pay application processes will be submitted through E-Builder.
   b. Pencil copy submitted to CM and A/E for review
   c. Comments returned by CM/A/E within 7 days
   d. Prime contractors revise application and resubmits final notarized copy with back-up documents (certified payroll, local/dbe participation forms, lien waiver, steel certificates & stored material back-up, statement of accounts, and other required documents)
   e. CM and A/E review & certify invoice
   f. CM transmits to Montgomery County for processing

B. Payment Application Times: The date for each progress payment is indicated in the Owner/Contractor Agreement. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

C. Payment Application Times: Submit Draft Application for Payment to CM by the 25th of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

D. Application for Payment Forms: Use AIA Document G732 'Application and Certificate for Payment, Construction Manager as Adviser Edition' and AIA Document G703 'Continuation Sheet' as forms for Applications for Payment.

E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Construction Manager will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.

2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.

3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

F. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment for stored materials.

2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.

3. Provide summary documentation for stored materials indicating the following:

a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

G. Transmittal: Electronic copies, signed and notarized, of each Application for Payment to Construction Manager. Include waivers of lien and similar attachments if required.

H. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.

2. When an application shows completion of an item, submit conditional final or full waivers.

3. Owner reserves the right to designate which entities involved in the Work must submit waivers.

4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.

5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.

I. Progress Payment Additional Documentation

1. Submit Local and Diverse Business Goal participation forms with each application. Submissions shall follow the guidelines defined in Exhibit A. Montgomery County will provide all necessary forms for the contractors to complete.

2. Electronic copies of daily reports for invoice month

3. Certified Payroll Reports (Must be submitted twice per month)

J. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors, suppliers & equipment vendors.

2. Fully executed subcontracts including suppliers and equipment vendors
3. Schedule of values.
4. Contractor's Start Up construction schedule.
5. Key personnel list
6. Submittal Register & schedule
7. Combined Contractor's Baseline construction schedule (preliminary if not final), incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
8. Products list (preliminary if not final).
9. Asset Management Information Strategy
10. Sustainable design action plans, including preliminary project materials cost data.
11. List of Contractor's staff assignments.
12. List of Contractor's principal consultants.
13. Copies of building permits.
14. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
15. Initial progress report.
16. Report of preconstruction conference.
17. Community Participation Plan per Exhibit A
18. Labor Rate Breakdown sheets for all contracts & subcontracts

K. Certificates of insurance and insurance policies.

1. Performance and payment bonds.

2. Data needed to acquire Owner's insurance.

L. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.

a. Complete administrative actions, submittals, and Work preceding this application, as described in Section 01 70 00 "Execution and Closeout Procedures."

2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

M. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.

2. Certification of completion of final punch list items.

3. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.

4. Updated final statement, accounting for final changes to the Contract Sum.

5. AIA Document G706.

6. AIA Document G706A.

7. AIA Document G707.

8. Evidence that claims have been settled.

9. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.

10. Final liquidated damages settlement statement.

11. Proof that taxes, fees, and similar obligations are paid.

12. Waivers and releases.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 10 01 – RACP KEY COMPLIANCE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes forms to be filled out by Prime Contractors:

1. ST – 2 Form
2. ST – 3 Form
3. ST – 4 Form

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Refer to RACP Key Compliance Guidelines attached

B. Refer to RACP Steel Guidance attached

C. Nondiscrimination and Sexual Harassment Provisions for RACP attached

PART 3 - EXECUTION

3.1 CONFORMANCE

A. It is the responsibility of each prime contractor to meet the obligations of RACP Grant provisions and guidelines. See https://www.pa.gov/agencies/budget/programs-and-services/for-people-doing-business-with-the-commonwealth/for-grantees-and-subrecipients/racp.

B. All insurance policy-holding contractors are required to identify the Commonwealth of Pennsylvania as an additional insured.

ST-2

This form must be filled out for non-identifiable, non-structural steel products.

SECTION A **To be filled out by the Purchaser, the firm that pays the Fabricator**

Line #1 This is the name of the firm that is dealing directly with the Fabricator

Line #2 This is the purchaser's mailing address.

Line #3 This is the purchaser's business phone.

Line #4 This is the date the ST-2 form is sent to the fabricator.

Line #5 This is the ~~DGS contract number or~~ RACP ME# for the project.

Line #6 This is the ~~DGS project description~~ RACP Project Name.

Line #7 This is the "steel product" being certified, such as a chiller, condenser, hollow metal doors. The prime contractor may not fill in the line with a description like "structural steel", "heating unit" or "air conditioning Unit". The model number, if any, of the steel product must be listed as indicated.

LINE #7 IS THE MOST CRITICAL PART OF THE FORM.
FAILURE TO PROPERTY FILL OUT LINE #7 ON EACH ST FORM
MAKES THE ENTIRE FORM INVALID AND A NEW FORM MUST BE SUBMITTED.

SECTION B **To be filled out by the Fabricator, the firm that assembles the product listed on Line #7.**

Line #1 This is the Fabricator's name.

Line #2 This is the Fabricator's mailing address.

Line #3 This is the Fabricator's business phone.

Line #4 This is the date the Fabricator receives the ST-2 from the Purchaser.

Line #5 This is the Fabricator's Federal I.D. number.

SECTION C

1. Language – **No modifications, cross-outs or alterations of any type may be made to the language of this certification paragraph.**

2. Signature – Two signatures are required on the ST-1 form. The Prime Contractor's President/Vice President must sign on one line and the Secretary or Treasurer must sign as a witness. The names should be typed or printed beneath the signature lines. Failure to type in the names **does not** invalidate the ST form.

ST-2 STEEL ORIGIN CERTIFICATION:
NON-IDENTIFIABLE, NON-STRUCTURAL STEEL

This form must be executed by the Purchaser and the Fabricator of any item containing steel that is not structural steel. This form must be submitted to the APM within 30 days from the date the Professional approved a submittal listing a "steel product". No steel product may be delivered on-site unless DGS has received the ST form. Structural steel is defined as steel products used as a basic structural element or a project (i.e. steel beams, columns, decking stairways, reinforcing bars, pipes, etc.). Purchasers of structural steel products (contractors or subcontractors) **must** provide bills of lading, invoices **and** mill certifications that the steel was manufactured in the United States instead of this form. The Fabricator shall be herein defined as the firm that assembles the component parts of the product to be purchased. The Department of General Services will accept the certification of firms that are earlier in the chain of purchase (i.e. manufacturers of components, steel suppliers) in lieu of the Fabricator.

A. TO BE COMPLETED BY THE PURHCASER:

1. Name of purchasing firm:_____

2. Firm's address:_____

3. Firm's phone number:_____ 4. Date submitted to Fabricator: _____

5. Contract No. DGS_____ 6. Contract Title:_____

7. Steel Product Certified:_____

Model:_____

B TO BE COMPLETED BY THE FABRICATOR/MANUFACTURER:

1. Name of firm:_____

2. Address of firm:_____

3. Firms phone number:_____ 4. Date Received:_____

5. Federal Employer ID. No:_____

CERTIFICATION: I, the undersigned officer of the Fabricator/Manufacturer, do certify that our firm assembled/fabricated the components to the steel products listed in Section A, Item 7, and that all steel components therein are comprised of steel that is melted and/or fabricated in the United States. I understand that, by signing this document, I certify that I have received assurances from the suppliers/manufacturers of the components that said components do not contain foreign manufactured steel. I further understand that this document is subject to the provisions of the Unsworn Falsification to Authorities Act (18 P.S. § 4904). I also understand that I am subject to the provisions of the Steel Products Procurement Act (73 P.S. § 1881, et. seq.) which provides penalties including, but not limited to, debarment from supplying any products for Commonwealth of Pennsylvania Public works projects for a period of five (5) years for violations therein. I agree to provide documentation supporting these facts if requested by the Commonwealth. The Commonwealth reserves the right to pursue any action deemed necessary to protect the Commonwealth's interest and ensure compliance with the laws of the Commonwealth.

WITNESS:

_____ _____(Seal)

Name: Name:
Secretary or Treasurer President or Vice President

ST-3

2-STEP ELIGIBILITY ANAYLSYS:

BEFORE A PRIME CONTRACTOR CAN SUBMIT AN ST-3,
THE FOLLOWING ANALYSIS MUST BE SATISFIED

STEP #1: The contractor must establish that the "product" **contains BOTH**:

- Steel melted in the USA

AND

- Foreign Steel

Note: Step #1 focuses upon the **content** of the "product".

Note: The % need not be close; it can be 99-1, so long as there is both foreign and domestic steel in the "product".

STEP #2: The contractor must establish that 75% of the **cost** of the "product" has been mined, produced or manufactured in the USA.

Note: Step #2 focuses upon the cost of the entire "product", not just the steel within it.

SECTION A

Line #1 This is the Prime Contractor's name.

Line #2 This is the Prime Contractor's business address.

Line #3 This is the Prime Contractor's phone number.

Line #4 This is the date the ST-3 is submitted to the fabricator.

Line #5 This is ~~DGS contract number or~~ RACP ME# for the project for the project.

Line #6 This is the ~~DGS project description~~ RACP Project Name.

Line #7 This is the "steel product" being certified, such as a chiller, condenser, hollow metal doors. The prime contractor may not fill in the line with a description like "structural steel", "heating unit" or "air conditioning unit". The model number, if any, or the steel product must be listed as indicated.

LINE #7 IS THE MOST CRITICAL PART OF THE FORM.
FAILURE TO PROPERLY FILL OUT LINE #7 ON EACH ST FORM MAKES THE ENTIRE FORM INVALID AND A NEW FORM MUST BE SUBMITTED.

SECTION B **To be filled out by the Fabricator/Manufacturer, the firm that fabricates the product listed on Line A7.**

Line #1 This is the Fabricator's name.

Line #2 This is the Fabricator's business address.

Line #3 This is the Fabricator's business phone.

Line #4 This is the date the Fabricator receives the ST-3 from the purchaser.

Line #5 This is the Fabricator's Federal I.D. Number.

Line #6 The Fabricator must insert the percentage of the cost of the articles, materials and supplies which have been mined, produced or manufactured in the U.S. for the product listed on Line #7.

SECTION C

1. Language – **No modifications, cross-outs or alterations of any type may be made to the language of this certification paragraph.**
2. Signature – Two signatures are required on the ST-3 form. The Fabricator's President/Vice President must sign on one line **and** the Secretary or Treasurer must sign as a witness. The names should be typed or printed beneath the signature lines. Failure to type in the names does not validate the ST form.

NOTES on ST-3 Forms:

• It is not necessary to submit an ST-1 with the ST-3.

• DGS reserves the right to request additional documentation to support the percentage specified on Line 14. If the Fabricator/manufacturer refuses to produce such documentation and/or DGS deems it to be in the Commonwealth's best interests, DGS may request the Office of Inspector General to investigate the submission of the ST-3 form.

ST-3

75% U.S. MANUFACTURE CERTIFICATION

The Steel Products Procurement Act (73 P.S. § 1881, et. seq.) allows the use of steel products with **both** foreign and domestic steel **if at least 75 percent of the cost** of the materials (including steel, rubber, wood, plastics, etc.) in the product are manufactured or produced, as the case may be, in the United States.

This form must be executed by a Fabricator of any item containing BOTH U.S. AND FOREIGN STEEL. The fabricator shall hereby be defined as the firm that assembles the component parts of the product to be purchased. The Department of General Services will accept the certification of firms that are **earlier** in the chain of purchase (i.e., manufacturers of components, steel suppliers) in lieu of the Fabricator.

This form must be submitted to the APM within 30 days from the date the Professional approves a submittal listing a "steel product". No steel product may be delivered on-site unless DGS has received an ST form.

A. **TO BE COMPLETED BY THE PRIME CONTRACTOR (PURCHASER):**

1. Name of Contractor:_____
2. Address of Contractor:_____
3. Phone Number:_____ 4. Date submitted to Fabricator:_____
5. Contract No. DGS:_____ 6. Contract Title:_____
7. Steel Product Certified:_____

   Model:_____

B. **TO BE COMPLETED BY THE FABRICATOR/MANUFACTURER:**

1. Name of Firm:_____
2. Address of Firm:_____
3. Firm's Phone number:_____ 4. Date Received:_____
5. Federal Employer ID No. _____

6Percentage of the cost of the articles, materials and supplies which have been mined, produced or manufactured in the U.S. for the product listed above on line 7:_____

CERTIFICATION: I, the undersigned Officer of the Fabricator/Manufacturer, do certify that our firm assembled/manufactured the components to the steel product listed in Section 7, that the steel in said product is both foreign and domestically manufactured, and that all the facts contained in this document are true. I agree to provide documentation supporting these facts if requested by the Commonwealth. I further understand that this document is subject to the provisions of the unsworn Falsification to Authorities Act (18 P.S. § 4904) and the Steel products Procurement Act (73 P.S. §1881, et seq.) which provide penalties including, but not limited to, debarment from supplying any products for Commonwealth of Pennsylvania public works projects for a period of five (5) years for violations therein. The Commonwealth reserves the right to pursue any action deemed necessary to protect the Commonwealth's interest and ensure compliance with the laws of the Commonwealth.

WITNESS:

_____ _____(Seal)

Name: Name:

Secretary or Treasurer President or Vice President

ST-4

This form may be submitted in circumstances where the Prime contractor believes that the "product" on Line #7 is not made in sufficient quantities to satisfy the requirements of the contract.

The information submitted by a Prime contractor is subject to verification by the Department. Any Prime contractor who executes a Purchase Order or other type of purchase agreement encompassing a "steel product" prior to receiving the Department's written determination that the "steel product" listed on Line #7 of the ST-4 form is not manufactured in sufficient quantity to meet the requirements of the project does so at its own risk and faces penalties including, but not limited to, non-payment for the product; removal and replacement of the product at its own costs; and/or an Office of Inspector General investigation which may lead to debarment.

Domestic availability will be determined as of the date the ST-4 form is submitted to DGS for approval

Line #1 this is the Prime Contractor's formal business name.

Line #2 This is the Prime Contractor's business address.

Line #3 This is the Prime Contractor's business phone.

Line #4 This is the date the ST-4 form is submitted to ~~DGS~~. Office of the Budget.

Line #5 This is the ~~DGS contract number or~~ RACP ME# for the project.

Line #6 This is the ~~DGS project description~~ RACP Project Name.

Line #7 This is the "steel product" being certified, such as a chiller, condenser, hollow metal doors. The prime contractor may not fill in the line with a description like "structural steel", "heating unit" or air conditioning unit".

**LINE #7 IS THE MOST CRITICAL PART OF THE FORM.
FAILURE TO PROPERLY FILL OUT LINE #7 ON EACH ST FORM
MAKES THE ENTIRE FORM INVALID AND A NEW FORM MUST BE
SUBMITTED FOR APPROVAL.**

Line #8 These four lines, (a) through (d), are to be filled out completely by the Prime Contractor. At least four suppliers/manufacturers must be contacted by the Prime Contractor to ascertain if the "product" on Line #7 is manufactured with domestic steel.

CERTIFICATION

1. Language – **No modifications, cross-outs or alterations of any type may be made to the language of this certification paragraph.**
2. Signature – Two signatures are required on the ST-4 form. The Prime Contractor's President/Vice President must sign on one line **and** the Secretary or Treasurer must sign as a witness. The names should be typed or printed beneath the signature line. Failure to type in the names **does not** invalidate the ST form.

NOTE ON ST-4 FORMS:

- It is not necessary to submit an ST-1 form with an ST-4 form.

ST-4 NOT DOMESTICALLY MANUFACTURED: PRIME CONTRACTOR

This form must be executed by the Prime Contractor and submitted to the APM within 30 days from the date the Professional approves a submittal listing a "steel product". No steel product may be delivered on-site unless DGS has received, reviewed and provided written approval of the ST-4 form. An ST-4 form can only be submitted for approval when a steel product is not domestically produced in sufficient quantities. DGS will verify the accuracy of the information on the ST-4 form and will contact additional suppliers/manufacturers to ascertain the availability of a domestic steel product.

1. Prime Contractor:_____ 2. Address:_____

3. Phone Number:_____ 4. Date Submitted:_____ 5. Contract No. DGS:_____

6. Contract Title:_____ 7. Steel Product:_____
8. Suppliers/manufacturers contacted by the Prime Contractor that claimed that the above product is not produced/manufactured with U.S. manufactured steel. At least four Suppliers/Manufacturers are needed. Manufacturers listed in specifications must be contacted.

a. Firm Name:_____ Phone Number:_____
Address:_____
Person Contacted:_____ Date Contacted:_____

b. Firm Name:_____ Phone Number:_____
Address:_____
Person Contacted:_____ Date Contacted:_____

c. Firm Name:_____ Phone Number:_____
Address:_____
Person Contacted:_____ Date Contacted:_____

d. Firm Name:_____ Phone Number:_____
Address:_____
Person Contacted:_____ Date Contacted:_____

CERTIFICATION: I, the undersigned Officer of the Contractor, do certify that I have contacted the firms listed in Section 9, and was informed that said firms do not produce/manufacture the steel product listed on Line 7 with U.S. Steel in sufficient quantities to complete the above-referenced project. I understand that this document is subject to the provisions of the Unsworn Falsifications to Authorities Act (18 P.S. § 4904) and the Steel Products Procurement Act, which provide penalties including, but not limited to, debarment from bidding on any Commonwealth of Pennsylvania public works project for a period of five years. The Commonwealth reserves the right to pursue any action deemed necessary to protect the Commonwealth's interest and ensure compliance with the laws of the Commonwealth.

WITNESS:

_____ _____(SEAL)

Name: Name:
Secretary or Treasurer President or Vice President

Pennsylvania
Office of the Budget

Redevelopment Assistance Capital Program (RACP)

Key Compliance Guidelines

November 2024

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KEY COMPLIANCE GUIDELINES

It is suggested that a copy of this complete document be given to your Project, Construction Manager, and/or Architect so that they are fully aware of the RACP requirements related to each. This document should be included in your bid packages and should be made an addendum to any and all construction contracts, plans and specifications related to the RACP project.

Compliance with all RACP requirements, including the key items in these guidelines will be monitored frequently throughout the construction phase of your project and will be reviewed once more during the legislatively mandated close-out audit.

COMPETITIVE BIDDING REQUIREMENTS

The sole and exclusive bidding requirement for RACP projects is in the Capital Facilities Debt Enabling Act (Act 67 of 2004), which states "Notwithstanding any other provision of law, the solicitation of a minimum of three written bids for all contracted construction work on redevelopment assistance capital projects shall be the sole requirement for the composition, solicitation, opening and award of bids on such projects." Unless the terms of the law change, the Office of the Budget cannot grant waivers for bidding requirements to Grantees.

RACP projects are not subject to separation of trades. You are REQUIRED to solicit a minimum of three (3) bids for "all generally contracted work" being performed within the RACP defined scope of work. You are not required to receive three (3) bid responses. However, you should provide documentation to prove that at least three bids were solicited by providing copies of the solicitation letters (preferably on letterhead of the bidding entity) used in the bidding process. You are not required to select the lowest bidder, but if you do not, you will have to provide a brief written justification for your selection. Note: there is NO threshold level under the RACP program regardless of the size or dollar amount associated with the work to be performed. You need to show that you solicited a minimum of three (3) bids for any contract to be eligible for RACP.

Bidding is acceptable at either the general contractor level (described in option a. below) or at the sub-contractor level (described in option b. below):

- **General Contractor (GC) Level** - If you chose to bid at the GC level, please note that the bid should encompass the entire RACP scope of work to be performed including all associated construction work. The dollar amount bid on the project must include 100% of the work to be performed by the GC and the sub-contractors. Bidding at the GC level will require submission of bidding and construction related documents at the GC level only (see Sub-Contractor level below for a distinction)
- **Sub-Contractor Level** - If you choose not to solicit three bids for a General Contractor, then you are required to solicit a minimum of three bids for EACH Sub-Contractor covering all trades involved in the project. Note that any self-performed work by a non-bid GC is NOT an eligible cost for reimbursement OR match purposes. Bidding at the Sub-Contractor level will require submission of bidding and construction related documents at the sub level…meaning proof of

bidding, construction contracts, payment and performance bonds, insurance etc. will need to be provided for every sub-contractor in the RACP scope.

Professional Services: Professional services associated with the project are not required to be bid as these associated costs are only eligible as match.

Change Orders: Grantees and/or Sub-Grantees are not required to competitively bid out change orders as long as the work was within the RACP scope of the original bid and is less than 20% of the total contract. If a change order is for work beyond the RACP scope of work originally bid, the Grantee will be required to competitively bid out the new scope of work in order to be considered RACP eligible.

PENNSYLVANIA STEEL PRODUCTS PROCUREMENT ACT

The Office of the Budget (OB) cannot grant waivers to the Pennsylvania Steel Products Procurement Act (SPPA) unless the terms of the law change. All RACP Grantees must comply with the SPPA. If a Grantee/RACP project fails to abide by the SPPA, it does so at its own risk.

A full explanation on the RACP steel requirements is available as a PDF download.

Up to 2011, OB only accepted the ST-4 Form (justification for the use of foreign steel) that the Department of General Services (DGS) had exclusively devised to address exceptions linked to the requirements of the SPPA, when it was necessary. Since 2011, OB has approved the acceptability of two more DGS ST Forms (ST-2, ST-3) with some caveats, providing that the forms are properly filled out. The ST-1 Form will not be accepted by OB. It is not necessary for the ST-2, ST-3, and ST-4 Forms to be notarized.

Since 2013, OB has utilized the DGS Exempt Machinery and Equipment Steel Products listings as part of the RACP steel policy. DGS published a Statement of Policy - Steel Products Procurement in the Pennsylvania Bulletin Volume 43, Number 6 dated February 9, 2013 (See PA Bulletin #43, pages 85-86) that discussed their production of an annual list, based on their analysis of submitted ST-4 forms, which exempts certain steel products not produced domestically in sufficient quantity. DGS publishes an updated "Exemption List" annually.

Please be aware that ST forms are acceptable only in cases where nonstructural steel needs to be addressed. The DGS ST forms do not replace the steel certification forms associated with structural steel. OB will continue to require the submission of steel mill certifications to demonstrate compliance with the steel requirements for structural steel.

The PDF copies of the three acceptable ST Forms for RACP listed below can be obtained from the RACP website:

- ST-2 Steel Origin Certification: Non-Identifiable, Non-Structural Steel
- ST-3 75% U.S. Manufacture Certification
- ST-4 Not Domestically Manufactured: Prime Contractor (only to be used when requesting items to be exempted that are not found on the current year's List of Exempt Machinery and Equipment Steel Products)

It is suggested that the certifications be collected at the time any steel for the project is purchased and delivered to ease the collection process.

Be advised that OB DOES NOT need to approve the ST forms prior to the start of the construction period. The ST forms need to be submitted to demonstrate that compliance, when and where necessary, has been met.

We shall deem as ineligible all contracts that are unable to demonstrate compliance via the submission of steel certifications for Structural Steel and for Non-structural Steel the submission of steel certifications and/or ST forms and/or DGS Exempt Machinery and Equipment Steel Products List. Therefore, the value of construction contracts associated with non-compliant steel will be removed (both materials and labor costs) from the scope of the project, which may in turn affect the project's ability to leverage their full grant amount (project may not receive its full grant).

Recycled products, melted from previously used steel, are acceptable, providing that adequate documentation from the supplier has been furnished. The supplier shall certify that the recycled steel product was produced in the USA.

TRADE PRACTICES ACT

In accordance with the Trade Practices Act of July 23, 1968, P.L. 686 (71 P.S. § 773.101 et seq.), the Grantee cannot and shall not use or permit to be used in the work any aluminum or steel products made in a foreign country which is listed below as a foreign country which discriminates against aluminum or steel products manufactured in Pennsylvania. The countries of Argentina, Brazil, South Korea, and Spain have been found to discriminate against certain products manufactured in Pennsylvania. Therefore, the purchase or use of those countries' products, as listed below, is not permitted:

- **Argentina:** carbon steel wire rod and cold-rolled carbon steel sheet.
- **Brazil:** welded carbon steel pipes and tubes; carbon steel wire rod; tool steel; certain stainless steel products, including hot-rolled stainless steel bar; stainless steel wire rod and cold-formed stainless steel bar; pre-stressed concrete steel wire strand; hot-rolled carbon steel plate in coil; hot-rolled carbon steel sheet; and cold-rolled carbon steel sheet.
- **South Korea:** welded carbon steel pipes and tubes; hot-rolled carbon steel plate; hot-rolled carbon steel sheet; and galvanized steel sheet.
- **Spain:** certain stainless steel products, including stainless steel wire rod, hot-rolled stainless steel bars; and cold-formed stainless steel bars; pre-stressed concrete steel wire strand; and certain steel products, including hot-rolled steel plate, cold-rolled carbon steel plate, carbon steel structural shapes; galvanized carbon steel sheet, hot-rolled carbon steel bars, and cold-formed carbon steel bars.

Penalties for violation of the above paragraphs may be found in the Trade Practices Act, which penalties include becoming ineligible for public works contracts for a period of three years.

This provision in no way relieves the Grantee of responsibility to comply with those provisions which prohibit the use of foreign-made steel and cast iron products.

PUBLIC WORKS CONTRACTORS' BOND LAW (PAYMENT & PERFORMANCE BONDS)

The requirement for 100% payment and performance (P&P) bonds is a state law; the Office of the Budget cannot waive this requirement.

A performance bond must be obtained at 100% of the contract amount, conditioned upon the faithful performance of the contract in accordance with the plans, specifications, and conditions of the contract. Such bond shall be solely for the protection of the contracting body which awarded said contract.

A payment bond must be obtained at 100% of the contract amount. Such bond shall be solely for the protection of claimants supplying labor or materials to the Grantee, its contractor or to any of its subcontractors, in the prosecution of the work provided for in such contract, and shall be conditioned for the prompt payment of all such material furnished or labor supplied or performed in the prosecution of the work. "Labor or materials" shall include public utility services and reasonable rentals of equipment, but only for periods when the equipment rented is actually used at the site.

PA PREVAILING WAGE ACT (PWA)

The Office of the Budget cannot grant waivers for the PA Prevailing Wage Act. All Grantees must comply with the act. Grantees that fail to abide by the Prevailing Wage Act do so at their own risk. Please do not assume that PA Prevailing Wage is always consistent with your local union wages.

All projects should apply for a wage determination letter prior to the start of construction by registering the project with the PA Department of Labor and Industry to obtain the prevailing wage rates relevant to your project. This determination sheet will provide the necessary trade classifications for the project, along with their corresponding hourly wage and hourly fringe rates that are required for the certified payrolls required as part of RACP. The wage determination should be obtained within 120 days of the award of construction contracts. If necessary, the Department of Labor and Industry can issue determinations letters after construction has begun.

The prevailing wage information and forms can be found on the PA Department of Labor & Industry website.

AMERICANS WITH DISABILITIES ACT (ADA)

Typically your architect should provide a letter stating the plans and specs are in compliance with ADA regulations. Additionally, the Grantee agrees to comply with the General Prohibitions Against Discrimination, 28 C.F.R. § 35.130, and all other regulations promulgated under Title II of The Americans with Disabilities Act which are applicable to all benefits, services, programs, and activities provided by the commonwealth through contracts.

FIDELITY BONDS

The Grantee shall procure and furnish evidence to OB, of fidelity bonds with coverage to be maintained under the administrative title of the position, in amounts and for such positions as are reasonably determined by OB. Fidelity Bonding is also commonly known as "Employee Dishonesty Insurance." Grantees should submit certificates of insurance to support fidelity bond coverage is in effect and the coverage amount meets or exceeds the RACP grant amount, or the coverage amount meets or exceeds the monthly project funding schedule contained in Appendix C of the grant agreement. For Grantees with multiple projects and/or grants larger than $5,000,000 the coverage amount can be the lesser of either $1,000,000 or 20% of the RACP grant amount(s).

INSURANCE REQUIREMENTS

- Worker's Compensation Insurance - The Grantee shall provide Worker's Compensation Insurance where required, and shall accept full responsibility for the payment of premiums for Worker's Compensation Insurance and Social Security, as well as income tax withholding and any other taxes or payroll deductions required by law for its employees who are performing services related to the project.

- General Liability & Property Damage Insurance - The Grantee will provide and maintain comprehensive general liability and property damage insurance in the minimum amount of $250,000.00 per person for injury and death in a single occurrence; $1,000,000.00 per occurrence for injury or death of more than one (1) person in a single occurrence; and $500,000.00 for a single occurrence of property damage, and which shall be endorsed to protect the commonwealth.

- Flood Insurance – If the project is wholly or partially within a floodplain, proof of sufficient flood insurance coverage must be provided. In any case, a project is required to provide a copy of a floodplain map of the project area, with the project site being delineated thereon.

Identify Commonwealth as Additional Insured: The commonwealth shall be listed on the above insurance policies as an additional insured. Upon request, the Grantee shall furnish proof of insurance as required by this section to OB.

RESTRICTIONS ON GOVERNMENTAL ENTITIES SELLING RACP PROJECTS

Article 8 of the RACP Grant Agreement spells out sale price restrictions for a governmental entity that sells property that was acquired and/or improved with RACP funds. The restrictions are required to insure that the Grantees CANNOT sell the property for a net gain or even recoup the value of the grant in the sale price. A PDF download is available that contains more information on Article 8.

Pennsylvania
Office of the Budget

Redevelopment Assistance Capital Program (RACP)

Steel Guidance

November 2024

GUIDANCE ON STEEL CERTIFICATION

The following guidance is a clarification from the Office of the Budget (OB) regarding the requirements associated with the Pennsylvania Steel Products Procurement Act (SPPA) relative to the RACP program whose statutes are regulated under Act 1 of 1999, as amended. In the past, many grantees have inquired about specific cases and we were able to provide each individual project with specific directions. Additionally, we had only accepted the ST-4 form that the Department of General Services (DGS) had exclusively devised to address exceptions linked to the requirements of the SPPA in the handling of special cases or exceptions. Please note that cost consideration (or convenience) is not an acceptable justification that the ST-4 form can address. Filled out ST-4 forms premised on cost consideration will not be accepted by OB.

OB accepts two DGS ST forms (ST-2 and ST-3) with some caveats, providing that the forms are properly filled out. The ST-1 form is NOT a valid option and shall NOT be accepted by OB. It is not necessary for the ST-2, ST-3, and ST-4 forms to be notarized. Please, be advised that this guidance is specifically tailored to suit the published and programmatic needs of OB as the overseer of RACP program. This is not a commonwealth-wide policy. Any attempt to impose this guidance on other state agencies is strongly discouraged.

Please, be aware that the aforementioned ST forms are acceptable only in cases where non- structural steel needs to be addressed. The DGS ST forms do not replace the steel certification forms associated with structural steel. It remains the responsibility of the project representatives to provide documented evidence that a non-structural steel product is not domestically produced in sufficient quantities.

OB shall continue to require that steel mill certifications be submitted to demonstrate compliance with the steel requirements. Please, be further advised that OB DOES NOT need to approve the ST forms prior to the start of the construction period. The ST forms need to be submitted to demonstrate that compliance, when and where necessary, has been met. The ST forms exceptions are displayed below. Please submit questions to RA-OBRACP-Steel-Cost@pa.gov.

It is suggested that the certifications be collected at the time any steel for the project is purchased and delivered to ease the collection process.

Since 2013, OB has utilized the DGS Exempt Machinery and Equipment Steel Products listings as part of the RACP steel policy. DGS published a Statement of Policy - Steel Products Procurement in the Pennsylvania Bulletin Volume 43, Number 6 dated February 9, 2013 (See PA Bulletin #43, pages 85-86) that discussed their production of an annual list, based on their analysis of submitted ST-4 forms, which exempts certain steel products not produced domestically in sufficient quantity.

No other changes in RACP steel policy resulted from this new adjustment; consequently, the use of steel certificates for structural steel will still be required. Please note that the use of ST 2, 3, and 4, as requested for other steel products, will still be utilized unless an exemption based on the list has been formulated and forwarded to OB.

OB's guidance is to make sure the Grantee/Subgrantee's are aware that it's their responsibility to certify all applicable steel components incorporated within RACP projects. In some instances,

OB/RACP staff and/or the state assigned consultant may limit their compliance analysis to significant steel components. The projects' architect/engineers are responsible for preparing/providing a significant steel component listing, not the RACP assigned consultant.

Two distinct approaches are presented below for steel products that are structural and/or have a significant building component.

Structural Steel Products

Pursuant to the SPPA, OB will require a mill certificate containing the statement "milled, melted, and manufactured in the USA" for all structural steel products used on RACP projects. We shall deem as ineligible all contracts that are unable to demonstrate compliance via the submission of steel certifications. Therefore, the value of construction contracts associated with non-compliant steel will be removed (both materials and labor costs) from the scope of the project.

Non-Structural Steel Products

Pursuant to the SPPA, OB will require, either a mill certificate containing the statement "milled, melted, and manufactured in the USA" or the appropriate ST form or an **Exemption Request** to utilize the DGS current years' Final List of Exempt Machinery and Equipment Steel Products to demonstrate compliance associated with the non-structural steel products used on RACP projects. OB shall deem as ineligible all contracts that are unable to demonstrate compliance via the submission of **steel certifications /ST forms/Exemption Request** based on the DGS Exempt Machinery and Equipment Steel Products listing. Therefore, the value of construction contracts associated with non-compliant steel will be removed (both materials and labor costs) from the scope of the project.

Recycled products, melted from previously used steel, are acceptable, providing that adequate documentation from the supplier has been furnished. The supplier shall certify that the recycled steel product was produced in the USA.

Furthermore, the burden of proof for all non-structural steel products not produced domestically in sufficient quantities is still the project's responsibility to provide.

Please be aware that the acceptance of ST forms is contingent upon the form being fully filled- in and compliant with the submission guidelines for steel certifications for DGS projects with the following exceptions:

- It is not necessary for the forms to be notarized; however, all ST forms must be signed. Original signatures or electronic signatures through Adobe fill/sign, DocuSign, or Nuance (program which allows electronic signature similar to Adobe fill/sign) are acceptable.
- Any questions regarding steel certification submissions and/or compliance with the Act shall be submitted to the OB Steel Resource Account (RA-OBRACP-Steel-Cost@pa.gov).
- The Steel certification forms do NOT need to be submitted and approved by OB before the steel product arrives on site so as not to interfere with the project construction schedule.
- OB assumes responsibility for acceptance of the DGS ST forms in accordance with this policy.

Completion of the ST-2, ST-3, and ST-4 forms shall follow the DGS directions attached to the form with the following exceptions:

- ST forms do NOT need to be submitted and approved by OB before the steel product arrives on site so as not to interfere with the construction schedule.
- RACP ME# assigned to the project shall be inserted in all areas requiring the DGS contract number (Line#5).
- RACP official project name shall be inserted in all areas requiring the contract title (Line #6).

Note:

Acceptance of each ST form shall be determined by OB at its sole discretion. All documents and other information to be delivered in order to demonstrate compliance with the steel requirements shall be and are, in form, content and substance, subject to the approval of OB, which approval may be withheld or delayed at OB's discretion. OB reserves the right to reject all improperly filled out or unsupported ST forms.

Below are links to PDF copies of the three acceptable ST Forms that can be obtained from the RACP website:

- ST-2 Steel Origin Certification: Non-Identifiable, Non-Structural Steel
- ST-3 75% U.S. Manufacture Certification
- ST-4 Not Domestically Manufactured: Prime Contractor (only to be used when the items requested to be exempted are not found on the appropriate year's List of Exempt Machinery and Equipment Steel Products [see section below entitled "Year of DGS Exemption Listing to Use"])

To implement the RACP policy on Non-structural Steel **Exemption Request** utilizing the DGS's current years' Final List of Exempt Machinery and Equipment Steel Products, referred to as the "Exemption List", please follow the below requirements:

- The Project must be under "active" construction (workers on site) on or AFTER 1/01/2013 (RACP effective date) to use the "Exemption List".
- "Active" construction does not include performance of just "punch list" items.
- Effective date is based on the "active" construction date and not the date the machinery and equipment were purchased.
- There is no retroactive application of utilization of the "Exemption List".
- No ST-4 form is required for a RACP Exemption Request based on the "Exemption List".
- RACP Exemption Request (to utilize the "Exemption List") must come from a contractor involved in the construction of the project and be:
    - On Construction Company Letterhead.
    - Dated and signed by appropriate company official (does not need to be notarized).
    - Should be addressed to Office of Budget
    - Should contain RACP project name and/or ME #
    - Lists any/all machinery and equipment that the Company is requesting to have exempted from ST-4 documentation.
    - All items listed on RACP Exemption Request letter must clearly match-up to an item on the appropriate year's "Exemption List" and the Exemption List year should be notated for each item.

- There can/may be multiple construction company RACP Exemption Request letters utilized for various machinery and equipment, as applicable, per project.
- Exemption Request can be submitted directly by the project to OB or through the State Assigned Consultant for their project.
- Any questions regarding the exemption request submission and/or compliance with the Act shall also be submitted to OB (RA-OBRACP-Steel-Cost@pa.gov)

Year of DGS Exemption Listing to Use:

A project should be using the exemption listing for when they are in active construction. For example, if construction was active (and complete) in 2021 they would use the 2021 listing. If a project overlaps a calendar year, they should use the latest listing in which construction is active. For example, if construction is active in 2021 and 2022, they would use the 2022 listing.

If a project is phased, they should use the listing for the year they are in active construction for each phase. For example, if the first phase starts and ends in 2021 whereas the second phase starts and ends in 2022, the first phase would use the 2021 listing while the second phase would use the 2022 listing. If a phase overlaps a calendar year, follow the 1st paragraph above.

Among other items, the DGS web page for Steel Products Procurement Act information includes links for a copy of the Act; the current year's Final List of Exempt Machinery and Equipment Steel Products; the PA Bulletin's Steel Products Procurement Act Statement of Policy; and Frequently Asked Questions. Certain prior years DGS Exemption Lists are downloadable from the RACP website.

Please be aware that all other steel items not specifically exempted or that may require any type of interpretation would be discretionary to OB's policy. Be reminded that this exemption listing is not effective for structural steel.

Note:

Acceptance of each Exemption Request shall be determined by OB at its sole discretion. All documents and other information to demonstrate compliance with the steel requirements shall be in form, content, and substance, subject to the approval of OB, which approval may be withheld or delayed at OB's discretion. OB reserves the right to reject all improperly filled out or unsupported Exemption Request.

EXHIBIT

NONDISCRIMINATION/SEXUAL HARASSMENT

a. **Representations.** The Grantee represents that it is presently in compliance with and will remain in compliance with all applicable federal, state, and local laws, regulations, and policies relating to nondiscrimination and sexual harassment for the term of the agreement. The Grantee shall, upon request and within the time periods requested by the Commonwealth, furnish all necessary employment documents and records, including EEO-1 reports, and permit access to its books, records, and accounts by the Commonwealth for the purpose of ascertaining compliance with provisions of this Nondiscrimination/Sexual Harassment Clause.

b. **Nondiscrimination/Sexual Harassment Obligations.** The Grantee shall not:

i. in any manner discriminate in the hiring of any employee(s) for the performance of the activities required under this agreement or any subgrant agreement, contract, or subcontract, by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the Pennsylvania Human Relations Act ("PHRA") and applicable federal laws, against any citizen of this Commonwealth who is qualified and available to perform the work to which the employment relates.

ii. in any manner discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the PHRA and applicable federal laws, against or intimidate any of its employees.

iii. in any manner discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the PHRA and applicable federal laws, in the provision of services under this agreement or any subgrant agreement, contract, or subcontract.

iv. in any manner discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of PHRA and applicable federal laws, against any subgrantee, contractor, subcontractor, or supplier who is qualified to perform the work to which this agreement relates.

v. in any manner discriminate against employees by reason of participation in or decision to refrain from participating in labor activities protected under the Public Employee Relations Act, Pennsylvania Labor Relations Act, or National Labor Relations Act, as applicable, and to the extent determined by entities charged with the Acts' enforcement and shall comply with any provision of law establishing organizations as employees' exclusive representatives.

c. **Establishment of Grantee Policy.** The Grantee shall establish and maintain a written nondiscrimination and sexual harassment policy that complies with the applicable law and these Nondiscrimination/Sexual Harassment provisions and shall inform its employees in writing of the policy. The policy must contain a provision that states that sexual harassment will not be tolerated and employees who practice it will be disciplined. For the entire period of this agreement, the Grantee shall: (1) post its written nondiscrimination and sexual harassment policy or these Nondiscrimination/Sexual Harassment provisions conspicuously in easily accessible and well-lighted places customarily frequented by employees at or near where the grant activities are performed; or (2) provide electronic notice of the policy or this clause to its employees not less than annually.

d. **Notification of Violations.** The Grantee's obligations pursuant to these provisions are ongoing from the effective date and through the termination date of the agreement. Accordingly, the Grantee shall notify the Commonwealth if, at any time during the term of this agreement, it becomes aware of any actions or occurrences that would result in violation of these provisions.

e. **Cancellation or Termination of Agreement.** The Commonwealth may cancel or terminate this agreement and all money due or to become due under this agreement may be forfeited for a violation of the terms and conditions of these Nondiscrimination/Sexual Harassment provisions. In addition, the granting agency may proceed with debarment or suspension and may place the Grantee in the Contractor Responsibility File.

f. **Subgrant Agreements, Contracts, and Subcontracts**. The Grantee shall include these Nondiscrimination/Sexual Harassment provisions in its subgrant agreements, contracts, and subcontracts with all subgrantees, contractors, and subcontractors providing goods or services under this agreement. The incorporation of these provisions in the Grantor's subgrants, contracts, or subcontracts does not create privity of contract between the Commonwealth and any subgrantee, contractor, or subcontractor, and no third-party beneficiaries are created by those provisions. If the Grantee becomes aware of a subgrantee's, contractor's, or subcontractor's violation of these provisions, the Grantee shall use its best efforts to ensure the subgrantee's, contractor's, or subcontractor's compliance with these provisions.

SECTION 07-2726 – FLUID APPLIED AIR AND WATER BARRIER (AWB)

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. General Conditions, Supplementary Conditions, Instructions to Bidders and Division One General Requirements shall be read in conjunction with and govern this section.

1.02 WORK SUMMARY

A. Materials and installation methods of the primary vapor permeable air barrier membrane system and accessories.

B. Supply labor, materials and equipment to complete the Work as shown on the Drawings and as specified herein to bridge and seal the following air leakage pathways and gaps:
   1. Connections of the walls to the roof air barrier.
   2. Connections of the walls to the foundations.
   3. Openings and penetrations of window and door frames, store front, curtain wall.
   4. Piping, conduit, duct and similar penetrations.
   5. All other air leakage pathways in the building envelope.

1.03 RELATED SECTIONS

A. Masonry Section 04-2000

B. Continuous Insulation Wall Panels Section 07-2113

1.04 REFERENCES

A. The following standards are applicable to this section:
   1. ASTM E2357: Standard Test Method for Determining Air Leakage of Air Barrier Assemblies.
   2. ASTM E2178: Standard Test Method for Air Permeance of Building Materials.
   3. ASTM E283: Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
   4. ASTM E331: Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
   5. ASTM E96: Water Vapor Transmission of Materials.
   6. ASTM D 5590: Standard Test Method for Determining the Resistance of Paint Films and Related Coatings to Fungal Defacement by Accelerated Four-Week Agar Plate Assay.

1.05 SUBMITTALS

A. Submit documentation from an approved independent testing laboratory certifying the air leakage rates of the air barrier membranes assembly, including primary membrane,

primer and sealants have been tested to meet ASTM E2357.

B. Submit documentation from an approved independent testing laboratory certifying the air leakage and vapor permeance rates of the air barrier membranes, including primary membrane and transition sheets, exceed the requirements of the Massachusetts Energy Code and in accordance with ASTM E2178.
   1. Test report submittals shall include test results on porous substrate and include sustained wind load and gust load air leakage results.

C. Submit copies of manufacturers' current ISO certification.

D. Submit manufacturers' current product data sheets for the air barrier membrane system.

1.06 QUALITY CONTROL

A. Submit document stating the applicator of the primary air barrier membranes specified in this section is qualified by the manufacturer as suitable for the execution of the Work.

B. Perform Work in accordance with manufacturer's written instructions and this specification.

C. Maintain one copy of manufacturer's written instructions on site.

D. Allow access to Work site by the air barrier membrane manufacturer's representative.

E. Components used shall be sourced from one manufacturer, including sheet membrane, air barrier sealants, primers, mastics, and adhesives.

F. Single-Source Responsibility:
   1. Obtain air barrier materials from a single manufacturer regularly engaged in manufacturing the product.
   2. Provide products which comply with all federal, state and local regulations controlling use of volatile organic compounds (VOCs).

1.08 PRE-INSTALLATION CONFERENCE

A. Contractor shall convene one week prior to commencing Work of this section, under provisions of Section 01-3100 – Project Meetings.

B. Ensure all contractors responsible for creating a continuous plane of air tightness are present.

1.09 DELIVERY, STORAGE AND HANDLING

A. Refer to current Product MSDS for proper storage and handling.

B. Deliver materials to the job site in undamaged and original packaging indicating the name of the manufacturer and product.

C. Store all materials at temperatures of 40 degrees F and rising.

D. Keep solvent away from open flame or excessive heat.

E. Waste Management and Disposal
1. Separate and recycle waste materials in accordance with Section 01-7419 - Waste Management and Disposal, and with the Waste Reduction Work Plan.

F. Contractor to verify compliance for Volatile Organic Compounds (VOC) limitations of products to comply with all federal, state and local regulations controlling use of volatile organic compounds (VOCs).

1.10 COORDINATION

A. Ensure continuity of the air barrier throughout the scope of this section.

1.11 WARRANTY

A. Provide manufacturer's standard 10-year material warranty.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Air barrier membrane components and accessories must be obtained as a single-source from the membrane manufacturer to ensure total system compatibility and integrity.

B. Acceptable Manufacturers:
1. Basis of Design: Henry Company, 999 N Sepulveda Blvd. Suite 800, El Segundo, CA 90245, (800) 598-7663 www.Henry.com
2. W.R. Meadows Air Shield LMP and all applicable associated installation products meeting the criteria of the Basis of Design products.
3. TK-AirMax 2104 and all applicable associated installation products meeting the criteria of the Basis of Design products.

2.02 MEMBRANE (Basis-of-Design)

A. Primary air and rain barrier membrane for temperatures above 40 degrees F and rising shall be Air-Bloc 31MR manufactured by Henry; a one component water based elastomeric emulsion membrane, trowel or spray applied. Membrane shall have the following physical properties:
1. Air permeability: 0.0002 CFM/ft^2 @ 1.6 lbs/ft^2 to ASTM E2178 and ASTM E283 and have no increased air leakage when subjected to a sustained wind load of 10.5 lbs/ft^2 for 1 hour and gust wind load pressure of 62.8 lbs/ft^2 for 10 seconds when tested at 1.6 lbs/ft^2 to ASTM E331,
2. Tested to ASTM E2357 for Air Leakage of Air Barrier Assemblies,
3. 0 rating - No fungal growth as tested to ASTM D 5590,
4. Water vapor permeance (45 mil dry thickness): 21 perms to ASTM E96 Method B,
5. Elongation (ASTM D412): 925%,
6. Low temperature flexibility and crack bridging: Pass -4 degrees F to ASTM C836,
7. Long term flexibility: Pass to CGSB 71-GP-24M,

8. Water tightness (CGSB 37-GP-56M): Pass

B. Self-adhering vapor permeable air barrier membrane for transition and joint treatment detailing shall be Blueskin VP 160 manufactured by Henry, a self-adhering membrane consisting of engineered film and a patented, permeable adhesive with a split-back poly-release film. Membrane shall have the following physical properties:
1. Air permeance: <0.004 CFM/ft^2 @ 1.6 lbs/ft^2 to ASTM 21782. Water vapor permeance: 29 perms to ASTM E96
3. Membrane Thickness: 23 mils
4. Low temperature flexibility ICC-ES AC38/3.3.4 - Pass

C. Self-adhering membrane for window and door sill flashing, door openings, inside and outside corners (optional) and other transitions shall be Blueskin SA, LT, or HT manufactured by Henry; an SBS modified bitumen, self-adhering sheet membrane with a blue engineered thermoplastic film. Membrane shall have the following physical properties:
1. Air leakage: <0.0001 CFM/ft² @1.6lbs/ft^2 to ASTM E2178,
2. Vapor permeance: 0.03 perms to ASTM E96 (Desiccant Method),
3. Membrane Thickness: 0.0394 inches (40 mils),
4. Low temperature flexibility: -22 degrees F to CGSB 37-GP-56M,
5. Elongation: 200% to ASTM D412-modifed.

D. Alternate self-adhering membrane for all window and window sill flashings, door openings, inside and outside corners and other transitions shall be HE200 AM Metal Clad manufactured by Henry; a SBS modified bitumen, self-adhering sheet membrane complete with surface layer of metallic aluminum film that many sealants adhere well to. Membrane shall have the following physical properties:
1. Peel Adhesion to Primed Steel 15.0 to ASTM D 1000,
2. Vapor Permeance: < 0.014 perms to ASTM E 96,
3. Membrane Thickness: 0.0443 inches (45 mils),
4. Low temperature flexibility: -15 degrees F to ASTM D146 min,
5. Elongation: 40% to ASTM D412-modifed min

C. Liquid-applied flashing alternate to self-adhered flashing membranes for all window, door, MEP penetrations, inside/outside and dissimilar material connections shall be Air-Bloc LF manufactured by Henry; a moisture-curing single component STPe liquid-applied flashing compatible with a variety of substrates and all Henry liquid and self-adhered air barrier membranes. Liquid-flashing shall have the following physical properties:
1. Elongation: minimum 250% minimum to ASTM D412,
2. Tensile Strength: 132% psi minimum to ASTM D412,
3. Nail Sealability: Pass to AAMA 711,
4. VOC Content: 25 g/L max,
5. Solids Content by Volume: 95%,
6. Moisture Absorption: .1% to ASTM D570

F. Alternate joint treatment: HE 183 yellow open weave glass fabric manufactured by Henry or approved equal. This alternative joint treatment is generally intended for flat joint reinforcement on one plane.

2.03 ADHESIVE AND PRIMERS

A. Primer for self-adhering membranes at temperatures above 25 degrees F shall be Aquatac™ Primer manufactured by Henry; a polymer emulsion based adhesive, quick setting. Primer shall have the following physical properties:
1. Color: Aqua,
2. Weight: 8.7 lbs/gal,
3. Solids by weight: 53%,
4. Water based, no solvent odors, low VOC,
5. Drying time (initial set): 30 minutes at 50% RH and 70 degrees F.

B. Adhesive for self-adhering membranes at all temperatures shall be Blueskin® Adhesive manufactured by Henry, a synthetic rubber based adhesive, quick setting, having the following physical properties:
1. Color: Blue,
2. Weight: 6 lbs/gal,
3. Solids by weight: 35%,
4. Drying time (initial set): 30 minutes.

C. Adhesive with low VOC content for self-adhering membranes at all temperatures shall be Blueskin® LVC Adhesive manufactured by Henry, a synthetic rubber based adhesive, quick setting, having the following physical properties:
1. Color: Blue,
2. VOC: <240 g/L,
3. Solids by weight: 40%,
4. Drying time (initial set): 30 minutes.

2.04 PENETRATION AND TERMINATION SEALANT

A. Termination Sealant shall be HE925 BES Sealant manufactured by Henry; a moisture cure, medium modulus polymer modified sealing compound having the following physical properties:
1. Compatible with sheet air barrier, roofing and waterproofing membranes and substrate,
2. Complies with Fed. Spec. TT-S-00230C, Type II, Class A,
3. Complies with ASTM C 920, Type S, Grade NS, Class 25,
4. Elongation: 450 – 550%,
5. Remains flexible with aging,
6. Seals construction joints up to 1 inch wide

2.04 INSULATION ADHESIVE

A. Insulation adhesive shall be Air-Bloc 21 Insulation Adhesive manufactured by Henry; a synthetic, trowel applied, rubber based adhesive, having the following physical properties:
1. Compatibility: With air barrier membrane, substrate and insulation,
2. Air leakage: 0.0026 CFM/ft^2 @ 1.6 lbs/ft^2 to ASTM E 283,
3. Water vapor permeance: 0.03 perms to ASTM E96,
4. Long term flexibility: CGSB 71-GP-24M.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces and conditions are ready to accept the Work of this section. Notify architect in writing of any discrepancies. Commencement of the Work or any parts thereof shall mean acceptance of the prepared substrates.

B. All surfaces must be sound, dry, clean and free of oil, grease, dirt, excess mortar or other contaminants. Fill voids, gaps and spalled areas in substrate to provide an even plane. Strike masonry joints flush.

C. Where curing compounds are used they must be clear resin based without oil, wax or pigments.

D. Do not proceed with application of air barrier membrane when rain is expected within 24 hours.

E. Condition materials to room temperature prior to application to facilitate handling.

3.02 SURFACE PREPARATION

A. Water Based Elastomeric Emulsion Air Barrier Membrane: liquid applied water based air barrier membrane may be applied to green concrete 16 hours after forms are removed.

B. Ensure all preparatory Work is complete prior to applying primary air barrier membrane.

C. Mechanical fasteners used to secure sheathing boards or penetrate sheathing boards shall be set flush with sheathing and fastened into solid backing.

3.03 INSTALLTION OF AIR BARRIER SYSTEM

A. JOINT TREATMENT
1. Seal joints up to 1/2 inch and less between panels of exterior grade gypsum sheathing, plywood, OSB or cementitious panels with joint treatment sealant.
   a. Fill joint between sheathing with approved joint treatment sealant ensuring contact with all edges of sheathing board. Strike flush any excess sealant over joint layer to form a continuous layer over the joint.
2. Alternatively, seal gaps and voids or irregular joints greater than ¼ inch between panels of exterior grade gypsum, exterior gypsum sheathing, plywood, OSB or cementitious panels with a strip of self-adhering air/vapor barrier transition membrane lapped a minimum of 1-1/2 inches on both sides of the joint.
   a. Prime surfaces as per manufacturers' instructions and allow to dry.
   b. Align and position self-adhering air/vapor barrier transition membrane, remove protective film and press firmly into place. Ensure minimum 2 inches overlap at all end and side laps of membrane.
   c. Roll all laps and membrane with a counter top roller to ensure seal.
3. Alternately, joints not exceeding 1/8 inch can be sealed with yellow open weave glass fabric.
   a. Apply yellow open weave glass fabric centered over joint followed by a 1/8 inch (120mils) thick trowel application of air/vapor barrier membrane.
   b. Allow to dry prior to application of primary vapor permeable air barrier membrane.

B. INSIDE AND OUTSIDE CORNERS
1. Seal inside and outside corners of sheathing boards with a strip of self-adhering transition membrane extending a minimum of 3 inches on either side of the corner detail.
   a. Prime surfaces as per manufacturers' instructions and allow to dry.
   b. Align and position self-adhering transition membrane, remove protective film and press firmly into place. Ensure minimum 2 inches overlap at all end and side laps of membrane.
   c. Roll all laps and membrane with a counter top roller to ensure seal.

C. CRACK TREATMENT – MASONRY AND CONCRETE
1. Seal cracks over 1/16 inches in masonry and concrete with a strip of self-adhering transition membrane lapped a minimum of 1 1/2 inches on both sides of the crack.
   a. Prime surfaces as per manufacturers' instructions and allow to dry.
   b. Align and position self-adhering transition membrane, remove protective film and press firmly into place. Ensure minimum 2 inches overlap at all end and side laps of membrane.
   c. Roll all laps and membrane with a counter top roller to ensure seal.
2. Alternately, static cracks 1/16 inch to 1/8 inch can be sealed with primary air barrier membrane.
   a. Fill crack with primary air barrier membrane.
   b. Allow to dry prior to application of primary vapor permeable air barrier membrane.

D. LIQUID-APPLIED FLASHING OPTION
1. Use for door and window openings, MEP penetrations and dissimilar material connections.
   a. Apply liquid flashing to all material joints and tool smooth.
   b. Apply liquid flashing in a serpentine fashion to the entire window opening and tool smooth to a minimum 25 mils wet film thickness. Spread material to cover the inside of rough openings and extend 4 inches onto adjacent surfaces. Create a slight positive slope towards the exterior of sill conditions by applying more material to the interior side of sills to create a taper towards the exterior while maintaining a minimum 25 mils wet film thickness.
   c. Apply liquid flashing to MEP penetrations with a maximum of ½ inch annular space. Extend liquid flashing a minimum 4 inches onto penetrating item and surrounding surfaces to a minimum of 25 mils dry film thickness.
   d. Apply liquid flashing to inside/outside corners and dissimilar material connections. Extend a minimum 4 inches onto adjacent surfaces a minimum of 4 inches and a minimum wet film thickness of 25 mils dry film thickness.
   e. Apply fluid-applied membrane air barrier onto liquid lashing a minimum of 2 inches.

E. TRANSITON AREAS
1. Tie-in to structural beams, columns, floor slabs and intermittent floors, parapet curbs, foundation walls, roofing systems and at the interface of dissimilar

materials as indicated in drawings with self-adhering air barrier transition membrane.

a. Prime surfaces as per manufacturers' instructions and allow to dry.
b. Align and position self-adhering transition membrane, remove protective film and press firmly into place. Provide minimum 3 inch lap to all substrates.
c. Ensure minimum 2 inch overlap at all end and side laps of membrane.
d. Roll all laps and membrane with a counter top roller to ensure seal.

F. WINDOWS AND ROUGH OPENINGS

1. Wrap head and jamb of rough openings with specified self-adhering transition membrane as detailed. Place specified sill flashing membrane across sills and end dam terminations.
   a. Prime surfaces as per manufacturers' instructions and allow to dry.
   b. Align and position self-adhering transition membrane, remove protective film and press firmly into place. Ensure minimum 2 inch overlap at all end and side laps of membrane.
   c. Roll all laps and membrane with a counter top roller to ensure seal.

G. PRIMARY AIR BARRIER

1. Apply by spray or flat trowel a complete and continuous unbroken film of liquid air and rain barrier membrane.
   a. For temperatures above 40 degrees F and rising, apply one component water based elastomeric emulsion air barrier membrane at a rate of 23 sq.ft/gallon to a uniform wet film thickness of 70 mils for smooth surfaces depending upon surface texture and porosity. For rough surfaces, apply elastomeric emulsion air barrier membrane at a rate of 18 sq.ft/gallon to a uniform wet film thickness of 90 mils depending upon surface texture and porosity.
2. Spray-apply or trowel around all projections and penetrations ensuring a complete and continuous air barrier membrane. Lap liquid applied membrane 1 inch over self-adhering membranes to seal leading edge.
3. Allow air barrier membrane to dry as per manufacturers recommendations prior to placement of insulating materials.

3.04 APPLICATION OF TERMINATION SEALANT

A. Seal membrane terminations, heads of mechanical fasteners, masonry tie fasteners, around penetrations, duct work, electrical and other apparatus extending through the primary water resistive air barrier membrane and around the perimeter edge of membrane terminations at window and door frames with specified termination sealant.

3.05 FIELD QUALITY CONTROL

A. Make notification when sections of Work are complete to allow review prior to covering air barrier system.

3.06 INSTALLATION OF INSULATION

A. Coordinate with Cavity Wall Insulation for insulating materials.

B. Apply insulation adhesive in a serpentine pattern over the air barrier membrane.
1. Dab Method: Apply walnut-sized dabs of insulation adhesive spaced 6 inches on center to substrate. Apply insulation using sufficient hand pressure to compress dabs up to 2 inches in diameter.
2. Bead Method: Apply ¼ inch beads 6 inches on center in a serpentine pattern.

C. Immediately embed insulation into the adhesive and press firmly into place to ensure full contact. Apply additional adhesive if allowed to skin over.

3.07 PROTECTION

A. Damp substrates must not be inhibited from drying out. Do not expose the backside of the substrate to moisture or rain.

B. Cap and protect exposed back-up walls against wet weather conditions during and after application of membrane. Drying time varies depending on temperature and relative humidity. Protect air barrier Work against wet weather conditions for a minimum of 24 hours.

C. Air barrier membranes are not designed for permanent exposure. Good practice calls for covering as soon as possible.

END OF SECTION

SECTION 07 42 29 - TERRA COTTA RAINSCREEN PANEL SYSTEM

PART 1 - GENERAL

1.1 SUMMARY OF WORK

A. Section includes: Exterior wall cladding system consisting of flat exterior grade extruded terra cotta panels installed on an aluminum attachment substructure.

B. Related sections:
   Section 0540***00*** - Cold Formed Metal Framing
   1. ~~Section 06165 - Air Barrier over exterior sheathing~~
   2. Section 0721***00*** - Building Insulation: [Rigid board] thermal insulation installed behind the extruded terra cotta cladding system.
   3. Section ***072726*** - Air Barriers: Sheet air infiltration barrier installed in cavity behind extruded terra cotta cladding panels.
   4. ***Div 7 for flashings, joints***.

1.2 REFERENCES

A. TEST Standards:

1. ASTM C-67 – Test method for Structural Performance of Terracotta Panels
2. IBC 1403.2 Reference Standard for selection of Weather Resistive Barriers
3. ASTM E330-02 – Test method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference (Transverse Load Test)
4. ASTM E331-00 – Test method for Water Penetration of Exterior Windows, Skylights, Doors and Curtainwall by Uniform Static Air Pressure Difference
5. AAMA 509 Test Protocol for Drained and Back Ventilated Rainscreens

1.3 DEFINITIONS

A. Architectural grade extruded terra cotta panels, extruded aluminum or stainless-steel support rails and fixing components designed with adequate durability.

1.4 DESIGN REQUIREMENTS

A. Design and install terra cotta cladding and attachment system to:

1. Provide in conjunction with wall substrate and air barrier a weather tight wall assembly utilizing a drained and back ventilated assembly.

2. System design shall be single-source responsibility by the cladding supplier. All design criteria shall be project specific in accordance with the requirements of terra cotta cladding and support system supplier (CLADDING CORP) – Phone: (888) 826-8453. Products provided must conform to the design intent shown.

    a. PANEL SYSTEM: Drained and Back Ventilated Rainscreen Design. System shall drain water and condensation to exterior. A complete pre-engineered system including but not limited to terra cotta cladding panels, aluminum metal support structure by CLADDING CORP, closure pieces, trim and flashing. Wall panels shall be removable. The panels shall be secured to an aluminum or steel support structure, which secures to a structurally suitable substrate. System must incorporate independent, non-continuous wall brackets for attachment to substrate to meet continuous insulation (ci) requirements when exterior insulation is incorporated into cladding cavity design. Membrane should be visually inspected for breaches (and repaired as recommended by membrane manufacturer) prior to installation of support system.

    b. JOINTS: Shall be dry and un-caulked

    c. METAL FLASHING: Provide metal flashing for a proper water managed assembly, to direct condensation and water infiltration within the wall to weeping points. Coordinate details and installation with Air and Water Barrier provided with Section 07270.

    d. Design Modifications – shall be provided only as necessary to satisfy as-built conditions and to meet performance requirements. Significant system and aesthetic design shall be requested in writing to architect 10 days prior to bid date.

3. Material supplier shall be responsible for engineering system per architectural design criteria and performance requirements.

1.5 PERFORMANCE REQUIREMENTS

A. Design and install terra cotta cladding and attachment system to:

1. Material performance requirements for terra cotta tiles:
    a. Fabrication and weight tolerances per ASTM C-67 Section 13.1

b. Water Absorption: Test according to ASTM C-67 Section 8. Water absorption shall be 1% to 8% depending upon color.
c. Modulus of Rupture: Test according to ASTM C-67 Section 6.1. Specimen shall exhibit average values of 1800 – 2500 psi.
d. Compressive Strength: Test according to ASTM C-67 Section 7.1. Specimen shall exhibit average values of 18000 – 24000 psi.
e. Efflorescence: Test according to ASTM C-67 Section 11.1. Specimen shall show no signs of efflorescence.
f. Freeze Thaw 100 Cycles per ASTM C-67 Section 9.1. Show no signs of cracking.

2. Withstand design loads, as required by applicable codes for project location, as follows:

   a. Maximum panel deflection: L/300 of span or less of span when tested in accordance with positive and negative pressures and as required to prevent cracking or damage to panel facing.

3. Comply with applicable seismic requirements for project location in Seismic Zone as indicated in structural drawings as defined by International Code Conference (ICC).

4. Adequately resist wind forces and uplift for project location with minimum of [_____] [PSF] [kilopascals] [_____] for wall surface and [[_____] [PSF] [kilopascals] for parapet and corner panels tested in accordance with ASTM E330.

5. Accommodate movement of cladding components without undue stress on fasteners or other detrimental effects, when subjected to seasonal temperature range of:

   a. Ambient: [120 degrees F] [67 degrees C].

   b. Cladding surface: [180 degrees F] [100 degrees C].

6. Accommodate tolerances of support structure.

7. Condensation: System shall accommodate positive drainage for moisture entering or condensation occurring within panel system.
   a. Design drainage system for 100 years rain cycle

5. Flatness: System shall be flat with no noticeable warping, buckling, deflections or other surface irregularities.

1.6 CONTINUOUS INSULATION (CI). System shall comply with ASHRAE 90.1-

2010 thermal performance requirements. System shall:

A. Be manufactured from AL6063-T6 extruded aluminum components.
B. Shall be designed with independent non-continuous wall brackets to ensure optimal thermal and moisture performance when required to provide outboard insulation (CI) within cladding cavity.
C. System shall incorporate thermally broken wall brackets to reduce thermal drops/gains through system components.
D. System shall use stainless steel wall anchors.
E. Provide a thermal analysis to show final U-value of cladding assembly to accommodate ASHRAE 90.1-2010 performance requirements.

1.7 SUBMITTALS

A. Provide in accordance with Section 01330 - Submittal Procedures:

1. Product data describing materials and fabrication for extruded terra cotta panels.

2. Product data describing materials and fabrication for aluminum attachment system and components.

3. Shop drawings showing:

   a. Layout, profiles and dimensions for panels, product components, edge conditions, special shapes, and trim pieces.

   b. Installation details: attachment methods, fasteners, joints, corners, openings, intersections with adjacent materials, flashings, closures, trim, and other critical conditions.

   c. Layout of terra cotta panels on wall and locations of special pieces and trim.

4. Signed and sealed structural calculations by engineer licensed in state and local jurisdiction.

5. Copies of certificates, reports, and other data showing compliance with design and performance requirements specified in Paragraph [1.4].

6. Copy of written approval by fastener supplier of the use of selected screws confirming use in a drained and back-ventilated (D&BV) rainscreen wall assembly.

7. Samples:

    a. One 8 inches x 8 inches terra cotta panel in selected colorS and surface finish.

    b. 3 inches [76 mm] minimum length of attachment profile.

    d. Typical Support brackets and anchors

    e. Typical exposed fasteners

8. Manufacturer's installation and maintenance instructions.

9. Copy of warranty required by Paragraph [1.11] for review by Architect.

1.8 QUALITY ASSURANCE

A. System Manufacturer’s Qualifications: Provide exterior wall system manufactured by a firm experienced in manufacturing systems that are like those indicated for this project and have a record of successful in-service performance with minimum 10 years’ experience.

B. Installer qualifications: Company experienced in installing exterior wall cladding systems and acceptable to extruded terra cotta panel and aluminum support system suppliers with minimum 5 years’ experience.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Prior to shipping, pack, and crate terra cotta panel system components to prevent damage during transit and storage. During transport, handle the panels with special care taken not to damage the edges of the panels.

B. Inspect terra cotta panels and aluminum attachment components immediately upon delivery at site. Notify manufacturer of damage.

C. Follow manufacturer’s instructions for storage of terra cotta panels. Keep pieces in original packing material until ready to install. Remove transport protection films from both sides of the panels at the same time.

1.10 WARRANTY

A. Provide Manufacturer’s standard 10-year warranty for terra cotta panels.

1.11 EXTRA MATERIALS

A. ATTIC STOCK: Provide in accordance with Section 01780 - Closeout Submittals: [Quantity as defined by Architect/Owner]. 10 DEEP RED PANELS, 2 OYSTER PANELS

B. Extra panels shall be from same manufacturing lot as installed panels.

PART 2 - PRODUCTS

2.1 ACCEPTABLE SUPPLIERS

A. TERRA^5 Terracotta by Cladding Corp (www.claddingcorp.com) Phone: (888) 826-8453

B. Cladding Panel Type – TC30

C. Panel Thickness – TC 30 = 30mm (1.18in)

D. Color as selected by Architect in manufacturer's standard color range Deep Red & Oyster

E. Cladding Module Size (to centerline of joints):

HGT: 400mm x LENGTH: 1515mm

F. Or equal substitutions are allowed per Substitution Specification Section.

2.2 PANEL SUBFRAMING SYSTEM

A. ECO Cladding Sub framing System Supplied by Cladding Corp.
(www.ecocladding.com)
Phone: (888) 826-8453
ECO Cladding Vci.46 Vertical brackets and L profiles, horizontal rail and clip attachment system. System is self-shimming to accommodate out-of-plumb conditions. For use with portrait or landscape tile orientation. Joint profiles optional for portrait tile, required for landscape tile.

B. Or equal substitutions are allowed per Substitution Specification Section.

2.2 SUPPORT COMPONENTS AND ACCESSORIES

A. Metal Support Structure:

1. Support Bracket – Vci / Hci – Non-continuous bracket assembly that anchors directly to wall substrate allowing for continuous insulation (ci) within cladding cavity and supports L/T profile.

2. L/T Profile – shelf shimming extrusions that fastens into open end of Vci / Hci and supports Rail Profile

3. Tile Attachment Component

i. Horizontal rail profiles (Vci.46) and clips

4. Fasteners: Corrosion resistant fasteners and anchors of type, size, and spacing required for type of substrate and Project conditions, to meet performance requirements specified in Paragraph [1.4], and as indicated in design calculations and shop drawings. Fastener Manufacturer to supply written approval of the use of selected screws confirming use in a drained and back-ventilated (D&BV) rainscreen wall assembly.

5. Joints Closures (if required) – roll formed/brake shape aluminum painted black or extruded black PVC closure pieces inserted into open joint condition to protect against direct rain penetration into cavity and protection of membrane from UV exposure.

B. Sheet metal: Provide sheet metal flashings and trim as required for cladding system in accordance with Section 07600 - Flashing and Sheet Metal.

C. Corner Conditions
1. Outside Tile Corner Conditions shall be: Butt End,
2. Corner closure profiles [are not] to be included.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine walls to receive cladding system. Ensure substrate is structurally sound, clean, and free of contaminants, which could inhibit bond of air barrier.

1. Maximum substrate/studwall deflection: L/300 or as recommended by code and architect per the guidelines of our manufacturer’s maximum

system deflection.

2. Maximum substrate surface variation: [1/8 inch in 10 feet] [3 mm in 3 m].

3. Concrete: Verify cast-in-place concrete walls have cured 30 days minimum. [Ensure inserts for attachment of cladding system are accurately positioned and properly embedded.]

4. Stud construction with [gypsum sheathing] Verify stud framing is adequately braced without deflection and sheathing is properly secured with edges over firm bearing. Ensure proper framing and supports are provided and located for secure attachment of support rails.

B. Do not proceed with cladding installation until deficiencies have been addressed.

3.2 PREPARATION

A. Install assembly of thermal insulation, furring, and sheathing as specified in Section 07210 - Building Insulation and detailed on Drawings and approved shop drawings.

B. Air barrier: Install air barrier to [wall substrate] [wall sheathing] as specified in Section 07270 - Air Barriers and detailed on Drawings and approved shop drawings. Install horizontally starting at bottom of wall. Do not leave air barrier membrane exposed for lengthy period. Exercise care not to puncture or tear barrier with subsequent cladding operations.

C. Flashings: Install sheet metal flashings, pressure compartment dividers, and trim as specified in Section 07600 - Flashing and Sheet Metal and as positioned and detailed on Drawings and approved shop drawings. Ensure flashings at bottom of wall and pressure compartments properly drain water from air cavity to exterior through weep holes. Turn up flashings [4 inches] [102 mm] minimum and seal to substrate. Lap flashing end joints [6 inches] [152 mm] and seal watertight.

3.3 CLADDING INSTALLATION

A. Install cladding in accordance with manufacturer's instructions and approved shop drawings.

B. Establish level lines for panel coursing and positioning of Vci / Hci / Eci Brackets/support rails.

C. Vci / Hci / Eci Brackets/Support rails: Attach Brackets/rails with engineered fasteners and anchors to accomplish performance requirements specified in Paragraph [1.4].

1. Attach brackets/rails to substrate at a distance recommended by CLADDING CORP in accordance with lateral loads and system dead load requirements or as shown on drawings.

2. Provide 1 to 2 inches [25 to 51 mm] space between ends of adjacent rails.

D. Extruded Terra Cotta Panels: Starting at bottom of wall, attach panels to horizontal/ vertical aluminum profile and install sequentially up the wall.

1. Layout work to avoid or minimize cuts. Site cut tiles using power saw with appropriate blade type to prevent broken corners, edges, and chips.

2. Install terra cotta panels with appropriate joint layout and configuration. Vertical and horizontal joints shall be open approximately 3/16 inch [5 mm] wide.

3. Tolerances: Shim and align terra cotta panels to provide these tolerances:

a. Deviations from level or plumb alignment: 1/4 inch in 20 feet [6 mm in 6 m] maximum, non-accumulative.

3.4 CLEANING AND PROTECTION

A. Remove and replace broken, chipped, stained, or otherwise damaged panels.

B. Immediately after installing, wipe down work. Do not use wire brushes, metallic tools, or abrasives for cleaning.

C. Protect cladding from roof run-off, splashed water, mud, sealants, bitumen, and other contaminants from remaining construction activities.

D. Without damaging completed work, provide protective boards at exposed external corners, which may be damaged by construction activities.

END OF SECTION 074229

SECTION 07 81 23 - INTUMESCENT FIREPROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes mastic and intumescent fire-resistive coatings.

B. Related Requirements:
1. Section 078100 "Applied Fireproofing" for sprayed fire-resistive materials (SFRM).
2. Section 099***646 "Intumescent*** Painting"
~~***3. Section 099600 "High Performance Painting"***~~

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review products, design ratings, restrained and unrestrained conditions, thicknesses, and other performance requirements.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Framing plans or schedules, or both, indicating the following:

1. Extent of fireproofing for each construction and fire-resistance rating.
2. Applicable fire-resistance design designations of a qualified testing and inspecting agency acceptable to authorities having jurisdiction.
3. Minimum fireproofing thicknesses needed to achieve required fire-resistance rating of each structural component and assembly.
4. Treatment of fireproofing after application.

C. Samples: For each exposed product and for each color and texture specified, in manufacturer's standard dimensions in size.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and testing agency.

B. Product Certificates: For each type of fireproofing.

C. Field quality-control reports.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A firm or individual certified, licensed, or otherwise qualified by fireproofing manufacturer as experienced and with sufficient trained staff to install manufacturer's products according to specified requirements.

B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and to set quality standards for materials and execution.

1. Build mockup of each type of fireproofing and different substrate and each required finish as shown on Drawings.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 FIELD CONDITIONS

A. Environmental Limitations: Do not apply fireproofing when ambient or substrate temperature is 50 deg F or lower unless temporary protection and heat are provided to maintain temperature at or above this level for 24 hours before, during, and for 24 hours after product application.

B. Ventilation: Ventilate building spaces during and after application of fireproofing, providing complete air exchanges according to manufacturer's written instructions. Use natural means or, if they are inadequate, forced-air circulation until fireproofing dries thoroughly.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Assemblies: Provide fireproofing, including auxiliary materials, according to requirements of each fire-resistance design and manufacturer's written instructions.

B. Source Limitations: Obtain fireproofing for each fire-resistance design from single source.

C. Fire-Resistance Design: Indicated on Drawings, tested according to ASTM E119 or UL 263; ULCDXA, UL CDYD, testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Extrapolation of member size or material thickness shown in individual designs has not been investigated by UL and would be considered to void the existing certified assembly.

D. Asbestos: Provide products containing no detectable asbestos.

2.2 MASTIC AND INTUMESCENT FIRE-RESISTIVE COATINGS

A. Basis of Design: Sherwin Williams Firetex FX5120, or equal.

B. Mastic and Intumescent Fire-Resistive Coating: Manufacturer's standard, factory-mixed formulation, and complying with indicated fire-resistance design.

1. Application: Designated for "interior conditioned space and interior general purpose" use by a qualified testing agency acceptable to authorities having jurisdiction.
2. Thickness: As required for fire-resistance design indicated, measured according to requirements of fire-resistance design.
3. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

   a. Flame-Spread Index: 0.
   b. Smoke-Developed Index: 5 or less.

4. Hardness: Not less than 70, Type D durometer, according to ASTM D2240.
5. Adhesion: Not less than 540 psi, according to ASTM D4541.
6. Finish: Smooth Finish, to match Level 5 gypsum Board, as specified in Section 09 2900 “Gypsum Board.”
7. Consider retaining "Color and Gloss" Subparagraph below if important to Project's appearance; consult manufacturer for recommendations.

   a. Full system, 1 hour
      1) Primer: Pro Industrial ProCryl Universal Primer
      2) Intumescent Coat: Firetex FX5120 (1 hour rating)
      3) Topcoat: Pro Industrial Pre-Catalyzed Epoxy (Eggshell)

2.3 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that are compatible with fireproofing and substrates and are approved by UL or another testing and inspecting agency acceptable to authorities having jurisdiction for use in fire-resistance designs indicated.

B. Substrate Primers: Primers approved by fireproofing manufacturer and complying with required fire-resistance design by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.

C. Topcoat: Suitable for application over intumescent fireproofing; of type recommended in writing by fireproofing manufacturer for each fire-resistance design.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrates and other conditions affecting performance of the Work and according to each fire-resistance design.

1. Verify that substrates are free of dirt, oil, grease, release agents, rolling compounds, mill scale, loose scale, incompatible primers, paints, and encapsulants, or other foreign substances capable of impairing bond of fireproofing with substrates under conditions of normal use or fire exposure.

2. Verify that objects penetrating fireproofing, including clips, hangers, support sleeves, and similar items, are securely attached to substrates.
3. Verify that substrates receiving fireproofing are not obstructed by ducts, piping, equipment, or other suspended construction that will interfere with fireproofing application.

B. Conduct tests according to fireproofing manufacturer's written instructions to verify that substrates are free of substances capable of interfering with bond.

C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Cover other work subject to damage from fallout or overspray of fireproofing materials during application.

B. Clean substrates of substances that could impair bond of fireproofing.

C. Prime substrates where included in fire-resistance design and where recommended in writing by fireproofing manufacturer unless compatible shop primer has been applied and is in satisfactory condition to receive fireproofing.

D. For applications visible on completion of Project, repair substrates to remove surface imperfections that could affect uniformity of texture and thickness in finished surface of fireproofing. Remove minor projections and fill voids that would telegraph through fire-resistive products after application.

3.3 APPLICATION

A. Construct fireproofing assemblies that are identical to fire-resistance design indicated and products as specified, tested, and substantiated by test reports; for thickness, primers, topcoats, finishing, and other materials and procedures affecting fireproofing work.

B. Comply with fireproofing manufacturer's written instructions for mixing materials, application procedures, and types of equipment used to mix, convey, and apply fireproofing; as applicable to particular conditions of installation and as required to achieve fire-resistance ratings indicated.

C. Coordinate application of fireproofing with other construction to minimize need to cut or remove fireproofing.

1. Do not begin applying fireproofing until clips, hangers, supports, sleeves, and other items penetrating fireproofing are in place.
2. Defer installing ducts, piping, and other items that would interfere with applying fireproofing until application of fireproofing is completed.

D. Install auxiliary materials as required, as detailed, and according to fire-resistance design and fireproofing manufacturer's written instructions for conditions of exposure and intended use. For auxiliary materials, use attachment and anchorage devices of type recommended in writing by fireproofing manufacturer.

E. Spray apply fireproofing to maximum extent possible. After the spraying operation in each area, complete the coverage by method recommended in writing by fireproofing manufacturer.

F. Extend fireproofing in full thickness over entire area of each substrate to be protected.

G. Install body of fireproofing in a single course unless otherwise recommended in writing by fireproofing manufacturer.

H. Provide a uniform finish complying with description indicated for each type of fireproofing material and matching finish approved for required mockups.

I. Cure fireproofing according to fireproofing manufacturer's written instructions.

J. Do not install enclosing or concealing construction until after fireproofing has been applied, inspected, and tested and corrections have been made to deficient applications.

K. Alternate Application Method
1. Apply fireproofing prior to the erection of steel at the project site. Fireproofing to be applied at the fabricator’s facility or at the applicator’s shop. Connections to be fireproofed at the project site.
2. Defer installing ducts, piping, and other items that would interfere with applying fireproofing until application of fireproofing is completed.

L. Finishes: Where indicated, apply fireproofing to produce the following finishes:

1. Manufacturer's Standard Finishes: Finish according to manufacturer's written instructions for each finish selected.
2. Spray-Textured Finish: Finish left as spray applied with no further treatment.
3. Rolled, Spray-Textured Finish: Even finish produced by rolling spray-applied finish with a damp paint roller to remove drippings and excessive roughness.

3.4 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:

1. Sherwin Williams USCA Water based Firetex Application.

2. AWCI Technical Manual 12-B

B. Perform the tests and inspections of completed Work in successive stages. Do not proceed with application of fireproofing for the next area until test results for previously completed applications of fireproofing show compliance with requirements. Tested values must equal or exceed values as specified and as indicated and required for approved fire-resistance design.

C. Fireproofing will be considered defective if it does not pass tests and inspections.

1. Remove and replace fireproofing that does not pass tests and inspections, and retest.
2. Apply additional fireproofing, per manufacturer's written instructions, where test results indicate insufficient thickness, and retest.

D. Prepare test and inspection reports.

3.5 CLEANING, PROTECTING, AND REPAIRING

A. Cleaning: Immediately after completing spraying operations in each containable area of Project, remove material overspray and fallout from surfaces of other construction and clean exposed surfaces to remove evidence of soiling.

B. Protect fireproofing, according to advice of manufacturer and Installer, from damage resulting from construction operations or other causes, so fireproofing is without damage or deterioration at time of Substantial Completion.

C. As installation of other construction proceeds, inspect fireproofing and repair damaged areas and fireproofing removed due to work of other trades.

D. Repair fireproofing damaged by other work before concealing it with other construction.

E. Repair fireproofing by reapplying it using same method as original installation or using manufacturer's recommended trowel-applied product.

END OF SECTION

SECTION 09 96 46 - INTUMESCENT PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Intumescent paint for [interior][and][exterior] items and surfaces.

B. Related Requirements:

1. Section 078123 "Intumescent Fire Protection" for fire-resistance-rated intumescent mastic materials.
~~***2. Section 099113 "Exterior Painting" for primers and finish coats that may be used with intumescent paint finishes.***~~
3. Section ***099000 "Paint"*** for primers and finish coats that may be used with intumescent paint finishes.
~~***4. Section 099300 "Staining and Transparent Finishing" for primers, finish coats, and wood stains that may be used with intumescent paint finishes.***~~
~~***5. Section 099633 "High-Temperature-Resistant Coatings" for special coatings designed for use on steel subject to extremely high temperatures.***~~

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at [Project site]<Insert location>.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Indicate VOC content.

B. Sustainable Design Submittals:

1. Third-Party Certifications: For each product.
2. Third-Party Certified Life Cycle Assessment: For each product.

C. Samples: For each type of topcoat product.

D. Samples for Initial Selection: For each type of topcoat product.

E. Samples for Verification: For each type of coating system and each color and gloss of intumescent paint finish indicated.

1. Submit Samples on [rigid backing][actual substrate], not less than 8 inches square.

2. Apply coats on Samples in steps to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.

F. Product Schedule: Use same designations indicated on Drawings and in Part 3 intumescent painting schedules to cross-reference paint systems specified in this Section. Include color designations.

1.4 INFORMATIONAL SUBMITTALS

A. Material Test Reports: For each intumescent paint.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match materials applied and that are packaged with protective covering for storage and identified with labels describing contents.

1. Quantity: Furnish an additional [5]<Insert number> percent of each color applied, but not less than [1 gal.]<Insert value> of each material and color applied.

1.6 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each coating system.

a. Wall and Ceiling Surfaces: Provide samples of at least 100 sq. ft..
b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.

a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

A. Apply waterborne intumescent paints only when temperatures of surfaces to be painted and ambient air temperatures are between 50 and 90 deg F.

B. Apply solvent-thinned intumescent paints only when temperatures of surfaces to be painted and ambient air temperatures are between 45 and 95 deg F.

C. Do not apply intumescent paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures of less than 5 deg F above the dew point; or to damp or wet surfaces.

D. Allow wet surfaces to dry thoroughly and to attain temperature and conditions specified before starting or continuing coating operation.

PART 2 - PRODUCTS

2.1 INTUMESCENT PAINT PRODUCTS

A. Manufacturers: Subject to compliance with requirements, [provide products by the following][provide products by one of the following][available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:

1. [Albi Protective Coatings]
2. [Contego International, Inc.]
3. [FireFree Coatings, Inc.]
4. [Flame Control Coatings, LLC]
5. [Flame Seal, LLC]
6. [FlameOff Coatings, Inc.]
7. [Insl-X Products; Benjamin Moore & Co.]
8. [International Fireproof Technology Inc]
9. [No-Burn, Inc.]
10. [NoFire Technologies, Inc.]
11. [Quantum Chemical High Performance Coatings; Quantum Technical Services Ltd.]
12. [Sherwin-Williams Company (The)]
13. [The Pittsburgh Paints Company]
14. [TPR2 Corporation]
15. <Insert manufacturer's name>

B. Comply with requirements for fire-retardant coating classification and surface-burning characteristics indicated.

C. Surface-Burning Characteristics of Fire-Retardant Systems: As tested according to

ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: [25]<Insert value> or less.
2. Smoke-Developed Index: [450]<Insert value> or less.

D. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each material or coat, provide products recommended in writing by intumescent paint manufacturer for use on substrate indicated.

~~***E. VOC Content, LEED 2009: For field applications that are inside the weatherproofing system, paints and coatings shall comply with VOC content limits of authorities having jurisdiction and the following VOC content limits:***~~

~~***1. Flat Paints and Coatings: 50 g/L.***~~
~~***2. Nonflat Paints and Coatings: 150 g/L.***~~
~~***3. Primers, Sealers, and Undercoaters: VOC not more than 200 g/L.***~~
~~***4. Clear Wood Finishes, Varnishes: VOC not more than 350 g/L.***~~

~~***F. Low-Emitting Materials, LEED 2009: Interior paints and coatings shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."***~~

~~***G. VOC Content, LEED v4: For field applications[that are inside the weatherproofing system], paints and coatings shall comply with VOC content limits of authorities having jurisdiction and the following VOC content limits:***~~

~~***1. Flat Paints and Coatings: 50 g/L.***~~
~~***2. Nonflat Paints and Coatings: 50 g/L.***~~
~~***3. Primers, Sealers, and Undercoaters: 100 g/L.***~~
~~***4. Clear Wood Finishes, Varnishes: 275 g/L.***~~

~~***H. Low-Emitting Materials, LEED v4: For field applications that are inside the weatherproofing system, paints and coatings shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."***~~

I. Material Emissions and Pollutant Control: Field-applied paints and coatings that are inside the weatherproofing system shall comply with either of the following:

1. Low-Emitting Materials: VOC emissions shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers." Formaldehyde emissions shall not exceed 9 mcg/cu. m or 7 ppb, whichever is less.

2. VOC content shall not exceed limits of authorities having jurisdiction and the following:

    a. Flat Coatings: 50 g/L.
    b. Nonflat Coatings: 100 g/L.
    c. Primers, Sealers, and Undercoaters: 100 g/L.

J. Emissions Requirements: Field-applied paints and coatings that are inside the weatherproofing system shall comply with either of the following:

1. Low-Emitting Materials: VOC emissions shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
2. VOC content shall not exceed limits of authorities having jurisdiction and the following:

    a. Flat Coatings: 50 g/L.
    b. Nonflat Coatings: 100 g/L.
    c. Primers, Sealers, and Undercoats: 100 g/L.
    d. Clear Wood Finishes (Varnishes, Sanding Sealers, and Lacquers): 275 g/L.

K. VOC Content: For field applications inside the building, wall paints shall comply with VOC content limits of authorities having jurisdiction and the following VOC content limits:

1. Interior Flat Latex Wall Paint: 50 g/L.
2. Interior Nonflat Latex Wall Paint: 150 g/L.

L. VOC Emissions: For field applications inside the building, wall paints shall contain no more than half of the chronic REL of VOCs when tested according to the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers." The building concentration of formaldehyde shall not exceed half of the indoor recommended exposure limit or 33 mcg/cu. m and that of acetaldehyde shall not exceed 9 mcg/cu. m.

M. Colors and Gloss: ***As indicated in a color schedule***

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with manufacturer's requirements for surface treatments, shop-primed surfaces, maximum moisture content, and other conditions affecting performance of the Work.

B. Begin coating only when moisture content of wood substrate is 15 percent or less when measured with an electronic moisture meter.

C. Begin coating no sooner than [28]<Insert number> days after substrate is constructed and is visually dry on both sides.

D. Verify suitability of substrates, including surface conditions, and compatibility with existing finishes and primers.

E. Proceed with coating application only after unsatisfactory conditions have been corrected and surfaces are dry.

3.2 PREPARATION

A. Comply with manufacturer's written instructions applicable to substrates and coating systems indicated.

B. Remove hardware and hardware accessories, plates, machined surfaces, light fixtures, and similar items already installed that are not to be coated. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and coating.

1. After completing coating operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Clean substrates of substances that could impair bond of coatings, including dust, dirt, oil, grease, and incompatible paints and encapsulants. Do not coat surfaces if surface moisture content or alkalinity exceeds that permitted in manufacturer's written instructions.

1. Remove incompatible primers, and reprime substrate with compatible primers as required to produce coating systems indicated.
2. Perform cleaning and coating application so dust and other contaminants from cleaning process do not fall on wet, newly coated surfaces.

3.3 INSTALLATION

A. Apply intumescent paints according to manufacturer's written instructions and to comply with requirements for listing and labeling for surface-burning characteristics specified.

1. Use equipment and techniques best suited for substrate and type of material being applied.
2. Coat surfaces behind movable items the same as similar exposed surfaces.
3. Apply each coat separately according to manufacturer's written instructions.
4. Finish doors on faces with intumescent finish. Paint tops, bottoms, and side edges with fire-inert finish.

B. Apply coatings to prepared surfaces as soon as practical after preparation and before subsequent surface soiling or deterioration.

C. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps,

brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Produce sharp lines and color breaks.

1. Pigmented Finishes: If undercoats or other conditions show through pigmented topcoat/overcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
2. Clear Finishes: Produce a smooth surface film of even sheen[using multiple coats].

3.4 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from coating application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

3.5 EXTERIOR INTUMESCENT PAINTING SCHEDULE

A. Wood Substrates, Glued-Laminated Construction:

1. Pigmented, Fire-Retardant System:

    a. Prime Coat: As recommended in writing by topcoat manufacturer.
    b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
    c. Topcoat: Fire-retardant topcoat, exterior, low sheen.

        1) <Insert manufacturer's name; product name or designation>.

2. Clear, Fire-Retardant, Penetrating Wood Preservative System:

    a. Prime Coat: As recommended in writing by topcoat manufacturer.
    b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
    c. Topcoat: Fire-resistant sealer, for exterior wood.

        1) <Insert manufacturer's name; product name or designation>.

B. Wood Substrates, Exposed Framing:

1. Pigmented, Fire-Retardant System:

    a. Prime Coat: As recommended in writing by topcoat manufacturer.

b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant topcoat, exterior, low sheen.

1) <Insert manufacturer's name; product name or designation>.

2. Clear, Fire-Retardant, Penetrating Wood Preservative System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-resistant sealer, for exterior wood.

1) <Insert manufacturer's name; product name or designation>.

C. Wood Substrates, [Wood Trim][Architectural Woodwork][and][Wood Board Siding]:

1. Pigmented, Fire-Retardant System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant topcoat, exterior, low sheen.

1) <Insert manufacturer's name; product name or designation>.

2. Clear, Fire-Retardant, Penetrating Wood Preservative System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-resistant sealer, for exterior wood.

1) <Insert manufacturer's name; product name or designation>.

D. Wood Substrates, Wood-Based Panel Products:

1. Pigmented, Fire-Retardant System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant topcoat, exterior, low sheen.

1) <Insert manufacturer's name; product name or designation>.

2. Clear, Fire-Retardant, Penetrating Wood Preservative System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-resistant sealer, for exterior wood.

1) <Insert manufacturer's name; product name or designation>.

3.6 INTERIOR INTUMESCENT PAINTING SCHEDULE

A. Wood Substrates, Glued-Laminated Construction:

1. Pigmented, Fire-Retardant, Water-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat:

1) Fire-retardant coating, latex, interior, flat.

a) <Insert manufacturer's name; product name or designation>.

2) Fire-retardant topcoat, latex, interior.

a) <Insert manufacturer's name; product name or designation>.

2. Pigmented, Fire-Retardant, Solvent-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant coating, alkyd, interior, flat.

1) <Insert manufacturer's name; product name or designation>.

3. Clear, Fire-Retardant, Water-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant coating, interior, clear.

1) <Insert manufacturer's name; product name or designation>.

4. Clear, Fire-Retardant, Solvent-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant topcoat, clear, alkyd, interior.

1) <Insert manufacturer's name; product name or designation>.

B. Wood Substrates, Exposed Framing:

1. Pigmented, Fire-Retardant, Water-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat:

1) Fire-retardant coating, latex, interior, flat.

a) <Insert manufacturer's name; product name or designation>.

2) Fire-retardant topcoat, latex, interior.

a) <Insert manufacturer's name; product name or designation>.

2. Pigmented, Fire-Retardant, Solvent-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant coating, alkyd, interior, flat.

1) <Insert manufacturer's name; product name or designation>.

3. Clear, Fire-Retardant, Water-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant coating, interior, clear.

1) <Insert manufacturer's name; product name or designation>.

4. Clear, Fire-Retardant, Solvent-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant topcoat, clear, alkyd, interior.

1) <Insert manufacturer's name; product name or designation>.

C. Wood Substrates, [Wood Trim][Architectural Woodwork][and][Wood Board Paneling]:

1. Pigmented, Fire-Retardant, Water-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat:

1) Fire-retardant coating, latex, interior, flat.

a) <Insert manufacturer's name; product name or designation>.

2) Fire-retardant topcoat, latex, interior.

a) <Insert manufacturer's name; product name or designation>.

2. Pigmented, Fire-Retardant, Solvent-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant coating, alkyd, interior, flat.

1) <Insert manufacturer's name; product name or designation>.

3. Clear, Fire-Retardant, Water-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant coating, interior, clear.

1) <Insert manufacturer's name; product name or designation>.

4. Clear, Fire-Retardant, Solvent-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant topcoat, clear, alkyd, interior.

1) <Insert manufacturer's name; product name or designation>.

D. Wood Substrates, Wood-Based Panel Products:

1. Pigmented, Fire-Retardant, Water-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat:

1) Fire-retardant coating, latex, interior, flat.

a) <Insert manufacturer's name; product name or designation>.

2) Fire-retardant topcoat, latex, interior.

a) <Insert manufacturer's name; product name or designation>.

2. Pigmented, Fire-Retardant, Solvent-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant coating, alkyd, interior, flat.

1) <Insert manufacturer's name; product name or designation>.

3. Clear, Fire-Retardant, Water-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant coating, interior, clear.

1) <Insert manufacturer's name; product name or designation>.

4. Clear, Fire-Retardant, Solvent-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant topcoat, clear, alkyd, interior.

1) <Insert manufacturer's name; product name or designation>.

E. Wood Substrates, Wood Shingles and Shakes:

1. Pigmented, Fire-Retardant, Water-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat:

1) Fire-retardant coating, latex, interior, flat.

a) <Insert manufacturer's name; product name or designation>.

2) Fire-retardant topcoat, latex, interior.

a) <Insert manufacturer's name; product name or designation>.

2. Pigmented, Fire-Retardant, Solvent-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant coating, alkyd, interior, flat.

1) <Insert manufacturer's name; product name or designation>.

3. Clear, Fire-Retardant, Water-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant coating, interior, clear.

1) <Insert manufacturer's name; product name or designation>.

4. Clear, Fire-Retardant, Solvent-Based System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat: Fire-retardant topcoat, clear, alkyd, interior.

1) <Insert manufacturer's name; product name or designation>.

F. Plaster and Gypsum Board Substrates:

1. Fire-Retardant Coating (Clear or Pigmented) System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.

c. Topcoat:

1) Fire-retardant coating, interior, clear.

a) <Insert manufacturer's name; product name or designation>.

2) Fire-retardant coating, alkyd, interior, flat.

a) <Insert manufacturer's name; product name or designation>.

2. Water-Based, Fire-Retardant Coating System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.
b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
c. Topcoat:

1) Fire-retardant coating, latex, interior, flat.

a) <Insert manufacturer's name; product name or designation>.

2) Fire-retardant topcoat, latex, interior.

a) <Insert manufacturer's name; product name or designation>.

END OF SECTION 09 96 46

SECTION 08 33 23 - OVERHEAD COILING DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Insulated service doors.

B. Related Requirements:

1. Section 055000 "Metal Fabrications" for miscellaneous steel supports, door-opening framing, corner guards, and bollards.
2. [Section 099113 "Exterior Painting"][and][Section 099123 "Interior Painting"] for finish painting of factory-primed doors.
3. Section 111200 "Parking Control Equipment" for parking control equipment interlocked to overhead coiling doors.

1.2 ACTION SUBMITTALS

A. Product Data: For each type and size of overhead coiling door and accessory.

1. Include construction details, material descriptions, dimensions of individual components, profiles for slats, and finishes.
2. Include rated capacities, operating characteristics, electrical characteristics, and furnished accessories.
3. Include description of automatic-closing device and testing and resetting instructions.

B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.

1. Include plans, elevations, sections, and mounting details.
2. Include details of equipment assemblies, and indicate dimensions, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include points of attachment and their corresponding static and dynamic loads imposed on structure.
4. For exterior components, include details of provisions for assembly expansion and contraction and for excluding and draining moisture to the exterior.
5. Show locations of controls, locking devices[, detectors or replaceable fusible links], and other accessories.
6. Include diagrams for power, signal, and control wiring.

C. Samples for Initial Selection: Manufacturer's finish charts showing full range of colors and textures available for units with factory-applied finishes.

1. Include similar Samples of accessories involving color selection.

D. Samples for Verification: For each type of exposed finish on the following components, in manufacturer's standard sizes:

1. Curtain slats[, including full vision window secured to slat].
2. Bottom bar[with sensor edge].
3. Guides.
4. Brackets.
5. Hood.
6. Locking device(s).
7. Include similar Samples of accessories involving color selection.

1.3 INFORMATIONAL SUBMITTALS

A. Oversize Construction Certification: For door assemblies required to be fire-rated and that exceed size limitations of labeled assemblies.

B. Sample Warranty: For special warranty.

1.4 CLOSEOUT SUBMITTALS

A. Special warranty.

B. Maintenance Data: For overhead coiling doors to include in maintenance manuals.

C. Record Documents: For fire-rated doors, list of door numbers and applicable room name and number to which door accesses.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.

1. Maintenance Proximity: Not more than [two]<Insert number> hours' normal travel time from Installer's place of business to Project site.

B. Fire-Rated Door Inspector Qualifications: Inspector for field quality control inspections of fire-rated door assemblies is to meet the qualifications set forth in NFPA 80, Section 5.2.3.1 and the following:

1. Door and Hardware Institute Fire and Egress Door Assembly Inspector (FDAI) certification.

1.6 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of doors that

fail in materials or workmanship within specified warranty period.

1. Warranty Period: [Two]<Insert number> years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. Obtain overhead coiling doors from single source from single manufacturer.

1. Obtain operators and controls from overhead coiling-door manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Rated Door Assemblies: Complying with NFPA 80; listed and labeled by qualified testing agency, for fire-protection ratings indicated, based on testing at as close to neutral pressure as possible according to [NFPA 252][or][UL 10B].

1. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
2. Temperature-Rise Limit: [Where indicated][At exit enclosures and exit passageways], provide doors that have a maximum transmitted temperature end point of not more than 450 deg F above ambient after 30 minutes of standard fire-test exposure.
3. Smoke Control: [Where indicated][In corridors and smoke barriers], provide doors that are listed and labeled with the letter "S" on the fire-rating label by a qualified testing agency for smoke- and draft-control based on testing according to UL 1784; with maximum air-leakage rate of 3.0 cfm/sq. ft. of door opening at 0.10 inch wg for both ambient and elevated temperature tests.

B. Sound-Control Doors: Assemblies tested in a laboratory for sound-transmission-loss performance according to ASTM E90, calculated according to ASTM E413, and rated for not less than the STC value indicated.

C. Accessibility Standard: Comply with applicable provisions in [the USDOJ's "2010 ADA Standards for Accessible Design"][the ABA standards of the Federal agency having jurisdiction][and][ICC A117.1]<Insert requirement>.

D. Structural Performance, Exterior Doors: Capable of withstanding the following design wind loads:

1. Design Wind Load: [As indicated on Drawings][Uniform pressure (velocity pressure) of 20 lbf/sq. ft., acting inward and outward]<Insert loads>.
2. Testing: According to ASTM E330/E330M[or DASMA 108 for garage doors and complying with acceptance criteria of DASMA 108]<Insert requirement>.

3. Deflection Limits: Design overhead coiling doors to withstand design wind load without evidencing permanent deformation or disengagement of door components.
4. Operability under Wind Load: Design overhead coiling doors to remain operable under [design][uniform pressure (velocity pressure) of 20-lbf/sq. ft.]<Insert load> wind load, acting inward and outward.

E. Windborne-Debris Impact Resistance: Provide [glazed][and][impact-protective] overhead coiling doors that pass ASTM E1886 missile-impact and cyclic-pressure tests according to [ASTM E1996 for Wind Zone 1][ASTM E1996 for Wind Zone 2][ASTM E1996 for Wind Zone 3][ASTM E1996 for Wind Zone 4][or DASMA 115] for [basic][enhanced] protection.

1. Large-Missile Test: For overhead coiling doors located within [30 ft.]<Insert dimension> of grade.

F. Seismic Performance: Overhead coiling doors are to withstand the effects of earthquake motions determined according to [ASCE/SEI 7]<Insert requirement>.

1. Component Importance Factor: [1.5][1.0].

2.3 DOOR ASSEMBLY

A. Overhead Coiling Door: [Service][Insulated service] overhead coiling door formed with curtain of interlocking metal slats.

1. Manufacturers: Subject to compliance with requirements, [provide products by the following][provide products by one of the following][available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:

a. [ACME Rolling Doors]
b. [Advanced Door Technologies]
c. [Alpine Overhead Doors, Inc]
d. [Alumatec Pacific Products]
e. [Amarr Company]
f. [ASTA America; Janus International Group]
g. [C.H.I. Overhead Doors, Inc.]
h. [City Gates USA]
i. [Clopay Building Products]
j. [Cookson; a CornellCookson company]
k. [Cornell; a CornellCookson company]
l. [Dynamic Closures Corporation]
m. [Hormann High Performance Doors]
n. [Lawrence Roll-Up Doors, Inc.]
o. [McKeon Door Company]
p. [Metro Door LLC]
q. [***Overhead Door Corporation] Basis of Design***
r. [Raynor Garage Doors]
s. [Southwestern Rolling Steel Door Co]

t. [Wayne Dalton; a division of Overhead Door Corporation]
u. [Windsor Door]
v. <Insert manufacturer's name>

B. Operation Cycles: Door components and operators capable of operating for not less than ***50,000*** cycles. One operation cycle is complete when a door is opened from the closed position to the fully open position and returned to the closed position.

1. Include tamperproof cycle counter.

C. Air Infiltration: Maximum rate of [0.4 cfm/sq. ft.][1.0 cfm/sq. ft.]<Insert rate> at 15 and 25 mph when tested according to [ASTM E283][or][DASMA 105].

D. STC Rating: [26]<Insert value>.

E. Insulated Door Curtain R-Value: [4.5 deg F x h x sq. ft./Btu]<Insert value>.

F. Insulated Door Assembly U-Factor: [0.90 Btu/deg F x h x sq. ft.]<Insert value>.

G. Door Curtain Material: [Galvanized steel][Stainless steel][Aluminum].

H. Door Curtain Slats: Flat profile slats of **3-1/4-inch** center-to-center height.

1. Vision Panels: ***Refer to door schedule***
2. Insulated-Slat Interior Facing: ***[Metal]***
3. Gasket Seal. Manufacturer's standard continuous gaskets between slats.

I. Bottom Bar: Two angles, each not less than [1-1/2 by 1-1/2 by 1/8 inch thick]<Insert dimensions>; fabricated from [hot-dip galvanized steel][stainless steel][or][aluminum extrusions] and finished [to match door]<Insert requirement>.

J. Curtain Jamb Guides: [Galvanized steel][Stainless steel][Aluminum] with exposed finish matching curtain slats.

K. Pass Door(s): [Hinged][Rigid] frame with [lockset][exit hardware].

L. Hood: [Match curtain material and finish][Galvanized steel][Stainless steel][Aluminum].

1. Shape: [Round][Square][As indicated on Drawings]<Insert shape>.
2. Mounting: [Face of wall][Between jambs][As indicated on Drawings].

M. Locking Devices: Equip door with [slide bolt for padlock][locking device assembly][and][chain lock keeper].

1. Locking Device Assembly: [Single-jamb side][Cremone-type, both jamb sides] locking bars, operable from [inside with thumbturn][outside with cylinder][outside only, with cylinder][inside and outside with cylinders]<Insert requirement>.

N. Manual Door Operator: [Push-up operation][Chain-hoist operator][Manufacturer's standard crank operator][Awning-crank operator][Wall-crank operator].

1. Provide operator with through-wall shaft operation.

2. Provide operator with manufacturer's standard removable operating arm.

O. Electric Door Operator:

1. Usage Classification: [Heavy duty, 25 or more cycles per hour and more than 90 cycles per day][Standard duty, up to 25 cycles per hour and up to 90 cycles per day][Medium duty, up to 12 cycles per hour and up to 50 cycles per day][Light duty, up to 10 cycles per hour]<Insert classification>.
2. Operator Location: [Top of hood][Front of hood][Wall][Bench][Through wall][As indicated on Drawings].
3. Safety: Listed according to UL 325 by a qualified testing agency for commercial or industrial use[; moving parts of operator enclosed or guarded if exposed and mounted at 8 ft. or lower].
4. Motor Exposure: [Interior][Exterior, wet, and humid].
5. Motor Electrical Characteristics:

    a. Horsepower: [1/2][1][2][3]<Insert value> hp.
    b. Voltage: [115 V ac, single phase, 60 Hz][208 V ac, single phase, 60 Hz][230 V ac, single phase, 60 Hz][208 V ac, three phase, 60 Hz][230 V ac, three phase, 60 Hz][460 V ac, three phase, 60 Hz].

6. Emergency Manual Operation: [Push-up][Chain][Crank] type.
7. Obstruction-Detection Device: Automatic [photoelectric sensor][electric sensor edge on bottom bar][pneumatic sensor edge on bottom bar][; self-monitoring type]<Insert type>.

    a. Sensor Edge Bulb Color: [Black][As selected by Architect from manufacturer's full range]<Insert color>.

8. Control Station(s): [Interior mounted][Exterior mounted][Where indicated on Drawings]<Insert location>.
9. Other Equipment: [Audible and visual signals][Portable radio-control system]<Insert device>.

P. Curtain Accessories: Equip door with [smoke seals][weatherseals][astragal][push/pull handles][pull-down strap][pole hook][and][automatic-closing device]<Insert item>.

Q. Door Finish:

1. Aluminum Finish: [Mill][Clear anodized][Light bronze anodized][Medium bronze anodized][Dark bronze anodized][Black anodized][Anodized color matching Architect's sample][Anodized color as selected by Architect from full range of industry colors and color densities]<Insert color>.
2. Baked-Enamel or Powder-Coated Finish: [Color as indicated by manufacturer's designations][Color matching Architect's sample][Color as selected by Architect from manufacturer's full range]<Insert color>.
3. Factory Prime Finish: Manufacturer's standard color.
4. Stainless Steel Finish: [ASTM A480/A480M No. 2B (bright, cold rolled)][ASTM A480/A480M No. 4 (polished directional satin)]<Insert finish>.
5. Interior Curtain-Slat Facing: [Match finish of exterior curtain-slat face][Finish as indicated by manufacturer's designations][Finish matching Architect's

sample][Finish as selected by Architect from manufacturer's full range]<Insert finish>.

2.4 MATERIALS, GENERAL

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.5 DOOR CURTAIN MATERIALS AND CONSTRUCTION

A. Door Curtains: Fabricate overhead coiling-door curtain of interlocking metal slats, designed to withstand wind loading indicated, in a continuous length for width of door without splices. Unless otherwise indicated, provide slats of thickness and mechanical properties recommended by door manufacturer for performance, size, and type of door indicated, and as follows:

1. Steel Door Curtain Slats: Zinc-coated (galvanized), cold-rolled structural-steel sheet; complying with ASTM A653/A653M, with G90 zinc coating; nominal sheet thickness (coated) of 0.028 inch; and as required.
2. Stainless Steel Door Curtain Slats: ASTM A240/A240M or ASTM A666, Type 304; sheet thickness of 0.025 inch; and as required.
3. Aluminum Door Curtain Slats: ASTM B209 sheet or ASTM B221 extrusions, alloy and temper standard with manufacturer for type of use and finish indicated; thickness of 0.050 inch; and as required.
4. Vision-Panel Glazing: Manufacturer's standard clear glazing, fabricated from transparent acrylic sheet or fire-protection-rated glass as required for type of door; set in glazing channel secured to curtain slats.
5. Insulation: Fill slats for insulated doors with manufacturer's standard thermal insulation complying with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, according to ASTM E84 or UL 723. Enclose insulation completely within slat faces.
6. Metal Interior Curtain-Slat Facing: Match metal of exterior curtain-slat face, with [minimum steel thickness of 0.010 inch][and][minimum aluminum thickness of 0.032 inch].
7. Plastic Interior Curtain-Slat Facing: Extruded PVC plastic with maximum flame-spread index of [25][75][200] and smoke-developed index of 450, according to ASTM E84 or UL 723.

B. Curtain Jamb Guides: Manufacturer's standard angles or channels and angles of same material and finish as curtain slats unless otherwise indicated, with sufficient depth and strength to retain curtain, to allow curtain to operate smoothly, and to withstand loading. Slot bolt holes for guide adjustment. Provide removable stops on guides to prevent overtravel of curtain[, and a continuous bar for holding windlocks].

C. Pass Door(s): Swinging-door and frame assembly constructed integrally with the coiling-door assembly[and bearing the same fire rating]. Comply with the accessibility standard of authorities having jurisdiction.

1. Door Frame and Integral Jamb Guide: Fabricate of angles or channels and angles of same material and finish as curtain slats unless otherwise indicated, with sufficient depth and strength to retain curtain, to allow curtain to operate smoothly, and to withstand loading.
2. Hinged Frame: Hinged pass door and frame that swings out of the way, as a unit, to allow use of the full coiling-door opening width. One jamb of the pass-door frame is hinged and the other jamb includes a guide for the lower, narrower part of the coiling-door curtain.
3. Rigid Frame: Rigid pass door and frame that are built into the rigid, lower part of the door curtain and that raise with the curtain.
4. Locking Hardware:

    a. [Lockset][Exit Hardware]: [As specified in Section 087100 "Door Hardware."][As specified in Section 087111 "Door Hardware (Descriptive Specification)."][As selected by Architect from manufacturer's full range.]<Insert requirement.>
    b. Lock Cylinders: As [specified in Section 087100 "Door Hardware"][specified in Section 087111 "Door Hardware (Descriptive Specification)"][standard with manufacturer][and keyed to building keying system].
    c. Keys: [Two][Three]<Insert number> for each cylinder.

5. Thresholds: Equip pass doors with integral thresholds that comply with the accessibility standard of authorities having jurisdiction.

2.6 HOODS

A. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Form closed ends for surface-mounted hoods and fascia for any portion of between-jamb mounting that projects beyond wall face. Equip hood with intermediate support brackets as required to prevent sagging.

1. Galvanized Steel: Nominal 0.028-inch- thick, hot-dip galvanized-steel sheet with G90 zinc coating, complying with ASTM A653/A653M.
2. Stainless Steel: 0.025-inch- thick, stainless steel sheet, Type 304, complying with ASTM A240/A240M or ASTM A666.
3. Aluminum: 0.040-inch- thick aluminum sheet complying with ASTM B209, of alloy and temper recommended by manufacturer and finisher for type of use and finish indicated.
4. Include automatic drop baffle on fire-rated doors to guard against passage of smoke or flame.
5. Exterior-Mounted Doors: Fabricate hood to act as weather protection and with a perimeter sealant-joint-bead profile for applying joint sealant.

B. Removable Metal Soffit: Formed or extruded from same metal and with same finish as curtain if hood is mounted above ceiling unless otherwise indicated.

2.7 LOCKING DEVICES

A. Slide Bolt: Fabricate with side-locking bolts to engage through slots in tracks for locking by padlock, located on both left and right jamb sides, operable from coil side.

B. Locking Device Assembly: Fabricate with cylinder lock, spring-loaded dead bolt, operating handle, cam plate, and adjustable locking bars to engage through slots in tracks.

1. Lock Cylinders: As [specified in Section 087100 "Door Hardware"][specified in Section 087111 "Door Hardware (Descriptive Specification)"][standard with manufacturer][and keyed to building keying system].
2. Keys: [Two][Three]<Insert number> for each cylinder.

C. Chain Lock Keeper: Suitable for padlock.

D. Safety Interlock Switch: Equip power-operated doors with safety interlock switch to disengage power supply when door is locked.

2.8 CURTAIN ACCESSORIES

A. Smoke Seals: Equip each fire-rated door with replaceable smoke-seal perimeter gaskets or brushes for smoke and draft control as required for door listing and labeling by a qualified testing agency.

B. Weatherseals for Exterior Doors: Equip each exterior door with weather-stripping gaskets fitted to entire exterior perimeter of door for a weather-resistant installation unless otherwise indicated.

1. At door head, use 1/8-inch- thick, replaceable, continuous-sheet baffle secured to inside of hood or field-installed on the header.
2. At door jambs, use replaceable, adjustable, continuous, [flexible, 1/8-inch- thick seals of flexible vinyl, rubber, or neoprene][nylon brushes]<Insert material>.

C. Astragal for Interior Doors: Equip each door bottom bar with a replaceable, adjustable, continuous, compressible gasket of flexible vinyl, rubber, or neoprene as a cushion bumper.

D. Push/Pull Handles: Equip each push-up-operated or emergency-operated door with lifting handles on each side of door, finished to match door.

E. Pull-Down Strap: Provide pull-down straps for doors more than 84 inches high.

F. Pole Hooks: Provide pole hooks and poles for doors more than 84 inches high.

G. Automatic-Closing Device: Equip each fire-rated door with an automatic-closing device or holder-release mechanism and governor unit complying with NFPA 80 and an easily tested and reset release mechanism.[Testing for manually operated doors allows resetting by opening the door without retensioning the counterbalance mechanism][Release mechanism for motor-operated doors allows testing without mechanical

release of the door.] Automatic-closing device is to be designed for activation by the following:

1. Replaceable fusible links with temperature rise and melting point of [165 deg F]<Insert temperature> interconnected and mounted on both sides of door opening.
2. Manufacturer's standard UL-labeled smoke detector and door-holder-release devices.
3. Manufacturer's standard UL-labeled heat detector and door-holder-release devices.
4. Building fire-detection, smoke-detection, and -alarm systems.

2.9 COUNTERBALANCE MECHANISM

A. General: Counterbalance doors by means of manufacturer's standard mechanism with an adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to top of curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.

B. Counterbalance Barrel: Fabricate spring barrel of manufacturer's standard hot-formed, structural-quality, [seamless][or][welded] carbon-steel pipe, of sufficient diameter and wall thickness to support rolled-up curtain without distortion of slats and to limit barrel deflection to not more than 0.03 in./ft. of span under full load.

C. Counterbalance Spring: One or more oil-tempered, heat-treated steel helical torsion springs. Size springs to counterbalance weight of curtain, with uniform adjustment accessible from outside barrel. Secure ends of springs to barrel and shaft with cast-steel barrel plugs.

1. Fire-Rated Doors: Equip with auxiliary counterbalance spring and prevent tension release from main counterbalance spring when automatic-closing device operates.

D. Torsion Rod for Counterbalance Shaft: Fabricate of manufacturer's standard cold-rolled steel, sized to hold fixed spring ends and carry torsional load.

E. Brackets: Manufacturer's standard mounting brackets of either cast iron or cold-rolled steel plate.

2.10 MANUAL DOOR OPERATORS

A. General: Equip door with manual door operator by door manufacturer.

B. Push-up Door Operation: Lift handles and pull rope for raising and lowering doors, with counterbalance mechanism designed so that required lift or pull for door operation does not exceed [25 lbf]<Insert value>.

C. Chain-Hoist Operator: Consisting of endless steel hand chain, chain-pocket wheel and guard, and gear-reduction unit with a maximum [25-lbf][30-lbf]<Insert value> force for

door operation. Provide alloy-steel hand chain with chain holder secured to operator guide.

D. Crank Operator: Consisting of crank and crank gearbox, steel crank drive shaft, and gear-reduction unit, of type indicated. Size gears to require not more than [25-lbf][30-lbf]<Insert value> force to turn crank. Fabricate gearbox to be oiltight and to completely enclose operating mechanism. Provide manufacturer's standard crank-locking device.

2.11 ELECTRIC DOOR OPERATORS

A. General: Electric door operator assembly of size and capacity recommended and provided by door manufacturer for door and operation-cycles requirement specified, with electric motor and factory-prewired motor controls, starter, gear-reduction unit, solenoid-operated brake, clutch, control stations, control devices, integral gearing for locking door, and accessories required for proper operation.

1. Comply with NFPA 70.
2. Control equipment complying with NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6, with NFPA 70 Class 2 control circuit, maximum 24-V ac or dc.

B. Usage Classification: Electric operator and components capable of operating for not less than number of cycles per hour indicated for each door.

C. Door Operator Location(s): Operator location indicated for each door.

1. Top-of-Hood Mounted: Operator is mounted to the right or left door head plate with the operator on top of the door-hood assembly and connected to the door drive shaft with drive chain and sprockets. Headroom is required for this type of mounting.
2. Front-of-Hood Mounted: Operator is mounted to the right or left door head plate with the operator on coil side of the door-hood assembly and connected to the door drive shaft with drive chain and sprockets. Front clearance is required for this type of mounting.
3. Wall Mounted: Operator is mounted to the inside front wall on the left or right side of door and connected to door drive shaft with drive chain and sprockets. Side room is required for this type of mounting. Wall-mounted operator can also be mounted above or below shaft; if above shaft, headroom is required.
4. Bench Mounted: Operator is mounted to the right or left door head plate and connected to the door drive shaft with drive chain and sprockets. Side room is required for this type of mounting.
5. Through-Wall Mounted: Operator is mounted on other side of wall from coil side of door.

D. Motors: Reversible-type motor[with controller (disconnect switch)] for motor exposure indicated for each door assembly.

1. Electrical Characteristics: Minimum as indicated for each door assembly. If not indicated, large enough to start, accelerate, and operate door in either direction from any position, at a speed not less than 8 in./sec. and not more than 12 in./sec., without exceeding nameplate ratings or service factor.

2. Operating Controls, Controllers, Disconnect Switches, Wiring Devices, and Wiring: Manufacturer's standard unless otherwise indicated.
3. Coordinate wiring requirements and electrical characteristics of motors and other electrical devices with building electrical system and each location where installed.

E. Limit Switches: Equip each motorized door with adjustable switches interlocked with motor controls and set to automatically stop door at fully opened and fully closed positions.

F. Obstruction-Detection Devices: External entrapment protection consisting of indicated automatic safety sensor capable of protecting full width of door opening.[For non-fire-rated doors, activation of device immediately stops and reverses downward door travel.][For fire-rated doors, activation delays closing.]

1. Photoelectric Sensor: Manufacturer's standard system designed to detect an obstruction in door opening without contact between door and obstruction.

    a. Self-Monitoring Type: Designed to interface with door operator control circuit to detect damage to or disconnection of sensing device. When self-monitoring feature is activated, door closes only with sustained or constant pressure on close button.

2. Electric Sensor Edge: Automatic safety sensor edge, located within astragal or weather stripping mounted to bottom bar. Contact with sensor activates device. Connect to control circuit using manufacturer's standard take-up reel or self-coiling cable.

    a. Self-Monitoring Type: Four-wire-configured device designed to interface with door operator control circuit to detect damage to or disconnection of sensor edge.

3. Pneumatic Sensor Edge: Automatic safety sensor edge, located within astragal or weather stripping mounted to bottom bar. Contact with sensor activates device.

G. Control Station: Three-button control station in fixed location with momentary-contact push-button controls labeled "Open" and "Stop" and sustained- or constant-pressure push-button control labeled "Close."

1. Interior-Mounted Units: Full-guarded, surface-mounted, heavy-duty type, with general-purpose NEMA ICS 6, Type 1 enclosure.
2. Exterior-Mounted Units: Full-guarded, standard-duty, surface-mounted, weatherproof type, NEMA ICS 6, Type 4 enclosure, key operated.

H. Emergency Manual Operation: Equip each electrically powered door with capability for emergency manual operation. Design manual mechanism so required force for door operation does not exceed [25 lbf][30 lbf]<Insert value>.

I. Emergency Operation Disconnect Device: Equip operator with hand-operated disconnect mechanism for automatically engaging manual operator and releasing

brake for emergency manual operation while disconnecting motor without affecting timing of limit switch. Mount mechanism so it is accessible from floor level. Include interlock device to automatically prevent motor from operating when emergency operator is engaged.

J. Motor Removal: Design operator so motor may be removed without disturbing limit-switch adjustment and without affecting emergency manual operation.

K. Audible and Visual Signals: Audible alarm and visual indicator lights in compliance with the accessibility standard.

L. Portable Radio-Control System: Consisting of [one][two]<Insert number> of the following per door operator:

1. Three-channel universal coaxial receiver to open, close, and stop door.
2. Portable control device to open and stop door may be momentary-contact type; control to close door is to be sustained- or constant-pressure type.
3. Remote-antenna mounting kit.

2.12 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM/NOMMA 500 for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.13 ALUMINUM FINISHES

A. Mill Finish: Manufacturer's standard.

B. Clear Anodic Finish: AAMA 611, [AA-M12C22A41, Class I, 0.018 mm][AA-M12C22A31, Class II, 0.010 mm] or thicker.

C. Color Anodic Finish: AAMA 611, [AA-M12C22A42/A44, Class I, 0.018 mm][AA-M12C22A32/A34, Class II, 0.010 mm] or thicker.

D. Baked-Enamel or Powder-Coat Finish: AAMA 2603. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

2.14 STEEL AND GALVANIZED-STEEL FINISHES

A. Factory Prime Finish: Manufacturer's standard primer, compatible with field-applied finish. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry film thickness.

B. Baked-Enamel or Powder-Coat Finish: Manufacturer's standard baked-on finish

consisting of prime coat and thermosetting topcoat. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry film thickness.

2.15 STAINLESS STEEL FINISHES

A. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.

B. Polished Finishes: Grind and polish surfaces to produce uniform finish, free of cross scratches.

1. Run grain of directional finishes with long dimension of each piece.
2. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.
3. Directional Satin Finish: ASTM A480/A480M No. 4.

C. Bright, Cold-Rolled, Unpolished Finish: ASTM A480/A480M No. 2B.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates areas and conditions, with Installer present, for compliance with requirements for substrate construction and other conditions affecting performance of the Work.

B. Examine locations of electrical connections.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Install overhead coiling doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.

B. Install overhead coiling doors, hoods, controls, and operators at the mounting locations indicated for each door.

C. Accessibility: Install overhead coiling doors, switches, and controls along accessible routes in compliance with the accessibility standard.

D. Fire-Rated Doors: Install according to NFPA 80.

E. Smoke-Control Doors: Install according to NFPA 80 and NFPA 105.

F. Power-Operated Doors: Install[automatic garage doors openers] according to UL 325.

3.3 FIELD QUALITY CONTROL

A. Testing Agency: [Owner will engage][Engage] a qualified testing agency to perform tests and inspections and to furnish reports to Architect.

B. Perform the following tests and inspections[with the assistance of a factory-authorized service representative]:

1. Test door release, closing, and alarm operations when activated by smoke detector or building's fire-alarm system. Test manual operation of closed door. Reset door-closing mechanism after successful test.
2. Fire-Rated Door Inspections: Inspect each fire-rated door in accordance with NFPA 80, Section 5.2.

C. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

D. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

E. Prepare and submit separate inspection report for each fire-rated door assembly indicating compliance with each item listed in [NFPA 80][and][NFPA 101].

3.4 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.
2. After electrical circuitry has been energized, operate doors to confirm proper motor rotation and door performance.
3. Test and adjust controls and safety devices. Replace damaged and malfunctioning controls and equipment.

3.5 ADJUSTING

A. Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion.

1. Adjust exterior doors and components to be weather resistant.

B. Lubricate bearings and sliding parts as recommended by manufacturer.

C. Adjust seals to provide tight fit around entire perimeter.

3.6 MAINTENANCE SERVICE

A. Initial Maintenance Service: Beginning at Substantial Completion, maintenance service includes [three][six][nine][12] months' full maintenance by skilled employees of coiling-

door Installer. Include [monthly][quarterly] preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door operation. Parts and supplies are to be manufacturer's authorized replacement parts and supplies.

1. Perform maintenance, including emergency callback service, during normal working hours.
2. Include 24-hour-per-day, seven-day-per-week, emergency callback service.

3.7 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain overhead coiling doors.

END OF SECTION 08 33 23

SECTION 08 33 26 - OVERHEAD COILING GRILLES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Open-curtain overhead coiling grilles.

B. Related Requirements:

1. Section 055000 "Metal Fabrications" for miscellaneous steel supports, angle-framing of grille opening, corner guards, and bollards.
2. [Section 099123 "Interior Painting"] for finish painting of factory-primed grilles.

1.2 ACTION SUBMITTALS

A. Product Data: For each type and size of overhead coiling grille and accessory.

1. Include construction details, material descriptions, dimensions of individual components, profiles for curtain components, and finishes.
2. Include rated capacities, operating characteristics, electrical characteristics, and furnished accessories.

B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.

1. Include plans, elevations, sections, and mounting details.
2. Include details of equipment assemblies. Indicate dimensions, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include points of attachment and their corresponding static and dynamic loads imposed on structure.
4. For exterior components, include details of provisions for assembly expansion and contraction.
5. Show locations of controls, locking devices, and other accessories.
6. Include diagrams for power, signal, and control wiring.

C. Samples for Initial Selection: Manufacturer's finish charts showing full range of colors and textures available for units with factory-applied finishes.

1. Include similar Samples of accessories involving color selection.

D. Samples for Verification: For each type of exposed finish on the following components, in manufacturer's standard sizes:

1. Open-curtain grille with full-size components consisting of rods, spacers, and

links as required to illustrate each assembly[, including glazed inserts].
2. Closed-curtain grille with full-size components consisting of ribs and infill as required to illustrate each assembly.
3. Bottom bar[with sensor edge].
4. Guides.
5. Mounting frame.
6. Brackets.
7. Hood.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Sample Warranty: For special warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For overhead coiling grilles to include in maintenance manuals.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.

B. Accessibility Standard: Comply with applicable provisions in [the USDOJ's "2010 ADA Standards for Accessible Design"][the ABA standards of the Federal agency having jurisdiction][and][ICC A117.1]<Insert requirement>.

1.6 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of grilles that fail in materials or workmanship within specified warranty period.

1. Warranty Period: [Two]<Insert number> years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. Obtain overhead coiling grilles from single source from single manufacturer.

1. Obtain operators and controls from overhead coiling-grille manufacturer.

2.2 OPEN-CURTAIN GRILLE ASSEMBLY

A. Open-Curtain Grille: Overhead coiling[, countertop] grille with a curtain having a network of horizontal rods that interconnect with vertical links.

1. Manufacturers: Subject to compliance with requirements, [provide products by the following][provide products by one of the following][available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:

a. [ACME Rolling Doors]
b. [Advanced Door Technologies]
c. [Alpine Overhead Doors, Inc]
d. [Alumatec Pacific Products]
e. [Amarr Company]
f. [C.H.I. Overhead Doors, Inc.]
g. [City Gates USA]
h. [Clopay Building Products]
i. [Cookson; a CornellCookson company]
j. [Cornell; a CornellCookson company]
k. [Dynaflair Corporation]
l. [Dynamic Closures Corporation]
m. [Lawrence Roll-Up Doors, Inc.]
n. [McKeon Door Company]
o. [Metro Door LLC]
p. [Overhead Door Corporation]
q. <Insert manufacturer's name>

B. Operation Cycles: Grille components and operators capable of operating for not less than ***50,000*** cycles. One operation cycle is complete when a grille is opened from the closed position to the fully open position and returned to the closed position.

1. Include tamperproof cycle counter.

C. Grille Curtain Material: [Aluminum][Stainless steel][Galvanized steel].

1. Rod Spacing: Approximately ***3 inches o.c.***
2. Link Spacing: Approximately ***6 inches*** apart in a straight in-line pattern.

D. Bottom Bar: Continuous [tubular shape][channel][or][doubled angles], fabricated from [aluminum extrusion][hot-dip galvanized steel][or][stainless steel] and finished [to match grille]<Insert requirement>.

E. Curtain Jamb Guides: [Aluminum][Stainless steel][Galvanized steel] with exposed finish [matching curtain slats]<Insert requirement>. Provide continuous integral wear strips to prevent metal-to-metal contact and to minimize operational noise.[Provide removable post(s) and jamb guides where indicated on Drawings.]

F. Hood: [Match curtain material and finish][Aluminum][Stainless steel][Galvanized steel].

1. Shape: ***As indicated on Drawings***
2. Mounting: ***As indicated on Drawings.***

G. Locking Devices: Equip grille with [slide bolt for padlock][locking device assembly][and][chain lock keeper].

1. Locking Device Assembly: [Single-jamb side][Cremone-type, both jamb sides] locking bars, operable from [inside with thumbturn][outside with cylinder][outside only, with cylinder][inside and outside with cylinders]<Insert requirement>.

H. Electric Grille Operator:

1. Usage Classification: ***Light duty, up to 10 cycles per hour***
2. Operator Location: ***Through wall***
3. Safety: Listed according to UL 325 by a qualified testing agency for commercial or industrial use[; moving parts of operator enclosed or guarded if exposed and mounted at 8 feet or lower].
4. Motor Exposure: [Interior][Exterior, wet, and humid].
5. Motor Electrical Characteristics:

a. Horsepower: 1hp.
b. Confirm power available with EC

6. Emergency Manual Operation: ***[Push-up]*** type.
7. Obstruction-Detection Device: ***Automatic electric sensor edge*** on bottom bar

a. Sensor Edge Bulb Color: [Black]

8. Control Station: ***Where indicated on Drawings***

I. Grille Finish:

1. Aluminum Finish: ***Medium bronze anodized***

2.3 MATERIALS, GENERAL

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.4 GRILLE CURTAIN MATERIALS AND CONSTRUCTION

A. Open-Curtain Grilles: Fabricate metal grille curtain as an open network of horizontal rods, spaced at regular intervals, that are interconnected with vertical links, which are formed and spaced as indicated and are free to rotate on the rods.

1. Aluminum Grille Curtain: ASTM B221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.
2. Stainless Steel Grille Curtain: ASTM A666 or ASTM A240/A240M, Type 300 series.

3. Steel Grille Curtain: Hot-dip zinc coated (galvanized) complying with ASTM A123/A123M, or electrogalvanized complying with ASTM 653/A653M, and phosphatized before fabrication.
4. Glazing Insert: Manufacturer's standard glazing of clear polycarbonate sheet secured by the curtain links.

B. Bottom Bar: Manufacturer's standard continuous shape unless otherwise indicated, finished to match grille.

1. Astragal: Equip grille bottom bar with a replaceable, adjustable, continuous, compressible gasket of flexible vinyl, rubber, or neoprene as a cushion bumper.
2. Provide motor-operated grilles with combination bottom astragal and sensor edge.

C. Grille Curtain Jamb Guides: Manufacturer's standard shape having curtain groove with return lips or bars to retain curtain. Provide continuous integral wear strips to prevent metal-to-metal contact and to minimize operational noise; with removable stops on guides to prevent overtravel of curtain.

1. Removable Posts and Jamb Guides: Manufacturer's standard.

2.5 HOODS AND ACCESSORIES

A. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Form closed ends for surface-mounted hoods and fascia for any portion of between-jamb mounting that projects beyond wall face. Equip hood with intermediate support brackets as required to prevent sagging.

1. Galvanized Steel: Nominal 0.028-inch- thick, hot-dip galvanized-steel sheet with G90 zinc coating, complying with ASTM A653/A653M.
2. Stainless Steel: 0.025-inch- thick, stainless steel sheet, Type 304, complying with ASTM A666 or ASTM A240/A240M.
3. Aluminum: 0.040-inch- thick aluminum sheet, complying with ASTM B209, of alloy and temper recommended by manufacturer and finisher for type of use and finish indicated.

B. Removable Metal Soffit: Formed or extruded from same metal and with same finish as curtain if hood is mounted above ceiling unless otherwise indicated.

C. Mounting Frame: Manufacturer's standard mounting frame designed to support grille; factory fabricated from ASTM A36/A36M structural-steel [tubes][or][shapes], hot-dip galvanized per ASTM A123/A123M; fastened to floor and structure above grille; to be built into wall construction; and complete with anchors, connections, and fasteners.

D. Push/Pull Handles: Equip push-up-operated or emergency-operated grille with lifting handles on each side of grille, finished to match grille.

E. Pull-Down Strap: Provide pull-down straps for grilles more than 84 inches high.

F. Pole Hooks: Provide pole hooks and poles for grilles more than 84 inches high.

2.6 LOCKING DEVICES

A. Slide Bolt: Fabricate with side-locking bolts to engage through slots in tracks for locking by padlock, located on both left and right jamb sides, operable from coil side.

B. Locking Device Assembly: Fabricate with cylinder lock, spring-loaded dead bolt, operating handle, cam plate, and adjustable locking bars to engage through slots in tracks.

1. Lock Cylinders: As [specified in Section 087100 "Door Hardware"][specified in Section 087111 "Door Hardware (Descriptive Specification)"][standard with manufacturer][and keyed to building keying system].
2. Keys: [Two][Three]<Insert number> for each cylinder.

C. Chain Lock Keeper: Suitable for padlock.

D. Safety Interlock Switch: Equip power-operated grilles with safety interlock switch to disengage power supply when grille is locked.

2.7 COUNTERBALANCE MECHANISM

A. General: Counterbalance grilles by means of manufacturer's standard mechanism with an adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to top of curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.

B. Counterbalance Barrel: Fabricate spring barrel of manufacturer's standard hot-formed, structural-quality, [seamless][or][welded] carbon-steel pipe, of sufficient diameter and wall thickness to support rolled-up curtain without distortion of parts and to limit barrel deflection to not more than 0.03 in./ft. of span under full load.

C. Counterbalance Spring: One or more oil-tempered, heat-treated steel helical torsion springs. Size springs to counterbalance weight of curtain, with uniform adjustment accessible from outside barrel. Secure ends of springs to barrel and shaft with cast-steel barrel plugs.

D. Torsion Rod for Counterbalance Shaft: Fabricate of manufacturer's standard cold-rolled steel, sized to hold fixed spring ends and carry torsional load.

E. Brackets: Manufacturer's standard mounting brackets of either cast iron or cold-rolled steel plate.

2.8 MANUAL GRILLE OPERATORS

A. General: Equip grille with manual grille operator by grille manufacturer.

B. Push-up Grille Operation: Lift handles and pull rope for raising and lowering grille, with

counterbalance mechanism designed so that required lift or pull for grille operation does not exceed [25 lbf]<Insert value>. ***(emergency only)***

2.9 ELECTRIC GRILLE OPERATORS

A. General: Electric grille operator assembly of size and capacity recommended and provided by grille manufacturer for grille and operation cycles requirement specified, with electric motor and factory-prewired motor controls, starter, gear-reduction unit, solenoid-operated brake, clutch, control stations, control devices, integral gearing for locking grille, and accessories required for proper operation.

1. Comply with NFPA 70.
2. Control equipment complying with NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6, with NFPA 70 Class 2 control circuit, maximum 24-V ac or dc.

B. Usage Classification: Electric operator and components capable of operating for not less than number of cycles per hour indicated for each grille.

C. Grille Operator Location(s): Operator location indicated for each grille.

1. Top-of-Hood Mounted: Operator is mounted to the right or left grille head plate, with the operator on top of the grille-hood assembly and connected to the grille drive shaft with drive chain and sprockets. Headroom is required for this type of mounting.
2. Front-of-Hood Mounted: Operator is mounted to the right or left grille head plate, with the operator on coil side of the grille-hood assembly and connected to the grille drive shaft with drive chain and sprockets. Front clearance is required for this type of mounting.
3. Wall Mounted: Operator is mounted to the inside front wall on the left or right side of grille and connected to grille drive shaft with drive chain and sprockets. Side room is required for this type of mounting. Wall-mounted operator can also be mounted above or below shaft; if above shaft, headroom is required.
4. Bench Mounted: Operator is mounted to the right or left grille head plate and connected to the grille drive shaft with drive chain and sprockets. Side room is required for this type of mounting.
5. Through-Wall Mounted: Operator is mounted on other side of wall from coil side of grille.

D. Motors: Reversible-type motor[with controller (disconnect switch)] for motor exposure indicated for each grille assembly.

1. Electrical Characteristics: Minimum as indicated for each grille assembly. If not indicated, large enough to start, accelerate, and operate grille in either direction from any position, at a speed not less than 8 in./sec. and not more than 12 in./sec., without exceeding nameplate ratings or service factor.
2. Operating Controls, Controllers (Disconnect Switches), Wiring Devices, and Wiring: Manufacturer's standard unless otherwise indicated.
3. Coordinate wiring requirements and electrical characteristics of motors and other electrical devices with building electrical system and each location where installed.

E. Limit Switches: Equip each motorized grille with adjustable switches interlocked with motor controls and set to automatically stop grille at fully opened and fully closed positions.

F. Obstruction-Detection Devices: External entrapment protection consisting of indicated automatic safety sensor capable of protecting full width of grille opening. Activation of sensor immediately stops and reverses downward grille travel.

1. Photoelectric Sensor: Manufacturer's standard system designed to detect an obstruction in grille opening without contact between grille and obstruction.

a. Self-Monitoring Type: Designed to interface with grille operator control circuit to detect damage to or disconnection of sensing device. When self-monitoring feature is activated, grille closes only with sustained or constant pressure on close button.

2. Electric Sensor Edge: Automatic safety sensor edge, located within astragal or weather stripping mounted to bottom bar. Contact with sensor activates device. Connect to control circuit using manufacturer's standard take-up reel or self-coiling cable.

a. Self-Monitoring Type: Four-wire-configured device designed to interface with grille operator control circuit to detect damage to or disconnection of sensor edge.

3. Pneumatic Sensor Edge: Automatic safety sensor edge, located within astragal mounted to bottom bar. Contact with sensor activates device.

G. Control Station: Three-button control station in fixed location with momentary-contact push-button controls labeled "Open" and "Stop" and sustained- or constant-pressure push-button control labeled "Close."

1. Interior-Mounted Units: Full-guarded, surface-mounted, heavy-duty type, with general-purpose NEMA ICS 6, Type 1 enclosure.
2. Exterior-Mounted Units: Full-guarded, standard-duty, surface-mounted, weatherproof type; NEMA ICS 6, Type 4 enclosure, key operated.

H. Emergency Manual Operation: Equip electrically powered grille with capability for emergency manual operation. Design manual mechanism so required force for grille operation does not exceed [25 lbf][30 lbf]<Insert value>.

I. Emergency Operation Disconnect Device: Equip operator with hand-operated disconnect mechanism for automatically engaging manual operator and releasing brake for emergency manual operation while disconnecting motor without affecting timing of limit switch. Mount mechanism so it is accessible from floor level. Include interlock device to automatically prevent motor from operating when emergency operator is engaged.

J. Motor Removal: Design operator so motor may be removed without disturbing limit-switch adjustment and without affecting emergency manual operation.

K. Audible and Visual Signals: Audible alarm and visual indicator lights in compliance with the accessibility standard.

L. Emergency-Egress Release: Flush, wall-mounted handle mechanism, for accessibility-code-compliant egress feature, not dependent on electric power. The release allows an unlocked grille to partially open without affecting limit switches to permit passage, and it automatically resets motor drive on return of handle to original position.

M. Self-Opening Mechanism: Automatic release mechanism triggered by [smoke detector,][emergency push-button station,] fire alarm or power failure. When activated, the grille self-opens by means of a fail-safe operator to the fully open position without the need for power operation or battery backup systems. When the[emergency push-button is reset, and the] alarm is cleared and power is restored, the grille will operate normally.

2.10 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM/NOMMA 500 for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.11 ALUMINUM FINISHES

A. Mill Finish: Manufacturer's standard.

B. Clear Anodic Finish: AAMA 611, [AA-M12C22A41, Class I, 0.018 mm][AA-M12C22A31, Class II, 0.010 mm] or thicker.

2.12 STEEL AND GALVANIZED-STEEL FINISHES

A. Factory Prime Finish: Manufacturer's standard primer, compatible with field-applied finish. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry film thickness.

B. Baked-Enamel or Powder-Coat Finish: Manufacturer's standard baked-on finish consisting of prime coat and thermosetting topcoat. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry film thickness.

2.13 STAINLESS STEEL FINISHES

A. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.

B. Polished Finishes: Grind and polish surfaces to produce uniform finish, free of cross scratches.

1. Run grain of directional finishes with long dimension of each piece.
2. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.
3. Directional Satin Finish: No. 4.

C. Bright, Cold-Rolled, Unpolished Finish: No. 2B.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrate construction and other conditions affecting performance of the Work.

B. Examine locations of electrical connections.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install overhead coiling grilles and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports, according to manufacturer's written instructions and as specified.

B. Install overhead coiling grilles, hoods, controls, and operators at the mounting locations indicated for each grille.

C. Accessibility: Install overhead coiling grilles, switches, and controls along accessible routes in compliance with the accessibility standard.

D. Power-Operated Grilles: Install[automatic garage grille openers] according to UL 325.

3.3 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.
2. Test and adjust controls and safety devices. Replace damaged and malfunctioning controls and equipment.
3. Test grille opening when activated by detector, fire-alarm system, emergency-egress release, or self-opening mechanism as required. Reset grille-opening mechanism after successful test.

3.4 ADJUSTING

A. Adjust hardware and moving parts to function smoothly, so that grilles operate easily, free of warp, twist, or distortion.

1. Adjust exterior components to be weather resistant.

B. Lubricate bearings and sliding parts as recommended by manufacturer.

3.5 MAINTENANCE SERVICE

A. Initial Maintenance Service: Beginning at Substantial Completion, maintenance service is to include [three][six][nine][12] months' full maintenance by skilled employees of coiling-grille Installer. Include [monthly][quarterly] preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper grille operation. Parts and supplies are to be manufacturer's authorized replacement parts and supplies.

1. Perform maintenance, including emergency callback service, during normal working hours.
2. Include 24-hour-per-day, 7-day-per-week, emergency callback service.

3.6 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain overhead coiling grilles.

END OF SECTION 08 33 26

Supply and install a single-sided digital sign display based on the following specifications.

Manufacturer of digital displays to be fully compliant with the following standards of manufacturing:

- FCC Class A Compliance
  All equipment in use by the digital display manufacturer has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference in which case the user will be required to correct the interference at the user's own expense.
- National Electric Code
  Display to be installed in accordance with the requirements of the National Electrical Code, NFPA 70, and any other applicable local codes. This includes proper grounding and bonding of the sign.
- UL / CUL Compliance
  Underwriters Laboratories (UL) certification is for manufacturers of electric signs built in accordance with the National Electric Code, NFPA 70. UL signs require pre-testing by UL before being allowed to use the UL mark. Cabinet and components to have been UL48 tested and approved.
- UL Energy Efficiency Certification
  Display manufacturer must verify that its LED signs and digital billboards meet the California Energy Commission (CEC) 2008 building Energy Efficiency Standards Title 24, Part 6, and Section 148 of the California Code of Regulations. Watchfire products meet option B of the standard, the specific lighting approach. The signs use 100%LEDs for lighting. The LEDs are powered by a power supply that is at least 80% efficient. Efficiency is defined as the ratio of output wattage to input wattage at 100% load.

Standard Features provided by Digital Display Manufacturer:

Life of sign = *Minimum* of 10 years guarantee of parts availability and support direct from the digital sign manufacturer.

- **Communication to Sign:**
  - 4G Wireless communication with life of sign data included.
  - Preferred wireless network: Verizon
  - Modem to have 5-year parts warranty.
- **Control Software:**
  - Software to be hosted on the manufacturer's servers at no cost to the customer.
  - Software to be 100% cloud-based software, including a cloud-based editor for creating content, multiple content zones, and playlists
  - Able to integrate widgets and RSS Feeds.
  - Include a content library of more than 1000 pieces of graphics and animations
  - Allows for smart scheduling, which eliminates competing products to display in the same daypart.
  - Import and store JPG, GIF, PNG, and TGA image files; MP4 video files with HD 1080 capability; MP3, WAV and WMA audio files.
- **Warranty:**
  - 5 Year Parts warranty. Warranty to include all components of the sign.
  - Provide a ten-year (10) year parts availability guarantee.
  - Replacement parts to be shipped the same day when requested by 3 p.m. CST.
  - Provide toll-free service coordination.

- **Manufacturer Support to be included in bid for a minimum of 10 years from date of purchase:**
  - Remote diagnostics from the manufacturer's U.S. technical support team.
  - Web-based training and support of software
  - Automatic software updates, including content library of artwork.
  - Unlimited log-ins for software, along with the ability to customize level of access for each user.

STANDARD FEATURES

Brightness Daytime 7500 NITs Maximum; Nighttime 700 NITs Maximum.
Color LED RGB
Color Capability Min. 1.2 Quintillion
Includes Ignite Graphics Software
Video Up to 30FPS
Viewing Angles 150 Horizontal/95 Vertical
Software Training Web Based Software Training
Communications 4G Wireless with Verizon Cellular
Wireless Data Plan Life-of-sign Data Plan
Warranty Standard 5-Year Parts

Base Bid: 8mm

PRODUCT SPECIFICATIONS

Pixel Pitch: W8mm LED RGB
Pixel Matrix: 180H X 396W
Ventilation Style: Front Ventilation – Active ventilation only
Cabinet Size: 5ft 5in H x 11ft 3in L x 8in D
Viewing Area: 5ft H x 11ft L
Cabinet Style: Single Face
Character Size: 18 lines / 79.2 Characters at a 3" type
Warranty: Standard 5 Year Watchfire warranty applies.
Electrical Service: 240 VOLT 4 WIRE 24amps

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SECTION 21 13 13 - WET-PIPE SPRINKLER SYSTEMS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Pipes, fittings, and specialties.
   2. Cover system for sprinkler piping.
   3. Specialty valves.
   4. Sprinklers.
   5. Manual control stations.
   6. Pressure gages.

B. Related Requirements:
   1. Section 210523 "General-Duty Valves for Water-Based Fire-Suppression Piping" for ball, butterfly, check, gate, post-indicator, and trim and drain valves.

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For wet-pipe sprinkler systems.
   1. Include plans, elevations, sections, and attachment details.
   2. Include diagrams for power, signal, and control wiring.
   3. Valving
   4. Main riser details
   5. Siamese connections
   6. Water motor gong
   7. Ball drip
   8. Sprinkler locations and types
   9. Fire hose locations
   10. Hydraulic reference points
   11. Hanger locations
   12. Pipe sizes
   13. Drain valves and inspector's test connections.
   14. Most remote hydraulic area
   15. Flow switches
   16. Tamper switches
   17. Pressure switches

C. Delegated-Design Submittal: For wet-pipe sprinkler systems indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.03 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Sprinkler systems, drawn to scale, on which items of other systems and equipment are shown and coordinated with each other, using input from installers of the items

involved.

B. Approved Sprinkler Piping Drawings: Working plans, prepared according to NFPA 13, that have been approved by authorities having jurisdiction, including hydraulic calculations if applicable.

C. Field Test Reports and Certificates: Indicate and interpret test results for compliance with performance requirements and as described in NFPA 13. Include "Contractor's Material and Test Certificate for Aboveground Piping."

D. Field quality-control reports.

1.04 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1.05 QUALITY ASSURANCE

A. Installer Qualifications:
   1. Installer's responsibilities include designing, fabricating, and installing sprinkler systems and providing professional engineering services needed to assume engineering responsibility. Base calculations on results of fire-hydrant flow test.
      a. Engineering Responsibility: Preparation of working plans, calculations, and field test reports by a qualified professional engineer.
   2. Contractor shall be fully licensed and accredited in the installation of automatic sprinkler and related fire protection equipment for a minimum of 5 years and shall be regularly engaged in this trade.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Sprinkler system equipment, specialties, accessories, installation, and testing shall comply with the following:
   1. NFPA 13.

B. Standard-Pressure Piping System Component: Listed for 175-psig minimum working pressure.

C. Delegated Design: Engage a qualified professional engineer, with minimum 5 years' experience to design wet-pipe sprinkler systems.
   1. Sprinkler system design shall be approved by authorities having jurisdiction.
      a. Margin of Safety for Available Water Flow and Pressure: 10 percent, including losses through water-service piping, valves, and backflow preventers.
      b. Sprinkler Occupancy Hazard Classifications:
         1) Automobile Parking Areas: Ordinary Hazard, Group 1.
         2) Building Service Areas: Ordinary Hazard, Group 1.
         3) Electrical Equipment Rooms: Ordinary Hazard, Group 1.
         4) General Storage Areas: Ordinary Hazard, Group 1.
         5) Libraries except Stack Areas: Light Hazard.
         6) Library Stack Areas: Ordinary Hazard, Group 2.
         7) Mechanical Equipment Rooms: Ordinary Hazard, Group 1.
         8) Office and Public Areas: Light Hazard.

2. Minimum Density for Automatic-Sprinkler Piping Design:
   a. Light-Hazard Occupancy: 0.10 gpm over 1500-sq. ft. area.
   b. Ordinary-Hazard, Group 1 Occupancy: 0.15 gpm over 1500-sq. ft. area.
   c. Ordinary-Hazard, Group 2 Occupancy: 0.20 gpm over 1500-sq. ft. area.
3. Maximum Protection Area per Sprinkler: According to UL listing.
4. Maximum Protection Area per Sprinkler:
   a. Office Spaces: 120 sq. ft. 225 sq. ft.
   b. Storage Areas: 130 sq. ft.
   c. Mechanical Equipment Rooms: 130 sq. ft.
   d. Electrical Equipment Rooms: 130 sq. ft.
   e. Other Areas: According to NFPA 13 recommendations unless otherwise indicated.

D. Where glass is incorporated as part of an interior fire rated partition, provide sprinkler coverage on both sides of the glass in the form of a water curtain as described in NFPA 13.
E. In multi-story buildings, the sprinkler system for each floor shall be provided with sectionalizing valves, flow switches, and combination drain and inspectors test connections.
F. Concealed spaces in buildings having combustible construction shall be protected with sprinklers.
G. All sprinkler systems shall have a 10 PSI factor of safety included in the sprinkler design.

2.02 STEEL PIPE AND FITTINGS

A. Standard-Weight Galvanized and Black Steel Pipe: ASTM A 53/A 53M. Pipe ends may be factory or field formed to match joining method.
B. Schedule 30, Galvanized and Black Steel Pipe: ASTM A 135/A 135M; ASTM A 795/A 795M, or ASME B36.10M wrought steel, with wall thickness not less than Schedule 30 and not more than Schedule 40. Pipe ends may be factory or field formed to match joining method.
C. Black Steel Pipe: ASTM A 135/A 135M or ASTM A 795/A 795M, threadable, with wall thickness less than Schedule 30 and equal to or greater than Schedule 10. Pipe ends may be factory or field formed to match joining method.
D. Schedule 10, Black-Steel Pipe: ASTM A 135/A 135M or ASTM A 795/A 795M, Schedule 10 in NPS 5-inch and smaller; and NFPA 13-specified wall thickness in NPS 6 to NPS 10-inch, plain end.
E. Galvanized and Black Steel Pipe Nipples: ASTM A 733, made of ASTM A 53/A 53M, standard-weight, seamless steel pipe with threaded ends.
F. Galvanized and Uncoated Steel Couplings: ASTM A 865/A 865M, threaded.
G. Galvanized and Uncoated, Gray-Iron Threaded Fittings: ASME B16.4, Class 125, standard pattern.
H. Malleable- or Ductile-Iron Unions: UL 860.
I. Cast-Iron Flanges: ASME 16.1, Class 125.
J. Steel Flanges and Flanged Fittings: ASME B16.5, Class 150.
   1. Pipe-Flange Gasket Materials: AWWA C110, rubber, flat face, 1/8 inch thick ASME B16.21, nonmetallic and asbestos free or EPDM rubber gasket.
      a. Class 125 and Class 250, Cast-Iron, Flat-Face Flanges: Full-face gaskets.
      b. Class 150 and Class 300, Ductile-Iron or -Steel, Raised-Face Flanges: Ring-type gaskets.
K. Grooved-Joint, Steel-Pipe Appurtenances:
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. National Fittings, Inc.
      b. Tyco Fire Products LP.
      c. Victaulic Company.
   2. Pressure Rating: 175-psig minimum.

3. Galvanized Painted Uncoated Grooved-End Fittings for Steel Piping: ASTM A 47/A 47M, malleable-iron casting or ASTM A 536, ductile-iron casting, with dimensions matching steel pipe.
4. Grooved-End-Pipe Couplings for Steel Piping: AWWA C606 and UL 213 rigid pattern, unless otherwise indicated, for steel-pipe dimensions. Include ferrous housing sections, EPDM-rubber gasket, and bolts and nuts.

L. Steel Pressure-Seal Fittings: UL 213, FM Global-approved, 175-psig pressure rating with steel housing, rubber O-rings, and pipe stop; for use with fitting manufacturers' pressure-seal tools.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
a. Victaulic Company.

2.03 COVER SYSTEM FOR SPRINKLER PIPING

A. Manufacturers: Subject to compliance with requirements, provide products by the following:
1. DecoShield Systems, Inc.
B. Description: System of support brackets and covers made to protect sprinkler piping.
C. Brackets: Glass-reinforced nylon.

2.04 SPECIALTY VALVES

A. Listed in UL's "Fire Protection Equipment Directory" or FM Global's "Approval Guide."
B. Specialty Valves Pressure Rating: 175-psig minimum.
C. Body Material: Cast or ductile iron.
D. Size: Same as connected piping.
E. End Connections: Flanged or grooved.
F. Alarm Valves:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. Globe Fire Sprinkler Corporation.
b. Reliable Automatic Sprinkler Co., Inc. (The).
c. Tyco Fire Products LP.
d. Victaulic Company.
e. Viking Corporation.
2. Standard: UL 193.
3. Design: For horizontal or vertical installation.
4. Include trim sets for bypass, drain, electrical sprinkler alarm switch, pressure gages, retarding chamber, and fill-line attachment with strainer.
5. Drip Cup Assembly: Pipe drain without valves and separate from main drain piping.
6. Drip Cup Assembly: Pipe drain with check valve to main drain piping.

G. Automatic (Ball Drip) Drain Valves:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. Reliable Automatic Sprinkler Co., Inc. (The).
b. Tyco Fire Products LP.
2. Standard: UL 1726.
3. Pressure Rating: 175-psig minimum.
4. Type: Automatic draining, ball check.
5. Size: NPS 3/4-inch.
6. End Connections: Threaded.

2.05 SPRINKLER PIPING SPECIALTIES

A. Branch Outlet Fittings:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. National Fittings, Inc.
b. Tyco Fire Products LP.
c. Victaulic Company.
2. Standard: UL 213.
3. Pressure Rating175-psig minimum.
4. Body Material: Ductile-iron housing with EPDM seals and bolts and nuts.
5. Type: Mechanical-tee and -cross fittings.
6. Configurations: Snap-on and strapless, ductile-iron housing with branch outlets.
7. Size: Of dimension to fit onto sprinkler main and with outlet connections as required to match connected branch piping.
8. Branch Outlets: Grooved, plain-end pipe, or threaded.

B. Flow Detection and Test Assemblies:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. AGF Manufacturing Inc.
b. Reliable Automatic Sprinkler Co., Inc. (The).
c. Tyco Fire Products LP.
d. Victaulic Company.
2. Standard: UL's "Fire Protection Equipment Directory" or FM Global's "Approval Guide."
3. Pressure Rating: 175-psig minimum 300 psig.
4. Body Material: Cast- or ductile-iron housing with orifice, sight glass, and integral test valve.
5. Size: Same as connected piping.
6. Inlet and Outlet: Threaded or grooved.

C. Branch Line Testers:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. Elkhart Brass Mfg. Co., Inc.
b. Fire-End & Croker Corporation.
c. Potter Roemer LLC.
2. Standard: UL 199.
3. Pressure Rating: 175 psig.
4. Body Material: Brass.
5. Size: Same as connected piping.
6. Inlet: Threaded.
7. Drain Outlet: Threaded and capped.
8. Branch Outlet: Threaded, for sprinkler.

D. Sprinkler Inspector's Test Fittings:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. AGF Manufacturing Inc.
b. Triple R Specialty.
c. Tyco Fire Products LP.
d. Victaulic Company.

e. Viking Corporation.
2. Standard: UL's "Fire Protection Equipment Directory" or FM Global's "Approval Guide."
3. Pressure Rating: 175-psig minimum.
4. Body Material: Cast- or ductile-iron housing with sight glass.
5. Size: Same as connected piping.
6. Inlet and Outlet: Threaded.

E. Adjustable Drop Nipples:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. Aegis Technologies, Inc.
b. CECA, LLC.
c. Corcoran Piping System Co.
d. Merit Manufacturing.
2. Standard: UL 1474.
3. Pressure Rating: 250-psig minimum.
4. Body Material: Steel pipe with EPDM-rubber O-ring seals.
5. Size: Same as connected piping.
6. Length: Adjustable.
7. Inlet and Outlet: Threaded.

F. Flexible Sprinkler Hose Fittings:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. Victaulic
b. Viking Corporation
2. Standard: UL 1474.
3. Type: Flexible hose for connection to sprinkler, and with bracket for connection to ceiling grid.
4. Pressure Rating: 175-psig minimum.
5. Size: Same as connected piping, for sprinkler.

2.06 SPRINKLERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Globe Fire Sprinkler Corporation.
2. Reliable Automatic Sprinkler Co., Inc. (The).
3. Tyco Fire Products LP.
4. Viking Corporation.

B. Listed in UL's "Fire Protection Equipment Directory" or FM Global's "Approval Guide."
C. Pressure Rating for Residential Sprinklers: 175-psig maximum.
D. Pressure Rating for Automatic Sprinklers: 175-psig minimum.
E. Automatic Sprinklers with Heat-Responsive Element:
1. Early-Suppression, Fast-Response Applications: UL 1767.
2. Non-residential Applications: UL 199.
3. Characteristics: Nominal 1/2-inch orifice with Discharge Coefficient K of 5.6, and for "Ordinary" temperature classification rating unless otherwise indicated or required by application.

F. Sprinkler Finishes: Chrome plated bronze and painted.
G. Special Coatings: Wax lead and corrosion-resistant paint
H. Sprinkler Escutcheons: Materials, types, and finishes for the following sprinkler mounting

applications. Escutcheons for concealed, flush, and recessed-type sprinklers are specified with sprinklers.
1. Ceiling Mounting: Chrome-plated steel, one piece, flat.
2. Sidewall Mounting: Chrome-plated steel, one piece, flat.

I. Sprinkler Guards:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. Reliable Automatic Sprinkler Co., Inc. (The).
b. Tyco Fire Products LP.
c. Victaulic Company.
d. Viking Corporation.
2. Standard: UL 199.
3. Type: Wire cage with fastening device for attaching to sprinkler.

J. Sprinkler heads at the top of the elevator shaft shall be rated at 200°F. Sprinklers in swimming pools shall be rated for corrosive environments similar to Viking's electroless nickel plated sprinklers.

K. Provide an allowance for an additional 12 heads and piping to cover architectural review and adjustment at shop drawing review. Design shall follow building lines, centers, and architectural features for a uniform, coordinated appearance.

2.07 MANUAL CONTROL STATIONS

A. Listed in UL's "Fire Protection Equipment Directory" or FM Global's "Approval Guide" for hydraulic operation, with union, NPS ½-inch pipe nipple, and bronze ball valve.

B. Include metal enclosure labeled "MANUAL CONTROL STATION," with operating instructions and cover held closed by breakable strut to prevent accidental opening.

2.08 PRESSURE GAGES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. AGF Manufacturing Inc.
2. AMETEK, Inc.
3. Ashcroft Inc.
4. Brecco Corporation.
5. WIKA Instrument Corporation.

B. Standard: UL 393.

C. Dial Size: 3-1/2-inch to 4-1/2-inch diameter.

D. Pressure Gage Range: 0- to 250-psig minimum.

E. Label: Include "WATER" label on dial face.

2.09 SPRINKLER HEAD CABINET

A. Cold rolled steel, red enamel box, labeled "SPRINKLER HEADS", storage for 12 sprinkler heads, hinged cover.

B. Complete with 12 sprinklers of the type used on the project.

C. Located at the fire service entrance, wall mounted.

PART 3 - EXECUTION

3.01 SERVICE-ENTRANCE PIPING

A. Connect sprinkler piping to water-service piping for service entrance to building. Comply with requirements for exterior piping in Section 211100 "Facility Fire-Suppression Water-Service Piping" for exterior piping.
B. Install shutoff valve backflow preventer, pressure gage, drain, and other accessories indicated at connection to water-service piping. Comply with requirements for backflow preventers in Section 211100 "Facility Fire-Suppression Water-Service Piping."
C. Install shutoff valve, check valve, pressure gage, and drain at connection to water service.

3.02 WATER-SUPPLY CONNECTIONS

A. Connect sprinkler piping to building's interior water-distribution piping. Comply with requirements for interior piping in Section 221116 "Domestic Water Piping."
B. Install shutoff valve, backflow preventer, pressure gage, drain, and other accessories indicated at connection to water-distribution piping. Comply with requirements for backflow preventers in Section 221119 "Domestic Water Piping Specialties."
C. Install shutoff valve, check valve, pressure gage, and drain at connection to water supply.

3.03 PIPING INSTALLATION

A. Locations and Arrangements: Drawing plans, schematics, and diagrams indicate general location and arrangement of piping. Install piping as indicated on approved working plans.
    1. Deviations from approved working plans for piping require written approval from authorities having jurisdiction. File written approval with Architect before deviating from approved working plans.
    2. Coordinate layout and installation of sprinklers with other construction that penetrates ceilings, including light fixtures, HVAC equipment, and partition assemblies.
B. Piping Standard: Comply with NFPA 13 requirements for installation of sprinkler piping.
C. Use listed fittings to make changes in direction, branch takeoffs from mains, and reductions in pipe sizes.
D. Install unions adjacent to each valve in pipes NPS 2-inch and smaller.
E. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2-inch and larger end connections.
F. Install "Inspector's Test Connections" in sprinkler system piping, complete with shutoff valve, and sized and located according to NFPA 13.
G. Install sprinkler piping with drains for complete system drainage.
H. Install sprinkler control valves, test assemblies, and drain risers adjacent to standpipes when sprinkler piping is connected to standpipes.
I. Install automatic (ball drip) drain valve at each check valve for fire-department connection, to drain piping between fire-department connection and check valve. Install drain piping to and spill over floor drain or to outside building.
J. Install alarm devices in piping systems.
K. Install hangers and supports for sprinkler system piping according to NFPA 13. Comply with requirements for hanger materials in NFPA 13. In seismic-rated areas, refer to Section 21 05 48 "Vibration and Seismic Controls for Fire-Suppression Piping and Equipment."
L. Install pressure gages on riser or feed main, at each sprinkler test connection, and at top of each

standpipe. Include pressure gages with connection not less than NPS ¼-inch and with soft-metal seated globe valve, arranged for draining pipe between gage and valve. Install gages to permit removal and install where they are not subject to freezing.

M. Fill sprinkler system piping with water.

3.04 JOINT CONSTRUCTION

A. Joining method: Joints NPS 2-inch and smaller shall be threaded; Joints NPS 2/12-inch and larger shall be grooved mechanical joints.
B. Install couplings, flanges, flanged fittings, unions, nipples, and transition and special fittings that have finish and pressure ratings same as or higher than system's pressure rating for aboveground applications unless otherwise indicated.
C. Install unions adjacent to each valve in pipes NPS 2-inch and smaller.
D. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2-inch and larger end connections.
E. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
F. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.
G. Flanged Joints: Select appropriate gasket material in size, type, and thickness suitable for water service. Join flanges with gasket and bolts according to ASME B31.9.
H. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
    1. Apply appropriate tape or thread compound to external pipe threads.
    2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.
I. Twist-Locked Joints: Insert plain end of steel pipe into plain-end-pipe fitting. Rotate retainer lugs one-quarter turn or tighten retainer pin.
J. Steel-Piping, Pressure-Sealed Joints: Join lightwall steel pipe and steel pressure-seal fittings with tools recommended by fitting manufacturer.
K. Steel-Piping, Cut-Grooved Joints: Cut square-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe joints.
L. Steel-Piping, Roll-Grooved Joints: Roll rounded-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe grooved joints.
M. Steel-Piping, Pressure-Sealed Joints: Join steel pressure-seal fittings with tools recommended by fitting manufacturer.
N. Extruded-Tee Connections: Form tee in copper tube according to ASTM F 2014. Use tool designed for copper tube; drill pilot hole, form collar for outlet, dimple tube to form seating stop, and braze branch tube into collar.
O. Dissimilar-Material Piping Joints: Make joints using adapters compatible with materials of both piping systems.
P. Plastic-Piping, Solvent-Cement Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:
    1. Comply with ASTM F 402 for safe handling practice of cleaners, primers, and solvent cements. Apply primer.
    2. CPVC Piping: Join according to ASTM D 2846/D 2846M Appendix.

3.05 VALVE AND SPECIALTIES INSTALLATION

A. Install listed fire-protection valves, trim and drain valves, specialty valves and trim, controls, and specialties according to NFPA 13 and authorities having jurisdiction.
B. Install listed fire-protection shutoff valves supervised open, located to control sources of water supply except from fire-department connections. Install permanent identification signs indicating portion of system controlled by each valve.
C. Install check valve in each water-supply connection. Install backflow preventers instead of check valves in potable-water-supply sources.
D. Specialty Valves:
    1. Install valves in vertical position for proper direction of flow, in main supply to system.
    2. Install alarm valves with bypass check valve and retarding chamber drain-line connection.
    3. Install deluge valves in vertical position, in proper direction of flow, and in main supply to deluge system. Install trim sets for drain, priming level, alarm connections, ball drip valves, pressure gages, priming chamber attachment, and fill-line attachment.

3.06 SPRINKLER INSTALLATION

A. Install sprinklers in suspended ceilings in center of acoustical ceiling panels.
B. Install dry-type sprinklers with water supply from heated space. Do not install pendent or sidewall, wet-type sprinklers in areas subject to freezing.
C. Install sprinklers into flexible, sprinkler hose fittings, and install hose into bracket on ceiling grid.

3.07 IDENTIFICATION

A. Install labeling and pipe markers on equipment and piping according to requirements in NFPA 13.
B. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Electrical Specifications.

3.08 FIELD QUALITY CONTROL

A. Perform the following tests and inspection with the assistance of a factory-authorized service representative:
    1. Leak Test: After installation, charge systems and test for leaks. Repair leaks and retest until no leaks exist.
    2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
    3. Flush, test, and inspect sprinkler systems according to NFPA 13, "Systems Acceptance" Chapter.
    4. Energize circuits to electrical equipment and devices.
    5. Coordinate with fire-alarm tests. Operate as required.
    6. Coordinate with fire-pump tests. Operate as required.
    7. Verify that equipment hose threads are same as local fire department equipment.
B. Sprinkler piping system will be considered defective if it does not pass tests and inspections.
C. Prepare test and inspection reports.

3.09 CLEANING

A. Clean dirt and debris from sprinklers.

B. Only sprinklers with their original factory finish are acceptable. Remove and replace any sprinklers that are painted or have any other finish than their original factory finish.

3.10 PIPING SCHEDULE

A. Piping between Fire Department Connections and Check Valves: Galvanized, standard-weight steel pipe with threaded ends, cast-iron threaded fittings, and threaded or grooved ends, grooved-end fittings, grooved-end-pipe couplings, and grooved joints.
B. Sprinkler specialty fittings may be used, downstream of control valves, instead of specified fittings.
C. Standard-pressure, wet-pipe sprinkler system, NPS 2-inch and smaller, shall be one of the following:
   1. Standard weight or Schedule 40, black-steel pipe with threaded ends; uncoated, gray-iron threaded fittings; and threaded joints.
   2. Standard weight or Schedule 40, black-steel pipe with plain ends; uncoated, plain-end-pipe fittings; and twist-locked joints.
   3. Standard weight or Schedule 40, galvanized-steel pipe with plain ends; galvanized, plain-end-pipe fittings; and twist-locked joints.
   4. Standard or Schedule 40, black-steel pipe with cut or roll grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.
D. Standard-pressure, wet-pipe sprinkler system, NPS 2-1/2-inch to NPS 4-inch shall be one of following:
   1. Standard weight or Schedule 30 black-steel pipe with threaded ends; uncoated, gray-iron threaded fittings; and threaded joints.
   2. Standard weight or Schedule 30, black-steel pipe with cut or roll grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.
E. Standard-pressure, wet-pipe sprinkler system, NPS 5-inch and larger, shall be one of the following:
   1. Standard weight or Schedule 10, black-steel pipe with threaded ends; uncoated, gray-iron threaded fittings; and threaded joints.
   2. Standard weight or Schedule 10, black-steel pipe with cut or roll grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.

3.11 SPRINKLER SCHEDULE

A. Use sprinkler types in subparagraphs below for the following applications:
   1. Rooms without Ceilings: Upright sprinklers.
   2. Rooms with Suspended Ceilings: Pendent concealed sprinklers as indicated.
   3. Wall Mounting: Sidewall sprinklers.
   4. Spaces Subject to Freezing: Upright, pendent, dry sprinklers; and sidewall, dry sprinklers as indicated.
   5. Special Applications: Extended-coverage, flow-control, and quick-response sprinklers where indicated Attic sprinklers.
B. Provide sprinkler types in subparagraphs below with finishes indicated.
   1. Concealed Sprinklers: Rough brass, with factory-painted white cover plate.
   2. Flush Sprinklers: Bright chrome, with painted white escutcheon.
   3. Recessed Sprinklers: Bright chrome, with bright chrome escutcheon.
   4. Upright Pendent and Sidewall Sprinklers: Chrome plated in finished spaces exposed to view; rough bronze in unfinished spaces not exposed to view; wax coated where exposed to acids, chemicals, or other corrosive fumes.

END OF SECTION

SECTION 21 31 13 - ELECTRIC-DRIVE, CENTRIFUGAL FIRE PUMPS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:
   1. End-suction fire pumps.
   2. In-line fire pumps.
   3. Fire-pump accessories and specialties.

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product.
B. Shop Drawings: For fire pumps, motor drivers, and fire-pump accessories and specialties.
   1. Include plans, elevations, sections, and mounting and attachment details.
   2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
   3. Include diagrams for power, signal, and control wiring.

1.03 INFORMATIONAL SUBMITTALS

A. Seismic Qualification Certificates: For fire pumps, accessories, and components, from manufacturer.
B. Field quality-control reports.

1.04 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. NFPA Compliance: Comply with NFPA 20.
B. Seismic Performance: Fire pumps shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
   1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."
   2. Component Importance Factor: 1.5.
C. Pump Equipment, Accessory, and Specialty Pressure Rating: 175 psig minimum unless

higher pressure rating is indicated.

D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.02 GENERAL REQUIREMENTS FOR CENTRIFUGAL FIRE PUMPS

A. Description: Factory-assembled and -tested fire-pump and driver unit.
B. Base: Fabricated and attached to fire-pump and driver unit, with reinforcement to resist movement of pump during seismic events when base is anchored to building substrate.
C. Finish: Red paint applied to factory-assembled and tested unit before shipping.

2.03 END-SUCTION FIRE PUMPS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Aurora Fire Pump
   2. Peerless Pump Company.
   3. S.A. Armstrong Limited.
B. Pump:
   1. Standard: UL 448, for end-suction pumps for fire service.
   2. Casing: Radially split case, top centerline discharge, self-venting, cast iron, with ASME B16.1 pipe-flange connections.
   3. Impeller: Cast bronze, statically and dynamically balanced, and keyed to shaft.
   4. Wear Rings: Replaceable bronze.
   5. Shaft and Sleeve: Steel shaft with bronze sleeves.
      a. Shaft Bearings: Grease-lubricated, back-to-back thrust ball bearings and one radial roller bearing.
      b. Seals: Stuffing box with minimum of four rings of graphite-impregnated braided yarn and bronze packing gland.
   6. Mounting: Back pullout design, allowing complete rotating assembly removal without disturbing the casing piping connections. Pump and driver shafts are horizontal, with pump and driver on same base.
C. Coupling: Flexible and capable of absorbing torsional vibration and shaft misalignment. Include metal coupling guard.
D. Driver:
   1. Standard: UL 1004A.
   2. Type: Electric motor; NEMA MG 1, polyphase Design B.
E. Capacities and Characteristics: (Specifier to Provide Information Below)
   1. Rated Capacity: 750 GPM
   2. Total Rated Head:
   3. Inlet Flange
   4. Outlet Flange:
   5. Suction Head Available at Pump
   6. Motor Horsepower: 25
   7. Motor Speed:
   8. Electrical Characteristics:
      a. Volts: 480
      b. Phase: Three.
      c. Hertz: 60.

d. Full-Load Amperes:
e. Minimum Circuit Ampacity:
f. Maximum Overcurrent Protection:
9. Pump-Start, Pressure-Switch Setting:
10. Pump-Stop, Pressure-Switch Setting:

2.04 IN-LINE FIRE PUMPS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Aurora Fire Pump.
2. Peerless Pump Company.
3. Pentair Pump Group.
4. S.A. Armstrong Limited.

B. Pump:
1. Standard: UL 448, for in-line pumps for fire service.
2. Casing: Radially split case, cast iron, with ASME B16.1 pipe-flange connections.
3. Impeller: Cast bronze, statically and dynamically balanced, and keyed to shaft.
4. Wear Rings: Replaceable bronze.
5. Shaft and Sleeve: Steel shaft with bronze sleeve.
a. Shaft Bearings: Grease-lubricated ball bearings in cast-iron housing.
b. Seals: Stuffing box with minimum of four rings of graphite-impregnated braided yarn and bronze packing gland.
6. Mounting: Pump and driver shaft is vertical, with motor above pump and pump on base. Motor and pump rotating assembly shall be removable from top without removing the pump casing from the piping.

C. Coupling: None or rigid.

D. Driver:
1. Standard: UL 1004A.
2. Type: Electric motor; NEMA MG 1, polyphase Design B.

E. Capacities and Characteristics:
1. Rated Capacity: 750 GPM
2. Total Rated Head:
3. Inlet Flange: N/A
4. Outlet Flange: N/A
5. Suction Head N/A
6. Motor Horsepower: 25 HP
7. Motor Speed:
8. Electrical Characteristics:
a. Volts: 480
b. Phase: Three.
c. Hertz: 60.
d. Full-Load Amperes:
e. Minimum Circuit Ampacity:
f. Maximum Overcurrent Protection:
9. Pump-Start, Pressure-Switch Setting:
10. Pump-Stop, Pressure-Switch Setting:

2.05 FIRE-PUMP ACCESSORIES AND SPECIALTIES

A. Automatic Air-Release Valves: Comply with NFPA 20 for installation in fire-pump casing.
B. Circulation Relief Valves: UL 1478, brass, spring loaded; for installation in pump discharge piping.
C. Relief Valves:
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. BERMAD Control Valves.
      b. CLA-VAL Automatic Control Valves.
      c. Kunkle Valve.
      d. OCV Control Valves.
      e. Watts; a Watts Water Technologies company.
      f. Zurn Industries, LLC.
   2. Description: UL 1478, bronze or cast iron, spring loaded; for installation in fire-suppression water-supply piping.
D. Inlet Fitting: Eccentric tapered reducer at pump suction inlet.
E. Outlet Fitting: Concentric tapered reducer at pump discharge outlet.
F. Discharge Cone: Closed or open type.

2.06 GROUT

A. Standard: ASTM C 1107, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
B. Characteristics: Nonshrink and recommended for interior and exterior applications.
C. Design Mix: 5000-psi, 28-day compressive strength.
D. Packaging: Premixed and factory packaged.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Fire-Pump Installation Standard: Comply with NFPA 20 for installation of fire pumps, relief valves, and related components.
B. Equipment Mounting:
   1. Install fire pumps on cast-in-place concrete equipment bases.
C. Install fire-pump suction and discharge piping equal to or larger than sizes required by NFPA 20.
D. Support piping and pumps separately, so weight of piping does not rest on pumps.
E. Install valves that are same size as connecting piping. Comply with requirements for fire-protection valves specified in Section 211200 "Fire-Suppression Standpipes." Section 211313 "Wet-Pipe Sprinkler Systems."
F. Install pressure gages on fire-pump suction and discharge flange pressure-gage tapings. Comply with requirements for pressure gages specified in Section 211200 "Fire-Suppression Standpipes." Section 211313 "Wet-Pipe Sprinkler Systems."
G. Install piping hangers and supports, anchors, valves, gages, and equipment support according to NFPA 20.

H. Electrical Wiring: Install electrical devices furnished by equipment manufacturers but not factory mounted. Furnish copies of manufacturers' wiring diagram submittals to electrical Installer.
I. Wiring Method: Conceal conductors and cables in accessible ceilings, walls, and floors where possible.

3.02 ALIGNMENT

A. Align end-suction pump and driver shafts after complete unit has been leveled on concrete base, grout has set, and anchor bolts have been tightened.
B. After alignment is correct, tighten anchor bolts evenly. Fill baseplate completely with grout, with metal blocks and shims or wedges in place. Tighten anchor bolts after grout has hardened. Check alignment and make required corrections.
C. Align piping connections.
D. Align pump and driver shafts for angular and parallel alignment according to HI 1.4 and to tolerances specified by manufacturer.

3.03 CONNECTIONS

A. Comply with requirements for piping and valves specified in Section 211200 "Fire Suppression Standpipes." Section 211313 "Wet-Pipe Sprinkler Systems." Drawings indicate general arrangement of piping, fittings, and specialties.
B. Install piping adjacent to pumps and equipment to allow service and maintenance.
C. Connect relief-valve discharge to drainage piping or point of discharge.
D. Connect flowmeter-system meters, sensors, and valves to tubing.
E. Connect fire pumps to their controllers.

3.04 IDENTIFICATION

A. Identify system components. Comply with requirements for fire-pump marking according to NFPA 20.

3.05 FIELD QUALITY CONTROL

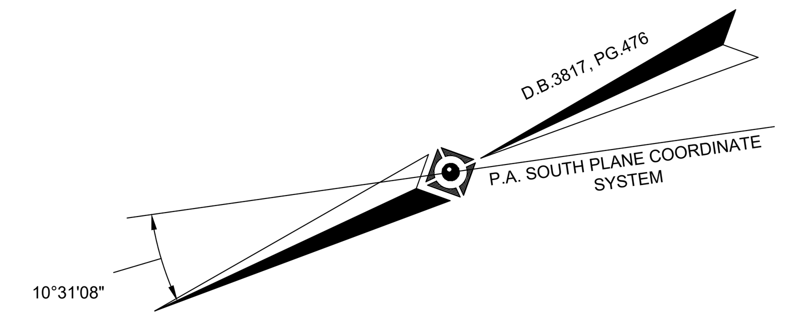
A. Test each fire pump with its controller as a unit. Comply with requirements for electric-motor-driver fire-pump controllers specified in Section 21 59 33 "Controllers for Fire-Pump Drivers."
B. Perform the following tests and inspections with the assistance of a factory-authorized service representative.
    1. After installing components, assemblies, and equipment, including controller, test for compliance with requirements.
    2. Test according to NFPA 20 for acceptance and performance testing.
    3. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
    4. Operational Test: After electrical circuitry, has been energized, start units to confirm proper motor rotation and unit operation.
    5. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
C. Components, assemblies, and equipment will be considered defective if they do not pass tests and inspections.

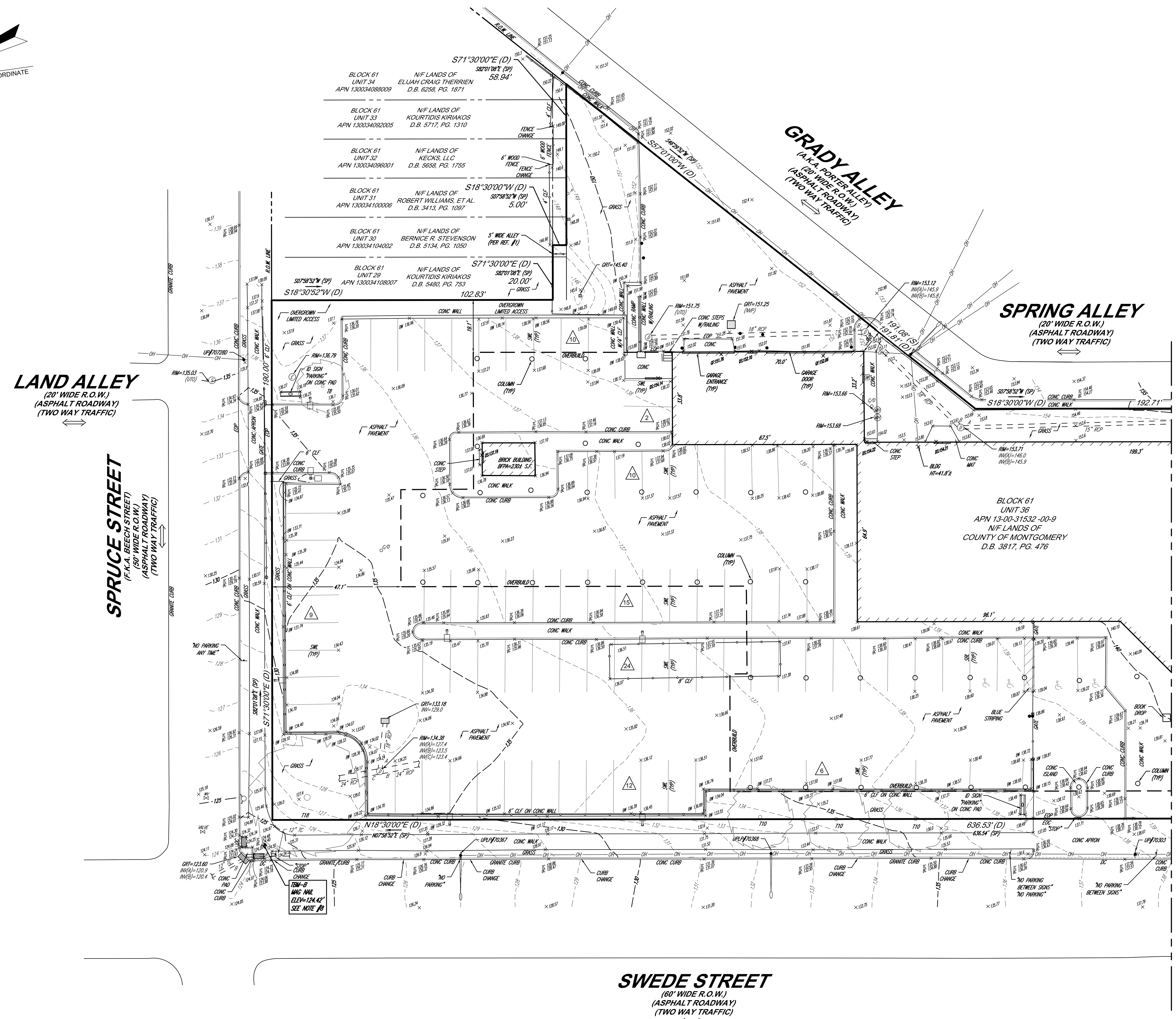
D. Prepare test and inspection reports.
E. Furnish fire hoses in number, size, and length required to reach storm drain or other acceptable location to dispose of fire-pump test water. Hoses are for tests only and do not convey to Owner.

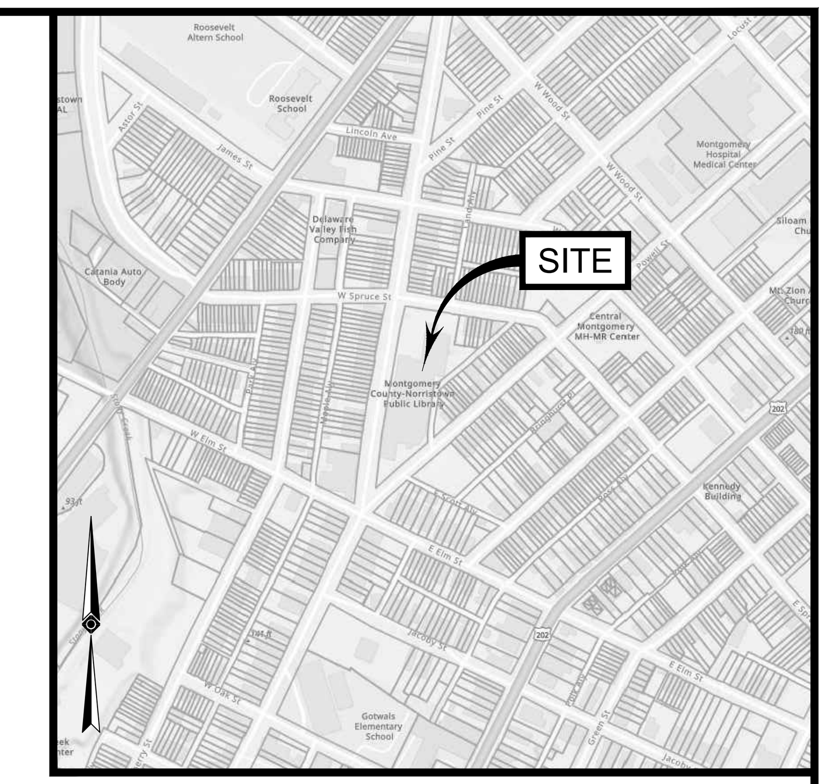
3.06 STARTUP SERVICE

A. Perform startup service.
   1. Complete installation and startup checks according to manufacturer's written instructions.

END OF SECTION







VICINITY MAP
NOT TO SCALE

LEGEND

- 124 / 125 — EXISTING CONTOUR
- × 123.45 — EXISTING SPOT ELEVATION
- × TC 123.45 — EXIST. TOP OF CURB ELEVATION
- × BC 122.95 — EXIST. BOTTOM OF CURB ELEVATION
- × TW 123.45 — EXIST. TOP OF WALL ELEVATION
- × BW 122.95 — EXIST. BOTTOM OF WALL ELEVATION
- × FF 123.45 — EXIST. FINISHED FLOOR ELEVATION
- × DS 123.45 — EXIST. DOOR SILL ELEVATION
- × GF 123.45 — EXIST. GARAGE FLOOR ELEVATION
- OH — OVERHEAD WIRES
- DEPRESSED CURB
- HYDRANT
- FIRE DEPARTMENT CONNECTION (F.D.C.)
- WATER VALVE
- ELECTRIC BOX
- GAS METER
- GAS VALVE
- UNKNOWN VALVE
- ELECTRIC MANHOLE
- UNKNOWN MANHOLE
- SANITARY/SEWER MANHOLE
- TELEPHONE MANHOLE
- C/O — CLEAN OUT
- P — POST
- GUY WIRE
- UP # — UTILITY POLE
- UPLPSP # — UTILITY POLE/LIGHT POLE/SOLAR PANEL
- TRAFFIC SIGNAL
- PAINTED HANDICAPPED
- DETECTABLE WARNING PAD
- METAL COVERS
- SIGN
- BOLLARD
- U-BOLLARD
- GATE POST
- FLAG POLE
- AREA LIGHT
- T# — DECIDUOUS TREE & TRUNK SIZE
- P# — CONIFEROUS TREE & TRUNK SIZE
- 10 — PARKING SPACE COUNT
- BFPA — BUILDING FOOTPRINT AREA
- BLDG — BUILDING
- CLF — CHAIN LINK FENCE
- DC — DEPRESSED CURB
- EOC — EDGE OF CONC.
- EOP — EDGE OF PAVEMENT
- HT — HEIGHT
- MC — METAL COVER
- SWL — SOLID WHITE LINE
- TYP — TYPICAL
- EVIDENCE FOUND
- (D) — DEED DIMENSION
- (SP) — STATE PLANE
- (S) — SURVEY DIMENSION

NOTES:

1. PROPERTY KNOWN AS APN 13-00-31532 -00-9 AS IDENTIFIED ON THE TAX MAP OF BOROUGH OF NORRISTOWN, MONTGOMERY COUNTY, COMMONWEALTH OF PENNSYLVANIA.
2. AREA = 94,779 SQUARE FEET OR 2.176 ACRES.
3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE ASBUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED.

   A QUALITY LEVEL SYSTEM IS UTILIZED TO IDENTIFY THE SOURCE OF THE UNDERGROUND UTILITY INFORMATION. THE METHOD OF DETERMINATION IS BASED ON CONTRACTUAL AGREEMENT WITH THE CLIENT AND IS DEPICTED ON THE SURVEY BY THE LINE TYPES SHOWN IN THE DRAWING LEGEND. FOR REFERENCE, THE QUALITY LEVELS ARE AS FOLLOWS:

   QUALITY LEVEL D - UTILITIES SHOWN BASED UPON REFERENCE MAPPING OR ORAL HISTORY. NOT FIELD VERIFIED.

   QUALITY LEVEL C - LOCATION OF UTILITY SURFACE FEATURES SUPPLEMENTS REFERENCE MAPPING. INCLUDES MARKOUT BY OTHERS.

   QUALITY LEVEL B - UTILITY LOCATION DATA IS COLLECTED THROUGH GEOPHYSICAL SENSING TECHNOLOGY TO SUPPLEMENT SURFACE FEATURES AND OR REFERENCE MAPPING. INCLUDES MARKOUT BY CONTROL POINT ASSOCIATES, INC.

   QUALITY LEVEL A - HORIZONTAL AND VERTICAL LOCATION OF UTILITIES ARE OBTAINED USING VACUUM EQUIPMENT EXCAVATION OR OTHER METHODS TO EXPOSE THE UTILITY. LOCATION SHOWN AT SINGLE POINT WHERE EXCAVATION OCCURRED UNLESS UTILITY WAS LOCATED PRIOR TO FILLING.

   ALL FOUR TYPES MAY NOT BE PRESENT ON THIS SURVEY.
4. THIS PLAN IS BASED ON INFORMATION PROVIDED BY THE CLIENT, A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC., AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
5. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN. IT IS STRONGLY RECOMMENDED THAT A COMPLETE TITLE SEARCH BE PROVIDED TO THE SURVEYOR FOR REVIEW PRIOR TO THE PLACEMENT OF OR ALTERATION TO IMPROVEMENTS ON THE PROPERTY.
6. EXISTING FIRM: BY GRAPHIC PLOTTING ONLY PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% CHANCE FLOODPLAIN.) PER MAP REF #2.
7. THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THE FIELD SURVEY.
8. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BASED ON GPS OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNETGPS).
   TEMPORARY BENCH MARKS SET:
   TBM-A: MAG NAIL SET IN CONCRETE WALK, ELEVATION= 145.10' (SHEET 2)
   TBM-B: MAG NAIL SET IN CONCRETE WALK, ELEVATION= 124.42' (SHEET 1)

   PRIOR TO CONSTRUCTION IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE BENCHMARKS ILLUSTRATED ON THIS SKETCH HAVE NOT BEEN DISTURBED AND THEIR ELEVATIONS HAVE BEEN CONFIRMED. ANY CONFLICTS MUST BE REPORTED PRIOR TO CONSTRUCTION.
9. THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.
10. THERE ARE A TOTAL OF 88 DESIGNATED PARKING SPACES, INCLUDING 4 HANDICAP SPACES.
11. BUILDING DIMENSIONS SHOWN HEREON ARE MEASURED AT GROUND LEVEL OF BUILDING EXTERIOR.

REFERENCES:

1. THE OFFICIAL TAX ASSESSOR'S MAP OF BOROUGH OF NORRISTOWN, MONTGOMERY COUNTY, COMMONWEALTH OF PENNSYLVANIA, SHEET #13-61.
2. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, NORTHAMPTON COUNTY, PENNSYLVANIA, (ALL JURISDICTIONS), PANEL 329 OF 355", MAP NUMBER 42095C0329E, EFFECTIVE DATE: JULY 16, 2014.
3. MAP ENTITLED "SITE PLAN" SHEET NO. A-1, DATED 4-16-1974, PREPARED BY EWING COLE ERDMAN & EUBANK.

UTILITIES:

THE FOLLOWING COMPANIES WERE NOTIFIED BY PENNSYLVANIA ONE CALL SYSTEM, INC. (1-800-242-1776) AND REQUESTED INFORMATION REGARDING THE LOCATION OF UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST.
SERIAL NUMBER(S): 20242410560

UTILITY COMPANY	PHONE NUMBER
NORRISTOWN MUNICIPALITY OF	610-324-6604
COMCAST	484-368-4391
NORRISTOWN MUNICIPAL WASTE AUTHORITY	610-270-3190
PECO AN EXELON COMPANY C/O USIC	484-681-5720
PENNSYLVANIA AMERICAN WATER	610-292-3575
VERIZON BUSINESS FORMERLY MCI	919-414-2782

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GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

I HEREBY CERTIFY THAT THIS SURVEY HAS BEEN PERFORMED IN THE FIELD UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE, BELIEF, AND INFORMATION, THAT THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CURRENTLY ACCEPTED ACCURACY STANDARDS.

NOT VALID UNLESS SEALED IN RED INK

JAMES C. WEED
PENNSYLVANIA PROFESSIONAL LAND SURVEYOR #75250

10-04-2024
DATE

FIELD DATE	FIELD BOOK NO.	FIELD BOOK PG.	FIELD CREW	DRAWN:	REVIEWED:
08-29-2024	0524-02	78	C.K.	P.V./M.T.	M.T./B.A.R.

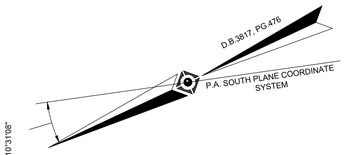
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MANHATTAN, NY 646.780.0411
LONG ISLAND, NY 631.580.2645
SOUTHBOROUGH, MA 508.948.3000
ALBANY, NY 518.217.5010
ROCHESTER, NY 585.250.1764
GEORGETOWN, DE 302.295.1010
PHILADELPHIA, PA 215.712.9800
HUDSON VALLEY, NY 845.691.7339
FT. LAUDERDALE, FL 954.763.7611

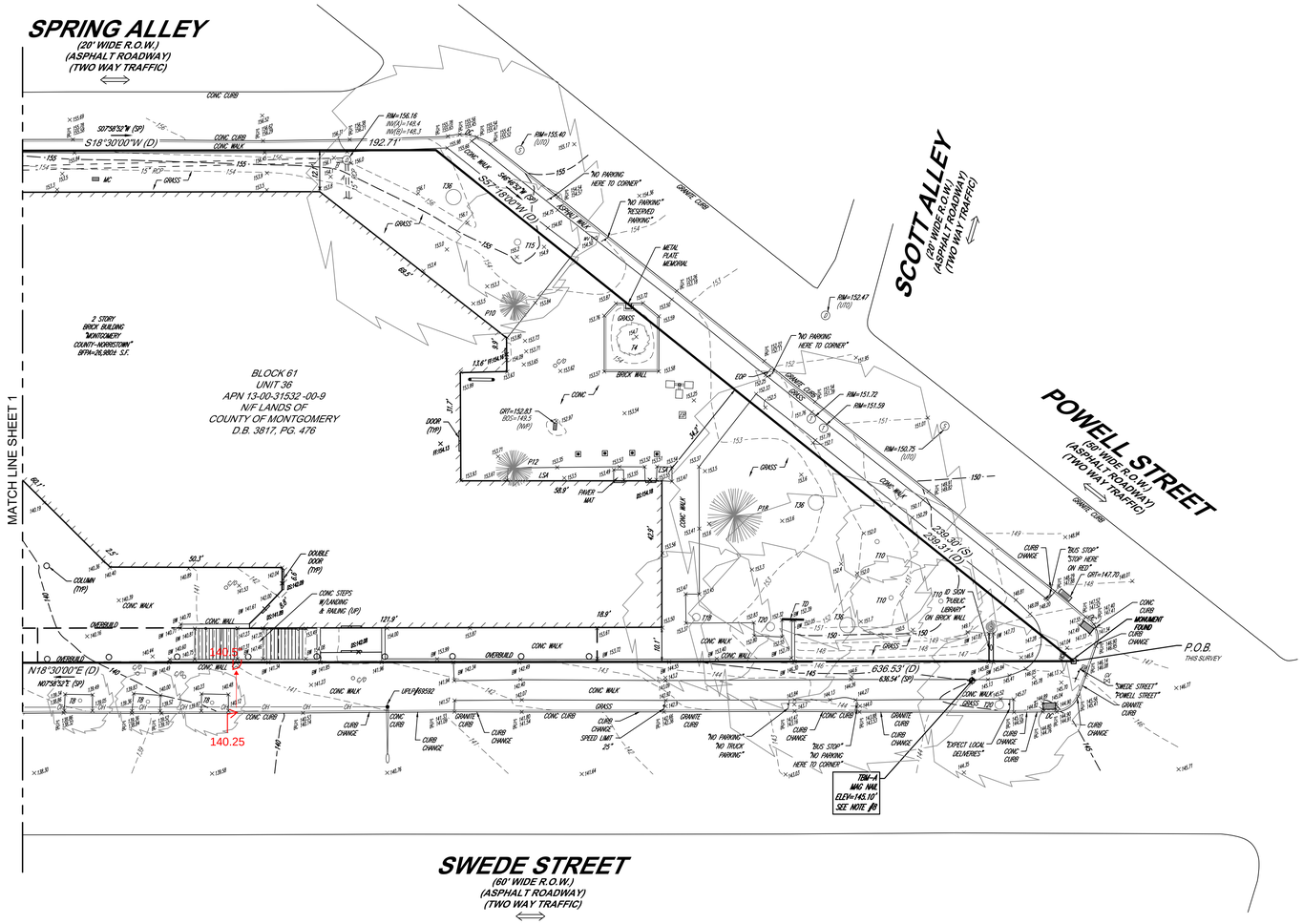
APPROVED:	DATE	SCALE	FILE NO.	DWG. NO.
B.A.R./J.C.W.	10-04-2024	1" = 20'	02-240206-00	1 OF 2

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LEGEND

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- EXISTING SPOT ELEVATION
- EXIST. TOP OF CURB ELEVATION
- EXIST. BOTTOM OF CURB ELEVATION
- EXIST. TOP OF WALL ELEVATION
- EXIST. BOTTOM OF WALL ELEVATION
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- EXIST. GARAGE FLOOR ELEVATION
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- DEPRESSED CURB
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- WATER VALVE
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- GAS VALVE
- UNKNOWN VALVE
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- PARKING SPACE COUNT
- BFPM BUILDING FOOTPRINT AREA
- BLDG BUILDING
- CLF CHAIN LINK FENCE
- DC DEPRESSED CURB
- EOC EDGE OF CONC.
- EOP EDGE OF PAVEMENT
- HT HEIGHT
- MC METAL COVER
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- (SP) STATE PLANE
- (S) SURVEY DIMENSION



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20 0 10 20 40 80

(IN FEET)
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10-04-2024
DATE

JAMES C. WEED
PENNSYLVANIA PROFESSIONAL LAND SURVEYOR #75250

FIELD DATE	08-29-2024
FIELD BOOK NO.	0524-02
FIELD BOOK PG.	78
FIELD CREW	C.K.
DRAWN:	P.V./M.T.
REVIEWED:	M.T./B.A.R.

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Montgomery County, Norristown Public Library



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Lawrence H. Curry, Commissioner
Henry E. Pennington, Chief Clerk
Roger B. Reynolds, Esq., Solicitor
Lawrence F. Flick, Esq., Controller
Russell W. Piazza, Director of Purchasing
J. John Apt, Director, Dept. of Public Property
Sullivan J. Asko, Jr., President, Library Board
Pearl Frankenfeld, Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

NOTE:
SEE A-1 FOR GENERAL NOTES AND DEPARTMENT OF LABOR AND INDUSTRY INFORMATION

STATE ART COMMISSION — APPROVED — PENNSYLVANIA
19,186 SUBMISSION NUMBER
TITLE OF SUBMISSION
LOCATION
9/27/74 DATE
SECRETARY, STATE ART COMMISSION

Partner In Charge — Robert V. Cherry
Designer — James T. Lutz
Project Architect — Nathaniel Gaines
Project Manager — Jonathan Dyer

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Montgomery County · Norristown Public Library
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Pearl Frankenfeld, Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

TITLE SHEET & FINISH SCHEDULE

MATERIAL SYMBOLS

SEE SHEET A-5 FOR METAL STUD PARTITION TYPES.

BRICK — BRICK, ELEVATION
GYPSUM — PLASTER, PL. PART. (LARGE SCALE)
INSULATION — BLANKET OR BLOWN, RIGID
HOLLOW TILE — GSPT
CONCRETE — STONE, GINDER, CONC. EL., TERRAZZO
STONE — RUBBLE IN ELEVATION, CAST STONE, SLATE, LIMESTONE
EARTH — EARTH, GRAVEL
GLASS — SMALL SCALE, ELEVATION
FLOOR FIN. EXAMPLES — TILE, MARBLE
...ER. TILE
METAL — STEEL, IRON, ALUMINUM, SHEET MTY., SMALL SCALE
WOOD — FINISH, ROUGH, ELEVATION, PLYWOOD

SYMBOLS

101 — ROOM NUMBER
FINISH NUMBER
10-B — COLOR CODE
ACCENT COLOR
CH-8'-0" — CEILING HEIGHT
3 / A-2 — SECTION
3 / A-6 ITEM # / DRAWING # — DETAIL
4 / A-7 — INTERIOR ELEVATION
0'-0" — ELEVATION (PLAN SECTION, ELEVATION)

ABBREVIATIONS

A	ASPHALT	CONTR	CONTRACTION	FEXT	FIRE EXTCH.	JAN	JANITOR
AB	ANCHOR BOLT	CONV	CONVECTOR	FD	FIRE DAMPER	JO	JAMB OPENING
ADV	ADOVE	CONV	CONVECTOR	FD	FLOOR DRAIN	JT	JOINT
AC	ACOUSTIC	COP	COPPER	FDC	FIRE DEPARTMENT CONNECTION		
A.C.	AIR CONDITION	COR	CORRUGATE	FDN	FOUNDATION	K	KIP
ACT	ACTUAL	CORR	CORRIDOR	FEC	FIRE EXTINGUISHER CABINET	KC	KERENE CEMENT
AD	AREA DRAIN	COV	COVER			KAL	KALAMEIN
ADJT	ADJUSTABLE	CP	COPING	PH	FIRE HYDRANT	KP	KICK PLATE
ADJ	ADJACENT	CPET	CARPETING	FHC	FLAT HEAD		
AGGR	AGGREGATE	CSK	COUNTERSUNK	FHC	FIRE HOSE CABINET	L	LEFT
AL	ALUMINUM	CT	CONTROL	FIN	FINISH	LAD	LADDER
ALT	ALTERNATE	CTD	COATED	FIXT	FIXTURE	LAB	LABORATED
AP	ACCESS PANEL	CTR	COUNTER	FL	FLASHING	LAV	LAVATORY
APPR	APPROXIMATE	CU	CUBIC	FLR	FLOOR	LG	POUND
APVD	APPROVED	CV	COVE	FLG	FLANGE	LC	LEAD COATED
ARCH	ARCHITECT	CW	COLD WATER	FLUOR	FLUORESCENT	LOG	LANDING
ASB	ASBESTOS			FPRF	FIREPROOF	LKR	LOCKER
		D	DISPENSER	FR	FRAME	LN	LINE
D	DASE	DA	DOUBLE-ACTING	FS	FULL SIZE	LS	LIMESTONE
DC	DASE CABINET	DEGR	DEGREE	FT	FOOT, FEET	LT	LIGHT
DD	DOARD	DEPT	DEPARTMENT	FTG	FOOTING	LV	LOUVER
DEV	DETWEEN	DET	DETAIL	FUR	FURRING		
DEVL	DEVEL	DF	DRINKING FOUNTAIN	FX	FIXED		
DL	DUILDING LINE	DH	DOUBLE HUNG				
DLKG	DUILDING P	DIA	DIAMETER	G	GRID	MACH	MACHINE
DLKG	DLOCKING	DIAG	DIAGRAM	GA	GAUGE	MAS	MASONRY
DS	DSAM	DIM	DIMENSION	GAL	GALLON	MAX	MAXIMUM
D.M.	DZNCH MARK	DISC	DISCONNECT	GALV	GALVANIZED	MC	MEDICINE CABINET
D.P.	DOTH WAYS	DIST	DISTANCE	GC	GENERAL CONTRACTOR	MECH	MECHANICAL
DOT	DOTTOM	DIV	DIVISION	GEN	GENERAL	MED	MEDICINE
DR	DOOR	DK	DECK	GL	GLASS, GLAZE	MEM	MEMORANE
DRKT	BRACKET	DN	DOWN	GLS	GALLES	MET	METAL
DRS	DRASS	DP	DAMPPROOF	GRA	GRANITE	MEZZ	MEZZANINE
DRZ	DRONZE	DPR	DAMPPROOF	GRD	GRADE	MFR	MANUFACTURER
DSMT	DASEMENT	DR	DOOR	GRTG	GRATING	MH	MANHOLE
DU	DUILT-UP	DS	DOUBLE	GRVL	GRAVEL	MIN	MINIMUM
DUL	DULLETIN	DW	DUMDWAITER	GSPT	GLAZED STRUCTURAL FACING TILE	MIR	MIRROR
		DWG	DRAWING			MISC	MISCELLANEOUS
C	COURSE	DWL	DOWEL	GYP	GYPSUM	MOD	MODULAR
CAD	CADINET	DX	DUPLEX CONVENIENCE OUTLET			MRB	MARBLE
CAS	CASING					MTD	MOUNTED
CB	CATCH DASIN	DED	DEDICATED	H	HIGH	MUL	MULLION
CEM	CEMENT			HD	HOSE DIB		
CER	CERAMIC	EA	EACH	HCT	HOLLOW CLAY TILE		
CG	CORNER GUARD	ELEC	ELECTRIC	HD	HEAD	NIC	NOT IN CONTRACT
CH	CHALK	ELEV	ELEVATOR	HDW	HARDWARE	NO	NUMDER
CHAN	CHANNEL	ENCL	ENCLOSE	HH	HANDHOLE	NOM	NOMINAL
CHAN	CHANNEL	ENGR	ENGINEER	HIS	HOLLOW METAL	NTS	NOT TO SCALE
CI	CAST IRON	ENT	ENTRANCE	HOR	HORIZONTAL	N2O	NITROUS OXIDE
CIR	CIRCULAN	EQ	EQUAL	HP	HORSE POWER		
CL	CLEAN	EQUIP	EQUIPMENT	HR	HANDRAIL		
CLG	CEILING	EWC	ELECTRIC WATER COOLER	HT	HEIGHT	O	OIL
CLK	CAULK	EX	EXISTING	HTG	HEATING	O2	OXYGEN
CLOS	CLOZET	EXH	EXHAUST	HW	HOT WATER	OA	OUTSIDE AIR
CMU	CONC. MASONRY UNIT	EXP	EXPOSED			OA	OVERALL
CO	CLEANOUT	EXP	EXPAND	I	IRON	OBS	OBSCURE
COL	COLUMN	EXT	EXTERIOR	ID	INSIDE DIAMETER	OC	ON CENTER
COM	COMMON	EXTEN	EXTEND	ILLUM	ILLUMINATOR	OD	OUTSIDE DIAMETER
COMB	COMDINATION	EXTR	EXTRUDE	IN	INCH	OFF	OFFICE
CONC	CONCRETE			INCL	INCLUSIVE	OPNG	OPENING
COND	CONDUCTIVE	F	FACE	INFO	INFORMATION	OPP	OPPOSITE
CONN	CONNECT	FA	FIRE ALARM	INS	INSULATE, INSULATION	OR	OPERATING ROOM
CONST	CONSTRUCT	FAB	FABRIC	INT	INTERIOR	OVHD	OVERHEAD
CONT	CONSTRUCTION	FAD	FABRICATE	INV	INVERT	OZ	OUNCE
CONTIN	CONTINUOUS	FAI	FRESH AIR INTAKE				
CH	CEILING HEIGHT						

P	PIPE	SST	STAINLESS STEEL
PART	PARTITION	ST	STEEL
PCST	PRECAST	STD	STANDARD
PED	PEDESTAL	STG	STORAGE
PEP	PORCELAIN ENAMEL PANEL	STR	STRUCTURAL
PERF	PERFORATED	STWY	STAIRWAY
PERP	PERPENDICULAR	SUSP	SUSPEND
PL	PLASTER	SW	SWITCH
PL	PLATE		
PLAM	PLASTIC LAMINATE	T	TILE
PLS	PLASTIC	TC	TERRA COTTA
PLT	PLATE	TCL	TERRAZZO
PLWD	PLYWOOD	TER	TERRACE
PMLD	PREMOLDED	TGG	TONGUE & GROOVE
PNL	PANEL	THK	THICK
POL	POLISHED	TOIL	TOILET
PR	PAIR	TOC	TOP OF CURD
PROJ	PROJECTED	TOG	TOP OF STEEL
PROP	PROPERTY	TOW	TOP OF WALL
PSI	POUNDS PER SQ. INCH	TR	TREAD
PT	POINT	TRANS	TRANSFORM
PTD	PAINTED	TYP	TYPICAL
Q	QUARDY	UH	UNIT HEATER
		UR	URINAL
R	RADIUS		
R	RISER	V	VENT
RAD	RADIATOR	VAC	VACUUM
RD	ROOF DRAIN	VAN	VANITY
REC	RECEPTOR	VD	VOLUME DAMPER
REC	RECESS	VENT	VENTILATE, VENTILATION
REFL	REFLECT	VERT	VERTICAL
REINF	REINFORCE	VEST	VESTIBULE
REQ	REQUIRE	VIN	VINYL
RES	RESILIENT	VIT	VITREOUS
RET	RETURN	VOL	VOLUME
REV	REVISE	VPP	VAPORPROOF
RF	ROOF	VEN PL	VENEER PLASTER
RFG	ROOFING		
RM	ROOM	W	WALL
RUD	RUDDER	WC	WELDED
RWC	RAINWATER CONDUCTOR	WC	WATER CLOSET
		WD	WOOD
SA	SUPPLY AIR	WH	WEEPHOLE
SC	SCREEN	WIN	WINDOW
SD	SPLITTER DAMPER	W/	WITH
SDL	SADDLE	W/O	WITHOUT
SECT	SECTION	WP	WATERPROOF
SERV	SERVICE	WPT	WORKING POINT
SH	SHELF, SHELVING	WR	WIRE
SHR	SHOWER	WRT	WROUGHT
SK	SINK	WS	WEATHERSTRIP
SK	SKETCH	WSCT	WAINSCOT
SL	SEALANT	WT	WEIGHT
SLD	SLIDING		
SLP	SLOPE		
SLV	SLEEVE		
SOF	SOFFIT		
SPEC	SPECIFICATIONS		
SPKLR	SPRINKLER		
SQ	SQUARE		
SS	SERVICE SINK		

DRAWINGS

ARCHITECTURAL

T.S. TITLE SHEET AND FINISH SCHEDULE
SU.1 TOPOGRAPHICAL SURVEY
A-1 SITE PLAN AND DETAILS
A-2 FIRST FLOOR PLAN - SOUTH END
A-3 FIRST FLOOR PLAN - NORTH END
A-4 SECOND FLOOR PLAN - SOUTH END
A-5 SECOND FLOOR PLAN - NORTH END
A-6 ROOF PLAN AND DETAILS
A-7 ELEVATIONS
A-8 SECTIONS AND DETAILS
A-9 SECTIONS AND DETAILS
A-10 ELEVATION, SECTIONS, DETAILS AND STAIR NO. 1
A-11 ELEVATION, SECTION, DETAILS AND STAIR NO. 2
A-12 ELEVATION, SECTIONS, DETAILS AND STAIR NO. 3
A-13 SECTIONS, DETAILS, STAIR NO. 4 AND NO. 5
A-14 ELEVATIONS, SECTIONS AND DETAILS
A-15 DOOR SCHEDULE AND DETAILS
A-16 INTERIOR DETAILS
A-17 REFLECTED CEILING PLAN
FIRST FLOOR - SOUTH
A-18 REFLECTED CEILING PLAN
FIRST FLOOR - NORTH
A-19 REFLECTED CEILING PLAN
SECOND FLOOR - SOUTH
A-20 REFLECTED CEILING PLAN
SECOND FLOOR - NORTH
A-21 CONTROL & MISC. DETAIL. △

LANDSCAPE

LS-1 SITE PLAN AND SCHEDULE (ISSUED FOR INFORMATION ONLY)

STRUCTURAL

S-1 FOUNDATION PLAN
S-2 FIRST FLOOR FRAMING AND FOUNDATION PLAN
S-3 FIRST FLOOR FRAMING AND FOUNDATION PLAN
S-4 SECOND FLOOR AND LOW ROOF FRAMING PLAN
S-5 SECOND FLOOR AND LOW ROOF FRAMING PLAN
S-6 MAIN ROOF FRAMING PLAN
S-7 COLUMN SCHEDULE AND TYPICAL DETAILS

HEATING, VENTILATING AND AIR CONDITIONING

H-1 FIRST FLOOR PLAN - SOUTH END
H-2 FIRST FLOOR PLAN - NORTH END
H-3 SECOND FLOOR PLAN - SOUTH END
H-4 SECOND FLOOR PLAN - NORTH END
H-5 DETAILS
H-6 SCHEDULE SHEET

ELECTRICAL

E-1 SITE PLAN
E-2 FIRST FLOOR PLAN - SOUTH - LIGHTING
E-3 FIRST FLOOR PLAN - NORTH - LIGHTING
E-4 SECOND FLOOR PLAN - SOUTH - LIGHTING
E-5 SECOND FLOOR PLAN - NORTH - LIGHTING
E-6 FIRST FLOOR PLAN - SOUTH - POWER
E-7 FIRST FLOOR PLAN - NORTH - POWER
E-8 SECOND FLOOR PLAN - SOUTH - POWER
E-9 SECOND FLOOR PLAN - NORTH - POWER

PLUMBING

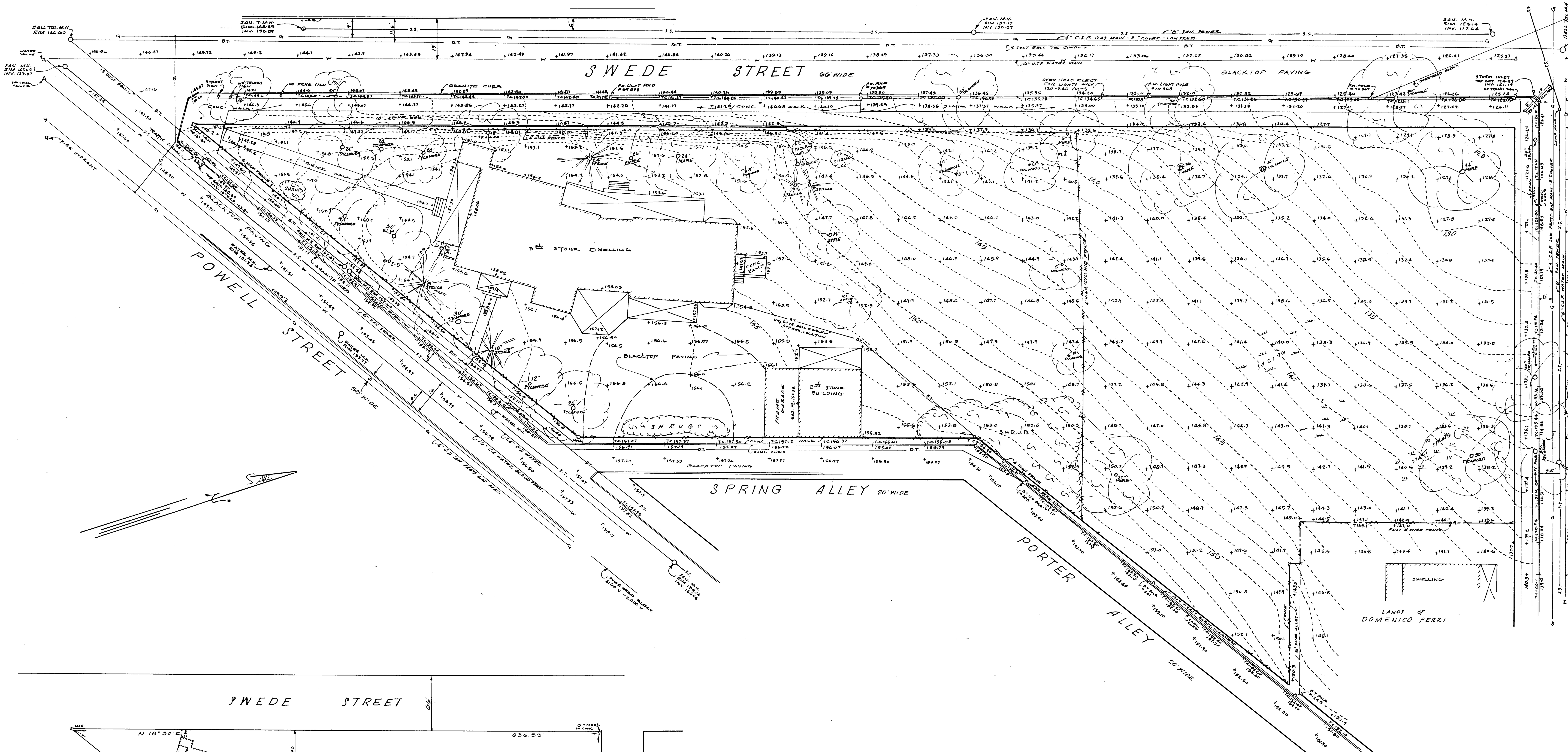
P-1 SITE PLAN
P-2 FIRST FLOOR SOUTH AND LOWER LOBBY PLAN
P-3 FIRST FLOOR NORTH
P-4 SECOND FLOOR SOUTH
P-5 SECOND FLOOR NORTH AND SANITARY RISER DIAGRAM
P-6 DRY SPRINKLER SYSTEM

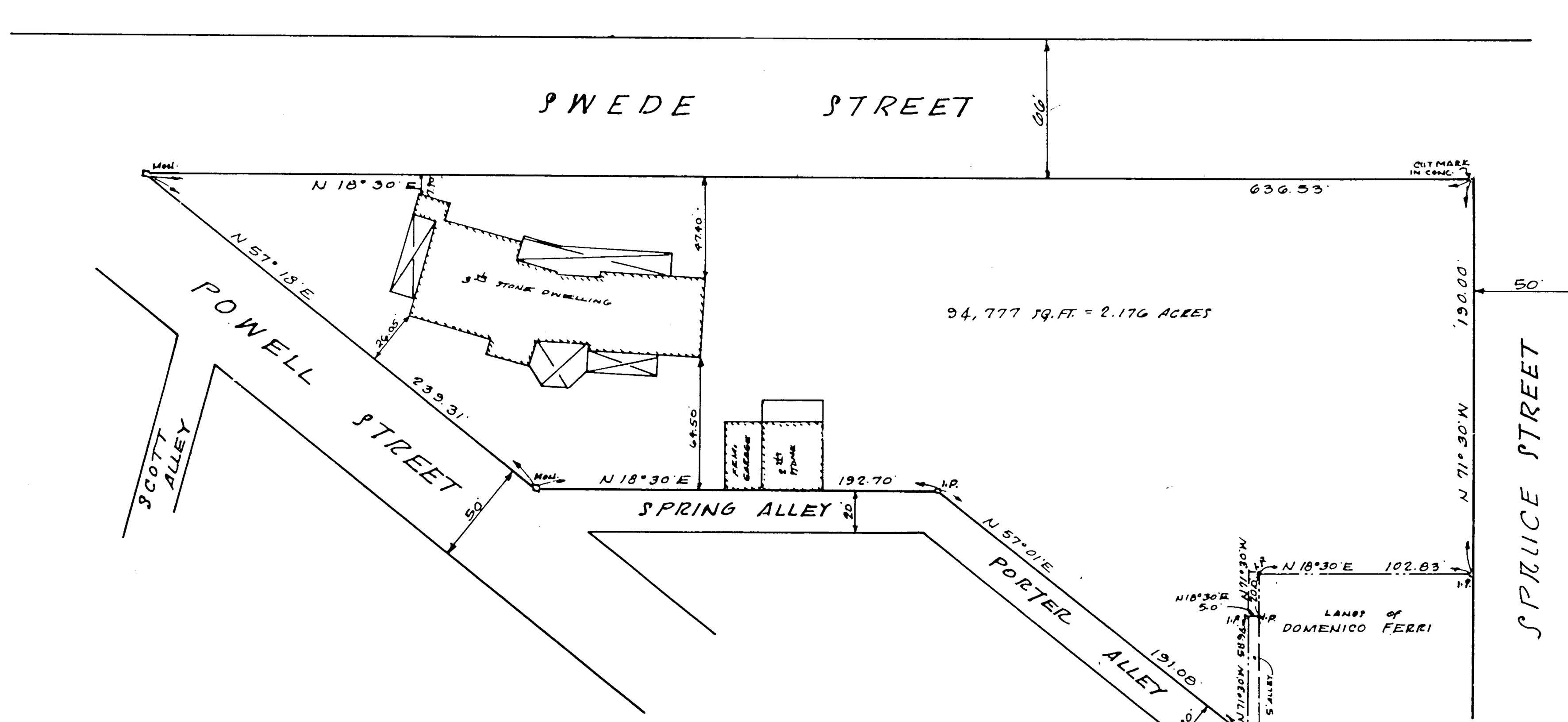
FINISH SCHEDULE

FINISH NUMBER	FLOOR: CARPET (SPEC)	FLOOR: BRICK PAVERS	FLOOR: CERAMIC TILE	FLOOR: VCT	FLOOR: CONCRETE	BASE: 4" RUBBER	BASE: CERAMIC TILE	WALLS: CMU	WALLS: CONCRETE	WALLS: VENEER PLASTER, PTD	WALLS: VENEER PL. SPECIAL FIN.	WALLS: CMU, CERAMIC TILE	WALLS: CMU, CONCRETE	WALLS: CONCRETE	WALLS: CONCRETE (SPEC FINISH)	WALLS: GYPSUM WALL BD.	CEILING: ACT TILE (TYPE 1)	CEILING: ACT TILE (TYPE 2)	CEILING: ACT TILE (TYPE 3)	CEILING: CEMENT PLASTER EXPOSED	CEILING: CONCRETE	CEILING: VEN. PL. SPECIAL FINISH	REMARKS
1	○					○					○						○						1.DO NOT PAINT WALLS BEHIND DISPLAY PANELS OR MACS SURFACE. 2.BOLLARDS TO BE PAINTED 3.ROLLING GARAGE DOORS TO BE PAINTED 4.ALL STEEL HANDRAILS TO BE PAINTED 5.ALL CONCRETE UNPAINTED UNLESS OTHERWISE NOTED 6.CEMENT PLASTER SOFFITS UNPAINTED 7.VENEER PLASTER TO BE PAINTED UNLESS OTHERWISE NOTED. 8.CMU TO BE UNPAINTED 9.UNLESS OTHERWISE NOTED, ALL VERTICAL SURFACES ABOVE FINISH CEILING WALLS BY OTHERS. CAULK ALL JOINTS.
2	○	○									○										○		
3	○					○					○										○		
4	○					○					○												
5		○					○						○					○					
6				○			○						○					○					
7				○			○						○							○			STEEL HANDRAILS TO BE PTD
8				○			○						○							○			SPEC FIN ON VEN PL ONLY
9				○			○						○							○			
10		○												○				○					
11				○										○				○					
12	○														○						○		
13					○										○						○		
14					○										○						○		
15					○										○								TAPE & SPACKLE DRYWALL (NOT PTD)
16					○										○								

NO.	DATE	REVISION
△	1975	AS BUILT

DRAWN BY
CHECKED BY
DATE
SCALE
JOB NO.
DATE SEPT. 30, 1974
SHEET NO. T.S.





PROPERTY PLAN
SCALE 1" = 50'

"Architect measured distance from basement floor to first floor at the three story dwelling at two locations, one location measured 3'-8", the other location measured 9'-3"."

NOTE:
SANDY HOOK DATUM USED FOR TOPO.
*1067 SWEDE ST. - RT. DOOR SILL - EL. 130.12

MONTGOMERY COUNTY
NORRISTOWN PUBLIC LIBRARY
BOROUGH OF NORRISTOWN
MONTGOMERY COUNTY
PENNSYLVANIA

TITLE & TOPOGRAPHIC SURVEY

JOSEPH J. ESTOCK
REGISTERED SURVEYOR
NORRISTOWN, PA.

SCALE:	DATE:	FILE:
1" = 20'	2 OCT. 1973	

Partner in Charge Robert V. Cherry
Designer James T. Lilo
Project Architect Nathaniel Gaines
Project Manager Jonathan Dyer

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Montgomery County · Norristown Public Library

A. Russell Parkhouse, President · Commissioner
Frank W. Jenkins, Esq., Commissioner
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Pearl Frankenfield, Executive Director, Library
Kirke Bryan, Esq., Solicitor, Library

SURVEY

NO.	DATE	REVISION
1	10/31/77	AS BUILT

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CHECKED BY
DATE
SCALE
JOB NO. 5873
DATE SEPT. 30, 1974
SHEET NO.
S.U.-1

SYMBOL LIST

TREES

- CORNUS FLORIDA
- CRATAEGUS PHENOPYRUM
- MAGNOLIA SOULANGEANA
- MAGNOLIA STELLATA
- PINUS THUNBERGI

SHRUBS

- AZALEA
- BERBERIS GLADWYNENSIS
- ILEX HELLERI
- ILEX CRENATA COMPACTA
- PIERIS JAPONICA
- PYRACANTHA LOBOY
- RHODODENDRON

GROUNDCOVER

- HEDERA HELIX BALTICA

SOD (TYP.)

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Norristown Public Library

Montgomery County, Norristown, Pennsylvania

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Sylvia J. Lloyd, President, Library Board
Pearl Frankenfield, Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

Robert W. Cherry, President, Commissioner
Thomas J. Lynch, Vice President, Commissioner
Nathaniel Gaines, Commissioner
Jonathan Dyer, Commissioner

Partner in Charge
Partner-in-Charge
Project Architect
Project Manager

A. Russell Parthouse, President, Commissioner
Frank W. Jenkins, Esq., Commissioner
Francis J. Hurley, Commissioner
Henry E. Pennington, Chief Clerk
Roger B. Reynolds, Esq., Solicitor
Lawrence F Flicki, Esq., Controller

LANDSCAPE PLAN

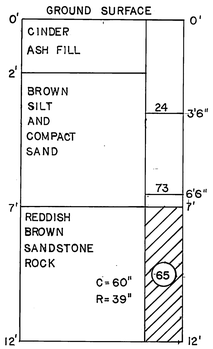
NO.	DATE	REVISION

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CHECKED BY
DATE
SCALE
JOB NO.
DATE SEPT. 30, 1974
SHEET NO.
LS-1

S.A.M. 7/74

1 2 3 4 5 6 7 8

160 155 150 145 140 135 130 125 120 115 110

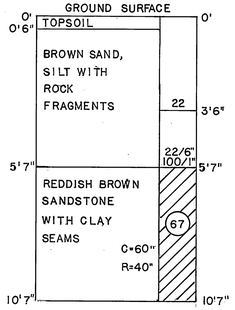


BORING COMPLETED

REFUSAL WITH AUGERS AT 7'

BORING DRY BEFORE CORING ROCK

DRILL WATER LEVEL IS 8' 1/4 HR. AFTER COMPLETION

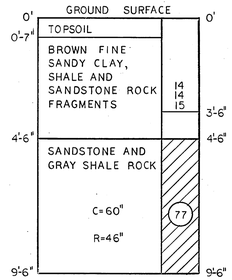


BORING COMPLETED

REFUSAL WITH AUGERS AT 5'7"

BORING DRY BEFORE CORING ROCK

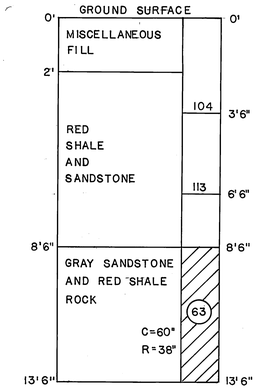
DRILL WATER LEVEL IS 5' 1/4 HR. AFTER COMPLETION



BORING COMPLETED

REFUSAL WITH AUGERS AT 4'-6".

DRILL WATER RETURNED

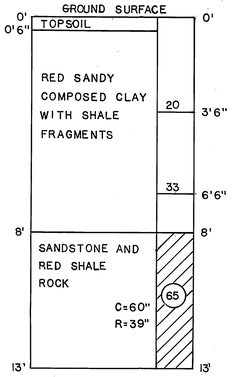


BORING COMPLETED

REFUSAL WITH AUGERS AT 8'6"

BORING DRY BEFORE CORING ROCK

DRILL WATER LEVEL IS 4'10" AT COMPLETION

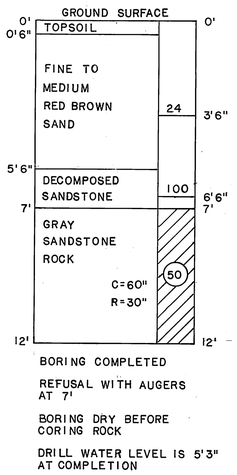


BORING COMPLETED

REFUSAL WITH AUGERS AT 8'

BORING DRY BEFORE CORING ROCK

DRILL WATER LEVEL IS 8' AT COMPLETION

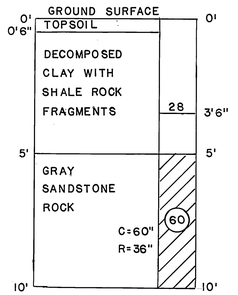


BORING COMPLETED

REFUSAL WITH AUGERS AT 7'

BORING DRY BEFORE CORING ROCK

DRILL WATER LEVEL IS 5'3" AT COMPLETION

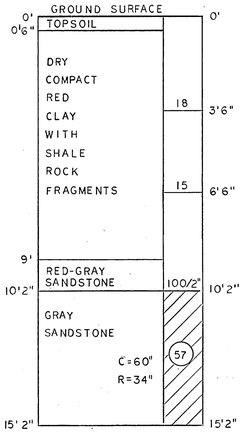


BORING COMPLETED

REFUSAL WITH AUGERS AT 5'

BORING DRY BEFORE CORING ROCK

DRILL WATER LEVEL IS 4'8" AT COMPLETION



BORING COMPLETED

BORING DRY BEFORE CORING ROCK

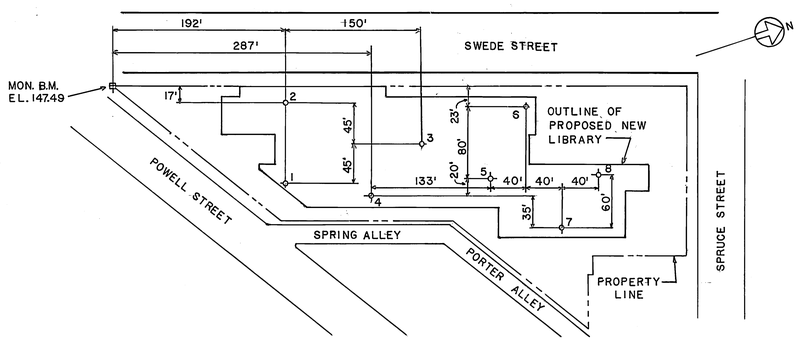
DRILL WATER LEVEL IS 8' AT COMPLETION

LEGEND

FIGURE INSIDE CIRCLE DENOTES PER CENT RECOVERY
C=DISTANCE CORED IN INCHES
R=RECOVERY IN INCHES
C=60"
R=30"
50

BORINGS PERFORMED BY

RAYMOND INTERNATIONAL INC.



The Owner and the Architects and Engineers do not guarantee the accuracy of any of the information shown on these logs or any of the above test boring records and in no event is this information or any portion thereof to be considered as a part of the Contract. If this information is used by a Bidder in preparing his proposal, the Bidder must assume all risks resulting from conditions different from those shown above. The water level indicated on the logs of the borings is the water level observed at the time the borings were made. Bidders are advised that this level may fluctuate and they are cautioned not to presume that the water level at the time of performance of work will conform to the water level as indicated on the logs above.

Partner In Charge: Robert V. Cherry
Designer: James T. Lilo
Project Architect: Tsithistri Gaines
Project Manager: Jonathan Dyer

EWING COLE ERDMAN & EUBANK
architects-engineers-planners
SYNERGO COMPANY consulting engineers

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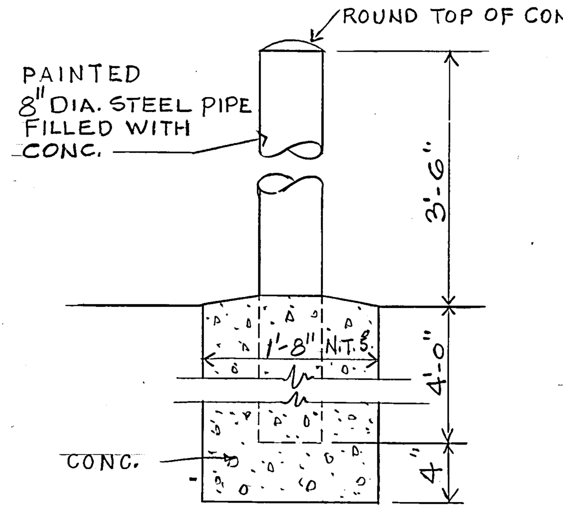
A Russell Penthouse, President-Commissioner
Frank W. Jenkins, Esq., Commissioner
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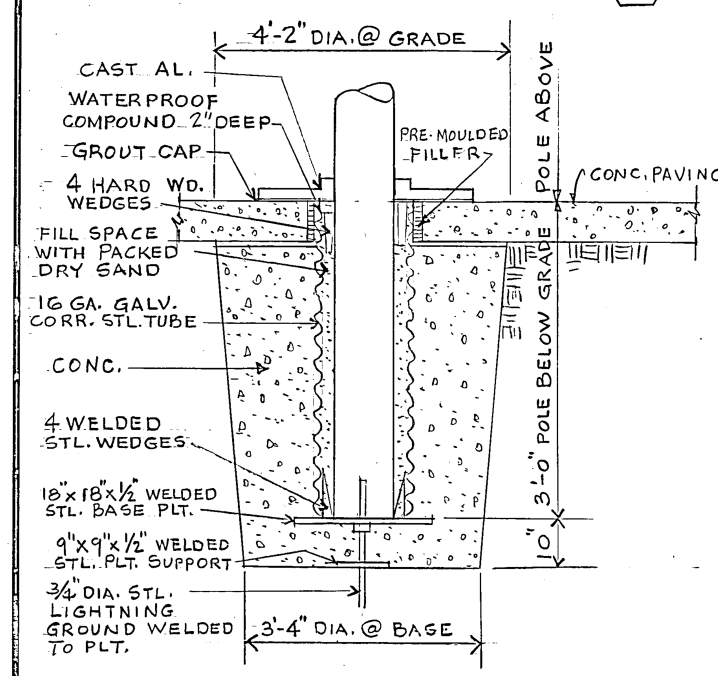
TEST BORINGS

NO.	DATE	REVISION
1	9/25	AS BUILT

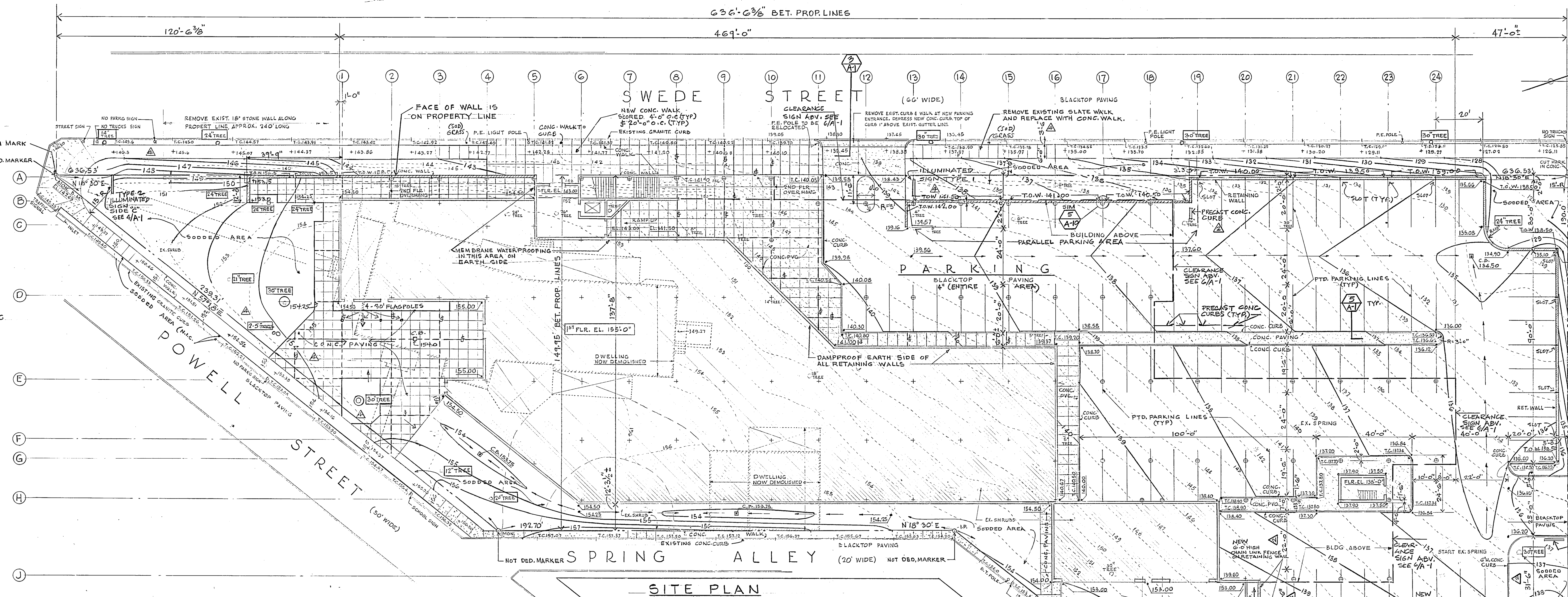
DRAWN BY R.A.E.
CHECKED BY
DATE
SCALE As NOTED
JOB NO. 5473
DATE 10-18-74
SHEET NO. TB-1



STEEL BOLLARD DETAIL (1/A1)
SCALE 1½"=1'-0"



FLAG POLE FOUNDATION (2/A1)
NO SCALE



SITE PLAN
SCALE 1"=20'-0"

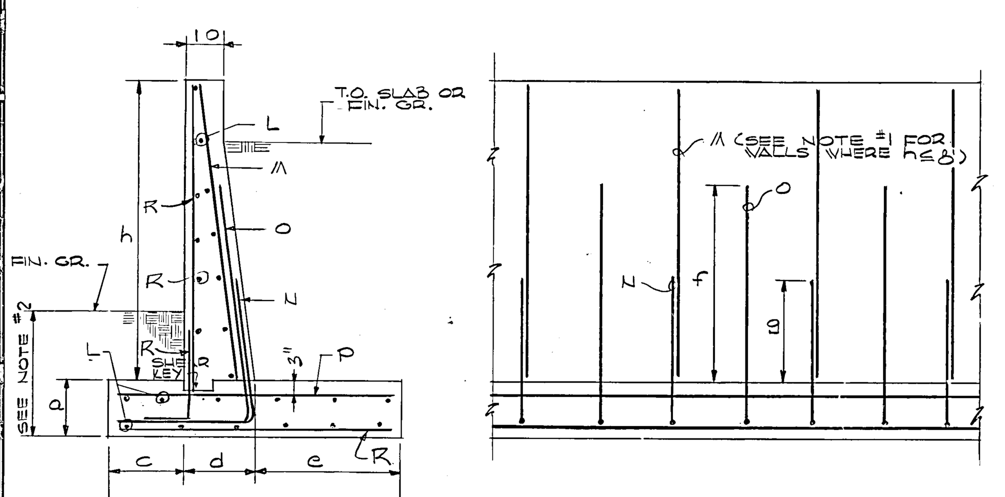
NOTE:
ALL TREES AND SHRUBS TO BE REMOVED EXCEPT TREES MARKED THUS O 20" TREE

LEGEND
EXISTING CONTOUR ---- 147 ----
NEW CONTOUR ——— 147 ———

NOTES:
1. REMOVE ALL EXISTING FENCES WITHIN PROPERTY LINES.
2. CONTRACT LIMIT TO INCLUDE ALL AREA WITHIN PROPERTY LINES PLUS ADJACENT SIDEWALK AREAS AS FAR AS CURBS. EXCEPT WHERE CUT FOR DRIVEWAY ACCESS ALL EXISTING STREET CURBS TO REMAIN.
3. REMOVE ALL EXISTING SIDEWALKS AND REPLACE WITH CONCRETE WALKS.
4. CONTROL JOINTS IN CONCRETE WALKS 20'-0" O.C. (TYPICAL)
5. SEE SHEET NO. S.U.1 FOR SURVEY

△4

6. PROVIDE & INSTALL 4(FOUR) 2'X2' ACCESS PANELS IN CEMENT PLASTER SOFFIT OVER PARKING AREA - LOCAT AT DIRECTION OF ARCHITECT. PROVIDE & INSTALL 1 (ONE) SIMILAR PANEL IN GARAGE AREA.

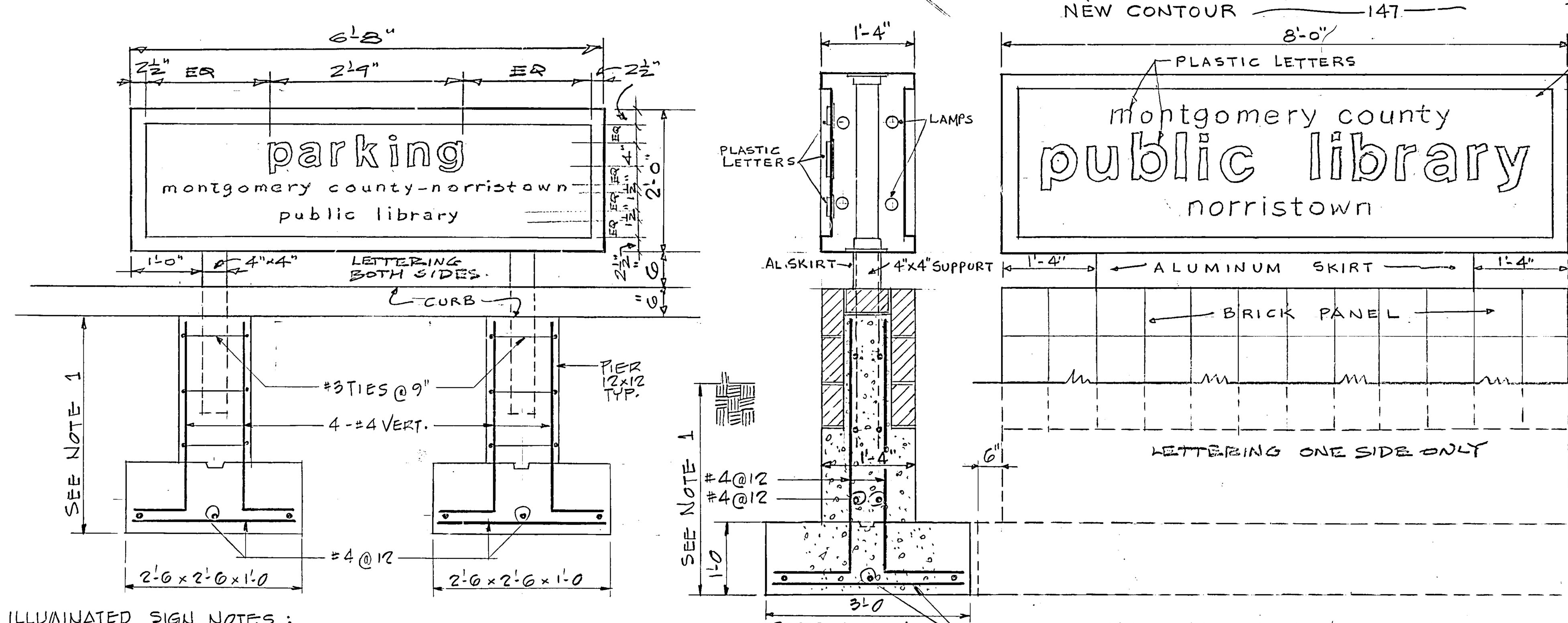


RETAINING WALL SCHEDULE

RANGE OF HEIGHT OF RETAINING WALL	a	b	c	d	e	f	g	L	M	N	O	P	R	SHEAR KEY LENGTH x DEPTH
16'<h≤18'	1'5	10'10	3'8	1'5	5'9	9'0	3'0	#5@12	#8@18	#8@18	#8@18	#7@9	#4@12	8"x2"
13'<h≤16'	1'4	8'6	2'2	1'4	5'0	7'0	2'0	#5@12	#6@18	#6@18	#6@18	#5@9		8"x2"
11'<h≤13'	1'3	7'0	1'8	1'3	4'2	6'0	2'0	#5@12	#5@18	#5@18	#5@18	#5@9		8"x2"
8'<h≤11'	1'2	5'10	1'6	1'2	3'2	5'9	1'9	#5@12	#4@18	#4@18	#4@18	#5@12		7"x2"
5'<h≤8'	1'0	4'5	1'1	1'0	2'4	4'0	—	#5@12	#4@18	NOTE #1	#4@18	#4@12		6"x2"
3'<h≤5'	1'0	3'1	8"	1'0	1'5	2'6	—	#4@9	#3@18	NOTE #1	#3@18	#4@18		6"x2"
1'6<h≤3'	1'0	1'11	4"	1'0	7"	1'6	—	#4@9	#3@18	NOTE #1	#3@18	#4@18	#4@12	6"x2"

RETAINING WALL NOTES

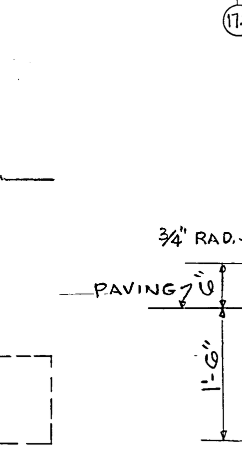
1. THE "N" DOWELS ARE DELETED SINCE THE "M" BARS WILL CONTINUE INTO THE BASE IN THE SAME MANNER AS THE "O" BARS.
2. THE BOTTOM OF THE BASE WILL BE A MIN. OF 3'-0 BELOW THE FIN. GR. AS WELL AS REST'G ON UNDISTURBED SOIL HAVING A MIN. BEAR'G CAPACITY OF 3KSF.
3. ALL CONCRETE & REINF. WILL MEET THE REQUIREMENTS IN THE SPECS. SECTION 3A, "CONCRETE."



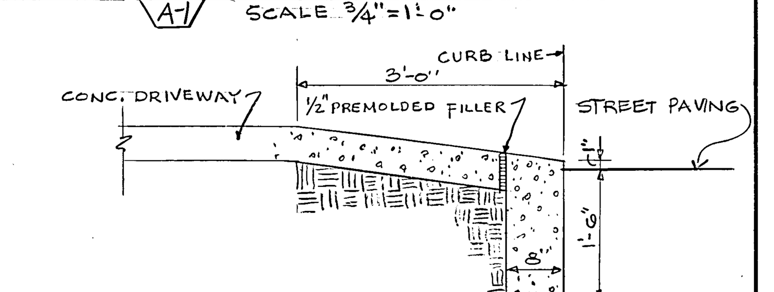
DETAILS OF ILLUMINATED SIGNS (4/A-1)
SCALE ¾"=1'-0"

ILLUMINATED SIGN NOTES:

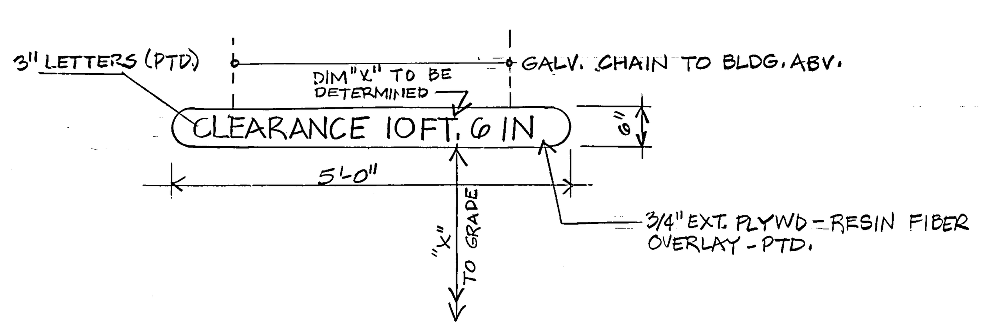
1. THE BOTOM OF FTG. WILL BE A MIN. 3'-0 BELOW THE FIN. GRADE AS WELL AS RESTING ON UNDISTURBED SOIL HAVING A MIN. BEARING CAPACITY OF 1.5 KSF.
2. ALL CONCRETE & REINFORCING WILL MEET THE REQUIREMENTS IN THE SPECIFICATIONS SECTION 3A "CONCRETE"



TYPICAL CONC. CURB (5/A-1)
SCALE ¾"=1'-0"



CURB CUT DETAIL (3/A1)
SCALE ¾"=1'-0"



CLEARANCE SIGNS (4 REQ'D) (6/A-1)

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF LABOR & INDUSTRY

OCCUPANCY CLASSIFICATION — GROUP A-1 — ASSEMBLY (NON-THEATRE)
TYPE OF CONSTRUCTION — TYPE II — FIRE-RESISTIVE

FIRE-RESISTIVE REQUIREMENTS

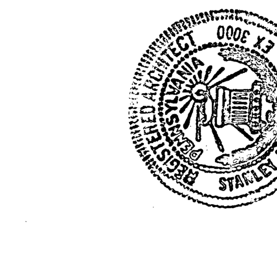
ITEM	FIRE RATING	TEST NO.
PARTITIONS		
NON-BEARING	1 HR. INCOMBUSTIBLE	T-3124 OSU
ENCLOSING VERTICAL OPENINGS	2 HRS.	U OF C 8-18-70 AND UL.DES.NO. U-412
ENCLOSING HORIZONTAL EXITWAY	1 HR.	T-3124 OSU
COLUMNS		
SUPPORTING MASONRY (EXTERIOR)	4 HRS.	UL.DES.NO. X-701
INTERIOR, EXCEPT AS NOTED BELOW	3 HRS.	UL.DES.NO. X-701
CONCRETE ENCASED COLUMNS	4 HRS.	NATIONAL BUREAU OF STANDARDS BMS 124, 1951
SUPPORTING ROOF ONLY (INTERIOR COL.)	2 HRS.	UL.DES.NO. X-701
GIRDERS		
SUPPORTING MASONRY WALL	3 HRS.	UL.DES.NO. N706
OTHER	3 HRS.	UL.DES.NO. N706
SUPPORTING ROOF ONLY	2 HR. △	UL.DES.NO. P908
FLOOR PANELS		
INCLUDING BEAMS AND JOISTS	2 HRS.	UL.DES.NO. D907
△4 ABOVE PARKING AREA	2 HRS.	NATIONAL BUREAU of STANDARDS BMS 92, 1942
ROOF PANELS		
LIGHTWEIGHT INSULATING CONC. FILL ON SLAB FORM (INCLUDING BEAMS & JOISTS)	1½ HR. △	UL.DES.NO. P908

GENERAL NOTES

1. All CMU partitions shall be nominal 6", unless noted or detailed otherwise. All exposed corners are to be bullnosed.
2. All interior masonry walls and metal stud partitions shall extend from floor slab to underside of structure above, unless noted otherwise.
3. All metal stud partition walls shall be 3 5/8" metal stud, unless noted or detailed otherwise.
4. Provide adequate support for all items to be anchored or hung on metal stud partitions.
5. Where finish schedule notes veneer plaster for walls and plans indicate CMU walls, a 5/8" layer of plaster base shall be applied to furring channels on CMU walls and finished with veneer plaster, except where noted or detailed otherwise.
6. All dimensions shown on plans are to face of C.M.U. or face of metal stud (See Dimensioning Details on Drawing A-5).
7. Provide and install 50 Door Signs. Lettering and Locations to be determined.
8. Provide adequate steel or precast lintel over all masonry openings required for ductwork and/or transfer air. See mechanical drawings for location and size of openings.
9. Contractor to check and verify all conditions at the site.
10. Where ceramic tile finish is noted, provide water resistant veneer plaster base in lieu of plaster base.
11. All interior masonry walls and metal stud partitions which extend to structure above are to be scribed and/or fit tightly around structural members and joints caulked. See mechanical drawings for location and size of plenum openings to be cut through walls and partitions above ceiling.
12. Sound attenuation blanket to extend from floor to full height of partition.
13. Ceramic tile to extend 6" above ceiling.
14. Veneer plaster to extend 6" above ceiling, joints above that point to be taped and finished with joint compound.
15. Low roof area between column line 4.2 and 15 and E and H is to receive 2 Hour fireproofing as it is a future enclosed floor area. Columns to be fire-proofed accordingly.
16. BRICKS AT EXPOSED EDGES OF PREFORMED BRICK PANELS ARE TO BE SOLID CORE.
17. PROVIDE & INSTALL 1 PRECAST CONC. CURB △2 FOR EACH PARKING SPACE (EXCEPT PARALLEL PARKING).
18. ON EXTERIOR WALLS WHERE FOIL BACKED PLASTER BASE DOES NOT EXTEND, APPLY 4MIL. POLYETHYLENE ON THE INTERIOR SIDE OF BATT INSULATION.
19. ALL GLASS THICKNESS TO BE ¼" UNLESS OTHERWISE NOTED. I.G. TO BE 2 SHEETS OF ¼" GLASS UNLESS OTHERWISE NOTED.

Partner in Charge — Robert V. Cherry
Designer — James T. Lilo
Project Architect — Nathaniel Gaines
Project Manager — Jonathan Dyer

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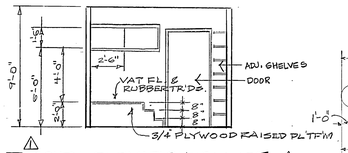
SITE PLAN
DETAILS + GENERAL NOTES

NO.	DATE	REVISION
4	10/31/77	AS BUILT
3	1/15/76	ILLUMINATED SIGNS @ N. ENTR.
2	3/3/1975	GEN. REVISIONS
1	10/18/1974	ADDENDUM #1

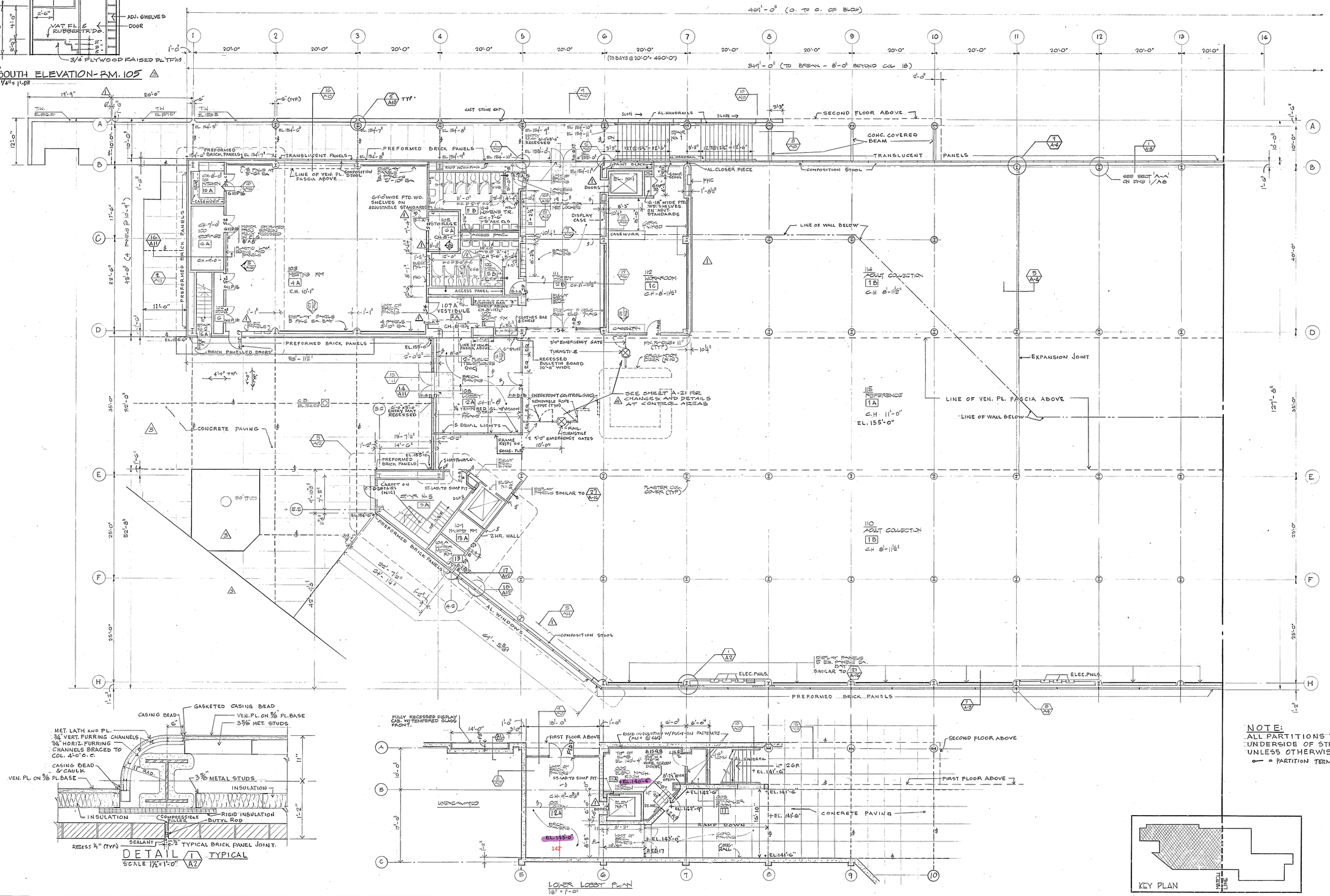
DRAWN BY AS
CHECKED BY
DATE
SCALE 1"=20'-0"
JOB NO. 5873
DATE SEPT. 30, 1974
SHEET NO. A-1

© S.M.&H. 9-72

1¾" SOLID CORE PANEL
1-2 WHITE FINE GLIDE SUPPORTS
HARDWARE - 1 SLIDING DOOR UNIT GRANT 6043
WITH 2 FLOOR GUIDES 109. FLUSH BOLT IVES 262 B-26



2 A-2 SOUTH ELEVATION - P.M. 105 3/4"=1'-0"



DETAIL 1 A2 TYPICAL
SCALE 1½"=1'-0"

LOWER LOBBY PLAN
⅛" = 1'-0"

NOTE:
ALL PARTITIONS TO RUN TO UNDERSIDE OF STRUCTURE UNLESS OTHERWISE NOTED.
— = PARTITION TERMINATES 6" ABV. CLG.

N

Robert V. Cherry — Partner in Charge
James T. Lilo — Designer
Nathaniel Gaines — Project Architect
Jonathan Dyer — Project Manager

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FIRST FLOOR PLAN
SOUTH END

NO.	DATE	REVISION
2	10-30-74	AS BUILT
1	10-11-74	ADD. TOILET RM. TUNNEL
	9-25-74	REVISIONS

DRAWN BY RH
CHECKED BY
DATE
SCALE ½"=1'-0"
JOB NO. 5873
DATE SEPT. 30, 1974
SHEET NO. A-2

Partner in Charge: Robert V. Cherry
Designer: James T. Lilo
Project Architect: Thomas E. Foster
Project Manager: Jonathan Dyer

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Lawrence F. Flick, Esq., Controller

FIRST FLOOR PLAN
NORTH END

NO.	DATE	REVISION
3	9-27	AS BUILT
2	1974	FUTURE GYM. ENLG.
1	6-27	ADDENDUM REVISIONS

DRAWN BY RH
CHECKED BY
DATE
SCALE ⅛" = 1'-0"
JOB NO. 5873
DATE SEPT. 20, 1974
SHEET NO. A-5

Partner in Charge — Robert V. Cherry
Designer — James T. Lilo
Project Architect — Nathaniel Oaks
Project Manager — Jonathan Dyer

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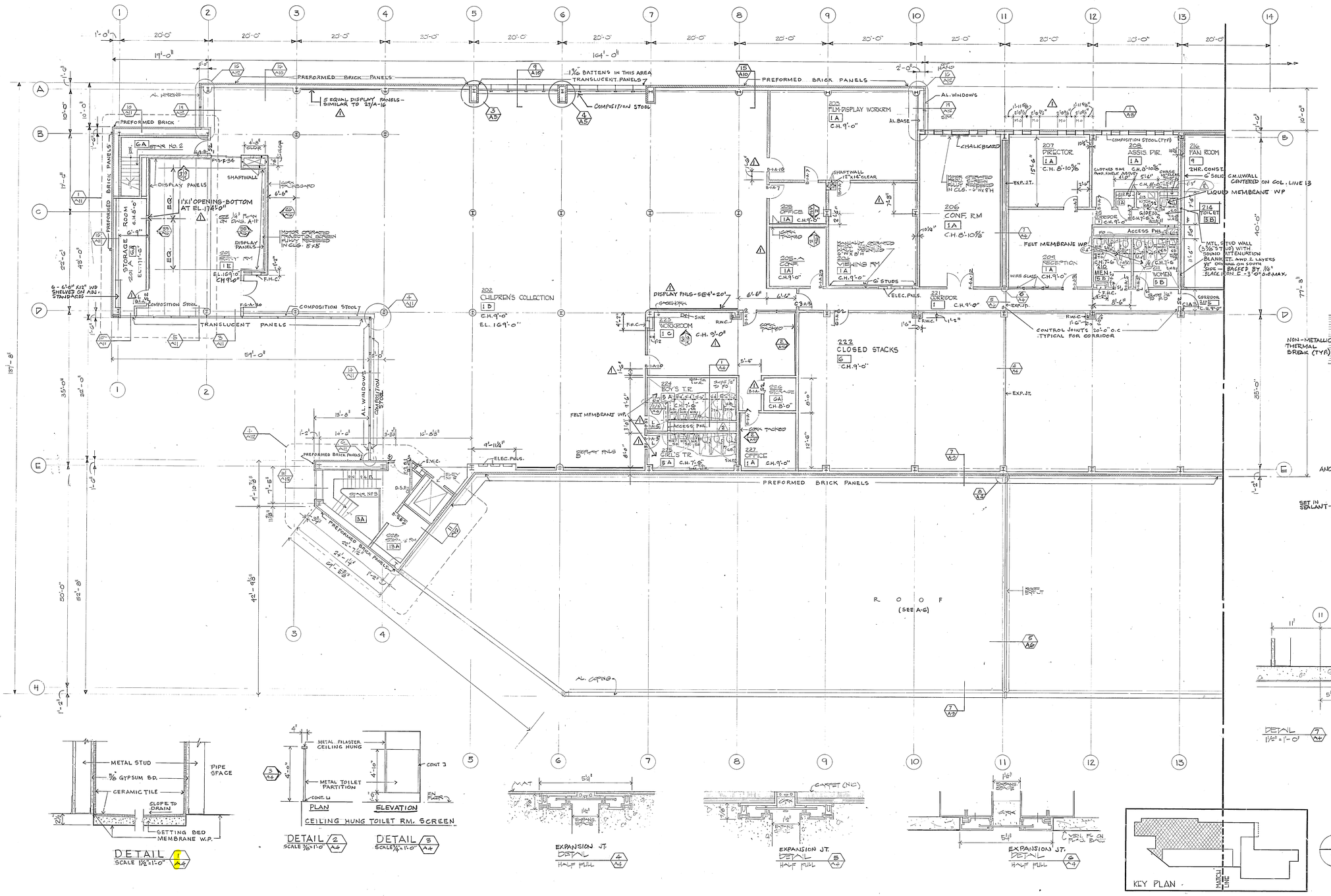
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SECOND FLOOR PLAN
SOUTH END

NO.	DATE	REVISION
3	3-21	AS BUILT
2	2-21	TEL. FURNITURE LOCATIONS
1	1-28	GENERAL REVISIONS

DRAWN BY RH
CHECKED BY
DATE
SCALE 1/8"=1'-0"
JOB NO. 5873
DATE SEPT. 30, 1974
SHEET NO. A-1.1



DETAIL 1 — SCALE 1½"=1'-0" — A-4

DETAIL 2 — SCALE 3/8"=1'-0" — A-4
DETAIL 3 — SCALE 1/4"=1'-0" — A-4

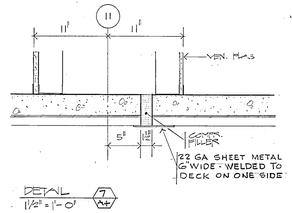
DETAIL 4 — HALF FULL — A-4

DETAIL 5 — HALF FULL — A-4

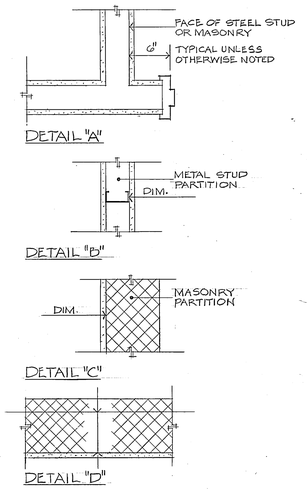
DETAIL 6 — HALF FULL — A-4

DETAIL 4 — 3" = 1'-0" — A-4

DETAIL 6 — 3" = 1'-0" — A-4



DETAIL 7 — 1½" = 1'-0" — A-4

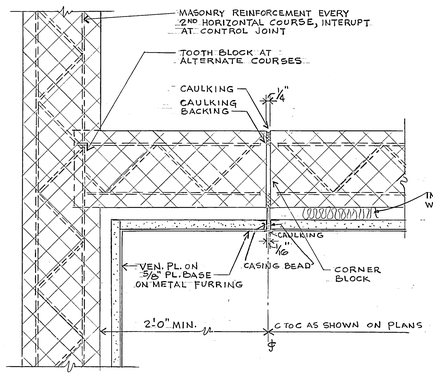


NOTE:
ALL DIMENSIONS ARE TAKEN FROM CENTER LINE OF COLUMN TO FACE OF MASONRY OR METAL STUD.
DIMENSION FOR DOOR LOCATION IS TAKEN TO DOOR SIDE OF FRAME.

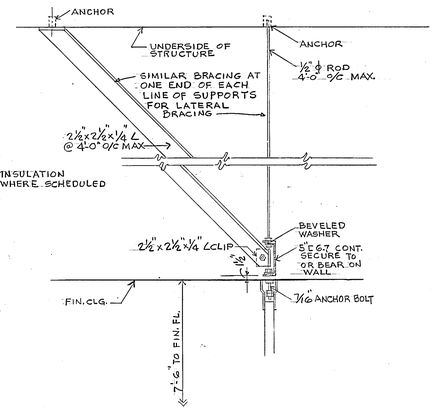
DIMENSIONING SYSTEM



METAL STUD PARTITION SYSTEM TYPES
VENEER PLASTER SYSTEMS



INTERIOR CONCRETE MASONRY UNIT CONTROL JOINT 1/A5



CEILING HUNG TOILET PARTITION SUPPORT- DROPPED CEILING 2/A5

METAL STUD PARTITION TYPES & DESCRIPTION

CONSTRUCTION

Type 1 : One layer 5/8" plaster base and 1/16" veneer plaster, both sides on 3-5/8" metal studs @ 16" o.c.

Type 1A Acoustical partition: add sound attenuation blanket.

Type 2 One layer 5/8" fire rated plaster base and 1/16" veneer plaster on each side of 3-5/8" metal studs at 16" o.c..

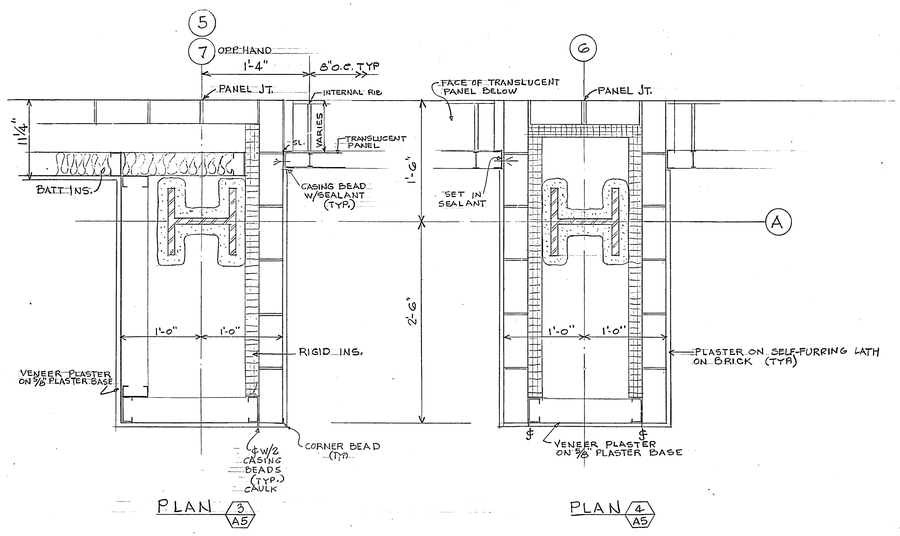
Type 2A Acoustical partition: add sound attenuation blanket.

Type 3 Two layer 5/8" fire rated plaster base and 1/16" veneer plaster on each side of 3-5/8" metal studs at 16" o.c.

Type 3A Acoustical partition: add sound attenuation blanket.

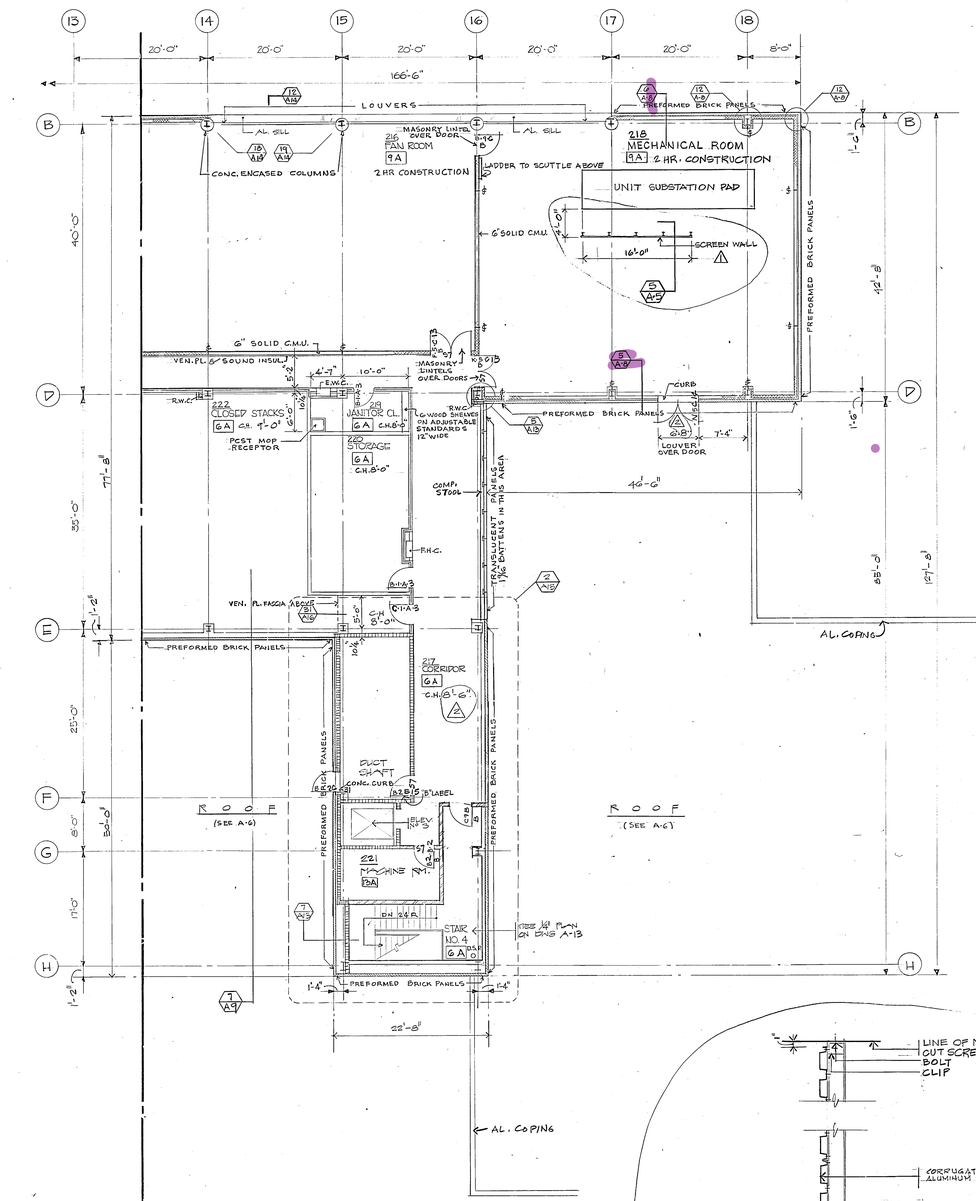
Type 4 Cavity shaft wall: Two layer of 5/8" fire rated plaster base with 1/16" veneer plaster one side, 1" liner panel set between metal "T" studs at 24" o.c.

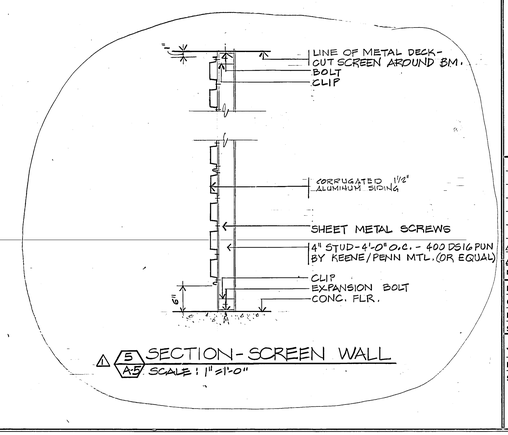
Type 4A Acoustical partition: add sound attenuation blanket.



PLAN 3/A5 PLAN 4/A5

SLOPING PANEL DETAILS
SCALE 1/2"=1'-0"





SECTION- SCREEN WALL
SCALE: 1"=1'-0"

Robert V. Cherry
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Thomas Comus
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Partner in Charge
Designer
Project Architect
Project Manager

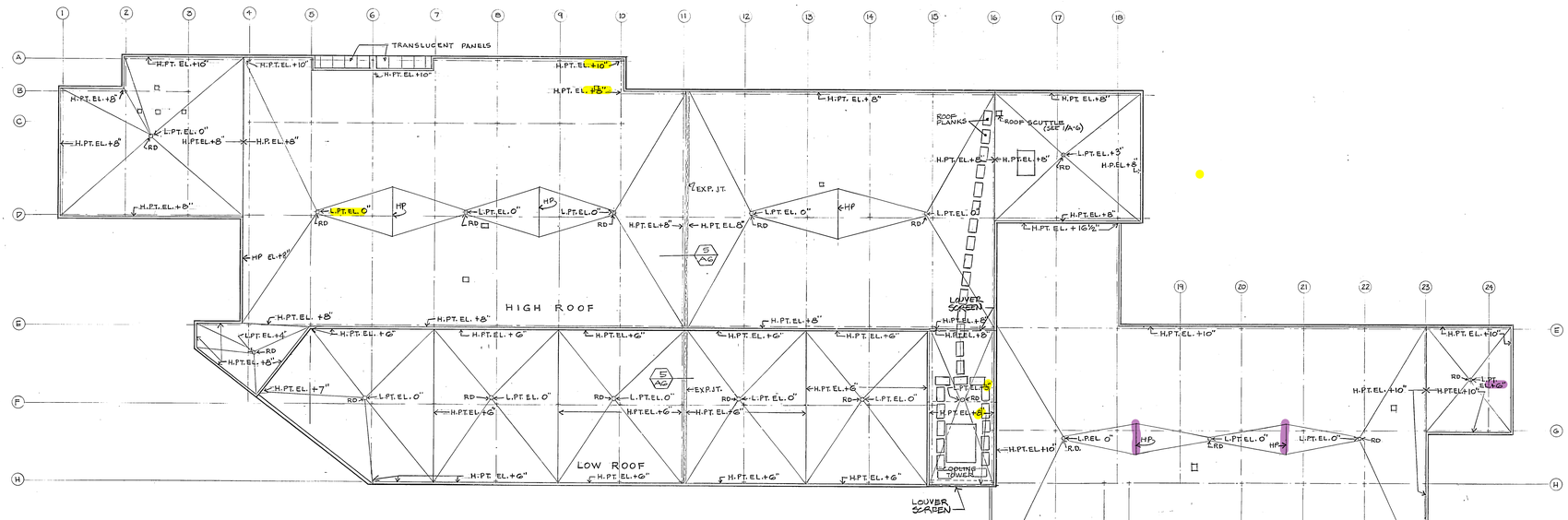
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SECOND FLOOR PLAN
NORTH END

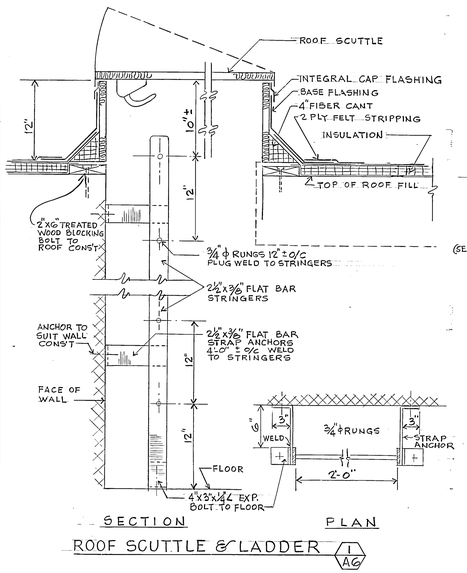
NO.	DATE	REVISION
1	10-31-77	AS BUILT
2	12-22-78	ADT SCREEN WALL

DRAWN BY RH
CHECKED BY
DATE
SCALE 1/8" = 1'-0"
JOB NO. 5873
DATE SEPT. 30, 1974
SHEET NO. A-5

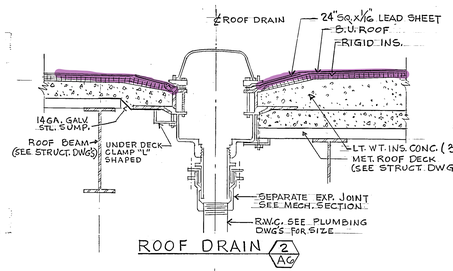


ROOF PLAN

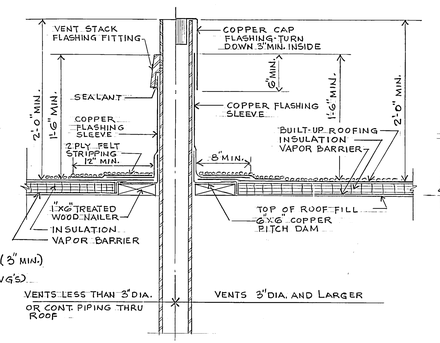
SCALE 1/16" = 1'-0"



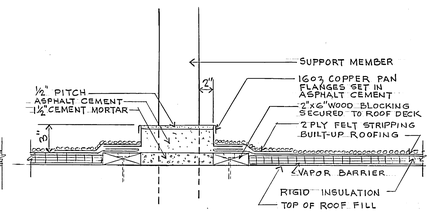
ROOF SCUTTLE & LADDER 1 AG



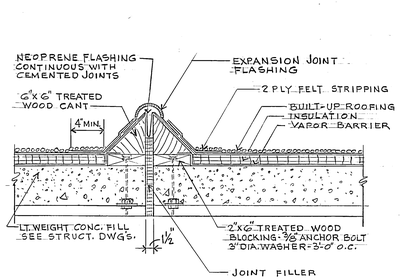
ROOF DRAIN 2 AG



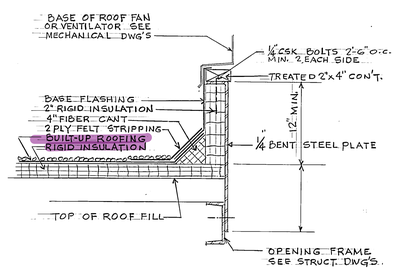
ROOF VENT FLASHING 3 AG



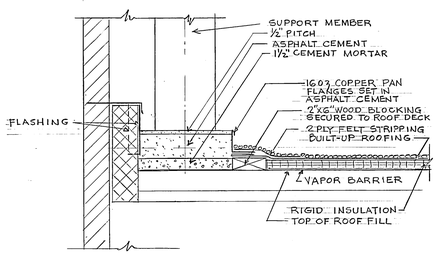
PITCH POCKET 4 AG



EXPANSION JOINT THRU ROOF 5 AG



STEEL ROOF CURB 6 AG



PITCH POCKET 7 A-G

NOTE:
AT EACH ROOF LEVEL EL.0" = 6" ABOVE DECK.

Robert V. Cherry
James T. Lilo
Nathaniel Owings
Jonathan Dyer

Partner In Charge
Designer
Project Architect
Project Manager

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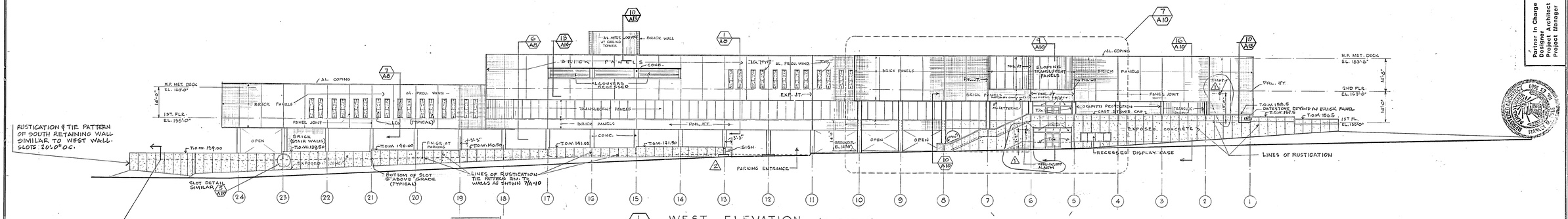
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Sullivan J. Asiso, Jr., President, Library Board
Pearl Frankenfield, Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

ROOF PLAN AND DETAILS

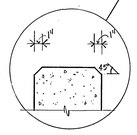
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1	11-12	AS BUILT

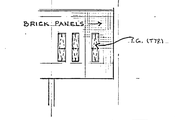
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CHECKED BY
DATE
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JOB NO. 5873
DATE SEPT. 30, 1974
SHEET NO. A-6



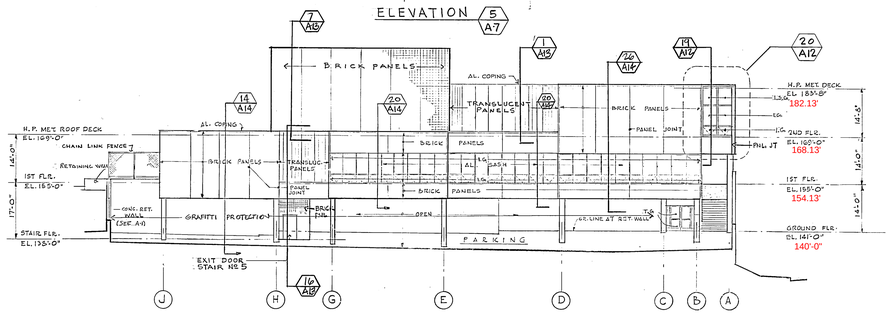
1 A-7 WEST ELEVATION (SWEDE ST.)

FOR CONC. RETAINING WALLS SEE A-11

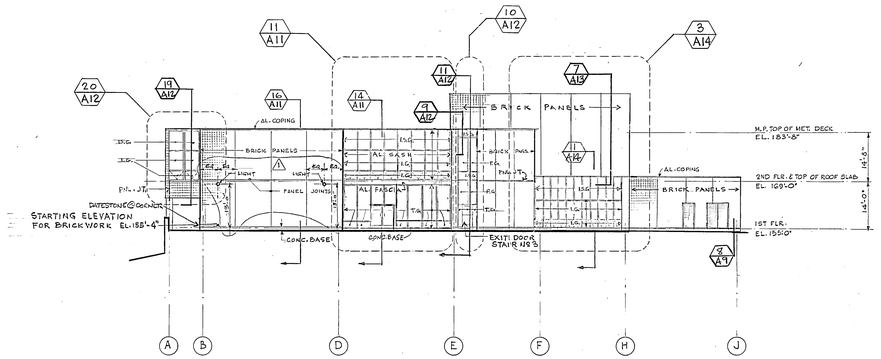




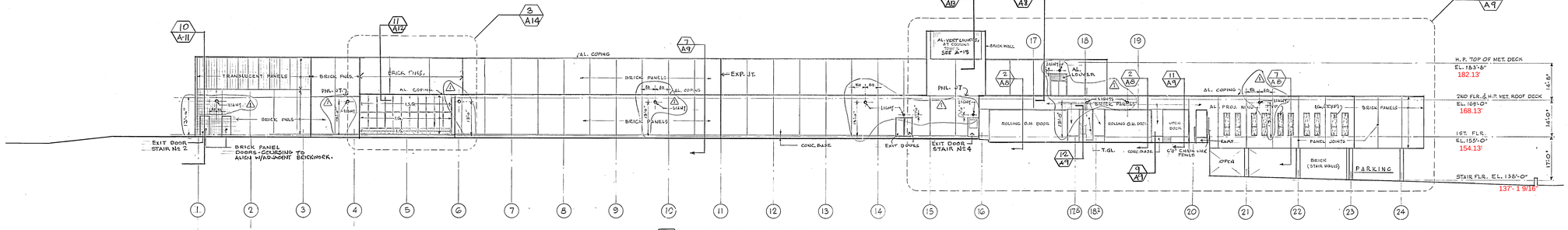
ELEVATION 5 A-7



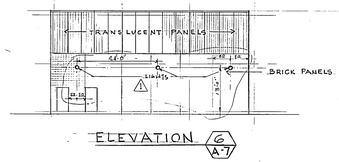
2 A-7 NORTH ELEVATION (SPRUCE ST.)



3 A-7 SOUTH ELEVATION (POWELL ST.)

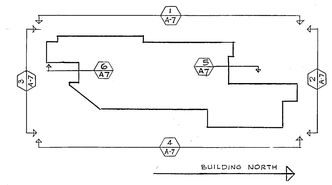


4 A-7 EAST ELEVATION (SPRING ALLEY)

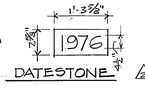


ELEVATION 6 A-7

NOTES:
1. GRAFFITI PROTECTION SHALL BE APPLIED AS FOLLOWS:
   a) ON ALL EXPOSED EXTERIOR CONCRETE INCL. RETAINING WALLS, COLUMNS, BASES AND AS NOTED.
   b) BRICKWORK FROM GRADE LEVEL UP TO COPING AT ONE STORY PORTIONS AND UP TO PANEL JT. AT HIGHER PORTIONS AND AS NOTED.
2. RUSTICATION & TIE PATTERNS ON BOTH EXPOSED FACES OF CONC. WALLS TO BE SIMILAR.



HELVETICA MEDIUM STYLE NUMERALS



DATESTONE

PRECAST STONE W/ RECESSED NUMERALS - CUT.

Robert V. Cherry — Partner In Charge
James T. Lilo — Designer
Nathaniel Ewing — Project Architect
Jonathan Dyer — Project Manager

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Montgomery County - Norristown Public Library

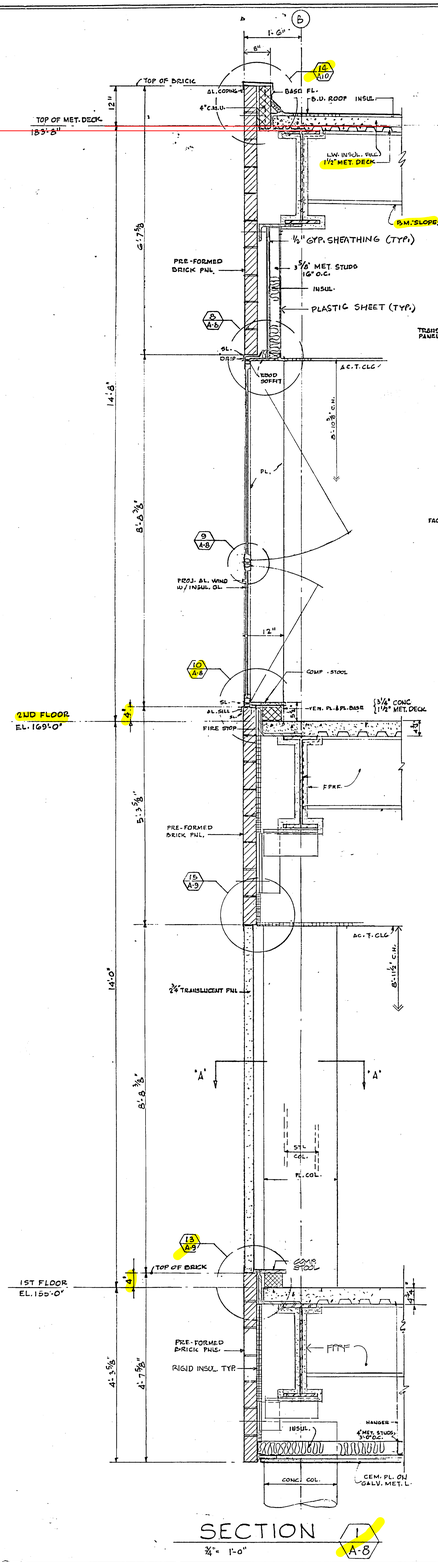
A. Russell Penfrosse, President - Commissioner
Arthur W. Hendrick, Jr., Commissioner
Lawrence H. Curry, Commissioner
Harry E. Pennington, Chief Clerk
Roger B. Reynolds, Esq., Solicitor
Lawrence F. Fleck, Esq., Controller

Russell W. Piazza, Director of Purchasing
Arthur W. Hendrick, Jr., Director of Public Property
Sullivan J. Astor, Jr., President, Library Board
Pearl Pranteifield, Executive Director, Library
Kirke Bryan, Esq., Solicitor, Library

ELEVATIONS

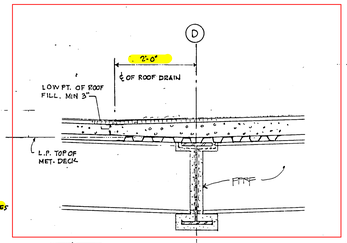
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2	10-7	AS BUILT
1	10/74	ENTRANCE LIGHT FIXT. LOCATIONS

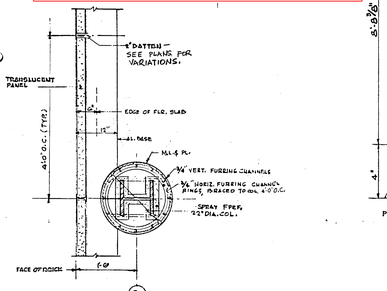
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CHECKED BY
DATE
SCALE 1/16" = 1'-0"
JOB NO. 5873
DATE SEPT. 30, 1974
SHEET NO. A-7

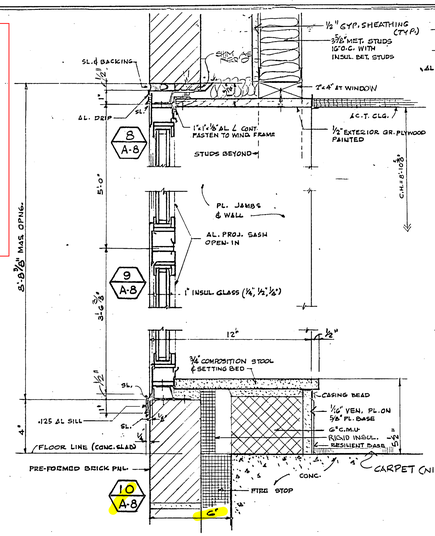


SECTION "A-A"

3/4"=1'-0"

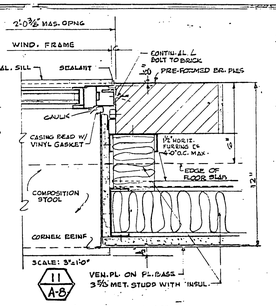


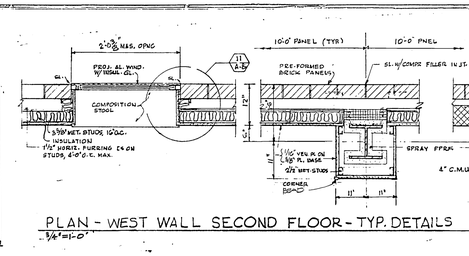




TYPICAL WINDOW DETAILS

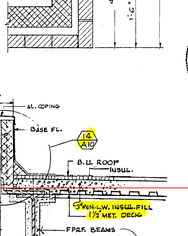
3"=1'-0"



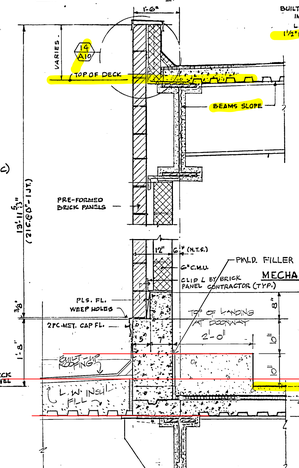


PLAN - WEST WALL SECOND FLOOR - TYP. DETAILS

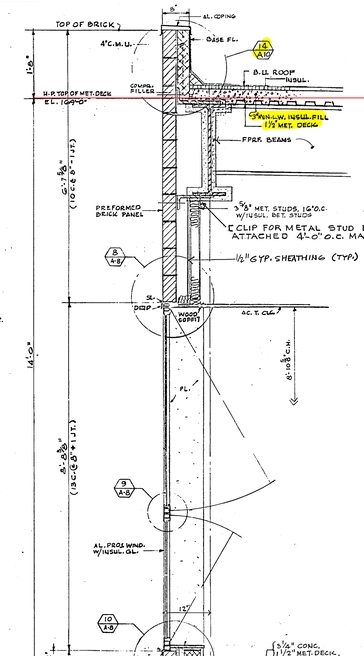
3/4"=1'-0"







MECHANICAL ROOM



SECTION

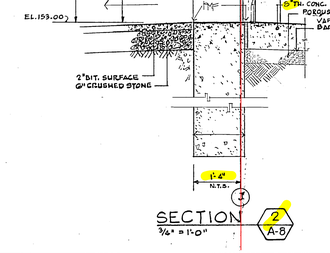
3/4"=1'-0"

7 A-8

SECTION

3/4" = 1'-0"

1 A-8



SECTION

3/4" = 1'-0"

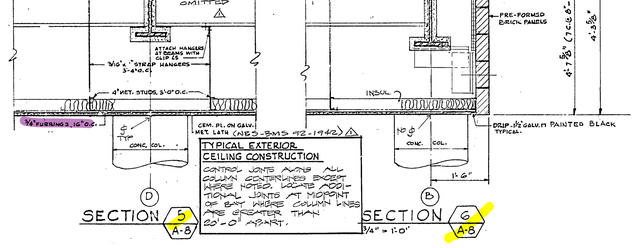
2 A-8

SECTION

3 A-8

SECTION

4 A-8



SECTION

1/4" = 1'-0"

5 A-8

SECTION

1/4" = 1'-0"

6 A-8

Robert V. Cherry, Jr., Director
Nathaniel Gaines, Jr.
Jonathan Dyer, Jr.
Partners In Charge
Project Architect
Project Manager

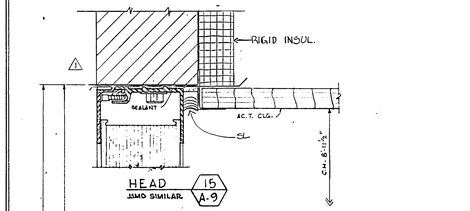
EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Montgomery County - Norristown Public Library
Russell W. Piazza, Director of Purchasing
J. John Apt, Director, Dept. of Public Property
Sullivan J. Aslo, Jr., President - Library Board
Frank W. Jenkins, Esq., Commissioner
Lawrence H. Curry, Commissioner
Harry E. Pennington, Chief Clerk
Roger A. Cunningham, Esq., Solicitor
Lawrence T. Fitch, Esq., Controller

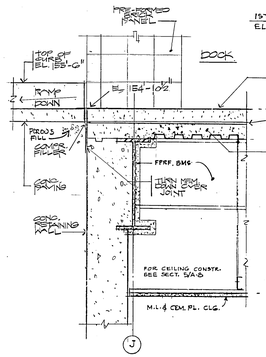
SECTIONS AND DETAILS

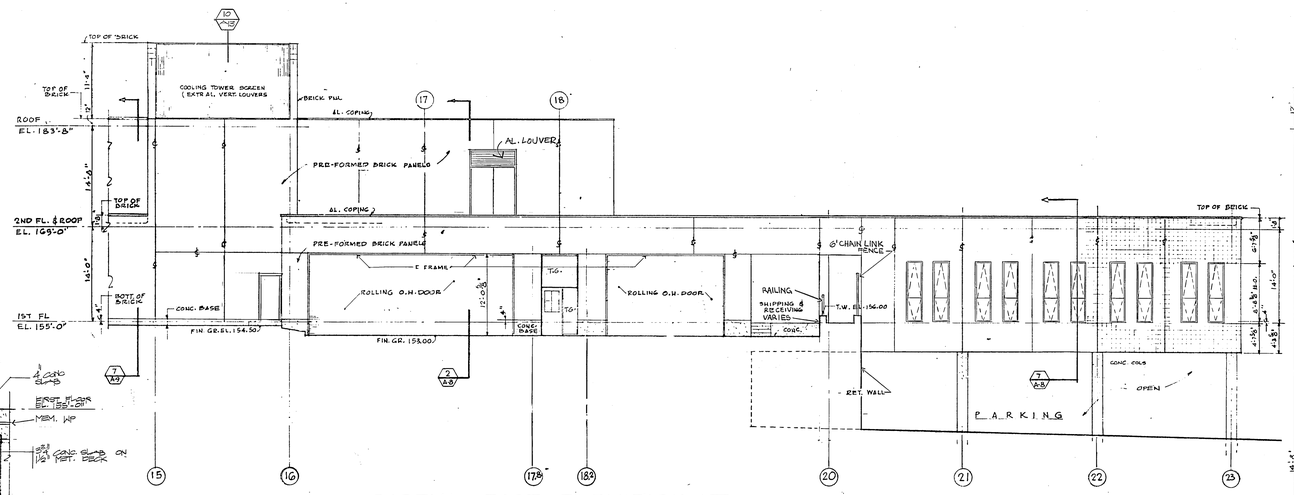
NO.	DATE	REVISION
△	10-22	AS BUILT

DRAWN BY AS
CHECKED BY
DATE
SCALE
JOB NO. 5873
DATE SEPT. 30, 1974
SHEET NO. A-8

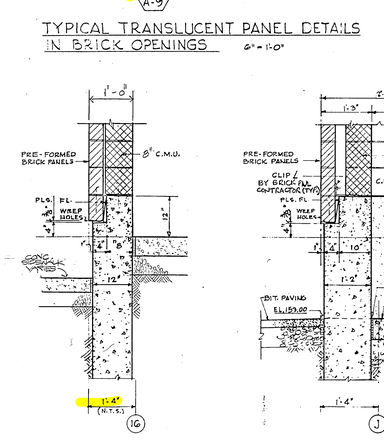


TYPICAL TRANSLUCENT PANEL DETAILS IN BRICK OPENINGS 6" = 1'-0"

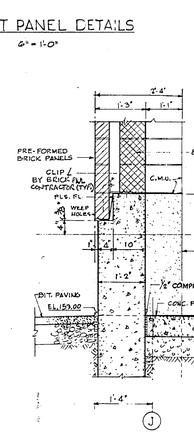




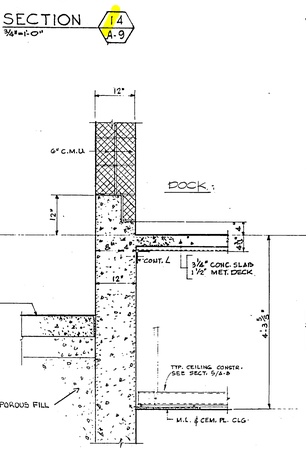
PARTIAL EAST ELEVATION 16 A-9
1/8" = 1'-0"



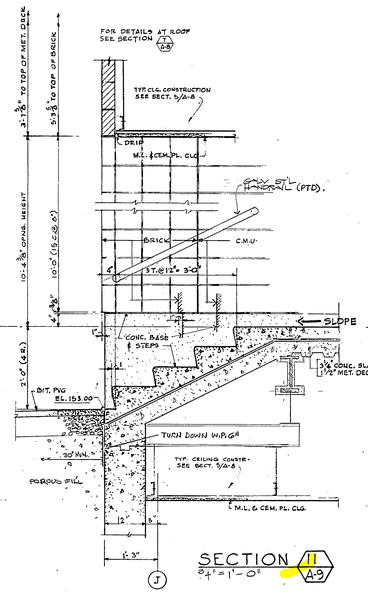
SECTION 8 A-9
3/4" = 1'-0"



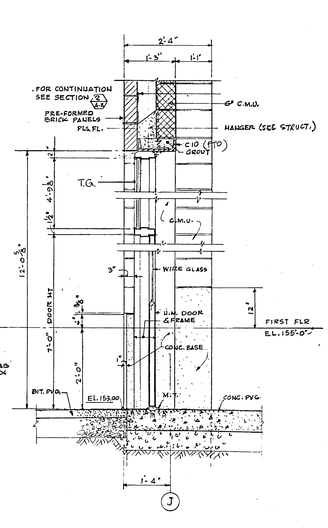
SECTION 9 A-9
3/4" = 1'-0"



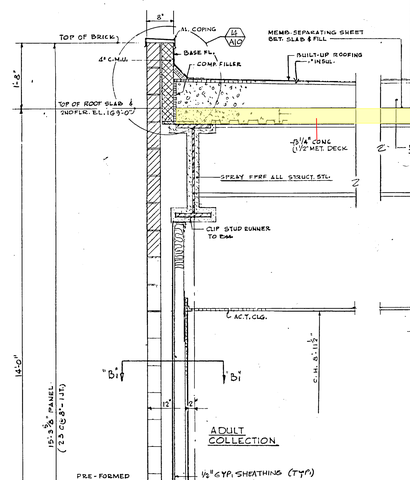
SECTION 10 A-9
3/4" = 1'-0"



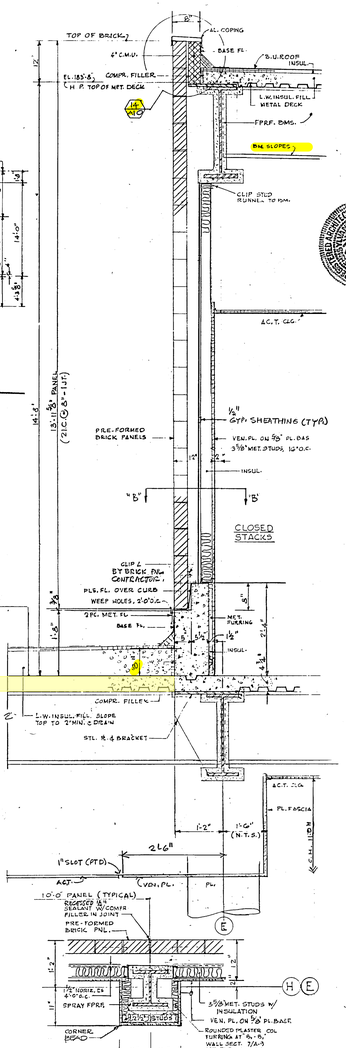
SECTION 11 A-9
3/4" = 1'-0"

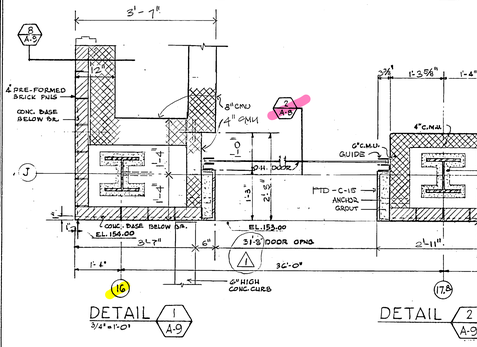


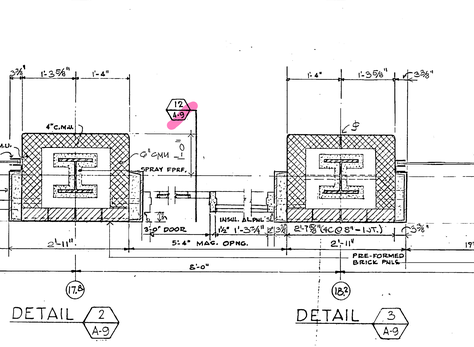
SECTION 12 A-9
3/4" = 1'-0"

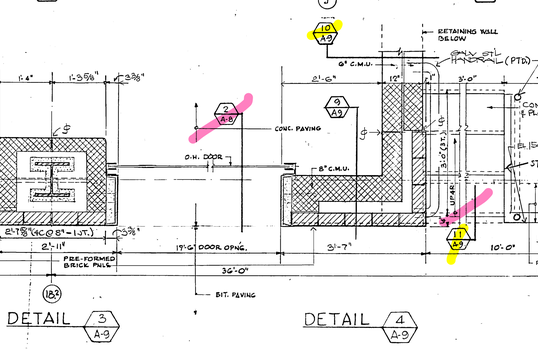


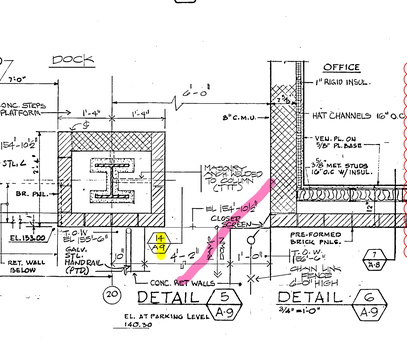
SECTION 7 A-9
3/4" = 1'-0"











PLAN DETAILS GARAGE 136, DOCK 135

Robert V. Cherry — Partner in Charge
James Wells — Project Architect
Nathaniel Gaines — Project Manager
Jonathan Dyer

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Montgomery County · Norristown Public Library

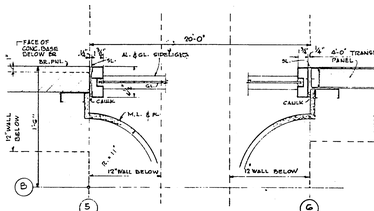
Russell W. Piazza, Director of Purchasing
J. John Apt., Director, Dept. of Public Property
Sullivan J. Aston, Jr., President - Library Board
Pearl Frankenfield, Executive Director, Library
Kathe Bryan, Esq., Solicitor, Library

A. Russell Pattakos, President - Commissioner
Frank W. Jenkins, Esq., Commissioner
Lawrence H. Curry, Commissioner
Henry E. Pennington, Esq., Chief Clerk
Edgar Preston, Esq., Solicitor
Lawrence F. Flick, Esq., Controller

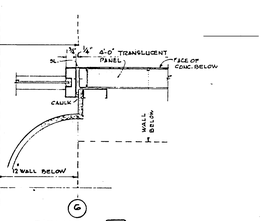
SECTIONS & DETAILS

NO.	DATE	REVISION
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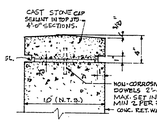
DRAWN BY AS.
CHECKED BY
DATE
SCALE NOTED
JOB NO. 3373
DATE SEPT. 30, 1974
SHEET NO. A-9



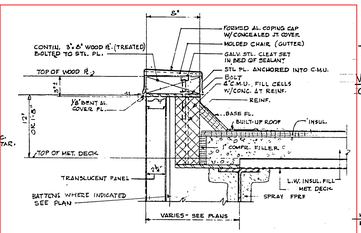
DETAIL 1 / A10
1½" = 1'-0"



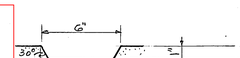
DETAIL 2 / A10
1½" = 1'-0"



DETAIL 3 / A10
1½" = 1'-0"

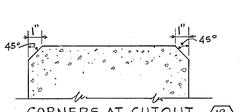


TYPICAL PARAPET DETAIL AT TRANSLUCENT PANELS 4 / A10
1½" = 1'-0"

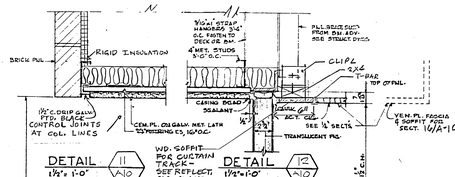


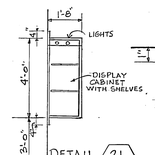
VERTICAL RUSTICATION ON COLUMN LINES 17 / A10

TYPICAL VERTICAL AND HORIZONTAL RUSTICATION 18 / A10
ALSO COLUMN RUSTICATION

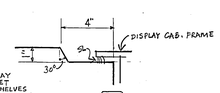


CORNERS AT CUTOUT 19 / A10

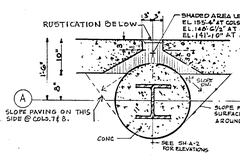




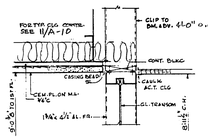
DETAIL 21 / A10



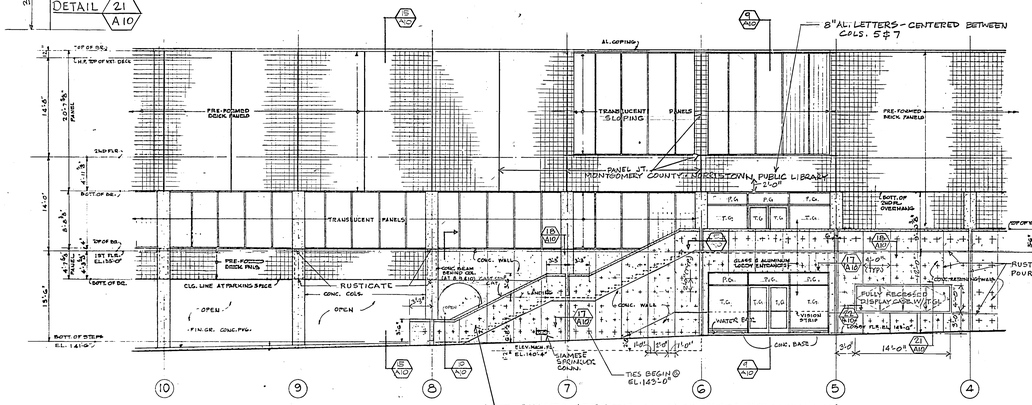
DETAIL 22 / A10



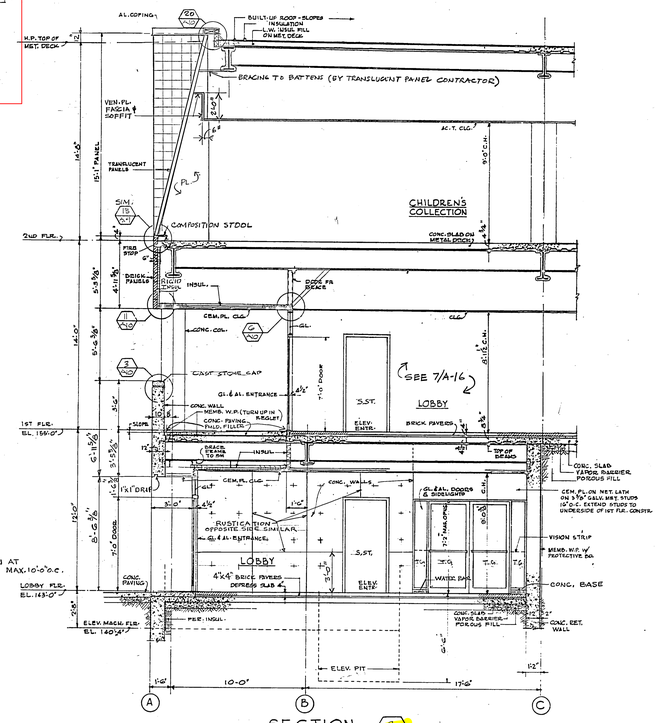
SECTION 5 / A10
¼" = 1'-0"



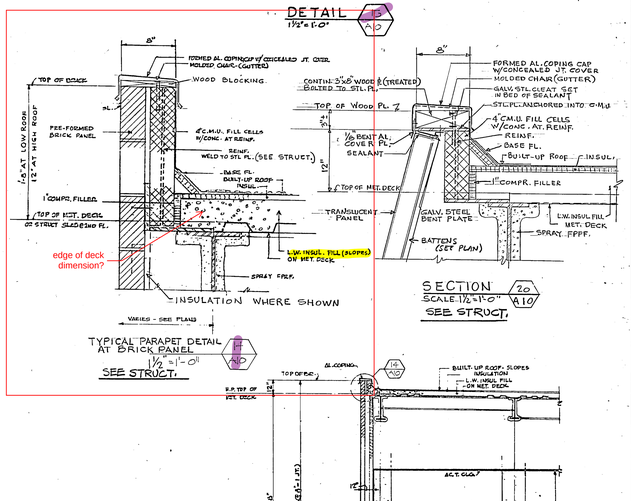
DETAIL 6 / A10
1½" = 1'-0"

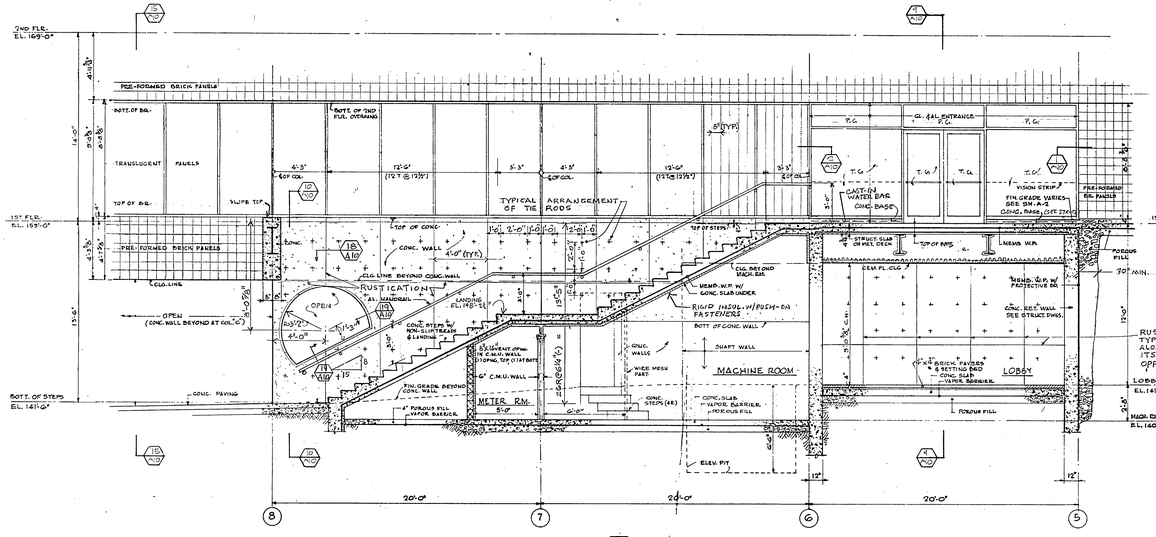


WEST. ELEVATION AT STAIR No. 1 & ENTRANCES 7 / A10
⅛" = 1'-0"

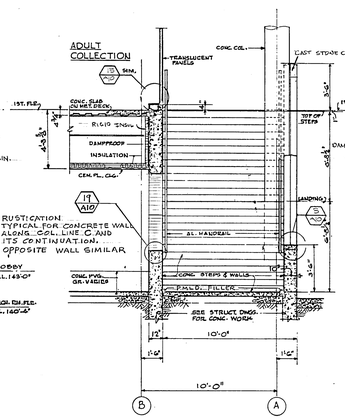


SECTION 9 / A10
1/4" = 1'-0"

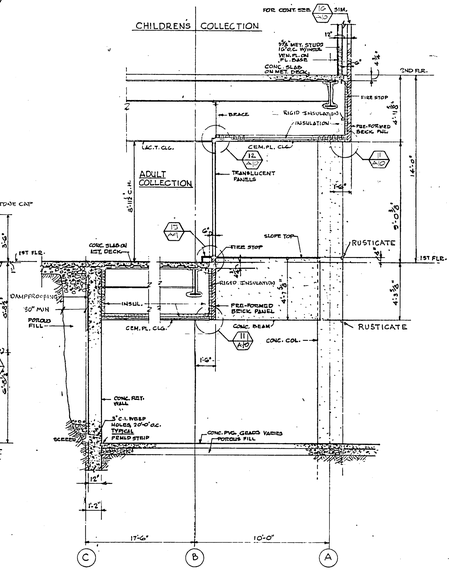




STAIR No. 1 SECTION 8 / A10
½" = 1'-0"

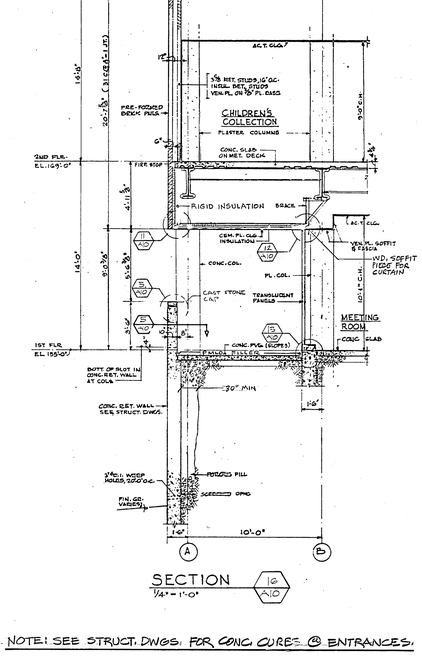


SECTION 10 / A10
¼" = 1'-0"



SECTION 15 / A10

NOTE: SEE STRUCT. DWGS. FOR CONC. CURES @ ENTRANCES.



SECTION 16 / A10
¼" = 1'-0"

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Partner in Charge - Robert W. Cherry
Designer - James T. Litz
Project Architect - Nathaniel Gainza
Project Manager - Jonathan Dyer

Montgomery County · Norristown Public Library
Russell W. Plazza, Director of Purchasing
J. John Apt, Director, Dept. of Public Property
Sullivan J. Astolfi, President, Library Board
Richard J. Bradley, Executive Director, Library
Kirke Bryan, Esq., Solicitor, Library

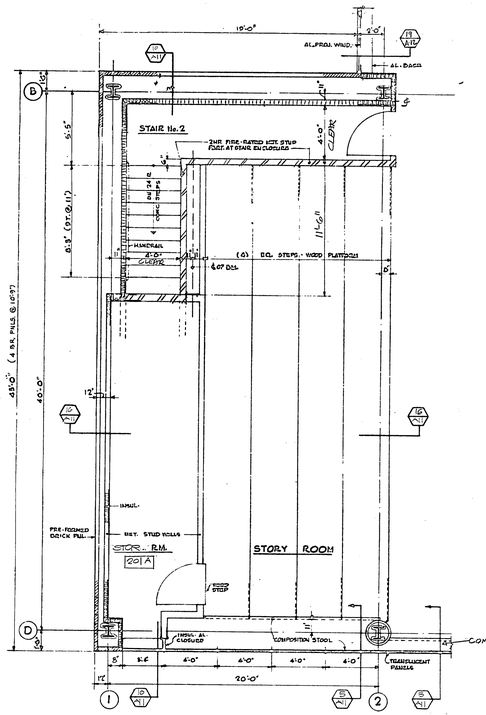
Montgomery County · Commissioners
A. Russell Penthouse, President
Frank W. Jantzins, Esq., Commissioner
Lawrence H. Curry, Commissioner
Henry E. Pennington, Chief Clerk
Lawrence F. Flick, Esq., Solicitor

ELEVATION, SECTIONS, DETAILS
STAIR No. 1
AND

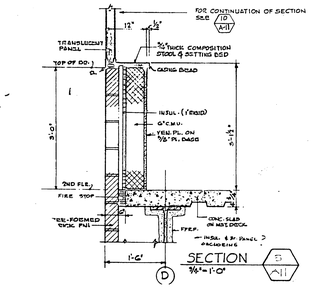
NO.	DATE	REVISION
1	10/31/77	AS BUILT

DRAWN BY AS,
CHECKED BY
DATE SEPT. 30, 1974
SCALE NOTED
JOB NO. 5873
DATE
SHEET NO. A-10

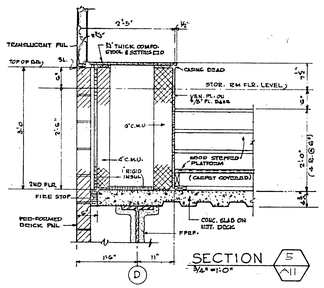
E.E.&E. 7/74



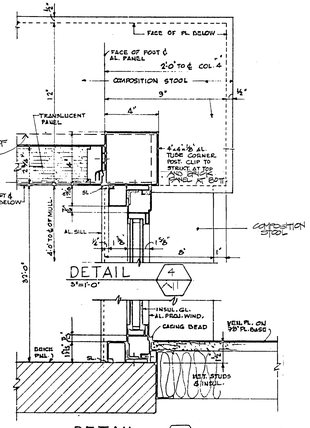
2ND FLOOR PLAN 1/4" = 1'-0" STAIR NO. 2.



SECTION 3/16" = 1'-0" (D) (5 A11)



SECTION 3/16" = 1'-0" (D) (5 A11)

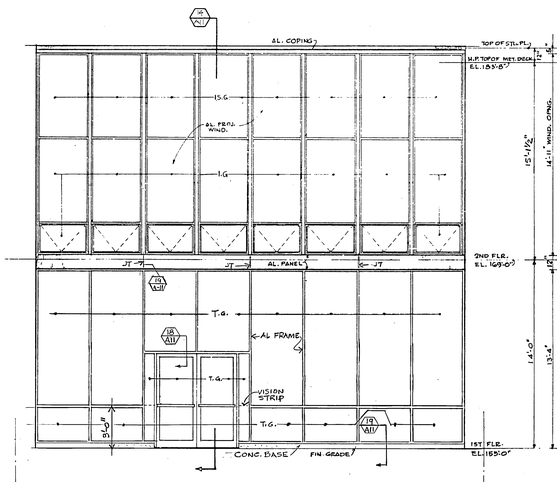


DETAIL 4 3"=1'-0" (A11)

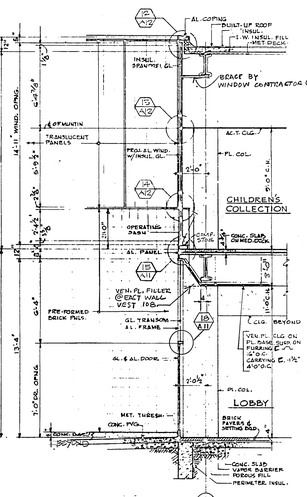
DETAIL 6 3"=1'-0" (A11)



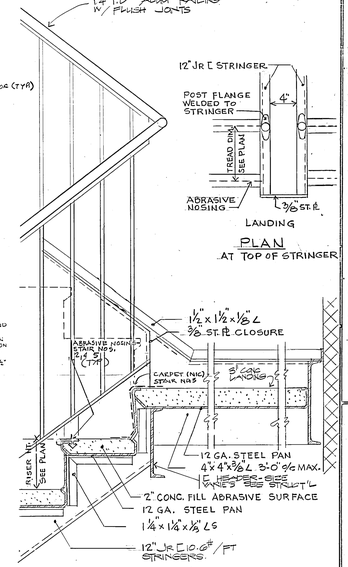
DETAIL 19 3"=1'-0" (A-11)



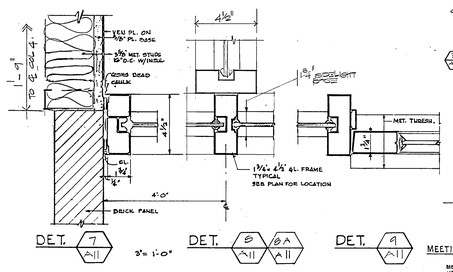
ELEVATION 11 1/4" = 1'-0" (A11)



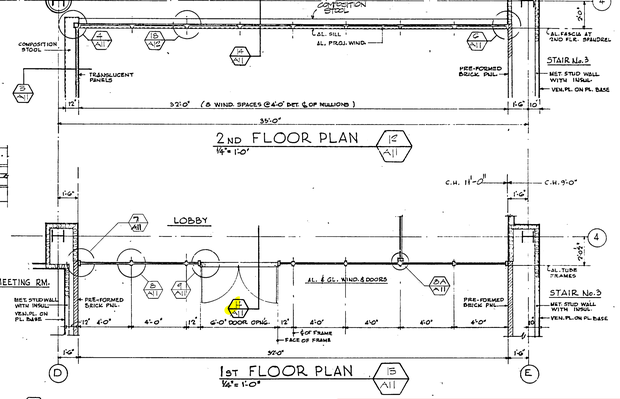
SECTION 14 1/4" = 1'-0" (4 A11)



SECTION TYPICAL STEEL PAN STAIR 1/2" = 1'-0"

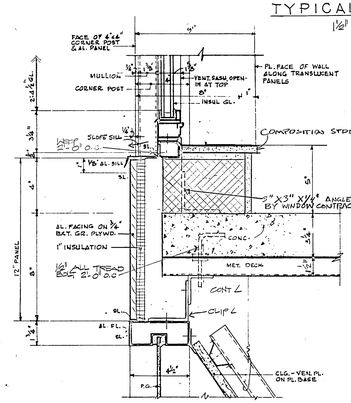


DET. 7 3"=1'-0" (A11) DET. 8 (A11) (8A A11) DET. 9 (A11)

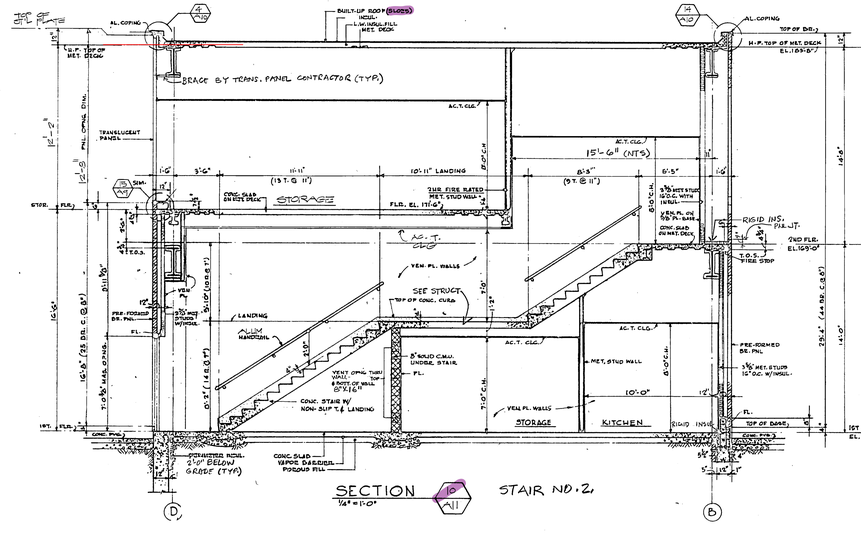


2ND FLOOR PLAN 1/8" = 1'-0" (12 A11)

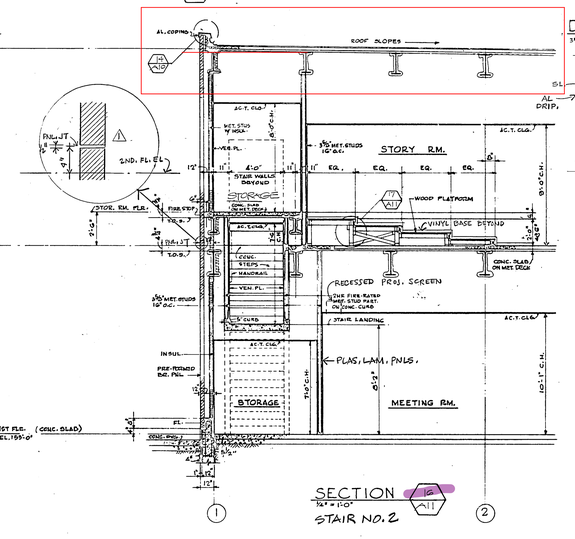
1ST FLOOR PLAN 1/8" = 1'-0" (13 A11)



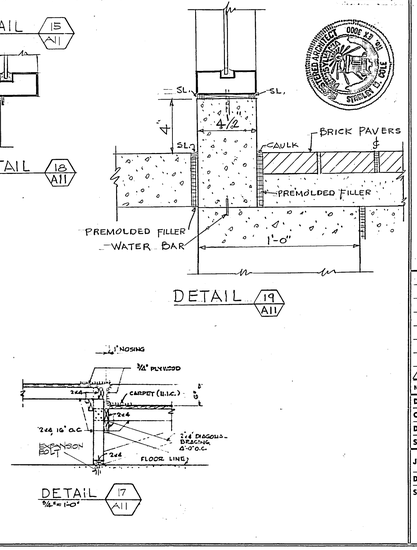
DETAIL 15 3"=1'-0" (A11)



SECTION 10 1/4" = 1'-0" (A11) STAIR NO. 2.



SECTION 16 1/4" = 1'-0" STAIR NO. 2 (A11)



DETAIL 17 3"=1'-0" (A11)

DETAIL 19 (A11)

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Montgomery County - Norristown Public Library

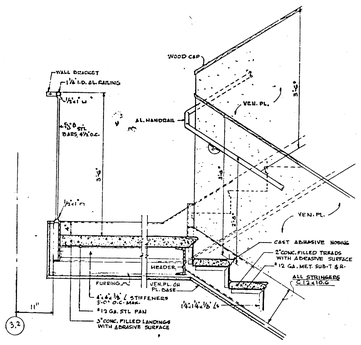
A. Russell Peltzhouse, President - Commissioner
Frank W. Jenkins, Esq., Commissioner
Lawrence H. Curry, Commissioner
Henry E. Pennington, Chief Clerk
Robert W. Cherry, Assistant Chief Clerk
Lawrence F. Flick, Esq., Controller

Russell W. Plazza, Director of Purchasing
J. John Apt, Director, Dept. of Public Property
Sullivan J. Asiello, President Library Board
Robert W. Cherry, Executive Director, Library
Kirtle Bryan, Esq. Solicitor, Library

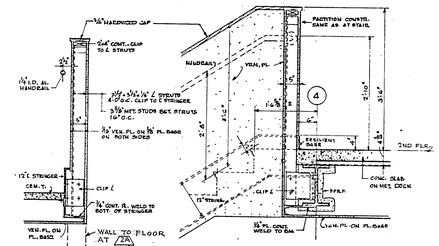
Partner in Charge: Robert W. Cherry
Project Manager: James D. Tull
Project Architect: Nathaniel Gaines
Project Manager: Jonathan Dyer

ELEVATION, SECTIONS, DETAILS AND STAIR NO. 2

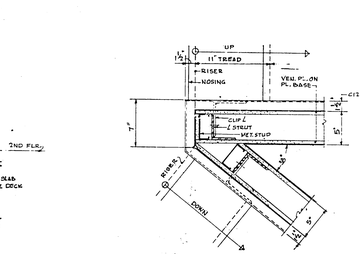
NO.	DATE/REVISION
1	5-3 AS BUILT
DRAWN BY	AS
CHECKED BY	
DATE	
SCALE	NOTED
JOB NO.	3873
DATE	SEPT. 30, 1974
SHEET NO.	A-11



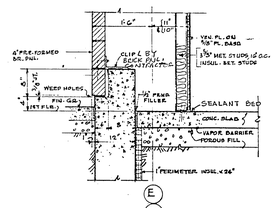
DETAIL 1/A12
3/4" = 1'-0"



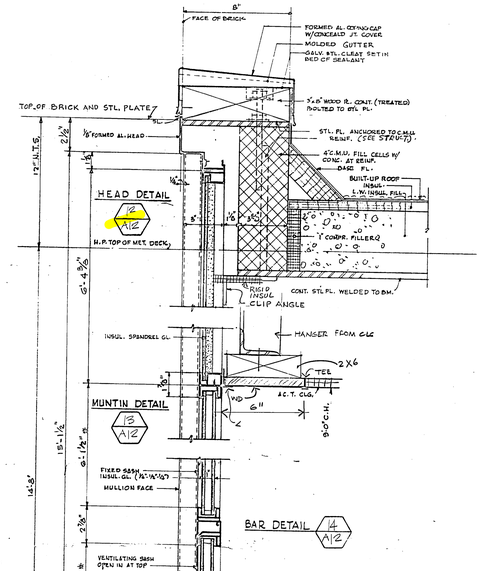
SECTION 2/A12 2A/A12
3/4" = 1'-0"

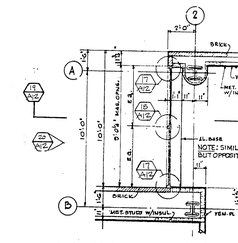


PLAN DETAIL AT LANDING 6/A12
1½" = 1'-0"

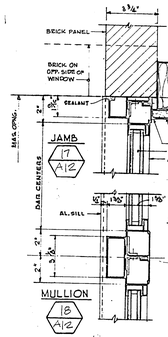


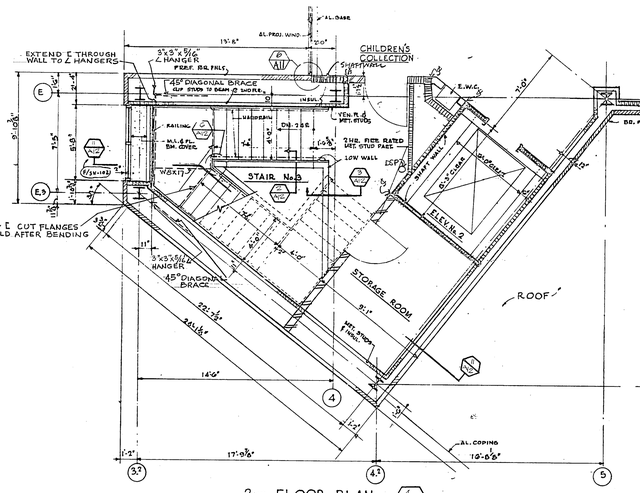
SECTION 7/A12
3/4" = 1'-0"

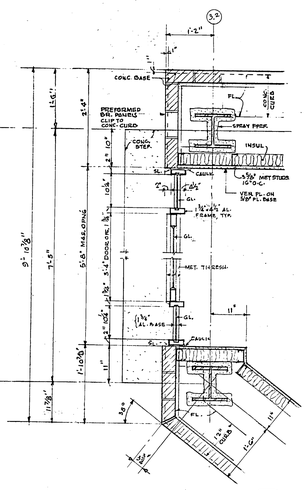


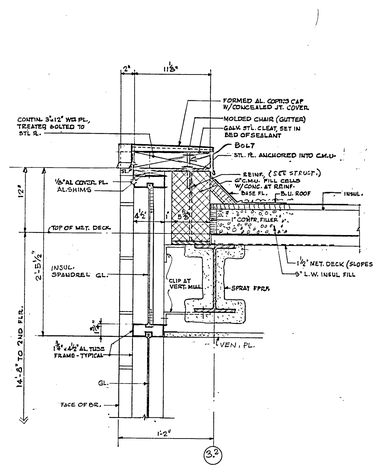


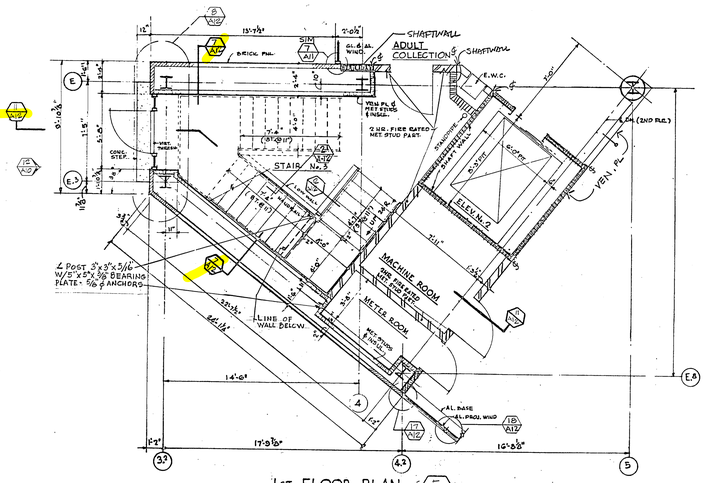
WINDOW PLAN 16/A12
3/8" = 1'-0"

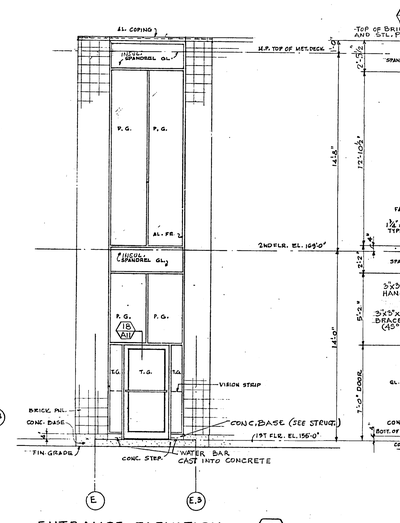


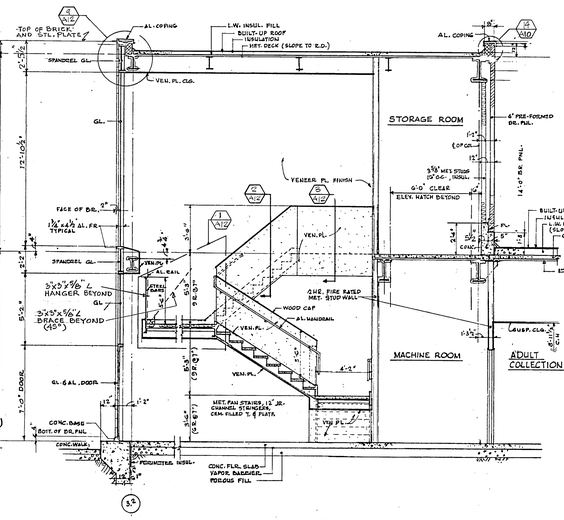


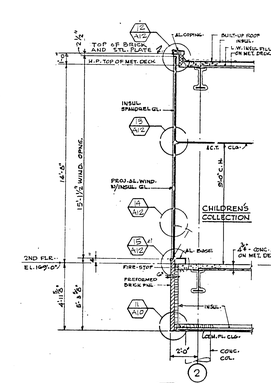


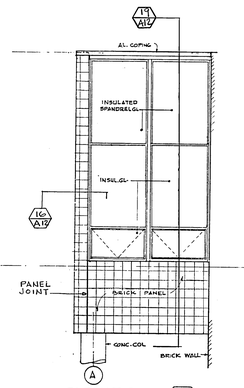












EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Public Library
Montgomery County - Norristown

Robert V. Cherry, Jr. AIA
Nathaniel Gaines
Jonathan Dyer
Partner In Charge
Project Architect
Project Manager

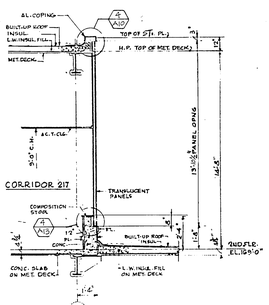
Russell W. Piazza, Director of Purchasing
J. John Apt, Director, Dept. of Public Property
Sullivan J. Asto Jr., President - Library Board
Pearl Fraitenfield, Executive Director, Library
Kitrie Bryan, Esq. Solicitor, Library

A. Russell Penrhouse, President - Commissioner
Frank W. Jenkins, Esq., Commissioner
Lawrence H. Curry, Commissioner
Henry E. Pennington, Chief Clerk
Peter J. Armenti, Esq., Solicitor
Lawrence F. Fitch, Esq., Controller

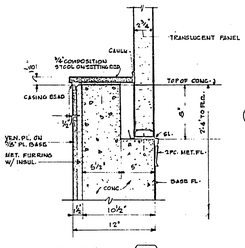
ELEVATION, SECTIONS & DETAILS
AND STAIR NO. 3

NO.	DATE	REVISIONS
1	9/27	AS BID NOT

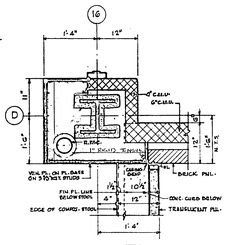
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CHECKED BY
DATE
SCALE NOTED
JOB NO. 5873
DATE SEPT. 30, 1974
SHEET NO. A-12



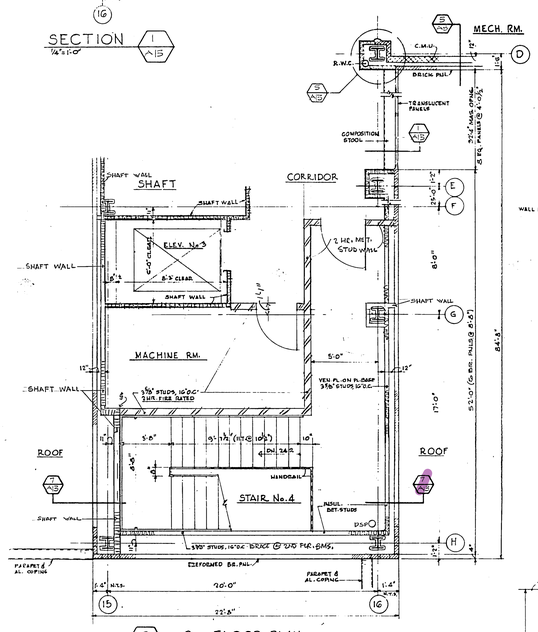
SECTION 1 / A15
1/4"=1'-0"



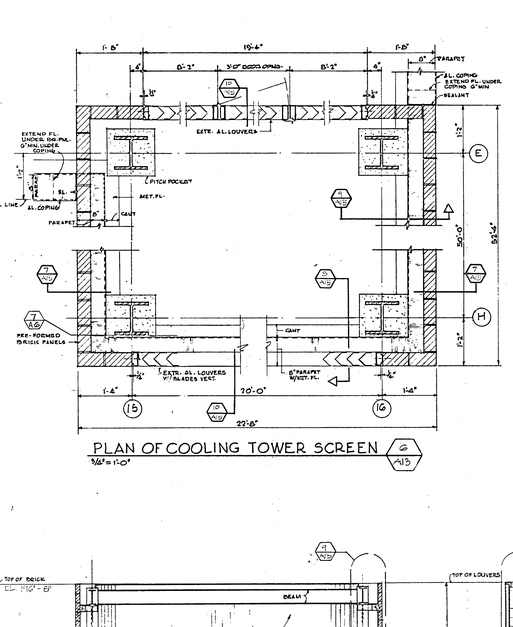
DETAIL 4 / A15
1½"=1'-0"



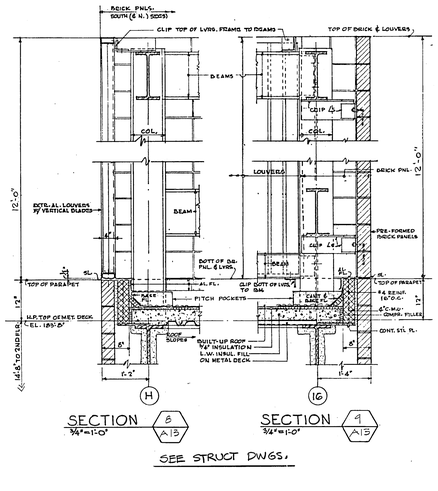
DETAIL 5 / A15
¾"=1'-0"



2ND FLOOR PLAN
1/4"=1'-0"
STAIR №4



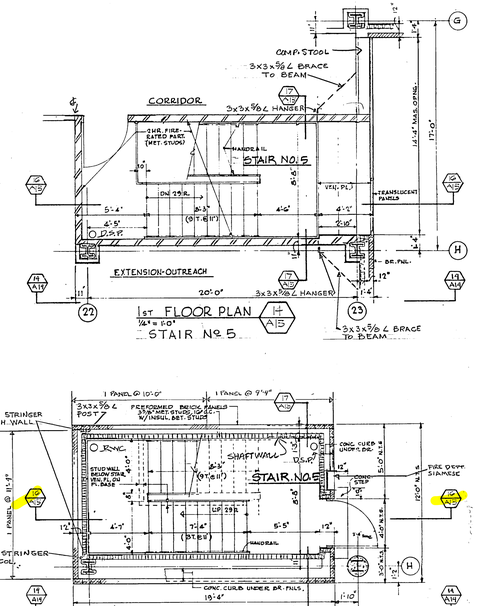
PLAN OF COOLING TOWER SCREEN
3/16"=1'-0"



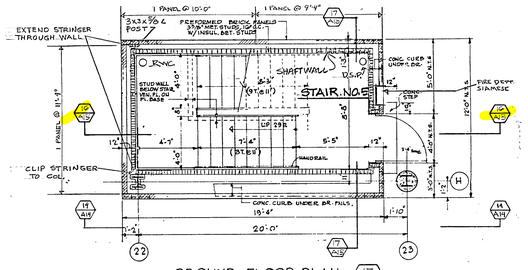
SECTION 8 / A15
3/16"=1'-0"

SECTION 4 / A15
3/16"=1'-0"

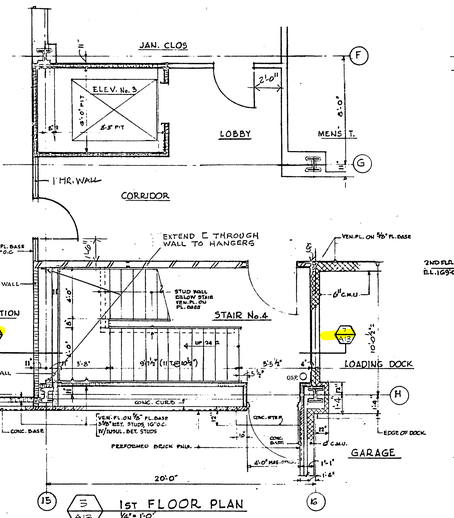
SEE STRUCT DWGS.



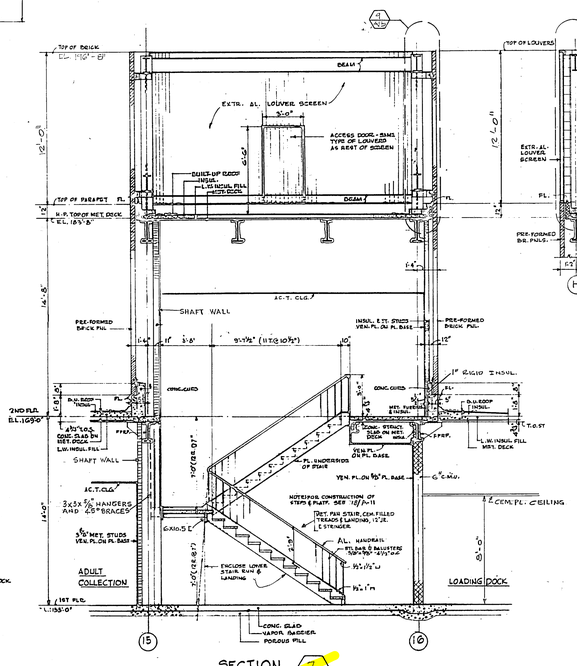
1ST FLOOR PLAN
1/4"=1'-0"
STAIR №5



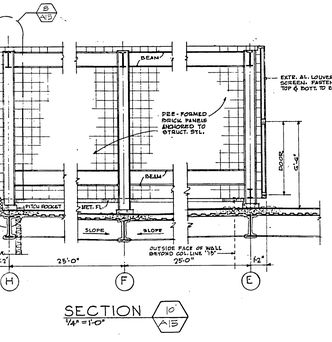
GROUND FLOOR PLAN
1/4"=1'-0"
STAIR №5



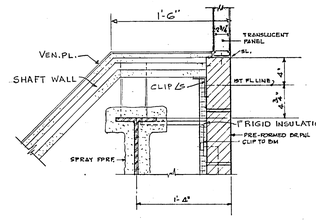
1st FLOOR PLAN
1/4"=1'-0"
STAIR №4



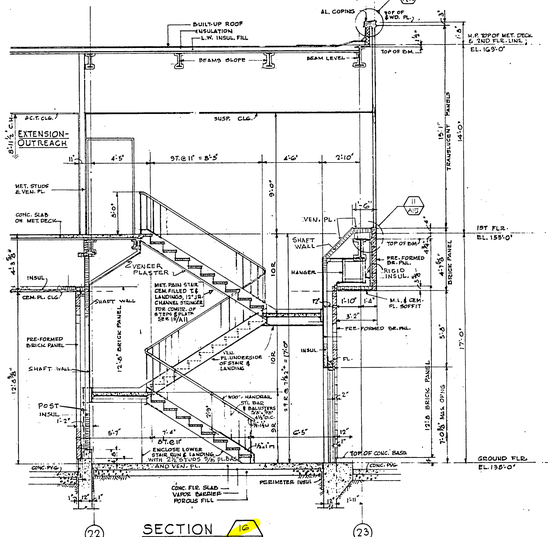
SECTION 7 / A15
1½"=1'-0"
STAIR №4



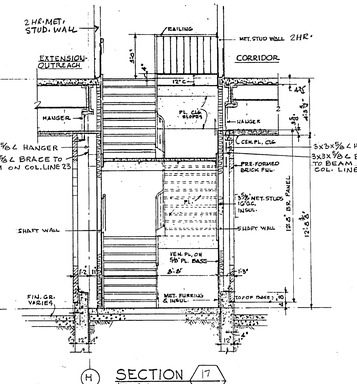
SECTION 10 / A15
1½"=1'-0"



DETAIL 11 / A15
1½"=1'-0"



SECTION 15 / A15
1½"=1'-0"
STAIR №5



SECTION 17 / A15
1½"=1'-0"
STAIR №5

Robert W. Cherry
Lloyd Lewis
Nathaniel Gaines
Jonathan Dyer

Partner In Charge
Project Architect
Project Manager

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Montgomery County - Norristown Public Library

A. Russell Patchouse, President - Commissioner
J. John Apt, Director, Dept. of Public Property
Sullivan J. Asio, Jr., President, Library Board
Pearl Fankenfield, Executive Director, Library
Rorie Bryan, Esq. Solicitor, Library

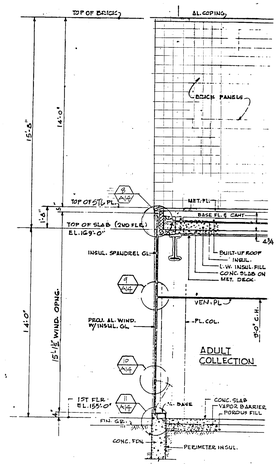
Russell W. Plazza, Director of Purchasing
Frank W. Jenkins, Esq., Commissioner
Lawrence H. Curry, Commissioner
Harry E. Pennington, Chief Clerk
Robert S. Reichley, Esq. Solicitor
Lawrence F. Flick, Esq., Controller

SECTIONS, DETAILS & ELEVATION OF STAIRS

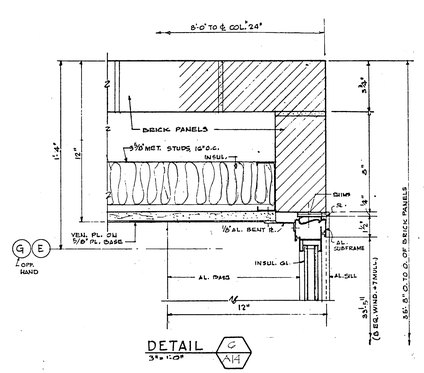
NO.	DATE	REVISION
3	8/3	AS BUILT

DRAWN BY AS
CHECKED BY
DATE
SCALE

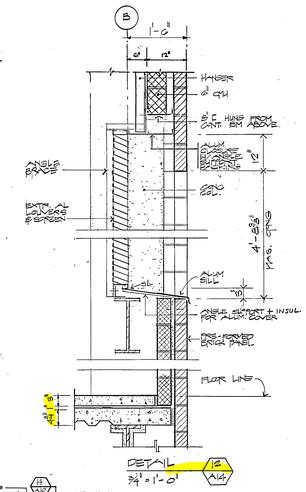
JOB NO. 6873
DATE SEPT. 30, 1974
SHEET NO.
A-13



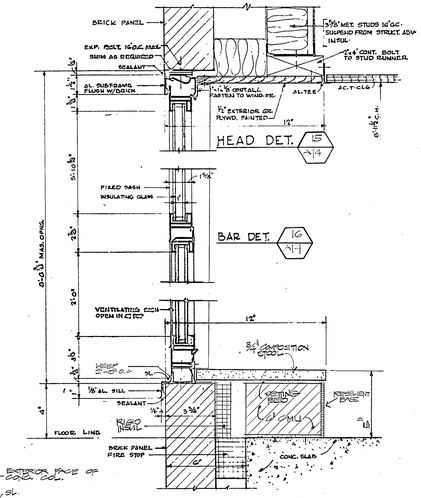
SECTION 1 / A-4
1/4" = 1'-0"

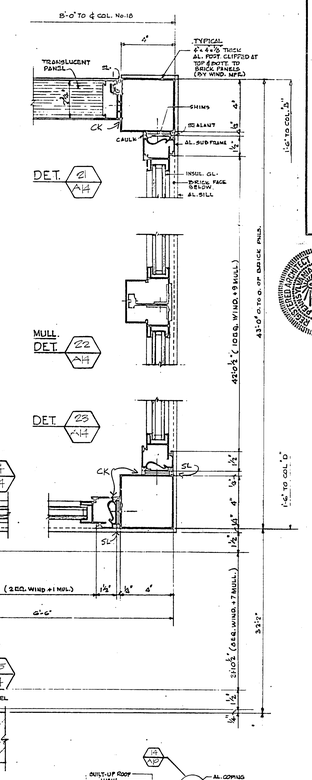


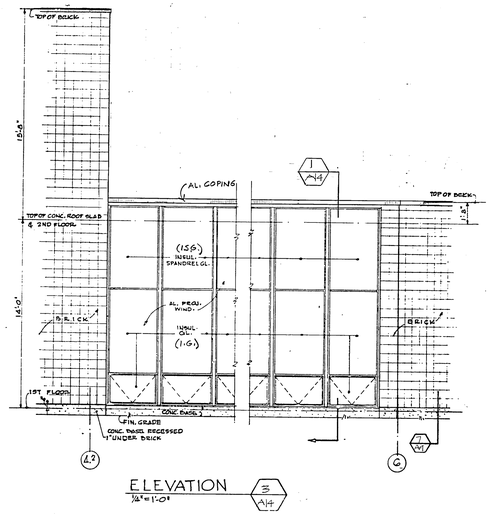
DETAIL 2 / A-4
3" = 1'-0"



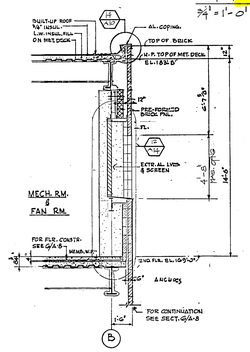
DETAIL 12 / A-4
3" = 1'-0"





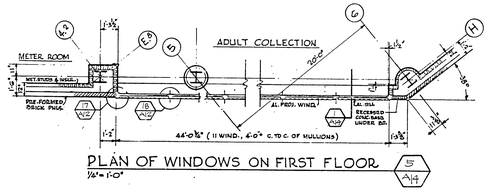


ELEVATION 3 / A-4
1/4" = 1'-0"

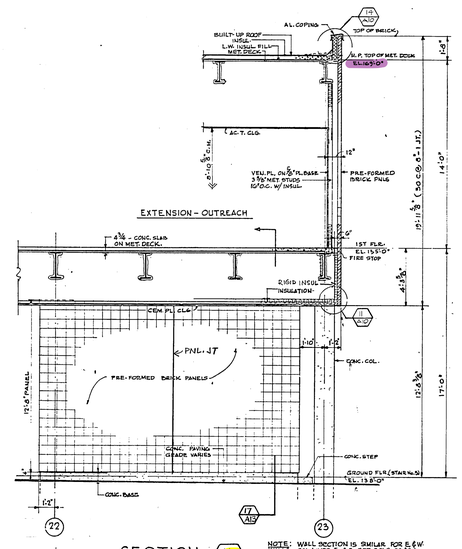


SILL DETAIL 11 / A-4
3" = 1'-0"

PLAN OF LOUVERS IN MECH. & FAN RMS.
1/4" = 1'-0"

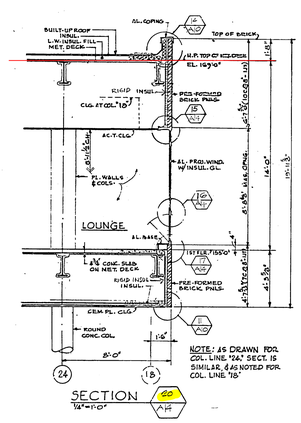


PLAN OF WINDOWS ON FIRST FLOOR 5 / A-4
1/4" = 1'-0"



SECTION 14 / A-4
1/2" = 1'-0"

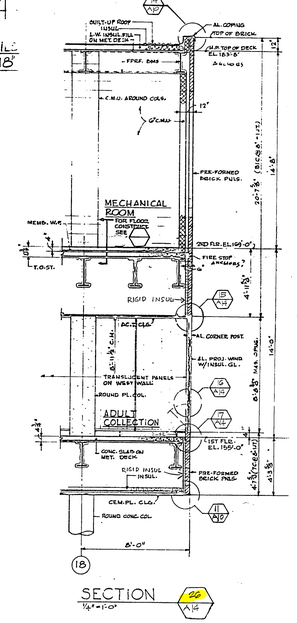
NOTE: WALL SECTION IS SIMILAR FOR E & W WALLS - COL. LINES E & G BET. COLS. 23 & 24 - SEE STRUCT. DWGS.



SECTION 24 / A-4
1/4" = 1'-0"

NOTE: AS DRAWN FOR COL. LINE "24." SECT. IS SIMILAR, E & G NOTED FOR COL. LINE "18."

TYPICAL WINDOW DETAIL
NORTH WALL NEAR COL "18"
SCALE: 3" = 1'-0"



SECTION 26 / A-4
1/4" = 1'-0"

Montgomery County · Morristown Public Library

Russell W. Piazza, Director of Purchasing
J. John Apt, Director, Dept. of Public Property
Sullivan J. Astro, Jr., President - Library Board
Frank W. Jenkins, Esq., Commissioner
Lawrence H. Curry, Commissioner
Harry E. Pennington, Chief Clerk
Peter Pantfield, Esq., Director, Library
Lawrence F. Flick, Esq., Solicitor, Library

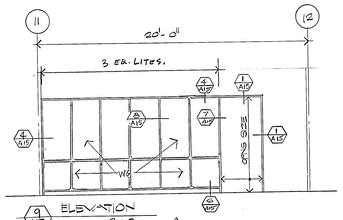
Partner In Charge: Robert V. Cherry
Designer: James T. Lills
Project Architect: Nathaniel Gaines
Project Manager: Jonathan Dyer

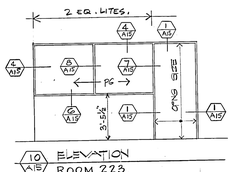
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architects-engineers-planners

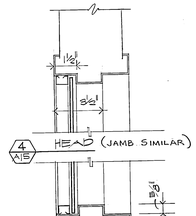
ELEVATIONS, SECTIONS & DETAILS

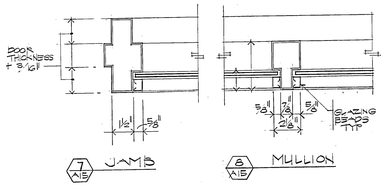
NO.	DATE	REVISION
1	12/27	AS BUILT

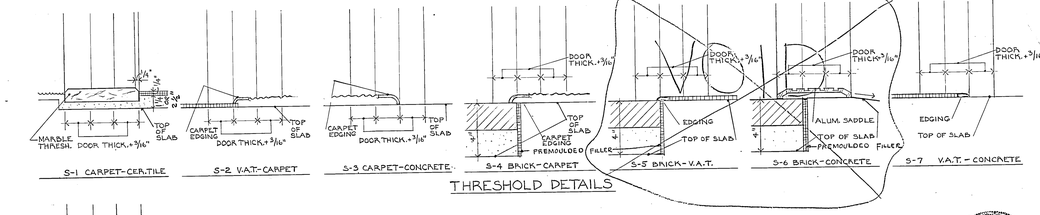
DRAWN BY AS
CHECKED BY
DATE
SCALE
JOB NO.
DATE SEPT. 30, 1974
SHEET NO. A-14

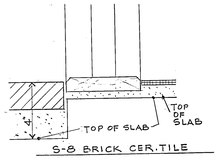


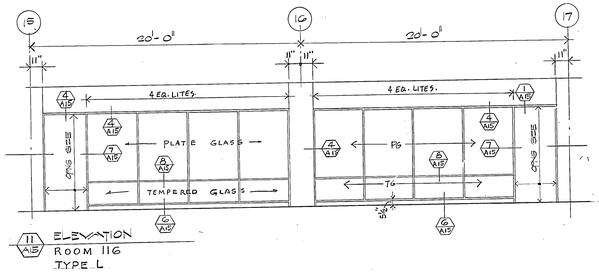


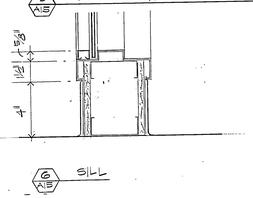


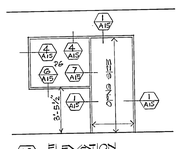


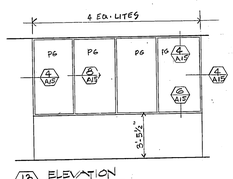


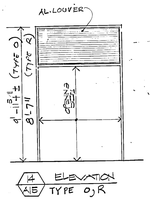


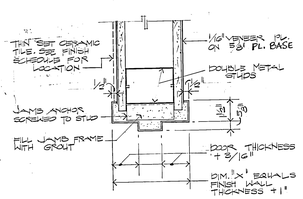


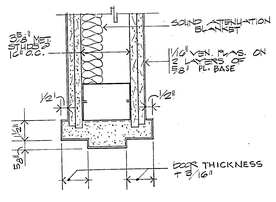


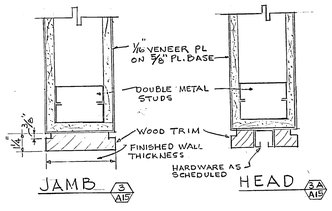




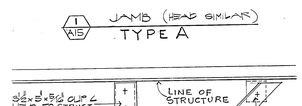


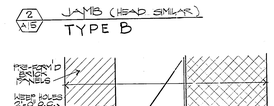


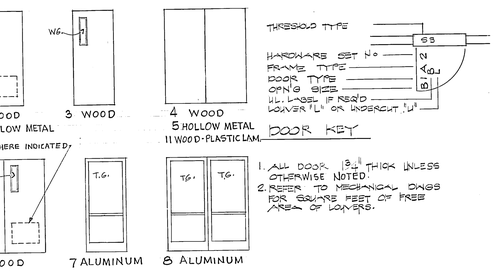




FRAME TYPE "F"

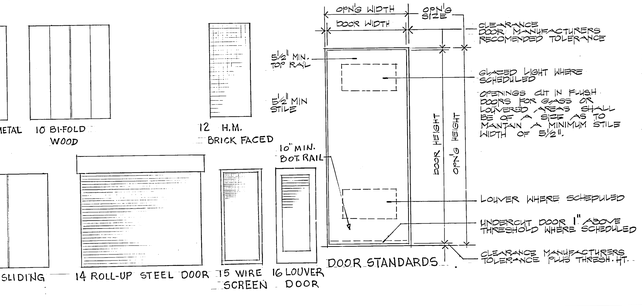






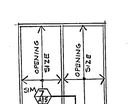
OPNG SIZES	
A	2'-6"x7'-0"
B	3'-0"x7'-0"
C	3'-4"x7'-0"
D	5'-0"x7'-0"
E	5'-4"x7'-0"
F	6'-0"x7'-0"
G	4'-0"x7'-0"
H	3'-0⅝"x6'-10⅞"
J	7'-0"x7'-0"
K	4'-6"x7'-0"
L	3'-0"x6'-0"
M	3'-8⅞"x6'-10"
N	6'-4"x7'-2"
O	3'-1"x6'-10"

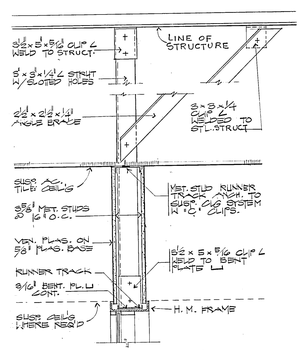
1. ALL DOOR 1¾" THICK UNLESS OTHERWISE NOTED.
2. REFER TO MECHANICAL DWGS FOR SQUARE FEET OF FREE AREA OF LOUVERS.



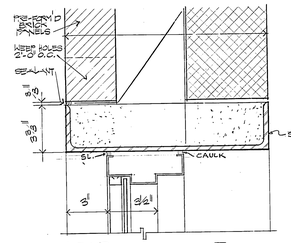
'A' TYP. VENEER PLAS. PART'N
'B' 2 HR. RATED VEN. PLAS. PART'N
'C' FOR 6" C.M.U. WALLS & EXTERIOR MASONRY
'D' ALUM. FRAME 1¾"x4½" STOREFRONT SYSTEM.
"E" FOR BRICK PANELLED DOOR
"F" WOOD FRAME
"P" FOR PLAS. LAM. DOORS (RM. 103)
"G" WIRE SCREEN FRAME
FOR '6' SEE

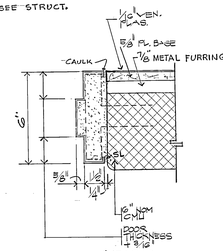
HOLLOW METAL FRAME TYPES

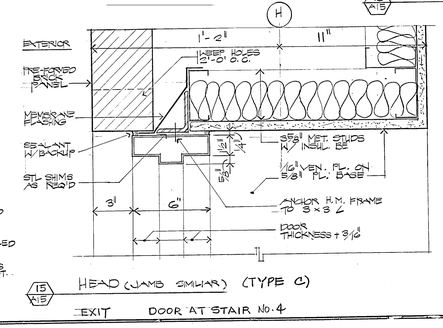


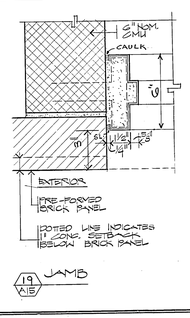


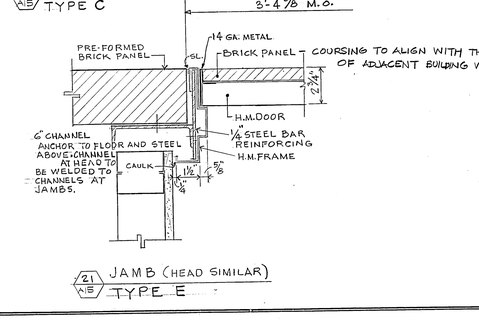
16/A15 H.M. & STUD PART'N BRACE FOR OPENINGS OVER 6'-0" WIDE 4'-0" O.C. MAX.











NOTES:
1. WHERE GLASS LITES OCCUR IN DOORS LOCATED IN RATED WALLS, THE GLASS IS TO BE WIRE GLASS (WG) AND MOUNTED IN A STEEL FRAME (PTD), MAX. DIMENSION IN 1 HR. ASSEMBLY 54", MAX. AREA 1296 SQ. IN (GLASS).

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Montgomery County - Norristown Public Library

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Kirke Bryan, Esq. Solicitor, Library

Robert V. Cherry, President, Commissioner
James T. Kelly, Commissioner
Harold G. Dennis, Commissioner
Jonathan Dyer, Chief Clerk
Henry E. Pennington, Chief Clerk
Roger B. Reynolds, Esq., Solicitor
Lawrence P. Filer, Esq., Controller

Partner In Charge: A. Russell Penthouse
Designer: Frank M. Hall
Project Architect: Lawrence M. Curry
Project Manager: Roger B. Reynolds

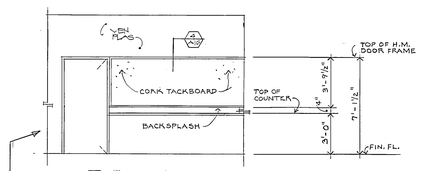
DOOR SCHEDULE

NO.	DATE	REVISION
1	12-79	AS BUILT

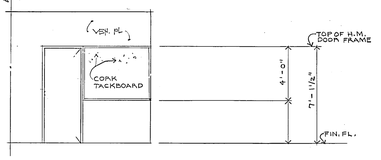
DRAWN BY LAC
CHECKED BY
DATE
SCALE AS NOTED
JOB NO. E613
DATE SEPT. 30, 1974
SHEET NO. A-15

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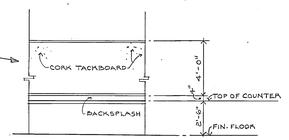
MOUNTING HEIGHT DIAGRAMS



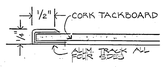
1 A/10 ELEVATION 1/4" = 1'-0"



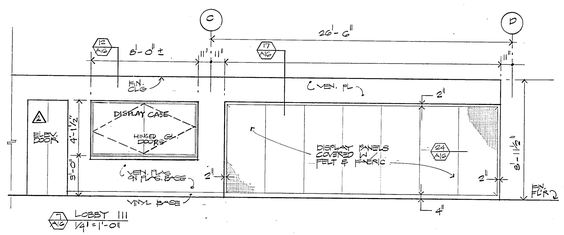
2 A/10 ELEVATION 1/4" = 1'-0"



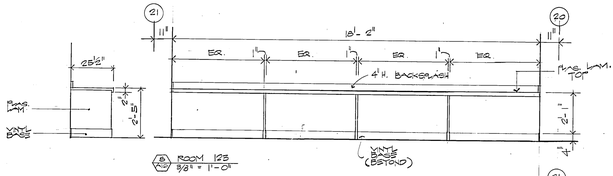
3 A/10 ELEVATION 1/4" = 1'-0"



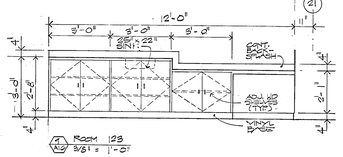
4 A/10 CORK TACKBOARD TRACK DETAIL N.T.S



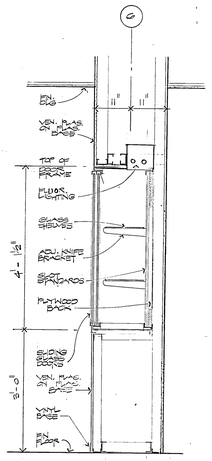
1 A/11 LOBBY 111 1/4" = 1'-0"



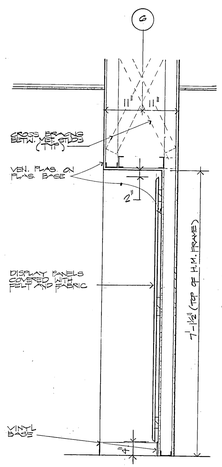
5 A/11 ROOM 123 3/8" = 1'-0"



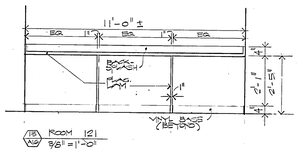
7 A/11 ROOM 123 3/8" = 1'-0"



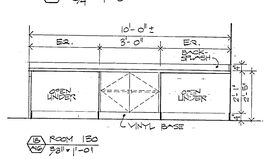
13 A/11 SECTION-DISPLAY CASE 3/4" = 1'-0"



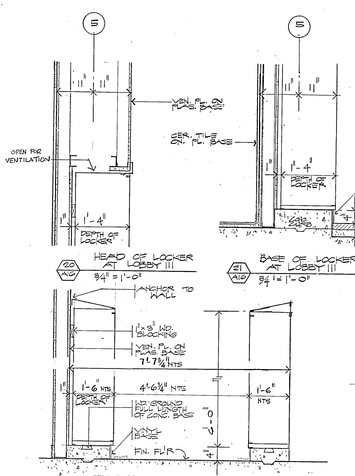
17 A/11 SECTION 3/4" = 1'-0"

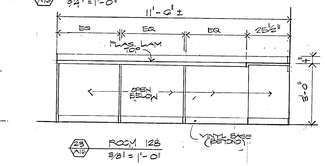


15 A/11 ROOM 121 3/8" = 1'-0"

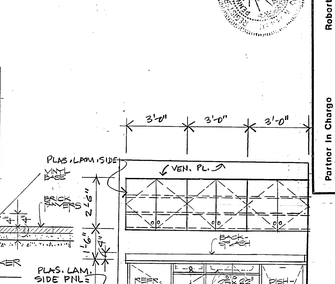


16 A/11 ROOM 130 3/8" = 1'-0"

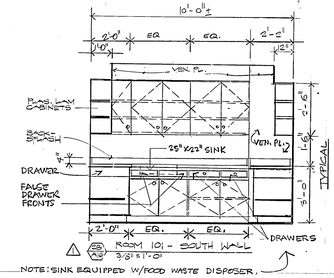




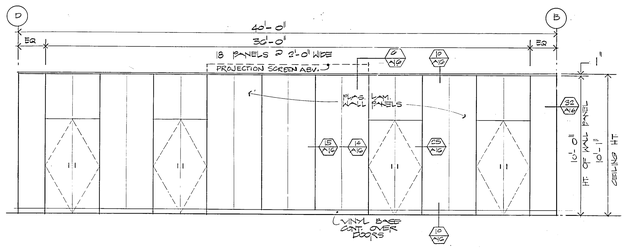
23 A/10 ROOM 128 3/8" = 1'-0"



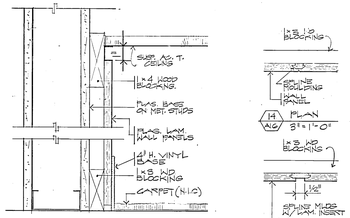
NOTE: SINK EQUIPPED W/FOOD WASTE DISPOSER



NOTE: SINK EQUIPPED W/FOOD WASTE DISPOSER.

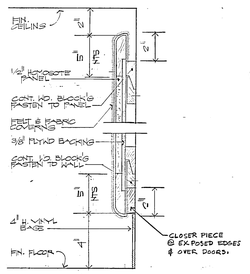


5 A/10 ELEVATION ROOM 105 1/2" = 1'-0"

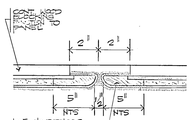


10 A/10 SECTION 3/4" = 1'-0"

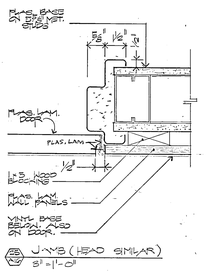
14 A/10 PLAN 3/4" = 1'-0"



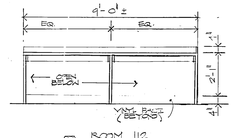
11 A/10 SECTION 3/4" = 1'-0"



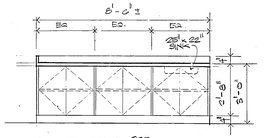
24 A/10 PLAN 3/4" = 1'-0"



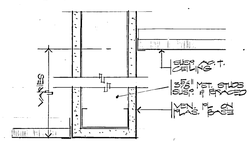
25 A/10 J-JAMB (HEAD SIMILAR) 3" = 1'-0"



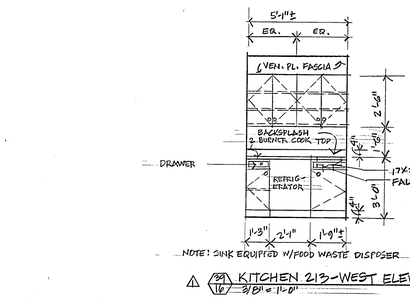
26 A/11 ROOM 112 3/8" = 1'-0"



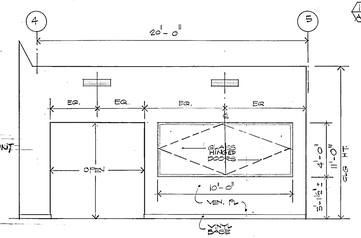
30 A/10 ROOM 205 3/8" = 1'-0"



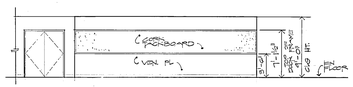
31 A/10 SECTION 3/8" = 1'-0"

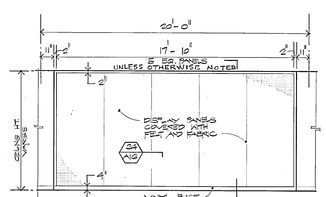


NOTE: SINK EQUIPED W/FOOD WASTE DISPOSER



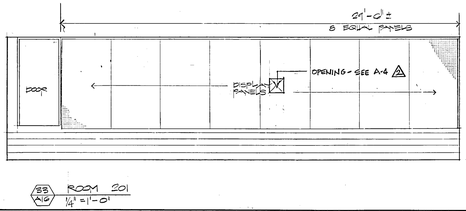
4/A16 KITCHEN 213-WEST ELEVATION 3/8" = 1'-0"



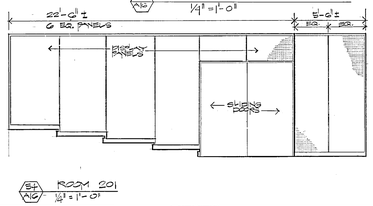


27 A/11 DISPLAY PANELS-RM 108 1/4" = 1'-0"

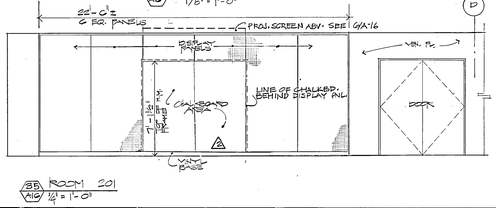
31 A/10 SECTION 3/8" = 1'-0"



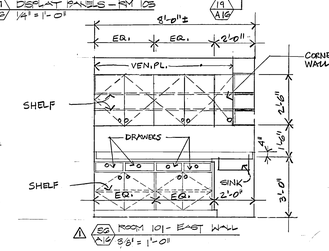
33 A/11 ROOM 201 1/4" = 1'-0"



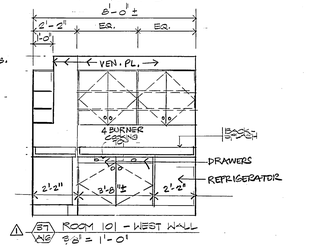
34 A/11 ROOM 201 1/4" = 1'-0"



35 A/11 ROOM 201 1/4" = 1'-0"



32 A/10 ROOM 101 - EAST WALL 3/8" = 1'-0"



37 A/10 ROOM 101 - WEST WALL 3/8" = 1'-0"

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Robert V. Cherry
James G. Lido
Nathaniel Oliver
Jonathan Dyer

Partner in Charge
Designer
Project Architect
Project Manager

Montgomery County · Norristown Public Library

A. Russell Penrhouse, President, Board of Property
Frank W. Lautenberger, Commissioner
Lawrence H. Curry Commissioner
Henry E. Pennington, Chief Clerk
Roger B. Reynolds, Esq., Solicitor
Lawrence F. Tisch, Esq., Corrector

Russell W. Piazza Director of Purchasing
Lloyd Hunsberger, Chairman, Board of Property
Sullivan J. Asilo, Jr. President, Library Board
Pearl Frantenfield, Executive, Director, Library
Kirtie Bryan, Esq. Solicitor, Library

INTERIOR DETAILS

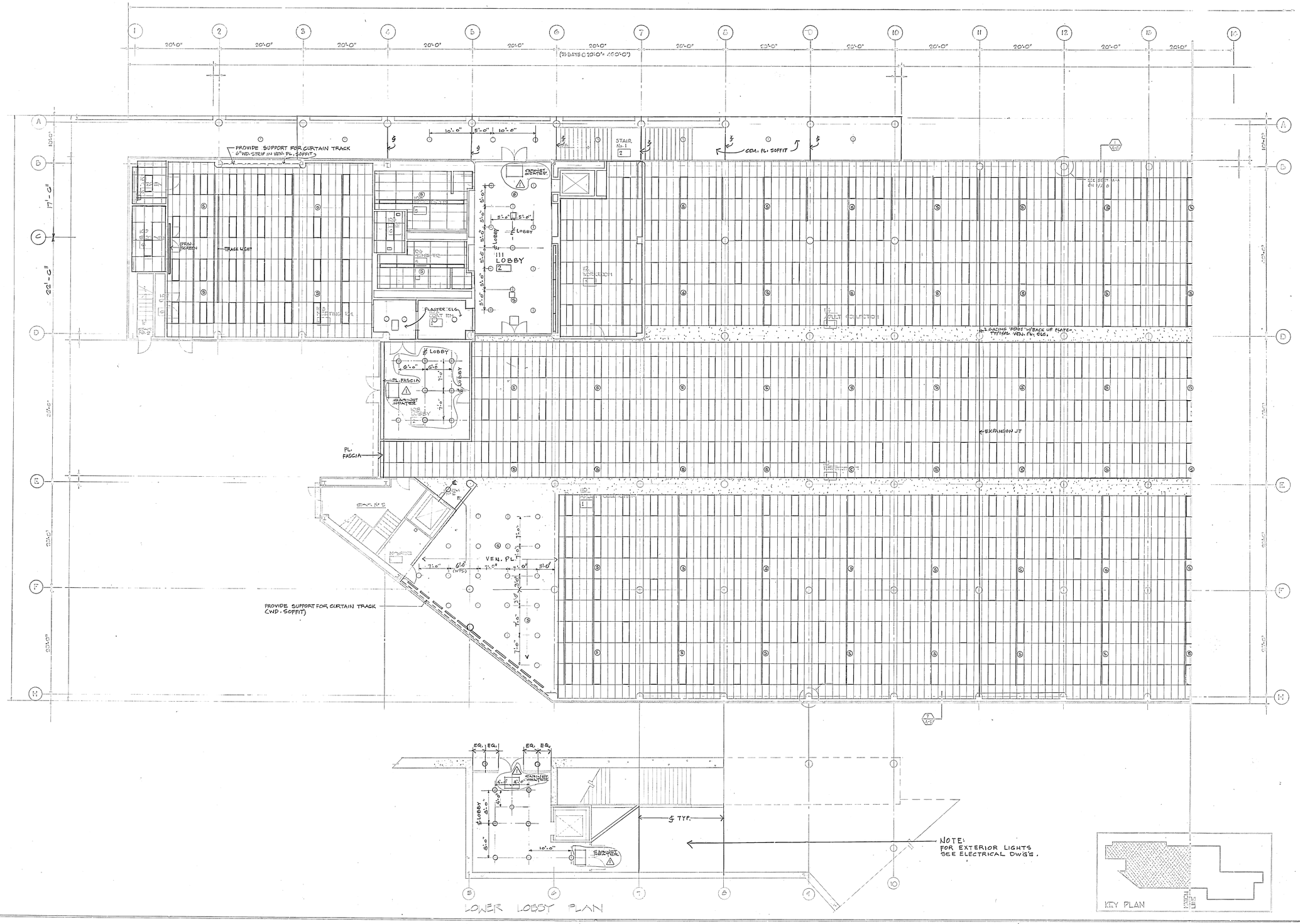
NO.	DATE	REVISION
A	5/75	AS BUILT
1	6/75	GENERAL REVISIONS
2	6/75	ADDENDUM NO. 1

DRAWN BY LAC
CHECKED BY
DATE 5/75
SCALE NOTED

JOB NO.

DATE SEPT. 30, 1974

SHEET NO. A-16



Robert V. Charry — Partner in Charge
James T. Lilo — Designer
Thomas Gamse — Project Architect
Jonathan Dyer — Project Manager

EWING COLE ERDMAN & EUBANK
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Montgomery County · Norristown Public Library

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Frank W. Jerzura, Esq., Commissioner
Lawrence H. Curry, Commissioner
Henry E. Pennington, Chief Clerk
Robert E. Brendlinger, Esq., Solicitor
Lawrence F. Flick, Esq., Controller

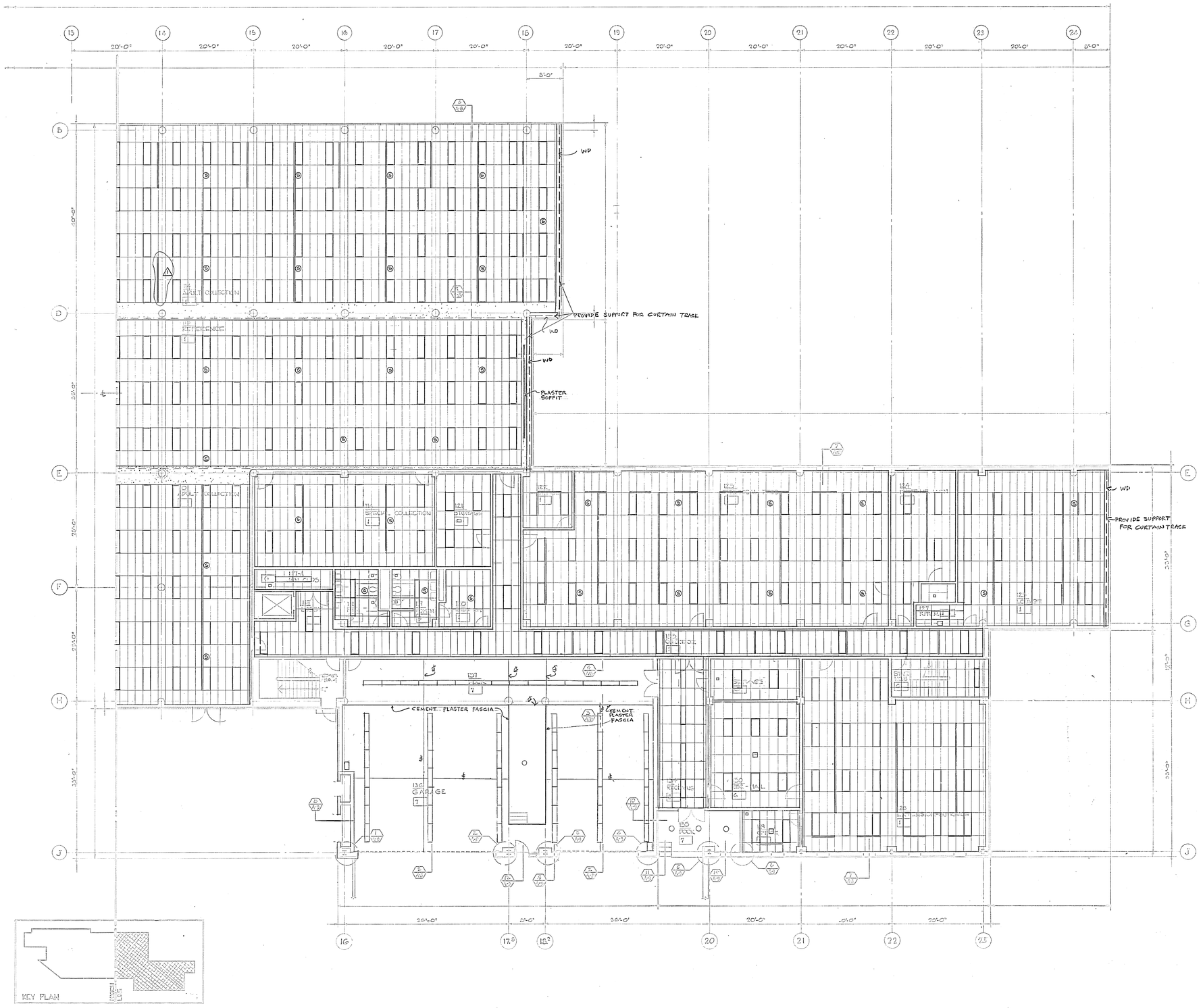
Russell W. Piazza, Director of Purchasing
J. John Apt, Director, Dept. of Public Property
Sullivan J. Asko, Jr., President, Library Board
Pearl Fankenfield, Executive Director, Library
Kirtle Bryan, Esq. Solicitor, Library

REFLECTED CEILING PLAN
FIRST FLOOR - SOUTH

NO.	DATE	REVISION
1	12/5/74	ADD'L EDIT
2	12/9/74	CONFORM WITH "AS BUILT" PLANS

DRAWN BY LAC
CHECKED BY
DATE
SCALE 1/8" = 1'-0"
JOB NO. 7373
DATE SEPT. 30, 1974
SHEET NO.

A-17



Robert V. Cherry — Partner In Charge
Thomas T. Liu — Director
Nathaniel Gaines — Project Architect
Jonathan Dyer — Project Manager

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Montgomery County · Norristown Public Library

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Frank W. Jenkins, Esq., Commissioner
Lawrence H. Curry, Commissioner
Henry E. Pennington, Esq., Chief Clerk
Roger B. Bennett, Esq., Solicitor
Lawrence F. Pfeil, Esq., Controller

Russell W. Piazza, Director of Purchasing
J. John Apt, Director, Dept. of Public Property
Sullivan J. Asiko, Jr., President, Library Board
Pearl Frankenfield, Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

REFLECTED CEILING PLAN
FIRST FLOOR - NORTH

NO.	DATE	REVISION
1	10-31-77	AS BUILT

DRAWN BY LAC
CHECKED BY
DATE
SCALE 1/8" = 1'-0"
JOB NO. 5873
DATE SEPT. 30, 1974
SHEET NO. A-18

PROVIDE SUPPORT FOR CURTAIN TRACK
WD
TRACK LIGHT
PROJECTION SCREEN
6" WD @ EDGE OF PLAS. SOFFIT
PROVIDE SUPPORT FOR CURTAIN TRACK
WD. SOFFIT FIELD
PROVIDE SUPPORT FOR CURTAIN TRACK WD.
PROJECTION SCREEN
EXPANSION JT.
R O O F
KEY PLAN

Robert V. Cherry — Partner In Charge
James T. Lee — Project Architect
Nathaniel Gaines — Project Manager
Jonathan Dyer

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

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Frank W. Jenkins, Esq., Commissioner
Lawrence H. Curry, Commissioner
Henry S. Reuss, Director, Chief Clerk
Roger B. Reynolds, Esq., Solicitor
Lawrence F. Flick, Esq., Controller

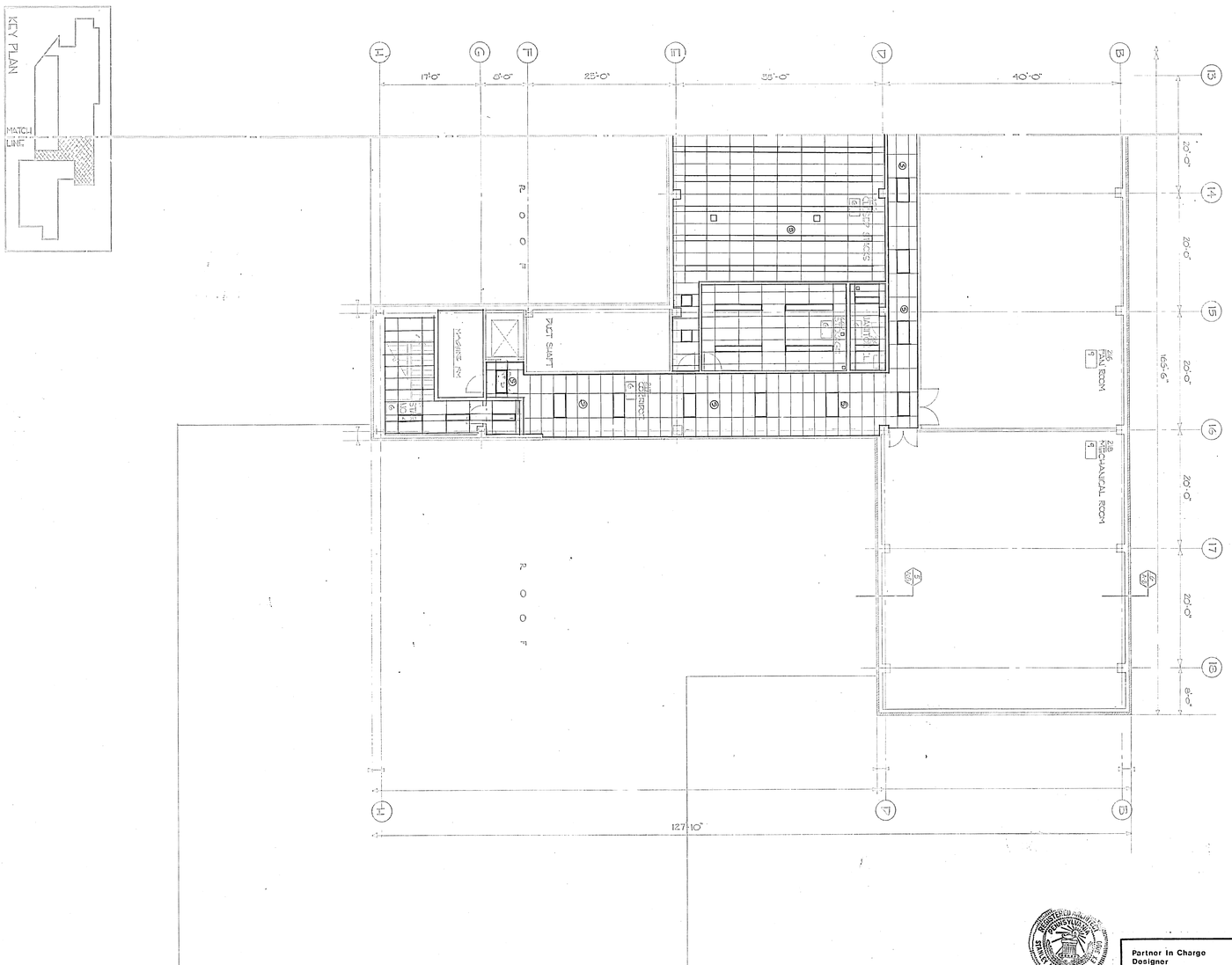
Russell W. Plazza, Director of Purchasing
J. John Apt, Director, Dept. of Public Property
William A. Hoeg, Assistant Director, Library Board
Pearl Frankenfield: Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

REFLECTED CEILING PLAN
SECOND FLOOR — SOUTH

NO.	DATE	REVISION
1	10/14/74	AS BUILT
2	11/4/74	AS BUILT

DRAWN BY LAC
CHECKED BY
DATE
SCALE 1/8" = 1'-0"
JOB NO. 8813
DATE SEPT. 30, 1974

A-19



Partner In Charge	Robert V. Cherry
Designer	James T. Lilo
Project Architect	Nathaniel Gaines
Project Manager	Jonathan Dyer

A-20

REFLECTED CEILING PLAN
SECOND FLOOR - NORTH

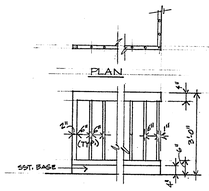
Montgomery County - Norristown Public Library

A. Russell Parkhouse, President - Commissioner
Frank W. Jenkins, Esq., Commissioner
Lawrence H. Curry, Commissioner
Henry E. Pennington, Chief Clerk
Roger B. Reynolds, Esq., Solicitor
Lawrence F. Flick, Esq., Controller

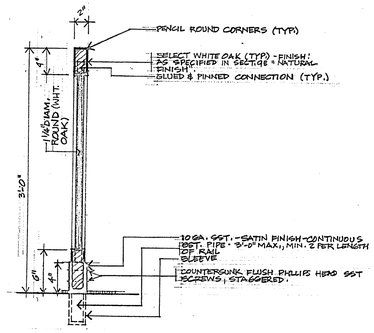
Russell W. Piazza, Director of Purchasing
J. John Apt, Director, Dept. of Public Property
Sullivan J. Asko, Jr., President, Library Board
Pearl Frankenfield, Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

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architects-engineers-planners

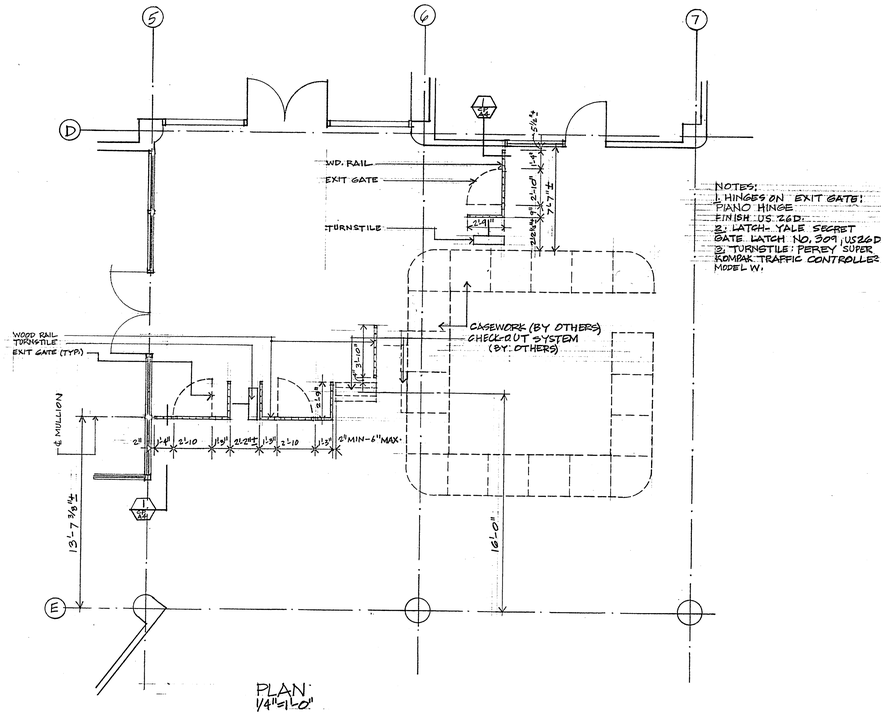
DATE: SEPT. 26, 1974
SCALE: 1/4" = 1'-0"
DRAWN BY: LAG
CHECKED BY:
JOB NO. 5513



2 A4 TYPICAL ELEVATIONS
1/2"=1'-0"



3 A4 TYPICAL SECTION
1 1/2"=1'-0"



1 A4 PLAN
1/4"=1'-0"

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Lawrence H. Curry, Commissioner
Henry E. Pennington, Chief Clerk
Robert J. Reinhold, Esq., Solicitor
Lawrence F. Fitch, Esq., Controller

Russell W. Piazza, Director of Purchasing
J. John Art, Director, Dept. of Public Property
Sullivan J. Asko, Jr., President, Library Board
Pearl Frankenfield, Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

RAILING @ MAIN CIRCULATION DESK - FIRST FLOOR

NO.	DATE	REVISION
1	10/21/77	AS BUILT

DRAWN BY
CHECKED BY
DATE
SCALE
JOB NO. 5873
DATE
SHEET NO. A-21

MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE

FOR CONTINUATION SEE DWG. S-2

FOR CONTINUATION SEE DWG. S-1

SECTION 55 S-1 — SCALE: 1/4" = 1'-0

SECTION 28 S-1 / 29 S-1 — SCALE: 1/4" = 1'-0

SECTION 30 S-1 — SCALE: 1/4" = 1'-0

CHANGE IN REINF.

SECTION 55 S-1 — SCALE: 1/4" = 1'-0

FOR DISPLAY CASE SEE DET. 6/S-1

TOP OF SLAB EL. 140'-4

SUMP PIT EL. 138'-10

MACH. PAD

BOT. OF WALL FLUSH W/UNDERSIDE OF LANDING SLAB

EL. 141'-6

STAIR NO. 1

T.O. SLAB EL. 140'-8 FIN. FL. 143'-0

LOWER LOBBY FOUNDATION PLAN

SCALE: 1/8" = 1'-0

NOTE: SLAB ON GRADE 5" THICK w/ W.W.F. 6x6 - 6/6

SECTION 20 S-1 — SCALE: 1/4" = 1'-0

NOTE: FOR TREAD AND RISER LAYOUT SEE SECT. 8/A-10

SECTION 4 S-1 — SCALE: 3/8" = 1'-0

SECTION 31 S-1 — SCALE: 1/4" = 1'-0

SECTION 32 S-1 — SCALE: 3/8" = 1'-0

UNEXCAVATED

FOUNDATION PLAN

SCALE: 1/8" = 1'-0

UNLESS OTHERWISE NOTED:
1. FOR SUPPORT OF STEEL BEAMS ON R.C. WALLS SEE SECTION 5/S-2.

SECTION 54 S-1 — SCALE: 1/4" = 1'-0

KEY PLAN

EWING COLE ERDMAN & EUBANK
architects-engineers-planners
SYNERGO COMPANY
consulting engineers

Montgomery County - Norristown Public Library

Partner in Charge — Robert V. Cherry
Project Architect — James G. Lile
Project Manager — Nathaniel Hines
Jonathan Dyer

Robert V. Cherry, President
James G. Lile, Vice President
Nathaniel Hines, Secretary
Jonathan Dyer, Treasurer

A Recall Penthouse President - Commissioner
Frank W. Jenkins, Esq., Commissioner
Lawrence H. Curry, Commissioner
Henry E. Pennington, Chief Clerk
Roger B. Permodde, Esq., Solicitor
Lawrence F. Filan, Esq., Controller

Russell W. Pizzaz, Director of Purchasing
J. John Apt, Director, Dept. of Public Property
Sullivan J. Asto, Jr., President, Library Board
Pearl Frankenfield, Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

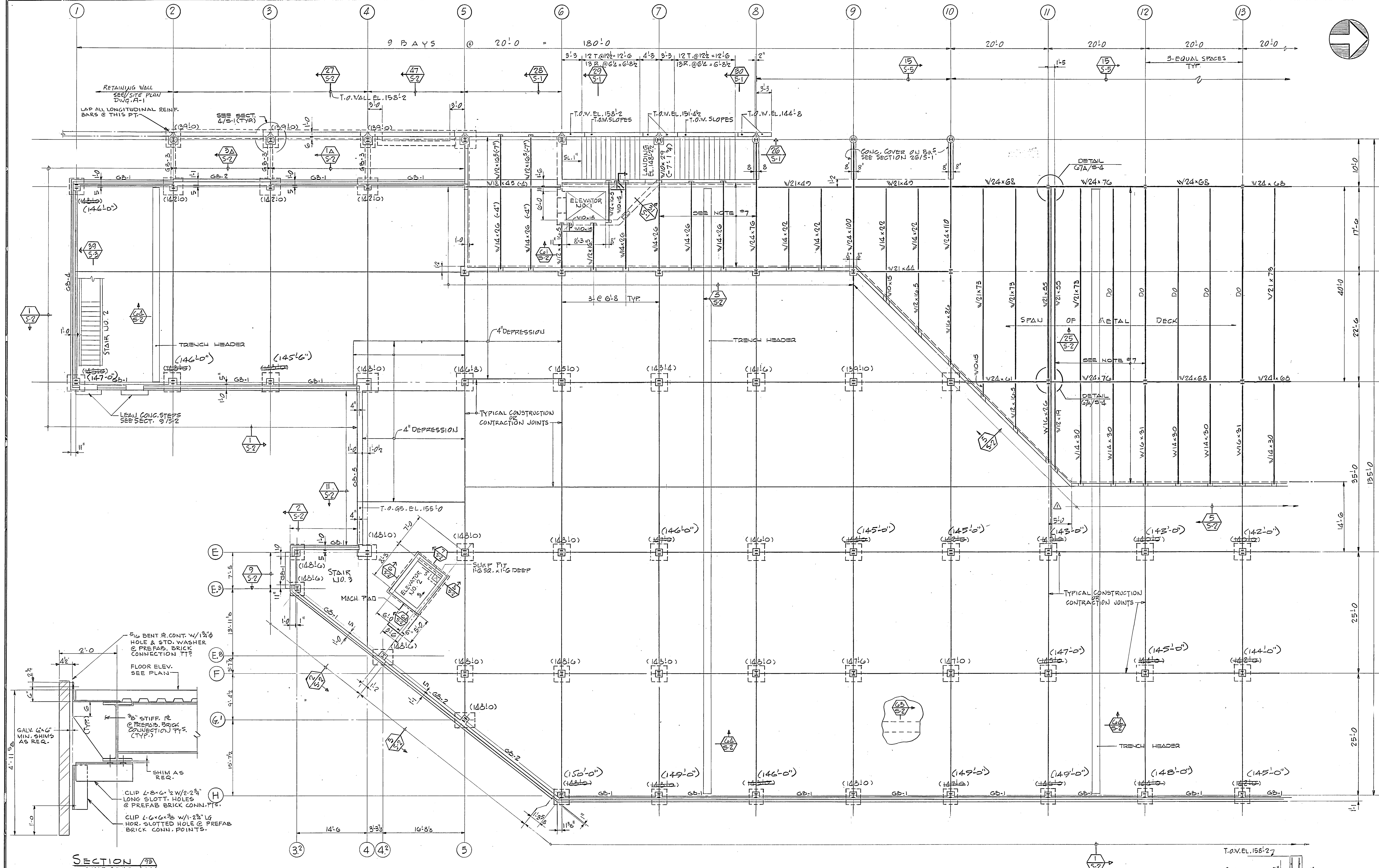
DAVID P. REIF, JR. No. 11284 E — REGISTERED PROFESSIONAL ENGINEER

STANLEY E. DALE No. 5 — REGISTERED PROFESSIONAL ENGINEER

FOUNDATION PLAN

NO.	DATE	REVISION
1	11-5-74	AS BUILT

DRAWN BY J.E.T.
CHECKED BY
DATE
SCALE AS SHOWN
JOB NO. 105873
DATE SEPT. 30, 1974
SHEET NO. S-1



GENERAL NOTES

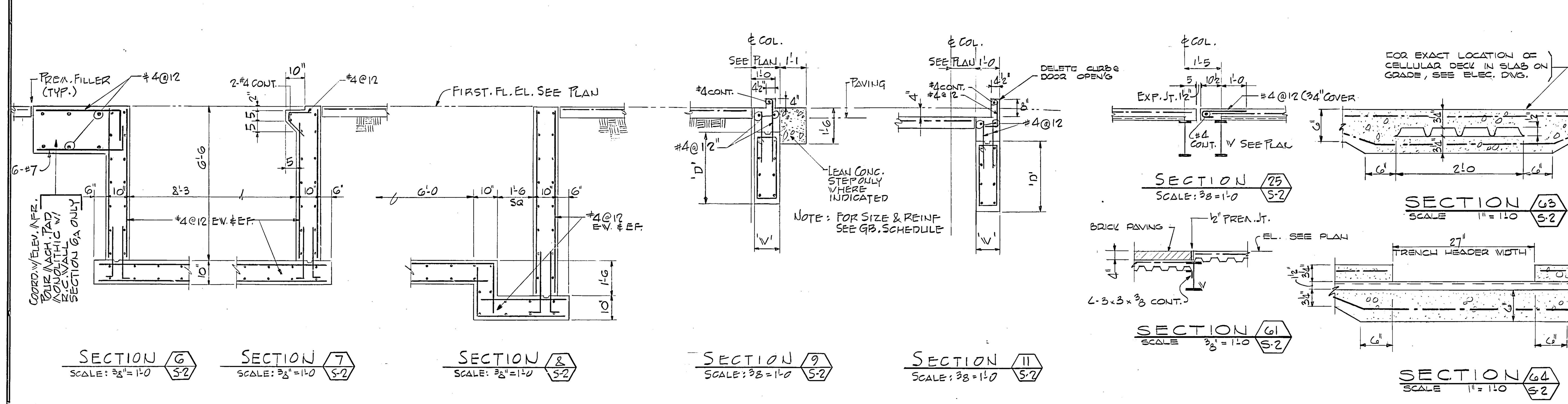
UNLESS OTHERWISE NOTED

1. ALL FOOTINGS SHALL BEAR ON ROCK CAPABLE OF SUSTAINING A LOAD OF 16 KSF.
2. ELEVATIONS TO BOTTOM OF FOOTINGS ARE APPROXIMATE AND MUST BE VERIFIED IN THE FIELD IN ACCORDANCE WITH NOTE NO. 1.
3. ALL FOOTINGS SHALL BE CENTERED ON COLUMN CENTER LINES.
4. THE VERTICAL FACE OF THE FOOTING AT THE TOE OF THE RETAINING WALL MUST BE POURED AGAINST UNDISTURBED ROCK.

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER DAVID P. REIF, JR. No. 12173-E
REGISTERED ARCHITECT PENNSYLVANIA STANLEY L. COLE No. RA 3000

GRADE BEAM SCHEDULE

BEAM NO.	SIZE W (IN.)	SIZE D (IN.)	REINFORCING STEEL: TOP SO. OR WEST END	TOP CONT.	BOTT.	TOP N. OR EAST END	HORIZ EA. FACE	TIES: SIZE	TIES: SPACING EACH END	REMARKS
GB-1	12	30	—	2-#7	2-#7	—	#4@12	#3	1@6, BAL.@12	
GB-2	13	30	—	2-#7	2-#7	—	#4@12	#3	DO	
GB-3	12	24	—	2-#7	2-#7	—	#4@12	#3	DO	
GB-4	12	36	1-#8	2-#9	3-#9	1-#8	#4@12	#3	DO	
GB-5	12	30	—	2-#8	2-#8	—	#4@12	#3	1@6, BAL.@12	
GB-6	14/15	42	—	4-#9	4-#10	—	#4@12	#3	1@6, 6@9 BAL.@12	
GB-7	12	27	—	2-#6	2-#6	—	#4@12	#3	1@6, BAL.@12	
GB-8	12	27	—	2-#7	2-#7	—	#4@12	#3	1@6, BAL.@12	
GB-9	12	27	—	3-#9	3-#9	—	#4@12	#3	1@6, BAL.@12	
GB-10	12	54	—	3-#9	3-#9	—	#4@12	#3	1@6, 3@9, BAL.@12	

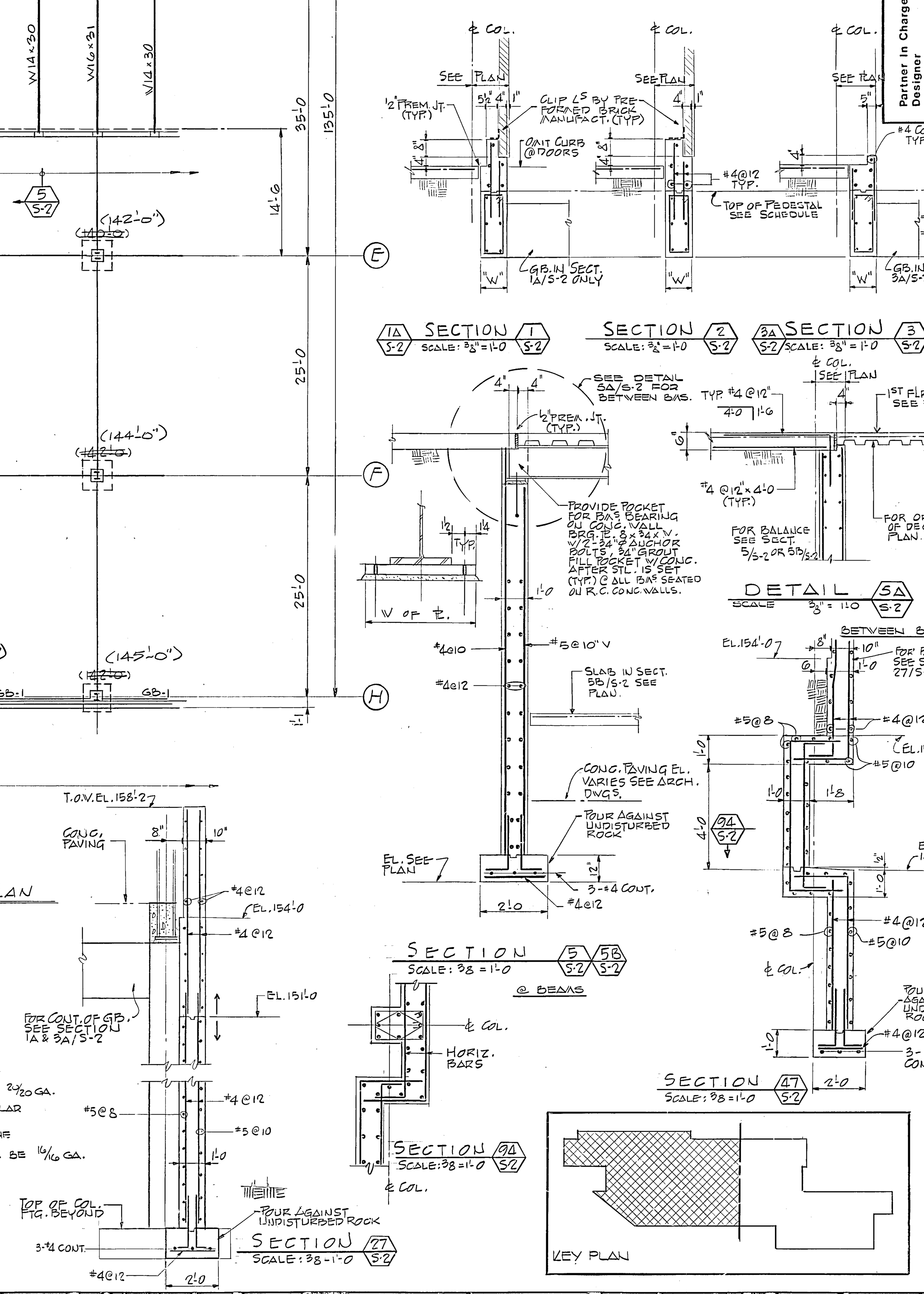


FIRST FLOOR & FOUNDATION PLAN

SCALE: ⅛ = 1'-0

UNLESS OTHERWISE NOTED:

1. TOP OF 6" SLAB ON GRADE EL. 155'-0 PROVIDE W.W.F. 6x6 - 6/6
2. TOP OF STRUCT. SLAB EL. 155'-0
3. TOP OF STRUCTURAL STEEL EL. 154'-7¼ ELEVATIONS INDICATED THUS (±) ARE RELATIVE TO EL. 154'-7¼
4. PROVIDE 3¼" CONC. SLAB W/ W.W.F. 6x6 - 8/8 ON 1½" COMPOSITE METAL DECK.
5. 1½" COMPOSITE METAL DECK SHALL BE 20 GA. 1½" COMPOSITE CELLULAR METAL DECK SHALL BE 20/20 GA.
6. FOR BLEND SYSTEM OF CELLULAR & NON-CELLULAR COMPOSITE METAL DECK. SEE ELEC. DWG.
7. IN A BAY WHICH CONTAINS A TRENCH HEADER THE 1½" COMPOSITE METAL DECK SHALL BE 16 GA. & THE 1½" COMPOSITE CELLULAR METAL DECK SHALL BE 16/16 GA. ALL DECK TO BE CONT. IN A 20 FT. BAY.
8. MECH. CONTRACTOR TO ESTABLISH SIZE & LOCATION OF MECH. OPENINGS.
9. FOR PREFAB. BRICK CONN. NOTES SEE DWG. S-3



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SYNERGO COMPANY
consulting engineers

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Project Architect	Nathaniel Gaines
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FIRST FLOOR FRAMING & FOUNDATION PLAN

NO.	DATE	REVISION
1	10-3-77	AS BUILT

DRAWN BY J.E.T.
CHECKED BY
DATE
SCALE AS SHOWN
JOB NO. 105873
DATE SEPT. 30, 1974
SHEET NO. S-2

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BEAM TO BEAM MOMENT CONNECTION
DESIGN MOMENTS (FT-KIPS)
M1 = 90 1-K
M2 = 75 1-K
M3 = 210 1-K
WALL SECTION NOTES:
1. THE STRUCTURAL STEEL FABRICATOR & THE PREFABRICATED BRICK MANUFACTURER SHALL COORDINATE SUPPORT DETAILS FOR PREFABRICATED BRICK PANELS.
2. THE CONNECTIONS OF THE STEEL ANGLES TO THE PREFAB. BRICK PANELS WILL BE SYMMETRICALLY SPACED NOT FURTHER APART THAN 3'-0 (I.E. -4 CONN S. PER 10'-0 W. PANEL).
3. THE SHIMS BETWEEN STL. LS & PREFAB. BRICK PANELS WILL BE GALV. PROVIDE MIN. 6x6 BEARING AREA OR FULL BED OF NON SHRINK (NON-METALLIC) GROUT.
4. ALL CONNECTIONS OF INTERIOR BEAMS TO SPANDREL BEAMS, (THOSE SUPPORTING AND/OR BRACING PREFABRICATED BRICK PANELS, TRANSLUCENT PANELS, ALUMINUM SASH OR GLASS OR ANY COMBINATION OF THESE) WILL HAVE BOTH OF THE CONNECTION ANGLES EXTENDED BELOW THEIR NORMAL LENGTH TILL THEY ARE WITHIN THE 1/2" DISTANCE OF THE SPANDREL BEAM.
5. AFTER PREFAB. BRICK PANEL IS FINALLY ALIGNED, TACK WELD NUT & WASHER TO ANGLE OR BENT PL.
TYPICAL CONSTRUCTION OR CONTRACTION JOINT
ELEVATOR NO. 3
STAIR NO. 4
STAIR NO. 5
SPAN OF METAL DECK
TRENCH HEADER
SEE NOTE #7
NOTE:
1. PROVIDE L4x4x5/16 TOP & BOT. SEAT L'S @ COL'S. IN ADDITION TO STD. CONNECTION.
2. PROVIDE PREFORMED BRICK SUPPORTS @ CONN. PTS. COORDINATE W/PREF. BRICK MFG.
SECTION 40 40A S-3 SCALE: 1/2"=1'-0
SECTION 98 S-3 SCALE: 3/8=1'-0
SECTION 99 S-3 SCALE: 3/4=1'-0
SECTION 39 S-3 SCALE: 1/4=1'-0
BEAM TO COLUMN GRAVITY MOMENT CONN.
AT COL. LINES 18-B & D AND 24-E & G, THE CANTILEVER BEAMS & BACK UP GIRDERS WILL BE DESIGNED & DETAILED TO CARRY THE MOMENTS SHOWN IN THE SCHEDULE BELOW & HAVE THE SHEAR CAPACITY DESIGNATED IN THE SPECS.
NOTE: DESIGN MOMENTS IN FT.-KIPS ARE AS FOLLOWS (M4) = 80 1-K, (M5) = 75 1-K, (M6) = 150 1-K.
NOTE:
1. PROVIDE L4x4x5/16 TOP & BOT. SEAT ANGLES @ COLUMNS IN ADDITION TO STANDARD CONN.
2. PROVIDE PREF. BRICK SUPPORTS @ CONN. PTS, COORDINATE W/PREF. BRICK MFG.
SECTION 59 S-3 SCALE: 3/4=1'-0
SECTION 95 S-3 SCALE: 3/4=1'-0
SECTION 96 S-3 SCALE: 3/4=1'-0
SECTION 60 60A S-3 SCALE: 3/4=1'-0
SECTION 97 S-3 SCALE: 3/4=1'-0
SECTION 44 S-3 SCALE: 3/8=1'-0
SECTION 34 S-3 SCALE: 3/8=1'-0
SECTION 35 S-3 SCALE: 3/8=1'-0
SECTION 36 S-3 SCALE: 3/8=1'-0
SECTION 33 S-3 SCALE: 1/4=1'-0
SECTION 37 S-3 SCALE: 3/8=1'-0
SECTION 38 S-3 SCALE: 3/8=1'-0
SECTION 86 S-3 SCALE: 3/8"=1'-0
SECTION 46 S-3 SCALE: 3/8"=1'-0
SECTION 45 S-3 SCALE: 3/8"=1'-0
KEY PLAN
FIRST FLOOR & FOUNDATION PLAN
SCALE: 1/8 = 1'-0
UNLESS OTHERWISE NOTED:
1. TOP OF 6" SLAB ON GRADE EL. 155'-0 PROVIDE W.W.F. 6x6 - 3/8.
2. TOP OF STRUCT. SLAB EL. 155'-0
3. TOP OF STRUCTURAL STEEL. EL. 154'-7 1/4 ELEVATIONS INDICATED THUS (±) ARE RELATIVE TO EL. 154'-7 1/4.
4. PROVIDE 3 1/4" CONC. SLAB W/W.W.F. 6x6 - 6/6 ON 1 1/2" COMP. METAL DECK.
5. 1 1/2" COMP. METAL DECK SHALL BE 20 GA. 1 1/2" COMP. CELLULAR METAL DECK SHALL BE 20/20 GA.
6. FOR BLEND SYSTEM OF CELLULAR & NON-CELLULAR COMP. DECK, SEE ELEC. DWGS.
7. IN A BAY WHICH CONTAINS A TRENCH HEADER THE 1 1/2" COMPOSITE METAL DECK SHALL BE 16 GA. & THE 1 1/2" COMP. CELLULAR METAL DECK SHALL BE 16/16 GA. ALL DECK TO BE CONT. IN 20 FT. BAY.
8. MECH. CONTRACTOR TO ESTABLISH SIZE & LOCATION OF MECH. OPENINGS.
9. FOR PREFAB. BRICK CONN. NOTES SEE THIS SHT.
REGISTERED ARCHITECT PENNSYLVANIA STANLEY H. COLE No. EX 3000
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL DAVID P. REIF, JR. ENGINEER No. 12173E
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Project Manager Jonathan Dyor
FIRST FLOOR FRAMING & FOUNDATION PLAN
1 10-31-77 AS BUILT
NO. DATE REVISION
DRAWN BY J.E.T.
CHECKED BY
DATE
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JOB NO. 105873
DATE SEPT. 30, 1974
SHEET NO.
S-3

SECOND FLOOR & LOW-ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"

UNLESS OTHERWISE NOTED:-

1. TOP OF CONCRETE SLAB EL. 169'-0
2. TOP OF STRUCT. STEEL EL. 168'-7¼
   ELEVATIONS INDICATED THUS (±) ARE RELATIVE TO EL. 168'-7¼
3. PROVIDE 3/4" CONC. SLAB w/ W.W.F. 6x6 - 6/6 OVER 1½" CARBORITE METAL DECK.
4. 1½" COMPOSITE METAL DECK SHALL BE 20 GA. 1½" COMP. CELLULAR METAL DECK SHALL BE 20/20 GA.
5. FOR BLEND SYSTEM OF CELLULAR & NON-CELLULAR COMPOSITE DECK SEE ELEC. DWGS.
6. IN A BAY WHICH CONTAINS A TRENCH HEADER THE 1½" METAL DECK SHALL BE 16 GA. & THE 1½" COMP. CELLULAR METAL DECK SHALL BE 16/16 GA. ALL DECK TO BE CONT. IN A 20 FT. BAY.
7. THROUGHOUT THE BAY SHOWN ABOVE THE DECK SHALL BE 1½" COMP. CELLULAR METAL DECK 16/20 GA. ALL DECK TO BE CONT. IN THIS 20 FT. BAY.
8. ARCH. CONTRACTOR TO ESTABLISH SIZE & LOCATION OF ARCH. OPENINGS
9. FOR PREFAB. BRICK CONN. NOTES SEE DWG. S-3
10. USE C8x11.5 TO FRAME FLOOR OPENINGS.

DETAILS AT EXPANSION JOINT

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Jonathan Dyer

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3		AS BUILT

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DATE SEPT. 30, 1976
SHEET NO. S-4

SECOND FLOOR & LOW ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"

UNLESS OTHERWISE NOTED:

1. TOP OF CONCRETE SLAB EL. 169'-0
2. TOP OF STRUCT. STEEL EL. 168'-7¼
   ELEVATIONS INDICATED THUS (±) ARE RELATIVE TO EL. 168'-7¼
3. PROVIDE 3¼" CONC. SLAB W/ W.W.F. 6x6 - ⅝ ON 1½" COMP. METAL DECK (CLR. AREA ONLY).
4. 1½" COMPOSITE METAL SHALL BE 20 GA. 1½" COMP. CELLULAR METAL DECK SHALL BE 20/20 GA
5. FOR SLAB EDGES AT CELLULAR COMPOSITE METAL DECK, SEE SLAB DTG.
6. PROVIDE 1½" - 22 GA. METAL DECK W/ 5" MIN. LT. WT. INSULATING FILL (LOW ROOF AREA ONLY)
7. IN AREA NOTED, PROVIDE 3¼" CONC. SLAB W/WWF 6x6 - ⅝ ON 1½" COMP. 20 GA. METAL DECK. PROVIDE LT. WT. INS. FILL ON TOP OF SLAB FOR SLOPES
8. MECH. CONTRACTOR TO ESTABLISH SIZE & LOCATION OF MECH. OPENINGS.
9. FOR PREFAB. BRICK CONJ. NOTES SEE DWG. S-3.

KEY PLAN

EWING COLE ERDMAN & EUBANK
architects-engineers-planners
SYNERGO COMPANY
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DATE SEPT. 30, 1974
SHEET NO. S-5

9 BAYS @ 20'-0 = 180'-0

20'-0 20'-0 20'-0 20'-0 20'-0 20'-0 20'-0 20'-0

MATCH LINE SEE BELOW

CLIPS AS SHOWN IN SECTIONS 77 & 66/S-6
BOLT HOLE SAME EL. AS IN SECTION 19A/S-5

EDGE OF SLAB OPENING

W16×31 W16×31 W18×35 W18×35 W18×35 W18×35 W21×44 W21×49 W21×49 W21×49 W21×49 W21×49

W16×22 W16×26 W16×31 W16×36 W16×40 W16×45 W16×50 W16×55 W16×57 W16×67 W16×89

W10×15 W10×19 W10×22 W10×45

W12×19 W12×26 W12×40

W14×22 W14×26 W14×30 W14×34 W14×43

W18×35 W18×40 W18×55 W18×60 W18×65

W21×44 W21×49 W21×55 W21×62

W24×55 W24×62 W24×68 W24×76 W24×84

DETAIL 74/S-4

DETAIL 66/S-6

SPAN OF METAL DECK

1½" EXP. JT.

3'-0" ROOF SCUTTLE

4 - 3½ ϕ STD. PIPES W/ BRG. & CAP PLS GALVANIZED

SEE NOTE #3

SECTION 102/S-6
SCALE: ½" = 1'-0

SECTION 74/S-6
SCALE: ¾" = 1'-0

SECTION 85/S-6
SCALE: ¾" = 1'-0

SECTION 48/S-6
SCALE: ¾" = 1'-0

SECTION 49/S-6
SCALE: ¾" = 1'-0

SECTION 87/S-6
SCALE: ¾" = 1'-0

DETAIL 77/S-6
SCALE: ¾" = 1'-0

CLIP L @ VERT. LOUVER MEMBERS 3/8 ϕ CONT. WELD TO W

¾" BENT PL. W/ 1⅛ ϕ HOLE & STD. WASHER @ PREFB. BRICK COUN. TYP.

GALV. 6×6 ANG. SHIMS AS REQ'D

SHIM AS REQ'D

L 6×6×½ W/ ½-2¾ LG. HORZ. SLOTTED HOLES W/ 1-2¾ LG. VERT. SLOTTED HOLE @ PREFAB. BRICK COUN. POINTS.

PARAPET

L6 BENT PL. CONT. W/ 1⅛" ϕ HOLE @ STD. WASHER @ PREFB. BRICK COUN. POINTS

L6 BENT PL. W/ 1⅛" ϕ HOLE & STD. WASHER @ PREFB. BRICK COUN. TYP.

3" MIN.

FOR BALANCE SEE SECT. 22/S-5

VARIES SEE PLAN

TYPICAL WHERE STL. IS DROPPED RELATIVE TO SPANDREL BMS.

CLIP L6 W/ HORIZ. SLOTTED HOLES TO WELD TO STL. FRAME SEE SECT. 43

LOUVER EL. 186'-2"

FOR BALANCE SEE SECT. 29/S-6

SHIM AS REQ'D

CONT. L-4×4×⅜

CLIP L-5×5×⅜ @ 3'-0" O.C.

½ EXP. JT.

½ BENT PL CONT.

3" MIN.

FOR BALANCE SEE SECT. 10/S-5

VARIES SEE PLAN

MAIN ROOF FRAMING PLAN

SCALE: ⅛" = 1'-0

UNLESS OTHERWISE NOTED:

1. TOP OF STRUCTURAL STEEL EL. 183'-6½ ELEVATIONS INDICATED THUS (±) ARE RELATIVE TO EL. 183'-6½
2. STEEL MEMBERS MARKED THUS (S) ARE SLOPED
3. PROVIDE 1½" METAL DECK W/ MIN. 3" LT. WT. INSULATING FILL. DECK TO BE 22 GA.
4. ARCH. CONTRACTOR TO ESTABLISH SIZE & LOCATION OF MECHANICAL OPENINGS.
5. IN THE AREA NOTED, PROVIDE 1½" 20 GAGE METAL DECK W/ MIN. 3" LT. WT. INSULATING FILL.
6. FOR PREFAB. BRICK COUN. NOTES SEE DWG. S-5

EL. 187'-2 STEEL FRAMING EL. 196'-4

NOTE: ALL STL. MEMBERS TO BE GALVANIZED

MATCH LINE SEE ABOVE

L4×4×⅜

TRIM OF 3/8" CAP PL. & 2-3/8" STIFF. PLS IN W24 N.S. & F.S.

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ARCHITECT

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ENGINEER

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MAIN ROOF FRAMING PLAN

COLUMN SCHEDULE

FLOORS / COLUMN Nos.	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	B-1	B-2	B-3
COOLING TOWER (196'-4)												
MAIN ROOF (183'-6½)												
2ND FLOOR & LOW ROOF (169'-0)				W10x33		W12x40	W12x40	W12x40	W12x40		W10x33 ⊛	W10x33
1ST FLOOR (155'-0)	W10x33	W10x33	W10x33	W10x49	W10x49					W10x60	W10x54	W10x54
PARKING LEVEL (VARIABLE)						W12x65	W12x65	W12x65	W12x65			
	B-2	B-2	B-2	B-2	B-2	B-1	B-1	B-1	B-1			
BASE PL. SIZE N-S (IN.)	12	12	12	12	12	14	14	14	14	12	12	12
BASE PL. SIZE E-W (IN.)	12	12	12	12	12	14	12	12	12	12	12	12
BASE PL. THICKNESS (IN.)	3/4	3/4	3/4	3/4	3/4	3/4	7/8	7/8	7/8	3/4	3/4	3/4
BASE PL. TYPE	I ⟶											
LEVELING PL.	3/8" ⟶											
GROUT	7/8" ⟶											
PEDESTAL TOP ELEV.	153'-6	153'-6	153'-6	153'-6	153'-6	145'-8	140'-6	139'-0	139'-0	154'-0	154'-0	154'-0
PEDESTAL SIZE N-S (IN.)	16	16	16	16	16	18	16	16	16	19	16	16
PEDESTAL SIZE E-W (IN.)	26	26	26	26	26	27	27	27	27	26	26	26
PEDESTAL VERT. REINF.	8-#7	8-#7	8-#7	8-#7	8-#7	8-#7	8-#7	8-#7	8-#7	8-#7	8-#7	8-#7
PEDESTAL TIES	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT
PEDESTAL TIE DETAIL	B	B	B	B	B	B	B	B	B	B	B	B
FOOTING SIZE N-S	3'-3	3'-3	3'-3	4'-6	4'-6	4'-6	4'-6	4'-6	4'-6	3'-0	3'-3	3'-3
FOOTING SIZE E-W	4'-0	4'-0	4'-0	4'-0	4'-0	4'-0	4'-0	3'-6	3'-6	3'-6	4'-0	4'-0
FOOTING DEPTH (IN.)	12	12	12	12	12	12	12	12	12	12	12	12
FOOTING REINF. N-S	8-#4	8-#4	8-#4	11-#6	11-#6	11-#6	11-#6	9-#6	9-#6	8-#4	11-#5	11-#5
FOOTING REINF. E-W	8-#4	8-#4	8-#4	12-#6	12-#6	12-#6	12-#6	12-#6	12-#6	7-#4	9-#5	9-#5
TOTAL LOAD (KIPS)	66k	104k	104k	232k	232k	243k	228k	228k	228k	163k	197k	197k

FLOORS / COLUMN Nos.	B-11	B-12	B-13	B-14	B-15	B-16	B-17	B-18	B-4	C-5	C-6	C-7	C-8
COOLING TOWER (196'-4)													
MAIN ROOF (183'-6½)													
2ND FLOOR & LOW ROOF (169'-0)								W12x40	W10x33	W10x33	W10x33	W10x33	W10x33
1ST FLOOR (155'-0)	W12x53	W12x53	W12x58	W12x58	W12x58	W12x58	W12x58		W10x49	W10x49	W10x49	W10x49	W10x49
PARKING LEVEL (VARIABLE)	W12x79	W12x85	W12x99	W12x99	W12x99	W12x99	W12x99	W12x133					
	B-1	B-1	B-1	B-1	B-1	B-1	B-1	B-1					
BASE PL. SIZE N-S (IN.)	14	14	15	15	15	15	15	16	12	12	12	12	12
BASE PL. SIZE E-W (IN.)	15	15	17	17	17	17	17	16	12	12	12	12	12
BASE PL. THICKNESS (IN.)	7/8	7/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/4	3/4	3/4	3/4	3/4	3/4
BASE PL. TYPE													
LEVELING PL.													
GROUT													
PEDESTAL TOP ELEV.	137'-0	138'-6	138'-0	138'-0	138'-0	137'-7	137'-3	137'-0	154'-0	154'-0	152'-4	152'-4	151'-6
PEDESTAL SIZE N-S (IN.)	18	18	19	19	19	19	19	20	16	20	16	16	16
PEDESTAL SIZE E-W (IN.)	19	19	21	21	21	21	21	20	25	22	22	22	22
PEDESTAL VERT. REINF.	8-#6	8-#6	8-#7	8-#7	8-#7	8-#7	8-#7	8-#7	8-#7	8-#7	8-#6	8-#6	8-#6
PEDESTAL TIES	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT
PEDESTAL TIE DETAIL	B	B	B	B	B	B	B	B	B	B	B	B	B
FOOTING SIZE N-S	4'-3	4'-3	4'-9	4'-9	4'-9	4'-9	4'-9	4'-9	3'-3	3'-6	3'-6	3'-6	3'-6
FOOTING SIZE E-W	4'-3	4'-3	4'-9	4'-9	4'-9	4'-9	4'-9	4'-9	4'-0	4'-0	4'-0	4'-0	4'-0
FOOTING DEPTH (IN.)	16	16	17	17	17	17	17	17	12	12	12	12	12
FOOTING REINF. N-S	11-#5	11-#5	14-#5	14-#5	14-#5	14-#5	14-#5	14-#5	11-#5	11-#5	11-#5	11-#5	11-#5
FOOTING REINF. E-W	11-#5	11-#5	14-#5	14-#5	14-#5	14-#5	14-#5	14-#5	9-#5	8-#6	8-#6	8-#6	8-#6
TOTAL LOAD (KIPS)	282k	282k	344k	344k	344k	344k	344k	353k	197k	194k	194k	194k	194k

FLOORS / COLUMN Nos.	C-9	C-10	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9	D-10
COOLING TOWER (196'-4)												
MAIN ROOF (183'-6½)												
2ND FLOOR & LOW ROOF (169'-0)	W10x33			W10x33 ⊛	W10x33	W10x33	W10x33	W10x33	W10x33	W10x33	W10x33	W10x33
1ST FLOOR (155'-0)	W10x54	W12x45	W10x60	W10x60	W10x60	W10x60	W10x54	W10x54	W10x54	W10x54	W10x54	W10x54
PARKING LEVEL (VARIABLE)		W12x106										
		B-1										
BASE PL. SIZE N-S (IN.)	12	14	12	12	12	12	12	12	12	12	12	12
BASE PL. SIZE E-W (IN.)	14	15	12	12	12	14	12	12	12	12	12	14
BASE PL. THICKNESS (IN.)	7/8	3/4	3/4	3/4	3/4	7/8	3/4	3/4	3/4	3/4	3/4	7/8
BASE PL. TYPE												
LEVELING PL.												
GROUT												
PEDESTAL TOP ELEV.	151'-6	136'-0	154'-0	154'-0	154'-0	154'-0	154'-0	154'-0	152'-6	152'-6	154'-0	154'-0
PEDESTAL SIZE N-S (IN.)	16	18	19	16	16	32½	16	16	16	16	16	16
PEDESTAL SIZE E-W (IN.)	23	19	25	25	25	26	16	16	16	16	16	18
PEDESTAL VERT. REINF.	8-#7	8-#6	8-#7	8-#7	8-#7	8-#9	4-#8	4-#8	4-#8	4-#8	4-#8	4-#8
PEDESTAL TIES	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3T	#3T	#3T	#3T	#3T	#3T
PEDESTAL TIE DETAIL	B	B	B	B	B	B	Δ	Δ	Δ	Δ	Δ	Δ
FOOTING SIZE N-S	4'-0	4'-0	3'-0	3'-6	3'-6	4'-6	3'-6	3'-6	3'-6	3'-6	3'-6	3'-9
FOOTING SIZE E-W	4'-6	4'-0	3'-6	4'-3	4'-3	4'-0	3'-6	3'-6	3'-6	3'-6	3'-6	3'-9
FOOTING DEPTH (IN.)	13	15	12	12	12	12	13	13	13	13	13	14
FOOTING REINF. N-S	13-#6	10-#5	8-#4	12-#5	12-#5	12-#4	10-#5	10-#5	10-#5	10-#5	10-#5	11-#5
FOOTING REINF. E-W	11-#6	10-#5	7-#4	8-#6	8-#6	14-#4	10-#5	10-#5	10-#5	10-#5	10-#5	11-#5
TOTAL LOAD (KIPS)	260k	245k	163k	209k	209k	272k	188k	188k	188k	188k	188k	219k

FLOORS / COLUMN Nos.	D-11	D-12	D-13	D-14	D-15	D-16	D-17	D-18	E-3.2	E-4	E-5	E-6
COOLING TOWER (196'-4)												
MAIN ROOF (183'-6½)												
2ND FLOOR & LOW ROOF (169'-0)								W12x40		W10x33 ⊛	W10x33	W10x33
1ST FLOOR (155'-0)	W12x65	W12x65	W12x65	W12x65	W12x65	W12x65	W12x65		W10x33	W10x54	W10x49	W10x54
PARKING LEVEL (VARIABLE)	W12x120	W12x120	W12x120	W12x133	W12x133	W12x133	W12x133	W12x161				
	B-1	B-1	B-1	B-1	B-1	B-1	B-1	B-1				
BASE PL. SIZE N-S (IN.)	17	17	18	18	18	18	19	18	12	12	12	12
BASE PL. SIZE E-W (IN.)	19	19	18	18	18	20	20	18	12	12	12	12
BASE PL. THICKNESS (IN.)	1 3/8	1 3/8	1 5/8	1 5/8	1 5/8	1 5/8	1 7/8	1 5/8	3/4	3/4	3/4	3/4
BASE PL. TYPE												
LEVELING PL.												
GROUT												
PEDESTAL TOP ELEV.	139'-6	139'-0	138'-7	138'-3	137'-11	137'-6	137'-2	136'-9	154'-0	154'-0	154'-0	154'-0
PEDESTAL SIZE N-S (IN.)	21	21	22	22	22	22	23	22	21	32½	16	16
PEDESTAL SIZE E-W (IN.)	23	23	22	22	22	24	24	22	25	26	16	16
PEDESTAL VERT. REINF.	8-#8	8-#8	8-#8	8-#8	8-#8	8-#8	8-#8	8-#8	8-#8	8-#9	4-#8	4-#8
PEDESTAL TIES	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3T	#3T
PEDESTAL TIE DETAIL	B	B	B	B	B	B	B	B	B	B	Δ	Δ
FOOTING SIZE N-S	5'-3	5'-3	5'-6	5'-6	5'-6	5'-9	6'-0	5'-6	3'-3	3'-9	3'-6	3'-9
FOOTING SIZE E-W	5'-3	5'-3	5'-6	5'-6	5'-6	5'-9	6'-0	5'-6	3'-3	3'-3	3'-6	3'-9
FOOTING DEPTH (IN.)	19	19	20	20	20	20	21	20	12	12	13	14
FOOTING REINF. N-S	14-#5	14-#5	17-#4	17-#4	17-#4	16-#5	17-#5	17-#4	7-#4	6-#4	10-#5	10-#5
FOOTING REINF. E-W	14-#5	14-#5	17-#4	17-#4	17-#4	16-#5	17-#5	17-#4	7-#4	6-#4	10-#5	10-#5
TOTAL LOAD (KIPS)	427k	427k	446k	446k	446k	488k	523k	455k	52k	175k	188k	195k

FLOORS / COLUMN Nos.	E-7	E-8	E-9	E-10	E-11	E-12	E-13	E-14	E-15	E-16	E-17	E-18
COOLING TOWER (196'-4)												
MAIN ROOF (183'-6½)												
2ND FLOOR & LOW ROOF (169'-0)	W10x33	W10x33	W10x33	W10x33	W10x35	W10x49	W10x49	W10x49	W10x45	W10x33		SPLICE 3'-0 (TYPICAL)
1ST FLOOR (155'-0)	W10x54	W10x54	W10x54	W10x54	W10x54	W10x66	W10x66	W10x66	W10x66	W10x100	W10x45	W10x33
PARKING LEVEL (VARIABLE)										SPLICE 3'-0 (TYPICAL)	W10x100	W10x89
											A-1	A-1
BASE PL. SIZE N-S (IN.)	12	12	12	12	12	12	12	12	14	15	15	13
BASE PL. SIZE E-W (IN.)	12	12	12	12	14	13	13	13	14	17	17	15
BASE PL. THICKNESS (IN.)	3/4	3/4	3/4	3/4	7/8	3/4	3/4	3/4	3/4	1 3/8	1 3/8	1
BASE PL. TYPE												
LEVELING PL.	SAME SIZE AS BASE PLATES											
GROUT												
PEDESTAL TOP ELEV.	152'-6	154'-0	154'-0	154'-0	154'-0	152'-6	154'-0	152'-6	152'-6	151'-6	137'-9	137'-4
PEDESTAL SIZE N-S (IN.)	16	16	16	16	16	16	16	16	18	24	19	17
PEDESTAL SIZE E-W (IN.)	16	16	16	16	18	17	17	17	18	21	21	19
PEDESTAL VERT. REINF.	4-#8	4-#8	4-#8	4-#8	4-#8	4-#8	4-#8	4-#8	8-#6	8-#8	8-#7	8-#6
PEDESTAL TIES	#3T	#3T	#3T	#3T	#3T	#3T	#3T	#3T	#3DT	#3DT	#3DT	#3DT
PEDESTAL TIE DETAIL	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	B	B	B	B
FOOTING SIZE N-S	3'-9	3'-9	3'-9	3'-9	3'-9	3'-9	3'-9	3'-9	3'-6	4'-9	4'-9	4'-3
FOOTING SIZE E-W	3'-9	3'-9	3'-9	3'-9	3'-9	3'-9	3'-9	3'-9	3'-6	4'-9	4'-9	4'-3
FOOTING DEPTH (IN.)	14	14	14	14	14	14	14	14	12	16	17	16
FOOTING REINF. N-S	10-#5	10-#5	10-#5	10-#5	11-#5	11-#5	11-#5	11-#5	10-#5	14-#5	14-#5	11-#5
FOOTING REINF. E-W	10-#5	10-#5	10-#5	10-#5	11-#5	11-#5	11-#5	11-#5	10-#5	14-#5	14-#5	11-#5
TOTAL LOAD (KIPS)	195k	195k	195k	195k	218k	218k	218k	218k	191k	346k	335k	268k

FLOORS / COLUMN Nos.	E-19	E-20	E-21	E-22	E-23	E-24	E3-3.2	E.8-4.2	F-5	F-6	F-7	F-8
COOLING TOWER (196'-4)												
MAIN ROOF (183'-6½)												
2ND FLOOR & LOW ROOF (169'-0)								W10x33 ⊛	⊗	⊗	⊗	⊗
1ST FLOOR (155'-0)	W10x33	W10x33	W10x33	W10x33	W10x33	W10x33	W10x33	W10x54	W10x49	W10x49	W10x49	W10x49
PARKING LEVEL (VARIABLE)	W10x66	W10x66	W10x66	W10x66	W10x66	W10x112						
	A-1	A-1	A-1	A-1	A-1	A-1						
BASE PL. SIZE N-S (IN.)	12	12	12	12	12	13	12	12	12	12	12	12
BASE PL. SIZE E-W (IN.)	13	13	13	13	13	14	12	12	12	12	12	12
BASE PL. THICKNESS (IN.)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
BASE PL. TYPE												
LEVELING PL.												
GROUT												
PEDESTAL TOP ELEV.	137'-0	136'-8	136'-4	135'-10	135'-4	135'-1	154'-0	154'-0	154'-0	152'-6	154'-0	152'-6
PEDESTAL SIZE N-S (IN.)	16	16	16	16	16	17	21	16	16	16	16	16
PEDESTAL SIZE E-W (IN.)	17	17	17	17	17	18	16	26	16	16	16	16
PEDESTAL VERT. REINF.	4-#8	4-#8	4-#8	4-#8	4-#8	4-#8	8-#6	8-#7	4-#8	4-#8	4-#8	4-#8
PEDESTAL TIES	#3T	#3T	#3T	#3T	#3T	#3T	#3DT	#3DT	#3T	#3T	#3T	#3T
PEDESTAL TIE DETAIL	Δ	Δ	Δ	Δ	Δ	Δ	B	B	Δ	Δ	Δ	Δ
FOOTING SIZE N-S	3'-3	3'-3	3'-3	3'-3	3'-3	3'-3	3'-0	4'-0	3'-0	3'-3	3'-3	3'-3
FOOTING SIZE E-W	3'-3	3'-3	3'-3	3'-3	3'-3	3'-3	3'-0	3'-3	3'-0	3'-3	3'-3	3'-3
FOOTING DEPTH (IN.)	12	12	12	12	12	12	12	12	12	12	12	12
FOOTING REINF. N-S	9-#4	9-#4	9-#4	9-#4	9-#4	9-#4	8-#4	9-#4	9-#4	9-#5	9-#5	9-#5
FOOTING REINF. E-W	9-#4	9-#4	9-#4	9-#4	9-#4	9-#4	8-#4	12-#4	9-#4	9-#5	9-#5	9-#5
TOTAL LOAD (KIPS)	144k	144k	144k	144k	144k	142k	99k	187k	125k	165k	165k	165k

FLOORS / COLUMN Nos.	F-9	F-10	F-11	F-12	F-13	F-14	F-15	G-16	G-17	G-18	G-19	G-20
COOLING TOWER (196'-4)												
MAIN ROOF (183'-6½)												
2ND FLOOR & LOW ROOF (169'-0)	⊗	⊗	⊗	⊗	⊗	⊗	W10x49	W10x33				
1ST FLOOR (155'-0)	W10x49	W10x49	W10x54	W10x49	W10x49	W10x49	W10x89	W10x89	W10x33	W10x33	W10x33	W10x33
PARKING LEVEL (VARIABLE)									W10x89	W10x89	W10x89	W10x89
									A-1	A-1	A-1	A-1
BASE PL. SIZE N-S (IN.)	12	12	12	12	12	12	14	14	13	13	13	13
BASE PL. SIZE E-W (IN.)	12	12	13	12	12	12	16	14	13	13	13	13
BASE PL. THICKNESS (IN.)	3/4	3/4	3/4	3/4	3/4	3/4	1 1/8	7/8	1	1	1	1
BASE PL. TYPE												
LEVELING PL.												
GROUT												
PEDESTAL TOP ELEV.	154'-0	152'-6	154'-0	152'-6	154'-0	152'-6	154'-0	151'-6	138'-6	137'-11	137'-4	136'-11
PEDESTAL SIZE N-S (IN.)	16	16	16	16	16	16	18	23	17	17	17	17
PEDESTAL SIZE E-W (IN.)	16	16	16	16	16	16	21	18	17	17	17	17
PEDESTAL VERT. REINF.	4-#8	4-#8	4-#8	4-#8	4-#8	4-#8	8-#7	8-#7	4-#8	4-#8	4-#8	4-#8
PEDESTAL TIES	#3T	#3T	#3T	#3T	#3T	#3T	#3DT	#3DT	#3T	#3T	#3T	#3T
PEDESTAL TIE DETAIL	Δ	Δ	Δ	Δ	Δ	Δ	B	B	Δ	Δ	Δ	Δ
FOOTING SIZE N-S	3'-3	3'-3	3'-3	3'-3	3'-3	3'-3	4'-6	4'-3	4'-0	4'-0	4'-0	4'-0
FOOTING SIZE E-W	3'-3	3'-3	3'-3	3'-3	3'-3	3'-3	4'-6	4'-3	4'-0	4'-0	4'-0	4'-0
FOOTING DEPTH (IN.)	12	12	12	12	12	12	16	15	15	15	15	15
FOOTING REINF. N-S	9-#5	9-#5	9-#5	9-#5	9-#5	9-#5	13-#5	11-#6	10-#5	10-#5	10-#5	10-#5
FOOTING REINF. E-W	9-#5	9-#5	9-#5	9-#5	9-#5	9-#5	13-#5	11-#6	10-#5	10-#5	10-#5	10-#5
TOTAL LOAD (KIPS)	165k	165k	165k	165k	165k	165k	298k	282k	240k	240k	240k	240k

FLOORS / COLUMN Nos.	G-21	G-22	G-23	G-24	G.1-5	H-6	H-7	H-8	H-9	H-10	H-11	H-12
COOLING TOWER (196'-4)												
MAIN ROOF (183'-6½)												
2ND FLOOR & LOW ROOF (169'-0)					⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗
1ST FLOOR (155'-0)	W10x33	W10x33	W10x33	W10x33	W10x49	W10x49	W10x49	W10x49	W10x49	W10x49	W10x49	W10x49
PARKING LEVEL (VARIABLE)	W10x89	W10x60	W10x60	W10x112								
	A-1	A-1	A-1	A-1								
BASE PL. SIZE N-S (IN.)	13	12	12	13	12	12	12	12	12	12	12	12
BASE PL. SIZE E-W (IN.)	13	12	12	14	12	12	12	12	12	12	12	12
BASE PL. THICKNESS (IN.)	1	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
BASE PL. TYPE												
LEVELING PL.												
GROUT												
PEDESTAL TOP ELEV.	136'-4	136'-0	136'-0	135'-6	154'-0	154'-0	154'-0	154'-0	154'-0	154'-0	154'-0	154'-0
PEDESTAL SIZE N-S (IN.)	17	16	16	17	16	16	16	16	16	16	16	16
PEDESTAL SIZE E-W (IN.)	17	16	16	18	26	21	21	21	21	21	21	21
PEDESTAL VERT. REINF.	4-#8	4-#8	4-#8	4-#8	8-#7	8-#6	8-#6	8-#6	8-#6	8-#6	8-#6	8-#6
PEDESTAL TIES	#3T	#3T	#3T	#3T	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT
PEDESTAL TIE DETAIL	Δ	Δ	Δ	Δ	B	B	B	B	B	B	B	B
FOOTING SIZE N-S	4'-0	3'-9	3'-9	3'-3	4'-0	3'-3	3'-3	3'-3	3'-3	3'-3	3'-3	3'-3
FOOTING SIZE E-W	4'-0	3'-9	3'-9	3'-3	3'-0	3'-3	3'-3	3'-3	3'-3	3'-3	3'-3	3'-3
FOOTING DEPTH (IN.)	15	14	14	12	12	12	12	12	12	12	12	12
FOOTING REINF. N-S	10-#5	10-#5	10-#5	9-#4	9-#4	8-#5	9-#4	9-#4	9-#4	9-#4	9-#4	9-#4
FOOTING REINF. E-W	10-#5	10-#5	10-#5	9-#4	11-#4	8-#5	9-#4	9-#4	9-#4	9-#4	9-#4	9-#4
TOTAL LOAD (KIPS)	240k	209k	199k	142k	178k	151k	144k	144k	144k	144k	144k	144k

FLOORS / COLUMN Nos.	H-13 / H-14	H-22	H-15	H-16	H-17.8 / 18.2	H-20	H-21	H-23	J-16	J-17.8 / 18.2	J-20	J-21 / J-22	J-23
COOLING TOWER (196'-4)													
MAIN ROOF (183'-6½)													
2ND FLOOR & LOW ROOF (169'-0)	⊗		W10x33 ⊛	W10x33 ⊛									
1ST FLOOR (155'-0)	W10x49	W10x33	W10x66	W10x66	W10x33	W10x33	W10x33	W10x33	W10x33	W10x33	W10x33	W10x33	W10x33
PARKING LEVEL (VARIABLE)		W10x72				W10x100	W10x89	W10x54			W10x72	W10x77	W10x49
						A-1	A-1	A-1			A-1	A-1	A-1
BASE PL. SIZE N-S (IN.)	12	12	14	14	12	13	13	12	12	12	12	12	12
BASE PL. SIZE E-W (IN.)	12	13	14	14	12	15	13	12	12	12	13	13	12
BASE PL. THICKNESS (IN.)	3/4	3/4	3/4	3/4	3/4	1	1	3/4	3/4	3/4	3/4	3/4	3/4
BASE PL. TYPE													I
LEVELING PL.													3/8"
GROUT													7/8"
PEDESTAL TOP ELEV.	154'-0	136'-6	154'-0	154'-0	154'-0	137'-4	136'-6	136'-6	154'-0	154'-0	151'-6	137'-6	137'-3
PEDESTAL SIZE N-S (IN.)	16	21	18	23	16	17	17	16	23	24	16	16	16
PEDESTAL SIZE E-W (IN.)	21	22	22	25	24	19	17	16	24	24	24	17	16
PEDESTAL VERT. REINF.	8-#6	8-#7	8-#7	8-#8	8-#7	8-#6	4-#8	4-#8	8-#8	8-#8	8-#7	4-#8	4-#8
PEDESTAL TIES	#3DT	#3DT	#3DT	#3DT	#3DT	#3DT	#3T	#3T	#3DT	#3DT	#3DT	#3T	#3T
PEDESTAL TIE DETAIL	B	B	B	B	B	B	Δ	Δ	B	B	B	Δ	Δ
FOOTING SIZE N-S	3'-3	3'-9	3'-3	4'-0	3'-0	4'-3	4'-0	3'-6	3'-3	3'-0	3'-9	3'-6	3'-0
FOOTING SIZE E-W	3'-3	3'-9	3'-3	4'-0	4'-0	4'-3	4'-0	3'-6	3'-3	3'-0	3'-9	3'-6	3'-0
FOOTING DEPTH (IN.)	12	12	12	12	12	16	14	13	12	12	15	13	12
FOOTING REINF. N-S	9-#4	10-#5	10-#4	11-#4	9-#4	11-#5	11-#5	10-#4	9-#4	5-#4	10-#5	10-#5	8-#4
FOOTING REINF. E-W	9-#4	10-#5	10-#4	11-#4	7-#4	11-#5	11-#5	10-#4	9-#4	5-#4	10-#5	10-#5	8-#4
TOTAL LOAD (KIPS)	144k	211k	160k	160k	63k	267k	226k	167k	143k	73k	207k	184k	102k

TIE DETAILS



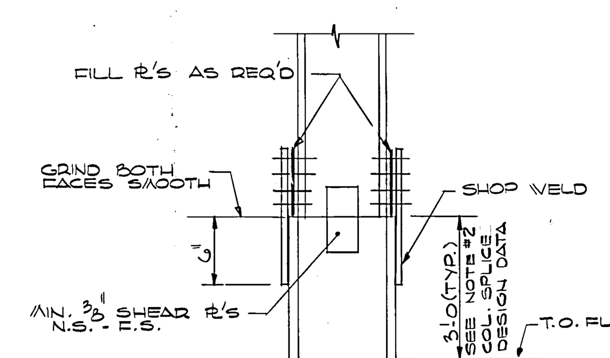
DETAIL 'A' DETAIL 'B'

DESIGN LIVE LOADS

LOW & HIGH ROOFS = 30 P.S.F.
LOW ROOF ADJACENT TO MECH. ROOM = 250 P.S.F.
MECH. & FAN ROOMS = 250 P.S.F.
OFFICE AREAS = 100 P.S.F. (INCL. PARTITIONS)
STACK AREAS = 150 P.S.F. (INCL. PARTITIONS)
MEET'G RM. & LOBBY = 120 P.S.F. (INCL. PARTITIONS)
LOAD'G DOCK = 250 P.S.F.
STAIRS = 100 P.S.F.

BEAM TO COLUMN CONNECTION DESIGN DATA

THE BEAMS BETWEEN COLS. INDICATED BELOW WILL HAVE IN ADDITION TO THEIR STD. WEB CONNS., TOP & BOTTOM FLANGE CONNECTIONS FOR ADEQUATELY TRANSFERRING THE WIND MOMENTS SPECIFIED.
1ST FLOOR: N-S* (ALL EXCEPT B & D-18, E & G-24) M=39'-k; E-W (ALL) M=60'-k
2ND FLOOR: N-S* (ALL EXCEPT B & D-18) M=29'-k; E-W (ALL) M=29'-k
ROOF: N-S & E-W (E, F, H-15 & E, G, H-16) M=20'-k.
*NOTE: OMIT FLANGE CONNECTIONS ON N-S BEAMS ON NORTH SIDE OF COLS. ON LINE 11; I.E. NO FLANGE CONNS. @ EXP. JT. CONNS.



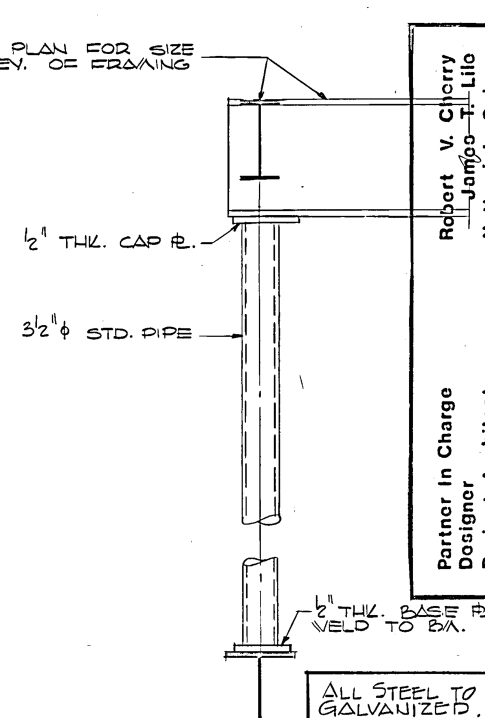
TYPICAL COL. SPLICE DETAIL

COLUMN SPLICE DESIGN DATA

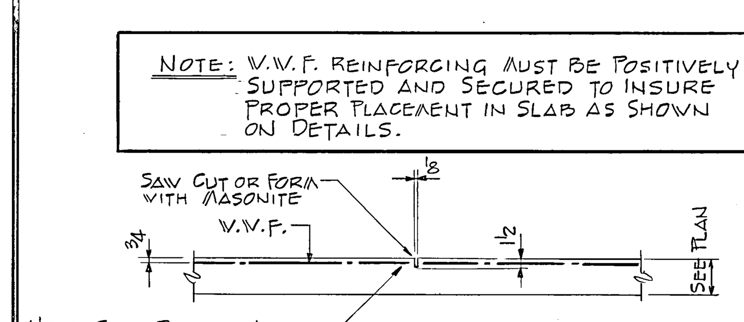
1. ALL COL. SPLICES SHALL BE DESIGNED TO MEET THE MIN. A.I.S.C. REQUIREMENTS AS WELL AS ADEQUATELY TRANSFERING THE DESIGN FORCES BELOW.
   A. COLS. E-24, G-24: My = 64'-k, Vy = 10k; Mx = 45'-k, Vx = 6k
   B. COLS. B-18, D-18: My = 86'-k, Vy = 13k; Mx = 22'-k, Vx = 4k
   C. ALL OTHER COLS.: 1ST FLR: N-S (29'-k, 4k) & E-W (45'-k, 6k); 2ND FLR: N-S (22'-k, 4k) & E-W (22'-k, 4k) (MOMENTS, SHEARS)
2. TYPICAL COLUMN SPLICES WILL BE LOCATED 3'-0 ABOVE T.O. FL. EL. AS SHOWN IN TYPICAL DETAIL. HOWEVER, WHERE RAISED SPANDRELS ARE INVOLVED THE COLUMN SPLICE MAY HAVE TO BE RAISED TO MISS THE RAISED SPANDREL BEAM CONNECTION. SUCH COLS. ARE MARKED THUS ⊛ IN SCHEDULE.

FUTURE VERTICAL EXTENSION NOTES

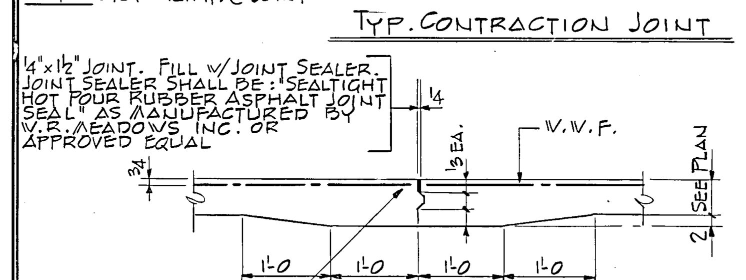
A. COLS. MARKED THUS ⊗ IN SCHEDULE PROVIDE 11x11x3/4 CAP PL. FLUSH W/SLAB ELEV. (SLAB ELEV.=169'-0)
B. TOTAL LOADS SHOWN FOR COLS. F-5 THRU F-14 & H-7 THRU H-14, INCLUDE FUTURE ROOF & WALL LOADS



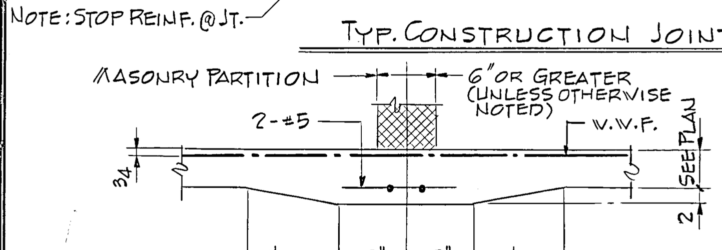
TYPICAL SUPPORT FOR MECH. EQUIP. ON ROOF



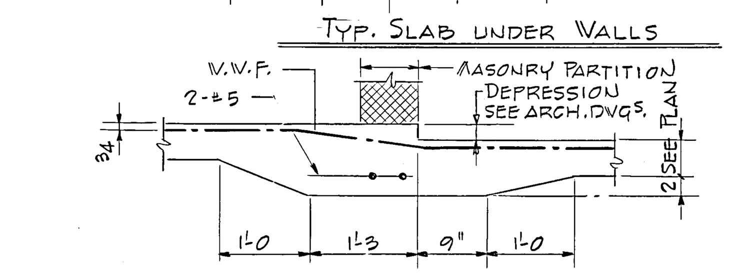
TYP. CONTRACTION JOINT



TYP. CONSTRUCTION JOINT

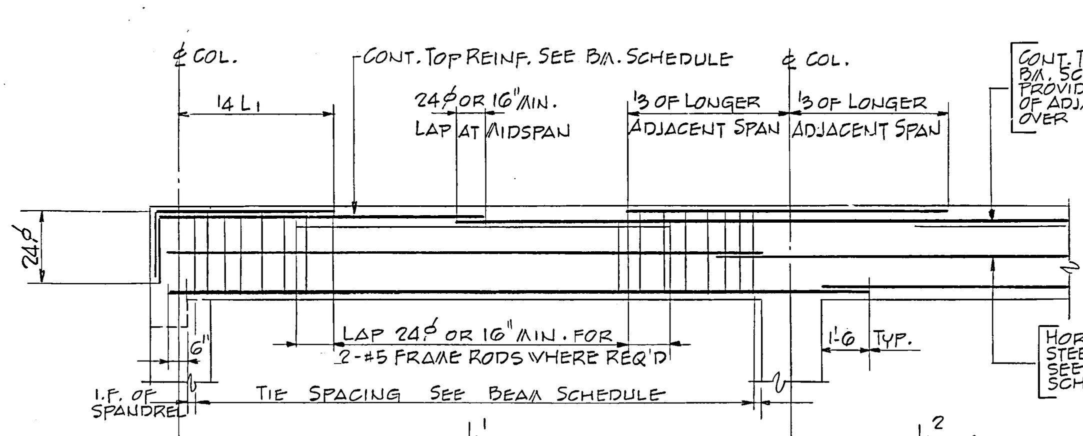


TYP. SLAB UNDER WALLS

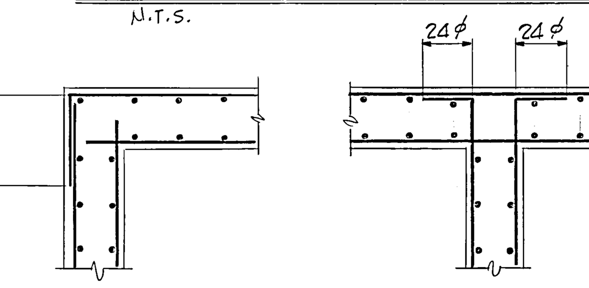


TYP. SLAB DEPRESSION

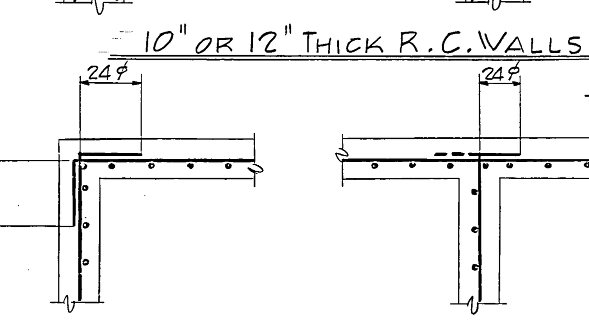
TYPICAL SLAB ON GROUND DETAILS
N.T.S.



TYPICAL CONCRETE BEAM DETAILS
N.T.S.



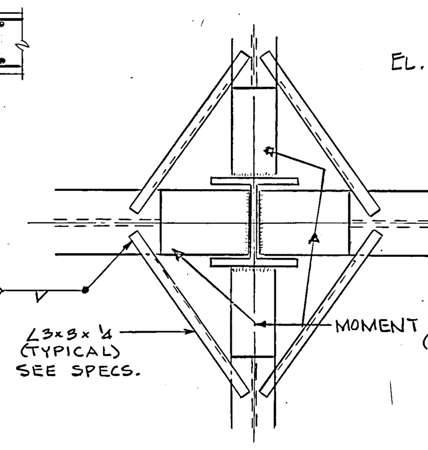
10" OR 12" THICK R.C. WALLS



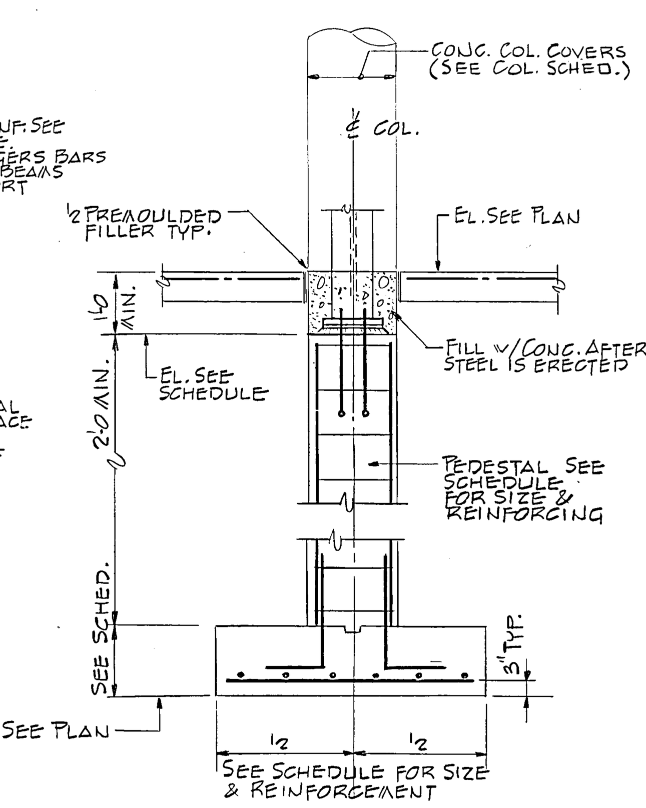
8" THICK R.C. WALLS

NOTE: FOR SIZE & SPACING OF REINFORCEMENT SEE DRAWINGS.

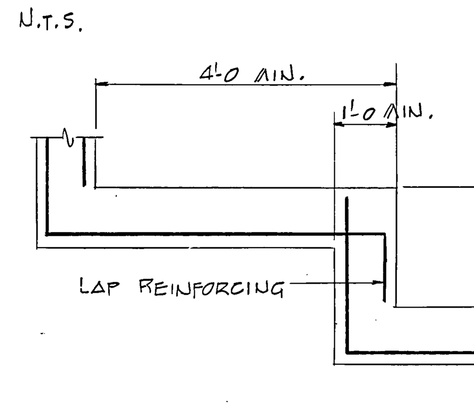
TYPICAL R.C. WALL REINFORCEMENT
N.T.S.



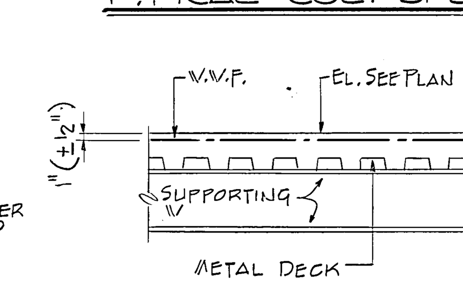
TYPICAL DETAIL- LIGHTING ∠'S
N.T.S.



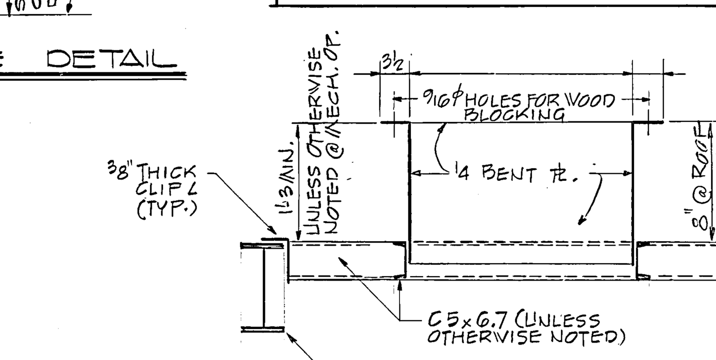
TYPICAL INTERIOR FOOTING
N.T.S.



TYP. DETAIL OF STEPPED FOOTING
N.T.S.

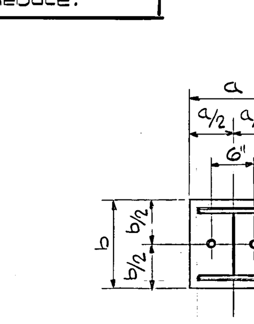


TYP. SLAB REINFORCING DETAIL OVER CORRUGATED METAL FORMS
N.T.S.



NOTE: MECHANICAL CONTRACTOR MUST VERIFY SIZE & LOCATION OF OPENING.

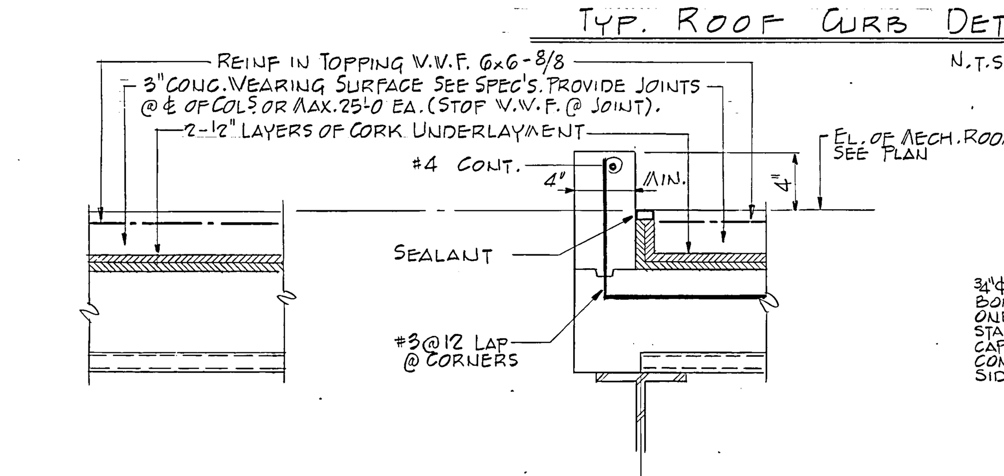
TYP. ROOF CURB DETAIL
N.T.S.



BASE PL. TYPE I

NOTE: 3/4"φ ANCHOR BOLTS (UNLESS OTHERWISE NOTED)

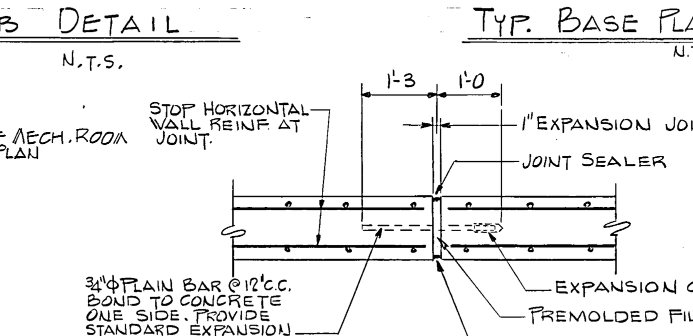
TYP. BASE PLATE DETAILS
N.T.S.



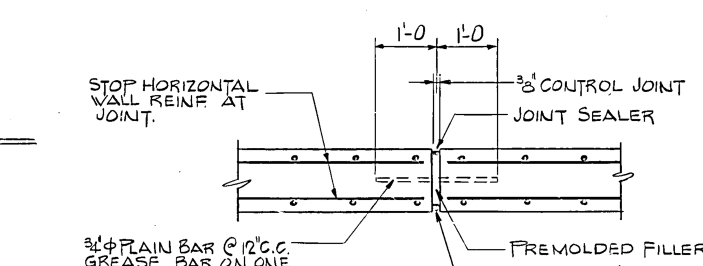
MECH. ROOM FLOOR

TYP. OPENING OF MECHANICAL ROOM

TYPICAL MECHANICAL ROOM DETAILS
N.T.S.



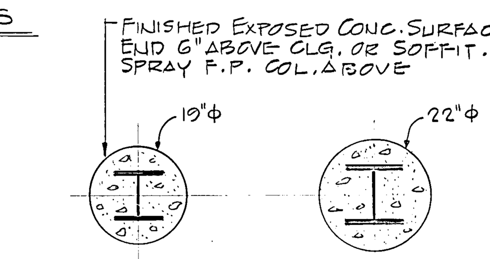
PLAN OF EXPANSION JOINT



PLAN OF CONSTRUCTION JOINT

TYP. JOINT DETAILS OF CONC. RETAINING WALLS
N.T.S.

RETAINING WALL NOTE:
CONSTRUCTION JOINTS SHALL OCCUR EVERY 20 FEET & EXPANSION JOINT SHALL OCCUR EVERY 80 FEET.



TYPE "A" TYPE "B"

NOTE:
1. COLS. MARKED THUS [A-1], [B-1] OR [B-2] INDICATES CONC. COLUMN COVER TYPE "A" OR "B" AND FLOOR LEVEL 1 OR 2 TO WHICH CONC. COVER EXTENDS. (SEE COLUMN SCHEDULE)
2. COLS. B-14 THRU B-17 WILL HAVE CONC. COL. COVER FROM PARKING LEVEL TO FIRST FLOOR & SECOND FLOOR TO ROOF

TYPICAL CONC. COL. COVER
N.T.S.

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REGISTERED ARCHITECT · PENNSYLVANIA · STANLEY H. COLE · No. RA 3000

Partner In Charge: Robert V. Cherry
Designer: James T. Lilo
Project Architect: Nathaniel Gaines
Project Manager: Jonathan Dyor

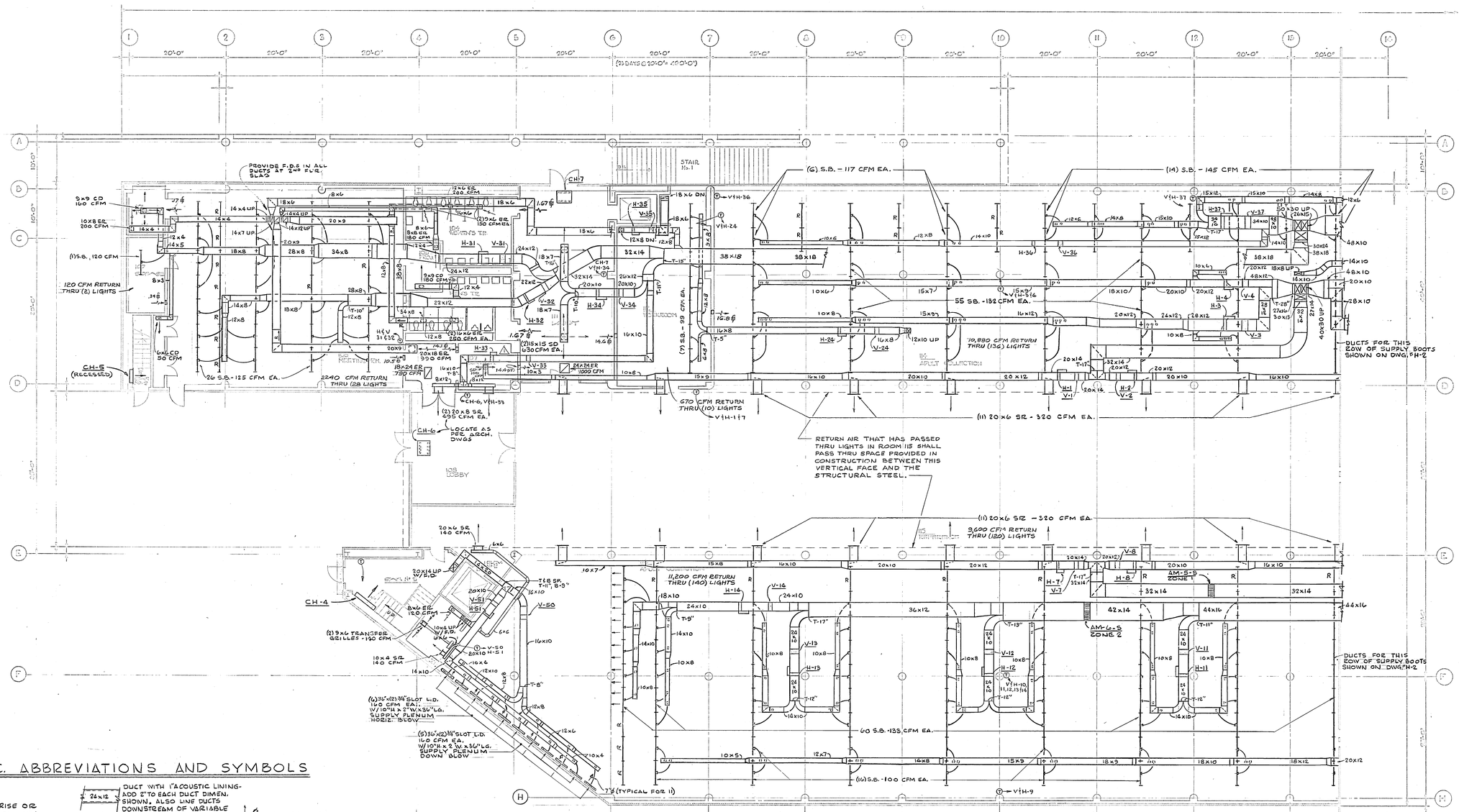
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Kirke Bryan, Esq. Solicitor, Library

COLUMN SCHEDULE & TYPICAL DETAILS

NO.	DATE	REVISION
1	10/22	AS BUILT

DRAWN BY J.E.T.
CHECKED BY
DATE
SCALE AS SHOWN
JOB NO. 105873
DATE SEPT. 30, 1974
SHEET NO. S-7



H.V.A.C. ABBREVIATIONS AND SYMBOLS

AUTO. DPR. —	AUTOMATIC ATC. DAMPER
A.D. —	ACCESS DOOR
A.T.C. —	AUTOMATIC CONTROLS
B.O.D. —	BOTTOM OF DUCT
C.F.M. —	CUBIC FEET PER MINUTE
E.G. —	EXHAUST GRILLE
E.L. —	ELEVATION
E.R. —	EXHAUST REGISTER
F.A.I. —	FRESH AIR INTAKE
F.D. —	FIRE DAMPER; FL=FUSE LINK
L.D. —	LINEAR DIFFUSER
N.C. —	NORMALLY CLOSED
N.I.C. —	NOT IN CONTRACT
N.O. —	NORMALLY OPEN
O.A. —	OUTSIDE AIR
P.S.I. —	POUNDS PER. SQUARE INCH
R.R. —	RETURN REGISTER
R.G. —	RETURN GRILLE
S.D. —	SUPPLY DIFFUSER
S.B. —	SUPPLY BOOT
U.H. —	UNIT HEATER
V.D. —	VOLUME DAMPER
V.I. —	VIBRATION ISOLATOR

DUCT INCLINED RISE OR DROP IN DIRECTION OF AIRFLOW

DUCT WITH 1" ACOUSTIC LINING- ADD 2" TO EACH DUCT DIMEN. SHOWN, ALSO LINE DUCTS DOWNSTREAM OF VARIABLE VOLUME UNITS.

OPENING THRU WALL ABOVE CLG. SHOWING AREA IN SQ. FT

GATE VALVE
GLOBE VALVE
COMBINATION BALANCING & SHUT-OFF VALVE
CHECK VALVE - NON SLAM
CHECK VALVE
RELIEF (SAFETY) VALVE
TWO-WAY CONTROL VALVE
THREE-WAY CONTROL VALVE
UNION OR FLANGED CONN.
PRESSURE REGULATING VALVE
PITCH OF PIPE, DOWN
DIRECTION OF FLOW
STEAM SUPPLY - (STM. PRESSURE)
LOW PRESSURE CONDENSATE
PUMPED CONDENSATE
CHILLED WATER SUPPLY
CHILLED WATER RETURN
CONDENSER WATER TO CHILLER
CONDENSER WATER FROM CHILLER
DOMESTIC COLD WATER
THERMOSTAT
HUMIDISTAT

ADJUST AIR BAR FOR 2 WAY THROW UNLESS SHOWN OTHERWISE BY ARROWS FOR ONE WAY THROW

PRESSURE GAGE & COCK
AIR VENT
THERMOMETER
RISER - DOWN
RISER - UP
STRAINER WITH GATE VALVE NIPPLE & CAP

= S.B. = SUPPLY BOOT WITH AIR BAR 0.10" S.P. MAX. AT 150 CFM WITH 6" FLEX. DUCT CONN.

= RETURN AIR BAR LESS BOOT 0.05" S.P. MAX AT 100 CFM.

CEILING CONTRACTOR TO INCLUDE BOOTS & AIR BARS

GENERAL NOTE

UNLESS OTHERWISE NOTED RETURN AIR PASSES THRU LAMP CHAMBER OF LIGHTING FIXTURES TO CEILING PLENUM. CAPACITIES OF FIXTURES AT 0.03 INCHES STATIC PRESSURE LOSS IS AS FOLLOWS

2'0"x6'0" FIXTURES = 80 CFM
1'2"x4'8" FIXTURES = 20 CFM
2'4"x4'8" FIXTURES = 40 CFM

NORTH

EWING COLE ERDMAN & EUBANK
architects-engineers-planners
SYNERGO COMPANY
consulting engineers

Partner In Charge — Robert V. Cherry
Designer — James T. Lutis
Project Architect — Nathaniel Gaines
Project Manager — Jonathan Dyer

Montgomery County - Norristown Public Library

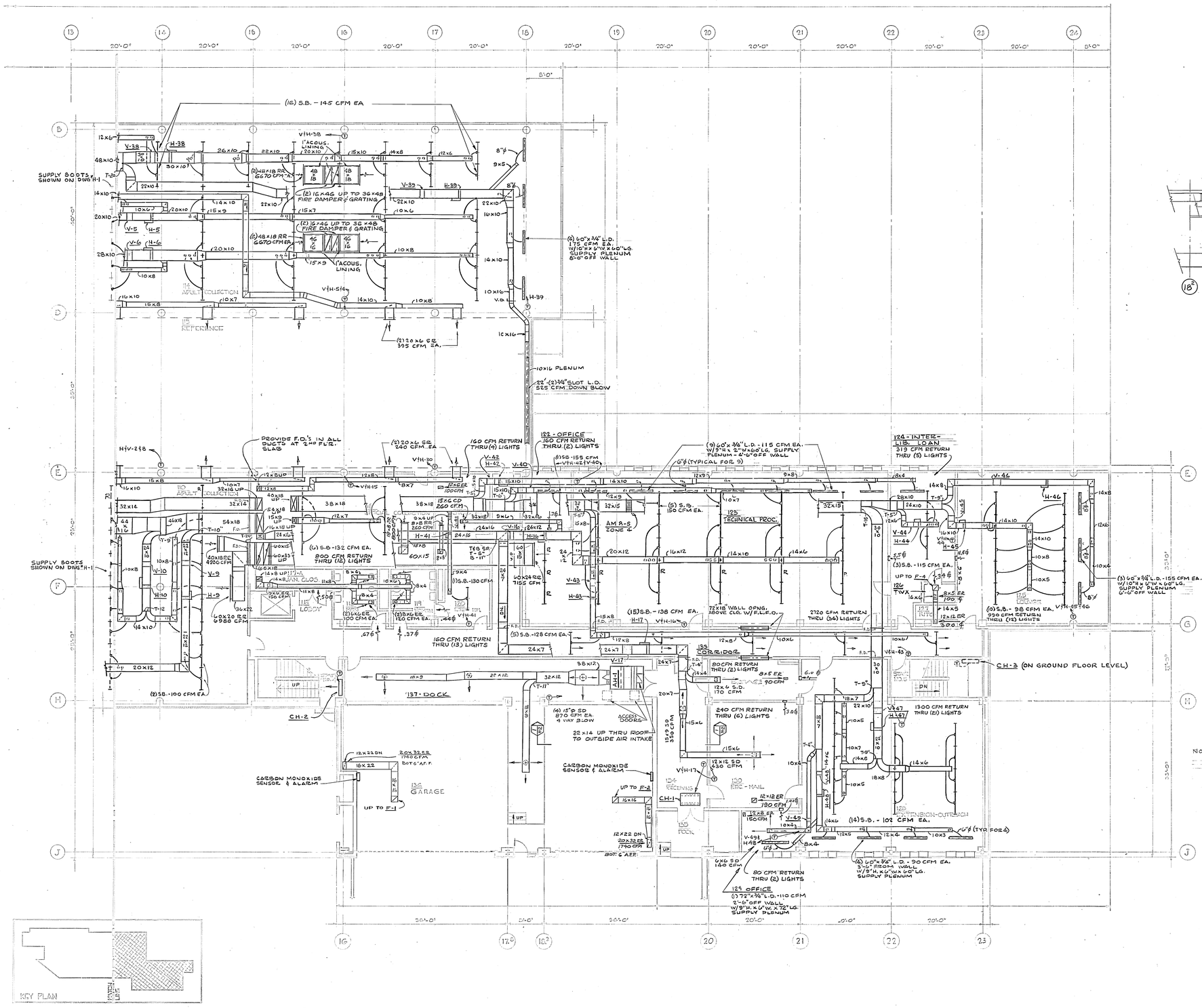
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J. John Apt, Director, Dept. of Public Property
Sullivan J. Asto, Jr., President, Library Board
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Lawrence F. Flick, Esq., Controller

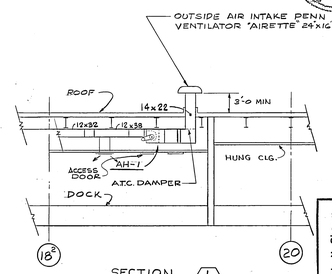
H.V.A.C.
FIRST FLOOR PLAN
SOUTH END

NO.	DATE	REVISIONS
1	9-21-72	AS BUILT

DRAWN BY
CHECKED BY
DATE
SCALE 1/8" = 1'-0"
JOB NO. 5873
DATE SEPT. 30, 1970

SHEET NO. H-1





SECTION
SCALE: 1/8"=1'-0"
1 / H-2

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SYNERGO COMPANY

Partner In Charge — Robert V. Cherry
Design Architect — Thomas Lamb
Project Architect — Nathaniel Gaines
Project Manager — Jonathon Dyor

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H.V.A.C. FIRST FLOOR PLAN NORTH END

NO.	DATE	REVISION
1	12/5/73	AS BUILT

DRAWN BY
CHECKED BY
DATE
SCALE 1/8" = 1'-0"
JOB NO. 5873
DATE SEPT. 30, 1971
SHEET NO. M-2

NORTH

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architects-engineers-planners
SYNERGO COMPANY
consulting engineers

Partner in Charge — Robert V. Cherry
Project Designer — Thomas Hicks
Project Architect — Nathaniel Gaines
Project Manager — Jonathan Dyer

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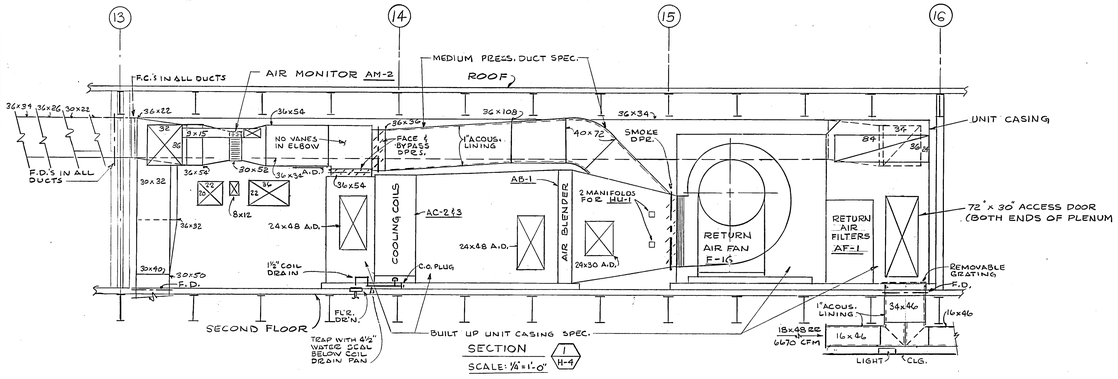
H.V.A.C.
SECOND FLOOR PLAN
SOUTH END

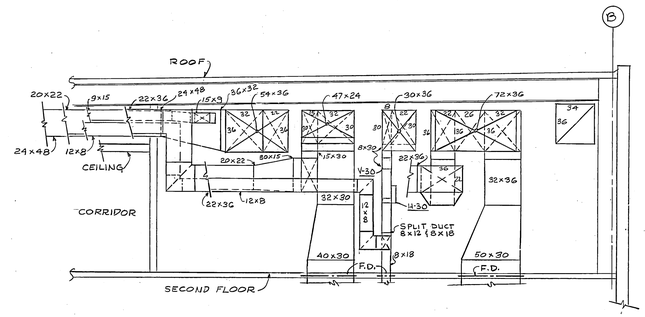
NO.	DATE	REVISION
1	2-22	AS BUILT

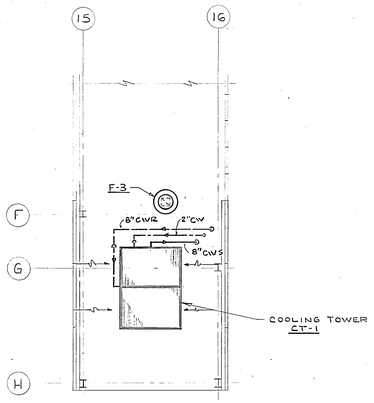
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DATE SEPT. 30, 1974

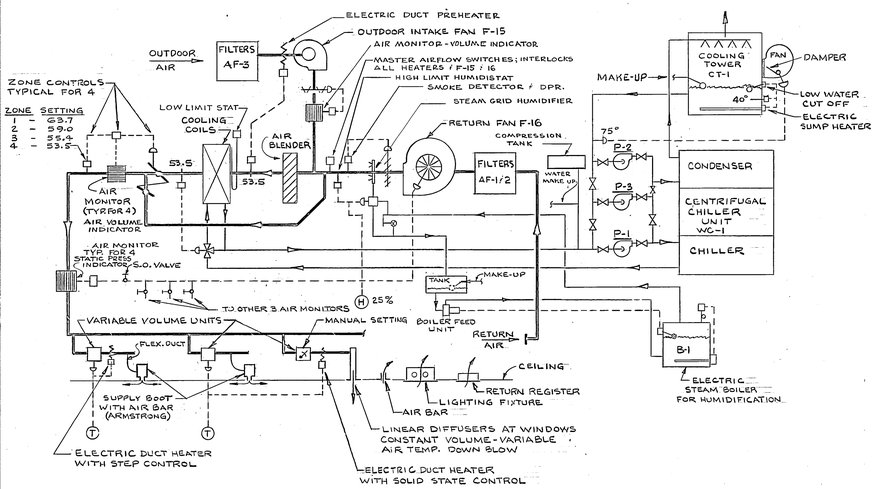
H-1 of 33

KEY PLAN



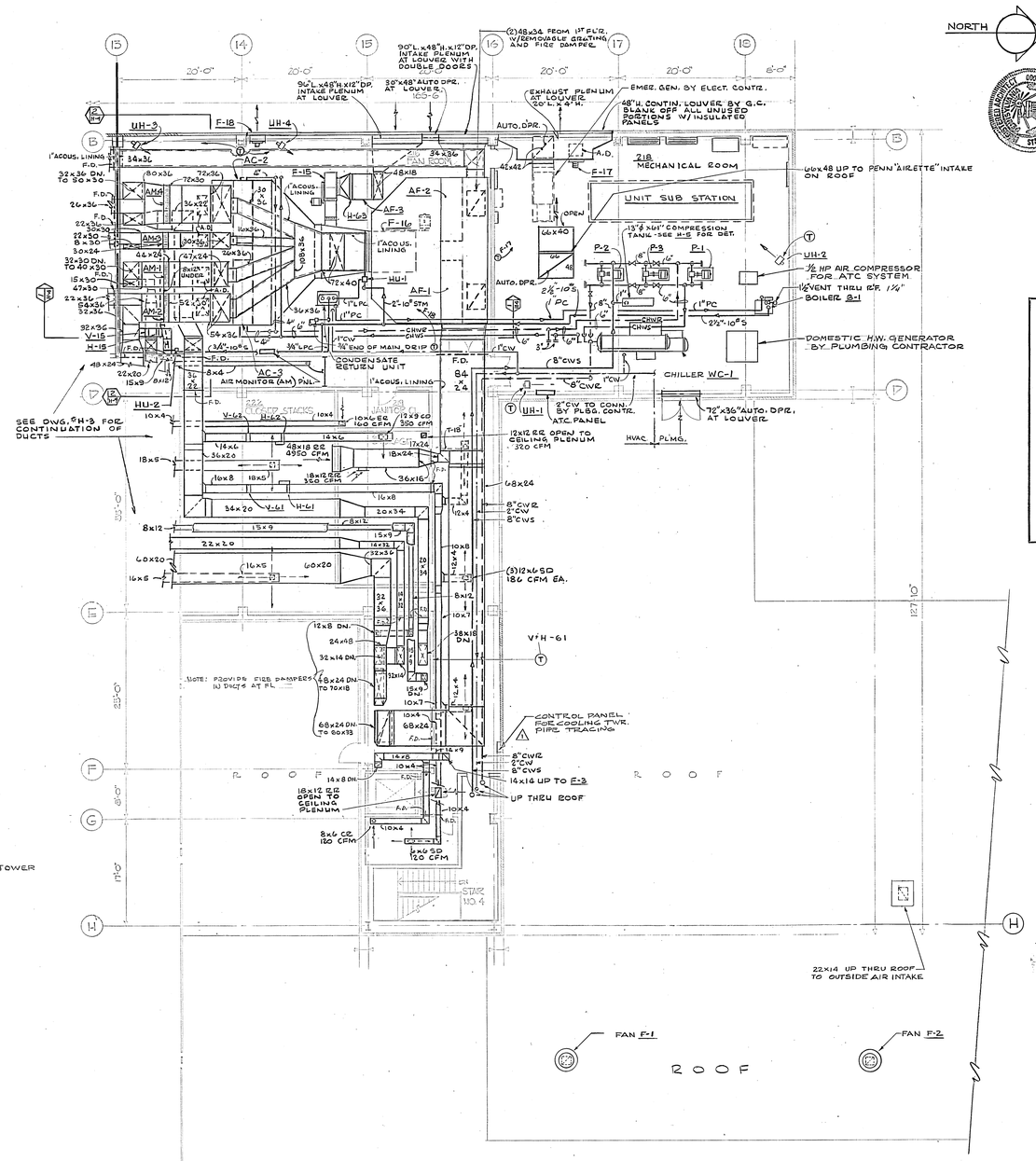


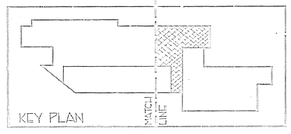




FLOW DIAGRAM

NO SCALE





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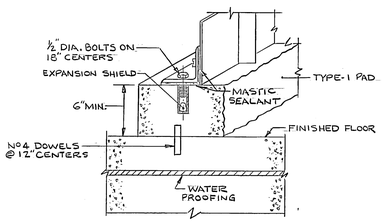
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Harold Hallowell, Esq., Solicitor
Lawrence F. Flick, Esq., Controller

Partner In Charge	Robert V. Cherry
Design	Joseph J. Lilo
Project Architect	Nathaniel Gaines
Project Manager	Jonathan Dyer

H.V.A.C.
SECOND FLOOR PLAN
NORTH END

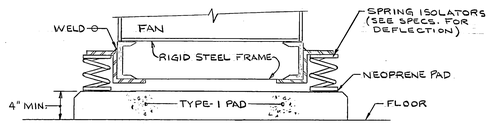
NO.	DATE	REVISION
1	10-5-72	AS BUILT

DRAWN BY
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JOB NO. 5873
DATE SEPT. 30, 1972
SHEET NO. H-4



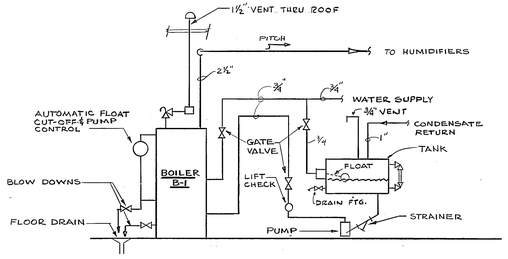
ATTACHMENT DETAIL FOR BASE OF BUILT-UP AIR HANDLING UNITS

NO SCALE

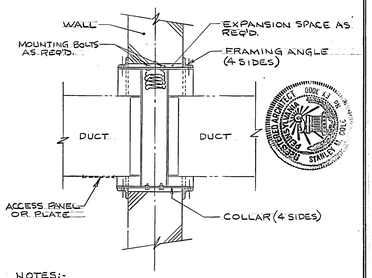


VIBRATION ISOLATION BASE FOR FANS F-15 & F-16

NO SCALE



STEAM BOILER PIPING DETAIL



FIRE DAMPER MOUNTING DETAIL

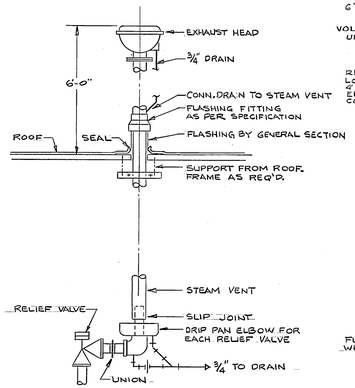
NOTES:-

1-ANGLES SHALL BE A MINIMUM OF 1½"x1½"x⅛" FASTEN TO COLLAR ONLY, WITH ¼" DIA. STEEL FASTENERS 8" ON CENTER. FOR AIR BALANCE FIRE DAMPERS COLLARS MAY BE OF SAME GAUGE AS THE DUCT TO WHICH IT IS ATTACHED. FOR DAMPERS OF OTHER MANUFACTURES, GAUGES TO CONFORM TO SMACNA, ASHRAE OR MANUFACTURERS REQUIREMENTS FOR U.L. DAMPERS.

2-DUCT COLLAR CONNECTION SHALL BE AS SHOWN IN SMACNA MANUAL FOR U.L. DAMPERS OR AS RECOMENDED BY DAMPER MANUFACTURE FOR U.L. DAMPERS.

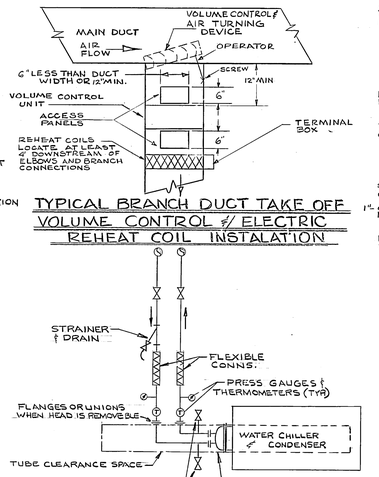
3-DAMPERS SHALL HAVE A CLEARANCE OF ⅛ PER FOOT ON HEIGHT & WIDTH, AND ANGLES SHALL INCREASE IN SIZE, PROPORTIONATELY, SO THAT THERE WILL BE A MINIMUM OF 1" OF OVERLAP ON THE PARTITION.

4-AS WITH ALL JOINTS, CONTRACTOR MUST SEAL COLLAR, IN FIELD, AFTER INSTALLATION

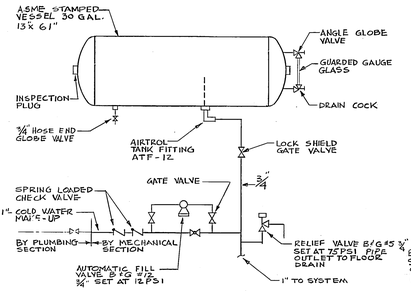


DRIP PAN ELBOW AND EXHAUST HEAD

NO SCALE



TYPICAL BRANCH DUCT TAKE OFF VOLUME CONTROL & ELECTRIC REHEAT COIL INSTALATION

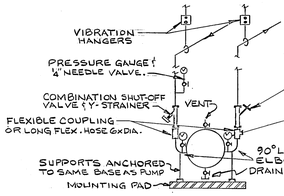


COMPRESSION TANK

NO SCALE



SUPPLY AIR BOOT & AIR BAR DETAIL

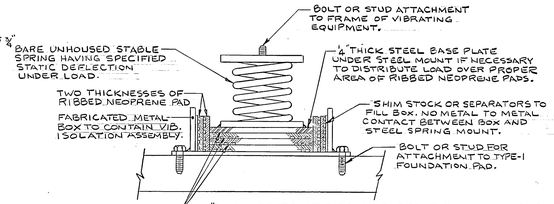


DOUBLE SUCTION PUMP PIPING

NOTES:-

1-ALL AUXILIARIES, LINE SIZE

2-PIPE PACKING DRAINS TO NEAREST FLOOR DRAIN.

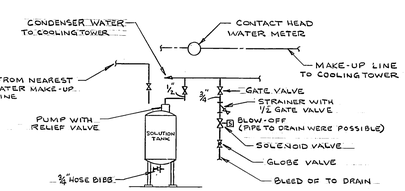


DETAIL OF VIBRATION ISOLATION MOUNT FOR CENTRIFUGAL CHILLER

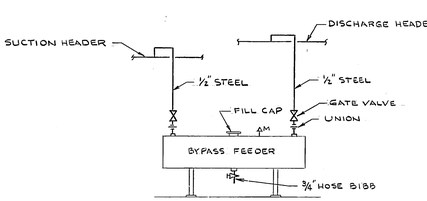
NO SCALE

PREFABRICATED ROOF CURB

NO SCALE



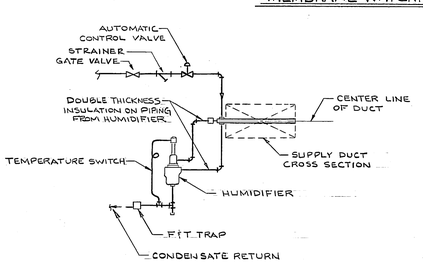
FOR COOLING TOWER



FOR CLOSED WATER SYSTEM

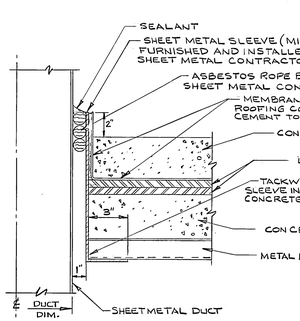
DIAGRAM OF WATER TREATMENT PIPING

NO SCALE

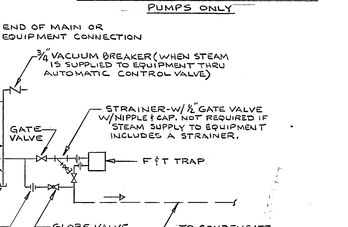


HUMIDIFIER MANIFOLD

NO SCALE

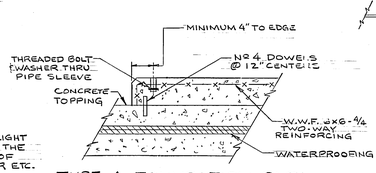


TYPICAL DUCT OPENING THRU MEMBRANE WATERPROOFED FLOORS



TYPE-2 FOUNDATION PAD

PUMPS ONLY



TYPE-1 FOUNDATION PAD

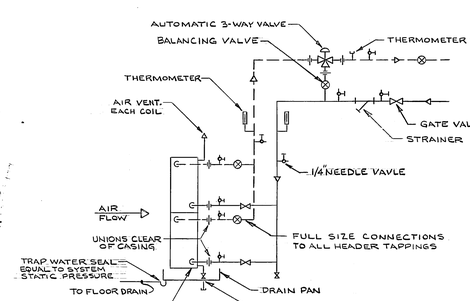
NOTES:

1-ALL END OF MAIN DRIPS SHALL HAVE ¾" STEAM TRAPS, AND NO VACUUM BREAKER.

3-BY-PASS FOR HUMIDIFIERS SHALL BE OMITTED.

TYPICAL LP TRAP ASSEMBLY

NO SCALE

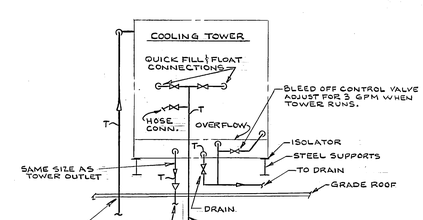


MULTIPLE COOLING COIL

NO SCALE

2 COILS HIGH SHOWN

ALTER TO SUIT QUANITY OF COILS SUPPLIED



T=LINES OUTDOORS TRACED WITH HEAT CABLE WITH THERMOSTAT BY ELEC. CONT.; INSULATED BY H.V.A.C.

NOTES: 1-SEE PIPE FLASHING DETAIL.

2-ALLOW CLEARANCES FOR VIBRATION ISOLATOR DEFLECTION WHEN FILLING WITH WATER.

COOLING TOWER TYP. PIPING DETAIL

NO SCALE

EWING COLE ERDMAN & EUBANK
architects-engineers-planners
SYNERGO COMPANY
consulting engineers

Montgomery County · Norristown Public Library

A Regional Library Facility

Partner In Charge — Russell W. Piazza, Director of Purchasing
Project Manager — Fenton L. Bell, President, Library Board
Project Architect — Sullivan J. Kistler, President, Library Board
Project Engineer — Lawrence H. Curry, Commissioner
Project Engineer — Henry E. Pennington, Chief Clerk
Project Engineer — Roger B. Reynolds, Est., Solicitor
Project Manager — Lawrence F. Fiori, Esq., Controller
Robert V. Cherry
James T. Lilo
Thomas C. Lowe
Jonathan Dyer

H.V.A.C. DETAILS

NO.	DATE	REVISION
1	12/22/72	AS BUILT

DRAWN BY
CHECKED BY
DATE
SCALE AS NOTED
JOB NO. 5873
DATE SEPT. 30, 1972
SHEET NO. H-5

ELECTRIC BASEBOARD HEATER

SYMBOL	MIN. M.B.H	LENGTH	SERVING	WATTS	VOLTS /ø	BASIS FOR SELECTION MFG.	MODEL	SIZE
BH-1	2.4	3'-0"	GIRLS TLT. #225	750	120-1	BERKO	MCB	3-7
BH-2	2.2	3'-0"	WOMEN'S TLT. #104	750	120-1	BERKO	MCB	3-7

HUMIDIFIER SCHEDULE

SYMBOL	LOCATION	SERVICE	MIN C.F.M.	STEAM PRESS PSIG	LB/HR	APPROX. DUCT WIDTH	BASIS OF DESIGN
HU-1	FAN DISCH.	MAIN SYS.	35,000	8	179	72" ※	JOHNSON
HU-2	H-15	RM. 116	560	8	18	15"	JOHNSON

※ TWO MANIFOLDS REQD'; ONE ABOVE THE OTHER

AIR BLENDER

SYMBOL	C.F.M.	F.P.M.	STATIC PRESS. IN. W.G.	APPROX. DIMEN.	BASIS OF DESIGN
AB-1	61,400	1220	0.12	100"x100"x12"	R-M PRODUCTS

CHILLER SCHEDULE

SYMBOL	WC-1
LOCATION	2ND. FL.
TYPE	CENTRIF.
CAPACITY (TONS)	250
CHILLER	
G.P.M	500
PRESSURE DROP (FT.)	16
ENTERING WATER °F	56
LEAVING WATER	44
NUMBER OF PASSES	2
SCALE FACTOR	.0005
CONNECTION SIZE (INCHES)	5"
CONDENSER	
G.P.M	750
PRESSURE DROP (FT.)	12
ENTERING WATER °F	85
LEAVING WATER	95
NUMBER OF PASSES	2
MAXIMUM VELOCITY FT/SEC.	
SCALE FACTOR	.0005
CONNECTION SIZE (INCHES)	6"
COMPRESSOR	
ELECTRICAL SERVICE	480V-3ø
MAXIMUM INPUT (KW)	214
MAX. FULL LOAD AMPS.	286
MAX. LOCKED ROTOR AMPS.	1850
R P M	3600
OIL PUMP H P	1/4
OIL PUMP ELECTRIC SERV.	480V.-3ø
OIL HEATER ELECTRIC SERV.	480V-3ø
PURGE PUMP H. P.	1/4
PURGE PUMP ELECTRIC SERV.	115V-1ø
BASIS OF DESIGN MFR. MODEL NUMBER	TRANE PCV

BOILER SCHEDULE

SYMBOL	B-1
TYPE	STEAM
BOILER HORSEPOWER	10
CAPACITY-LBS/HR.	330
OPERATING PRESSURE	10
FEEDER, CUT-OFF	FLOAT
RELIEF VALVE-NO. # SIZE	2 ①
RELIEF VALVE SETTING	15
BASIS OF DESIGN	CHROMALOX

① = EQUAL TO BOILER GROSS OUTPUT AT 3% ACUMULATION

BURNER SCHEDULE

TYPE	RESISTANCE
KW	100
VOLTAGE	480
PHASE	3
BASE OF DESIGN	CHROMALOX

ACCESSORIES

BLOW DOWN	AUTOMATIC
HIGH PRESS. SWITCH	MAN. RESET
CONTROL TRANSFORMER	120 V.

CONDENSATE RETURN UNIT

TANK CAP. GAL	30
FEED PUMP MOTOR H.P.	1/2
FEED PUMP ELECTRIC	480 V, 3ø

ELECTRIC

UNIT & CABINET HEATERS

SYMBOL	TYPE DISCH.	MIN. CAP. M.B.H.	C.F.M. @ 70°F.	MOTOR SERVIC	R.P.M.	H.P./WATTS	AIR ENT. °F.	ELECTRIC HEATING COIL KW	SERVICE	BASIS FOR SELECTION MFG.	MODEL	SIZE	SERVING
UH-1	HORIZ.	11.3	160	2.77	1550	1/50 H.P.		3.3	277-1	BERKO	#UH	32	MECH. RM. 218
UH-2	HORIZ.	11.3	160		1550	1/50 H.P.		3.3		BERKO	#UH	32	MECH. RM. 218
UH-3	HORIZ.	8.5	160		1550	1/50 H.P.		2.5		BERKO	#UH	22	FAN. RM. 216
UH-4	HORIZ.	8.5	160	▼	1550	1/50 H.P.		2.5	▼	BERKO	#UH	22	FAN. RM. 216
CH-1		20.1	400	277-1	1075	1.35 WATTS		5.9	277-1	TRANE	E4G	04	RECEIVING #134
CH-2		20.9	400	277-1	1075	1.35 WATTS		6.1		TRANE	M4G	04	STAIR #4
CH-3		23.5	400	277-1	1075	1.35 WATTS		6.9		TRANE	M4G		STAIR #5
CH-4		27.1	600	277-1	1075	180		8.0		TRANE	M4G	06	STAIR #3
CH-5		10.8	200	277-1	1100	120		3.2		TRANE	H4G	02	STAIR #2
CH-6		13.4	300	277-1	1100	160		3.9		TRANE	E4G	03	LOBBY #108
CH-7		13.4	300	277-1	1100	160		3.9		TRANE	E4G	03	LOBBY #111
CH-8		6.8	—	—	—	—		2.0+		BERKO	SFR	20	LOWER LEVEL ELEV. MACH. RM. ①
CH-9		5.1	—	—	—	—		1.5+		BERKO	SFR	15	LOWER LEVEL SPRKR. EQUIP. RM ①
CH-10		6.7	200	115/60/1	1100	120		2.0		TRANE	E4G	02	LOWER LEVEL LOBBY
CH-11		6.7	200	115/60/1	1100	120		2.0	▼	TRANE	E4G	02	LOWER LEVEL LOBBY

① = WITH BUILT IN THERMOSTAT & CONTROLS

AIR FILTER SCHEDULE

SYMBOL	TYPE	SERVICE	C.F.M.	STATIC PRESSURE INCHES WATER INITIAL	FINAL	FILTER BANK CARTRIDGES WIDE	CARTRIDGES HIGH	OVERALL① DIMENSIONS L x W x D	EFF. % N.B.S.	BASIS OF DESIGN CAMBRIDGE
AF-1	DRY	RETURN	32,750	0.45	0.90	5	3	3'-6"x10'-0"x6'-2"	85	SIDE-FLOW ASSEM.
AF-2	DRY	〃	32,750	0.45	0.90	5	3	3'-6"x10'-0"x6'-2"	85	SIDE-FLOW ASSEM.
AF-3	DRY	OUTDOOR	8,950	0.45	0.90	2	2	3'-6"x4'-0"x4'-3"	85	SIDE-FLOW ASSEM.

① SIDE LOADING HOUSINGS

COOLING COIL SECTIONS

SYMBOL	C.F.M.	AIR MIN. CAP M.B.H.	ENT. D.B.	ENT. W.B.	LEAV. D.B.	LEAV. W.B.	FACE VEL. F.P.M.	S.P. WET	WATER TEMP ENT.	WATER TEMP LEAV.	G.P.M.	HEAD FT.	MIN. ROWS DEEP	BASIS FOR SELECTION MFR.	MODEL	SIZE
AC-2	30,700	1300	83.8	66.9	53.5	53.0	500	1.4	44	56	215	15	8	TRANE	①	63
AC-3	30,700	1300	83.8	66.9	53.5	53.0	500	1.4	44	56	215	15	8	TRANE	①	63

① WITH INSULATED CASING & PAN. FOR BLOW THRU SERVICE

AIR HANDLING UNITS

SYMBOL	C. F. M. TOTAL	OUTSIDE	FAN MAX. O.V. F.P.M.	S.P.	R.P.M.	B.H.P.	MIN. MOTOR H.P.	FILTERS GROSS AREA SQ.FT.	S. P. CLEAN	ELECTRIC HEATING COIL MIN. CAP. M.B.H.	WATTS	ELECTRIC SERVICE	STEPS	AIR ENT.	LEAV.	S.P.	BASIS FOR SELECTION MFR	MODEL	SIZE
AH-1	3840	3840	1800	1"	1350	1.6	2	14	0.15	300	88,000	480-3	SCR.	0	85	0.03	TRANE	TORR.	7

S.P. = STATIC PRESS; INCHES OF WATER.

PUMP SCHEDULE (PUMP, BASE & COUPLING)

SYMBOL	SERVICE	LOCATION	SUCTION	G.P.M.	HEAD (FT.)	SIZE SUCT.	SIZE DISCH.	EFF. %	R.P.M.	H.P.	ELECTRIC SERVICE	FOUNDATION TYPE	BASIS OF DESIGN	REMARKS
P-1	CHILLED WATER	MECH. RM.	DOUBLE	500	65	5	5	68	1750	15	480V, 3ø	2	B & G 5x5x9 3/4	SERIES VSC
P-2	CONDENSER WATER STAND BY	MECH. RM.	DOUBLE	750	55	6	6	76	1750	15	480V, 3ø	2	B & G 6x6x9 3/4	SERIES VSC
P-3		MECH. RM.	DOUBLE	750	55	6	6	76	1750	15	480V, 3ø	2	B & G 6x6x9 3/4	SERIES VSC

FAN . SCHEDULE

SYMBOL	DUTY	PERFORMANCE MIN. C.F.M.	MIN. STATIC INCHES	MAX. O.V. F.P.M.	TIP SPEED F.P.M.	MAX. R.P.M.	MAX. BRAKE H.P.	CONSTRUCTION TYPE	STYLE	SETTING	CLASS	DISCH.	WHEEL DIA.	APPROX. ROOF OPENING	BACK DRAFT	ELECTRIC SERVICE	DRIVE TYPE	MOTOR H.P.	BASIS FOR SELECTION MFR.	MODEL & SIZE	SERVING
F-1	EXH.	1740	.25	—	4095	1195	—	CENT.	CURB	ROOF	—	DN	—	16½"x16½"	—	120V, 1ø	BELT	1/3	PENN	BB45	GARAGE & DOCK #136 & 7
F-2	↑	1740	.25	—	4695	1195	—	↑	CURB	ROOF	—	DN	—	16½"x16½"	—	↑	BELT	1/3	↑	BB45	GARAGE & DOCK #136 & 7
F-3		710	.50	—	3800	960	—		CURB	ROOF	—	DN	—	16½"x16½"	GRAV.		BELT	1/6		BB45	TLTS. & J.C., #117, 117A, 118
F-4		450	.25	—	2590	660	—		CURB	ROOF	—	DN	—	16½"x16½"			BELT	1/6		BB45	STORAGE, KITCH. & TWR. #134A, 135 & 137
F-5		140	.25	—	—	1050	—		SCROLL	CL'G.	—	HOR.	—	10"x10"	—		DIR.	1/25		Z-8 ①	KITCHEN #213
F-6		200	.50	—	3900	1550	—		CURB	ROOF	—	DN	—	12"x12"	—		DIR.	1/10		XR-94	KITCHEN #101
F-7		360	.50	—	4400	1750	—		↑	↑	—	↑	—	12"x12"	—		DIR.	1/6		XQ-94	PROJECTION BTH'S & STORY RM STORAGE
F-8		990	.50	—	4100	1060	—				—		—	16½"x16½"	—		BELT	1/4		BB-45	LOBBY #108
F-9		1000	.50	—	4300	1100	—				—		—	16½"x16½"	—		BELT	1/4		BB-45	TOILETS #104 & 106
F-10		500	.625	—	3900	1000	—				—		—	16½"x16½"	—		BELT	1/4		BB-45	MACH. RM. & F.I.
F-11		680	.25	—	2900	740	—				—		—	16½"x16½"	—		BELT	1/6		BB-45	TOILETS #210, 211 & 214
F-12		760	.25	—	3000	780	—				—		—	16½"x16½"	—		BELT	1/6		BB-45	TOILETS #224 & 225
F-13	↓	120	.375	—	3200	1750	—	↓	↓	↓	—	↓	—	12"x12"	—	↓	DIR.	1/2	↓	XQ-60	MACH. RM. #109
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
F-15	O.A.	8950	4.50	2150	—	1370	8.3	CENT.	SCROLL	FLOOR	2	B.H.	27"	—	—	480V, 3ø	BELT	15	TRANE	27AFSW	FAN RM.
F-16	RET.	65,310	5.00	2150	—	715	6.4	CENT	SCROLL	FLOOR	2	B.H.	54"	—	③		BELT	75	TRANE	54AFDW	FAN RM.
F-17	EXH.	3300	.375	—	—	875	.70	PROP.	WALL	WALL	—	HOR.	24"	—	② GRAV.		BELT	3/4	PENN	FB243	MECH. RM #218
F-18	EXH.	2100	.375	—	—	780	.45	PROP.	WALL	WALL	—	HOR.	24"	—	② GRAV.		BELT	1/2	PENN	FB242	FAN RM. #216

① - WITH ROOF CAP ② - WITH INLET GUARD ③ WITH VARIABLE INLET DAMPER

VARIABLE VOLUME CONTROL UNITS

SYMBOL	C.F.M. MIN.	C.F.M. MAX.	CONTROL MAN.	CONTROL AUTO	HEATING COIL	ROOMS SERVED
V-1	1400	2020		ø	H-1	115 SOUTH
V-2	1100	1600		ø	H-2	115 CENTER
V-3	1620	2380		ø	H-3	114 CENTER SOUTH
V-4	1050	1540		ø	H-4	114 CENTER SOUTH
V-5	910	1325		ø	H-5	114 NORTH CENTER
V-6	1310	1920		ø	H-6	114 NORTH CENTER
V-7	1330	1920		ø	H-7	115 SOUTH
V-8	1100	1600		ø	H-8	115 CENTER
V-9	1260	1800		ø	H-9	110 EAST
V-10	1120	1600		ø	H-10	110 CENTER
V-11	1120	1600		ø	H-11	110 CENTER
V-12	1120	1600		ø	H-12	110 CENTER
V-13	1120	1600		ø	H-13	110 CENTER
V-14	1120	1600		ø	H-14	110 CENTER
V-15	560	800		ø	H-15	116
V-16	1040	2100		ø	H-16	121 & INT. 123
V-17	660	950		ø	H-17	130 & 134
V-18	450	870		ø	H-18	202 SOUTH WEST
V-19	1450	2060		ø	H-19	202 INT.
V-20	1450	2060		ø	H-20	202 INT.
V-21	1450	2060		ø	H-21	202 INT.
V-22	370	520		ø	H-22	223 & 226
V-23	660	960		ø	H-23	209 & 221
V-24	470	690		ø	H-24	112 WORK ROOM
V-25	245	435		ø	H-25	203 FILM DISPLAY
V-26	330	460		ø	H-26	204 PROJECTION
V-27	1100	1180		ø	H-27	222 SOUTH INT.
V-28	1100	1180		ø	H-28	222 NORTH INT.
V-29	880	2000		ø	H-29	222 EAST
V-30	310	1270		ø	1270	115 NORTH
V-31	890	1960		ø	H-31	103 WEST
V-32	700	1630		ø	H-32	103 EAST
V-33	250	990		ø	CH-6 & H-33	108 LOBBY
V-34	500	1260		ø	CH-7 & H-34	111 LOBBY
V-35	380	510		ø	CH-10 & H-35	001 LOBBY
V-36	440	700		ø	H-36	114 SOUTH
V-37	570	2320		ø	H-37	114 CENTER WEST
V-38	500	2030		o	H-38	114 NORTH WEST
V-39	1500	1500	o		H-39	114-115 NORTH GLASS
V-40	0	905		o		EXT. 122 & INT. 122
V-41	90	130		ø	H-41	120
V-42	1035	1035	o		H-42	EXT. 122 & 123
V-43	640	640		o	H-43	133 CORR. NORTH
V-44	165	345		ø	H-44	124
V-45	325	975		o	H-45	125 SOUTH
V-46	465	465	o		H-46	125 NORTH GLASS
V-47	690	1420		o	H-47	128 WEST
V-48	470	470	o		H-48	128, 129
V-49	0	140		o	o	129
V-50	960	960		o	o	110 GLASS
V-51	1090	1090	o		H-51	110 GLASS
V-52	600	600	o		H-52	202 GLASS
V-52A	0	590		ø	o	202 GLASS
V-53	200	710		ø	H-53	202 SOUTH EAST
V-54	710	1730		ø	H-54	201 STORY
V-55	470	1800		ø	H-55	202 NORTH EAST
V-56	120	240		ø	H-56	227 OFFICE
V-57	200	320		ø	H-57	205 & 205A
V-58	210	630		ø	H-58	206 CONF.
V-59	30	290		ø	H-59	207 DIRECTOR
V-60	815	815	o		H-60	2ND. FL. WEST GLASS
V-60A	0	320		o	o	208 ASSIS. DIR.
V-61	560	680		ø	H-61	217 CORR.
V-62	250	350		ø	H-62	220 STORAGE

NOTES:

1- STATIC PRESSURE LOSS SHALL NOT EXCEED 0.50 INCHES W. G.

2- N.C. RATING SHALL NOT EXCEED 30 WHEN DUCT IS LINED 8 FEET DOWNSTREAM OF UNIT. ALL DUCTWORK DOWNSTREAM OF UNITS SHALL BE LINED.

ELECTRIC DUCT HEATERS

SYMBOL	MIN. C.F.M.	TEMP. RISE ENT.	TEMP. RISE LEAV.	B.T.U.H.	WATTS	ELECTRIC SERVICE & VOLT.	MIN. STEP ①	APPROX. DUCT SIZE INCHES ②	ZONE NO.	LOCATION ROOM & SECTION	C.F.M.	MAXIMUM S.P. LOSS W.G.	SERVICE
H-1	1400	53.5	72	28,000	8,200	3-480	2	20x14	1	S.W.	115-1	2020	
H-2	1100		75.3	25,900	7,600			20x12		N.W.	115-1	2020	
H-3	1620		75.3	38,300	11,300			28x12		SOUTH	114-4	2380	
H-4	1050		75.3	24,600	7,200			20x12		CTR.	114-4	1540	
H-5	910		75.3	21,200	6,200			20x10		CTR	114-4	1320	
H-6	1310		75.3	30,900	9,100			28x10		NORTH	114-4	1920	
H-7	1330		72	28,000	8,200			20x14		S.W.	115-1	1920	
H-8	1100	↑	75.3	25,900	7,600			20x12	↑	N.W.	115-1	2020	
H-9	1260	55	95.7	55,500	16,300			22x12	2	E	110-3	1260	
H-10	1120		81.5	32,100	9,400			24x10		N	110-3	1600	
H-11	1120		81.5	32,100	9,400			24x10		N C	110-3	1600	
H-12	1120		81.5	32,100	9,400			24x10		C	110-3	1600	
H-13	1120		81.5	32,100	9,400			24x10		S C	110-3	1600	
H-14	1120		81.5	32,100	9,400			24x10	↓	S	110-3	1600	
H-15	560		76.5	13,000	3800		1	15x9		FAN RM.	116	800	
H-16	1040		92.3	42,000	12,300		2	24x12			123-2 121	2325	
H-17	660		86.3	22,300	6,500		2	24x7		STORE	134 135	950	
H-18	450		99	21,400	6,280		2	20x8			202 & 213	870	
H-19	1450		82	42,400	12,400		2	24x12			202-G	2060	
H-20	1450		82	42,400	12,400		2	24x12			202-G	2060	
H-21	1450		82	42,400	12,400		2	24x12			202-G	2060	
H-22	370	↑	81.5	10,600	3,100		1	12x8	↑		223 & 226	520	
H-23	660		82.9	19,900	5850		2	16x8			209 & 221	760	
H-24	470	57	79.9	11,600	3400		1	16x8	3		112	690	
H-25	245		88.5	8,350	2450		1	12x8			203	435	
H-26	330		81.3	26.50	2540		2	12x8			204	460	
H-27	1100		81.6	29,200	8,600		2	26x8			222	1180	
H-28	1100		81.6	29,200	8,600		2	26x8			222	1180	
H-29	880		89	30,400	9,000		2	24x12			222-E	2000	
H-30	810	↑	98	16,400	4800		1	30x8	↑	FAN RM.	115-3	1270	
H-31	890	61	81.7	19,900	5850		2	24x12	4	105 101	103W	1960	
H-32	700		76.7	11,850	3500		1	22x12			103E	1630	
H-33	250		95	10,000	2920		1	16x10			108	990	
H-34	500		86.5	13,800	4050		1	20x10			111	1260	
H-35	380		99	15,600	4600		1	12x8		LOBBY	001	510	
H-36	440		97.2	17,200	5050		2	14x10		S.W.	114-1	700	
H-37	570		97	22,100	6500		2	34x10		S	114-2	2320	
H-38	500		97	19,500	5700		2	30x10		N	114-2	2030	
H-39	1500		92.3	47,500	14,000		SCR.	22x10			114-2 115-2	1500	
H-41	90		86.8	2,520	740		1	9x4			120	130	
H-42	1035		94	37,000	10,900		SCR.	15x10			123-1 125	1035	
H-43	640		90.5	20,400	6000		1	15x8			133	640	
H-44	165		90.6	5,280	1550		1	12x6			124	345	
H-45	325		103	14,000	4330		1	16x10			125-S	975	
H-46	465		102	20,600	6050		SCR	14x8			125-N	465	
H-47	690		89.5	21,300	6250		2	22x10			128-W	1420	
H-48	470		102	20,900	6150		1	14x6			128-F	470	
H-51	1090		93	38,000	11,100		SCR	20x10		108-E 222	109 110-1	1090	
H-52	600		90.5	19,200	5,600		SCR.	14x8			202-B	600	
H-53	200		101.6	8,890	2,600		1	16x8			202A	710	
H-54	710		89.3	21,700	6,360		2	26x10			201	1730	
H-55	470		105	16,500	6600		2	22x12		202-E & F		1800	
H-56	120		86.7	3340	980		1	10x6			227	240	
H-57	200		81.6	4450	1300		1	12x6			205 205A	320	
H-58	210		76.9	3620	1060		1	14x8			206	630	
H-59	30		79.5	600	176		1	12x6			207	320	
H-60	815		97	31,700	9300		SCR.	22x6		303 338	123 338	815	
H-61	560		108.2	28,600	8400		2	16x8			217 MACH.	680	
H-62	250	↑	81.4	5,500	1610		1	14x6	↑		220	350	
H-63	8950	0	32	310,000	91,000		SCR.	51x48	OUTDOOR		AIR	8950	

① S.C.R.-SILICON CONTROLLED RECTIFIER FOR CONTROL MODULATION.
② DIMENSIONS INSIDE DUCT LINING.

COOLING TOWER

SYMBOL	ENT. AIR W.B.	WATER G.P.M	WATER ENT. °F.	WATER LEAV. °F.	WATER HEAD LOSS	MOTORS QUAN.	MOTORS H.P.	ELECTRIC SERVICE	WEIGHT LBS. DRY	WEIGHT LBS. OPER.	OVERALL DIMEN. INCHES L	W	H	CONNECTIONS INLET NO	INLET SIZE	OUTLET NO	OUTLET SIZE	MAKE UP	OVER-FLOW	DRAIN	FANS TYPE	FANS S.P. IN.W.G.	BASIN ① HEATERS QUAN.	BASIS FOR SELECTION TOTAL K.W.	MFR.	MODEL	SIZE
CT-1	80	750	95	85	11.5'	2	20	480V-3ø	7700	10,300	12'-1"	9'-1"	9'-9"	1	6	1	8"	2"	2"	2"	CENT.	0"	2	7.0	BAC	VLT	3258

① SIZE FOR 40° WATER AT-10° OUTDOORS, SINGLE PHASE. 480 VOLTS.

AIR MONITORS

SYMBOL	SERVICE	MEASURES	DAMPER CONTROLS	MAXIMUM C.F.M.	MAXIMUM STATIC PRESS IN.W.G.	MIN C.F.M.	APPROX. SIZE INCHES	LOCATION
AM-1	ZONE 1	C. F. M.	ZONE TEMP.	14,110	0.07	10,000	44 x 24 x 12	FAN ROOM
AM-2	ZONE 2			21,690	0.08	15,500	52 x 30 x 12	
AM-3	ZONE 3			7,190	0.05	5,000	30 x 24 x 12	
AM-4	ZONE 4		↓	31,270	0.08	12,600	72 x 30 x 12	↓
AM-5-S	ZONE 1	STATIC PRESS.	RETURN FAN	3520	0.05	2430	30 x 12 x 12	1ST FLR. SOUTH
AM-6-S	ZONE 2	↓	↓	4800		3360	40 x 14 x 12	↓
AM-7-S	ZONE 3			1125		715	16 x 8 x 12	2ND FLR. SOUTH
AM-8-S	ZONE 4			3815	↓	2115	20 x 14 x 12	1ST FLR. NORTH
AM-9	OUTDOOR AIR	C.F.M.	OUTDOOR FAN	8950	0.09	8950	24 x 24 x 12	FAN ROOM

BASIS OF SELECTION: AIR MONITOR CORP.

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architects-engineers-planners
SYNERGO COMPANY
consulting engineers

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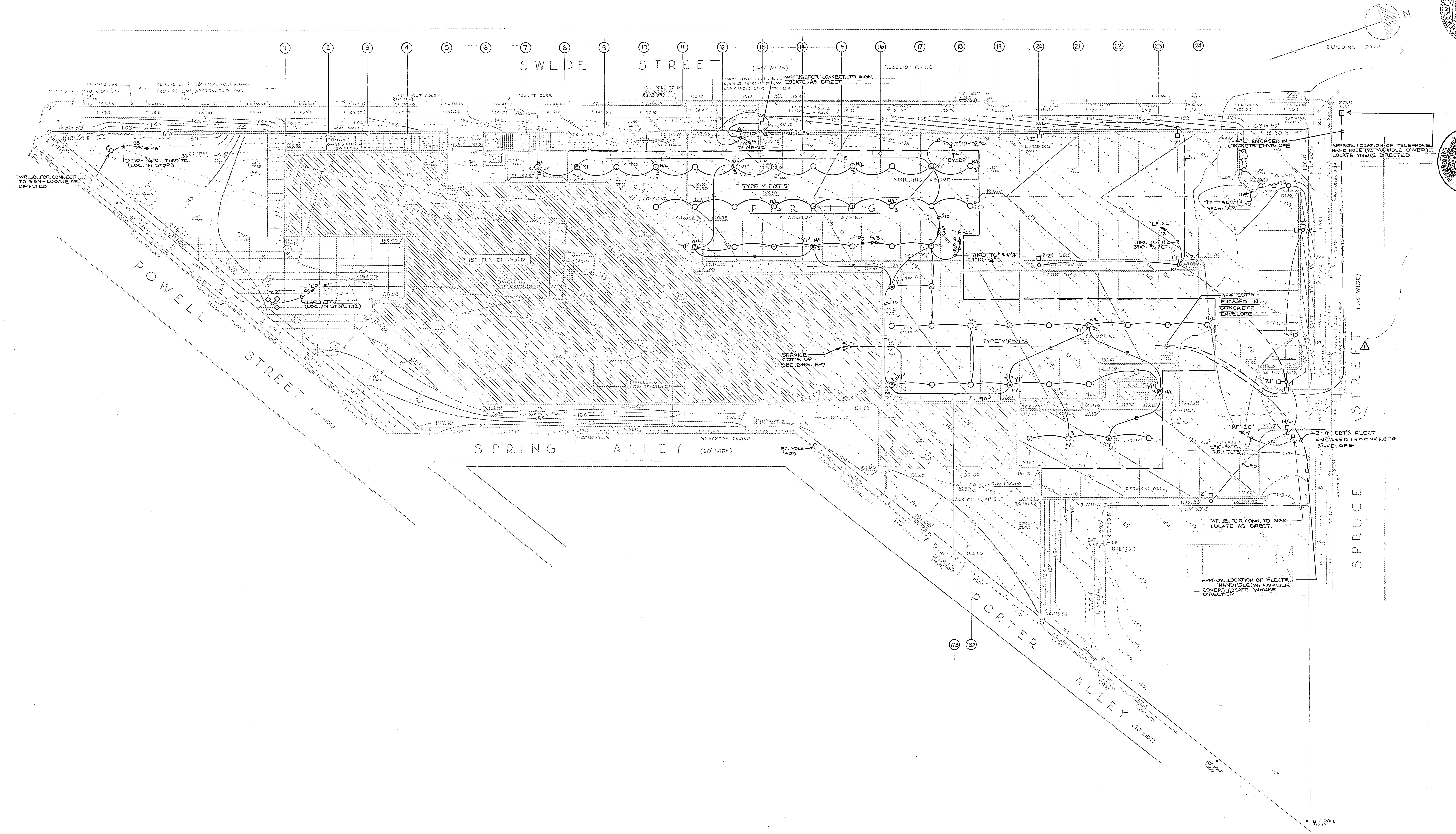
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H.V.A.C.
SCHEDULE SHEET

Partner in Charge: Robert V. Cherry
Project Architect: Nathaniel Galina
Project Manager: Jonathan Dyer

NO.	DATE	REVISION
1	10/25/74	AS BUILT

DRAWN BY
CHECKED BY
DATE
SCALE
JOB NO. 5873
DATE SEPT. 30, 1974.
SHEET NO. M-6



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architects-engineers-planners

Partner in Charge	Robert V. Cherry
Designer	James T. Lilo
Project Architect	Nathaniel Gaines
Project Manager	Jonathan Dyer

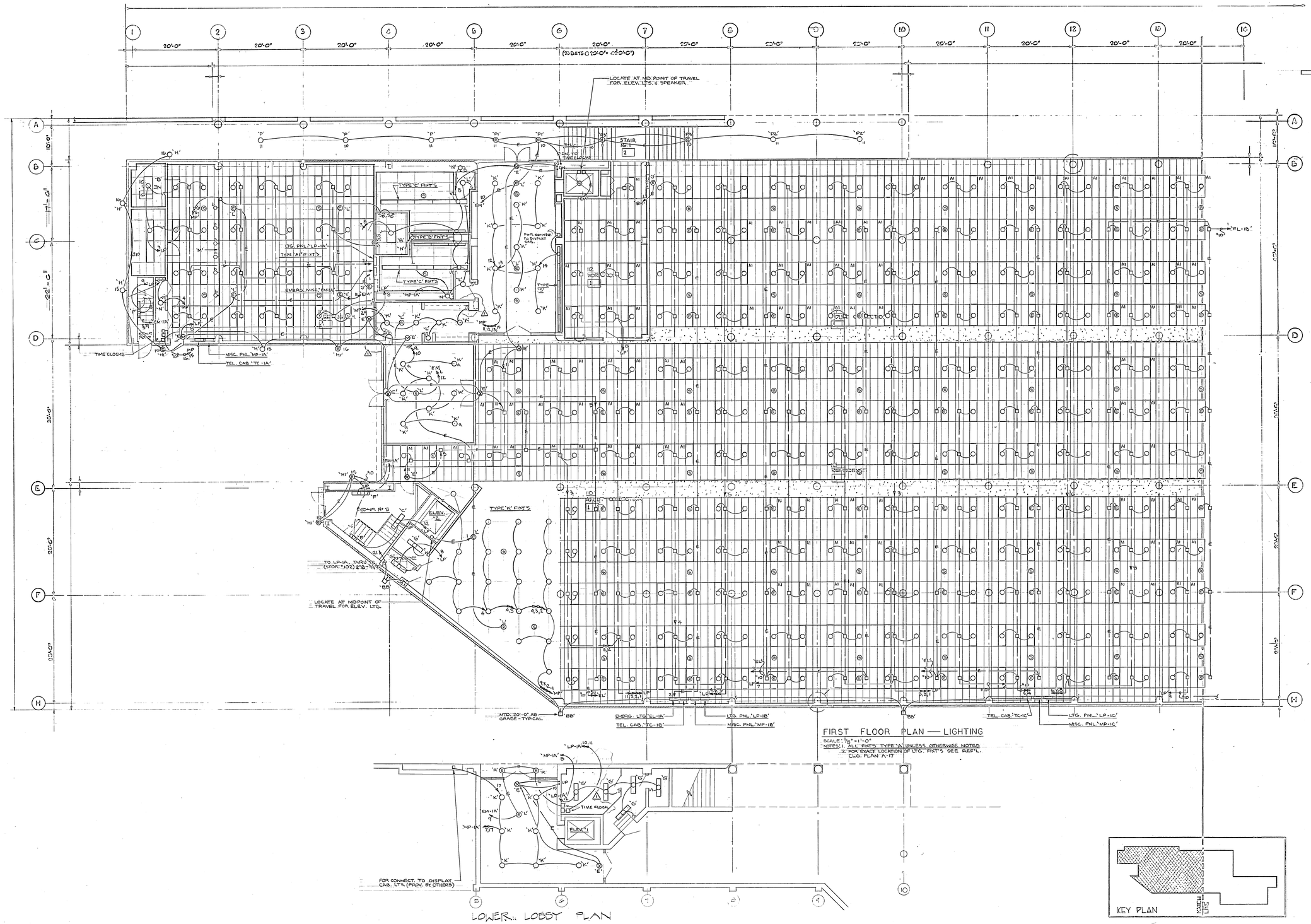
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Pearl Frankenfield, Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

SITE PLAN

NO.	DATE	REVISION
2	10-31-77	AS BUILT
1	11-11-76	AS BUILT

DRAWN BY TP
CHECKED BY GTS
DATE
SCALE 1" = 20'-0"
JOB NO. 5873
DATE SEPT. 30-74
SHEET NO.
E·1



FIRST FLOOR PLAN — LIGHTING

SCALE: 1/8" = 1'-0"

NOTES: 1. ALL FIXT'S TYPE 'A' UNLESS OTHERWISE NOTED
2. FOR EXACT LOCATION OF LTG. FIXT'S SEE REF'L. CLG. PLAN A-17

LOWER LOBBY PLAN

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architects-engineers-planners

Partner In Charge — Robert W. Cherry
Designer — James T. Lilo
Project Architect — Nathaniel Gaines
Project Manager — Jonathan Dyer

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J. John Apt, Director, Dept. of Public Property
Sullivan J. Asilo, Jr., President, Library Board
Pearl Fankenfield, Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

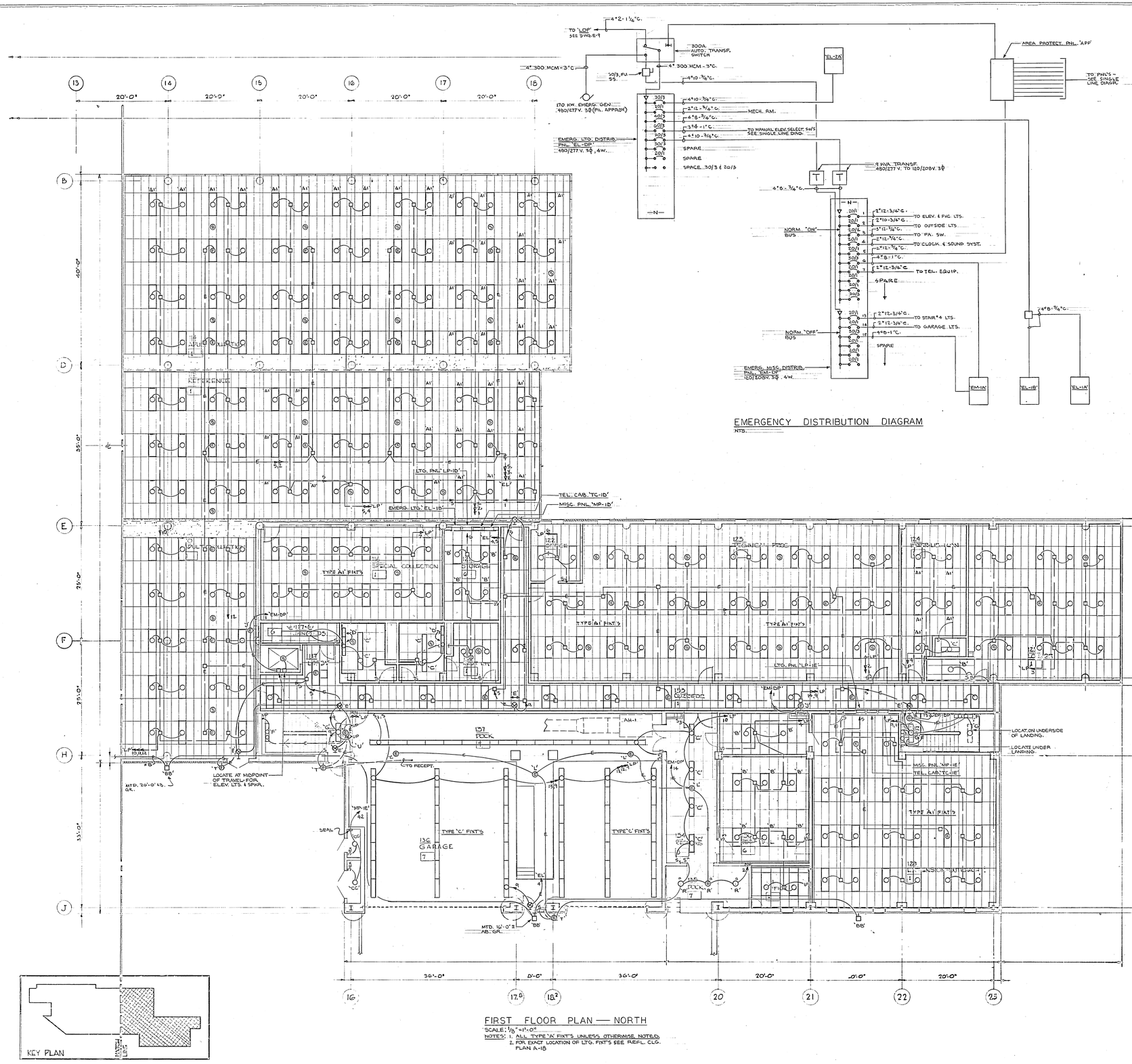
Lawrence H. Curry, Commissioner
Henry E. Pennington, Chief Clerk
Eli Silverman, Esq. Solicitor
Lawrence F. Pfaff, Esq., Controller

FIRST FLOOR PLAN — SOUTH
LIGHTING

3	9/11/74	AS BUILT
2	9/11/74	AS BUILT
1	DATE	COMMENTS

CHECKED BY: TP
DRAWN BY: GTS
DATE:
SCALE: 1/8" = 1'-0"
JOB NO. 6673
DATE: SEPT. 30-74.
DRAWING NO.

E-2



EMERGENCY DISTRIBUTION DIAGRAM

NTS.

FIRST FLOOR PLAN — NORTH

SCALE: 1/8" = 1'-0"

NOTES: 1. ALL TYPE 'A' FIXT'S UNLESS OTHERWISE NOTED.
2. FOR EXACT LOCATION OF LTG. FIXT'S SEE REFL. CLG. PLAN A-18

NOTE 'A' — INDICATES LOCATION WHERE EC. IS TO CUT THROUGH TRENCH DUCT AND CELLULAR DUCT FOR BOTH ELECTRIC AND TELEPHONE WIRING.

SYMBOL LIST

- FLUORESCENT LIGHT
- INCANDESCENT LIGHT — TYPE AS NOTED
- EXIT LIGHT
- E — OUTLET ON EMERGENCY CIRCUIT
- WIRING RUN IN A WALL OR ABOVE CEILING
- EXPOSED WIRING RUN ABOVE CEILING
- WIRING RUN IN OR UNDER FLOOR OR UNDERGROUND
- S_P — SINGLE POLE SWITCH — P: PILOT LIGHT
- S_3 — THREE WAY SWITCH
- S_M — MOTOR SWITCH
- DISCONNECT SWITCH
- MOTOR
- COMBINATION MOTOR STARTER, PROVIDED BY OTHERS, INSTALLED & WIRED BY ELEC. CONT.
- SURFACE RACEWAY WITH OUTLETS ON 12" CENTER TO CENTER
- M — MICROPHONE OUTLET
- S — SPEAKER
- SPEAKER HORN
- TELEPHONE HANDSET OUTLET — SAF - SAFETY TYPE
- T_{SAF} — DUPLEX CONVENIENCE OUTLET — CONNECTED TO CELLULAR FLOOR
- T_M — PRIVATE TELEPHONE OUTLET — M - MASTER W. PRIV. LINE
- T_{SAF} — DUPLEX WALL OUTLET CONNECTED TO CELLULAR FLOOR. SAF - SAFETY TYPE
- STAFF STATION WITH PUSHBUTTON - TELEPHONE SYSTEM
- PUSHBUTTON
- DOORBELL
- POWER OUTLET (FOR CLEANING) CONN. TO CELLULAR FLOOR — 20 A., 208 V., SINGLE PHASE, 3 W.
- POWER OUTLET — 30 A., 208 V., SINGLE PHASE, 3 W. - 3"C
- DH — DUCT HEATER WITH CONNECTION TO CONTROL PANEL
- AC — DENOTES "ABOVE COUNTER"
- WP — DENOTES "WEATHERPROOF"
- CONNECTION TO EQUIPMENT, AS REQUIRED
- BELL TELEPHONE OUTLET WITH 1" CONDUIT TO TELEPHONE EQUIPMENT
- S_D — DIMMER W. SW.
- FLU. WALL MTD. FIXT. W. EMERG. LT.
- CLOCK - SINGLE
- C_W — CLOCK - FOUR WAY
- DOOR ALARM CONTACT
- S_{EX} — EXPLOSION PROOF SWITCH
- TRENCH DUCT ON CELLULAR DECK W. HOLE THRU BOTH. SEE NOTE 'A' BELOW.
- POWER OUTLET FOR XEROX — 30A. 208V. 3ϕ, 4W. - 4"ID IN CELL. FL.
- F — FIRE ALARM STATION
- FIRE ALARM BELL
- BELL OUTLET
- MSH — MAGNETIC HINGE SWITCH OUTLET
- MS — MAGNETIC DOOR SWITCH OUTLET
- MICROWAVE DETECTOR OUTLET
- CR — CARD READER OUTLET
- IR — INFRA-RED OUTLET
- CUT-OFF SWITCH OUTLET
- IC — INTERCOM OUTLET
- JUNCTION OR OUTLET BOX AS REQ'D

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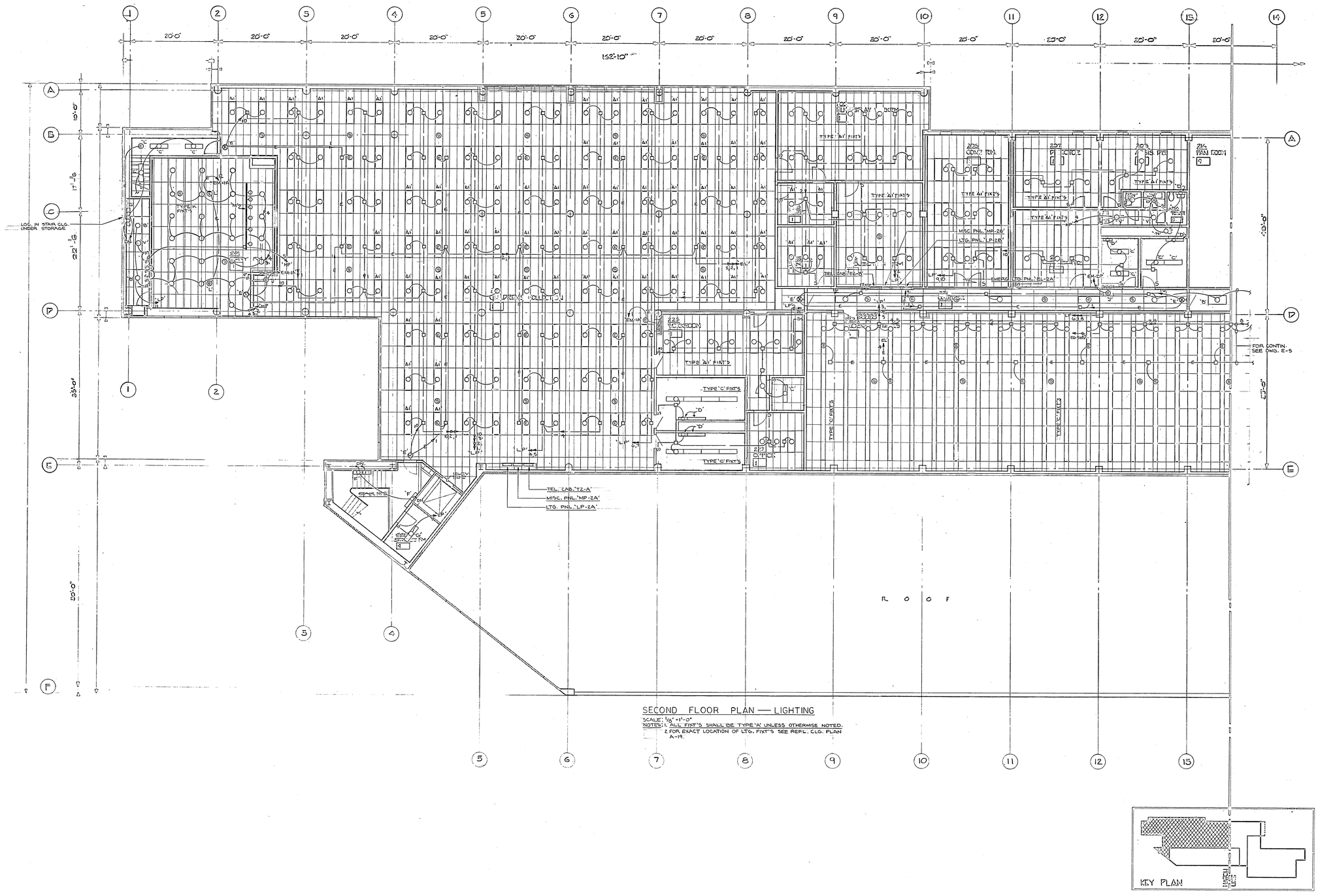
Partner In Charge — Robert V. Cherry
Designer — James T. Lito
Project Architect — Yoshinori Gamo
Project Manager — Jonathan Dyer

AS BUILT

NO.	DATE	REVISION

DRAWN BY TP
CHECKED BY GTS
DATE
SCALE 1/8" = 1'-0"
JOB NO. 5073
DATE SEPT. 30-74
SHEET NO. E-3

FIRST FLOOR PLAN — NORTH
LIGHTING



SECOND FLOOR PLAN — LIGHTING

SCALE: 1/8" = 1'-0"

NOTES: 1. ALL FIXT'S SHALL BE TYPE 'A' UNLESS OTHERWISE NOTED.
2. FOR EXACT LOCATION OF LTG. FIXT'S SEE REFL. CLG. PLAN A-19.

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Partner In Charge	Robert V. Cherry
Project Manager	Thomas T. Ulle
Project Architect	Nathaniel Gaines
Project Manager	Jonathan Dyer

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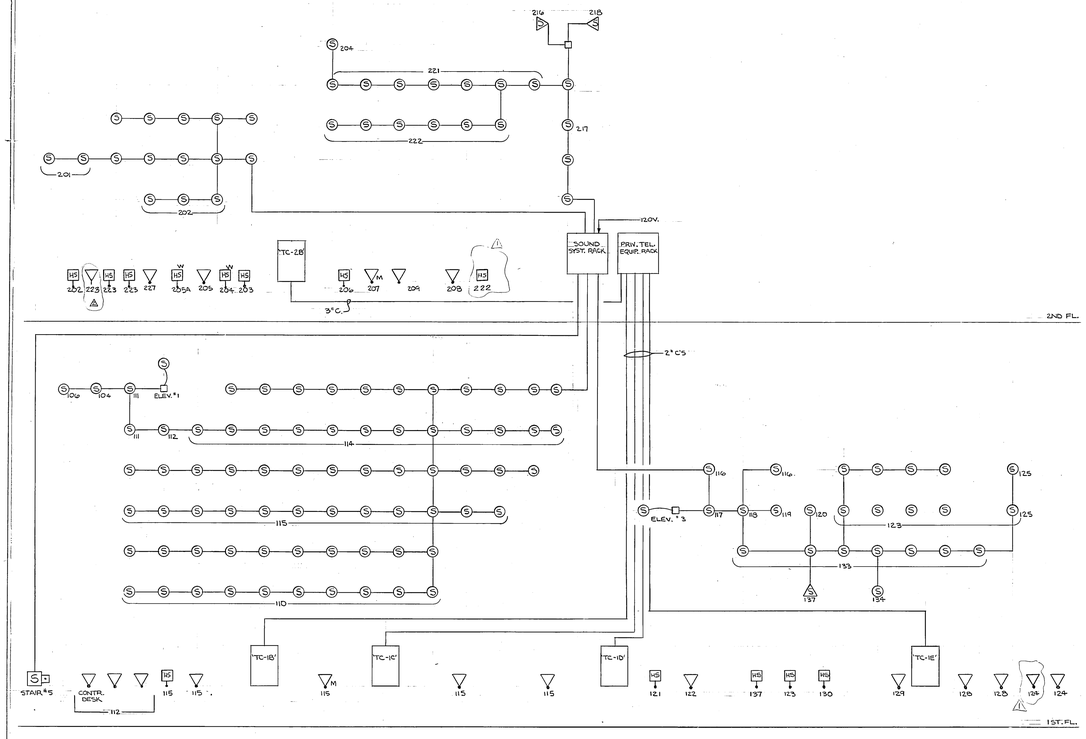
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Henry E. Pennington, Chief Clerk
Honorable Richard S. Gelfand, Solicitor
Lawrence E. Fitch, Esq., Controller

Russell W. Piazza, Director of Purchasing
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Pearl Frankenfield, Executive Director, Library
Kane Bryan, Esq. Solicitor, Library

SECOND FLOOR PLAN — SOUTH
LIGHTING

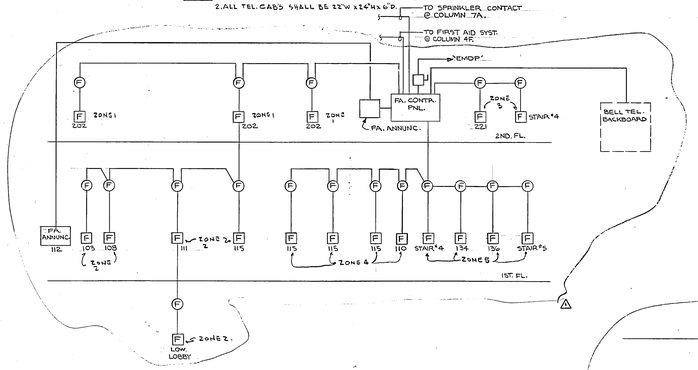
DRAWN BY	TP
CHECKED BY	GTS
SCALE	1/8" = 1'-0"
JOB NO.	8378
DATE	SEPT. 30-74

E-4



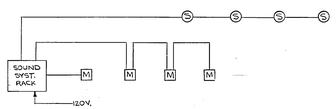
SOUND & PRIVATE TEL. SYSTEM RISER DIAGRAM

NTS.
NOTES: 1. ALL WIRING SHALL BE AS RECOMM. BY MANUFACT.
2. ALL TEL. CABS SHALL BE 22"W x 12"H x 6"D.



FIRE ALARM SYSTEM RISER DIAGRAM

NTS.
NOTES: 1. ALL WIRING SHALL BE AS RECOMM. BY MANUFACT.



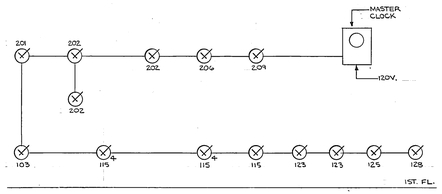
SOUND SYSTEM DIAGRAM (FOR MEET. RM. 103)

NTS.
NOTES: 1. ALL WIRING SHALL BE AS RECOMM. BY MANUFACT.



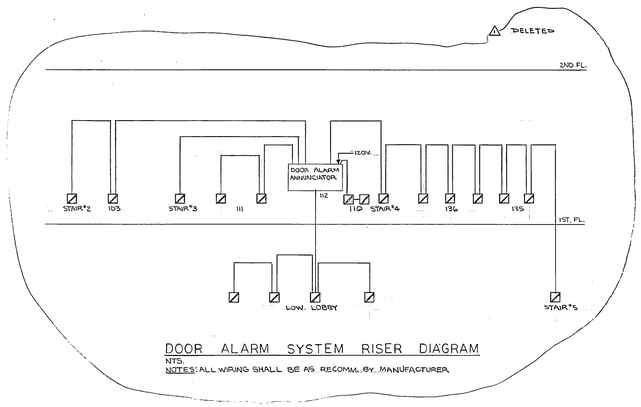
DOOR BELL SYSTEM DIAGRAM

NTS.



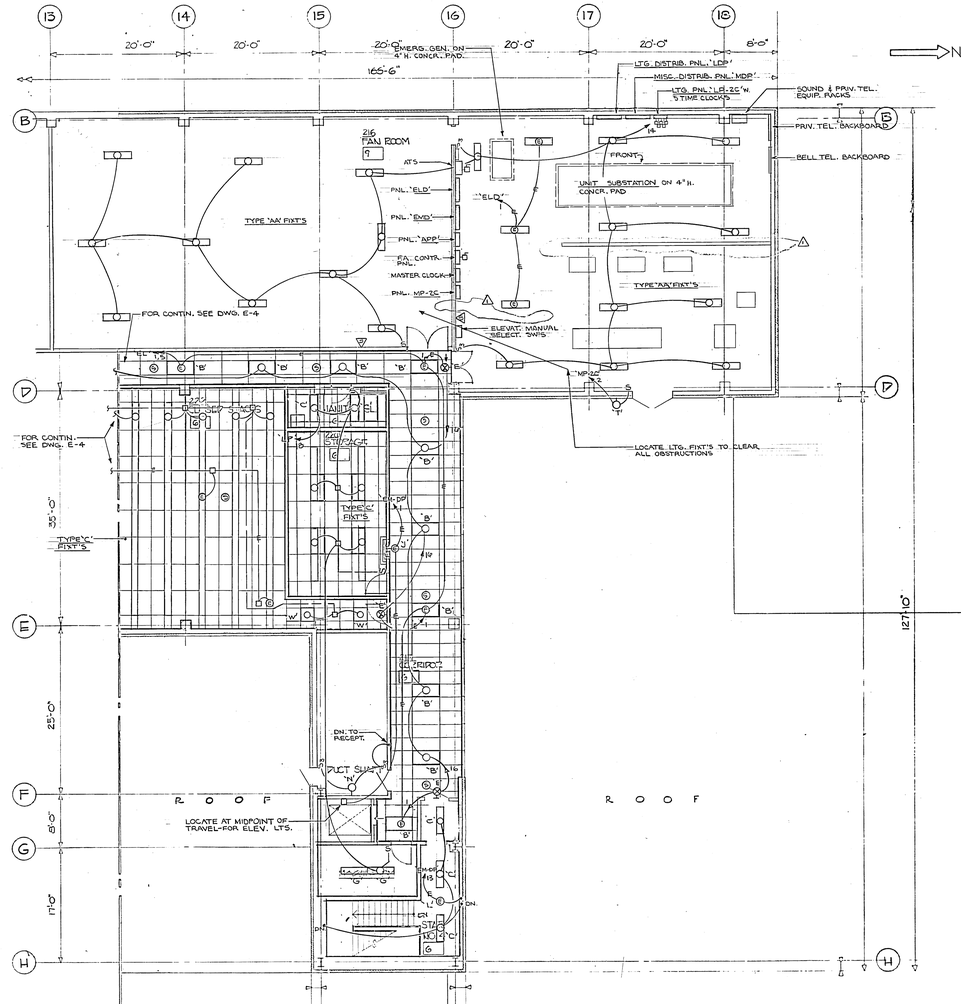
CLOCK SYSTEM RISER DIAGRAM

NTS.
NOTES: 1. ALL WIRING SHALL BE AS RECOMM. BY MANUFACTURER.



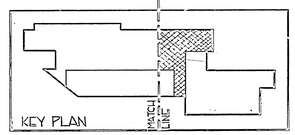
DOOR ALARM SYSTEM RISER DIAGRAM

NTS.
NOTES: ALL WIRING SHALL BE AS RECOMM. BY MANUFACTURER.



SECOND FLOOR PLAN — NORTH

SCALE: 1/8" = 1'-0"
NOTES: 1. FOR EXACT LOCATION OF LTG. FIXT'S SEE REFL. CLG. PLAN A-20



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Partner In Charge	Robert V. Cherry
Designer	James T. Lillis
Project Architect	Nathaniel Gaines
Project Manager	Jonathan Dyer

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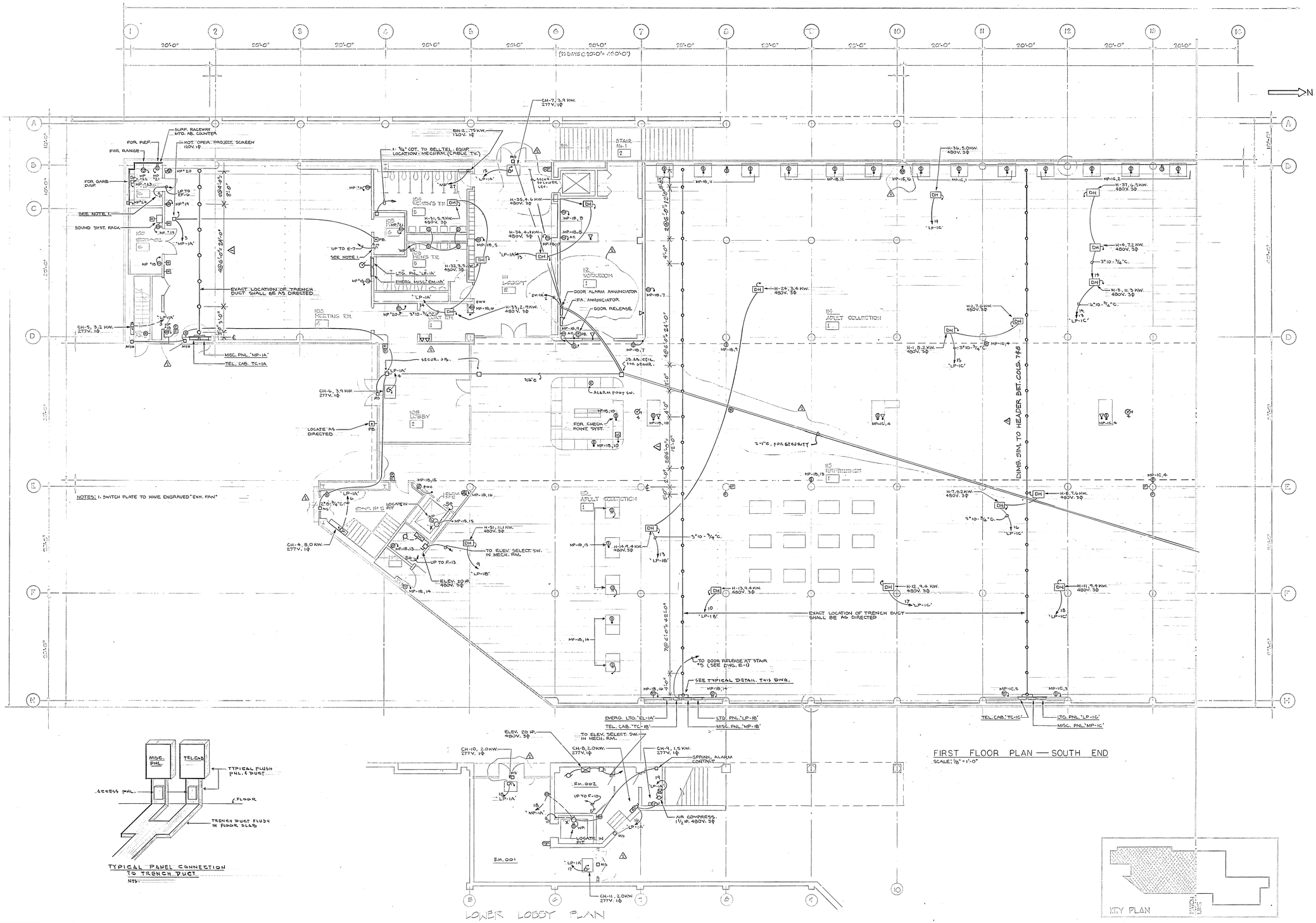
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J. John Apt, Director, Dept. of Public Property
Sullivan J. Asto, Jr., President, Library Board
Mary Fenerty, Librarian, Norristown Public Library
Kirke Bryan, Esq. Solicitor, Library

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SECOND FLOOR PLAN — NORTH
LIGHTING

10-8-74	AS BUILT
4-8-74	AS BUILT
DRAWN	TP
CHECKED	GTS
SCALE	1/8"=1'-0"
JOB NO.	6270
DATE	SEPT. 30, 74

E-5



EWING COLE ERDMAN & EUBANK
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Planner In Charge: Robert V. Cherry
Designer: James T. Hill
Project Architect: Nathaniel Gaines
Project Manager: Jonathan Dyer

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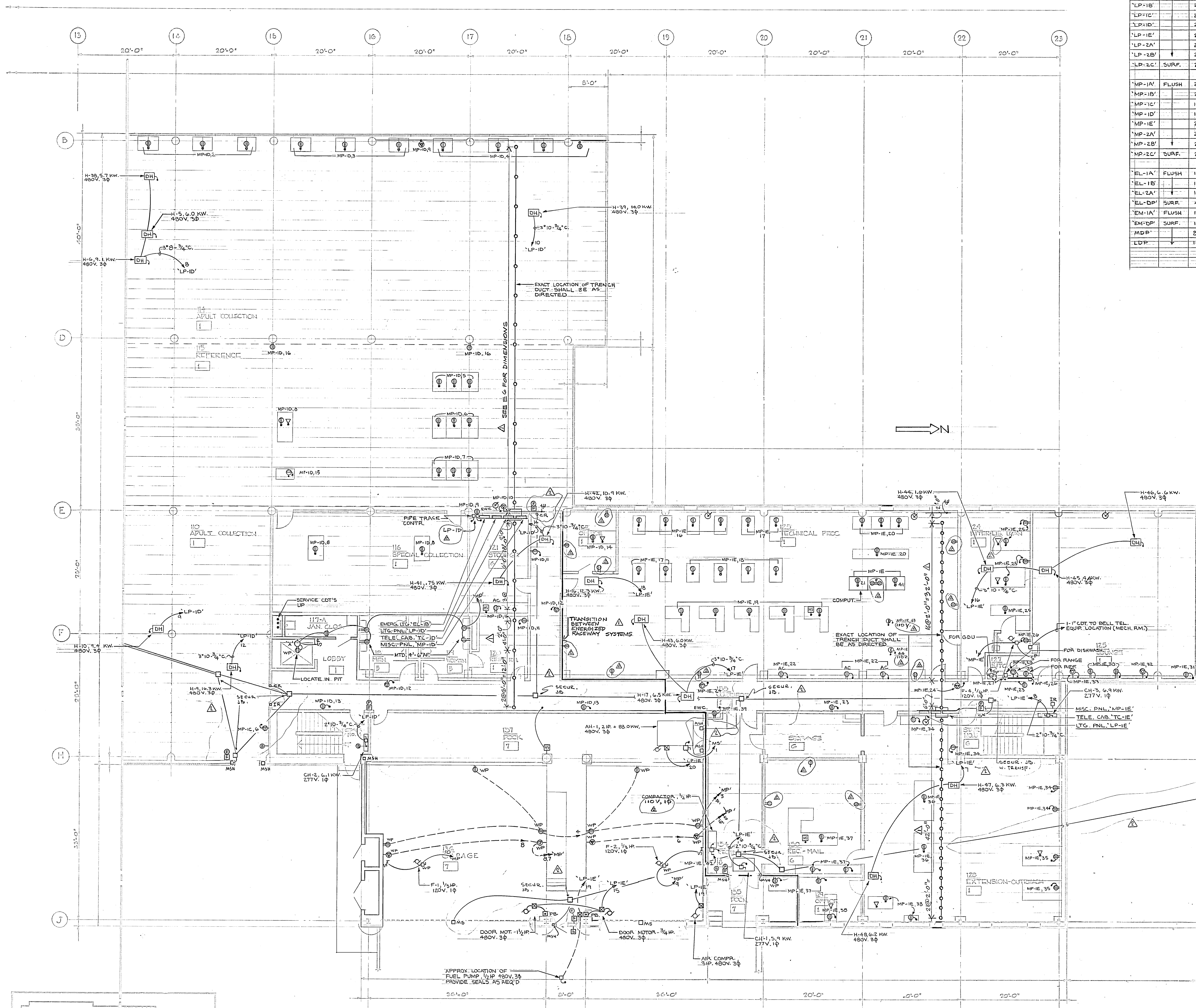
FIRST FLOOR PLAN — SOUTH
POWER

NO.	DATE	REVISIONS
2	10-15-74	AS BUILT
1	10-11-74	AS BUILT DIMENSION RACEWAYS

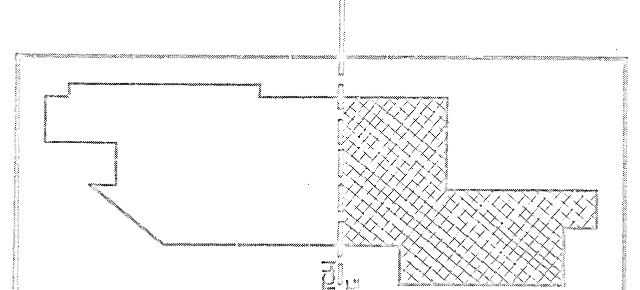
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DATE
SCALE 1/8" = 1'-0"
JOB NO. 5873
DATE SEPT. 30-74
SHEET NO.
E-6

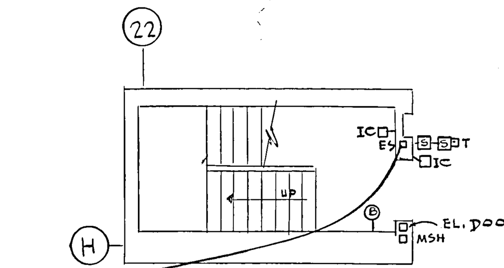
PANEL SCHEDULES

PANELS	MOUNT.	MAINS	BRANCH CIR. BRKRS. 20/1	20/2	20/3	30/1	30/2	30/3	40/1	40/3	ADDIT. SPARES	VOLT/PHASE	REMARKS
'LP-1A'	FLUSH	225A.	14	2	3			2	1		1-30/3 5-20/1	480/277V.3φ	
'LP-1B'	↓	225A.	10		3			1			1-20/3 5-20/1	↓	
'LP-1C'		225A.	12		6			2			1-20/3 3-20/1		
'LP-1D'		225A.	7		3	1		3		1	1-30/3 4-20/1		
'LP-1E'		225A.	11		5	2		3			1-20/3 2-20/2		
'LP-2A'		225A.	9		2			3		1	1-30/3 6-20/1		
'LP-2B'	↓	225A.	14		4			2			1-30/3 5-20/1		
'LP-2C'	SURF.	225A.	4	2	7	2					1-20/3 6-20/1	↓	
'MP-1A'	FLUSH	225A.	27	1			1				1-30/2 6-20/1	120/208V.3φ	
'MP-1B'		225A.	14	2							1-30/2 6-20/1		
'MP-1C'		100A.	4	2							1-20/2 6-20/1		
'MP-1D'		100A.	15	2				1			1-20/2 6-20/1		
'MP-1E'		225A.	32	8	1		2	2			2-20/2 8-20/1		
'MP-2A'		225A.	15	2				2			1-20/2 6-20/1		
'MP-2B'	↓	225A.	22	2			1				1-20/2 6-20/1		
'MP-2C'	SURF.	225A.	8								1-20/3 5-20/1	↓	
'EL-1A'	FLUSH	100A.	5								3-20/1	480/277V.3φ	
'EL-1B'		100A.	4								4-20/1		
'EL-2A'	↓	100A.	5								3-20/1		
'EL-DP'	SURF.	400A.	SEE EMERG. DISTR. DIAG. DWG. E-3									↓	
'EM-1A'	FLUSH	100A.	2 4								4-20/1 4-20/1	120/208V.3φ	SPLIT BUS NORM.'ON' NORM.'OFF'
'EM-DP'	SURF.	100A.	SEE EMERG. DISTR. DIAG. DWG. E-3									↓	SPLIT BUS NORM.'ON' NORM.'OFF'
'MDP'		800A.	SEE SINGLE LINE DIAG.										
'LDP'	↓	1600A	SEE SINGLE LINE DIAG.										



FIRST FLOOR PLAN — NORTH
SCALE: 1/8"=1'-0"





PLAN OF STAIR #5 GROUND FL.
SCALE: 1/8"=1'-0"

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Commonwealth of Pennsylvania — Registered Professional Engineer — Grover T. Stephenson, Jr. — No. 6948-E
Registered Architect — Pennsylvania — Stanley D. Cole

Partner In Charge	Robert V. Cherry
Designer	James T. Lilo
Project Architect	Nathaniel Gaines
Project Manager	Jonathan Dyer

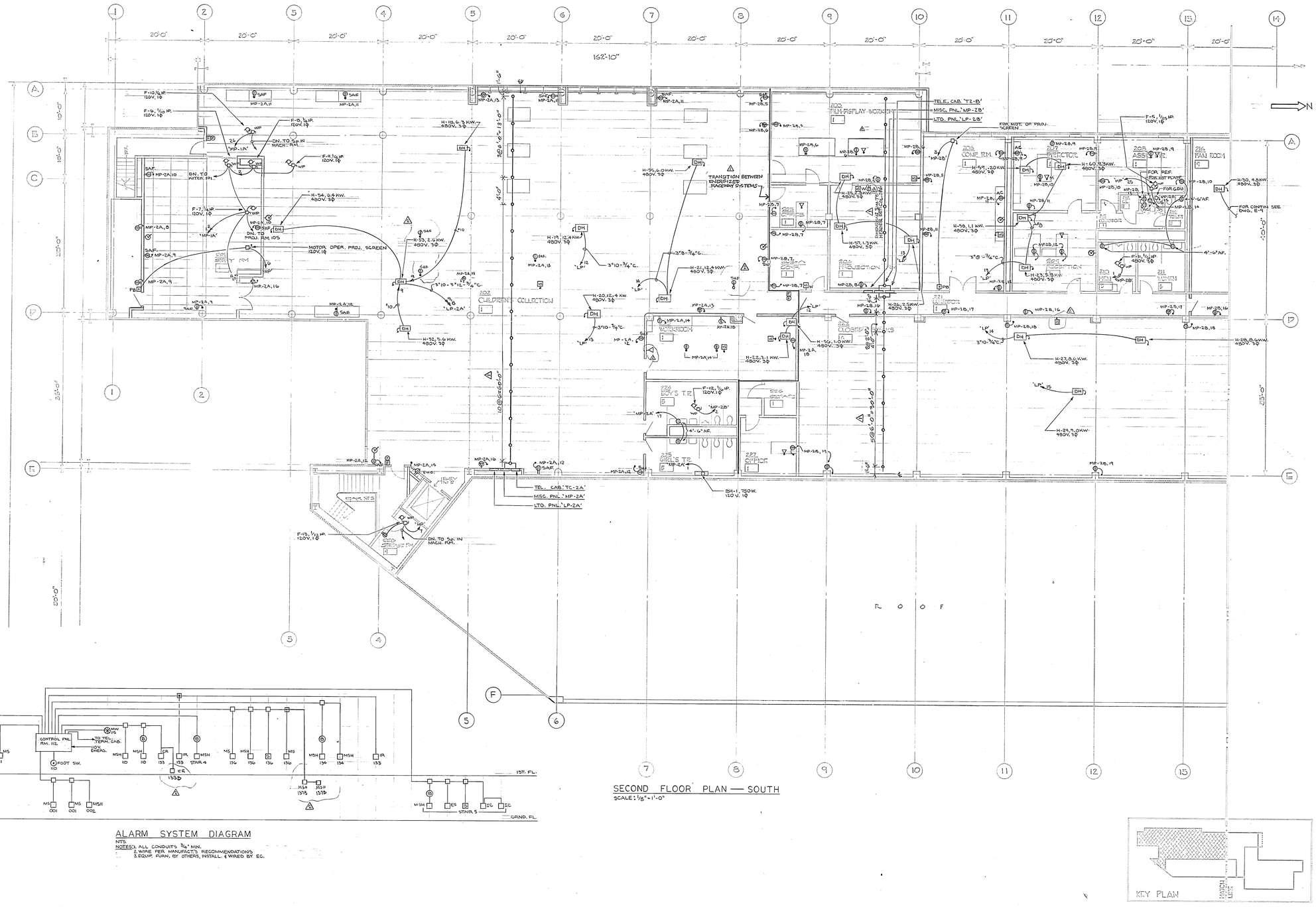
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Sullivan J. Asko, Jr., President, Library Board
Pearl Frankenfield, Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

FIRST FLOOR PLAN—NORTH
POWER

NO.	DATE	REVISION
2	10-31-77	AS BUILT
2	11-11-76	AS BUILT
1	3-13-75	DIMENSION RACEWAYS

DRAWN BY TP
CHECKED BY GTS
DATE
SCALE 1/8" = 1'-0"
JOB NO. 5873
DATE SEPT. 30-74
SHEET NO.
E·7



ALARM SYSTEM DIAGRAM

NTS.

NOTES: 1. ALL CONDUITS ¾" MIN.
2. WIRE PER MANUFACT'S RECOMMENDATIONS
3. EQUIP. FURN. BY OTHERS, INSTALL. & WIRED BY EC.

SECOND FLOOR PLAN — SOUTH

SCALE: 1/8" = 1'-0"

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Partner In Charge: Robert W. Cherry
Designer: J. John Apa
Project Architect: Nathaniel Gainza
Project Manager: Jonathan Dyer

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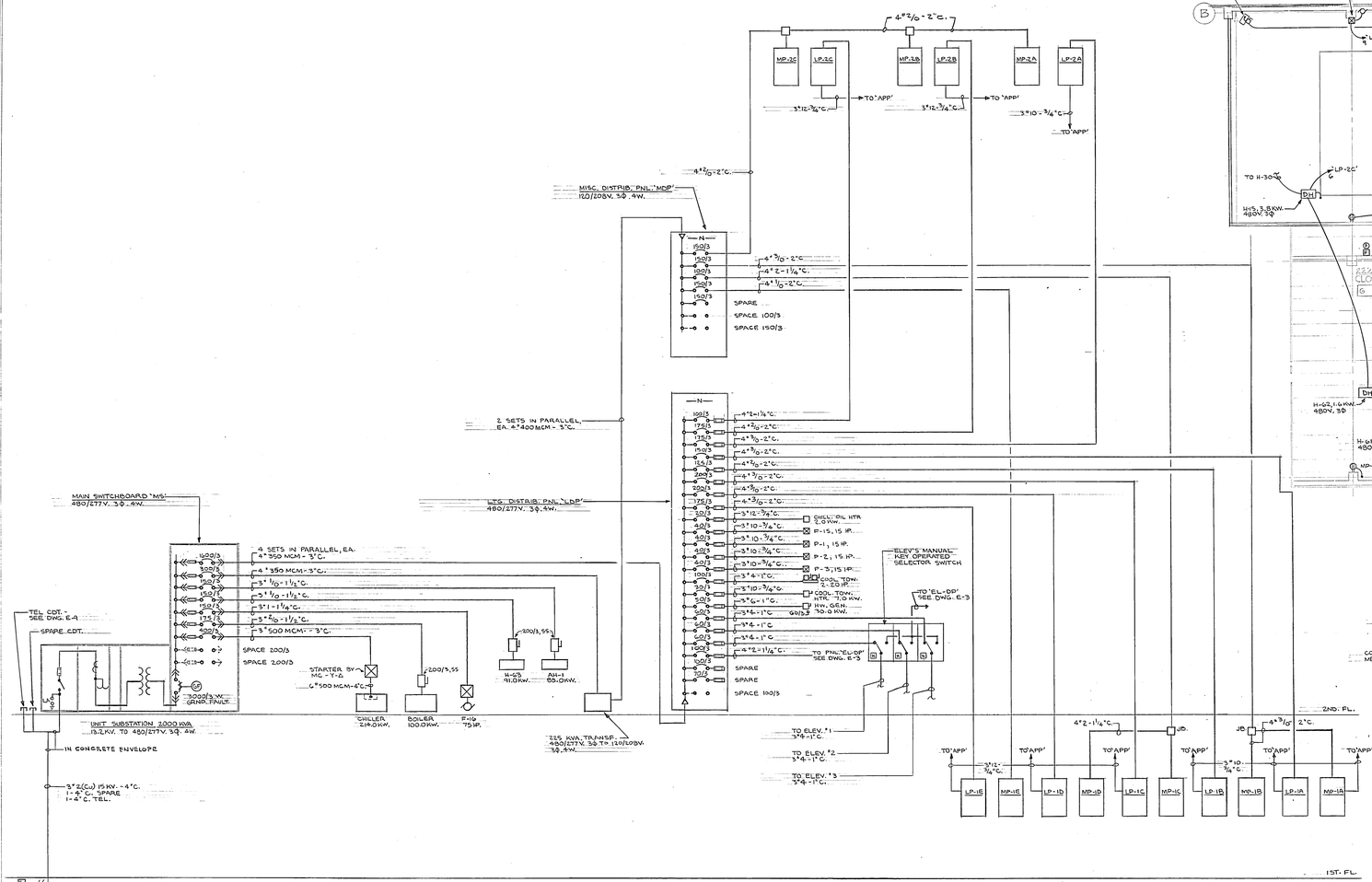
A. Russell Pettit House, President · Commissioner
Frank W. Jenkins, Esq., Commissioner
Lawrence H. Curry, Commissioner
Helen S. Reimert, Commissioner
Roger B. Reynolds, Esq., Solicitor
Lawrence R. Fidel, Esq., Contractor

SECOND FLOOR PLAN — SOUTH
POWER

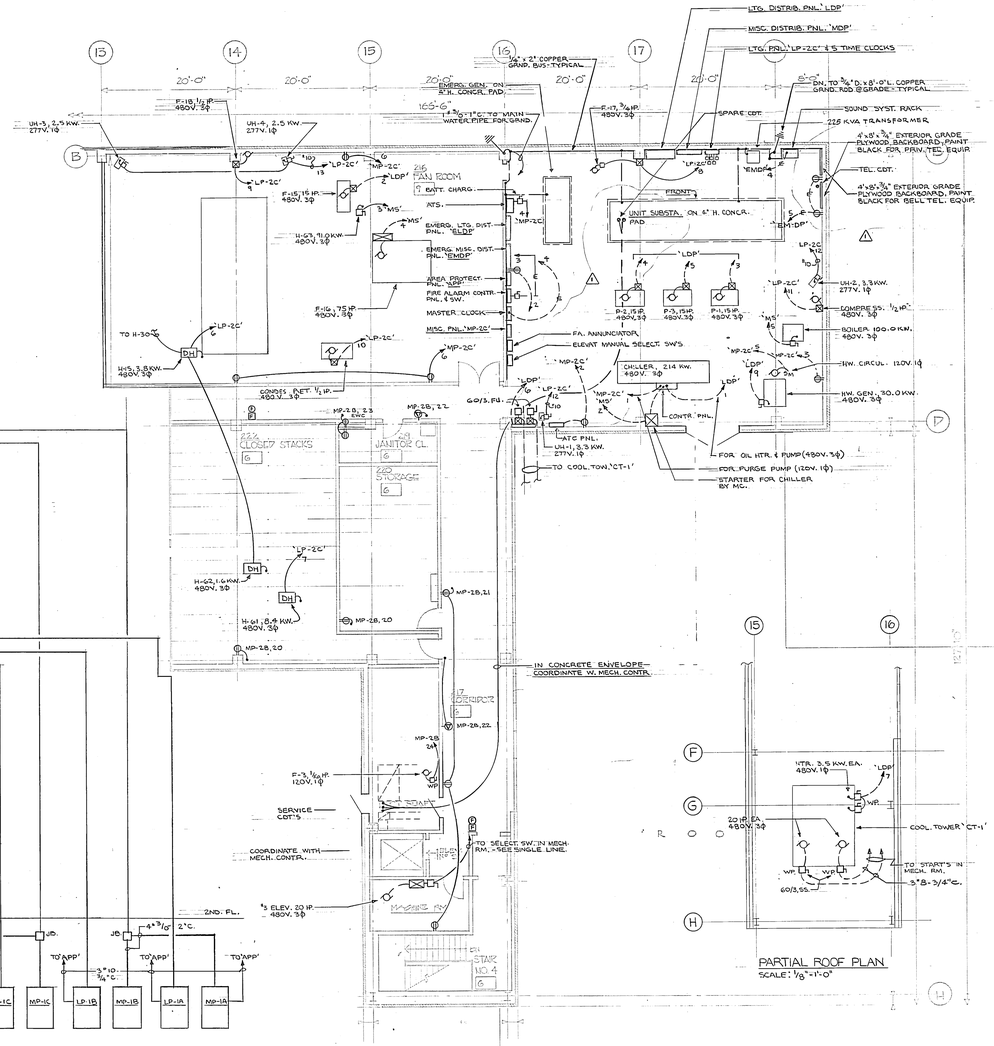
NO.	DATE	REVISION
1	12-27-74	AS BUILT
2	1-17-75	AS BUILT DIMENSION RACEWAYS
3	1-28-75	

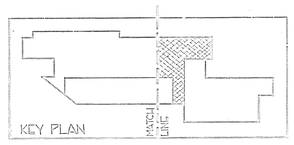
DRAWN BY TP
CHECKED BY GTS
DATE
SCALE 1/8" = 1'-0"
JOB NO. 5873
DATE SEPT. 30-74

E-8



SINGLE LINE DIAGRAM
NTS.





EWING COLE ERDMAN & EUBANK
architects-engineers-planners

Partner In Charge: Robert V. Cherry
Director of Design: Nathaniel Galnes
Project Architect: Jonathan Dyer
Project Manager:

Montgomery County - Norristown Public Library

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Frank W. Jenkins, Esq., Commissioner
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Paul Penfield, Esq., Solicitor, Library Board
Lawrence F. Fick, Esq., Controller

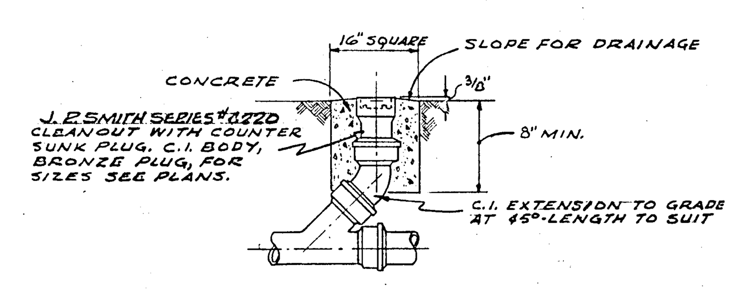
Russell W. Piazza, Director of Purchasing
J. John Apt., Director, Dept. of Public Property
Sullivan J. Astio, Jr., President, Library Board
Paul Penfield, Esq., Solicitor, Library
Kane Bryan, Esq., Solicitor, Library

SECOND FLOOR PLAN - NORTH
POWER

NO.	DATE	REVISIONS
2		AS BUILT
1		AS BUILT

DRAWN BY: TP
CHECKED BY: GTS
DATE:
SCALE: 1/8" = 1'-0"
JOB NO. 5873
DATE: 5 SEPT-30-74
SHEET NO.

E-9



EXTERIOR CLEANOUT

NOTE: CLEANOUTS SHALL NOT BE LOCATED IN ANY WALK OR PAVED AREA EXCEPT AS INDICATED ON DRAWING.

PLUMBING AND DRAINAGE GENERAL NOTES

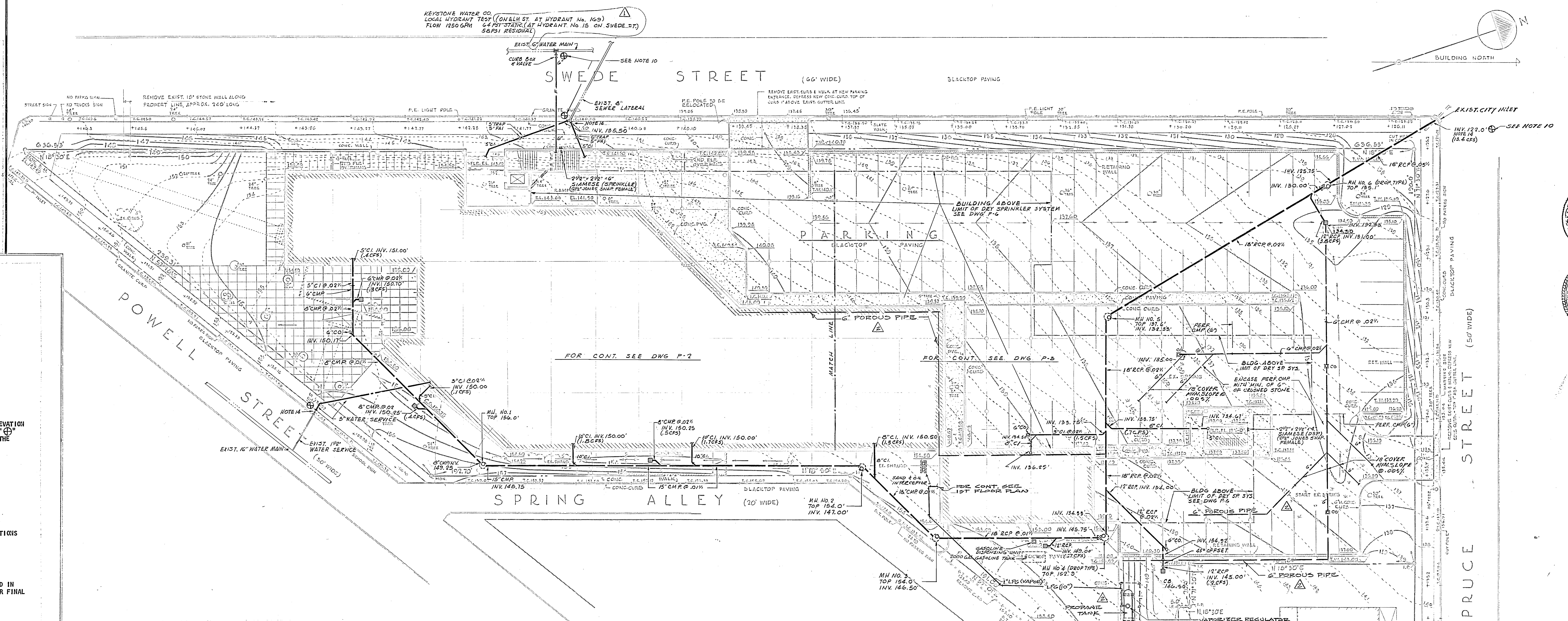
1. IN CEILING CONSTRUCTION ABOVE
2. IN CEILING CONSTRUCTION BELOW
3. ON CEILING ABOVE
4. ON CEILING BELOW
5. ABOVE FLOOR
6. BELOW FLOOR
7. BREAK OVER AT 45°
8. THRU ROOF
9. CAP OR PLUG SERVICES FOR FUTURE EXTENSION
10. CONTRACTOR SHALL VERIFY LOCATION, MATERIAL, SIZE, DEPTH AND INVERT ELEVATION OF PLUMBING, DRAINAGE, OR FIRE PROTECTION SERVICE AT POINTS MARKED "⊕" AND NOTIFY THE ARCHITECT THEREOF IN WRITING PRIOR TO PROCEEDING WITH THE BALANCE OF THE WORK
11. EXISTING FIXTURE, EQUIPMENT, SERVICE OR FACILITY TO REMAIN
12. EXISTING FIXTURE, EQUIPMENT, SERVICE OR FACILITY TO BE REMOVED
13. EXTEND AND CONNECT TO NEAREST APPROVED SERVICE AS REQUIRED
14. CONNECT NEW SERVICE TO EXISTING SERVICE AS REQUIRED
15. CAP OR PLUG EXISTING ACTIVE AND INACTIVE SERVICE BRANCHES
16. REMOVE EXISTING SERVICE TO BECOME INACTIVE AFTER ALTERATIONS AND ADDITIONS HAVE BEEN COMPLETED
17. EXISTING SERVICE TO BE ABANDONED IN PLACE
18. REMOVE SERVICE IN WAY OF NEW CONSTRUCTION
19. PROVIDE ALL FIXTURES, EQUIPMENT, SERVICES AND FACILITIES OF EVERY KIND IN LIKE MANNER AS IN REFERENCED AREA, LEAVING SAME IN CONDITION READY FOR FINAL OPERATION

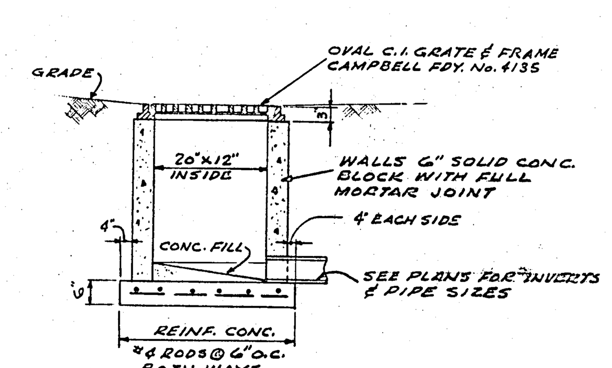
NOTE: ALL GENERAL NOTES MAY NOT NECESSARILY APPEAR ON DRAWINGS.

PLUMBING ABBREVIATIONS & SYMBOLS

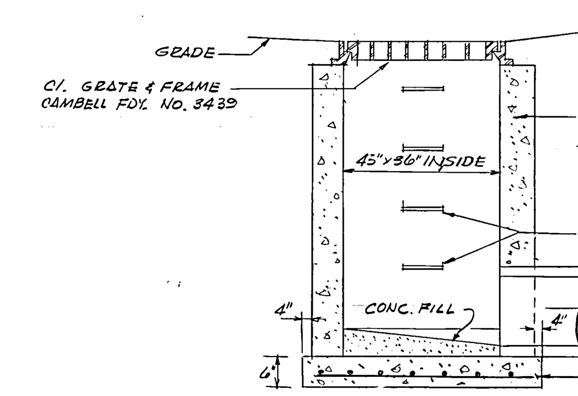
AD	AREA DRAIN	MR	MOP RECEPTOR
AP	ACCESS PANEL	NC	NORMALLY CLOSED
BPS	BED PAN SANITER	NIC	NOT IN CONTRACT
CB	CATCH BASIN	NVIB	NITROGEN VALVE IN BOX
CI	CAST IRON	NO	NORMALLY OPEN
CLS	CLINICAL SINK	OVIB	OXYGEN VALVE IN BOX
CO	CLEANOUT	OWH	OUTSIDE WALL HYDRANT
CONT	CONTINUATION	PRV	PRESSURE REDUCING VALVE
CS	CUP SINK	PSI	POUNDS PER SQUARE INCH
CW	DOMESTIC COLD WATER	RD	ROOF DRAIN
DF	DRINKING FOUNTAIN	RWC	RAINWATER CONDUCTOR
DN	DOWN	SA	SHOCK ABSORBER
DP	DEEP	SHR	SHOWER
DV	DRAIN VALVE	SP	STANDPIPE
EWC	ELECTRIC WATER COOLER	SS	SERVICE SINK
EX	EXPANSION JOINT	SWV	SOIL, WASTE, VENT
FD	FLOOR DRAIN	T	THERMOSTAT
FEC	FIRE EXTINGUISHING CABINET	TC	TERRA-COTTA
FH	FIRE HYDRANT	UR	URINAL
FHC	FIRE HOSE CABINET	V	VENT
FHR	FIRE HOSE RACK	VAC	VACUUM
HB	HOSE BIBB	VC	VITRIFIED CLAY
HP	HORSE POWER	VI	VIBRATION ISOLATOR
HW	DOMESTIC HOT WATER	VTR	VENT THRU ROOF
HWR	HOT WATER RETURN	WC	WATER CLOSET
IB	INVERT BOTTOM	WF	WASH FOUNTAIN
ID	INSIDE DIAMETER	WH	WATER HYDRANT
LAV	LAVATORY	WW	WELL WATER
MH	MANHOLE		
CMP	CORRUGATED METAL PIPE		
———	SANITARY DRAIN	—WSP—	WET STAND PIPE
— — —	STORM DRAIN	—DSP—	DRY STAND PIPE
- - - -	VENT PIPE	—ATMOS.V—	ATMOSPHERIC VENT
—— - ——	DOMESTIC COLD WATER	—G—	GAS
— - - —	DOMESTIC HOT WATER	—CA—	COMPRESSED AIR
— - - - —	DOMESTIC HOT WATER RETURN	—A—	COMPRESSED AIR MEDICAL
—180°	DOMESTIC HOT WATER (180°)	—N_2—	NITROGEN
—180°	DOMESTIC HOT WATER RETURN (180°)	—O_2—	OXYGEN
—T—	TEMPERED HOT WATER	—N_2O—	NITROUS OXIDE
—SP—	SPRINKLER PIPING	—V—	VACUUM
—F—	FIRE LINE	—AR—	ACID RESISTANT
—CO_2—	CARBON DIOXIDE	—FA—	FIRST AID (FIRE PROTECTION)
	GATE VALVE		EXPANSION JOINT
	GLOBE VALVE		PIPE ANCHOR
	BALANCING VALVE		THERMOMETER
	CHECK VALVE		REDUCER
NS	CHECK VALVE NON-SLAM		ECCENTRIC REDUCER
	ANGLE VALVE		BY-PASS FLOW INDICATOR
	RELIEF OF SAFETY VALVE		PITCH OF PIPE DOWN
	PRESSURE REGULATING VALVE		DIRECTION OF FLOW
	BUTTERFLY VALVE		SERVICE RISER-DOWN
	TWO-WAY CONTROL VALVE		SERVICE RISER-UP
	THREE-WAY CONTROL VALVE	HB	HOSE BIBB
	STRAINER WITH GATE VALVE	DC	DRAIN COCK
	UNION OR FLANGED CONNECTION		PRESSURE GAGE COCK
	OUT-SIDE WALL HYDRANT		SERVICE RISER-UP & DOWN

NOTE: ALL ABBREVIATIONS AND SYMBOLS MAY NOT NECESSARILY APPEAR ON DRAWINGS.





TYPICAL CATCHBASIN (GRASS & SIDEWALK AREAS)



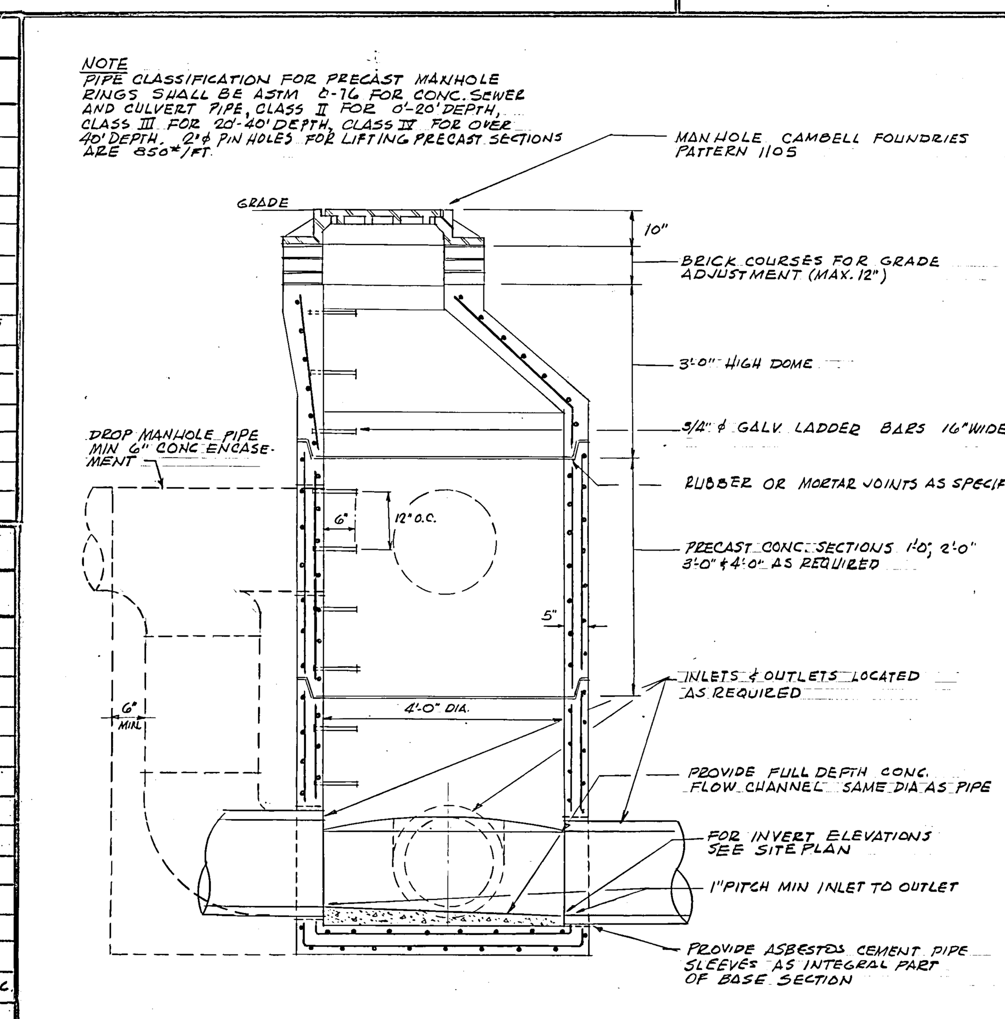
TYPICAL CATCHBASIN (PAVED AREAS)

SCHEDULE OF PLUMBING & DRAINAGE SPECIALTIES

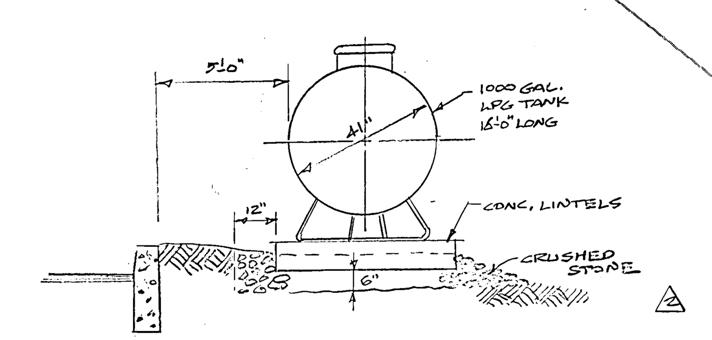
SYMBOL	DESCRIPTION	MFG'R	CAT. Nº	REMARKS
FD-A	FLOOR DRAIN	JR SMITH	2110-G	
FD-B	FLOOR DRAIN	JR SMITH	2010-A	W/ TRAP PRIMER CONNECTION
FD-C	FLOOR DRAIN	JR SMITH	2570-M	DUCTILE IRON GRATE
OWH-A	OUTSIDE WALL HYDRANT	JR SMITH	5510 VB	WATTS NO. 8-A VACUUM BREAKER
HB-A	HOSE BIBB	NIBCO	3/4"-763	W/ 3/4" 707-5 DROP ELL, W/ WATTS 8-A V.B.
FS-A	FLASHING SLEEVE	JR SMITH	1725	
BFP-A	BACKFLOW PREVENTER	WATTS	900	PIPE VENT TO FLOOR DRAIN

FIXTURE CONNECTION SCHEDULE

DESCRIPTION	H.W.	C.W.	SOIL OR WASTE	MIN. VENT	SAN. FIXT. UNIT VALUE	REMARKS
WATER CLOSET - A	–	1 1/4"	4"	2"	6 FU	
WATER CLOSET - B	–	1 1/4"	4"	2"	6 FU	FOR HANDICAPPED USE
URINAL - A	–	1"	2"	1 1/2"	2 FU	
LAVATORY - A	1/2"	1/2"	1 1/2"	1 1/2"	2 FU	
LAVATORY - B	1/2"	1/2"	1 1/2"	1 1/2"	2 FU	FOR HANDICAPPED USE
MOP RECEPTOR - A	1/2"	1/2"	3"	1 1/2"	3 FU	
ELECTRIC WATER COOLER - A	–	1/2"	1 1/2"	1 1/2"	1 FU	FULLY RECESSED
COUNTERTOP SINKS	1/2"	1/2"	1 1/2"	1 1/2"	2 FU	SINK, FAUCET & TAILPIECE BY G.C.
SERVICE SINK	1/2"	1/2"	3"	1 1/2"	3 FU	



TYPICAL MANHOLE - SECTION
NO SCALE



SECTION AT PROPANE TANK

Partner In Charge	Robert V. Cherry
Designer	James T. Lilo
Project Architect	Nathaniel Gaines
Project Manager	Jonathan Dyer

REGISTERED ARCHITECT PENNSYLVANIA STANLEY W. COLE No. RA 3000
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER WALTER RABUSE 14304-E

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consulting engineers
SYNERGO COMPANY

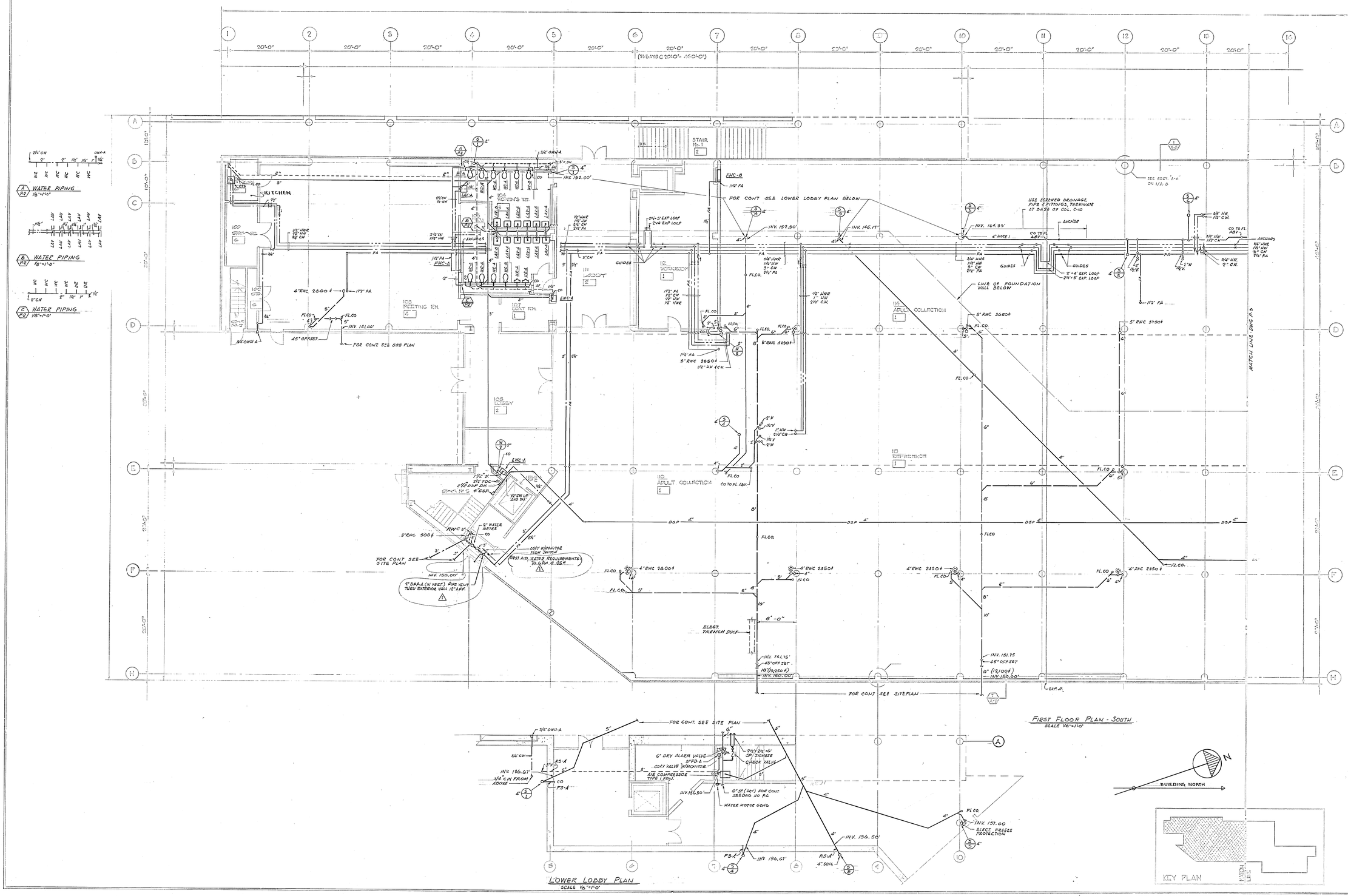
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Pearl Frankenfield, Executive Director, Library
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SITE PLAN

NO.	DATE	REVISION
2	10-31-77	AS BUILT
1	3/17/15	WATER SERVICE

DRAWN BY D.N.H.
CHECKED BY SLG
DATE
SCALE 1" = 20'-0"
JOB NO. 5873
DATE SEPT. 30, 1974
SHEET NO.
P-1



Partner In Charge — Robert V. Cherry
Designer — James T. Lilo
Project Architect — Thomas Gross
Project Manager — Jonathon Dyer

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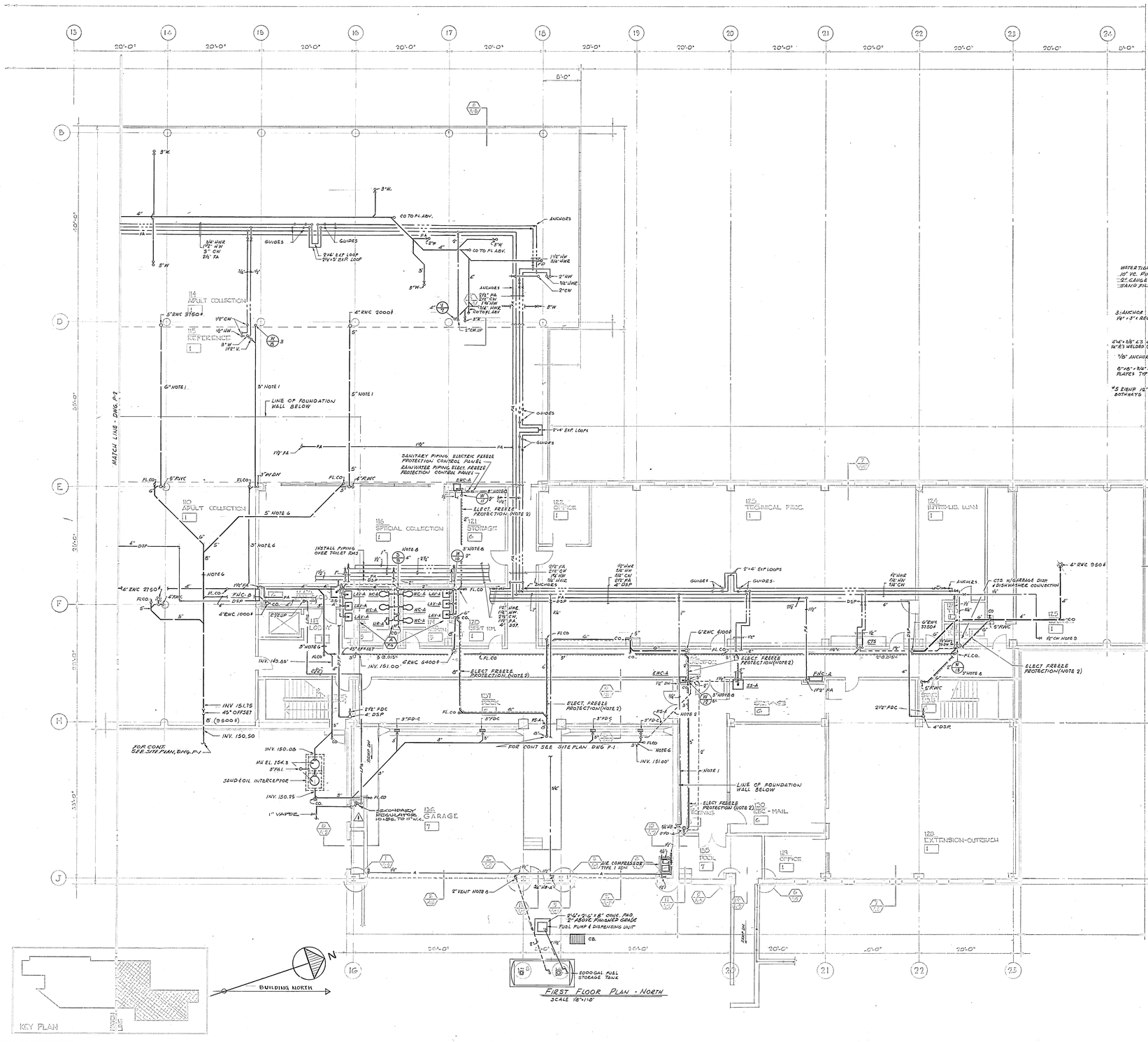
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Lawrence H. Curry, Commissioner
Henry E. Pennington, Chief Clerk
Roger D. Reynolds, Esq., Solicitor
Lawrence F. Fleck, Esq., Controller

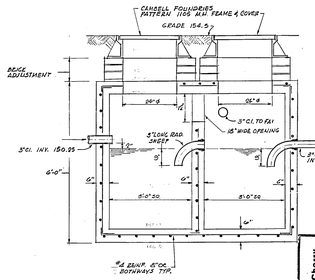
Russell W. Piazza, Director of Purchasing
J. John Apt, Director, Dept. of Public Property
Sullivan J. Astro, Jr., President, Library Board
Pearl Frankenfield, Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

FIRST FLOOR - SOUTH AND LOWER LOBBY PLAN

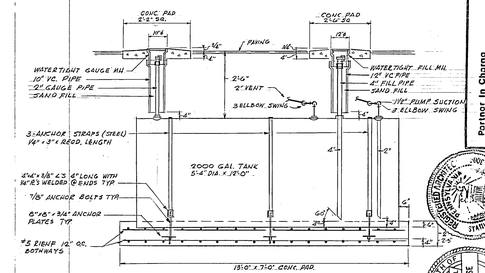
10-21	ADD BUILT-IN
7/15	WATER SERVICE
NO. DATE	REVISION
DRAWN BY	D.N.H.
CHECKED BY	S.L.G.
DATE	
SCALE	1/8" = 1'-0"
JOB NO.	5873
DATE	SEPT. 20, 1974

P-2

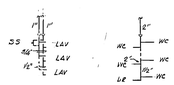


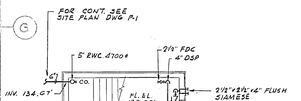


SAND & OIL INTERCEPTOR DETAIL
NO SCALE



FUEL STORAGE TANK DETAIL
NO SCALE





PLAN OF STAIR NO. 5 @ GRADE
1/8"=1'-0"

EWING COLE ERDMAN & EUBANK
architects-engineers-planners
SYNERGO COMPANY
consulting engineers

Robert W. Cherry AIA
Nathaniel Gaines
Jonathon Dyer

Partner In Charge
Designer
Project Architect
Project Manager

Montgomery County - Norristown Public Library

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Lillian Johnson, Director of Public Property
Sullivan Aslop, Jr., President, Library Board
Pearl Frankenfield, Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

FIRST FLOOR - NORTH

NO.	DATE	REVISION
1	10-22	AS BUILT

DRAWN BY D.N.H.
CHECKED BY S.L.G.
DATE
SCALE 1/8" = 1'-0"
JOB NO. 5873
DATE SEPT 30, 1974
SHEET NO. P-3

SECOND FLOOR PLAN - SOUTH
SCALE 1/8"=1'-0"

KEY PLAN

BUILDING NORTH

Partner In Charge — Robert W. Cherry
Designer — James T. Litts
Project Architect — Nathaniel Gaines
Project Manager — Jonathan Dyer

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consulting engineers
SYNERGO COMPANY

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Kirke Bryan, Esq. Solicitor, Library

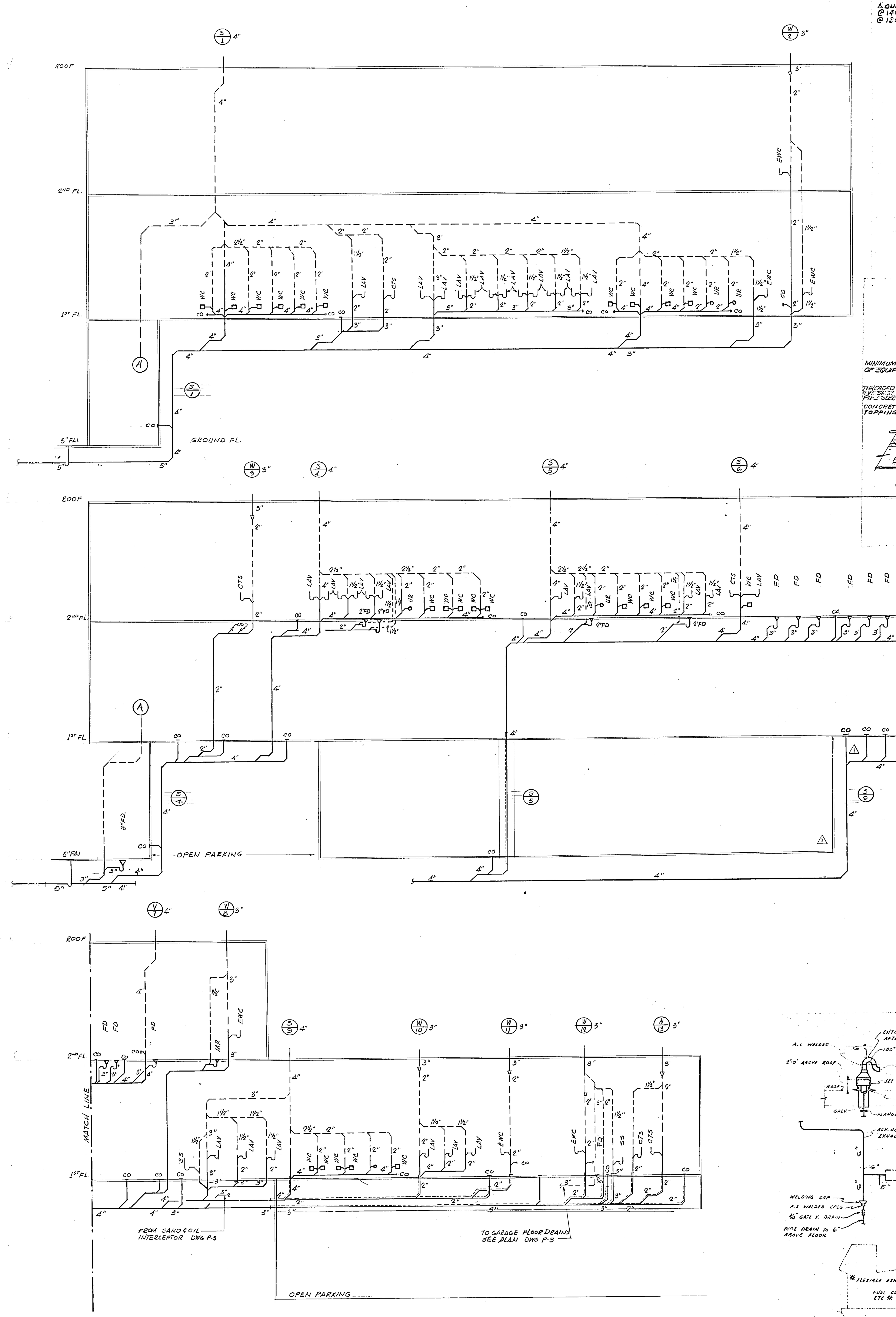
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Frank W. Jenkins, Esq., Commissioner
Henry E. Pennypacker, Chief Clerk
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SECOND FLOOR SOUTH

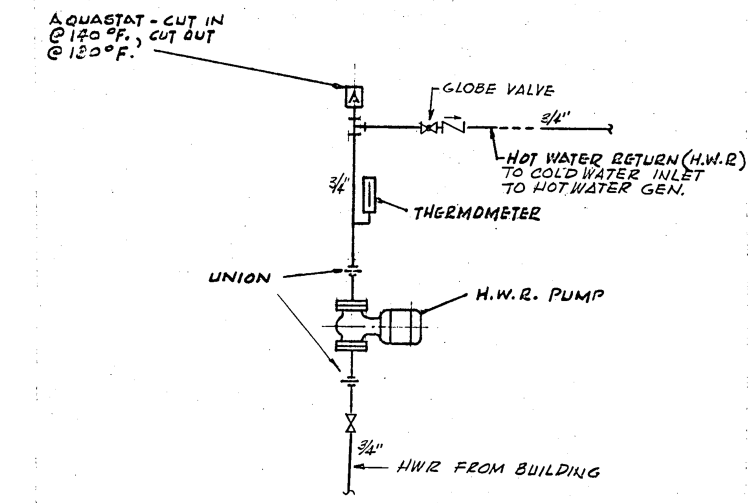
NO.	DATE	REVISION
1	12/22	AS BUILT

DRAWN BY D.N.H.
CHECKED BY S.E.G.
DATE
SCALE 1/8" = 1'-0"
JOB NO. 5873
DATE SEPT. 20, 1976

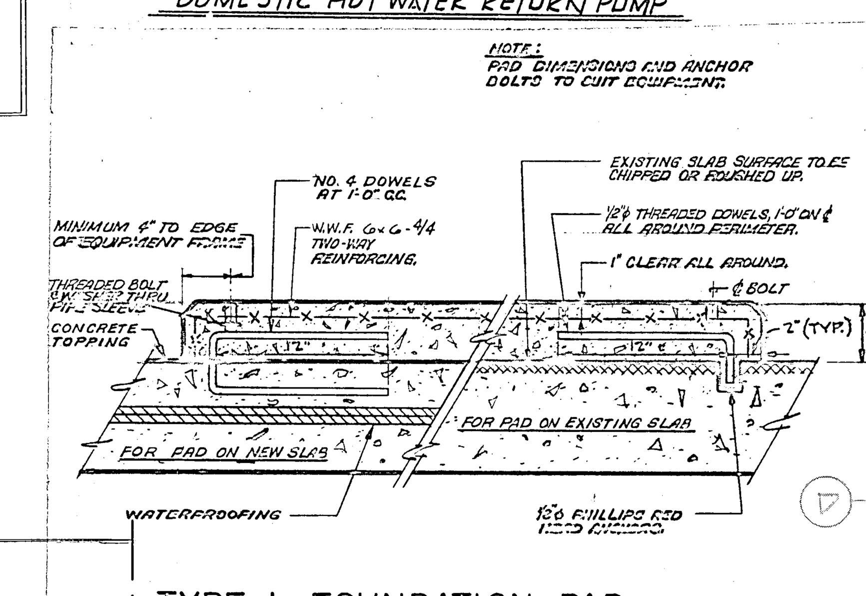
P-4



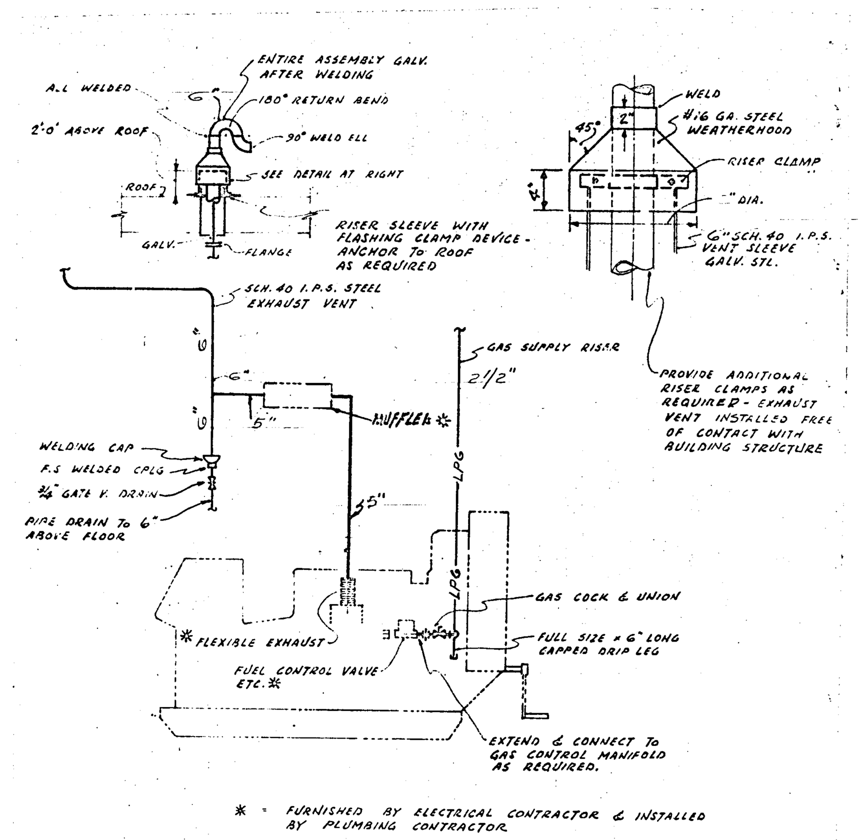
SANITARY RISER DIAGRAM
NO SCALE



DOMESTIC HOT WATER RETURN PUMP



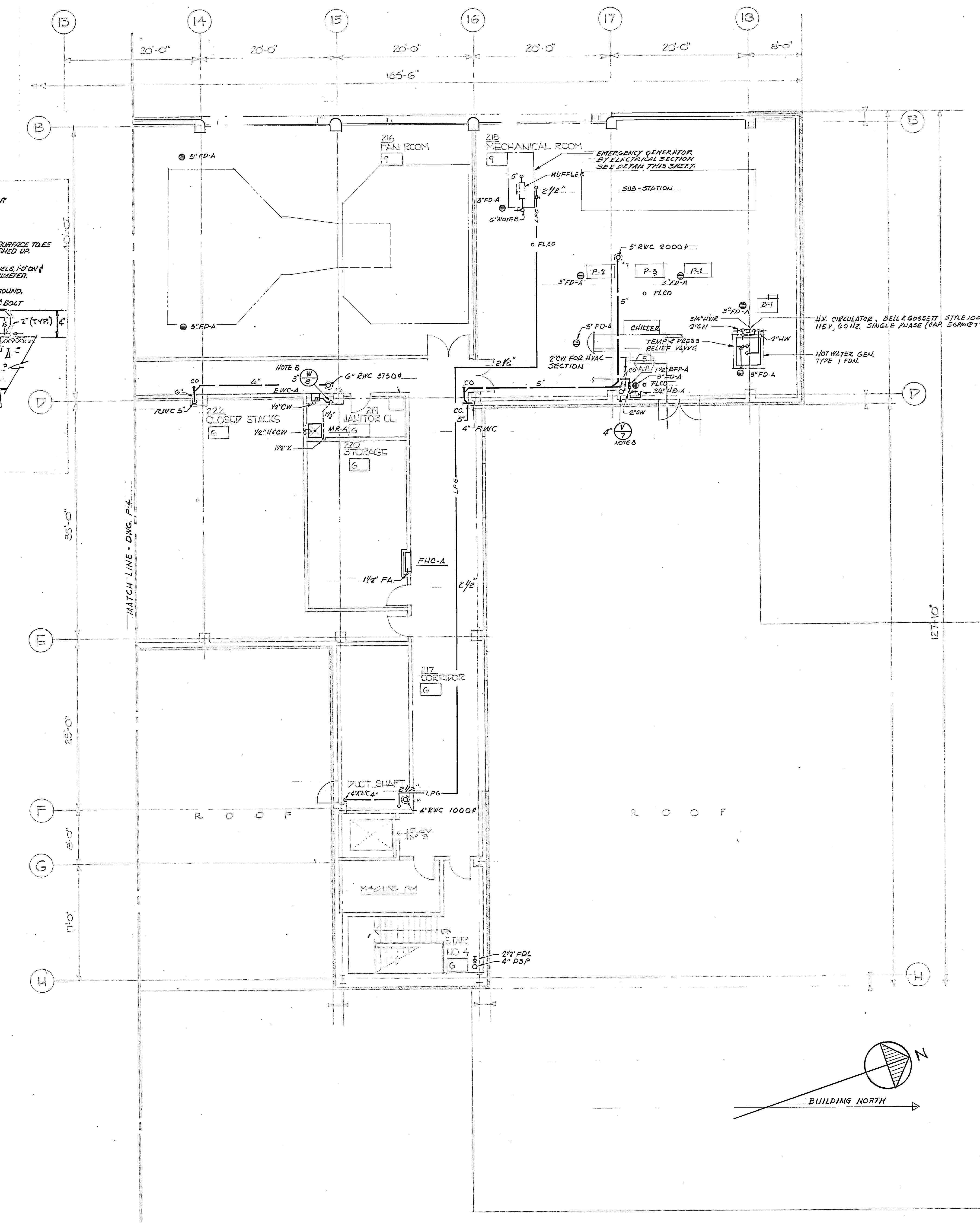
TYPE-1 FOUNDATION PAD



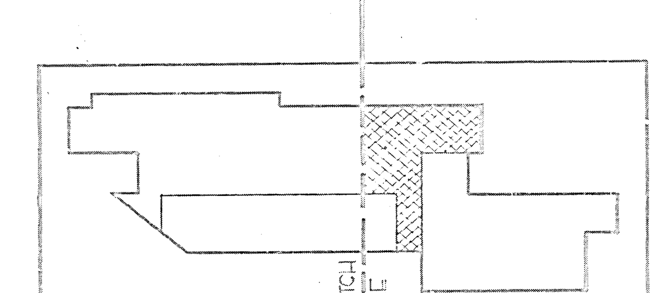
* = FURNISHED BY ELECTRICAL CONTRACTOR & INSTALLED BY PLUMBING CONTRACTOR

ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH ALL UTILITY CO. RULES & REGULATIONS, AND ALL AUTHORITIES HAVING JURISDICTION

EMERGENCY GENERATOR - GAS ENGINE



SECOND FLOOR PLAN - NORTH
SCALE 1/8" = 1'-0"



Partner in Charge	Robert V. Cherry
Designer	James T. Lilo
Project Architect	Nathaniel Gaines
Project Manager	Jonathan Dyer

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

SYNERGO COMPANY
consulting engineers

Montgomery County · Norristown Public Library

A. Russell Parkhouse, President · Commissioner
Frank W. Jenkins, Esq., Commissioner
Lawrence H. Curry, Commissioner
Henry E. Pennington, Chief Clerk
Roger B. Reynolds, Esq., Solicitor
Lawrence F. Flick, Esq., Controller

Russell W. Piazza, Director of Purchasing
J. John Apt, Director, Dept. of Public Property
Sullivan J. Asko, Jr., President, Library Board
Pearl Frankenfield, Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

SECOND FLOOR - NORTH
AND
SANITARY RISER DIAGRAM

NO.	DATE	REVISION
1	10-31-77	AS BUILT

DRAWN BY D.N.H.
CHECKED BY S.L.G.
DATE
SCALE 1/8" = 1'-0"
JOB NO. 5873
DATE SEPT. 20 1974
SHEET NO.
P-5

FOR CONT. SEE SITE PLAN

6" - 2½"x2½"x6" SR SIAMESE

6" DRY ALARM VALVE

6" GATE VALVE W/ MONITOR

AIR COMP. (TYPE I PKG)

TIGHT TO UNDER SIDE OF CEILING

WATER MOTOR GONG

UNEXCAVATED

PARKING

LINE OF BUILDING ABOVE

UNEXCAVATED

PARKING

6" CURB

UNEXCAVATED

PARKING

INSP. TEST

STAIR #5

6" CURB

2" DRAIN

218 ORDINARY HAZARD UPRIGHT HEADS (APPROX. VOL. 600 GAL)

BUILDING NORTH

KEY PLAN

DRY SPRINKLER SYSTEM

SCALE 1/8"=1'0"

FIRST FLOOR ELEV. 153.00'

CEILING

SIDEWALK

PARKING

PARKING

STAIR #5

DRAIN

SECTION ALONG SPRINKLER MAIN

SCALE 1/8"=1'0"

Robert V. Chary — Partner In Charge
James T. Ulak — Partner
Nathaniel Gaines — Project Architect
Jonathan Dyer — Project Manager

EWING COLE ERDMAN & EUBANK
architects-engineers-planners

SYNERGO COMPANY consulting engineers

Montgomery County · Norristown Public Library

A. Russell Patrizzo, President, Commissioner
Ferrel W. Landis, Sec., Commissioner
Lawrence H. Curry, Commissioner
Henry E. Pennington, Chief Clerk
Roger B. Reynolds, Esq., Solicitor
Lawrence F. Fleck, Esq., Controller

Russell W. Piazza, Director of Purchasing
John Anderson, Director of Public Property
Sullivan J. Ashton, Jr., President, Library Board
Pearl Frankenfeld, Executive Director, Library
Kirke Bryan, Esq. Solicitor, Library

DRY SPRINKLER SYSTEM

NO.	DATE	REVISION
1	3/5	AS BUILT

DRAWN BY D.W.H.
CHECKED BY E.L.G.
DATE
SCALE 1/8"=1'0"
JOB NO. 5873
DATE SEPT. 30, 1974
SHEET NO. P-6

S.H.S.N. 7734