Village of Ossining Multi-Modal Transportation Hub

PARKING GARAGE

DRAWING LIST

SHEET NO.		10.23.24 DD SUBMISSION	11.27.24 DOB SUBMISSION	02.21.25 BID SET
GENERAL				
G0.0	COVER	●	●	●
G0.1	CODE ANALYSIS	●	●	●
CIVIL				
C3.0	NOTES AND ABBREVIATIONS	●	●	●
C3.1	EXISTING SITE CONDITIONS	●	●	●
C3.2	DEMOLITION PLAN	●	●	●
C3.3	SITE PLAN	●	●	●
C3.4	UTILITIES PLAN	●	●	●
C3.5	GRADING AND DRAINAGE PLAN		●	●
C3.6	PIPE PROFILE 1	●	●	●
C3.7	PIPE PROFILE 2	●	●	●
C3.8	PIPE PROFILE 3	●	●	●
C3.9	PIPE PROFILE 4	●	●	●
C3.10	PAVEMENT PLAN	●	●	●
C3.11	SIGNING AND STRIPING PLAN	●	●	●
C3.12	SOIL EROSION & SEDIMENT CONTROL PLAN			●
C3.13	EXISTING DRAINAGE AREAS	●	●	●
C3.14	PROPOSED DRAINAGE AREA			●
C3.15	SOIL EROSION & SEDIMENT CONTROL NOTES AND DETAILS			●
C3.16	CONSTRUCTION DETAILS 01			●
C3.17	CONSTRUCTION DETAILS 02			●
C3.18	CONSTRUCTION DETAILS 03			●
C3.19	CONSTRUCTION DETAILS 04			●
C3.20	CONSTRUCTION DETAILS 05			●
C3.21	CONSTRUCTION DETAILS 06			●
C3.22	CONSTRUCTION DETAILS 07			●
C3.23	MAINTENANCE AND PROTECTION OF TRAFFIC PLAN 01			●
C3.24	MAINTENANCE AND PROTECTION OF TRAFFIC PLAN 02			●
C3.25	MAINTENANCE AND PROTECTION OF TRAFFIC DETAIL 03			●
C3.26	MAINTENANCE AND PROTECTION OF TRAFFIC DETAIL 02			●
C3.27	PLAN AND PROFILE			●
C3.28	ENLARGED DETAILS			●
C3.29	TYPICAL DETAILS			●
C3.30	TYPICAL DETAILS			●
LANDSCAPE				
L1.0	LAYOUT AND MATERIALS PLAN	●	●	●
L2.0	LAYOUT AND MATERIALS DETAILS	●	●	●
L3.0	PLANTING PLAN	●	●	●
L4.0	PLANTING NOTES AND DETAILS	●	●	●
L5.0	SITE LIGHTING PLAN	●	●	●
L6.0	LIGHTING NOTES AND DETAILS	●	●	●
ARCHITECTURAL				
A0.1	LIFE SAFETY PLANS	●	●	●
A0.2	OPENNESS ANALYSIS	●	●	●
A1.1	LOWER LEVEL & LEVEL 1 (GROUND) ARCHITECTURAL PLANS	●	●	●
A1.2	LEVELS 2 - 4 ARCHITECTURAL PLANS	●	●	●
A1.3	ENLARGED ARCHITECTURAL PLANS	●	●	●
A1.4	ARCHITECTURAL PLAN DETAILS	●	●	●
A2.1	BUILDING ELEVATIONS	●	●	●

DRAWING LIST

SHEET NO.		10.23.24 DD SUBMISSION	11.27.24 DOB SUBMISSION	02.21.25 BID SET
A3.1	BUILDING SECTIONS	●	●	●
A3.2	BUILDING SECTIONS	●	●	●
A3.3	WALL SECTIONS	●	●	●
A3.4	WALL SECTIONS	●	●	●
A3.5	WALL SECTION DETAILS	●	●	●
A4.1	STAIR/ELEVATOR A ENLARGED PLANS	●	●	●
A4.2	STAIR/ELEVATOR A ELEVATIONS & SECTIONS	●	●	●
A4.3	STAIR TOWER B ENLARGED PLANS	●	●	●
A4.4	STAIR TOWER B ELEVATIONS & SECTIONS	●	●	●
A4.5	STAIR C ENLARGED PLANS	●	●	●
A4.6	STAIR C ELEVATIONS & SECTIONS	●	●	●
A4.7	STAIR AND ELEVATOR DETAILS	●	●	●
A4.8	STAIR AND ELEVATOR DETAILS	●	●	●
A4.9	PUNCH THROUGH STAIR DETAILS	●	●	●
A5.1	EXTERIOR DETAILS	●	●	●
A5.2	EXTERIOR DETAILS	●	●	●
A5.3	EXTERIOR DETAILS	●	●	●
A6.1	DOOR & ROOM FINISH SCHEDULES	●	●	●
A6.2	WALL TYPES AND DETAILS	●	●	●
A7.1	SIGNAGE SCHEDULE, NOTES AND DETAILS	●	●	●
A7.2	SIGNAGE AND GRAPHICS DETAILS	●	●	●
A7.3	SIGNAGE AND GRAPHICS DETAILS	●	●	●
AB0.1	COVER SHEET, KEY PLAN & BUILDING CODE			●
AB0.2	GENERAL NOTES AND ABBREVIATIONS			●
AB0.3	GENERAL NOTES CONTINUED			●
AB0.4	ADA COMPLIANCE			●
AB0.5	COMCHECK			●
AB0.6	COMCHECK			●
AB1.1	CONSTRUCTION PLAN	●	●	●
AB1.2	ROOF PLAN		●	●
AB1.3	ROOF DETAILS			●
AB2.1	REFLECTED CEILING PLAN			●
AB3.1	EXTERIOR ELEVATIONS	●	●	●
AB3.2	EXTERIOR ELEVATIONS		●	●
AB4.1	BUILDING SECTION	●	●	●
AB4.2	BUILDING SECTIONS		●	●
AB5.1	WALL SECTIONS			●
AB5.2	WALL SECTIONS			●
AB6.1	INTERIOR ELEVATIONS			●
AB6.2	INTERIOR ELEVATIONS			●
AB6.3	INTERIOR ELEVATIONS			●
AB7.1	ENLARGED PLANS			●
AB7.2	ENLARGED PLANS & DETAILS			●
AB8.1	DOOR & WINDOW SCHEDULE & DETAILS			●
AB8.2	WINDOW DETAILS			●
AB8.3	DOOR DETAILS			●
AB8.4	STOREFRONT ELEVATIONS			●
AB9.1	SCHEDULES & GENERAL NOTES		●	●
AB9.2	FLOOR FINISH PLAN			●
AB10	3D MODEL VIEWS	●	●	●

DRAWING LIST

SHEET NO.		10.23.24 DD SUBMISSION	11.27.24 DOB SUBMISSION	02.21.25 BID SET
STRUCTURAL				
S0.1	STRUCTURAL GENERAL NOTES	●	●	●
S0.1a	STATEMENT OF SPECIAL INSPECTION			●
S0.2	STRUCTURAL GENERAL DETAILS	●	●	●
S0.3	WATERPROOFING DETAILS	●	●	●
S1.0	FOUNDATION PLAN & DETAILS	●	●	●
S1.1	LOWER LEVEL & LEVEL 1 STRUCTURAL PLAN	●	●	●
S1.2	TYPICAL LEVEL (LEVEL 2 & LEVEL 3) AND TOP LEVEL STRUCTURAL PLAN	●	●	●
S2.1	FOUNDATION DETAILS	●	●	●
S2.2	FOUNDATION SECTIONS	●	●	●
S2.3	FOUNDATION SECTIONS	●	●	●
S3.1	PRECAST TEE DETAILS	●	●	●
S3.2	PRECAST COLUMN PLAN DETAILS	●	●	●
S3.3	PRECAST SECTIONS	●	●	●
S4.1	PRECAST DETAILS	●	●	●
SB0.1	GENERAL NOTES AND DRAWING INDEX			●
SB0.2	GENERAL NOTES			●
SB1.0	FOUNDATION PLAN			●
SB1.1	GROUND FLOOR PLAN			●
SB1.2	GIRT / CEILING FRAMING PLAN			●
SB1.3	ROOF FRAMING PLAN			●
SB2.1	BUILDING SECTIONS			●
SB2.2	BUILDING FRAME SECTIONS AND ELEVATIONS			●
SB2.3	FRAME SECTIONS			●
SB3.1	FOUNDATION SECTIONS AND DETAILS			●
SB4.1	LIGHT-GAGE FRAMING DETAILS			●
SB5.1	STEEL SECTIONS AND DETAILS			●
SB6.1	WOOD SECTIONS AND DETAILS			●
SB6.2	CUSTOM WOOD HANGER DETAILS			●
MECHANICAL				
M0.1	MECHANICAL LEGENDS AND NOTES	●	●	●
M0.2	MECHANICAL COMCHECK I			●
M0.3	MECHANICAL COMCHECK Ii			●
M1.1	MECHANICAL SPECIFICATIONS I	●	●	●
M1.2	MECHANICAL SPECIFICATIONS II	●	●	●
M3.1	MECHANICAL RISER DIAGRAM	●	●	●
M4.1	MECHANICAL SCHEDULES	●	●	●
M5.0	MECHANICAL LOWER LEVEL DUCTWORK PLAN	●	●	●
M5.1	MECHANICAL LEVEL 1 FLOOR DUCTWORK PLAN	●	●	●
M5.4	MECHANICAL LEVEL 4 FLOOR DUCTWORK PLAN		●	●
M5.5	MECHANICAL LEVEL 5 FLOOR DUCTWORK PLAN	●	●	●
M6.0	MECHANICAL PIPING LOWER LEVEL PLAN	●		●
M6.1	MECHANICAL LEVEL 1 FLOOR PIPING PLAN		●	●
M6.3	MECHANICAL LEVEL 3 FLOOR PIPING PLAN			●
M6.4	MECHANICAL LEVEL 4 FLOOR PIPING PLAN		●	●
M6.5	MECHANICAL LEVEL 5 FLOOR PIPING PLAN	●	●	●
M9.1	MECHANICAL DETAILS I	●	●	●
M9.2	MECHANICAL DETAILS II	●	●	●
M9.3	MECHANICAL DETAILS III	●	●	●
MB5.2	MECHANICAL DUCTWORK LEVELS 2-3 FLOOR PLAN	●	●	●
MB6.2	MECHANICAL PIPING LEVELS 2-3 FLOOR PLAN	●	●	●

DRAWING LIST

SHEET NO.		10.23.24 DD SUBMISSION	11.27.24 DOB SUBMISSION	02.21.25 BID SET
ELECTRICAL				
E0.1	ELECTRICAL LEGENDS AND NOTES	●	●	●
E0.2	ELECTRICAL COMMCHECK			●
E1.1	ELECTRICAL SPECIFICATIONS		●	●
E1.2	ELECTRICAL SPECIFICATIONS		●	●
E1.3	ELECTRICAL SPECIFICATIONS		●	●
E3.1	ELECTRICAL RISER DIAGRAM	●	●	●
E4.1	ELECTRICAL PANEL SCHEDULES		●	●
E4.2	ELECTRICAL PANEL SCHEDULES		●	●
E5.0	ELECTRICAL LOWER LEVEL POWER PLAN	●	●	●
E5.1	ELECTRICAL LEVEL 1 FLOOR POWER PLAN	●	●	●
E5.2	ELECTRICAL LEVELS 2 FLOOR POWER PLAN	●	●	●
E5.3	ELECTRICAL LEVELS 3 FLOOR POWER PLAN			●
E5.4	ELECTRICAL LEVEL 4 FLOOR POWER PLAN		●	●
E5.5	ELECTRICAL LEVEL 5 FLOOR POWER PLAN		●	●
E6.0	ELECTRICAL LOWER LEVEL LIGHTING PLAN	●	●	●
E6.1	ELECTRICAL LEVEL 1 FLOOR LIGHTING PLAN	●	●	●
E6.2	ELECTRICAL LEVEL 2 FLOOR LIGHTING PLAN	●	●	●
E6.3	ELECTRICAL LEVEL 3 FLOOR LIGHTING PLAN			●
E6.4	ELECTRICAL LEVEL 4 FLOOR LIGHTING PLAN	●	●	●
E8.0	ELECTRICAL LEVEL SITE POWER PLAN			●
PLUMBING				
P0.1	PLUMBING LEGENDS AND NOTES	●	●	●
P1.1	PLUMBING SPECIFICATIONS I	●	●	●
P1.2	PLUMBING SPECIFICATIONS II	●	●	●
P5.0	PLUMBING LOWER LEVEL PLAN	●	●	●
P5.1	PLUMBING LEVEL 1 FLOOR PLAN	●	●	●
P5.2	PLUMBING LEVELS 2-3 FLOOR PLAN	●	●	●
P5.4	PLUMBING LEVEL 4 FLOOR PLAN	●	●	●
P5.5	PLUMBING LEVEL 5 FLOOR PLAN	●	●	●
P9.1	PLUMBING DETAILS	●	●	●
FIRE ALARM				
FA0.1	FIRE ALARM LEGENDS AND NOTES		●	●
FA1.1	FIRE ALARM SPECIFICATIONS		●	●
FA1.2	FIRE ALARM SPECIFICATIONS		●	●
FA3.1	FIRE ALARM RISER DIAGRAM	●	●	●
FA5.0	FIRE ALARM LOWER LEVEL PLAN	●	●	●
FA5.1	FIRE ALARM LEVEL 1 FLOOR PLAN	●	●	●
FA5.2	FIRE ALARM LEVEL 2 FLOOR PLAN	●	●	●
FA5.3	FIRE ALARM LEVEL 3 FLOOR PLAN			●
FA5.4	FIRE ALARM LEVEL 4 FLOOR PLAN	●	●	●
FIRE PROTECTION				
FP0.1	FIRE PROTECTION LEGENDS AND NOTES	●	●	●
FP1.1	FIRE PROTECTION SPECIFICATIONS I	●	●	●
FP1.2	FIRE PROTECTION SPECIFICATIONS II	●	●	●
FP3.1	FIRE PROTECTION RISER DIAGRAM			●
FP5.0	FIRE PROTECTION LOWER LEVEL PLAN	●	●	●
FP5.1	FIRE PROTECTION LEVEL 1 FLOOR PLAN	●	●	●
FP5.2	FIRE PROTECTION LEVELS 2-3 FLOOR PLAN	●	●	●
FP5.4	FIRE PROTECTION LEVEL 4 FLOOR PLAN	●	●	●
FP5.5	FIRE PROTECTION LEVEL 5 FLOOR PLAN	●	●	●
FP9.1	FIRE PROTECTION DETAILS	●	●	●

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Street Map

Ossining, NY 10562

THA CONSULTING

02.21.25
BID SET

G0.0

Building Code Summary

Project Name: City of Ossining Multi-Modal Transportation Hub
Location: Ossining , NY

Project Description: Single Use Open Parking Garage

Height: 38.00' Feet, 4 Tiers (Ground/Lower Level plus 3 supported tiers including occupied roof)

Quantity of Parking Spaces: 242

Construction Type: IIB

Sprinklered: No

Applicable Codes and Standards

- 2020 Building Code of New York State (International Building Code 2018) with amendments and additions
- 2020 Fire Code of New York State
- Energy Conservation Construction Code of New York State 2020
- New York State Plumbing Code 2020
- New York State Mechanical Code 2020
- New York State Electrical Code 2017
- New York State Accessibility Code 2009 (ANSI A117.1, 2009)
- 2010 ADA Standards for Accessible Design, For Public Accommodations and Commercial Facilities: Title III
- ASME A17.1 (2017) Elevator Code
- NFPA 72 (2016) Fire Alarm Code
- NFPA 720 (2015) Standard for the Installation of Carbon Monoxide Detection and Warning Equipment

Occupancy Classification, Allowable Height and Area

Building Classification: Low-Hazard Storage Group S-2

The parking garage complies with the code definition of an open parking garage. See openness calculations for additional information.
1. 20% min. facade square foot openness distributed over 40% min. linear feet of the garage perimeter at each tier
2. 20% min. openness uniformly distributed at interior walls

ALLOWABLE HEIGHT AND AREA (TABLE 406.5.4)

	ALLOWED	DESIGNED
HEIGHT	8 Tiers	3 Tiers + 1 Occupied Roof
AREA (SF)	50,000 SF	22,475 SF

Type of Construction Requirements

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING	
		REQ'D	PROVIDED
Primary Structural Frame		0	0
Bearing Walls			
Exterior			
North	X ≥ 30	0	0
East	5 ≤ 10 (At E-Bike Facility) X ≥ 30	1 0	1 0
South	X ≥ 30	0	0
West	X ≥ 30	0	0
Interior	-	0	0
Nonbearing Walls Exterior			
North	X ≥ 30	0	0
East	5 ≤ 10 (At E-Bike Facility) X ≥ 30	1 0	1 0
South	X ≥ 30	0	0
West	X ≥ 30	0	0
Floor Construction		0	0
Roof Construction		0	0
Shaft Enclosures - Exits		0	0
Shaft Enclosures - Other than Exit		0	0
Occupany Separation		NOT APPLICABLE	-
Incidental Use Separation		NOT APPLICABLE	-

PERCENTAGE OF ALLOWABLE OPENINGS

LOCATION	FIRE SEPARATION DISTANCE (FEET)	DEGREE OF OPENINGS PROTECTION	ALLOWABLE AREA (%)
North	X ≥ 30	Unprotected (UP) Non-sprinklered (NS)	No Limit
East	5 < 10	Unprotected (UP) Non-sprinklered (NS)	10%
	X ≥ 30		No Limit
South	X ≥ 30	Unprotected (UP) Non-sprinklered (NS)	No Limit
West	X ≥ 30	Unprotected (UP) Non-sprinklered (NS)	No Limit

Energy Code Compliance:

Per the 2020 Energy Conservation Construction Code of New York State, the parking garage shall comply with 2020 (ECCCNYS).

Fire Protection Systems

Automatic Sprinkler Systems:
System is not provided. Group S-2 open parking garages not listed as requiring an automatic sprinkler system.

Standpipe System:
Class I manual dry system provided with locations as required per Class II system for parking garages. See Section 905.3.1, exception 4 and Code Plan Diagrams.

Portable Fire Extinguishers:
Fire extinguishers shall be specified to address Class A, B and C fires. 4(A) x 1,000 sf = 4,000 sf per extinguisher. 22,475 sf/tier / 4,000 sf = 6 extinguishers min. per tier.
4-A:80-B:C extinguishers provided and located within 50 feet max. travel distance. See Code Plan Diagrams for locations.

Life Safety and Means of Egress

Accessible Means of Egress Required:
Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress are required from any accessible space, each portion shall not be served by not less than two accessible means of egress. A minimum two accessible means of egress provided per parking garage tier.

Elevator provided (MRL):
An accessible elevator is provided including signaling and standby power requirements.
Per 2020 Building Code of New York State, Section 3001.2, an emergency two-way communication system shall be provided. The system shall provide visible text and audible modes that:
1. When operating in each mode, includes a live interactive system that allows back and forth conversation between the elevator occupants and emergency personnel.
2. Is operational when the elevator is operational.
3. Allows elevator occupants to select the text-based or audible mode depending on their communication needs to interact with emergency personnel.

NUMBER AND ARRANGEMENT OF EXITS

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM NUMBER OF EXITS		TRAVEL DISTANCE		REMOTENESS OF EXITS OR EXIT ACCESS DOORWAYS	
	REQUIRED	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE	PROVIDED TRAVEL DISTANCE	REQ'D DISTANCE BETWEEN EXITS	PROVIDED EXIT DISTANCE
Level 4 (ROOF)	2	3	300 FT	Less than 300 FT See Code Plan Diagrams	See Code Plan Diagrams	See Code Plan Diagrams
Level 3	2	3	300 FT			
Level 2	2	3	300 FT			
Level 1 (Ground)	2	3	300 FT			
Lower Level	2	2	300 FT			

OCCUPANT LOAD CALCULATIONS

USER GROUP OR SPACE DESCRIPTION	AREA (Sq Ft) (a)	AREA PER OCCUPANT (b)	CALCULATED OCCUPANT LOAD (a/b)
LEVEL 4 (ROOF)			
GARAGE	17,227 SF	200 SF	87
	17,227 SF		**87**
LEVEL 3			
GARAGE	22,475 SF	200 SF	113
	22,475 SF		**113**
LEVEL 2			
GARAGE	22,475 SF	200 SF	113
	22,475 SF		**113**
LEVEL 1 (GROUND)			
GARAGE	22,475 SF	200 SF	113
	22,475 SF		**113**
LOWER LEVEL			
ELECTRICAL ROOM	338 SF	300 SF	2
GARAGE	5,294 SF	200 SF	27
GARAGE STORAGE	1,200 SF	300 SF	4
UTILITY ROOM	343 SF	300 SF	2
	7,174 SF		**35**

MEANS OF EGRESS SIZING

GARAGE TIER	CALCULATED OCCUPANT LOAD (a/b)	EGRESS WIDTH PER OCCUPANT		CALCULATED EGRESS WIDTH REQUIRED (in.)		EGRESS WIDTH PROVIDED (in.)	
		STAIR	OTHER	STAIR	OTHER	STAIR	OTHER
LEVEL 4 (ROOF)	87	0.3	0.2	26.1	17.4	340.0	192.0
LEVEL 3	113	0.3	0.2	33.9	22.6	170.0	156.0
LEVEL 2	113	0.3	0.2	33.9	22.6	170.0	192.0
LEVEL 1 (GROUND)	113	0.3	0.2	33.9	22.6	170.0	180.0
LOWER LEVEL	35	0.3	0.2	10.5	7.0	57.8	60.0

Accessibility

Accessible Parking:
Ratio of total spaces required - (201 to 300 requires 7 minimum accessible spaces)
For every six or fraction there of at least one shall be van-accessible

ACCESSIBLE PARKING SPACES

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		TYPICAL ACCESSIBLE SPACES		VAN ACCESSIBLE SPACES		TOTAL ACCESSIBLE SPACES PROVIDED
	REQUIRED	PROVIDED	REQUIRED	PROVIDED	REQUIRED	PROVIDED	
Parking Garage	240	~~242~~	5	~~5~~	2	~~2~~	~~7~~

MEANS OF EGRESS SIZING

GARAGE TIER	CALCULATED OCCUPANT LOAD (a/b)	EGRESS WIDTH PER OCCUPANT		CALCULATED EGRESS WIDTH REQUIRED (in.)		EGRESS WIDTH PROVIDED (in.)	
		STAIR	OTHER	STAIR	OTHER	STAIR	OTHER
LEVEL 4 (ROOF)	87	0.3	0.2	26.1	17.4	340.0	192.0
LEVEL 3	113	0.3	0.2	33.9	22.6	170.0	156.0
LEVEL 2	113	0.3	0.2	33.9	22.6	170.0	192.0
LEVEL 1 (GROUND)	113	0.3	0.2	33.9	22.6	170.0	180.0
LOWER LEVEL	35	0.3	0.2	10.5	7.0	57.8	60.0

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LICENSE EXPIRATION DATE 11/30/2026

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PROJECT NO.
PCNY0323.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

DRAWN: VJ
REVIEWED: RP
DATE: 02.21.25

NORTH

SHEET TITLE:
CODE ANALYSIS

SHEET NO.
G0.1

GENERAL NOTES

1. CONSTRUCTION WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION (01/01/23 VERSION) OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS, AND NYSDOT "US CUSTOMARY STANDARD SHEETS". PAY ITEMS SHALL BE IN ENGLISH UNITS, AS INDICATED IN CONTRACT PROPOSAL.
2. THE CONTRACTOR IS TO VISIT THE SITE BEFORE BIDDING, TO BECOME FAMILIARIZED WITH THE FIELD CONDITIONS AND TO JUDGE THE EXTENT AND NATURE OF THE WORK TO BE DONE UNDER THIS CONTRACT. NO EXTRA COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR BECAUSE OF THE CONTRACTOR'S FAILURE TO INCLUDE IN HIS BID ALL ITEMS AND MATERIALS WHICH HE IS REQUIRED TO FURNISH. IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, THE CONTRACTOR IS ADVISED THAT HE SHOULD HAVE IN HIS POSSESSION, A SET OF CONTRACT PLANS/PROPOSAL FOR IDENTIFICATION PURPOSES WHEN CONDUCTING THIS SITE VISIT.
3. WORK PERTAINING TO MODIFICATIONS, AS MAY BE REQUIRED, DUE TO ANY DIFFERENCE BETWEEN ACTUAL FIELD CONDITIONS AND THOSE SHOWN BY THE DETAILS AND DIMENSIONS ON THE CONTRACT PLANS, WILL BE PAID AT THE UNIT BID PRICE FOR THE ACTUAL QUANTITIES OF MATERIALS USED OR FOR THE WORK PERFORMED, AS INDICATED BY THE VARIOUS ITEMS IN THE CONTRACT.
4. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGES TO THE EXISTING FACILITIES CAUSED BY HIS OPERATIONS WHICH ARE NOT INCLUDED AS PART OF THE INTENDED WORK. ALL DAMAGES TO THE EXISTING FACILITIES WHICH ARE NOT PART OF THE INTENDED WORK SHALL BE REPAIRED BY THE CONTRACTOR WITHOUT COST TO THE COUNTY, AND TO THE SATISFACTION OF THE ENGINEER.
5. THE CONTRACTOR SHALL PROTECT HIS WORKERS AT ALL TIMES IN CONFORMANCE WITH APPLICABLE OSHA REGULATIONS.
6. THE CONTRACTOR IS ADVISED THAT ADDITIONAL "NOTES" WILL BE FOUND ON SUBSEQUENT SHEETS OF THE CONTRACT PLANS AND SUCH "NOTES", WHILE PERTAINING TO THE SPECIFIC SHEETS ON WHICH THEY ARE PLACED, ALSO SUPPLEMENT THE GENERAL NOTES LISTED HEREIN. NO ADDITIONAL PAYMENT WILL BE MADE FOR WORK CALLED FOR BY NOTES ON THE PLANS OR IN THE SPECIFICATIONS UNLESS PAYMENT IS SPECIFICALLY INDICATED BY ITEM NUMBER. THE COST OF WORK FOR WHICH NO PAYMENT ITEM IS INDICATED, SHALL BE INCLUDED IN THE UNIT PRICES BID FOR VARIOUS ITEMS OF THIS CONTRACT.
7. ACCESS TO ALL ADJOINING FACILITIES SHALL BE MAINTAINED AT ALL TIMES, WHERE REASONABLY POSSIBLE. PROPERTY MANAGER/OWNERS MUST BE NOTIFIED 48 HOURS IN ADVANCE OF ANY TEMPORARY DRIVEWAY CLOSURES.
8. LIMITING STATIONS DESIGNATED BY THE CONTRACT DOCUMENTS (I.E. TYPICAL SECTIONS) ARE APPROXIMATE AND MAY VARY IN THE FIELD.

MISCELLANEOUS

1. AREAS BEYOND THE WORK LIMITS DISTURBED FOR ANY REASON, BY THE CONTRACTOR AND HIS EMPLOYEES, SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
2. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT DUE TO THE NATURE OF RECONSTRUCTION PROJECTS, THE EXACT EXTENT OF RECONSTRUCTION WORK CAN NOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER AVAILABLE INFORMATION. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER.
3. WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED AND DISPOSED OF, THE COST OF SUPPLYING A DISPOSAL AREA AND TRANSPORTATION TO THAT AREA SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THOSE ITEMS.
4. A.O.B.E. INDICATES WORK TO BE PERFORMED AS ORDERED BY ENGINEER.
5. THE CONTRACTOR SHALL PERFORM CONSTRUCTION OPERATIONS WITHIN THE TIME PERIODS AND STAGING LIMITS SHOWN ON THE MAINTENANCE AND PROTECTION OF TRAFFIC PLAN SHEETS AND NOTES.

STAGING AREA

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING A STAGING AREA FOR EQUIPMENT AND MATERIAL STORAGE AND FIELD OFFICE, IF REQUIRED, FOR THE CONTRACT. THIS AREA MUST BE APPROVED BY THE ENGINEER AND THE LOCAL MUNICIPALITIES AND RESTORED TO ITS ORIGINAL CONDITION AFTER COMPLETION OF THE PROJECT. THE LATEST EDITION OF THE "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL" (AUGUST 2013) SHALL BE FOLLOWED FOR ESTABLISHING, MAINTAINING AND RESTORING THE STAGING AREA. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK. COST IS TO BE INCLUDED IN THE VARIOUS CONTRACT ITEMS.
2. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT BECAUSE OF THE PROXIMITY OF ADJACENT PROPERTY, AND THE POSSIBLE PRESENCE OF OTHER CONTRACTORS WITHIN THE LIMITS OF THIS CONTRACT, THERE MAY NOT BE EXCLUSIVE OCCUPANCY OF THE TERRITORY WITHIN THE LIMITS OF THIS CONTRACT. THE PROVISIONS OF SUBSECTION 102–09 OF THE STANDARD SPECIFICATIONS SHALL APPLY.

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL DEMONSTRATE FULL COMPLIANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (2016), TO THE SATISFACTION OF THE COUNTY. THE LATEST VERSION OF THIS DOCUMENT IS AVAILABLE FROM THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION AT HTTP://WWW.DEC.NY.GOV/CHEMICAL/29066.HTML,
2. THE CONTRACTOR SHALL INSTALL SILT FENCE, INLET PROTECTION, CHECK DAMS AND TREE/VEGETATION PROTECTION AS ORDERED BY ENGINEER OR AS INDICATED IN THE PLANS. THE CONTRACTOR MAY PLACE ADDITIONAL SILT FENCE OR TREE/VEG. PROTECTION UNDER THE DIRECTION OF THE ENGINEER IN CHARGE, ONLY IF DEEMED NECESSARY FOR THE GIVEN WORK. THIS SHALL BE PAID UNDER THE APPROPRIATE ITEMS.
3. ALL FIELD INLETS IN ROADSIDE GRASSED AREAS SUBJECT TO SOIL AND SEDIMENT EROSION SHALL BE PROVIDED WITH INLET PROTECTION AS INDICATED IN THE DETAIL ON THE APPROPRIATE DRAWING, AND PAID UNDER THE APPROPRIATE ITEM.
4. ALL CATCH BASINS AND INLETS WITHIN THE TRAVELED ROADWAY SHALL BE PROVIDED WITH TEMPORARY CATCH BASIN INSERT TRASH, SEDIMENT, AND DEBRIS REMOVAL (ITEM 209.11010024). TEMPORARY INSERTS MAY BE REMOVED ONLY WHEN ADJACENT GRADING WORK IS COMPLETED, AND WHEN BINDER OR TOP COURSE APPLIED TO THAT ROADWAY SEGMENT.
5. ALL SWALES, WHILE UNDER CONSTRUCTION, SHALL HAVE TEMPORARY STONE CHECK DAMS INSTALLED. THEY MAY BE REMOVED BEFORE FINAL STABILIZATION OF THE COMPLETED SWALE. CONSTRUCT AS INDICATED IN THE DETAIL ON THE APPROPRIATE DRAWING, AND PAID UNDER THE APPROPRIATE ITEM.
6. REFER TO APPROPRIATE DETAIL SHEET FOR SOIL EROSION AND SEDIMENT CONTROL DETAILS AND ADDITIONAL NOTES.

PAVING AND MILLING

1. TACK COAT – IN ADDITION TO THE DISTRIBUTOR EQUIPMENT DESCRIBED IN THE SPECIFICATIONS, SMALL POWER SPRAY UNITS OR HAND–HELD SPRAY EQUIPMENT, AS APPROVED BY THE ENGINEER, MAY BE USED IN THE AREAS WHERE USE OF THE DISTRIBUTOR IS IMPRACTICAL, SUCH AS NARROW IRREGULAR AREAS, INTERSECTIONS AND OTHER LOCATIONS WHERE TRAFFIC MUST BE ALLOWED TO CROSS THE PAVEMENT.
2. TACK COAT SHALL BE APPLIED WHENEVER RESURFACING: (1) ANY MILLED PAVEMENT; AND (2) ANY ASPHALT CONCRETE PAVEMENT EXCEPT WHEN THE EXISTING SURFACE IS EXCESSIVELY FLUSHED, AS DETERMINED BY THE ENGINEER.
3. IN ADDITION, TACK COAT SHALL BE APPLIED TO CONTACT SURFACES BETWEEN ALL ASPHALT PAVEMENT LIFTS REGARDLESS OF TIME PERIOD BETWEEN LIFTS OR CONSTRUCTION VEHICLE USE.
4. THE CONTRACTOR SHALL TAKE POSITIVE STEPS TO PREVENT THE SPLATTERING OF VEHICLES. THE CONTRACTOR SHALL PROVIDE FOR THE PROMPT CLEANING OF ANY VEHICLES SPLATTERED BY CONTRACTOR'S OPERATIONS AND SHALL PAY FOR THE CLEANING. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS IN THE CONTRACT.
5. WHERE PAVEMENT KEYS ARE CUT INTO THE EXISTING PAVEMENT IN PREPARATION FOR THE OVERLAY AT THE LIMITS OF RESURFACING, PRIOR TO REOPENING THE ROADWAY TO TRAFFIC, THE CONTRACTOR SHALL EITHER PLACE THE PROPOSED ASPHALT OVERLAY IMMEDIATELY OR PLACE A TEMPORARY WEDGE (4' MIN. A.O.B.E.) OF ASPHALT TO ELIMINATE THE BUMP CREATED BY THE PAVEMENT KEY. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE PAVING ITEMS.
6. THE CONTRACTOR SHALL EXERCISE CARE IN HIS COLD MILLING AND REMOVAL OPERATIONS SO AS NOT TO UNDULY DISTURB OR DAMAGE UNDERLYING MATERIALS WHICH ARE TO REMAIN IN PLACE. IF THE CONTRACTOR DAMAGES ANY MATERIALS THAT ARE TO REMAIN IN PLACE, THE DAMAGED MATERIALS SHALL BE EITHER REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR. THE CONTRACTOR SHALL KEEP THE ROADWAY WITHIN THE PROJECT LIMITS CLEAR OF SOIL AND IS RESPONSIBLE FOR ANY STREET CLEANING NECESSARY DURING THE COURSE OF THE PROJECT.
7. UPON COMPLETION OF MILLING OPERATIONS, THE CROSSWALK AREAS SHALL BE INSPECTED TO ENSURE AN EVEN WALKING SURFACE FOR PEDESTRIANS.

SAW CUTTING

1. THE GENERAL INTENT IN THE USE OF SAW CUT ITEMS IS AS FOLLOWS:
   A. SAW CUT FOR ASPHALT REMOVAL WHEN RESURFACING OVER THE REMOVAL LINE IS NOT PLANNED.
   B. WHEN ASPHALT IS TO BE REMOVED TO A POINT, WIDENED, AND THEN SUBSEQUENTLY RESURFACED, OR WHEN ASPHALT ABUTTING PRIVATE PROPERTY IS TO BE REMOVED REGARDLESS OF WHETHER SUBSEQUENT RESURFACING IS CALLED FOR, UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS, THE CONTRACTOR SHALL REMOVE THE MATERIAL TO A STRAIGHT LINE HAVING A MAXIMUM DEVIATION FROM THE STRAIGHT OF 4" IN 10' AS ORDERED BY THE ENGINEER TO PERMIT PROPER AND ADEQUATE REPLACEMENT AND COMPACTION OF THE NEW ASPHALT. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK BUT THE COST SHALL BE INCLUDED IN THE PRICE BID FOR THE APPROPRIATE ITEMS OF WORK.

CLEAN, SEAL AND FILL CRACKS

1. WHERE EXISTING REFLECTIVE CRACKS HAVE CAUSED THE ADJACENT ASPHALT MATERIAL TO RISE, CRACKS SHALL BE CLEANED AND FILLED IN ACCORDANCE WITH ITEM 633.12 TO A LINE FLUSH WITH THE NON–RAISED ASPHALT. THE RAISED ASPHALT SHALL THEN BE REMOVED TO A LINE WITH THE EXISTING ROADWAY SURFACE BY HEATING/RAKING, PLANING, GRINDING, ETC. AS APPROVED BY THE ENGINEER. ALL COST FOR CLEANING, FILLING AND REMOVAL OF ASPHALT SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 633.11.
2. WITHIN THE LIMITS OF RESURFACING, ALL UNSEALED AND INADEQUATELY SEALED CRACKS 1/4" IN WIDTH OR GREATER WHICH ARE VISIBLE IN THE SURFACE SHALL BE CLEANED AND SEALED PRIOR TO PLACEMENT OF THE ASPHALT. CRACKS FROM ¼" TO 1" WIDE SHALL BE SEALED UNDER ITEM 633.11 WITH A MIXTURE OF BITUMINOUS MATERIAL MEETING THE REQUIREMENTS OF 702–4501 AS LISTED IN TABLE 6 OF SECTION 702 AND/OR OF 702–3601 AS LISTED IN TABLE 5 OF SECTION 702. MORTAR SAND SHALL MEET THE REQUIREMENTS OF SUBSECTION 703–03. WHICHEVER EMULSION THE CONTRACTOR CHOOSES, HE SHALL PROVIDE CERTIFICATION TO THE E.I.C. STATING THAT THE MATERIAL IS COMPATIBLE WITH THE MORTAR SAND SELECTED TO PRODUCE ALLOWABLE COATING AND RETENTION IN ANIONIC AND/OR CATIONIC PHASES. THE MATERIALS SHALL BE MIXED TO A MORTAR CONSISTENCY TO THE SATISFACTION OF THE ENGINEER. A MINERAL FILLER MEETING THE REQUIREMENTS OF 703–08 MAY BE ADDED FOR WORKABILITY AS ORDERED BY THE ENGINEER. CRACKS WIDER THAN ¾" SHALL BE REPAIRED AS SPECIFIED UNDER ITEM 633.11. THE CLEANING SHALL CONSIST OF THE REMOVAL OF ALL DIRT AND LOOSE MATERIAL AND SHALL BE ACCOMPLISHED BY HOLDING A CLEANING JET, MEASURING AT LEAST 80 PSI AT THE SOURCE, 1" ABOVE THE PAVEMENT SURFACE. THIS WORK SHALL BE COMPLETED AT LEAST 24 HOURS BUT NO MORE THAN 2 WEEKS IN ADVANCE OF THE PAVING OPERATION. PAYMENT FOR THIS WORK WILL BE MADE UNDER ITEM 633.11.

ROADWAY WORK/TRAFFIC SIGNAL & PARKING SPACE PERMITS

1. THE CONTRACTOR WILL BE REQUIRED TO OBTAIN ANY NECESSARY N.Y.S.D.O.T. ROAD WORK PERMITS AND PARKING SPACE METER BAGS/ PERMITS FOR WORK PERFORMED UNDER THIS CONTRACT.

MAINTENANCE AND PROTECTION OF TRAFFIC GENERAL NOTES

1. MILLING AND RESURFACING ON TUCKAHOE ROAD SHALL BE PERFORMED DURING DAY TIME HOURS. LANE CLOSURES FOR DAYTIME WORK ARE PERMITTED ONLY ON WEEKDAYS BETWEEN 9:00 AM AND 4:00 PM.
2. ALL WORK NOT REQUIRING A LANE CLOSURE, INCLUDING CURB, CURB CUTS, DRAINAGE, BUS PADS, SIGNAL WORK AND SIDEWALK, SHALL BE PERFORMED DURING HOURS PERMITTED BY THE COUNTY AND THE REGULATIONS OF THE MUNICIPALITY WITHIN WHICH WORK IS OCCURRING.
3. CONTRACTOR SHALL REQUIRE THE PERMISSION OF THE COUNTY AND APPROPRIATE MUNICIPALITY IN ADVANCE OF ANY REQUESTED WEEKEND WORK.
4. MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 619 OF THE NYSDOT STANDARD SPECIFICATIONS; CODES, RULES AND REGULATIONS OF THE FEDERAL M.U.T.C.D. WITH NEW YORK STATE SUPPLEMENT; AND ANY PROVISIONS CONTAINED IN THE PLANS AND/OR PROPOSAL OF THIS CONTRACT.

MAINTENANCE AND PROTECTION OF TRAFFIC GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF TRAFFIC. MAINTENANCE OF TRAFFIC SCHEMES SHALL BE IN ACCORDANCE WITH THE PLANS AND AS APPROVED OR DIRECTED BY THE ENGINEER IN CHARGE. TRAFFIC SCHEMES SHOWN ON THE PLANS ARE TO BE CONSIDERED MINIMUM REQUIREMENTS. THE ENGINEER IN CHARGE MAY ORDER ADDITIONAL SIGNS, FLAGGERS, CONES, REFLECTORIZATION ETC., IF HE DEEMS IT NECESSARY AT NO ADDITIONAL COST TO THE COUNTY. PAYMENT FOR ALL SUCH WORK SHALL BE INCLUDED IN THE ITEMS FOR MAINTENANCE AND PROTECTION OF TRAFFIC OR CONSTRUCTION SIGNS AS APPROPRIATE.
2. PRIOR TO THE START OF WORK, THE CONTRACTOR MAY SUBMIT ANY PROPOSED CHANGES TO THE TRAFFIC CONTROL PLAN TO THE ENGINEER FOR APPROVAL. ANY CHANGES WHICH ALTER THE BASIC CONCEPT OF THE PLAN MUST BE APPROVED BY THE ENGINEER.
3. THE CONTRACTOR MUST NOTIFY THE ENGINEER IN CHARGE AND THROUGH THE ENGINEER IN CHARGE, THE MUNICIPALITIES, AND THEIR POLICE AND FIRE DEPARTMENTS OF ALL DETOURS, OR ANY WORK THAT MIGHT AFFECT THE MOBILITY OR ACCESS OF THE FIRE OR POLICE DEPARTMENT 72 HOURS IN ADVANCE OF THEIR IMPLEMENTATION. IN ADDITION, THE CONTRACTOR SHALL ENSURE THAT HYDRANTS AND ALARM BOXES ARE KEPT CLEAR AND ACCESSIBLE.
4. IN ADDITION TO THE SIGNING SHOWN ON THE PLANS, THE CONTRACTOR SHALL ERECT G11–1C, "ROAD WORK, NEXT ____ MILES" SIGNS; AND G11–2C, "END ROAD WORK" SIGNS AT THE CONTRACT LIMIT OF THE PROJECT. PAYMENT FOR THESE SIGNS WILL BE MADE UNDER THE ITEM 619.01.
5. THE CONTRACTOR SHALL PROVIDE A FLAGGER WITH APPROPRIATE SIGNING WHENEVER OPERATIONS INTERFERE WITH TRAFFIC. EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO: DELIVERY AND REMOVAL OF MATERIALS, LIFT OPERATIONS, RESTRICTED SIGHT DISTANCES, IMPEDANCE OF NORMAL TRAFFIC FLOW AND OTHER ACTIVITIES. COST SHALL BE INCLUDED IN ITEM 619.01.
6. THE CONTRACTOR SHALL PLACE W4–1 "BUMP" SIGNS, W4–2 "DIP" SIGNS AND/OR W4–4 "ROUGH ROAD" SIGNS WHERE DIRECTED BY THE ENGINEER.
7. CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTIONS 619–3.02 AND 645–3.17 OF THE STANDARD SPECIFICATIONS. EXISTING TRAFFIC SIGNS AND CONSTRUCTION SIGNS WITHIN THE WORK AREA WHICH ARE NO LONGER NEEDED, EVEN TEMPORARILY, OR ARE CONFLICTING, INAPPROPRIATE OR CONFUSING, SHALL BE REMOVED (SUBJECT TO THE APPROVAL OF THE COUNTY) OR SHALL BE COVERED COMPLETELY WITH AN OPAQUE MATERIAL. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE MAINTENANCE AND PROTECTION OF TRAFFIC ITEM.
8. TYPE B – HIGH INTENSITY, FLASHING LIGHTS ARE REQUIRED ON ALL W8 ADVANCE WARNING SIGNS.
9. ALL SINGLE TYPE III CONSTRUCTION BARRICADES AND DRUMS SHALL BE OF LIKE NEW CONDITION AND SHALL REQUIRE TYPE C – LOW INTENSITY", STEADY LIGHTS UNLESS OTHER WISE NOTED ON THE PLANS.
10. TYPE IV CHARACTERS PER THE NYCRR SHALL BE USED ON CONSTRUCTION SIGNS.
11. THE CONTRACTOR SHALL ERECT SIGNS TO PROVIDE PROPER HORIZONTAL AND VERTICAL CLEARANCES AS REQUIRED BY THE MUTCD.
12. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 230.3 OF THE MUTCD WHICH REQUIRES THAT WITH THE EXCEPTION OF THE RAILROAD ADVANCE WARNING SIGN, WARNING SIGNS USED IN CONJUNCTION WITH WORK ZONE ACTIVITIES SHOULD HAVE ORANGE BACKGROUNDS.
13. IN ADDITION TO THE SIGNING SHOWN ON THE PLANS, THE CONTRACTOR SHALL ERECT W8–1D, "ROAD WORK AHEAD" SIGNS AT INTERSECTING CROSS STREETS WITHIN THE CONTRACT LIMITS. PAYMENT FOR THESE SIGNS WILL BE MADE UNDER THE ITEM FOR CONSTRUCTION SIGNS.
14. ALL CONSTRUCTION SIGNS SHALL HAVE A FLUORESCENT ORANGE BACKGROUND AND BLACK LETTERS AND BORDER UNLESS OTHERWISE SPECIFIED. ORANGE CONSTRUCTION SIGN MATERIAL REQUIREMENTS SHALL BE: 1) SCOTCHLITE DURABLE FLUORESCENT DIAMOND GRADE SHEETING (3924/G ORANGE) AS MANUFACTURED BY THE 3M COMPANY, OR 2) STIMSOMITE'S FLUORESCENT ORANGE HIGH–PERFORMANCE GRADE RETROFLECTIVE SHEETING NO. 4370, OR APPROVED EQUAL. SIGN MATERIALS MUST BE IN COMPLIANCE WITH NYSDOT SPECIFICATIONS. ALL SIGNS ARE TO BE IN GOOD CONDITION. FADED AND DETERIORATED PANELS, AS WELL AS NON–STANDARD TEXT WILL NOT BE ACCEPTABLE.
15. IN REFERENCE TO THE MUTCD. THE FOLLOWING STIPULATIONS SHALL APPLY UNLESS OTHERWISE SPECIFIED BY THE ENGINEER:
    A. WHERE SIGNS ARE SHOWN IN BOTH DIAMOND AND RECTANGULAR SHAPES, ONLY DIAMOND SHAPES WILL BE PERMITTED, EXCEPT IN MEDIAN APPLICATIONS WHERE THE RECTANGULAR SIGNS WILL BE USED AS SPECIFIED BY THE ENGINEER.
    B. WHERE SIGNS ARE SHOWN IN ALTERNATE SIZES, THE LARGEST SIZE MUST BE USED UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, OR AS SHOWN ON THE PLANS.
16. THE CONTRACTOR SHALL COVER, WITH OPAQUE MATERIAL, ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THE MAINTENANCE AND PROTECTION OF TRAFFIC SIGNS ERECTED FOR A SPECIFIC WORK OPERATION. ANY SUCH COVERING SHALL BE IMMEDIATELY REMOVED AFTER COMPLETION OF THE M.P.T. WORK. ALSO ALL CONSTRUCTION SIGNS SHALL BE COVERED IN AN APPROPRIATE MANNER, WHEN THE WORK THEY PERTAIN TO IS NOT IN PROGRESS.
17. UNDER THE BASIC MAINTENANCE AND PROTECTION OF TRAFFIC ITEM THE CONTRACTOR WILL BE REQUIRED TO PERFORM MAINTENANCE CLEANING OF THE PAVEMENT WITHIN THE CONTRACT LIMITS, WHEN ORDERED BY THE ENGINEER IN CHARGE. MAINTENANCE CLEANING SHALL MEAN THE REMOVAL OF DEBRIS FROM ANY SOURCE, WHICH IN THE OPINION OF THE ENGINEER IN CHARGE IMPEDES FLOW OF TRAFFIC OR STORM WATER. THIS REQUIREMENT SHALL NOT BE CONSTRUED TO CHANGE THE PROVISIONS OF ARTICLE 619–1 .02K SNOW AND ICE CONTROL (OF NYSDOT STANDARD SPECIFICATIONS).
18. THE CONTRACTOR SHALL PROVIDE THE COUNTY, AT LEAST TWO WEEKS IN ADVANCE, HIS PROPOSED SCHEDULE AS IT PERTAINS TO ROADWAY CHANNELIZATION. THE SCHEDULE SHALL INCLUDE LAYOUTS AND SIGNING AS SPECIFIED IN THE MPT SHEETS AND OTHER METHODS AVAILABLE TO IMPROVE TRAFFIC FLOW NOT SHOWN ON THE TYPICAL MPT SHEETS OR DETOUR SHEETS. BEFORE IMPLEMENTATION, SCHEDULED LAYOUTS SHALL BE SUBJECT TO MODIFICATION BY THE COUNTY. THE CONTRACTOR SHALL PERFORM THIS WORK IN SUCH A MANNER AND SEQUENCE AS TO MAINTAIN TWO LANES OF THRU TRAFFIC AT ALL TIMES AND/OR AS SHOWN OH THE PLANS.
19. BEFORE RESTRICTING THE NORMAL FLOW OF TRAFFIC IN ANY WAY, THE CONTRACTOR SHALL GIVE FORTY–EIGHT (48) HOURS PRIOR NOTICE OF SAME TO THE MOUNT PLEASANT POLICE AND FIRE DEPARTMENTS. IN ADDITION, HE SHALL GIVE FORTY–EIGHT (48) HOURS NOTICE TO ALL RESIDENTS AND/OR BUSINESSES HAVING DRIVEWAYS AND ENTRANCES WITHIN THE CONTRACT LIMITS BEFORE COMMENCING ANY OPERATIONS WHICH WILL TEMPORARILY INTERFERE WITH THEIR USE. THE CONTRACTOR SHALL ASSIGN A RESPONSIBLE EMPLOYEE TO GIVE THE AFOREMENTIONED NOTICES IN WRITING AFTER CONCURRENCE WITH THE COUNTY.
20. TYPE A FLASHING LOW INTENSITY WARNING LIGHTS SHALL BE MOUNTED ON THE FIRST THREE DRUMS IN A TAPER. COST TO BE INCLUDED UNDER ITEM 619.01.
21. FOR NIGHTTIME WORK, TYPE B FLASHING HIGH INTENSITY WARNING LIGHTS SHALL BE MOUNTED ON ALL WARNING SIGNS ("W–SERIES"). COST TO BE INCLUDED UNDER ITEM 619.01.
22. PRIOR TO OPENING CROSSWALKS TO PEDESTRIANS AFTER MILLING OPERATIONS, THE CROSSWALK AREA SHALL BE INSPECTED BY THE ENGINEER IN CHARGE FOR SAFETY. WALKING SURFACES DEEMED UNSAFE SHALL BE CORRECTED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.
23. TEMPORARY PAVEMENT MARKINGS ARE REQUIRED AFTER BOTH MILLING OPERATIONS AND BINDER PLACEMENT. CROSSWALK MARKINGS SHALL INCLUDE TRANSVERSE LINES ONLY. THE COST FOR THESE ITEMS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 619.01.

UTILITIES

1. CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 13 OF THE GENERAL CLAUSES. IN ADDITION TO THE REQUIREMENTS OF ARTICLE 13. THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER IN CHARGE, IN WRITING, THE FACILITY OWNER'S RESPONSE TO ONE–CALL NOTIFICATION, BEFORE PROCEEDING WITH ANY EXCAVATION.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY UNDER PART 753 OF THE NEW YORK STATE INDUSTRIAL CODE TO DETERMINE THE EXACT LOCATION OF THE UNDERGROUND FACILITIES PRIOR TO WORKING IN THE AREA. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
3. THE COUNTY DOES NOT WARRANT THE LOCATION AND/OR THE EXTENT OF UTILITIES WITHIN THE PROJECT AREA, AS THE EXISTENCE AND THE LOCATION OF ALL UTILITIES SHOWN HEREIN HAVE BEEN OBTAINED FROM LIMITED FIELD INVESTIGATION AND FROM RECORD DRAWINGS OF THE INDIVIDUAL UTILITY COMPANIES. THE LOCATIONS ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IN THE EVENT OTHER UTILITY LINES NOT SHOWN ON THESE PLANS ARE ENCOUNTERED IN THE FIELD, IMMEDIATE NOTICE SHALL BE GIVEN TO THE ENGINEER IN CHARGE, AND SUCH UTILITIES SHALL REMAIN UNDISTURBED UNTIL WRITTEN PERMISSION IS GRANTED BY THE ENGINEER–IN–CHARGE TO PROCEED.
4. THE ACCURACY INDICATED FOR THE LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE DEFINED AS FOLLOWS:

   QUALITY LEVEL C– RECORD INFORMATION PROVIDED BY UTILITY OWNERS WAS PLOTTED ON THE CONTRACT PLANS, DEPTHS WERE NOT FIELD VERIFIED. PHYSICAL SURFACE FEATURES LIKE MANHOLES, VALVE BOXES AND HYDRANTS HAVE NOT BEEN FIELD LOCATED (ONLY SOME HAVE BEEN LOCATED BY THE LAND SURVEYOR).

   THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS UNDER SECTIONS 600 THROUGH 680 OF THE STANDARD SPECIFICATIONS, NOR DOES IT RELIEVE THE UTILITY OWNERS OF THEIR OBLIGATION TO ACCURATELY LOCATE THEIR FACILITIES.
5. ALL KNOWN PUBLIC AND PRIVATE UTILITY LINES WITHIN OR ADJACENT TO THE SITE OF THE WORK ARE SHOWN IN THEIR EXISTING APPROXIMATE LOCATIONS ON THE CONTRACT PLANS. THE CONTRACTOR IS CAUTIONED THAT THESE LOCATIONS ARE NOT GUARANTEED, NOR IS THERE A GUARANTEE THAT ALL SUCH LINES IN EXISTENCE HAVE BEEN SHOWN ON THE PLANS.
6. SHOULD UTILITIES BE ENCOUNTERED DURING CONSTRUCTION WHICH INTERFERES WITH THE WORK AND FOR WHICH PROVISIONS ARE NOT MADE ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY STOP WORKING IN THE AFFECTED AREA AND NOTIFY THE ENGINEER IN CHARGE OF THE EXISTENCE OF THESE UTILITIES AND OF THE EXTENT OF CONFLICT WITH THE WORK. THE ENGINEER IN CHARGE SHALL THEN MAKE ARRANGEMENTS WITH THE OWNING UTILITY IN ORDER TO ALLOW THE CONTRACTOR TO PROGRESS THE WORK.
7. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE EXACT LOCATION OF UTILITY LINES AND SHALL PROTECT AND SUPPORT IN A SUITABLE MANNER AT HIS OWN EXPENSE ALL UNDERGROUND UTILITIES ENCOUNTERED IN HIS EXCAVATING AND TRENCHING OPERATIONS. THE CONTRACTOR SHALL MAKE GOOD ANY DAMAGE TO THOSE UTILITIES CAUSED BY HIS OPERATIONS. IF THE NATURE OF THE DAMAGE IS SUCH AS TO ENDANGER THE SATISFACTORY OPERATIONS OF THE UTILITIES AND THE NECESSARY REPAIRS ARE NOT IMMEDIATELY MADE BY THE CONTRACTOR, THE WORK MAY BE DONE BY THE RESPECTIVE OWNING COMPANIES AND THE COST THEREOF CHARGED AGAINST THE CONTRACTOR.
8. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL MEET WITH ALL THE KNOWN PUBLIC AND PRIVATE UTILITY COMPANIES OCCUPYING THE WORK SITE. THE CONTRACTOR SHALL, AT THIS MEETING, INFORM THE UTILITY COMPANIES OF HIS SCHEDULE OF OPERATIONS AND SO COORDINATE HIS WORK WITH THESE COMPANIES.
9. THE METHOD OF REMOVAL OF EXISTING ROADWAY OR SHOULDER PAVEMENT IN THE IMMEDIATE VICINITY OF UNDERGROUND UTILITIES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

DOCUMENTATION — EXISTING CONDITIONS

1. THE CONTRACTOR SHALL PHOTOGRAPH AND TAKE MEASUREMENT OF THE PROJECT PRIOR TO COMMENCEMENT OF WORK. THIS TO DOCUMENT THE EXISTING CONDITIONS.
2. THE CONTRACTOR SHALL DOCUMENT AND TAKE MEASUREMENTS OF ALL LOOP DETECTORS, LANE WIDTHS, LANE LINES, SHOULDER/MEDIAN LINES, AND OTHER PAINT STRIPING ELEMENTS, PRIOR TO THE COMMENCEMENT OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO STRIP THE ROADWAY IN ACCORDANCE WITH THE EXISTING CONDITIONS AND NYSDOT STANDARDS.

UTILITY CONTACT INFORMATION

UTILITY NAME	CONTACT NAME	TELEPHONE NUMBER	EMAIL ADDRESS
Village Of Ossining DPW (water sanitary storm)		1-914-941-4660	
Alice/Optimum USA	Joseph Azzone Jason Curran Senior Utility Associate	(Engineering) 718-860-3514 O: 914-326-1047 M: 914-497-0721	Joseph.Azzone@AlticeUSA.com jason.curran@alticeusa.com
Firstlight Fiber	Anthnoy Lavarone Senlin Urena	518-928-9627 518-694-8711	
LightPath - Fiber/Cable	Leo Tsoir, PMP Construction Manager 2 Saw Mill River Road Hawthorne, NY 10532	O: 914.326.1051│M: 914.447.0599	Ed Fink Ed.Finck@lightpathfiber.com Leo Tsoir Leo.Tsoir@Lightpathfiber.com
Consolidated Edison of NY	Michael Matuskovic	914-925-6519	MATUSKOVICM@coned.com
NYC DEP Water East (Aqueducts)		914-767-2942	
VERIZON / Valhalla Westchester	Mike Miles 500 Summit Lake Drive, Valhalla, NY, 10595	844-661-0660 914-741-7366 914-741-8380	
Verizon Engineering Department	John Sprague		john.sprague@verizon.com
Westchester County Sewer		914-813-5437	

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PROJECT NO.

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

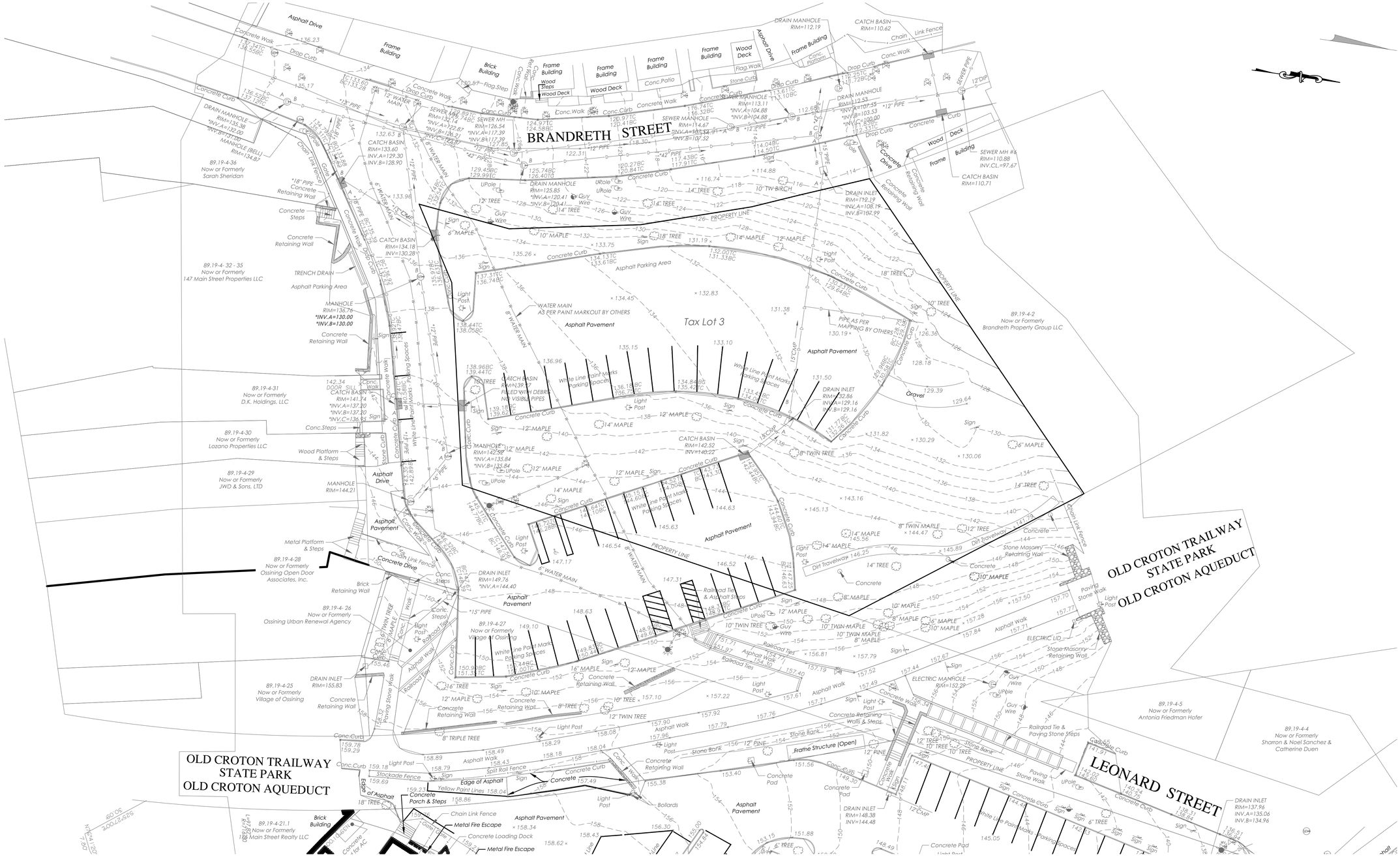
NO.	DESCRIPTION	DATE

NORTH

DRAWN: VP
REVIEWED: HF
DATE: 02/21/25

SHEET TITLE:
NOTES AND ABBREVIATIONS

SHEET NO.
C 3.0



NOTES:

1) TOPOGRAPHIC SURVEY AND UTILITY INFORMATION PLAN, DRAWING OF OSSINING MUNICIPAL PARKING LOT, SECTION 89.19, BLOCK NO. 4, LOT NO. 3, VILLAGE OF OSSINING, WESTCHESTER COUNTY, NEW YORK, PREPARED BY LANGAN ENGINEERING, WHITE PLAINS, NEW YORK, DATED JULY 21, 2023, UPDATED JULY 22, 2024.
2) (*)INVERT ELEVATIONS CITED FROM VILLAGE OF OSSINING, NEW YORK UPPER MAIN PROJECT, CONTRACT NO. 1 FOR THE VILLAGE OF OSSINING DEVELOPMENT DEPARTMENT, PREPARED BY CAHN ENGINEERS, INC. ALBANY, NEW YORK, DATED JUNE 1979.

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REVIEWED: HF
DATE: 02/21/25

SHEET TITLE:

EXISTING SITE CONDITIONS

SHEET NO.

C 3.1

EXISTING UTILITY POLE TO REMAIN AND BE PROTECTED

AREA TO BE MILLED AND PAVED

REMOVE 6" WATER MAIN

REMOVE INLET

REMOVE ASPHALT

REMOVE LANDSCAPE AREA

REMOVE 8" WATER MAIN

REMOVE ASPHALT

REMOVE INLET AND PART OF STORM PIPE

REMOVE LANDSCAPE AREA

REMOVE CONCRETE CURB

REMOVE 8" WATER MAIN

FIRE HYDRANT TO BE REMOVED AND GIVEN TO THE VILLAGE OF OSSINING WATER DEPARTMENT FOR RESTORATION AND REUSE

REMOVE CONCRETE CURB

REMOVE LANDSCAPE AREA

EXISTING INLET TO REMAIN AND BE PROTECTED

EXISTING LIGHT POLE TO REMAIN AND BE PROTECTED

REMOVE ASPHALT

SAWCUT

REMOVE CONCRETE RETAINING WALLS

EXISTING GUY WIRE TO REMAIN AND BE PROTECTED

EXISTING UTILITY POLE TO REMAIN AND BE PROTECTED

EXISTING SIGN TO REMAIN AND BE PROTECTED

TREE TO REMAIN

TREE TO REMAIN (TYP.)

EXISTING UTILITY POLE TO REMAIN AND BE PROTECTED

EXISTING CONCRETE RETAINING WALL TO REMAIN AND BE PROTECTED

EXISTING INLET TO REMAIN AND BE PROTECTED

REMOVE 15" CMP AND ASSOCIATE INLETS

REMOVE UNKNOWN STORM PIPE

PROPOSED BUILDING OUTLINE

REMOVE INLETS

REMOVE DIRT TRAVELWAY

CONTRACTOR IS ADVISED THAT THE TRAIL, AQUEDUCT, AND ASSOCIATED STRUCTURE IS OF HISTORIC VALUE AND SHALL BE PROTECTED AT ALL TIMES

EXISTING SIGN TO REMAIN AND BE PROTECTED

EXISTING WATER VALVE TO REMAIN AND BE PROTECTED

SAWCUT

REMOVE ASPHALT AND ASSOCIATE STEPS

EXISTING LIGHT POLE TO REMAIN AND BE PROTECTED

FIRE HYDRANT TO BE REMOVED AND GIVEN TO THE VILLAGE OF OSSINING WATER DEPARTMENT FOR RESTORATION AND REUSE

REMOVE CONCRETE RETAINING WALL

TREES TO REMAIN

EXISTING LIGHT POLE TO REMAIN AND BE PROTECTED

THE CONTRACTOR IS ADVISED THAT THE OLD CROTON TRAILWAY IS A STATE PARK AND OF HISTORIC VALUE AND SHALL BE PROTECTED AT ALL TIMES.

THE TRAIL AND BRIDGE ARE NOT PART OF THIS PROJECT.

OLD CROTON TRAILWAY STATE PARK
OLD CROTON AQUEDUCT

BRANDRETH STREET

LEONARD STREET

0 20 40
SCALE IN FEET: 1" = 20'-0"

LEGEND

- REMOVE ITEM (EACH)
- REMOVE ITEM (LF)
- REMOVE LANDSCAPE AREA
- REMOVE ASPHALT PAVEMENT
- REMOVE CONCRETE
- REMOVE DIRT
- MILLING AND PAVING

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Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

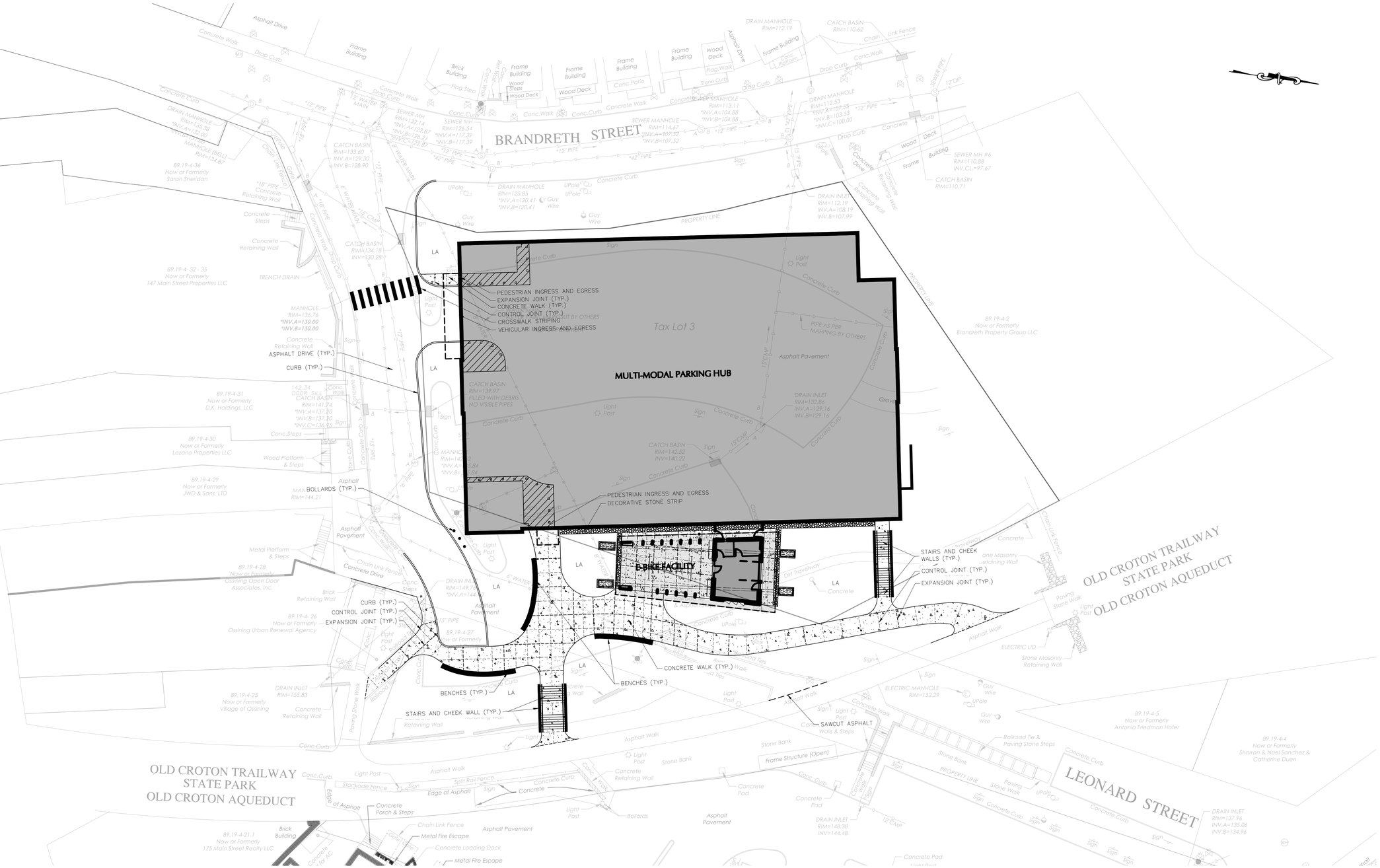
NORTH

DRAWN: VP
REVIEWED: HF
DATE: 02/21/25

SHEET TITLE:
DEMOLITION PLAN

SHEET NO.

C 3.2



0 20 40

SCALE IN FEET: 1" = 20'–0"

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02.21.25

NO.	DESCRIPTION	DATE

NORTH

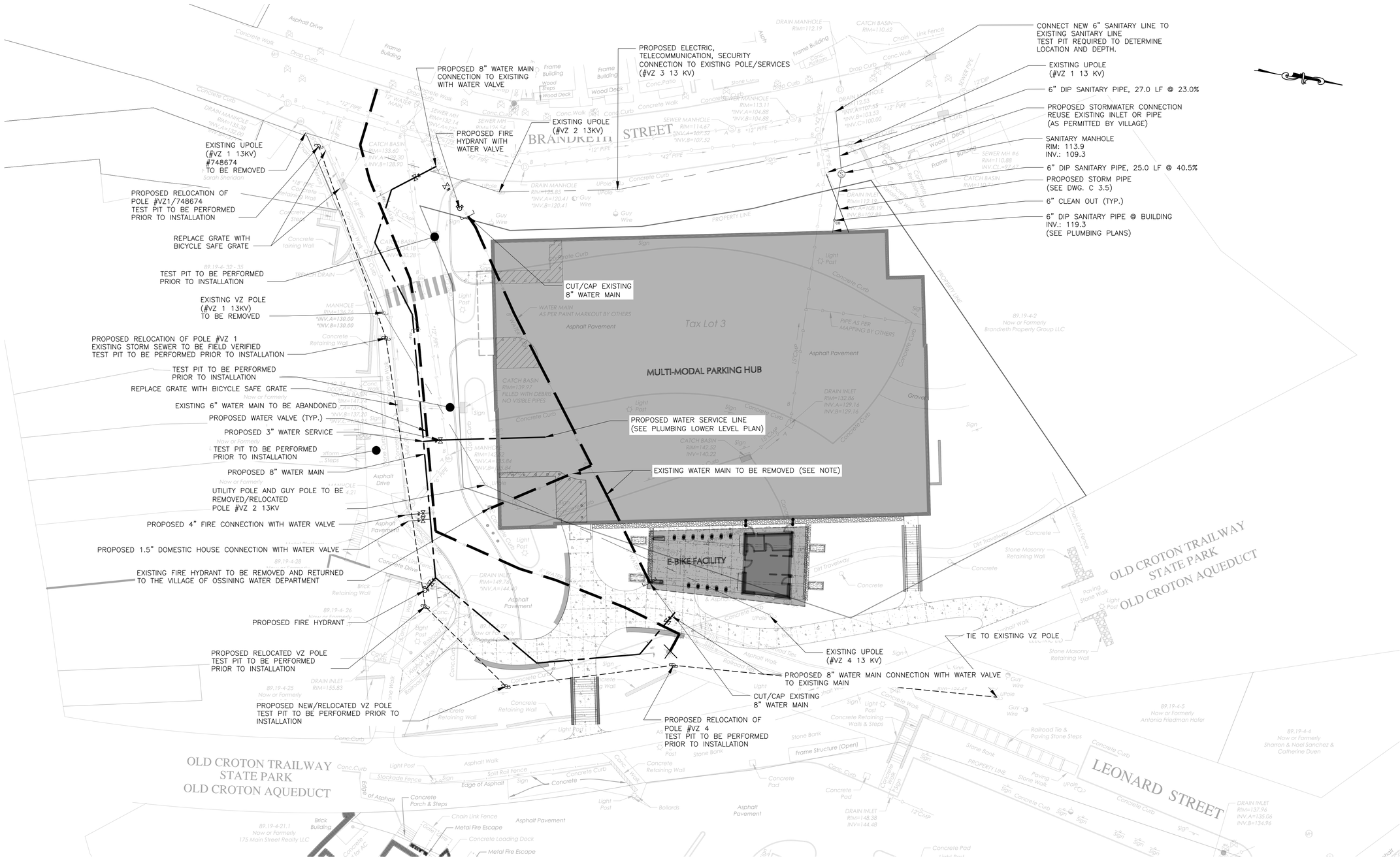
DRAWN: VP
REVIEWED: HF
DATE: 02/21/25

SHEET TITLE:

SITE PLAN

SHEET NO.

C 3.3



NOTES:

1) ALL UTILITY SERVICES WITHIN BUILDING FOOTPRINT TO BE REMOVED.
2) 6" WATER MAIN IN LEONARD STREET TO BE ABANDONED IN PLACE. IT MAY BE REMOVED WHERE CONFLICTS EXIST, ONLY AFTER THE NEW 8" WATER MAIN IS ACTIVE.
3) (*)INVERT ELEVATIONS CITED FROM VILLAGE OF OSSINING, NEW YORK UPPER MAIN PROJECT, CONTRACT NO. 1 FOR THE VILLAGE OF OSSINING DEVELOPMENT DEPARTMENT, PREPARED BY CAHN ENGINEERS, INC. ALBANY, NEW YORK, DATED JUNE 1979.
4) RELOCATION AND INSTALLATION OF NEW UTILITY POLES SHALL BE COORDINATED WITH VERIZON, CON EDISON AND OTHER UTILITY PROVIDERS CONNECTED TO THE EXISTING POLES. SEE DRAWING C 3.0 FOR KNOWN UTILITY CONTACT INFORMATION
5) ALL WATER MAIN WORK SHALL BE COORDINATED WITH THE VILLAGE OF OSSINING WATER DEPARTMENT AND DPW.
6) THE CONTRACTOR SHALL REPLACE ALL NON-CONFORMING INLET GRATES WITH BICYCLE SAFE GRATES WITHIN THE LIMIT OF THE PROJECT AND AS NOTED HEREIN.

6" WATER MAIN TO BE REMOVED AND/OR ABANDONED IN PLACE (SEE NOTE)

PROPOSED WATER LINE

EXISTING UTILITY LINE

PROPOSED UTILITY LINE

REMOVE ITEM

0 20 40

SCALE IN FEET: 1" = 20'-0"

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02.21.25

NO.	DESCRIPTION	DATE

NORTH

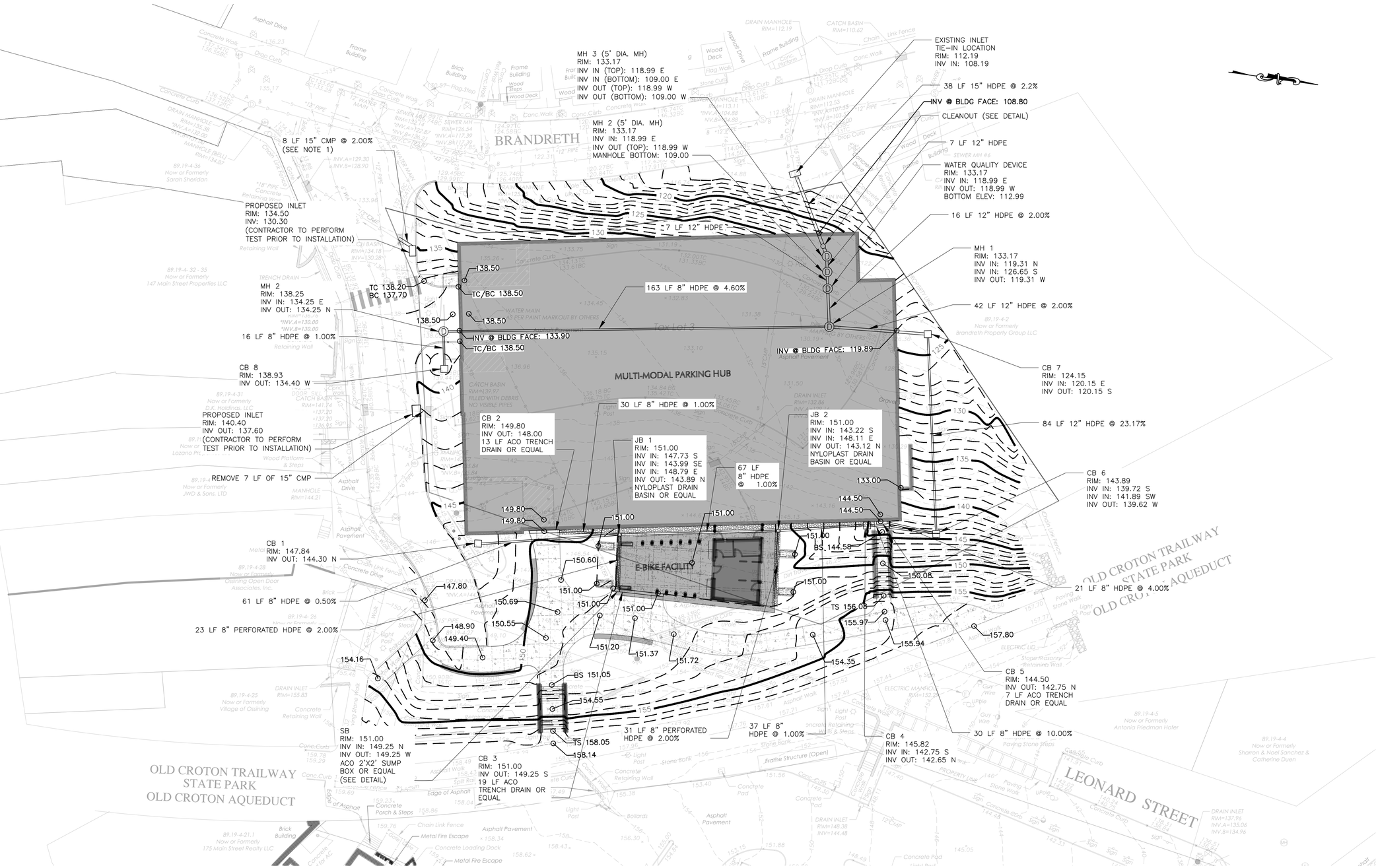
DRAWN: VP
REVIEWED: HF
DATE: 02/21/25

SHEET TITLE:

UTILITIES PLAN

SHEET NO.

C 3.4



0 20 40
SCALE IN FEET: 1" = 20'-0"

NOTES:
1) (*)INVERT ELEVATIONS CITED FROM VILLAGE OF OSSINING, NEW YORK UPPER MAIN PROJECT, CONTRACT NO. 1 FOR THE VILLAGE OF OSSINING DEVELOPMENT DEPARTMENT, PREPARED BY CAHN ENGINEERS, INC. ALBANY, NEW YORK, DATED JUNE 1979.
2) CONTRACTOR TO DETERMINE THE CONDITION OF THE EXISTING CMP. IF THE EXISTING CMP IS IN POOR CONDITION, CONTRACTOR TO REPLACE THE ENTIRE LENGTH OF THE PIPE. 52 LF 15" HDPE @2% MATCH EXISTING INVERT AT DOWNSTREAM INLET.
3) SEE DRAWINGS C3.10 THROUGH C3.14 FOR DETAILS.

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02.21.25

NO.	DESCRIPTION	DATE

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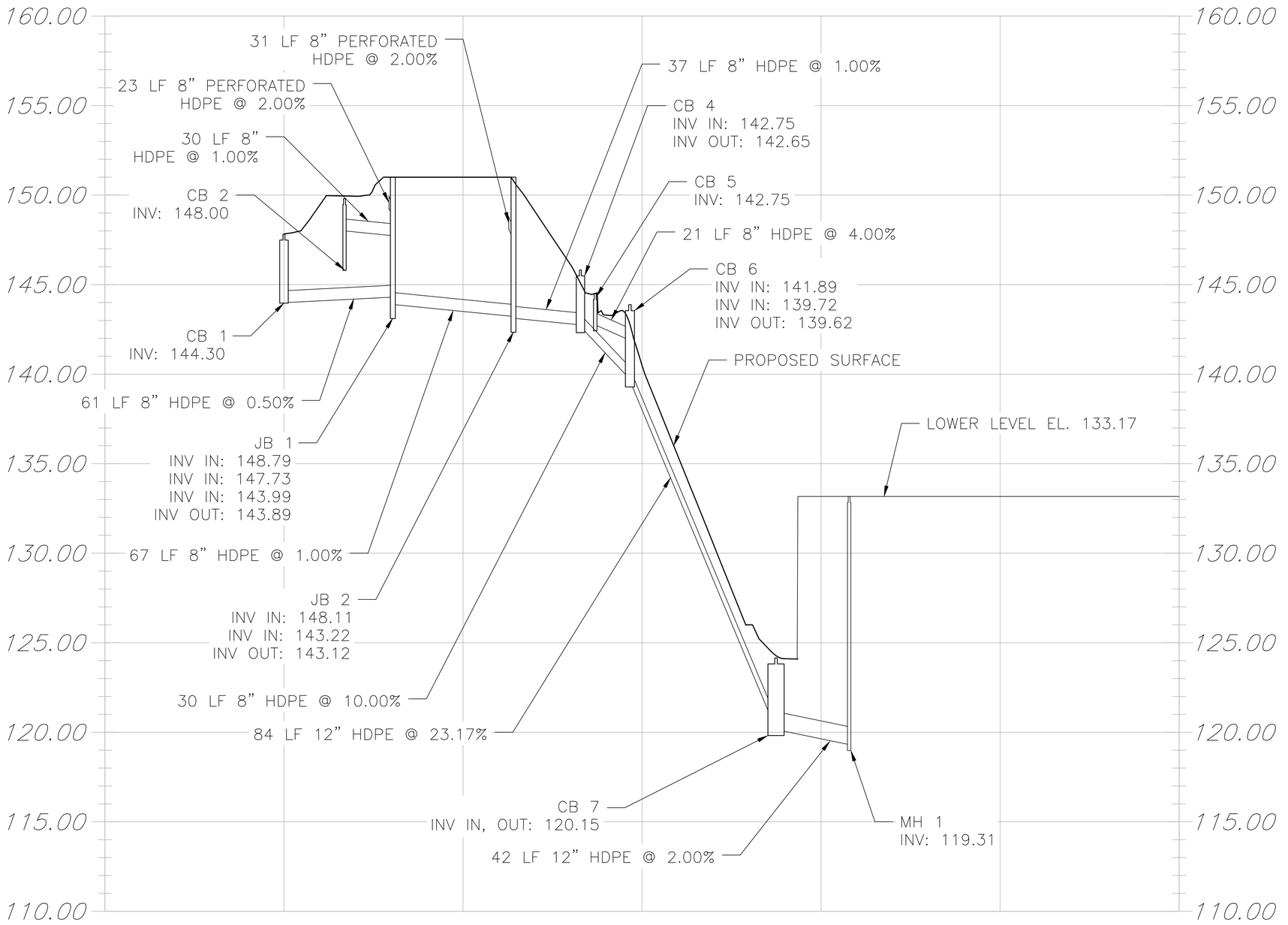
REVIEWED: HF
DATE: 02/21/25

SHEET TITLE:
GRADING AND DRAINAGE PLAN

SHEET NO.
C 3.5

PIPE PROFILE (STATION 10+00 TO 13+15.69)



SCALE:
HORIZ: 1"=30'
VERT: 1"=3'

0 30 60
SCALE IN FEET: 1" = 30'-0"

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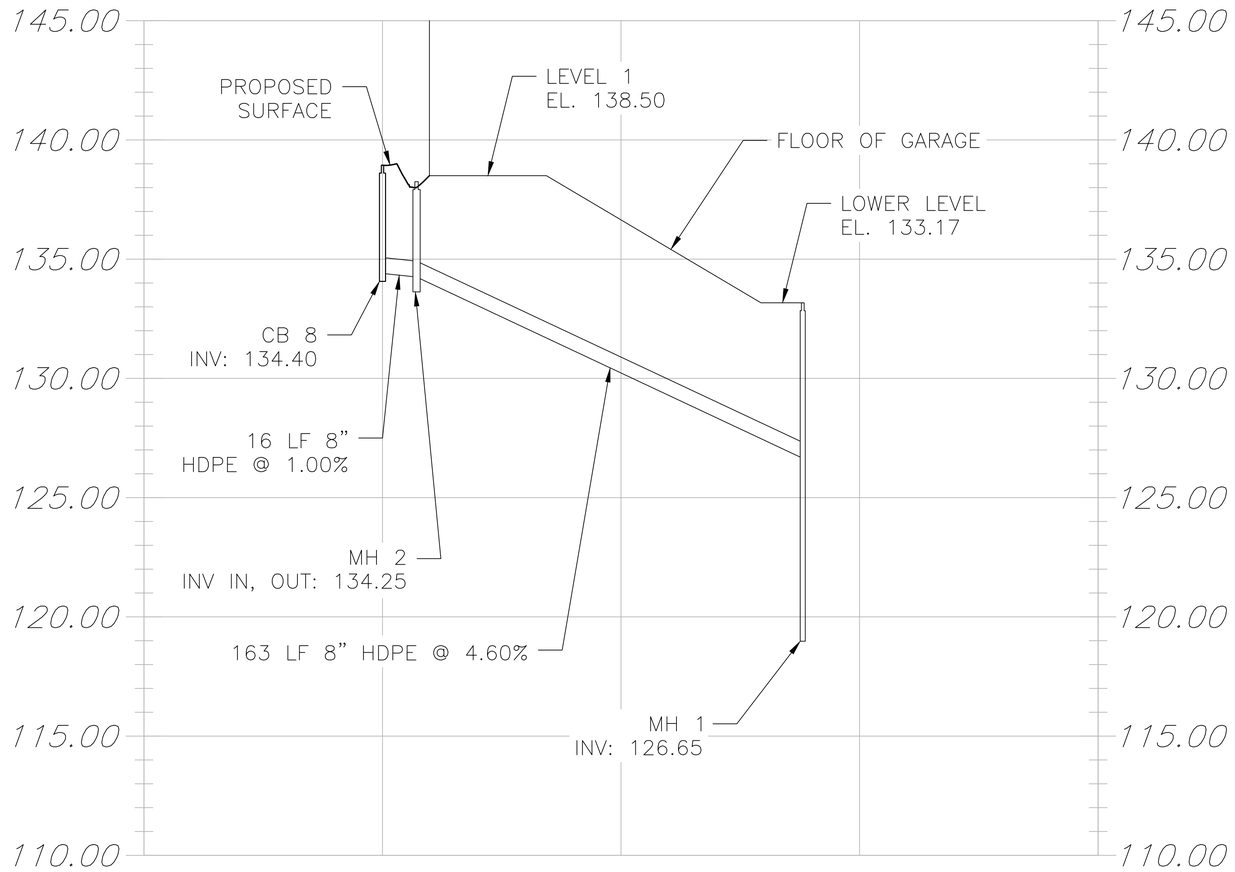
DATE: 02/21/25

SHEET TITLE:
PIPE PROFILE 1

SHEET NO.

C 3.6

PIPE PROFILE (STATION 20+00 TO 21+76.19)



SCALE:
HORIZ: 1"=30'
VERT: 1"=3'

0 30 60
SCALE IN FEET: 1" = 30'-0"

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NORTH

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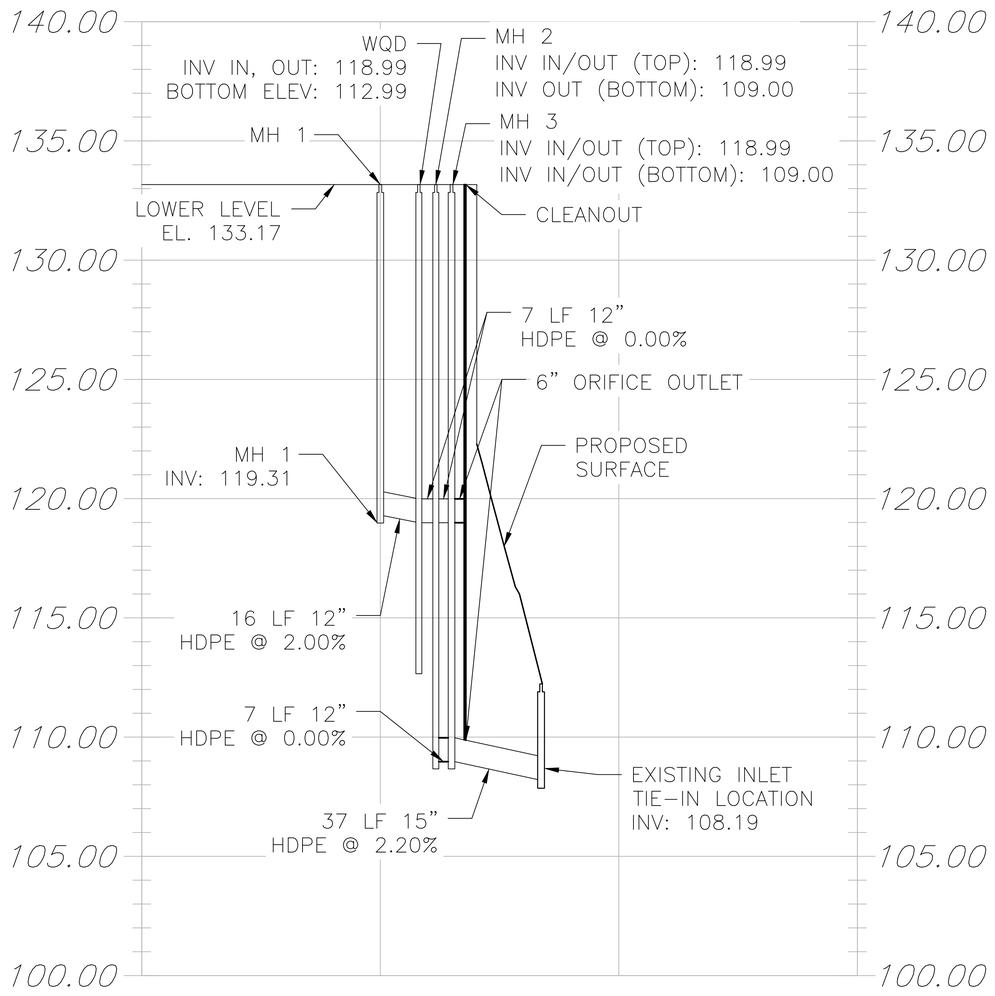
REVIEWED: HF
DATE: 02/21/25

SHEET TITLE:
PIPE PROFILE 2

SHEET NO.

C 3.7

PIPE PROFILE (STATION 30+00 TO 30+67.39)



SCALE:
HORIZ: 1"=30'
VERT: 1"=3'

0 30 60
SCALE IN FEET: 1" = 30'-0"

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NORTH

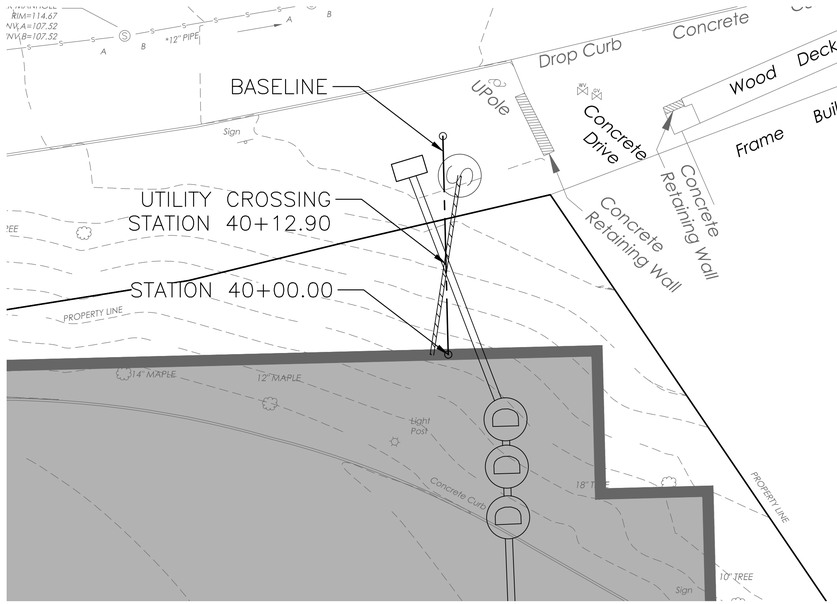
DRAWN: VP
REVIEWED: HF
DATE: 02/21/25

SHEET TITLE:
PIPE PROFILE 3

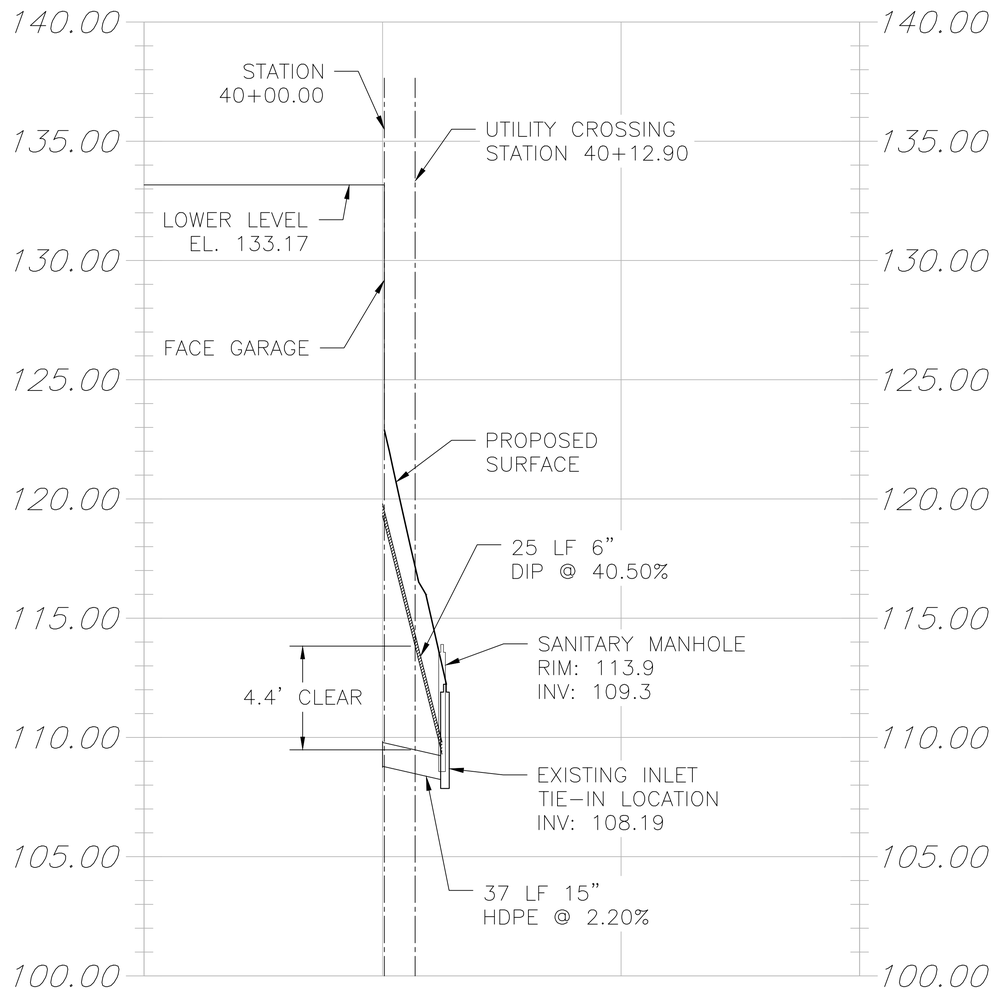
SHEET NO.

C 3.8

PIPE PROFILE (STATION 40+00 TO 40+31.00)



PLAN VIEW – CUT SECTION
SCALE: 1"=10'



SCALE:
HORIZ: 1"=30'
VERT: 1"=3'

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PROJECT NO.

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: VP
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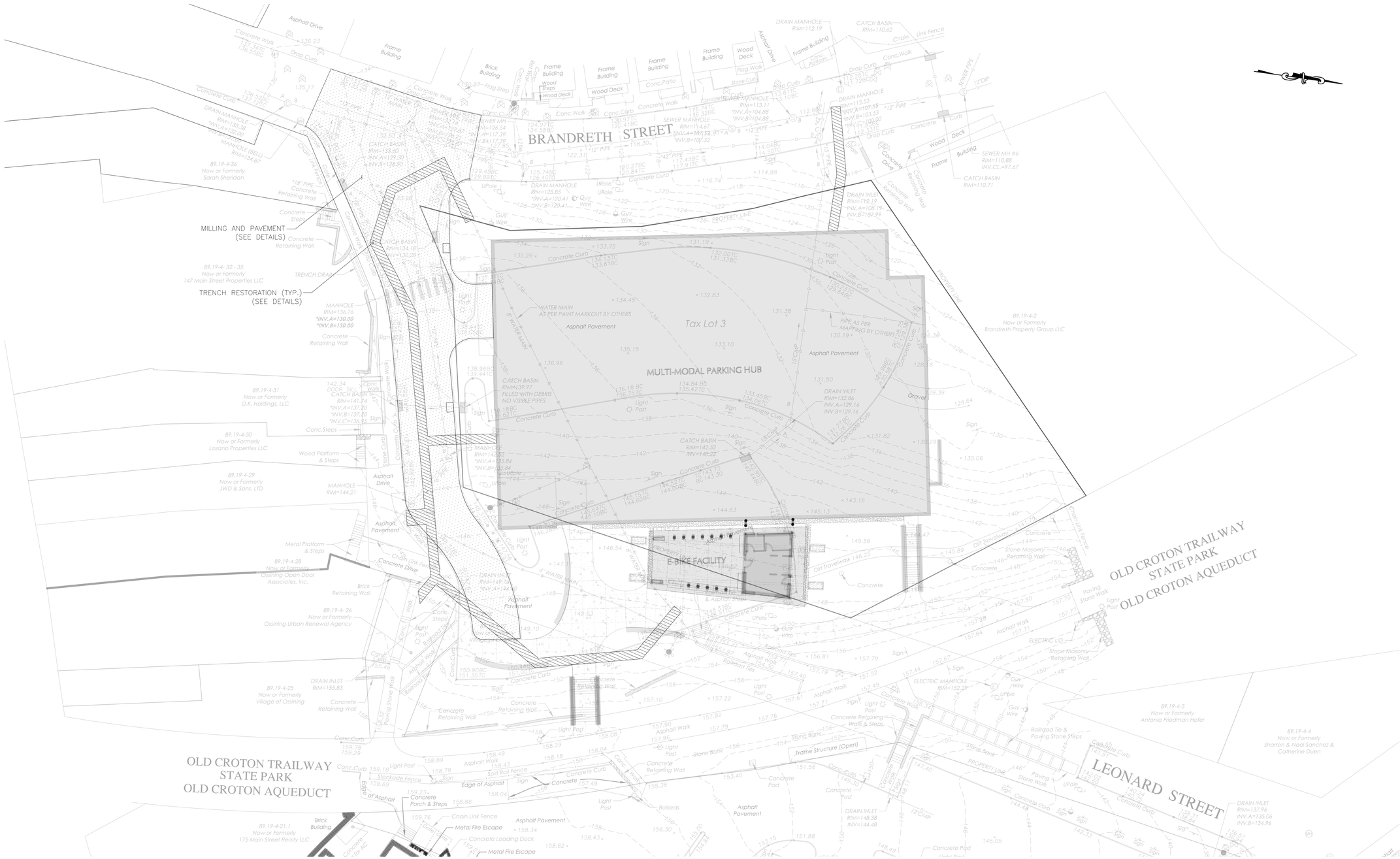
SHEET TITLE:
PIPE PROFILE 4

SHEET NO.

C 3.9



LEGEND

▭ MILLING AND PAVEMENT SECTION

▨ TRENCH REPAIR AND FULL DEPTH PAVEMENT SECTION

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SHEET TITLE:
PAVEMENT PLAN

SHEET NO.
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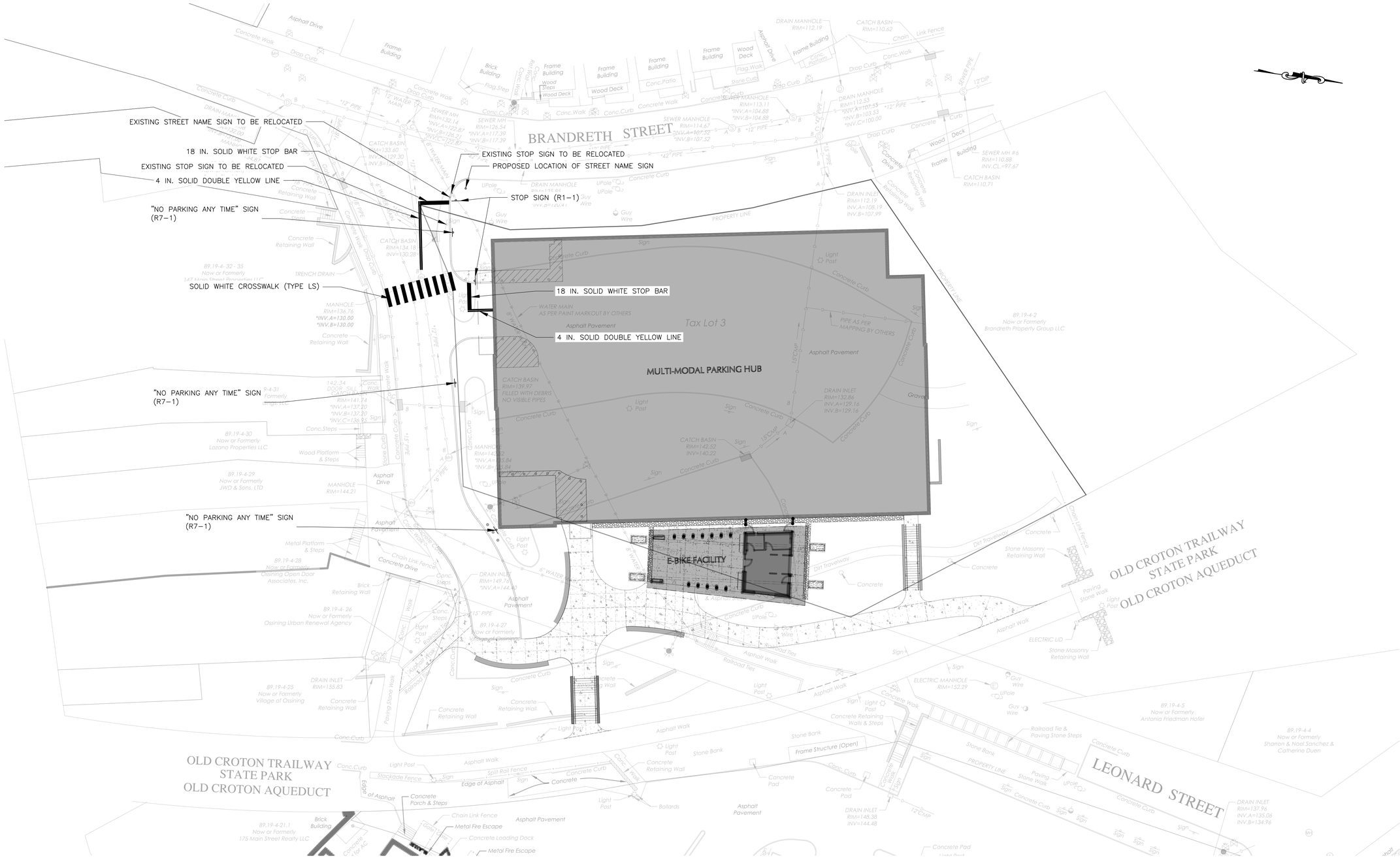

NOTES:
1) ALL EXISTING STREET SIGNS ALONG THE SOUTH SIDE OF LEONARD STREET TO REMAIN.
2) ALL EXISTING STREET SIGNS ALONG BRANDRETH STREET, BOTH SIDES, TO REMAIN.

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SHEET TITLE:
SIGNING AND STRIPING PLAN

SHEET NO.

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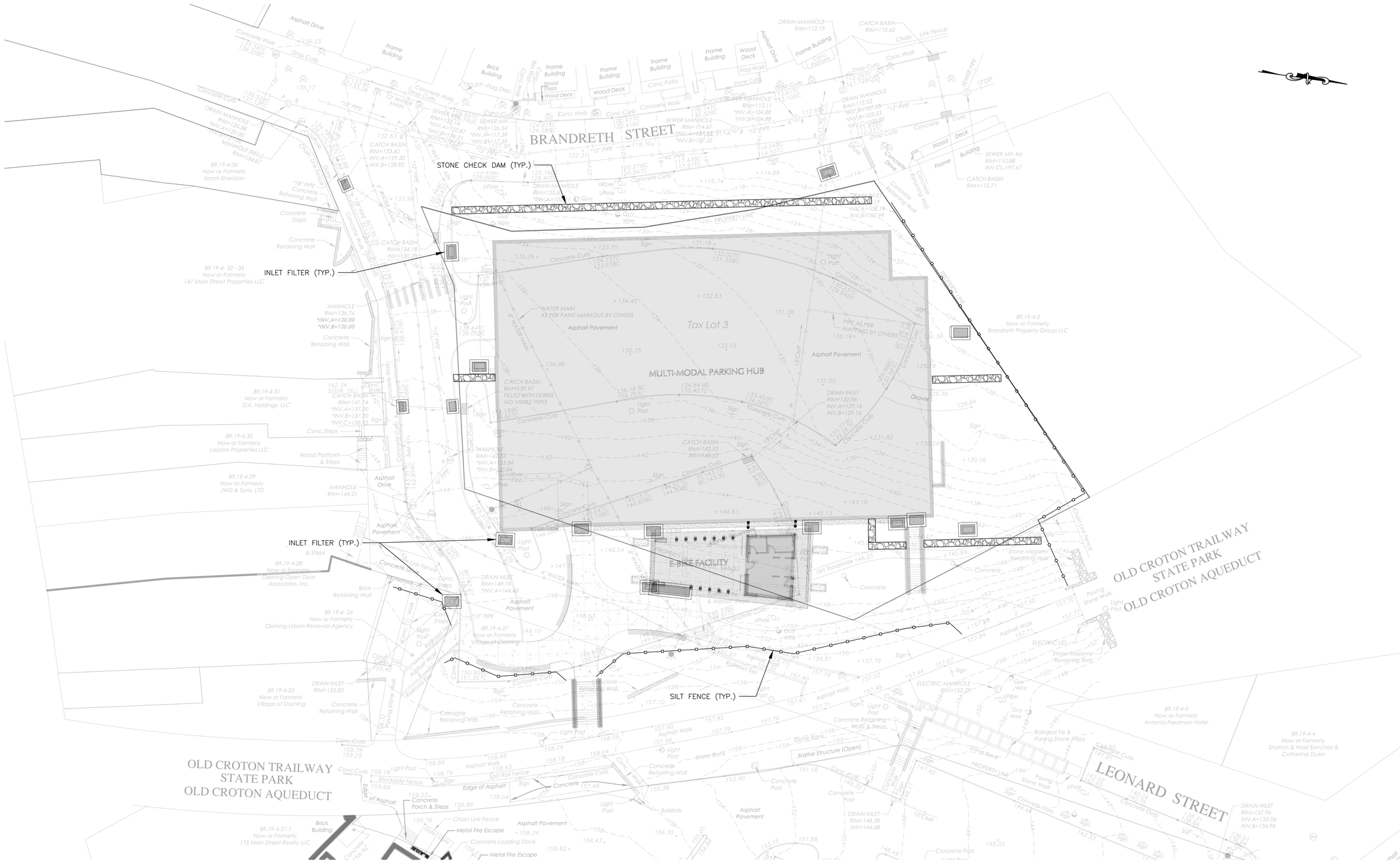

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SHEET TITLE:

SOIL EROSION & SEDIMENT
CONTROL PLAN

SHEET NO.

C 3.12

EXISTING DRAINAGE AREAS

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SHEET TITLE:
EXISTING DRAINAGE AREAS

SHEET NO.

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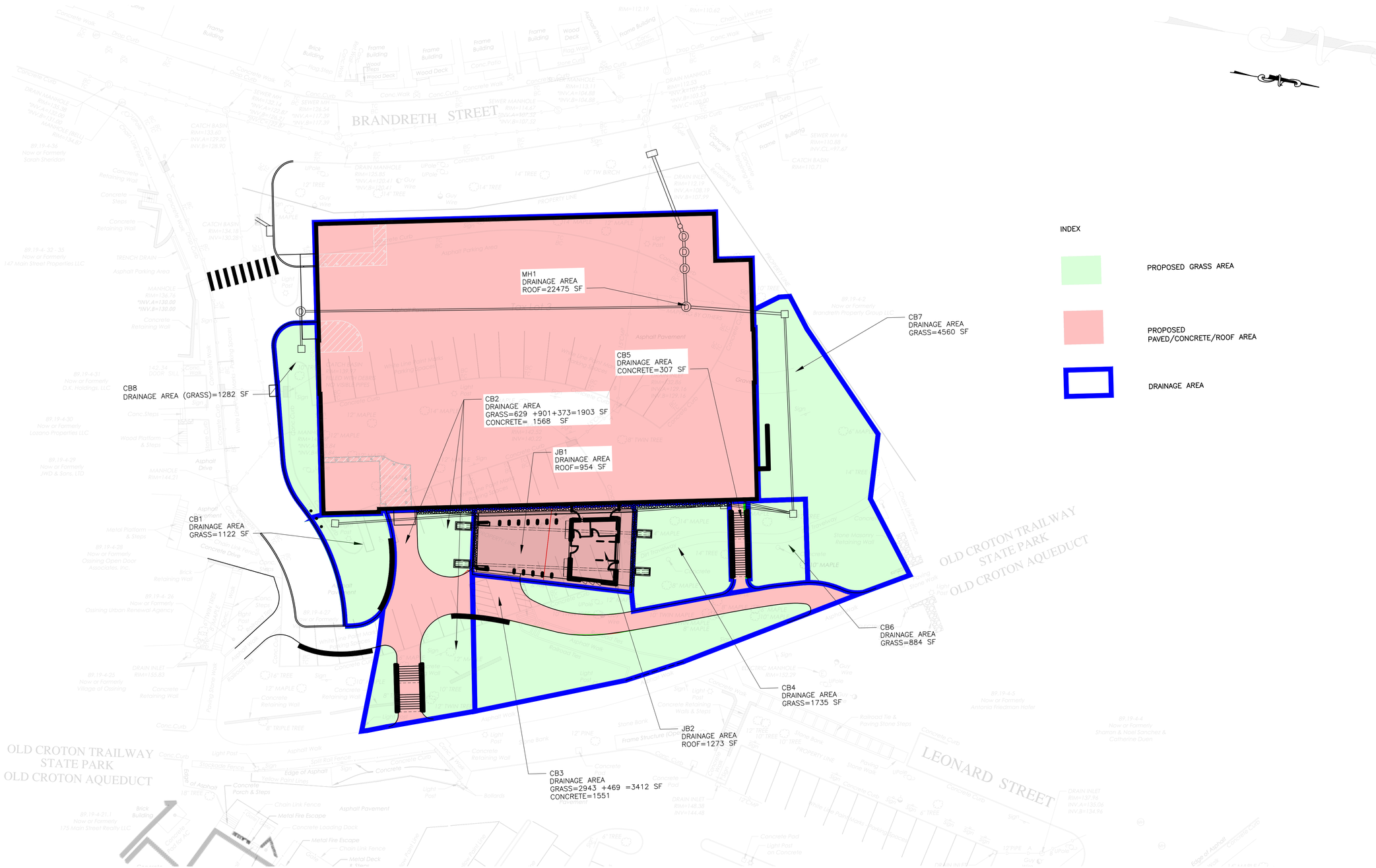

INDEX

PROPOSED GRASS AREA

PROPOSED
PAVED/CONCRETE/ROOF AREA

DRAINAGE AREA

0 20 40
SCALE IN FEET: 1" = 20'–0"

DRAINAGE AREAS

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PROPOSED DRAINAGE AREA

SHEET NO.

C 3.14

1. ALL SOIL TO BE EXPOSED OR STOCKPILED FOR A PERIOD OF GREATER THAN 14 DAYS, AND NOT UNDER ACTIVE CONSTRUCTION, WILL BE COVERED WITH PLASTIC. THIS PLASTIC COVER SHALL BE MAINTAINED UNTIL SUCH TIME WHEREBY PERMANENT RESTABILIZATION IS ESTABLISHED.

2. SEDIMENT FENCES ARE TO BE PROPERLY TRENCHED AND MAINTAINED UNTIL PERMANENT STABILIZATION HAS BEEN ESTABLISHED.

3. ALL STORM DRAINAGE INLETS SHALL BE PROTECTED BY ONE OF THE PRACTICES ACCEPTED IN THE STANDARDS, AND PROTECTION SHALL REMAIN UNTIL PERMANENT STABILIZATION HAS BEEN ESTABLISHED. STORM DRAINAGE OUTLET POINTS SHALL BE PROTECTED AS REQUIRED BEFORE THEY BECOME FUNCTIONAL.

4. ALL EROSION CONTROL DEVICES SHALL BE PERIODICALLY INSPECTED, MAINTAINED AND CORRECTED BY THE CONTRACTOR. ANY DAMAGE INCURRED BY EROSION SHALL BE RECTIFIED IMMEDIATELY.

5. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. DO NOT UTILIZE A FIRE OR GARDEN HOSE TO CLEAN ROADS UNLESS THE RUNOFF IS DIRECTED TO A PROPERLY DESIGNED AND FUNCTIONING SEDIMENT BASIN. WATER PUMPED OUT OF THE EXCAVATED AREAS CONTAINS SEDIMENTS THAT MUST BE REMOVED PRIOR TO DISCHARGING TO RECEIVING BODIES OF WATER USING REMOVABLE PUMPING STATIONS, SUMP PITS, PORTABLE SEDIMENTATION TANKS AND/OR SILT CONTROL BAGS.

6. A STABILIZED CONSTRUCTION ENTRANCE IS TO BE INSTALLED (BY OTHERS) USING 1"-4" CRUSHED ANGULAR STONE (ASTM 2 OR 3) TO A MINIMUM LENGTH OF 50 FEET AND MINIMUM DEPTH OF 6".

7. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING. ALL CRITICAL AREAS (STEEP SLOPES, SANDY SOILS, WET CONDITIONS) SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING.

8. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SO THAT ALL STORM WATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.

9. ALL SEDIMENTATION STRUCTURES (SILT FENCE, INLET AND FILTERS) WILL BE INSPECTED AND MAINTAINED DAILY.

10. STOCKPILES SHALL NOT BE LOCATED WITHIN 50' OF FLOOD PLAIN. ALL STOCKPILE BASES SHALL HAVE A SILT FENCE OR HAYBALE PROPERLY ENTRENCHED AT THE TOE OF SLOPE.

11. ALL NEW ROADWAYS WILL BE TREATED WITH SUITABLE SUBBASE UPON ESTABLISHMENT OF FINAL GRADE ELEVATIONS.

12. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.

13. BEFORE DISCHARGE POINTS BECOME OPERATIONAL, ALL STORM DRAINAGE OUTLETS WILL BE STABILIZED AS REQUIRED. NYSDEC PERMIT IS REQUIRED IF DAILY DISCHARGE EXCEEDS 10,000 GPD.

14. DURING AND AFTER CONSTRUCTION, THE APPLICANT WILL BE RESPONSIBLE FOR THE MAINTENANCE AND UPKEEP OF THE DRAINAGE STRUCTURES, AND ANY OTHER MEASURES DEEMED APPROPRIATE. SAID RESPONSIBILITY WILL END WHEN COMPLETED WORK IS APPROVED BY THE NYSDEC.

15. THE SPDES INSPECTOR MAY REQUEST ADDITIONAL MEASURES TO MINIMIZE ON SITE OR OFF SITE EROSION PROBLEMS DURING CONSTRUCTION.

16. ANY AREAS USED FOR THE CONTRACTOR'S STAGING, INCLUDING BUT NOT LIMITED TO, TEMPORARY STORAGE OF STOCKPILED MATERIALS (E.G. CRUSHED STONE, QUARRY PROCESS STONE, SELECT FILL, EXCAVATED MATERIAL, ETC.), SHALL BE ENTIRELY PROTECTED BY A SILT FENCE ALONG THE LOW ELEVATION SIDE TO CONTROL SEDIMENT RUNOFF.

17. CONTRACTOR SHALL COVER ANY SUSPECTED CONTAMINATED SOILS WITH PLASTIC UNTIL TESTED AND PROPERLY DISPOSED OF OFF SITE.

18. DUST CONTROL NOTES:

DUST CONTROL MATERIALS

MATERIAL	WATER DILUTION	TYPE OF NOZZLE	APPLY GALLONS/ACRES
ANIONIC ASPHALT EMULSION	7:1	COARSE SPRAY	1200
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN WATER	4:1	FINE SPRAY	300
POLYACRYLAMIDE (PAM)-SPRAY ON POLYACRYLAMIDE (PAM)-DRY SPRAY	APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS. MAY ALSO BE USED AS AN ADDITIVE TO SEDIMENT BASINS TO FLOCCULATE AND PRECIPITATE SUSPENDED COLLOIDS. SEE SEDIMENT BASIN STANDARD (PG. 26-1)		
ACIDULATED SOY BEAN SOAP STICK	NONE	COARSE SPRAY	1200

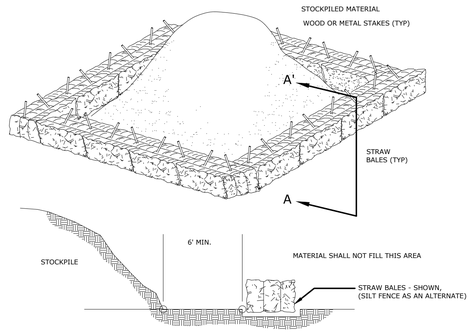
TILLAGE-TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS A TEMPORARY EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, AND SPRING-TOOTHED HARROWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.

SPRINKLING-SITE IS SPRINKLED UNTIL THE SURFACE IS WET.

BARRIERS-SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND BLOWING.

CALCIUM CHLORIDE-SHALL BE IN THE FORM OF LOOSE, DRY GRANULATES OF FLAKES FINE ENOUGH TO FEED THROUGH COMMONLY USED SPREADERS AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. IF USED ON STEEPER SLOPES, THEN USE OTHER PRACTICES TO PREVENT WASHING INTO STREAMS, OR ACCUMULATION AROUND PLANTS.

STONE-COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

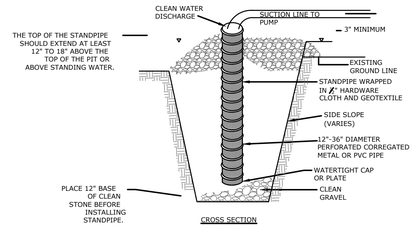


CROSS SECTION A-A'

NOTE: INLETS TO BE MAINTAINED TO PREVENT SILT BUILD UP AT STRAW BALES

TEMPORARY STOCKPILE AREA DETAIL

N.T.S.



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

1. PIT DIMENSIONS ARE VARIABLE, WITH THE MINIMUM DIAMETER BEING 2 TIMES THE STANDPIPE DIAMETER.

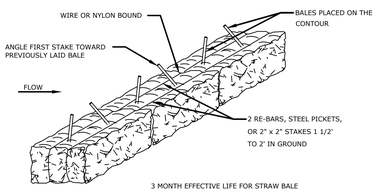
2. THE STANDPIPE SHOULD BE CONSTRUCTED BY PERFORATING A 12" TO 24" DIAMETER CORRUGATED OR PVC PIPE. THEN WRAPPING WITH HARDWARE CLOTH AND GEOTEXTILE FABRIC. THE PERFORATIONS SHALL BE ½" X6" SLITS OR 1" DIAMETER HOLES.

3. A BASE OF FILTER MATERIAL CONSISTING OF CLEAN GRAVEL OR ASTM C 33 STONE SHOULD BE PLACED IN THE PIT TO A DEPTH OF 12" AFTER INSTALLING THE STANDPIPE, THE PIT SURROUNDING THE STANDPIPE SHOULD THEN BE BACKFILLED WITH THE SAME FILTER MATERIAL.

4. THE STANDPIPE SHOULD EXTEND 12" TO 18" ABOVE THE LIP OF PIT OR THE RISER CREST ELEVATION (BASIN DEWATERING ONLY) AND THE FILTER MATERIAL SHOULD EXTEND 3" MINIMUM ABOVE THE ANTICIPATED STANDING WATER ELEVATION.

SUMP PIT DEWATERING DETAIL

N.T.S.



3 MONTH EFFECTIVE LIFE FOR STRAW BALE

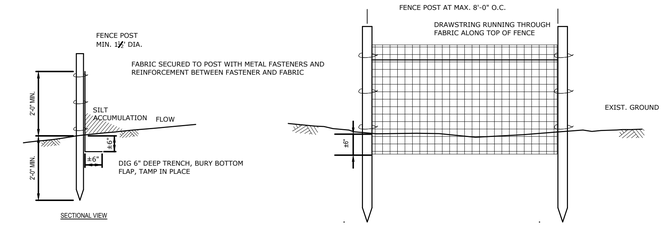
ANCHORING DETAIL

NOTES:

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4", AND PLACED SO SO THE BINDINGS ARE HORIZONTAL
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

STRAW BALE DETAIL

N.T.S.

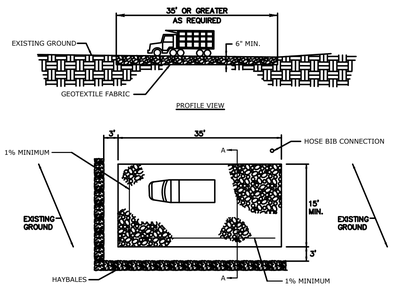


SILT FENCE SEDIMENT BARRIER

N.T.S.

NOTES AND REQUIREMENTS FOR SILT FENCE:

1. FENCE POSTS SHALL BE SPACED 8 FEET CENTER TO CENTER OR CLOSER. THEY SHALL BE EMBEDED AT LEAST 2 FEET INTO THE GROUND AND EXTEND AT LEAST 2 FEET ABOVE GROUND. POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1½ INCHES.
2. A METAL FENCE WITH 6-INCH OR SMALLER OPENINGS AND AT LEAST 2 FEET HIGH MAY BE UTILIZED, FASTENED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT TO THE GEOTEXTILE FABRIC WHERE SPACE FOR OTHER REINFORCEMENT METHODS IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED.
3. A GEOTEXTILE FABRIC, RECOMMENDED FOR SUCH USE BY THE MANUFACTURER, SHALL BE BURIED AT LEAST 6 INCHES DEEP INTO THE GROUND. THE FABRIC SHALL EXTEND AT LEAST 2 FEET ABOVE THE GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (e.g., NAILS, STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH.
4. GEOTEXTILE FABRIC TO BE FASTENED SECURELY TO FENCE POST BY USE OF 14 GAGE STEEL WIRE TIES OR HOG RINGS. THREE FASTENERS PER POST.
5. ENDS OF INDIVIDUAL ROLLS OF GEOTEXTILE FABRIC SHALL BE SECURELY FASTENED TO A COMMON POST BY WRAPPING EACH END OF THE FABRIC AROUND THE POST TWICE AND ATTACHING AS SPECIFIED IN NOTE 1 ABOVE. SPLICING OF INDIVIDUAL ROLLS SHALL NOT OCCUR AT LOW POINTS.
6. BURY BOTTOM 6 INCHES OF GEOTEXTILE AND TAMP IN PLACE AS SHOWN IN SECTIONAL VIEW.
7. GEOTEXTILE FABRIC SHALL MEET AASHTO M288-06, TEMPORARY SILT FENCE REQUIREMENTS FOR SUPPORTED SILT FENCE.



TRUCK WASH

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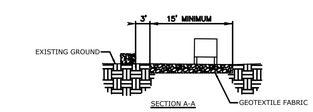
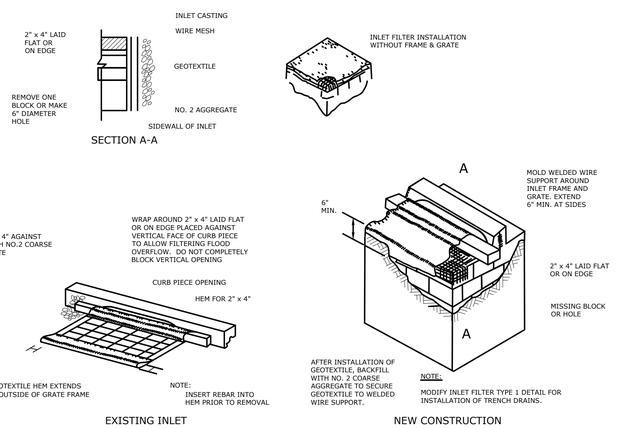


NOTES:

1. PLACE TRUCK WASH AS SHOWN ON THE PLANS OR IF AND WHERE DIRECTED BY THE CONSTRUCTION INSPECTOR.
2. STONE SIZE SHALL BE ASTM C-33, SIZE NO. 2 OR 3, CRUSHED STONE.
3. THE THICKNESS OF THE TRUCK WASH SHALL NOT BE LESS THAN 6".
4. THE TRUCK WASH SHALL BE MAINTAINED TO PREVENT SILT, DIRT, OR MATERIAL WASHED FROM THE TRUCKS FROM BYPASSING OR OVERFLOWING THE STRAW BALES.



EXISTING INLET — NEW CONSTRUCTION

INLET FILTERS

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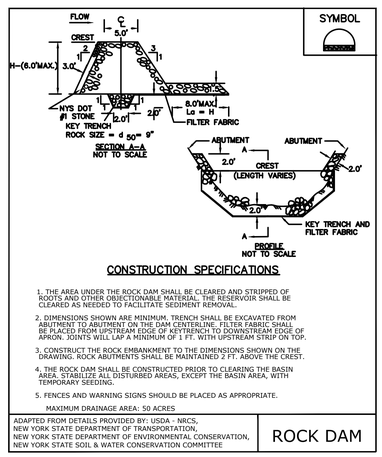


CONSTRUCTION SPECIFICATIONS

1. THE AREA UNDER THE ROCK DAM SHALL BE CLEARED AND STRIPPED OF ROOTS AND OTHER OBJECTIONABLE MATERIAL. THE RESERVOIR SHALL BE CLEARED AS NEEDED TO FACILITATE SEDIMENT REMOVAL.
2. DIMENSIONS SHOWN ARE MINIMUM. TRENCH SHALL BE EXCAVATED FROM ABUTMENT TO ABUTMENT ON THE DAM CENTERLINE. FILTER FABRIC SHALL BE PLACED FROM UPSTREAM EDGE OF KEYTRENCH TO DOWNSTREAM EDGE OF APRON. JOINTS WILL LAP A MINIMUM OF 1 FT. WITH UPSTREAM STRIP ON TOP.
3. CONSTRUCT THE ROCK EMBANKMENT TO THE DIMENSIONS SHOWN ON THE DRAWING. ROCK ABUTMENTS SHALL BE MAINTAINED 2 FT. ABOVE THE CREST.
4. THE ROCK DAM SHALL BE CONSTRUCTED PRIOR TO CLEARING THE BASIN AREA. STABILIZE ALL DISTURBED AREAS, EXCEPT THE BASIN AREA, WITH TEMPORARY SEEDING.
5. FENCES AND WARNING SIGNS SHOULD BE PLACED AS APPROPRIATE.

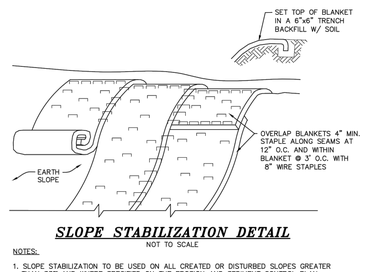
MAXIMUM DRAINAGE AREA: 50 ACRES

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

ROCK DAM

ROCK DAM

N.T.S.



SLOPE STABILIZATION DETAIL

NOT TO SCALE

NOTES:

1. SLOPE STABILIZATION TO BE USED ON ALL CREATED OR DISTURBED SLOPES GREATER THAN 33% AND WHERE SPECIFIED ON THE EROSION AND SEDIMENT CONTROL PLAN.
2. STABILIZE PREPARED EARTHEN SLOPE WITH A BIODEGRADABLE NATURAL FIBER NETTING. APPROVED TYPES AS FOLLOWS:
   - S150BN – NORTH AMERICAN GREEN 1-800-772-2040
   - ECS-2B – EAST COAST EROSION BLANKET 1-800-582-4005
   - APPROVED EQUAL
3. ALL SLOPE RESTORATION MUST INCLUDE 4" TOPSOIL.
4. PREPARE THE SOIL SURFACE INCLUDING RAKING, SEEDING AND FERTILIZING PRIOR TO INSTALLING EROSION CONTROL NETTING.
5. AFTER NETTING IS INSTALLED, PLANT ANY PROPOSED LANDSCAPING/GROUND COVER THROUGH SLITS CUT IN FABRIC.

THA Consulting, Inc.
144 Livingston Avenue
New Brunswick, NJ 08901
T. 732.253.0690
www.tha-consulting.com

PROFESSIONAL SEAL

STATE OF NEW YORK · HENRY E. FOX · 094196 · LICENSED PROFESSIONAL ENGINEER

HENRY E. FOX, P.E., ENV SP
New York State Professional Engineer
License No. 094196 , Exp. 11/30/2025

CONSULTANT

calderón architecture & design studio
Calderon Architecture
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Tel: (212) 369-2766
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Tel: (914) 323-7400
www.langan.com

KSE Engineers, P.C.
KSE Engineers
Two Riverfront Plaza, McCarter Highway
Newark, NJ 07102
Tel: (973) 623-2999
www.kse-eng.com

ama group
AMA Consulting Engineers PC
825 8th Ave., #18
New York, NY 10019
Tel: (212) 944-7722
www.amagroupusa.com

CUONO ENGINEERING PLLC · STRUCTURAL DESIGN
Cuono Engineering PLLC
925 Westchester Avenue
Suite 100
Tel: (914) 305-5679
https://www.cuonoengineering.com

CALGI · Established 1919
Calgi Construction Company, Inc.
56 Lafayette Avenue
Suite 350
(914) 682-9423
www.calgiconstruction.com

PROJECT NO.

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

DRAWN: VP
REVIEWED: HF
DATE: 02/21/25

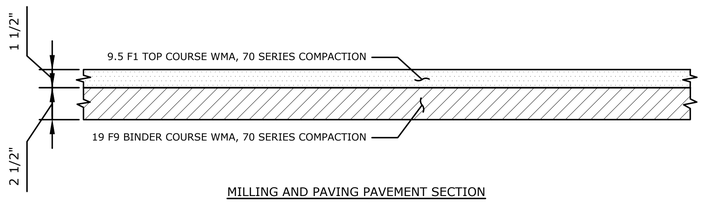
NORTH

SHEET TITLE:

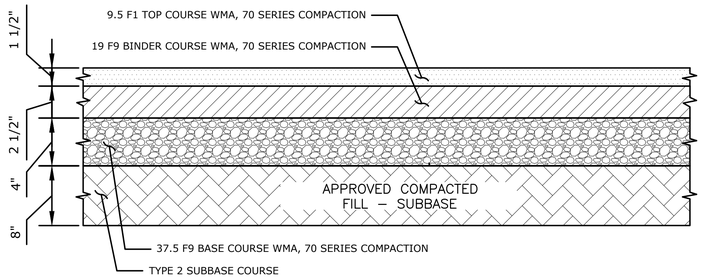
SOIL EROSION & SEDIMENT CONTROL NOTES AND DETAILS

SHEET NO.

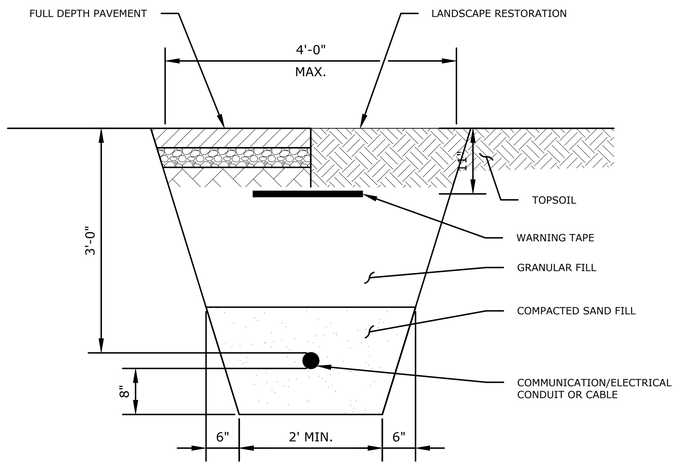
C 3.15



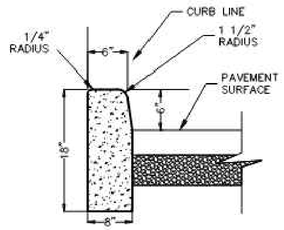
MILLING AND PAVING PAVEMENT SECTION
N.T.S.



FULL-DEPTH PAVEMENT SECTION
N.T.S.



UTILITY TRENCH DETAIL (ASPHALT PAVEMENT AND LANDSCAPE AREA)
N.T.S.



NOTES:

1. CONCRETE SHALL BE 4,500 PSI CLASS 'B' AIR-ENTRAINED CONCRETE.
2. TRANSVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB AT 20 FOOT INTERVALS AND SHALL BE FILLED WITH PREFORMED BITUMINOUS JOINT FILLER.
3. ALL CURBS SHALL BE INSTALLED ON AN APPROVED, COMPACTED SUBGRADE.

CONCRETE CURB
N.T.S.

THA Consulting, Inc.
144 Livingston Avenue
New Brunswick, NJ 08901
T. 732.253.0690
www.tha-consulting.com

PROFESSIONAL SEAL

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Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

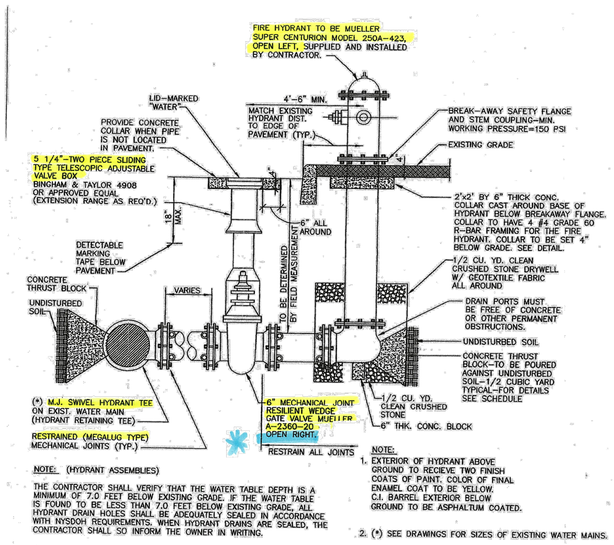
NORTH

DRAWN: VP
REVIEWED: HF
DATE: 02/21/25

SHEET TITLE:
CONSTRUCTION DETAILS 01

SHEET NO.

C 3.16

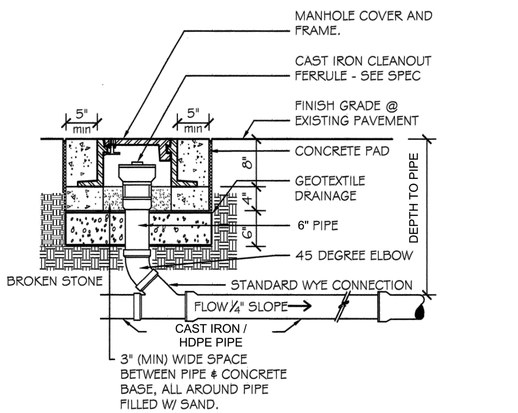


NOTE: (HYDRANT ASSEMBLIES)

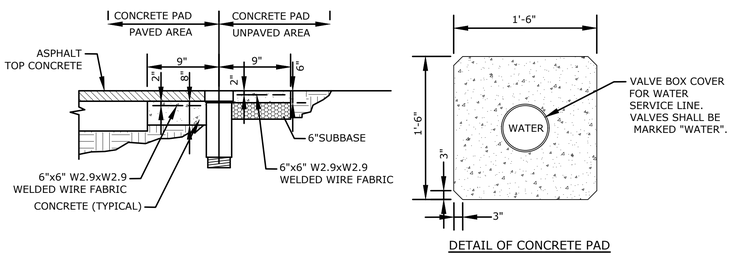
THE CONTRACTOR SHALL VERIFY THAT THE WATER TABLE DEPTH IS A MINIMUM OF 7.0 FEET BELOW EXISTING GRADE. IF THE WATER TABLE IS FOUND TO BE LESS THAN 7.0 FEET BELOW EXISTING GRADE, ALL HYDRANT DRAIN HOLES SHALL BE ADEQUATELY SEALED IN ACCORDANCE WITH NYSDOH REQUIREMENTS. WHEN HYDRANT DRAINS ARE SEALED, THE CONTRACTOR SHALL SO INFORM THE OWNER IN WRITING.

NOTE:
1. EXTERIOR OF HYDRANT ABOVE GROUND TO RECIEVE TWO FINISH COATS OF PAINT. COLOR OF FINAL ENAMEL COAT TO BE YELLOW. C.I. BARREL EXTERIOR BELOW GROUND TO BE ASPHALTUM COATED.
2. (*) SEE DRAWINGS FOR SIZES OF EXISTING WATER MAINS.

PROFILE
NEW FIRE HYDRANT ASSEMBLY

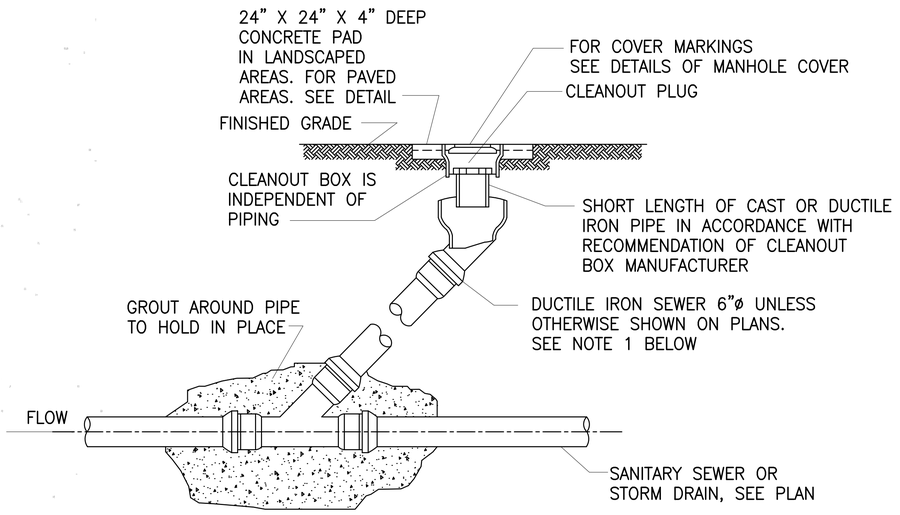


IN-LINE CLEAN-OUT DETAIL
N.T.S.



DETAIL OF CONCRETE PAD

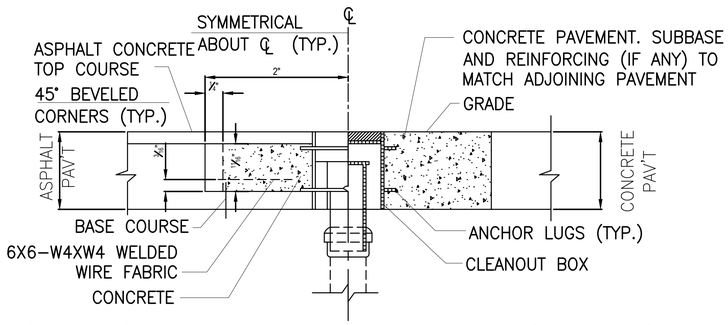
CONCRETE PAD FOR VALVE BOX
N.T.S.



ELEVATION

NOTES:

1. CLEANOUT PIPING ASTM A746 CLASS SO WITH PUSH ON. GRSKETED JOINTS. CONTRACTOR SHALL PROVIDE BENDS OR OTHER SPECIAL FOTTINGS FOR UNDERGROUND PIPING AS REQUIRED TO FOLLOW ALIGNMENT SHOWN ON PLAN AND TO CONNECT TO SEWER OR DRAIN.
2. FOR ALL OTHER AREAS: HEAVY DUTY CAST IRON FRAME AND COVER DESIGNED FOR HS25 HIGHWAY LANDING. SUBMIT DETAILS FOR APPROVAL

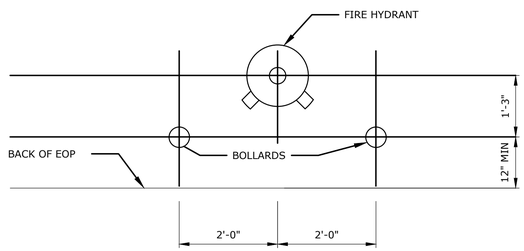


FOR FLEXIBLE (ASPHALT) PAVEMENTS

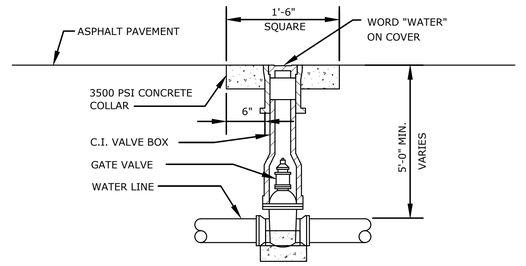
FOR RIGID (CONCRETE) PAVEMENTS

DETAIL IN PAVED AREAS

ON-LINE PIPE CLEANOUT DETAIL



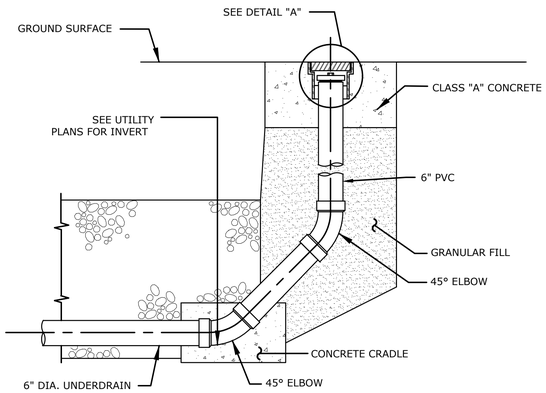
BOLLARD DETAIL AT HYDRANT
N.T.S.

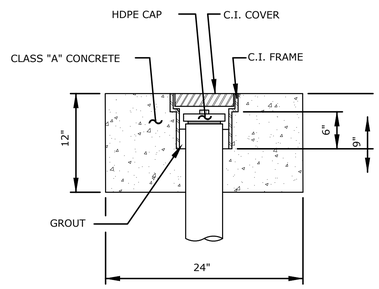


NOTES:

1. OMIT CONCRETE COLLAR WHEN PLACED IN CONCRETE PAVEMENT OR SIDEWALK.

TYPICAL WATER VALVE BOX DETAIL
N.T.S.





DETAIL "A"

CLEANOUT DETAIL
N.T.S.

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PROFESSIONAL SEAL

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Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

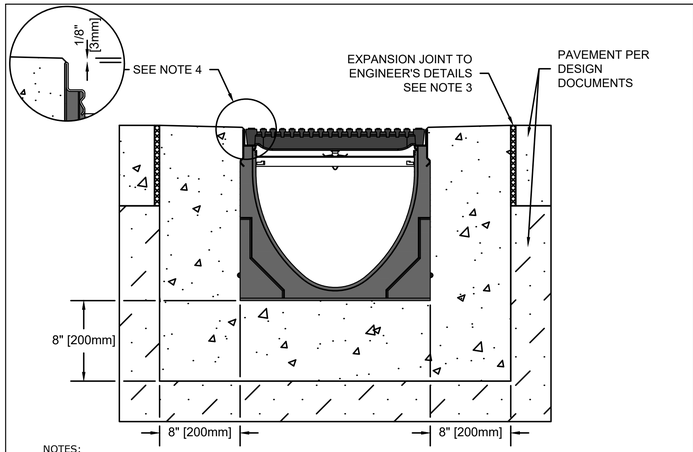
NORTH

DRAWN: VP
REVIEWED: HF
DATE: 02/21/25

SHEET TITLE:
CONSTRUCTION DETAILS 02

SHEET NO.

C 3.17



NOTES:
1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. *ENGINEERING ADVICE MAY BE REQUIRED.*
2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. *ENGINEERING ADVICE MAY BE REQUIRED.*
4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" [3mm] ABOVE THE TOP OF THE CHANNEL EDGE.
5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

SPECIFICATION CLAUSE

K300 KLASSIKDRAIN 'QUICKLOK' LOAD CLASS A

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE K300 CHANNEL SYSTEM WITH GALVANIZED STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN GALVANIZED STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:

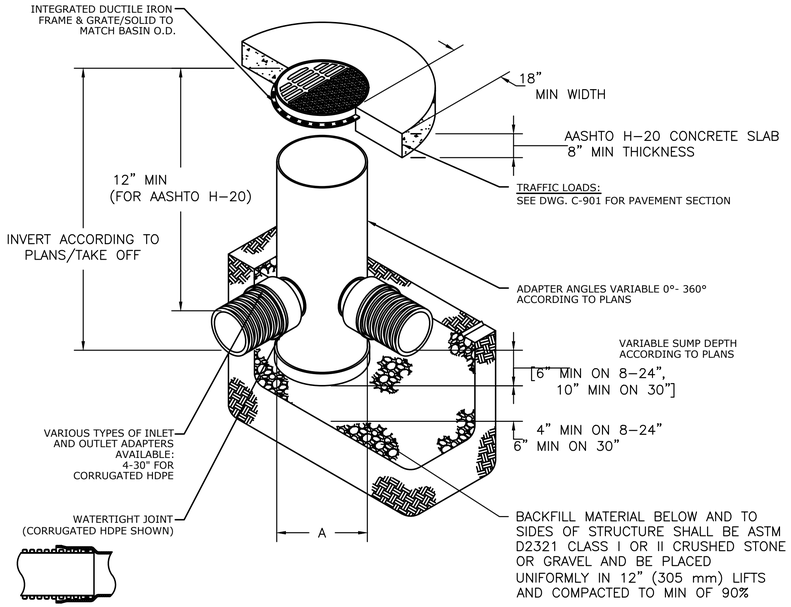
COMPRESSIVE STRENGTH:	14,000 PSI
FLEXURAL STRENGTH:	4,000 PSI
TENSILE STRENGTH:	1,500 PSI
WATER ABSORPTION:	0.07%
FROST PROOF	YES
DILUTE ACID AND ALKALI RESISTANT	YES
B117 SALT SPRAY TEST COMPLIANT	YES

THE SYSTEM SHALL BE 12" (300mm) NOMINAL INTERNAL WIDTH WITH A 14.2" (390mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'QUICKLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

TRENCH DRAIN DETAIL OR EQUAL
N.T.S.

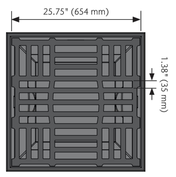


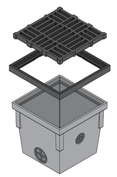
NOTES
1. 8-30" GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC 5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: WWW.NYLOPLAST-US.COM
6. TO ORDER CALL: 800-821-6710

NYLOPLAST DRAIN BASIN OR EQUAL
NTS

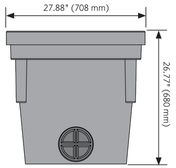
Sump Box - 2'x2'x2' w/ Gray Iron Frame & Slotted Grate

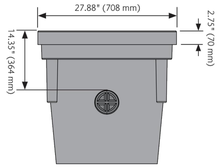
Top





Side





Specifications

General
The sump box shall be ACO Drain as manufactured by ACO, Inc. or similar approved.

Materials
Products shall be manufactured from polymer concrete and have minimum properties as follows:

- Compressive strength:13,053 psi
- Flexural strength: 3,191 psi
- Water absorption rate:<0.1% by weight
- Overall width: 27.88" (708 mm)
- Overall length: 27.88" (708 mm)
- Overall depth: 26.77" (680 mm)
- Invert depth: 25.98" (660 mm)

Pre-cast units shall be manufactured with drill-outs for channel and pipe connections and have a wall thickness of at least 0.75" (19 mm).

Grates
Frame and grate material is slotted gray iron. After grate removal there shall be uninterrupted access to the sump box to aid maintenance.

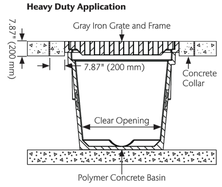
Installation
The sump box and grates shall be installed in accordance with the manufacturer's installation instructions and recommendations.

Product Features

- Grate provides 48% open area (318 in²).

*AASHTO M306 requires that castings bear a minimum of 40,000 lbs on a 9" x 9" area. This represents a 2.5 safety factor over the 16,000 lb requirement of H20 and HS20. This load designation is appropriate for general traffic applications. Loading criteria is 40,000–100,000 lbs.

Heavy Duty Application

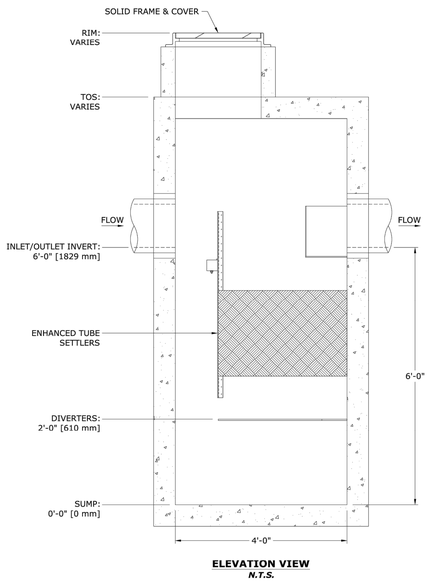


Parts	Part No.	Invert Depth in (mm)	Volume gal	Weight lbs
2'x2'x2' Sump Box	05719	25.98 (660)	45.1	168.0
Gray Iron Frame & Slotted Grate	05720	-	-	265.0

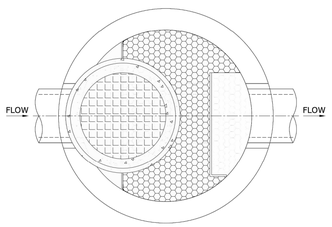
ACO SUMP BOX 2"X2"X2" WITH GRAY IRON AND SLOTTED GRATE OR EQUAL
N.T.S.

STORMTRAP CONTACT INFORMATION	
STORMTRAP SUPPLIER:	STORMTRAP
CONTACT NAME:	KENT PORTER
CELL PHONE:	973-557-6280
SALES EMAIL:	KPORTER@STORMTRAP.COM

SITE SPECIFIC DATA			
STRUCTURE ID			WQD
WATER QUALITY FLOW RATE (CFS)			NOTE 8
PEAK FLOW RATE (CFS)			0.87
SEDIMENT STORAGE CAPACITY (CF)			14.7
RIM ELEVATION			133.17'
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE	118.99'	HDPE	12"
OUTLET PIPE	118.99'	HDPE	12"



ELEVATION VIEW
N.T.S.



PLAN VIEW
N.T.S.

DESIGN NOTES:
1. DESIGN LOADING
   a. LOAD RATING: AASHTO HS-20
   b. ALLOWABLE COVER: 0.50' [152 mm] TO 5.00' [1524 mm]. CONTACT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
   c. WATER TABLE AT OR BELOW OUTLET PIPE INVERT ELEVATION.
   d. NO LATERAL SURCHARGE FROM ADJACENT STRUCTURES SUCH AS VEGETATION, BUILDINGS, WALLS, OR FOUNDATIONS.
2. ENGINEER OF RECORD TO CONFIRM THE DESIGN LOADINGS MEET PROJECT REQUIREMENTS. CONTACT STORMTRAP FOR ALTERNATIVE DESIGN LOAD OPTIONS.

GENERAL NOTES:
1. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS, WEIGHTS, AND ACCESSORIES, PLEASE CONTACT YOUR STORMTRAP REPRESENTATIVE.
2. CONCRETE COMPONENTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C478.
3. CONTRACTOR TO INSTALL THE STRUCTURE IN ACCORDANCE WITH ASTM C1821.
4. CONTRACTOR TO PROVIDE ALL LABOR AND EQUIPMENT REQUIRED TO OFFLOAD AND INSTALL UNIT.
5. CONTRACTOR TO PROVIDE AND INSTALL ALL PIPES, FRAMES, COVERS, HATCHES, AND RISERS UNLESS SPECIFIED OTHERWISE.
6. CONTRACTOR TO ADD JOINT SEALANT (PROVIDED BY STORMTRAP) BETWEEN ALL STRUCTURE SECTIONS.
7. STORMSETTLER DOES NOT REQUIRE A DROP BETWEEN THE INLET AND OUTLET PIPE INVERT ELEVATIONS. A DROP BETWEEN 0.00' AND 0.33' (0" AND 4") IS PREFERRED. ALTERNATE DROPS MAY BE ALLOWABLE PENDING STORMTRAP REVIEW.
8. THE STANDARD STORMSETTLER CONFIGURATION IS SHOWN. CATCH BASIN, MULTI-PIPE, & HORSESHOE CONFIGURATIONS MAY BE AVAILABLE DEPENDING ON LOCAL REGULATIONS.
9. MAXIMUM WATER QUALITY FLOW RATE:
   a. 1.41 CFS PER NJDEP CERTIFICATION (50%)
   b. 0.93 CFS PER OK-110 NJCAT VERIFICATION (80%)

DRAWINGS ARE FOR REFERENCE ONLY AND SHALL NOT BE USED FOR CONSTRUCTION PURPOSES.

StormSettler™ StormTrap®
PATENTS LISTED AT: [HTTP://STORMTRAP.COM/PATENT]
STORMSETTLER 4 STANDARD DETAIL

DRAWN BY:	DATE:	SCALE:		
TJF	1/13/25	N.T.S.	V1	SHEET 1 OF 1

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ROMEOVILLE, IL 60446
P:815-941-4549
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WATER QUALITY CONTROL DEVICE OR EQUAL
NTS

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56 Lafayette Avenue
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PROJECT NO.

PROJECT
Village of Ossining Multi-Modal Transportation Hub
Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

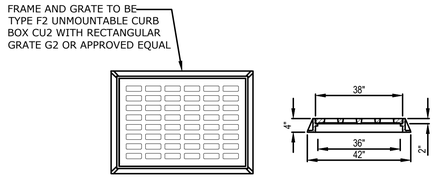
NO.	DESCRIPTION	DATE

DRAWN: VP
REVIEWED: HF
DATE: 02/21/25

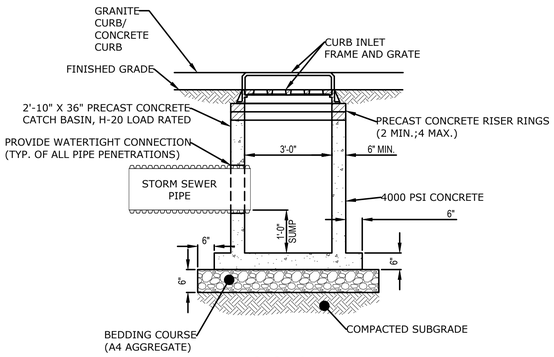
NORTH

SHEET TITLE:
CONSTRUCTION DETAILS 03

SHEET NO.
C 3.18



CATCH BASIN FRAME AND GRATE

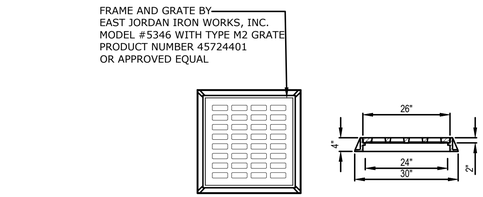


SECTION

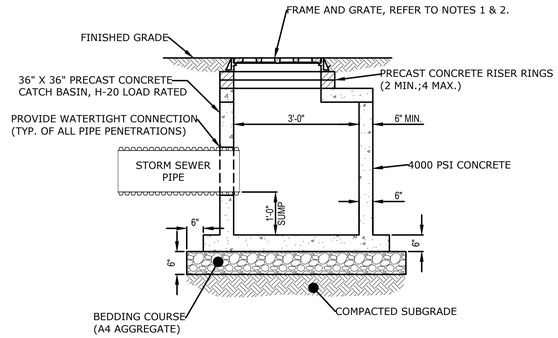
NOTES:
1. PROVIDE BICYCLE SAFE GRATES AT STRUCTURE LOCATIONS IN PEDESTRIAN TRAVELED AREAS.

TYPICAL 2'-10"X3' CURB INLET CATCH BASIN

N.T.S.



CATCH BASIN FRAME AND GRATE

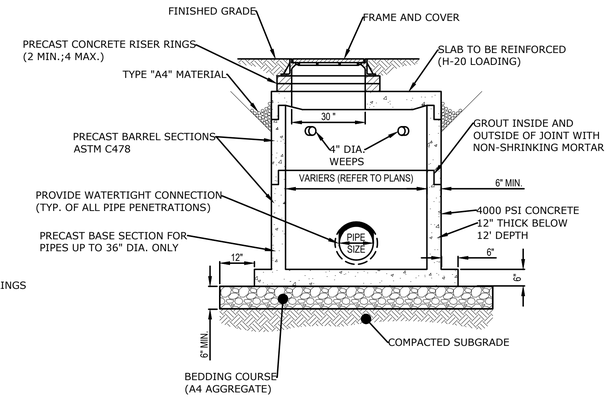


SECTION

NOTES:
1. PROVIDE ADA HEEL SAFE GRATES AT STRUCTURE LOCATION IN PEDESTRIAN TRAVELED AREAS.
2. AT DRAINAGE STRUCTURES LOCATED IN BIORETENTION/RAIN GARDENS, PROVIDE A BEEHIVED OR DOMED GRATE.

TYPICAL 3'X3' CATCH BASIN

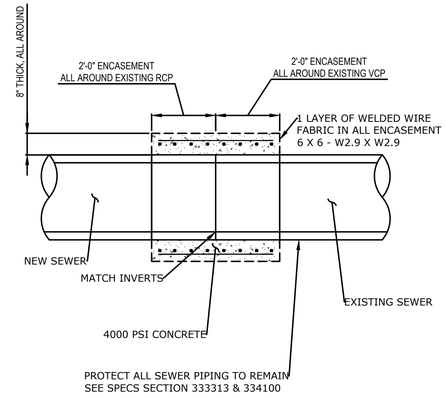
N.T.S.



SECTION

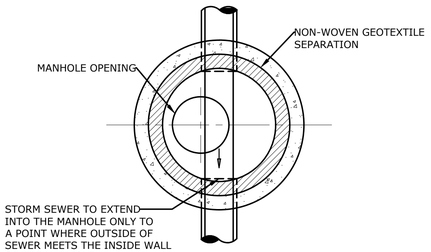
TYPICAL STORM MANHOLE DETAIL

N.T.S.

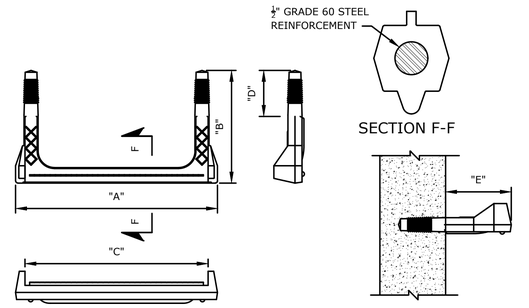


STORM SEWER PIPE CONNECTION DETAIL

N.T.S.



PLAN



NOTES:

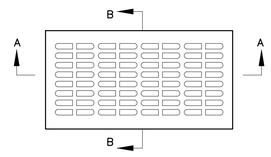
1. CAST IN PLACE OR PRESS FIT ACCEPTABLE
2. MH STEP DESIGN AND INSTALLATION SHALL COMPLY WITH ALL OSHA REGULATIONS.

ACCEPTABLE MANHOLE STEPS
(ALL DIMENSIONS ARE IN INCHES)

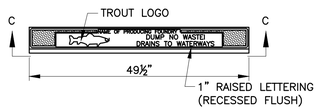
"A" STEP WIDTH	"B" LEG LENGTH	"C" RUNG CLEAR	"D" EMBED-MENT	"E" RUNG CLEAR
14	9 1/2	12 3/4	3 1/8	6 3/8
15 7/16	8 1/2	14	3 3/8	5 1/8

COPOLYMER POLYPROPYLENE PLASTIC MH STEP DETAIL

N.T.S.



PLAN OF GRATING



PLAN OF CURB PIECE

NOTES:
(1) GRATING MATERIAL: GRAY CAST IRON ASTM A-48 CLASS 35B. MINIMUM
WEIGHT OF TYPE R GRATING IS 425 LBS.

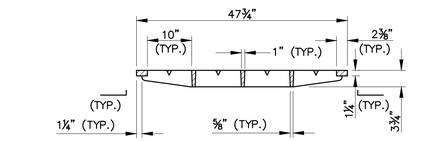
(2) CURB PIECE MATERIAL: GRAY CAST IRON ASTM A-48 CLASS 35B.
MINIMUM WEIGHT OF 6" IS 172 LBS.
MINIMUM WEIGHT OF 8" IS 219 LBS.

(3) BACK PLATE MATERIAL: GRAY CAST IRON ASTM A-48 CLASS 35B.
MINIMUM WEIGHT IS 178 LBS.

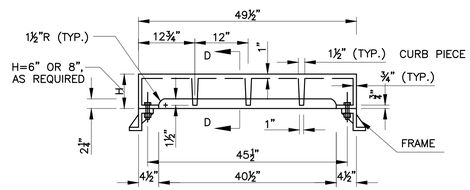
(4) DESIGN LOADING: HS20-44 HIGHWAY LOADING.

(5) ALL MANHOLE FRAMES AND CONVERS SHALL HAVE THE MANUFACTURER'S
IDENTIFICATION. CAST DATE OR HEAT NUMBER AND COUNTRY OF ORIGIN
INTEGRALLY CAST ON INDIVIDUAL PIECES AT THE TIME OF MANUFACTURE
IN ACCORDANCE WITH THE DEP SPECIFICATION.

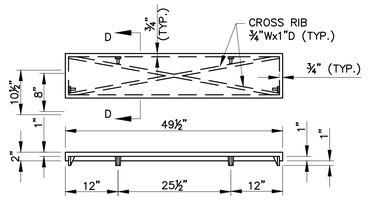
(6) TWO (2)-¾" DIA. CARBON STEEL BOLTS ASTM 307 GRADE-3½" LONG WITH HEXAGONAL HEAD AND NUT WITH TWO (2) FLAT WASHERS PER BOLT
TO BE FURNISHED WITH EACH FRAME TOGETHER WITH 6" CURB PIECE OR
8" CURB PIECE.



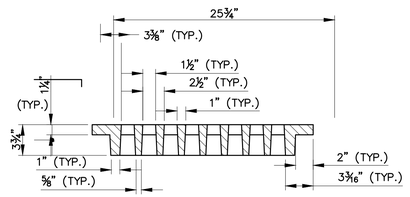
SECTION A-A



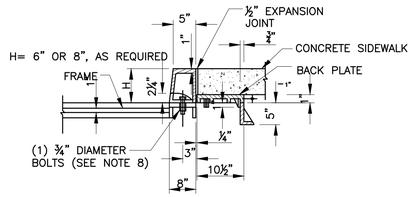
SECTION C-C
ELEVATION OF CURB PIECE



BACK PLATE



SECTION B-B



SECTION D-D

THE FOLLOWING INFORMATION SHALL BE INCLUDED ON THE BACK SIDE OF THE CURB PIECE;
* NAME OF PRODUCING FOUNDRY
* DATE OF MANUFACTURE
* PRODUCT NUMBER
* CAST IRON ASTM A-48

STANDARD FOR CAST IRON GRATING, BACK PLATE, AND CURB PIECE FOR CATCH BASIN

N.T.S.

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PROJECT NO.

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

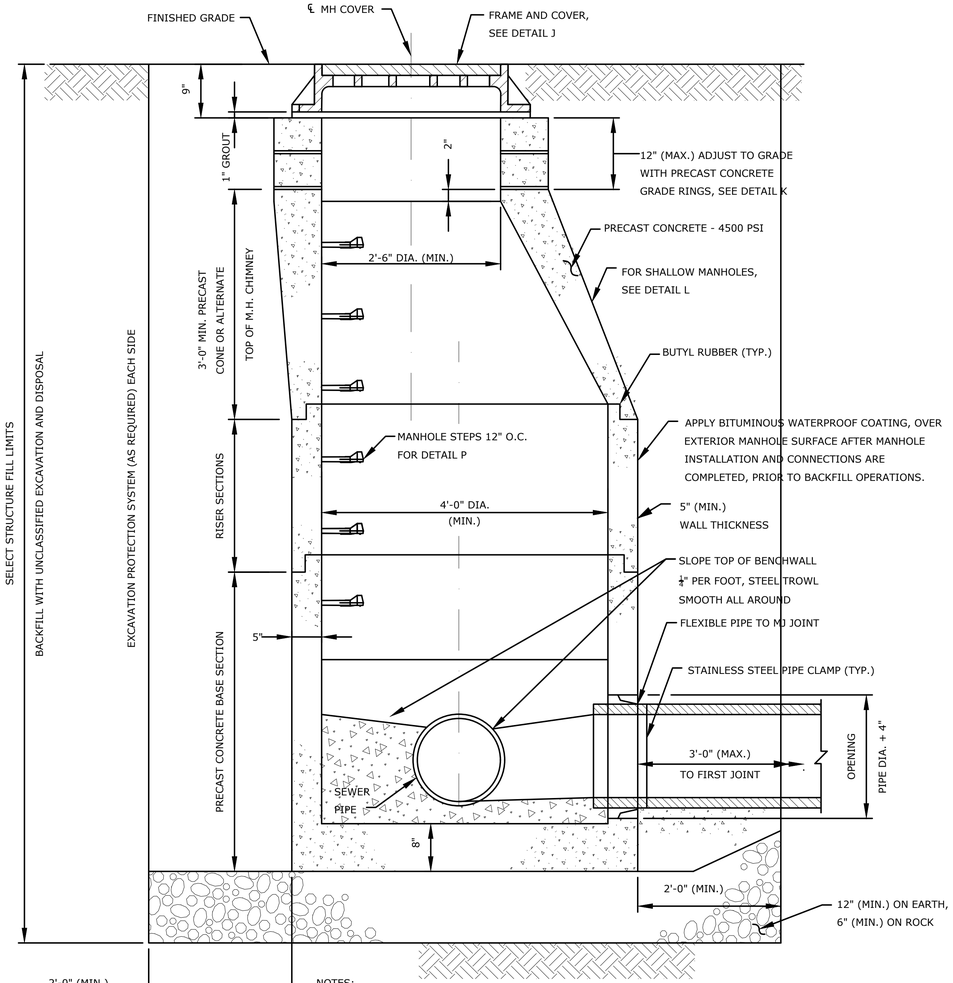
DRAWN: VP
REVIEWED: HF
DATE: 02/21/25

NORTH

SHEET TITLE:
CONSTRUCTION DETAILS 04

SHEET NO.

C 3.19

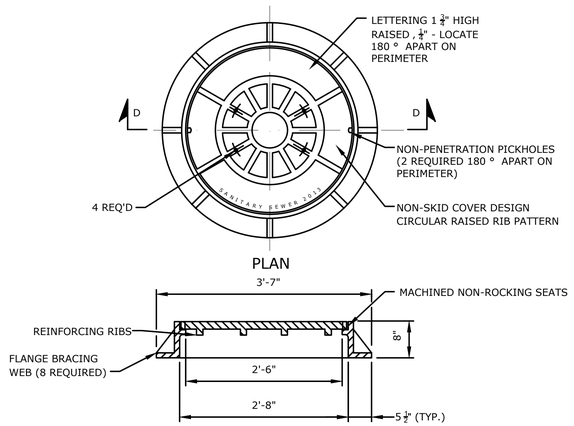


NOTES:

1. PROVIDE SHOP DRAWINGS FOR STRUCTURE, FRAME, COVER AND STEPS FOR REVIEW AND APPROVAL.

PRECAST CONCRETE ROUND SANITARY AND STORM SEWER MANHOLE DETAIL

N.T.S.



SECTION D-D

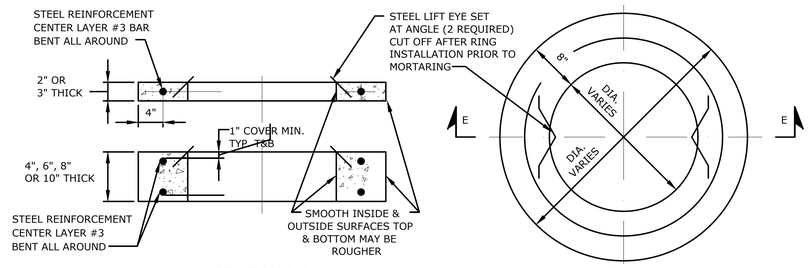
ACCEPTABLE MANHOLE FRAMES & COVER									
(ALL DIMENSIONS ARE IN INCHES)								APPROX. WT (LBS)	
"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	COVER	FRAME
27 ⅞"	26"	25 ¾"	24"	27"	34 ½"	1 ⅛"	8"	160	220
28"					34"			165	240
								165	215

NOTES:

1. MANHOLE FRAME AND COVER SHALL BE PATTERN NO. 1012B AS MANUFACTURED BY THE CAMPBELL FOUNDRY CO. OR APPROVED EQUIVALENT.
2. MANHOLE COVER SHALL RESIST THE 16 KP(f) WHEEL LOAD OF AASHTO H20 LOADING.
3. COVER SHALL READ "SANITARY SEWER 2013".

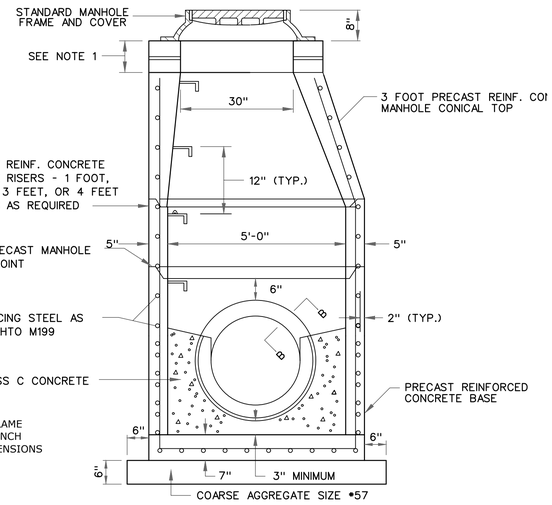
SANITARY MANHOLE FRAME AND COVER DETAIL

N.T.S.

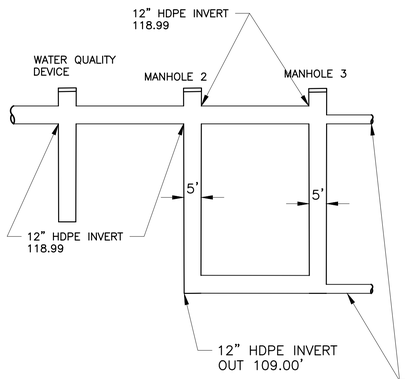


PRECAST CONCRETE MANHOLE GRADE RING DETAIL

N.T.S.

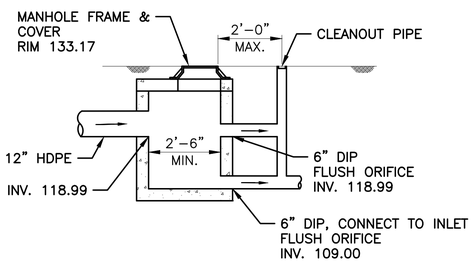


PRECAST REINFORCED CONCRETE MANHOLE SECTIONS SHALL CONFORM TO AASHTO M199



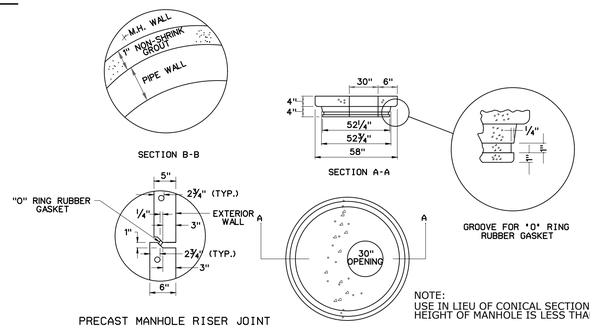
MANHOLE CONNECTION DETAILS

N.T.S.



OUTLET CONTROL STRUCTURE

N.T.S.



NOTE:
USE IN LIEU OF CONICAL SECTION WHEN HEIGHT OF MANHOLE IS LESS THAN 4 FEET

NOTE:
1. AS AN ALTERNATE TO THE STANDARD MANHOLE FRAME AND COVER, A 39 INCH DIAMETER FRAME WITH 4 INCH FLANGE MAY BE FURNISHED WITH ALL OTHER DIMENSIONS AND WEIGHTS REMAINING THE SAME.

60" PRECAST REINFORCED CONCRETE MANHOLE FLAT TOP

N.T.S.

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PROJECT NO.

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Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

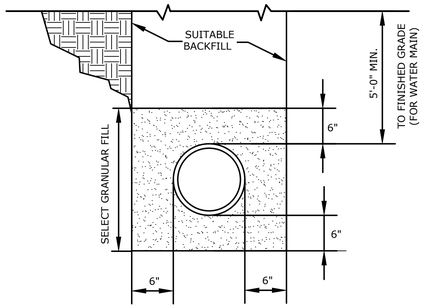
DRAWN: VP
REVIEWED: HF
DATE: 02/21/25

NORTH

SHEET TITLE:
CONSTRUCTION DETAILS 05

SHEET NO.

C 3.20

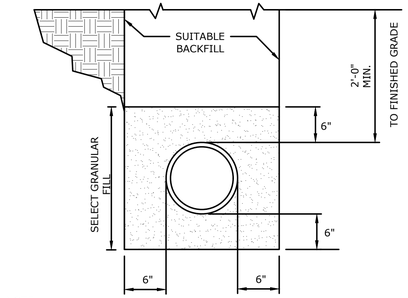


NOTES:

1. ALL WATER MAIN PIPE SHALL HAVE A MINIMUM COVER OF 5'-0".

WATER AND SANITARY SEWER TRENCH DETAIL

N.T.S.

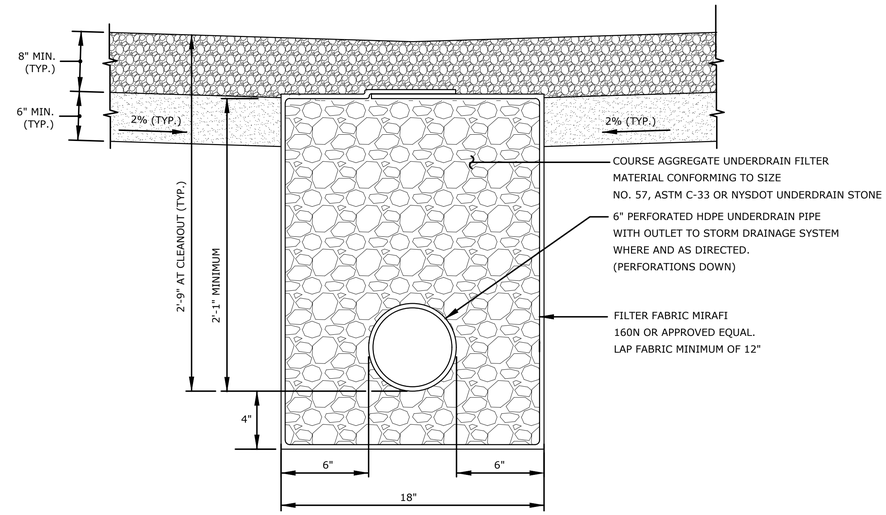


NOTE:

1. TYPE 5 BEDDING - PIPE BEDDED TO ITS CENTERLINE IN COMPACTED GRANULAR MATERIAL, 6-IN. MINIMUM BEDDING UNDER PIPE. COMPACTED GRANULAR OR SELECT MATERIAL TO TOP OF PIPE. (APPROX. 90 PERCENT STANDARD PROCTOR, AASHTO T-99)

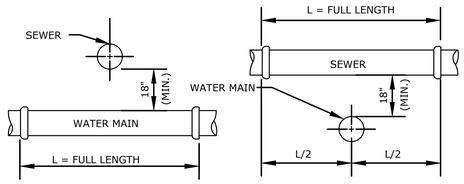
STORM PIPE TRENCH DETAIL

N.T.S.



6" DIA. HDPE UNDERDRAIN

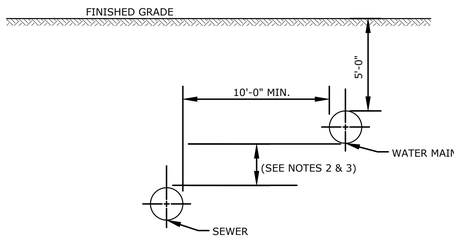
N.T.S.



SEWER OVER WATER MAIN VERTICAL SEPARATION

NOTES: (VERTICAL SEPARATION)

1. WATER MAIN CROSSINGS UNDER SEWERS
   A. VERTICAL SEPARATION OF 18 INCHES MUST BE PROVIDED.
   B. ADEQUATE STRUCTURAL SUPPORT MUST BE PROVIDED FOR THE SEWER TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING.
   C. FULL LENGTH OF WATER PIPE MUST BE CENTERED AT THE POINT OF CROSSING; NO JOINTS WILL BE PERMITTED AT THE POINT OF CROSSING.
   D. SEWERS MUST BE CONSTRUCTED OF MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS AND PRESSURE TESTED.



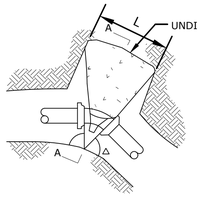
HORIZONTAL SEPARATION

NOTES: (HORIZONTAL SEPARATION)

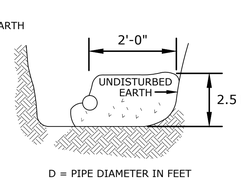
2. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWER LINES. SHOULD LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET, A WATER MAIN MAY BE LAID CLOSER THAN 10 FEET TO A SEWER IF (1) IT IS LAID IN A SEPARATE TRENCH, OR IF (2) IT IS LAID IN THE SAME TRENCH WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH AND IF IN EITHER CASE THE ELEVATION OF THE CROWN OF THE SEWER OR DRAIN IS AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN.
3. WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL SEPARATION, AS STIPULATED ABOVE, THE SEWER OR DRAIN SHALL BE CONSTRUCTED OF MATERIALS AND WITH JOINTS EQUIVALENT TO THE STANDARDS FOR THE WATER MAIN.

SEPARATION OF WATER AND SANITARY SEWER LINES

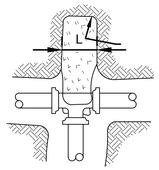
N.T.S.



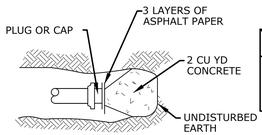
PLAN OF HORIZONTAL BEND



SECTION A-A



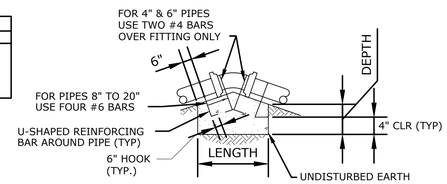
PLAN OF HORIZONTAL TEE



HORIZONTAL BENDS

PIPE DIAMETER / Δ	L 6"	L 8"	L 12"
11.25°	0'-8"	0'-10"	1'-2"
22.5°	1'-3"	1'-7"	2'-2"
45°	2'-5"	3'-1"	4'-3"
90°	4'-5"	5'-7"	7'-11"
TEE	3'-1"	4'-0"	5'-7"

TYPICAL STUB BLOCK



VERTICAL BEND DOWNWARD

THRUST BLOCK NOTES:

1. ALL FITTINGS WITH DIRECTIONAL CHANGES SHALL BE RESTRAINED IN ACCORDANCE WITH THESE THRUST BLOCK DETAILS.
2. CONCRETE fc = 3000 psi HIGH EARLY STRENGTH IS PERMISSIBLE.
3. THRUST BLOCK SIZES ARE BASED ON 2,000 PSF SOIL BEARING PRESSURES, NOTIFY ENGINEER IF SOIL IS UNSUITABLE FOR INTENDED USE.
4. IF SOIL IS UNSUITABLE FOR THRUST RESTRAINT OR INADEQUATE ROOM EXISTS, MECHANICAL RESTRAINT MAY BE PERMITTED IF APPROVED BY ENGINEER.
5. ALL FITTINGS TO BE MECHANICAL JOINT. ALL BOLTED CONNECTIONS SHALL BE WRAPPED IN 8 MIL PLASTIC AND TAPPED AT ALL ENDS PER AWWA STANDARD C-105.
6. LINE TESTING SHALL NOT OCCUR UNTIL CONCRETE STRENGTH IS ACHIEVED.

VERTICAL BENDS

PIPE SIZE	DIMENSIONS FOR CONCRETE BLOCKING											
	LENGTH			WIDTH			DEPTH			REBARS		
	11.25°	22.5°	45°	11.25°	22.5°	45°	11.25°	22.5°	45°	11.25°	22.5°	45°
4", 6" & 8"	3'	4'	6'	3'	3'	3'	2'	3'	4'	1-#4	2-#4	2-#5
12"	4.5'	6'	8'	3'	3'	4'	3'	4.5'	5'	2-#4	2-#6	3-#6
16"	6'	8'	11'	3.5'	3.5'	5'	3.5'	5'	5'	2-#5	4-#5	6-#6

DETAILS-THRUST BLOCK

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PROJECT NO.

PROJECT

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Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

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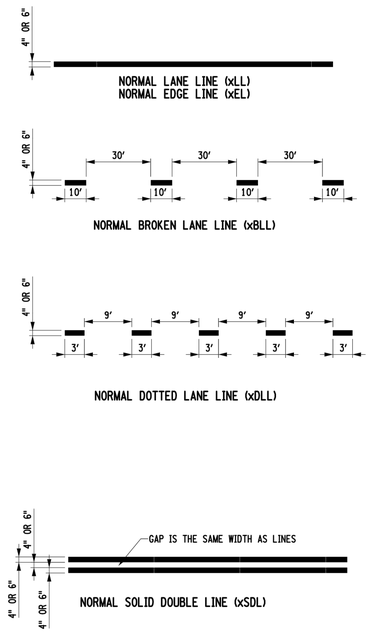
REVIEWED: HF
DATE: 02/21/25

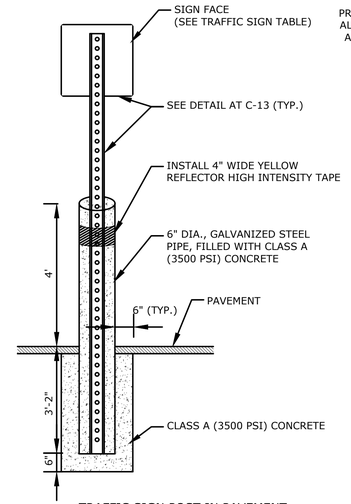
SHEET TITLE:
CONSTRUCTION DETAILS 06

SHEET NO.

C 3.21



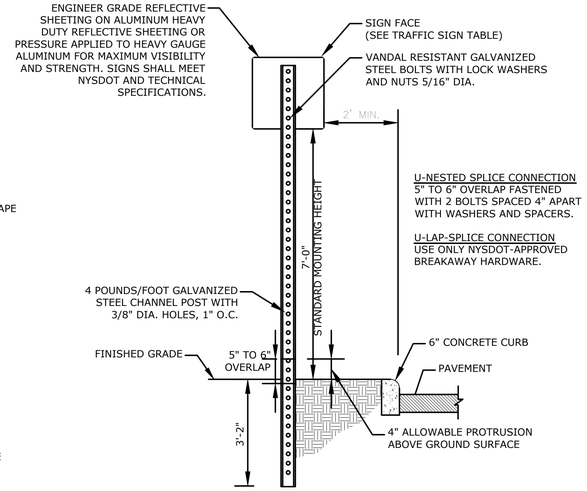
NYSDOT STANDARD SHEET 685-01
PAVEMENT MARKING DETAILS
SHEETS 1 THROUGH 9



TRAFFIC SIGN POST IN PAVEMENT
N.T.S.

NOTES:

1. THIS DETAIL SHALL APPLY WHEN PROPOSED SIGNS ARE LOCATED IN VEHICULAR AREAS.



TRAFFIC SIGN POST AT CONCRETE CURB
N.T.S.

TRAFFIC SIGN TABLE

SIGN NO.	SIGNAGE TEXT	NYSDOT DESIGNATION	QUANTITY
1	STOP	R1-1 24" X 24"	2
2	NO PARKING ANY TIME	R7-1 12" X 18"	3

*REFER TO SITE PLANS FOR LOCATION.

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CONSTRUCTION DETAILS 07

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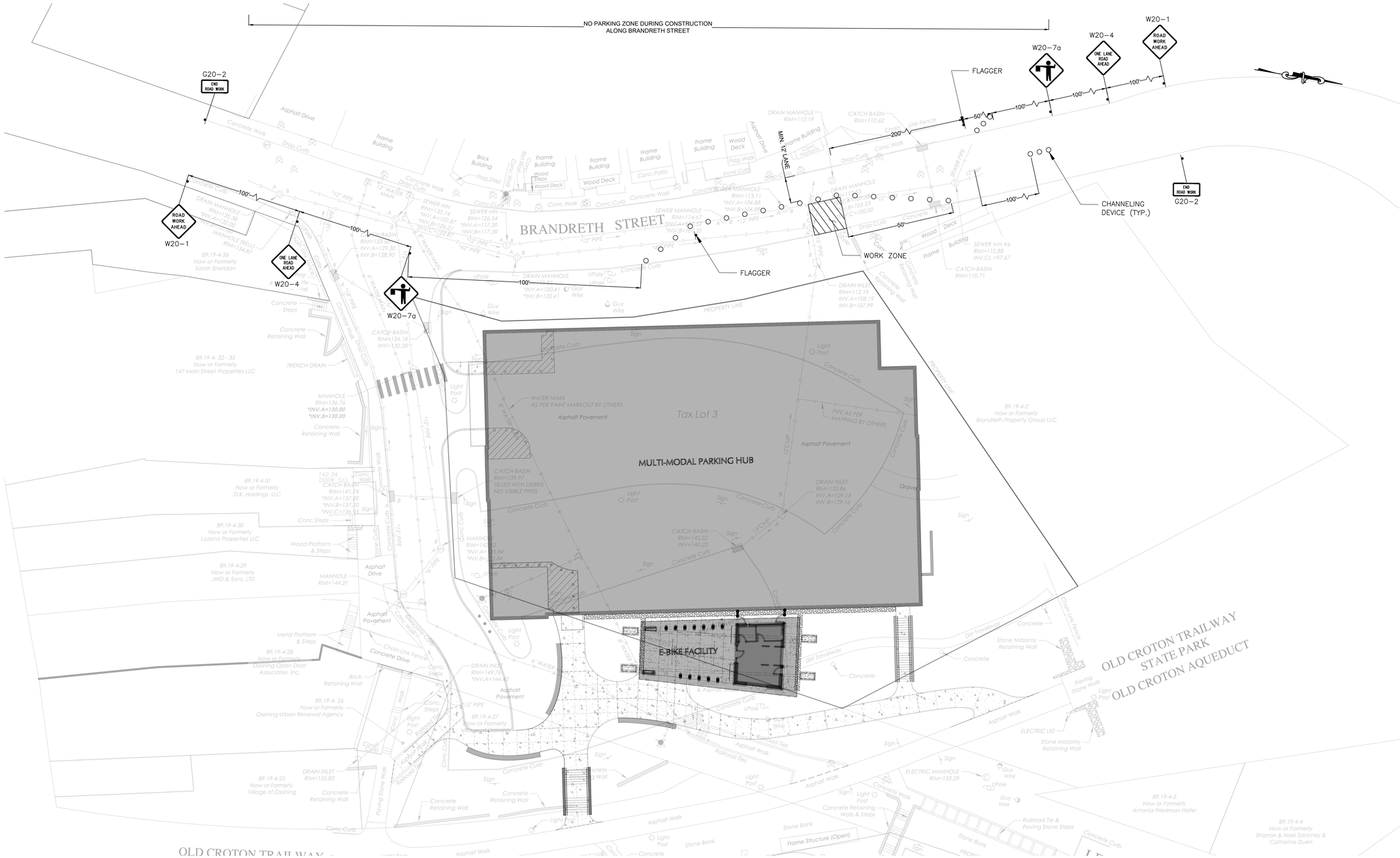

NOTES:

1) ALL ROAD CLOSURES, LANE CLOSURES, AND NO STREET PARKING ZONES SHALL BE COORDINATED WITH THE VILLAGE OF OSSINING POLICE DEPARTMENT, TRAFFIC DIVISION, AND THE DPW.
2) THE CONTRACTOR SHALL COORDINATE WITH THE VILLAGE OF OSSINING ALL NOTIFICATIONS TO THE LOCAL COMMERCIAL AND RESIDENTIAL NEIGHBORS DIRECTLY AFFECTED BY THE CONSTRUCTION A MINIMUM OF 30 DAYS PRIOR TO ROAD CLOSURES, LANE CLOSURES, AND NO STREET PARKING.
3) THE CONTRACTOR SHALL SUBMIT TO THE VILLAGE OF OSSINING AND CONSTRUCTION MANAGER A STAGING PLAN FOR THEIR REVIEW AND COMMENT.
4) CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS OF THE MUTCD AND WESTCHESTER COUNTY MUTCD FOR MAINTENANCE AND PROTECTION OF TRAFFIC REGULATIONS.
5) THE CONTRACTOR SHALL COORDINATE ACCESS TO ALL DRIVEWAYS, AND BUSINESS DELIVERIES ALONG LEONARD STREET WITH THE VILLAGE OF OSSINING.

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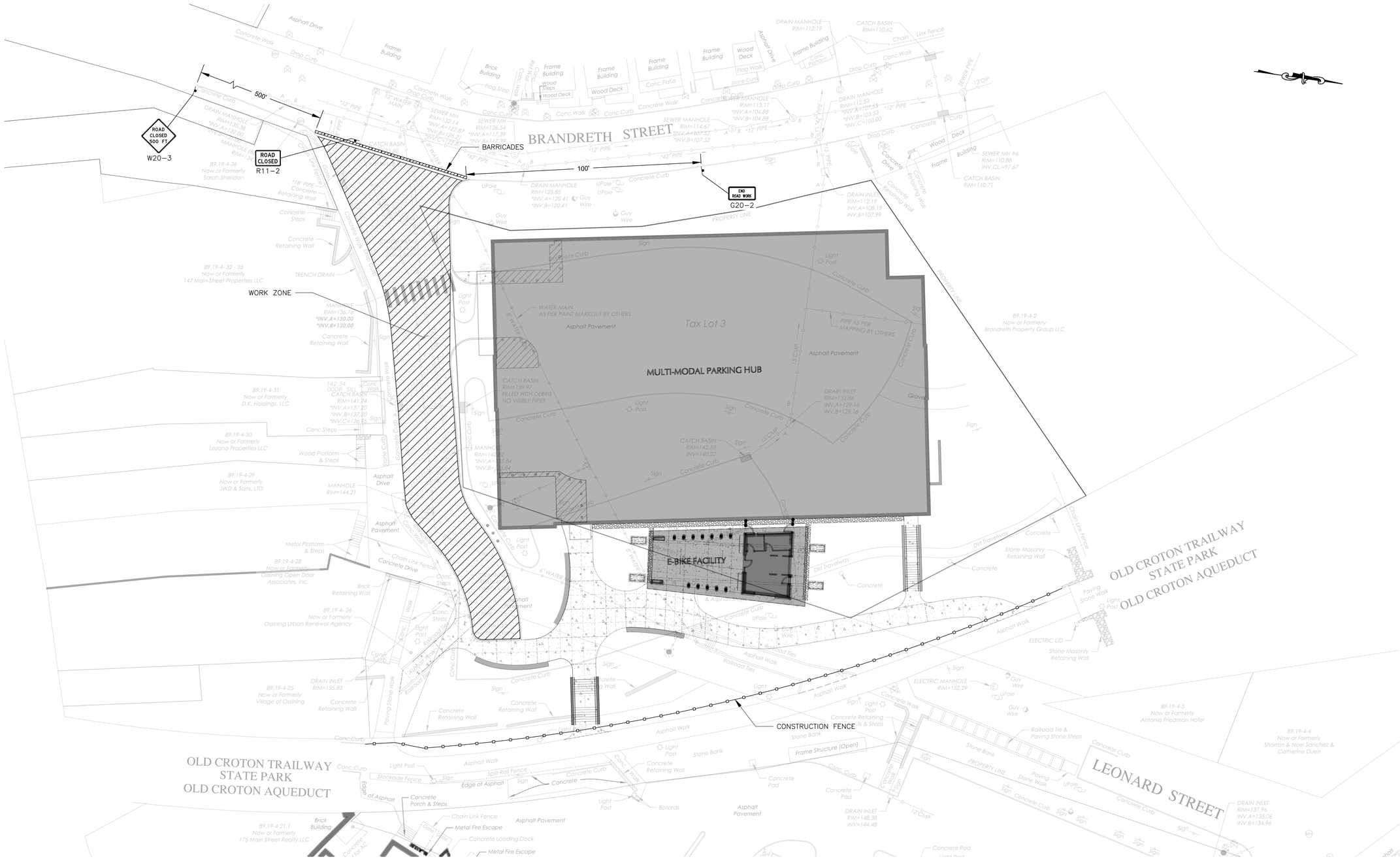
MAINTENANCE AND PROTECTION OF TRAFFIC PLAN 01

SHEET NO.

C 3.23



NOTES:

1) ALL ROAD CLOSURES, LANE CLOSURES, AND NO STREET PARKING ZONES SHALL BE COORDINATED WITH THE VILLAGE OF OSSINING POLICE DEPARTMENT, TRAFFIC DIVISION, AND THE DPW.
2) THE CONTRACTOR SHALL COORDINATE WITH THE VILLAGE OF OSSINING ALL NOTIFICATIONS TO THE LOCAL COMMERCIAL AND RESIDENTIAL NEIGHBORS DIRECTLY AFFECTED BY THE CONSTRUCTION A MINIMUM OF 30 DAYS PRIOR TO ROAD CLOSURES, LANE CLOSURES, AND NO STREET PARKING.
3) THE CONTRACTOR IS HEREBY ADVISED THAT LEONARD STREET MAINTAINS MANY ACTIVE COMMERCIAL AND RESIDENTIAL DRIVEWAYS.
4) THE CONTRACTOR SHALL SUBMIT TO THE VILLAGE OF OSSINING AND CONSTRUCTION MANAGER A STAGING PLAN FOR THEIR REVIEW AND COMMENT.
5) CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS OF THE MUTCD AND WESTCHESTER COUNTY MUTCD FOR MAINTENANCE AND PROTECTION OF TRAFFIC REGULATIONS.
6) THE CONTRACTOR SHALL COORDINATE ACCESS TO ALL DRIVEWAYS, AND BUSINESS DELIVERIES ALONG LEONARD STREET WITH THE VILLAGE OF OSSINING.
7) THE CONTRACTOR SHALL COORDINATE WITH THE VILLAGE OF OSSINING, THE TYPE AND PLACEMENT OF THE TEMPORARY CONSTRUCTION FENCE ALONG THE OLD CROTON TRAILWAY.

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MAINTENANCE AND PROTECTION OF TRAFFIC PLAN 02

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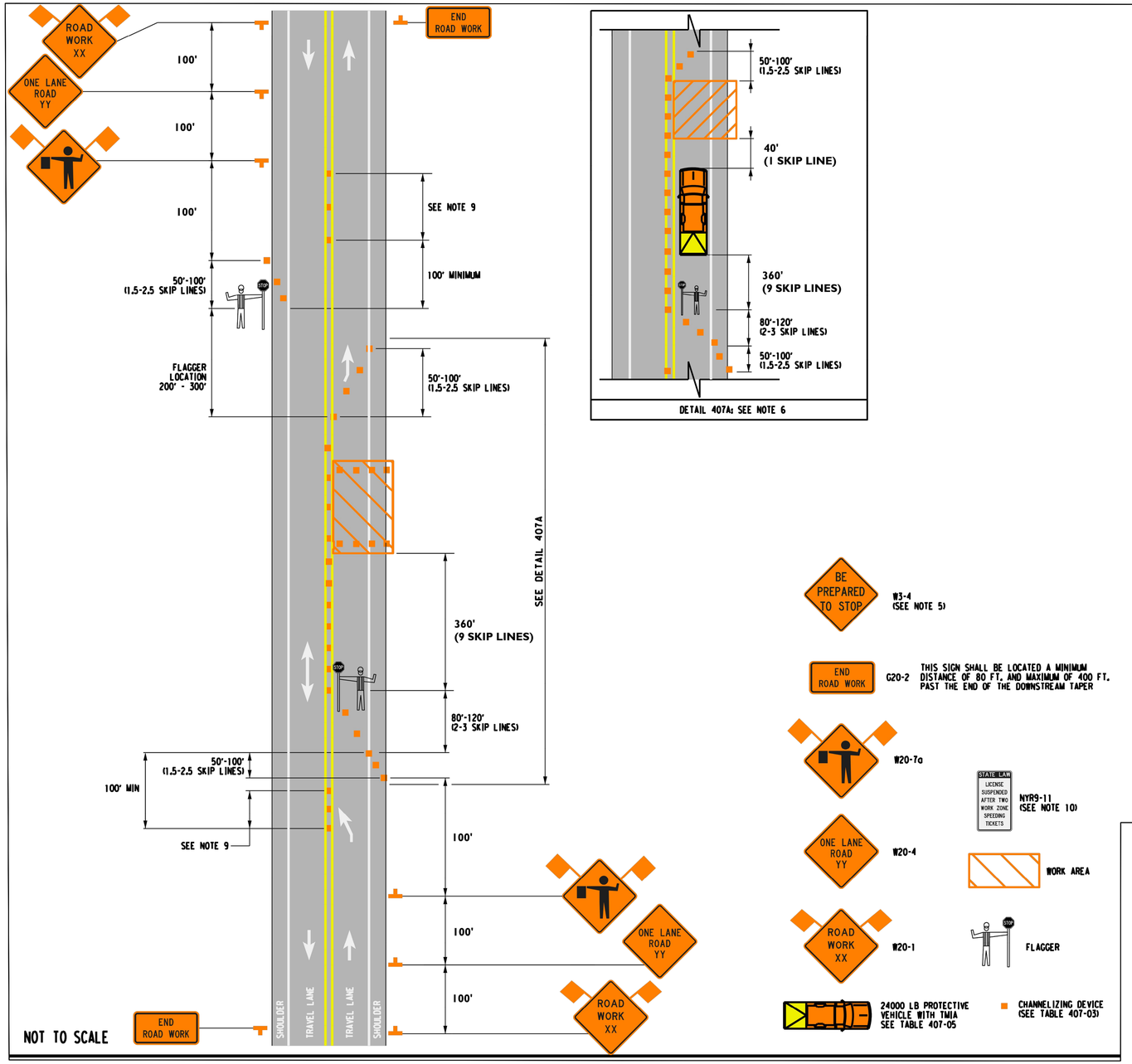

DETAIL 407A: SEE NOTE 6

NOTES:

1. INTERMEDIATE-TERM IS STATIONARY WORK THAT OCCUPIES A LOCATION MORE THAN ONE DAYLIGHT PERIOD UP TO 3 CONSECUTIVE DAYS, OR NIGHTTIME WORK LASTING MORE THAN 1 HOUR.

2. WHEN A SIDE ROAD OR DRIVEWAY INTERSECTS THE ROADWAY WITHIN A WORK ZONE TRAFFIC CONTROL AREA, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES AND/OR FLAGGERS SHALL BE PLACED AS NEEDED. ADDITIONAL FLAGGERS SHALL BE LOCATED AT ALL INTERSECTIONS AND COMMERCIAL DRIVEWAYS LOCATED WITHIN OR NEAR THE ACTIVE WORK SPACE. NO WORK ACTIVITY, EQUIPMENT, OR STORAGE OF VEHICLES, OR MATERIAL SHALL OCCUR WITHIN THE BUFFER SPACE AT ANY TIME.

3. CHANNELIZING DEVICE SPACING (CENTER TO CENTER) SHALL NOT EXCEED 20' IN THE ACTIVE WORK SPACE.

4. CHANNELIZING DEVICES SHALL BE PLACED TRANSVERSELY A MINIMUM OF EVERY 800' AS SHOWN WHEN A PAVED SHOULDER HAVING A WIDTH OF 8' OR GREATER IS CLOSED FOR A DISTANCE GREATER THAN 800'.

5. IF THE TRAFFIC IS EXPECTED TO QUEUE PAST THE W20-4 SIGN, A W3-4 SIGN SHOULD BE ADDED HALFWAY BETWEEN THE W20-4 AND W20-1 SIGNS.

6. IF CONDITION WARRANTS, PROTECTIVE VEHICLE WITH APPROPRIATE ROLL AHEAD DISTANCE MAY BE USED IN ADVANCE OF THE WORK AREA, TO USE PROTECTIVE VEHICLE, BUFFER SPACE SHALL BE PROVIDED ACCORDINGLY, AND THE WHEELS SHALL BE ALIGNED WITH THE LANE STRIPING.

7. FLAGGER SIGN (W20-7a) AND ONE LANE ROAD AHEAD SIGN (W20-4) SHALL BE REMOVED, COVERED OR TURNED AWAY FROM ROAD USERS WHEN FLAGGING OPERATIONS ARE NOT OCCURRING.

8. ALL FLAGGERS SHALL USE 24" (MIN.) OCTAGON SHAPED STOP/SLOW PADDLES HAVING 6' STAFF. THE PADDLE IS THE PREFERRED DEVICE, BUT THE FLAG MAY BE USED AT INTERSECTIONS WHERE THE STOP/SLOW PADDLE WOULD OFFER CONTRADICTING INFORMATION TO DRIVERS TRAVELING IN OPPOSITE DIRECTIONS/LEGS OF THE INTERSECTION OR DURING INCIDENT MANAGEMENT SITUATIONS.

9. CENTERLINE CONES MAY BE ADDED TO ENHANCE THE VISIBILITY OF THE FLAGGER STATION, IF CONES ARE USED, PLACE THEM 100 FT. (MINIMUM) FROM FLAGGER.

10. THE NY9-11 SIGN IS RECOMMENDED. WHEN USED, IT SHALL BE PLACED IN ADVANCE OF THE FIRST ADVANCE WARNING SIGN. THE PLACEMENT DISTANCE SHALL BE 1000' FOR POSTED SPEED LIMITS OF 45 MPH OR HIGHER, AND 300' - 500' FOR POSTED SPEED LIMITS OF LESS THAN 45 MPH.

NOTES FOR NIGHTTIME OPERATIONS:

N1. WORK OCCURRING AFTER SUNSET AND BEFORE SUNRISE WILL BE CONSIDERED NIGHTTIME OPERATIONS.

N2. ALL SIGNS, STOP / SLOW PADDLES AND RED FLAGS USED TO WARN / ALERT / CONTROL TRAFFIC SHALL BE RETROREFLECTIVE.

N3. ALL WORKERS INVOLVED SHALL WEAR PROTECTIVE HELMET AND NIGHTTIME APPAREL IN ACCORDANCE WITH §107-05A, HIGH VISIBILITY APPAREL AT ALL TIMES.

N4. VEHICLES OPERATING ON THE PAVEMENT OF A CLOSED ROADWAY OR TRAVEL LANE SHALL DISPLAY ROTATING AMBER BEACONS AT ALL TIMES.

N5. LEVEL I ILLUMINATION SHALL BE PROVIDED NEAR THE BEGINNING OF LANE CLOSURE TAPERS AND AT ROAD CLOSURES, INCLUDING THE SETUP AND REMOVAL OF THE CLOSURE TAPERS.

N6. LEVEL II ILLUMINATION SHALL BE PROVIDED FOR FLAGGING STATIONS, ASPHALT PAVING, MILLING, AND CONCRETE PLACEMENT AND/OR REMOVAL OPERATIONS,INCLUDING BRIDGE DECKS, 50 FEET AHEAD OF AND 100 FEET BEHIND A PAVING OR MILLING MACHINE.

N7. LEVEL III ILLUMINATION SHALL BE PROVIDED FOR PAVEMENT OR STRUCTURAL CRACK FILLING, JOINT REPAIR, PAVEMENT PATCHING AND REPAIRS, INSTALLATION OF SIGNAL EQUIPMENT OR OTHER ELECTRICAL/MECHANICAL, AND OTHER TASKS INVOLVING FINE DETAILS OR INTRICATE PARTS AND EQUIPMENT.

N8. ALL LIGHTING SHALL BE DESIGNED, INSTALLED, AND OPERATED TO AVOID GLARE THAT AFFECTS TRAFFIC ON THE ROADWAY OR THAT CAUSES ANNOYANCE OR DISCOMFORT FOR RESIDENCES ADJOINING THE ROADWAY.

N9. PRIOR TO THE START OF NIGHTTIME OPERATIONS, A WRITTEN NIGHTTIME OPERATIONS AND LIGHTING PLAN IS REQUIRED FOR APPROVAL FROM THE DOT ENGINEER.

N10. SEE STANDARD SPECIFICATIONS §619 FOR ADDITONAL REQUIREMENTS AND CONSIDERATIONS.

N11. FLAGGERS SHALL USE A FLASHLIGHT WITH A RED GLOW CONE/RED LED BATON FOR FLAGGING IN NON-ILLUMINATED FLAGGER STATIONS DURING NIGHTTIME OPERATIONS.

TWO-LANE TWO-WAY ROADWAY LANE CLOSURE WITH FLAGGERS

NYSDOT US CUSTOMARY STANDARD SHEET NO. 619-307

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MAINTENANCE AND PROTECTION OF TRAFFIC DETAIL 01

SHEET NO.

C 3.25

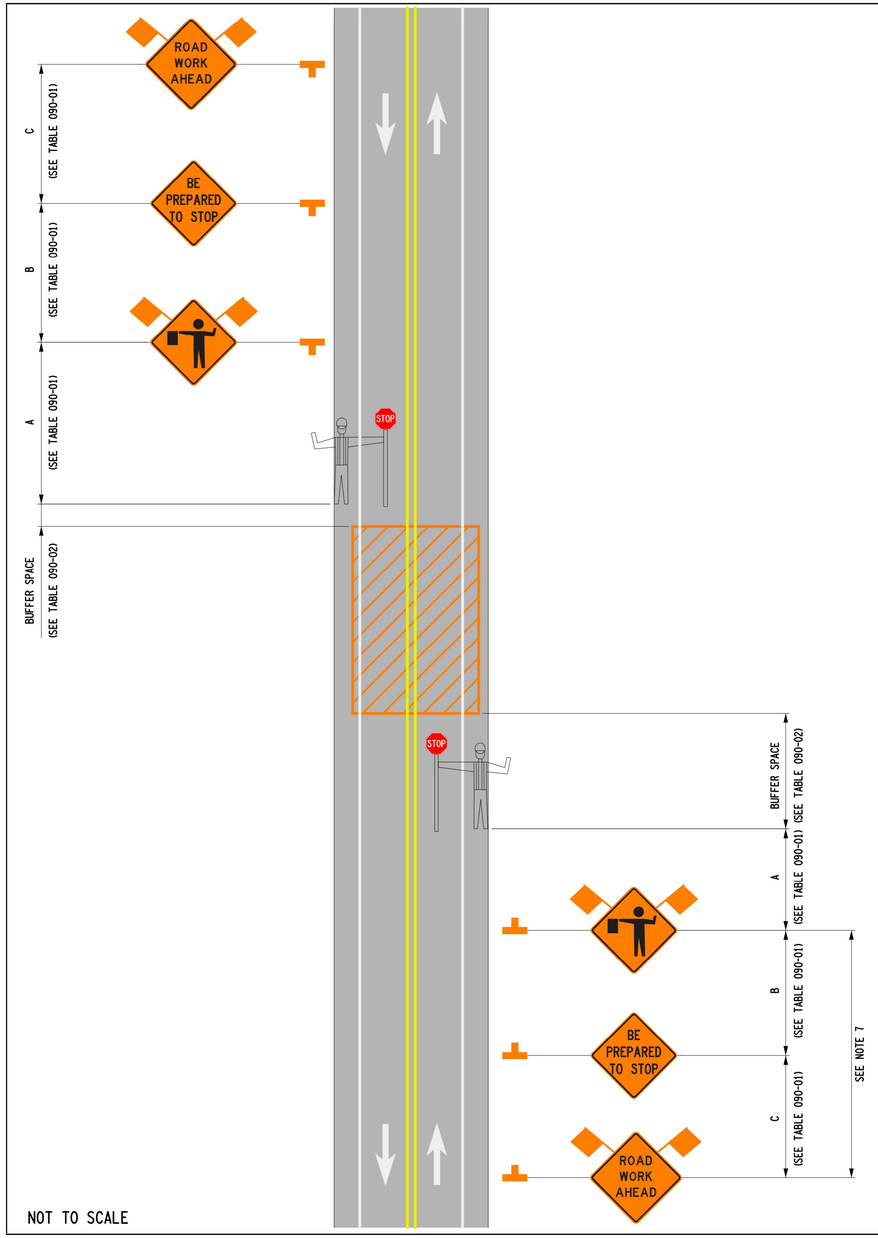


TABLE 090-01: ADVANCE WARNING SIGN SPACING					
ROAD TYPE	DISTANCE BETWEEN SIGNS			SIGN LEGEND	
	A (FT.)	B (FT.)	C (FT.)	XX	YY
URBAN (≤ 30 MPH•)	100	100	100	AHEAD	AHEAD
URBAN (35-40 MPH•)	200	200	200	AHEAD	AHEAD
URBAN (≥ 45 MPH•)	350	350	350	1000 FT.	AHEAD
RURAL	500	500	500	1500 FT.	1000 FT.

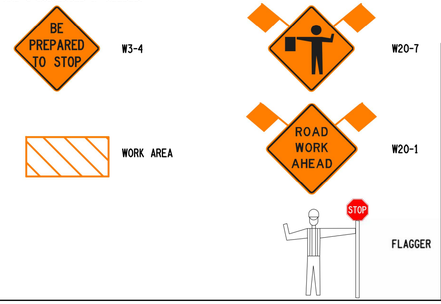
• PRECONSTRUCTION POSTED SPEED LIMIT

TABLE 090-02: LONGITUDINAL BUFFER SPACE	
PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	DISTANCE (FT.)/ • OF SKIP LINES
25	155/4
30	200/5
35	250/6
40	305/8
45	360/9
50	425/11
55	495/13

TABLE 090-03: REQUIRED SIGN SIZE•		
SIGN	NON-FREEWAY	FREEWAY
W3-4	36x36	48x48
W20-1	36x36	48x48
W20-7	36x36	48x48
WARNING FLAG	18x18	18x18
•FREEWAY SIZES MAY BE USED ON NON-FREEWAY, IF SPACE CONSTRAINTS DO NOT EXIST.		

NOTES:

1. DURATION OF THE CLOSURE SHALL NOT EXCEED 5 MINUTES.
2. IN URBAN CONDITIONS, ADVANCE WARNING SIGN SPACINGS MAY BE ADJUSTED IN ORDER TO ACCOMMODATE SIDE STREETS AND DRIVEWAYS. IF THERE IS A CONFLICT, MOVE THE SIGN UPSTREAM.
3. FLAGGER SYMBOL SIGN (W20-7) AND "BE PREPARED TO STOP" (W3-4) SHALL BE REMOVED, COVERED OR TURNED AWAY FROM ROAD USERS WHEN FLAGGING OPERATIONS ARE NOT OCCURING.
4. FOR MULTI LANE ROADWAYS, A SITE SPECIFIC PLAN IS REQUIRED ILLUSTRATING PROPOSED STRATEGIES / SIGNAGE TO REDUCE THE ROAD TO A SINGLE LANE ON EACH APPROACH TO THE WORK AREA.
5. TRAFFIC IN BOTH DIRECTIONS WILL BE STOPPED FOR THE ENTIRE DURATION OF THE WORK. THE WORK SHALL BE SUSPENDED DURING PERIODS OF POOR VISIBILITY AND DURING PEAK HOURS.
6. WORK SHOULD BE SCHEDULED DURING NON-PEAK HOURS.
7. PRIOR TO PLACING THE ADVANCE WARNING SIGNS, CONSIDERATION NEEDS TO BE GIVEN TO THE EXPECTED VOLUME OF TRAFFIC THAT NEEDS TO BE HELD AND DISTANCES B AND C INCREASED IF NEEDED.



TWO–LANE TWO–WAY ROADWAY TEMPORARY ROAD CLOSURE

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MAINTENANCE AND PROTECTION OF TRAFFIC DETAIL 02

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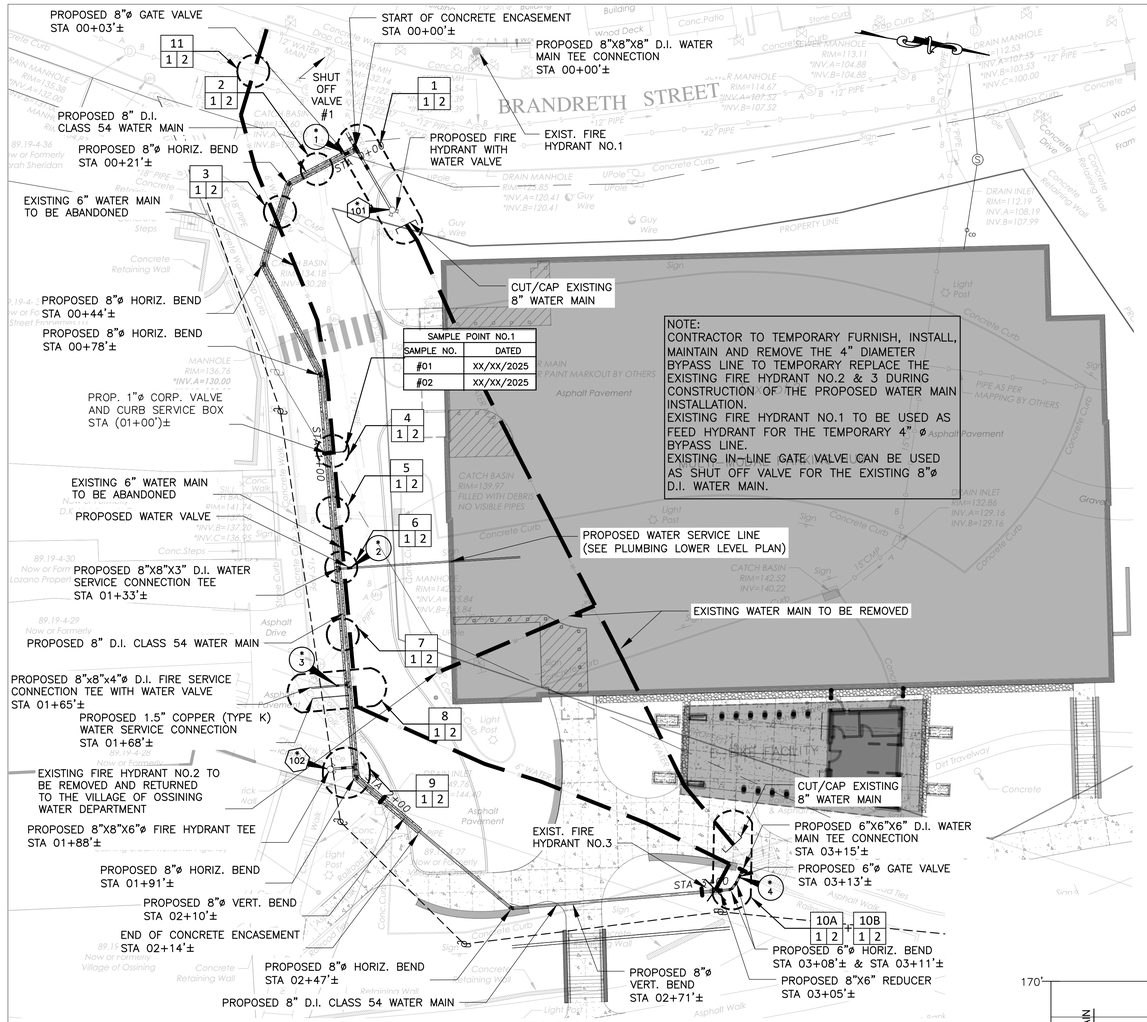

PLAN

0 20 40

SCALE IN FEET: 1" = 20'-0"

A – SECTION / DETAIL NUMBER

B – DRAWING ON WHICH SECTION / DETAIL IS FIRST CUT

C – DRAWING ON WHICH SECTION / DETAIL IS LOCATED

SECTION AND DETAIL KEY

LEGENDS

PROPOSED WATER MAIN –

PROPOSED IN-LINE GATE VALVE –

PROPOSED D.I. ELBOW –

PROPOSED D.I TEE –

EXISTING WATER MAIN –

EXISTING SEWER MAIN –

EXISTING FIRE HYDRANT –

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TABLE NO. 1

EXIST. FIRE HYDRANT SUMMARY

FIRE HYDRANT I.D. NO.	FIRE HYDRANT PRESSURE (PSI)	FIRE HYDRANT FIRE FLOW (GPM)
1	108	1500
2	100	1300
3	98	N/A

TABLE NO. 2

PROPOSED FIRE HYDRANT SUMMARY

F.H. I.D. NO.	STA (00+00'±)	DWG. NO.	INSTALLATION DATE
101	00+23 – BRANDRETH STREET	3	
102	01+88	3	

TABLE NO. 3

PROPOSED GATE VALVE SCHEDULE

VALVE I.D. NO.	VALVE SIZE (INCHES)	VALVE TYPE	STA (00+00'±)	INSTALLATION DATE
1	8	R.W.	00+03	
2	3	R.W.	00+03 – SERVICE LINE	
3	4	R.W.	00+03 – SERVICE LINE	
4	6	R.W.	03+13	

TABLE NO. 4

BACTERIOLOGICAL TESTING – AWWA STANDARDS C-651

SAMPLE POINT NO.	STA (00+00'±)	FIRST DAY		SECOND DAY	
		SAMPLE NO. I.D	DATED	SAMPLE NO. I.D	DATED
1	01+00	1		2	
SPARE		3		4	

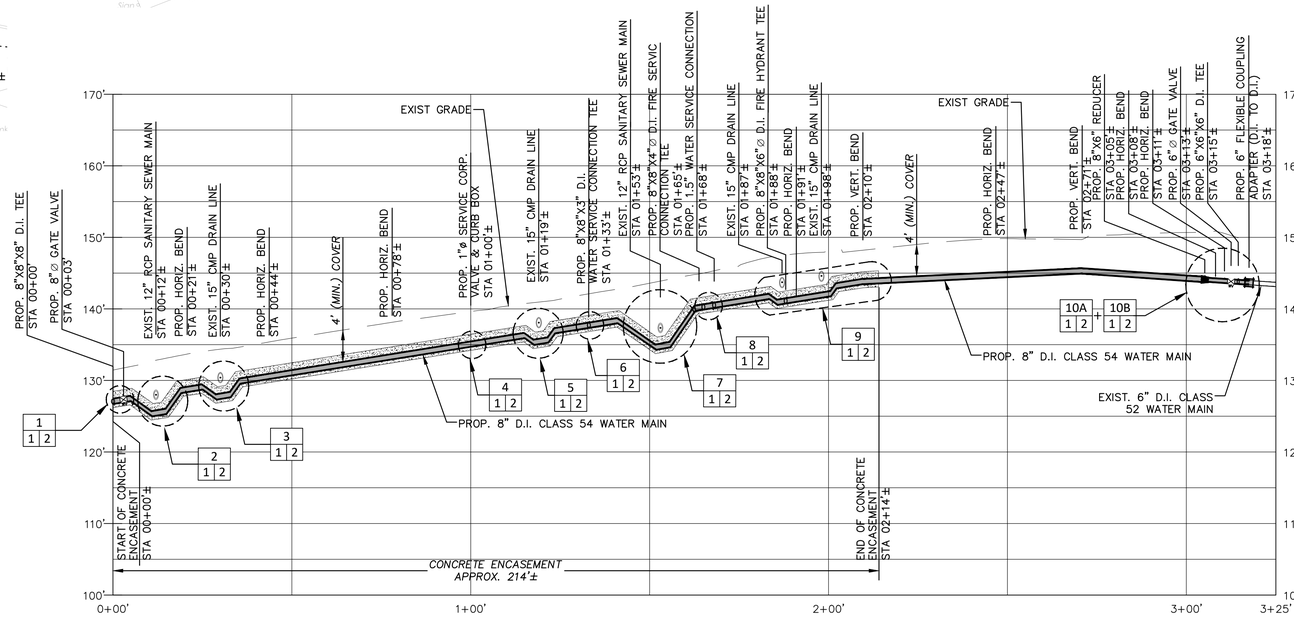
TABLE NO. 5

SUGGESTED TEMPORARY WATER MAIN SHUT-OFF VALVE SUMMARY

VALVE NO.	VALVE SIZE	FEED HYDRANT	NOTES
#1	8"	EXIST. FIRE HYDRANT NO.1	CONTRACTOR TO TEMPORARY INSTALL 4"ø BYPASS LINE FOR THE THREE EXIST. FIRE HYDRANTS AND ANY HOUSE SERVICE WATER CONNECTION.

MATERIAL SUMMARY

DESCRIPTION	QUANTITY
3"ø D.I. PIPE/FITTINGS – CLASS 54 – (P.O.J) – FROM TEE TO BUILDING FOOTPRINT	35'± L.F.
4"ø D.I. PIPE/FITTINGS – CLASS 54 – (P.O.J)	TO BE FIELD DETERMINED
8"ø D.I. PIPE/FITTINGS – CLASS 54 – (P.O.J)	318'± L.F.
3"ø GATE VALVES WITH VALVE BOX AND COVER	1
4"ø GATE VALVES WITH VALVE BOX AND COVER	1
6"ø GATE VALVES WITH VALVE BOX AND COVER	1
8"ø GATE VALVES WITH VALVE BOX AND COVER	1
FIRE HYDRANT ASSEMBLIES	2
CONCRETE THRUST BLOCKS	35 CY
CONTROL LOW STRENGTH MATERIAL ALSO CALLED K-CRETE	50 CY
SILT SACK INLET PROTECTION SSIP #1, 2, 3, 4, 5, 6 & 7(SPARE)	7
STORM/SEWER CROSSINGS	5
WATER MAIN SHUTDOWN CONNECTION	2
CURB BOX / CURB STOP	1
1 ½"ø COPPER SERVICE LINE	1



PROFILE

PROPOSED WATER MAIN STA 00+00 TO STA 03+18

SCALE: HORIZONTAL 1"=20'-0"

VERTICAL 1"=10'-0"

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PROJECT NO.

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

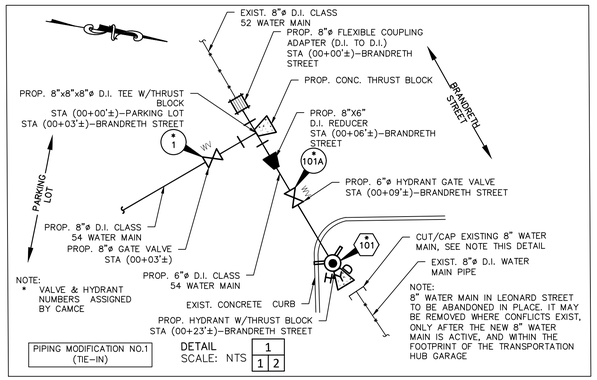
DRAWN: FB
REVIEWED: ST
DATE: 04.14.25

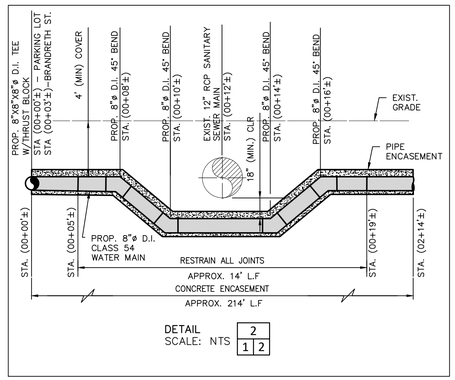
SHEET TITLE:

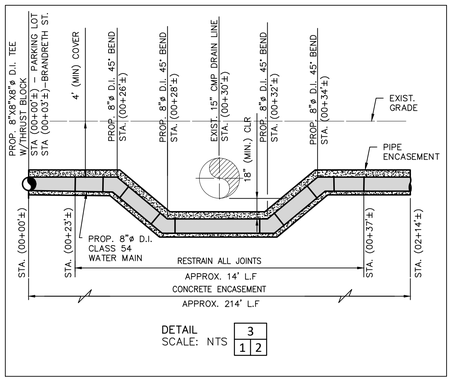
PLAN AND PROFILE

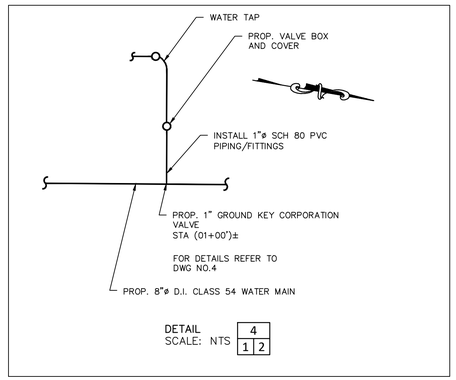
SHEET NO.

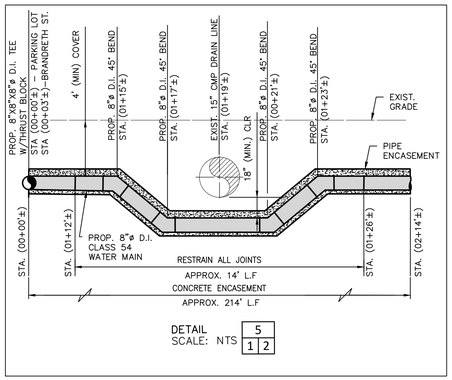
C 3.27

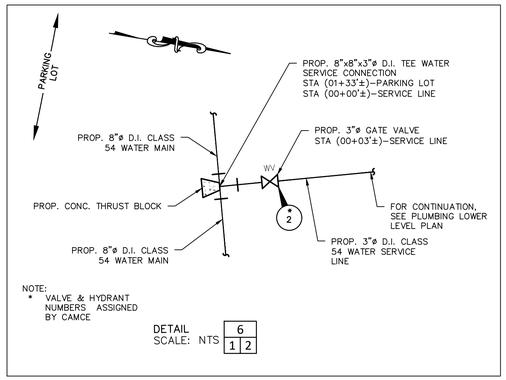


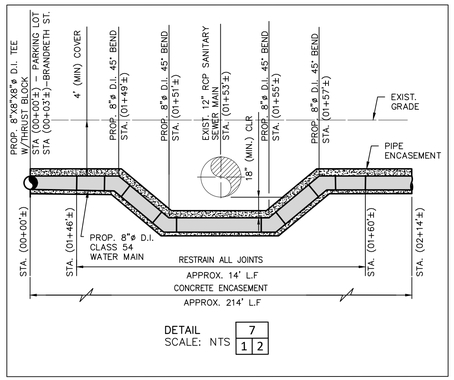


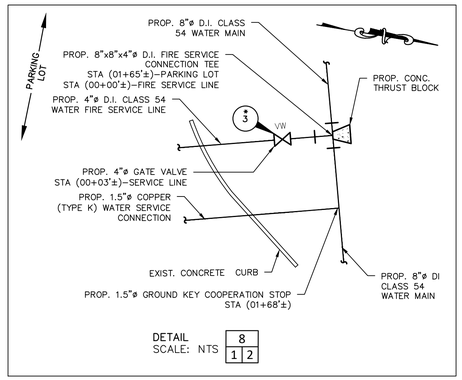


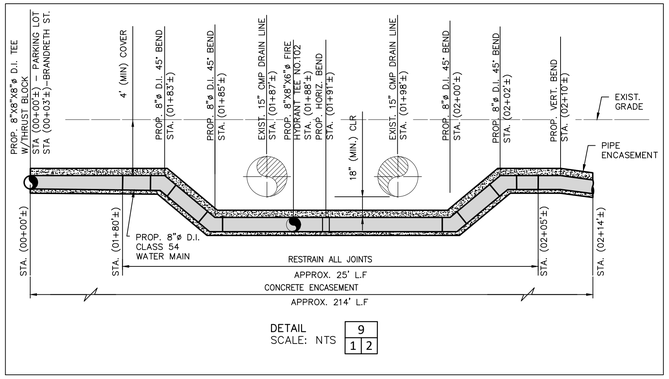


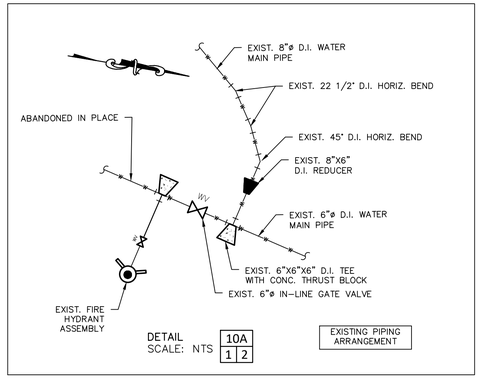


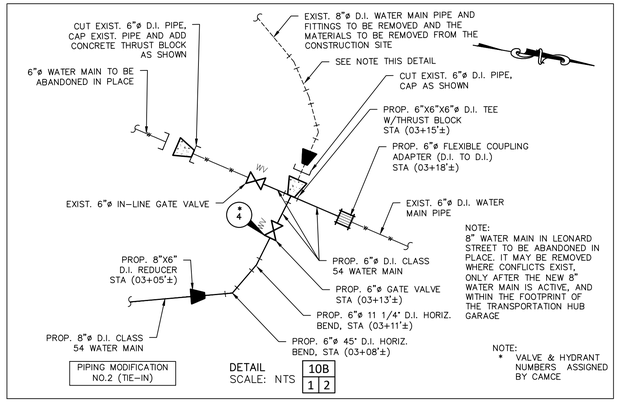


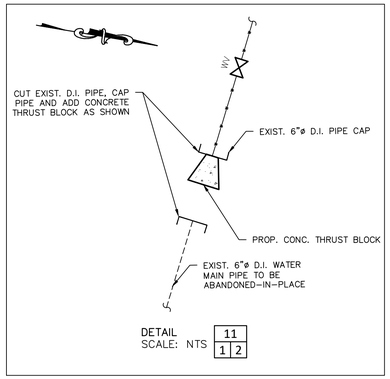












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PROJECT NO.

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

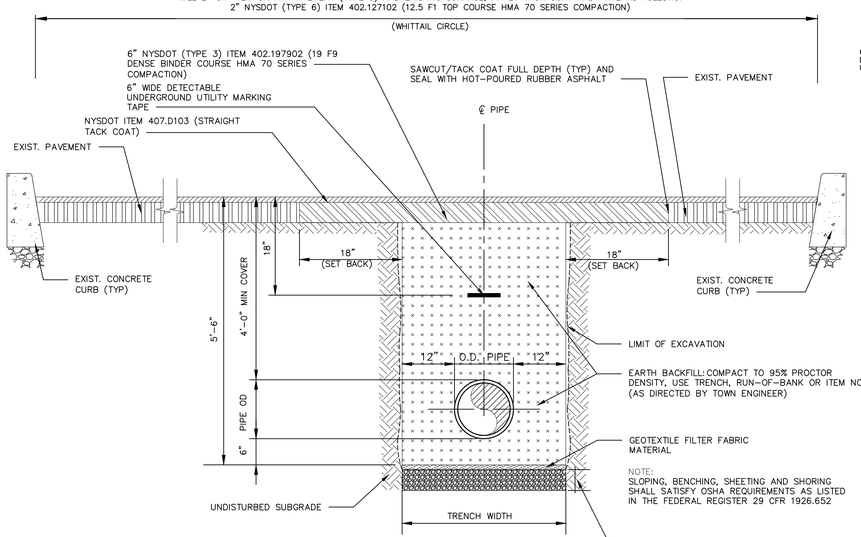
DRAWN: FB
REVIEWED: ST
DATE: 04.14.25

SHEET TITLE:

ENLARGED DETAILS

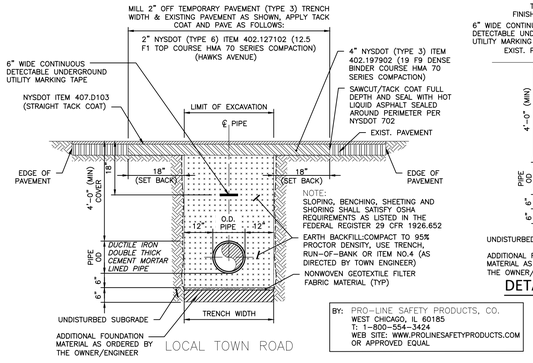
SHEET NO.

C 3.28



DETAIL OF PERMANENT BITUMINOUS PAVEMENT REPLACEMENT OVER TRENCH

NOT TO SCALE



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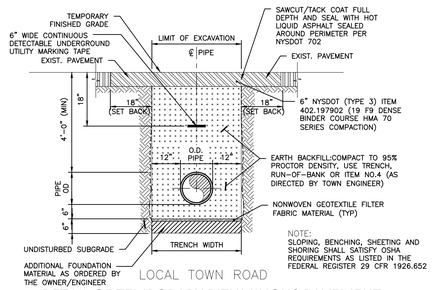

DETAIL OF TEMPORARY BITUMINOUS PAVEMENT REPLACEMENT OVER TRENCH

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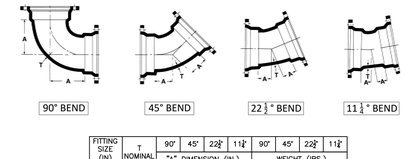


FITTING SIZE (IN)	T NOMINAL	90° "A" DIMENSION (IN.)	45° "A" DIMENSION (IN.)	22½° "A" DIMENSION (IN.)	11¼° "A" DIMENSION (IN.)	90° WEIGHT (IBS.)	45° WEIGHT (IBS.)	22½° WEIGHT (IBS.)	11¼° WEIGHT (IBS.)
4	0.34	4.00	2.00	1.50	1.25	25	22	18	16
6	0.36	5.00	3.00	2.00	1.50	39	32	31	30
8	0.38	6.50	3.50	250	1.75	57	46	46	42

MECHANICAL JOINT FITTINGS C153

NOT TO SCALE

SIZE (IN)	H (IN)	J2 (IN)	T (IN)	T1 (IN)	WT (lbs)	CLASS ANSI / AWWA C153/ A21.53
8XBX6	5.00	11	0.38	0.36	92	350

MECHANICAL JOINT SWIVEL HYDRANT TEE

NOT TO SCALE

HYDRANT PLAN

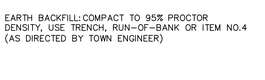
NOT TO SCALE

NOTE: VALVE SHALL NOT SUPPORT VALVE BOX

NOTE :
PAVING ADAPTERS (RISERS) FOR 5 1/4" SHAFT BOXES.
STANDARD ADAPTERS BY BINGHAM & TAYLOR FIGURE.
NO. SERIES 6016B (AS NEEDED)

CONCRETE HYDRANT COLLAR DETAIL

NOT TO SCALE



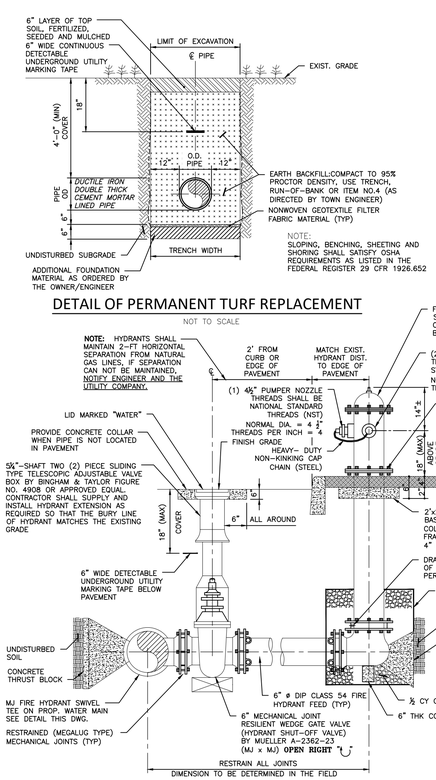
VALVE BOX COVER

NOT TO SCALE

REFERENCE TABLE - DIMENSIONS IN INCHES, WEIGHT IN LBS.									
SIZE NO.	EXTENSION RANGE-A	TOP SECTION & COVER NO.	WT.	DIM. B	BOTTOM SECTON NO.	WT.	DIM. B	HEIGHT BELL-F	TOTAL WT.
5461-S	18-24	54-S	35.0	10.5	61-S	15.8	15.0	6.5	59.0
5561-S	23-29	55-S	42.0	15.5	61-S	15.8	15.0	6.5	65.1
5562-S	27-36	55-S	42.0	15.5	62-S	22.3	24.5	6.5	75.0
5664-S	39-48	55-S	57.0	15.5	64-S	22.3	36.0	8.5	88.0
5662-S	38-48	56-S	57.0	26.5	62-S	22.3	24.5	6.5	90.0
5664-S	39-60	56-S	57.0	26.5	64-S	22.3	36.0	8.5	103.0

5 1/4" SHAFT , 2-PIECE SLIDING TYPE ADJUSTABLE VALVE BOX AND EXTENSIONS

NOT TO SCALE



PROPOSED FIRE HYDRANT ASSEMBLY DETAIL

NOT TO SCALE

NOTES FOR PROPOSED HYDRANT ASSEMBLIES

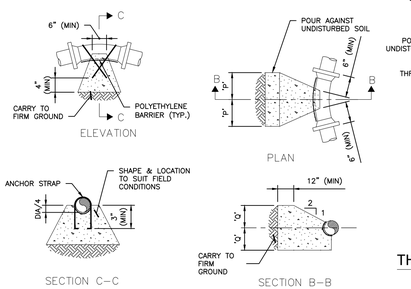
1. HYDRANT DRAINS SHALL BE IN ACCORDANCE WITH THE RECOMMENDED STANDARDS FOR WATER WORKS (RSWW - TEN STATE STANDARDS), SECTION No. 8.4.4.
2. THE CONTRACTOR SHALL VERIFY THAT THE WATER TABLE DEPTH IS A MINIMUM OF 7.0 FEET BELOW EXISTING GRADE. IF THE WATER TABLE IS FOUND TO BE LESS THAN 7.0 FEET BELOW EXISTING GRADE, ALL HYDRANT DRAIN HOLES SHALL BE ADEQUATELY SEALED IN ACCORDANCE WITH NYSDOH REQUIREMENTS. WHEN HYDRANT DRAINS ARE SEALED, THE CONTRACTOR SHALL SO INFORM THE OWNER IN WRITING.
3. HYDRANTS DRAINS SHOULD BE PLUGGED. WHEN THE DRAINS ARE PLUGGED THE BARRELS MUST BE PUMPED DRY AFTER USE DURING FREEZING WEATHER.
4. WHERE HYDRANT DRAINS ARE NOT PLUGGED, A GRAVEL DRAINAGE POCKET OR DRY WELL SHALL BE PROVIDED UNLESS THE NATURAL SOILS PROVIDE ADEQUATE DRAINAGE.
5. HYDRANT DRAINS SHALL NOT BE CONNECTED TO OR LOCATED WITHIN 10 FEET OF SANITARY SEWERS, STORM SEWERS OR STORM DRAINS.
6. HYDRANT DRAINS, WHERE ALLOWED, MUST BE ABOVE THE SEASONAL GROUNDWATER TABLE.
7. EXTERIOR OF HYDRANT ABOVE GROUND TO RECEIVE TWO (2) FINISH COATS OF PAINT. COLOR OF FINAL ENAMEL COAT TO BE RED. C.I. BARREL EXTERIOR BELOW GROUND TO BE ASPHALTUM COATED. BONNET, PUMPER NOZZLE AND HOSE NOZZLES TO BE PAINTED AS PER TOWN OF MOUNT PLEASANT WATER DEPARTMENT.
8. SEE DRAWINGS FOR SIZES OF EXISTING WATER MAINS.
9. RETURN ALL EXISTING FIRE HYDRANTS THAT ARE BEING REPLACE OR REMOVED UNDER THIS CONTRACT TO THE VILLAGE OF OSSINING WATER DEPARTMENT OR AS DIRECTED. (LOCATION TO BE DETERMINED AT THE PRE-CONSTRUCTION MEETING.
10. REFER TO SPECIFICATION SECTION NO. 02645, FOR ADD ADDITIONAL INFORMATION.
11. CONTRACTOR TO PROVIDE HYDRANT EXTENSIONS AS NEEDED TO ADJUST AND INSURE THE PROPER HYDRANTS HEIGHT ABOVE GRADE LEVEL HYDRANT BURY LINE SHALL MATCH GRADE LEVEL AS APPROVED BY THE OWNER / ENGINEER. THE COST OF THE EXTENSIONS ARE INCLUDED WITH THE BID PRICE FOR FIRE HYDRANT ASSEMBLIES.
12. NIPPLE LENGTHS WILL VARY TO PROPERLY PLACE HYDRANT VALVE AS SHOWN

UNDERGROUND DETECTABLE UTILITY MARKING TAPE			
PARK NO.	PRINTING LEGEND	WIDTH	MEETS
125	CAUTION BURIED WATER LINE BELOW	6"	ASTM-D2103-08 ASTM-D882-09 ASTM-D2578-08 ASTM-D792-08 ASTM-D671-93

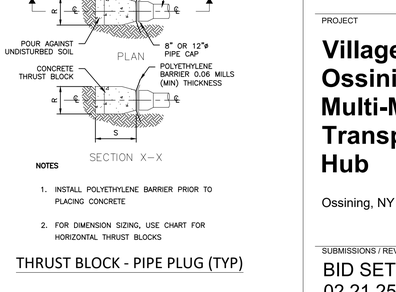
UNDERGROUND MARKING TAPE SHALL BE A (6" WIDTH), DETECTABLE MARKING TAPE, WITH A MINIMUM 5.0 MIL OVERALL THICKNESS. TAPE SHALL BE MANUFACTURED USING A 0.08 MIL CLEAR VIRGIN POLYPROPYLENE FILM, REVERSE PRINTED AND LAMINATED TO A 0.35 MIL SOLID ALUMINUM FOIL CORE, AND THEN LAMINATED TO A 3.75 MIL CLEAR VIRGIN POLYPROPYLENE FILM. TAPE SHALL BE PRINTED USING A DIAGONALLY STRIPED DESIGN FOR MAXIMUM VISIBILITY, AND MEET THE APWA COLOR-CODE FOR IDENTIFICATION OF BURIED UTILITIES.

DETECTABLE UNDERGROUND UTILITY MARKING TAPE

THRUST BLOCKS FOR TEES, HORIZONTAL & VERTICAL BENDS AND PLUGS						
	DESC.	DIMENSION	6"ø	8"ø	10"ø	12"ø
HORIZONTAL & VERTICAL UPWARD	TEES	N	1'-1"	1'-5"	1'-9"	2'-1"
		O	1'-1"	1'-5"	1'-9"	2'-1"
	90° BENDS	P	1'-3"	1'-8"	2'-1"	2'-6"
		Q	1'-3"	1'-8"	2'-1"	2'-6"
	45° BENDS	P	1'-0"	1'-3"	1'-7"	1'-10"
		Q	1'-0"	1'-3"	1'-7"	1'-10"
	22 1/2° BENDS	P	0'-8"	0'-11"	1'-1"	1'-4"
		Q	0'-8"	0'-11"	1'-1"	1'-4"
	11 1/4° BENDS	P	0'-6"	0'-8"	0'-10"	0'-11"
		Q	0'-6"	0'-8"	0'-10"	0'-11"
VERTICAL DOWNWARD	45° BEND	MIN. CONC. * ANCHORAGE	1.4 C.Y.	2.4 C.Y.	3.9 C.Y.	5.0 C.Y.
	22 1/2 ° BENDS	MIN. CONC. * ANCHORAGE	0.7 C.Y.	1.3 C.Y.	2.0 C.Y.	2.8 C.Y.
	11 1/4° BENDS	MIN. CONC. * ANCHORAGE	0.4 C.Y.	0.6 C.Y.	1.0 C.Y.	1.4 C.Y.
	PLUGS	R	2'-2"	2'-10"	3'-6"	4'-2"
		S	2'-2"	2'-10"	3'-6"	4'-2"



VERTICAL DOWNWARD BENDS



NOTES

1. INSTALL POLYETHYLENE BARRIER PRIOR TO PLACING CONCRETE
2. FOR DIMENSION SIZING, USE CHART FOR HORIZONTAL THRUST BLOCKS

THRUST BLOCK - PIPE PLUG (TYP)

ANCHOR SCHEDULE FOR VERTICAL DOWNWARD BENDS	
SIZE	SIZE
6"ø	#4 BAR
8"ø	#5 BAR
10"ø	#7 BAR
12"ø	#9 BAR

MECHANICAL JOINT BOLT AND NUTS ON PLUG SHALL BE ACCESSIBLE AFTER THRUST BLOCK IS POURED.

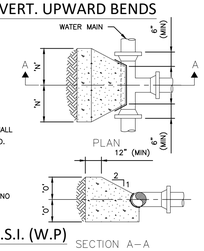
THRUST BLOCKS DESIGNED FOR 200 LB. PER SQ. IN. TEST PRESSURE AND 2000 LB. PER SQ. FT. SOIL PRESSURE.

MIN. CONC. ANCHORAGE WITHOUT BACKFILL AND NO GROUND WATER CONDITION.

THRUST BLOCK DETAILS 200 P.S.I. (W.P)

NOT TO SCALE

HORIZ . & VERT. UPWARD BENDS



TEES

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Tel: 914-305-5679
https://www.cuonoengineering.com

PROJECT NO.

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: FB
REVIEWED: ST
DATE: 04.14.25

SHEET TITLE:

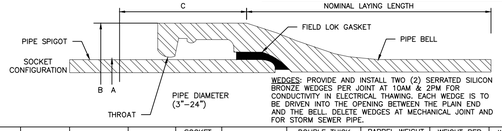
TYPICAL DETAILS

SHEET NO.

C 3.29

MANUFACTURE:
US PIPE
BIRMINGHAM, AL 35244.
T: 1-866-347-7473
WEB SITE: WWW.USPIPE.COM
OR APPROVED EQUAL

LEGEND
AMERICAN NATIONAL STANDARDS INSTITUTE: (ANSI)
AMERICAN WATER WORKS ASSOCIATION: (AWWA)
AMERICAN SOCIETY OF TESTING AND MATERIALS: (ASTM)
UNDERWRITERS LABORATORIES: (UL)
NATIONAL SANITATION FOUNDATION: (NSF)
FACTORY MUTUAL: (FM)



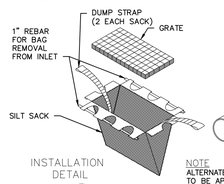
WEDGES: PROVIDE AND INSTALL TWO (2) SERRATED SILICON BRONZE WEDGES PER JOINT AT 10AM & 2PM FOR CONDUCTIVITY IN ELECTRICAL THAWING. EACH WEDGE IS TO BE DRIVEN INTO THE OPENING BETWEEN THE PLAIN END AND THE BELL. DELETE WEDGES AT MECHANICAL JOINT AND FOR STORM SEWER PIPE.

SIZE (IN)	THICKNESS CLASS	THICKNESS (IN)	OUTSIDE DIA. A (IN)	BELL O.D B (IN)	SOCKET DEPTH C (IN)	GASKET (COLOR-RED)	DOUBLE THICK CEMENT MORTAR LINING (IN)	BARREL WEIGHT PER FOOT (LBS)	WEIGHT PER LENGTH (LBS)	WEIGHT PER LENGTH (LBS)	MEETS
3	54	0.34	3.96	5.56	3.00	FIELD LOK GASKET	1/8 TO 5/16 (RANGE)	23.2	220 (18 FT LAYING LENGTH)	–	ANSI/NSF-61 ANSI/AWWA – C151/A21.5 ANSI/AWWA – C151/A21.51 ANSI/AWWA – C104/A21.4 ANSI/AWWA – C111/A21.11
4	54	0.35	4.80	6.52	3.15			23.2	280 (18 FT LAYING LENGTH)	310 (20 FT LAYING LENGTH)	
6	54	0.37	6.90	8.66	3.38			23.2	435 (18 FT LAYING LENGTH)	480 (20 FT LAYING LENGTH)	
8	54	0.39	9.05	10.82	3.69			32.5	605 (18 FT LAYING LENGTH)	670 (20 FT LAYING LENGTH)	

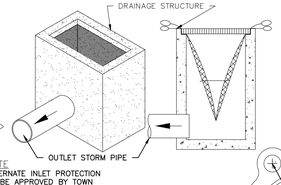
NOTE : FIELD LOK 350 GASKET (COLOR – RED) BY U.S. PIPE (AS ORDERED BY THE OWNER / ENGINEER)

PUSH ON JOINT (P-O-J) - DUCTILE IRON PIPE
NOT TO SCALE

PROPERTY	TEST METHOD	TEST RESULT
GRAB TENSILE	ASTM D-4632	300 lbs
GRAB ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	120 lbs
MULLEN BURST	ASTM D-3786	800 P.S.I
TRAPEZOID TEAR	ASTM D-4533	120 lbs
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 gal/min/gpm/ft2
PERMITTIVITY	ASTM D-4491	0.55 (SEC-1)

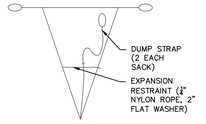


INSTALLATION DETAIL



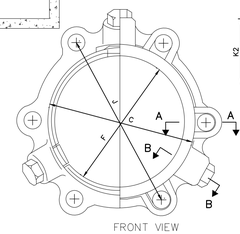
NOTE
ALTERNATE INLET PROTECTION TO BE APPROVED BY TOWN ENGINEER

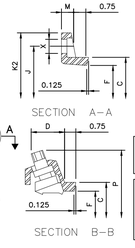
AMANUFACTURE:
ACF ENVIRONMENTAL INC.
RICHMOND, VA 23234
TEL. 800-448-3636
OR APPROVED EQUAL



BAG DETAIL

SILT SACK INLET PROTECTION
NOT TO SCALE

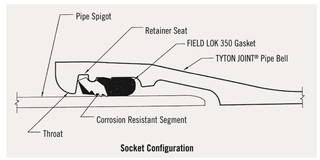




COATING SYSTEM SHALL BE MEGA-BOND BY EBAA IRON, INC OR APPROVED EQUAL

MANUFACTURE:
EBAA IRON SALE INC
EAST LAND, TX 76448
T: 254-629-1731
WEB SITE: WWW.EBAA.COM
OR APPROVED EQUAL

DIAMETER RANGE : 4" – 24"
PRESSURE CLASS : 350 PSI
THICKNESS CLASS : 50 – 56
GASKET COLOR : RED
MEETS : ANSI/AWWA C111/A21.11



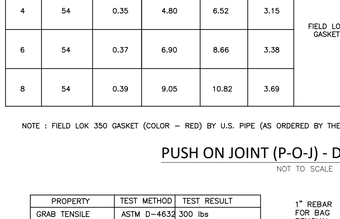
Socket Configuration

FIELD LOK 350 GASKET
NOT TO SCALE

NOMINAL PIPE SIZE	SERIES NUMBER	DIMENSIONS* C	D	F	M	P*	X	J	K2	WEDGE QTY.	BOLT QTY.	SHIPPING WEIGHT (LBS.)	PRESSURE RATING (PSI)
3	1103	4.84	2.27	4.06	0.62	9.06	0.750	6.19	7.69	2	4	6.1	350
4	1104	5.92	2.27	4.90	0.75	9.90	0.875	7.50	9.12	2	4	7.7	350
6	1106	8.02	2.27	7.00	0.88	12.00	0.875	9.50	11.12	3	6	11.90	350
8	1108	10.17	2.31	9.15	1.00	14.15	0.875	11.75	13.37	4	6	14.80	350

* ALL DIMENSIONS ARE IN INCHES

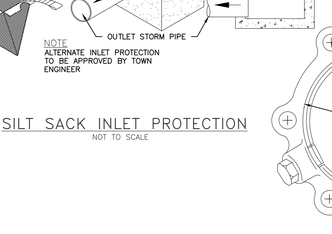
MJ PIPE AND FITTING RESTRAINT ASSEMBLY (MEGALUG)
NOT TO SCALE



BY: MUELLER COMPANY
DECATUR, IL 62525.
T: 1-800-423-1323
OR APPROVED EQUAL

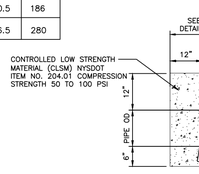
DIMENSION* NOMINAL SIZE	A	FF	L	N	O (NO. AND SIZE OF HOLE)	DD	Q(BORE)	OO (BOLT CIRCLE DIAMETER)	TURNS TO OPEN	WEIGHT*
3"	12.38	9.62	2.50	7.50	4 – 0.88	4.62	3.30	6.19	11	83
4"	14.90	10.00	2.50	9.12	4 – 0.88	5.00	4.30	7.50	14	120
6"	18.00	11.60	2.50	11.12	6 – 0.88	6.60	6.30	9.50	20.5	186
8"	21.50	12.68	2.50	13.37	6 – 0.88	7.68	8.30	11.75	26.5	280

RESILIENT WEDGE GATE VALVE (MJ x MJ)
NOT TO SCALE



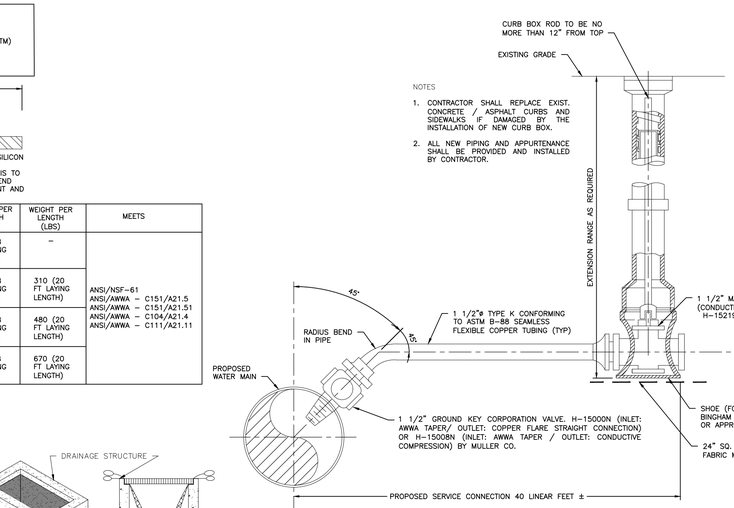
PARALLEL INSTALLATION
NOT TO SCALE

NOTES:
1. ANY DEVIATION FROM THESE CLEARANCES MUST BE APPROVED BY THE WESTCHESTER COUNTY HEALTH DEPARTMENT (WCDOH) ON A CASE-BY-CASE BASIS.
2. IF CROSSING CLEARANCE IS LESS THAN 18", ENCASE WATER MAIN IN CONTROLLED LOW STRENGTH MATERIAL(CLSM), ALSO KNOWN AS K-CRETE FOR 20 FEET PLUS SEWER/STORM PIPE O.D.



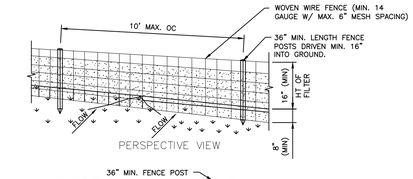
PIPE ENCASEMENT DETAILS
NOT TO SCALE

ENCASEMENT PROTECTION OF WATER MAINS
NOT TO SCALE



NOTES
1. CONTRACTOR SHALL REPLACE EXIST. CONCRETE / ASPHALT CURBS AND SIDEWALKS IF DAMAGED BY THE INSTALLATION OF NEW CURB BOX.
2. ALL NEW PIPING AND APPURTENANCE SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.

WATER SERVICE CONNECTIONS
NOT TO SCALE



SILT FENCE DETAIL
NOT TO SCALE

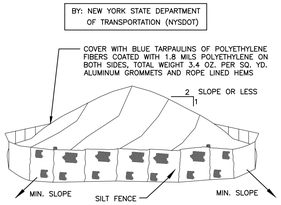
CRITERIA FOR SILT FENCE MATERIALS		
FABRIC PROPERTIES	TEST METHOD	MINIMUM ACCEPTABLE VALUE
GRAB TENSILE STRENGTH	ASTM D4632	110 lbs
UNDISTURBED GROUND	ASTM D4632	20%
MULLEN BURST STRENGTH	ASTM D3786	300 psi
PUNCTURE STRENGTH	ASTM D4833	60 lbs
MIN. TRAPEZOIDAL TEAR STRENGTH	ASTM D4533	50 lbs
FLOW THROUGH RATE	ASTM D4491	25 gal/min/gpm/ft2
EQUIVALENT OPENING SIZE	ASTM D4751	40–80 (US Std Sieve)
MIN. UV RESIDUAL	ASTM D4355	70%

NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARDS AND SPECIFICATION FOR EROSION AND SEDIMENT CONTROL

BY: NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT)

CONSTRUCTION & MATERIAL SPECIFICATIONS AS PER NYSDOT

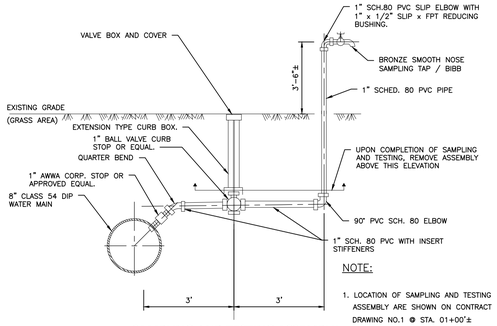
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 12 1/2 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL MEET THE MINIMUM REQUIREMENTS SHOWN.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.



INSTALLATION NOTES

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH SILT FENCING, THEN STABILIZED BY COVERING
4. SEE SILT FENCE DETAIL
5. PROVIDE AROUND ALL STOCKPILES OR SPOIL PILES REMAINING MORE THAN 24 HOURS

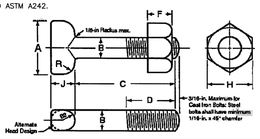
SOIL STOCKPILE PROTECTION
NOT TO SCALE



NOTE:
1. LOCATION OF SAMPLING AND TESTING ASSEMBLY ARE SHOWN ON CONTRACT DRAWING NO.1 @ STA. 01+00'±

SAMPLING AND TESTING ASSEMBLY
STA. 01+00'±
NOT TO SCALE

SIZES : 5/8 X 3 THROUGH 1–1/4 X 8.5
STANDARDS : ANSI/AWWA C111/A21.11
MATERIAL : ASTM A242 HIGH STRENGTH LOW ALLOY STEEL.
COATING : BOLTS AND NUTS TO BE COATED WITH FLUOROPOLYMER (FLUROKOTE #1).
FASTENERS : HIGH STRENGTH LOW ALLOY WEATHERING STEEL PER ANSI/AWWA C111/A21.11 AND ASTM A242.



T–HEAD LOW ALLOY WEATHERING AND AISI STAINLESS STEEL FASTENER DIVENSION IN INCHES									
SIZE INCHES	A ±0.05	B +0.03/–0.074	C +0.25/–0.06	F	H	J +0.15/0.08	R MAX	D*	THREADS PER INCH C**
5/8 X 3	1.50	0.625	3.00	0.625	1.062	0.625	0.312	2.00	11
3/4 X 3.5	1.75	0.750	3.50	0.750	1.250	0.750	0.375	2.50	10
3/4 X 4	1.75	0.750	4.00	0.750	1.250	0.750	0.375	3.00	10
3/4 X 4.5	1.75	0.750	4.50	0.750	1.250	0.750	0.375	3.00	10
3/4 X 5	1.75	0.750	5.00	0.750	1.250	0.750	0.375	3.00	10
1 X 6	1.75	1.000	6.00	1.000	1.625	1.000	0.500	3.00	8
1 X 7.5	2.25	1.000	7.50	1.000	1.625	1.000	0.625	4.50	8
1–1/4 X 6.5	2.50	1.250	6.50	1.250	2.000	1.250	0.750	3.50	7
1–1/4 X 8.5	2.50	1.250	8.50	1.250	2.000	1.250	0.750	4.00	7

NOTES :
1. DIMENSION B IS UNTHREADED SHANK.
2. DRAFT, WHEN REQUIRED TO BE 6 DEGREE MAXIMUM, MAY BE DEDUCTED FROM BOLT HEAD DIMENSIONS, AND RADIUS (B/2) MAYBE CHANGED TO SUIT DRAFT.
3. GATES, IF REQUIRED, MAY PROTRUDE A MAXIMUM OF ¼" ABOVE THE TOP OF BOLT THREAD.
4. CHAMFER IS OPTIONAL IF THREADS ARE ROLLED.
5. IF THREADS ARE ROLLED, THE BODY DIAMETER MAY BE REDUCED TO THE APPROXIMATE PITCH DIAMETER OF THE THREAD.
6. * TOLERANCE +3/–0 THREAD.
7. ** NUMBER OF THREADS PER INCH–COURSE–THREAD SERIES (ANSI/ASME B1.1), CLASS 2A, EXTERNAL FIT UNC2A AND CLASS 2B, UNC2B (ANSI/ASME B1.2).

MANUFACTURE :
1. TYLER UNION.
2. BIRMINGHAM FASTERNER MFG.
3. OR APPROVED EQUAL.

T - BOLTS (BLUE)
NOT TO SCALE

SEQUENCE OF CONSTRUCTION

1. MOBILIZE LABOR, MATERIALS AND EQUIPMENT.
2. SUBMIT SCHEDULES, WORKING DRAWINGS, SHOP DRAWINGS AND OTHER REQUIRED SUBMITTALS.
3. TAKE PRE-CONSTRUCTION PHOTOGRAPHS AND VIDEO IMAGING.
4. OBTAIN AND PREPARE STAGING AREA.
5. REQUEST UTILITY MARK OUT BY ALL UTILITY COMPANIES BY A MINIMUM OF 3– WORK DAYS' NOTICE.
6. ERECT UNIFORM TRAFFIC CONTROL DEVICES (LOCAL ROADS).
7. INSTALL AND CONSTRUCT EROSION AND SEDIMENT CONTROLS IN ACCORDANCE WITH WORK PHASING (AS NEEDED).
8. LIMIT OPEN EXCAVATION IN ACCORDANCE WITH TRAFFIC CONTROL PLAN.
9. SAW-CUT TRENCH LINES, EXCAVATE, SLOPE, SHORE AND SHEET TRENCH.
10. REQUEST THE VILLAGE OF OSSINING FOR A TEMPORARY SHUTDOWN OF THE SECTION WHERE THE PROPOSED WATER MAIN WILL BE CONNECTED TO THE EXISTING WATER MAIN IN ACCORDANCE WITH THE WCDOH REQUIREMENTS AND THE STANDARD OPERATING PROCEDURE MENTIONED BELOW.
11. INSTALL PROPOSED PIPE, FITTINGS, VALVES, HYDRANTS AND OTHER WORK.
12. BACKFILL TRENCHES WITH CONTROLLED LOW-STRENGTH MATERIAL AND/OR FOUNDATION MATERIAL (AGGREGATE MATERIAL) IN LIFT STAGES AS SHOWN ON THE DRAWINGS.
13. INSTALL ROAD PLATES OVER TRENCHES AND ERECT TRENCH PROTECTION MEASURES.
14. PERFORM TESTS AND DISINFECTION.
15. RAISE EXISTING VALVE BOXES (WATER AND GAS) AND MANHOLE FRAMES AND COVERS TO PROPOSED GRADE (AS NEEDED).
16. REMOVE AND REPLACE EXISTING CURBS AND DROP CURBS AS SHOWN ON THE DRAWINGS (AS NEEDED).
17. INSTALLATION OF TEMPORARY BITUMINOUS CONCRETE PAVEMENT FOR TRENCH WIDTH.
18. MILL 2–INCH OFF THE EXISTING ROADWAY SURFACE AND 2–INCH OFF THE NEWLY INSTALLED NYSDOT BINDER TYPE 3 COURSE.
19. TAKE DURING CONSTRUCTION PHOTOGRAPHS.
20. INSTALLATION OF NYSDOT TYPE 6 PERMANENT BITUMINOUS CONCRETE PAVEMENT FOR TRENCH WIDTH.
21. REMOVE SAMPLING AND TESTING ASSEMBLIES.
22. RESTORE DISTURBED AREAS.
23. PREPARE SUBSTANTIAL COMPLETION DOCUMENTS.
24. COMPLETE REMAINING (PUNCH LIST) WORK.
25. TAKE POST CONSTRUCTION PHOTOGRAPHS.
26. PREPARE AS–BUILT RECORD DRAWINGS.
27. PREPARE FINAL COMPLETION DOCUMENTS.

STANDARD OPERATING PROCEDURE

1. CONTRACTOR IN THE PRESENCE OF THE TOWN/VILLAGE OF OSSINING PERSONNEL WOULD INSTALL A NEW RESILIENT WEDGE MJ INLINE GATE VALVE OR A TEE OF THE APPROPRIATE SIZE WITH ALL ASSOCIATED FITTINGS SUCH AS GASKETS, SOLID SLEEVE, COUPLING ETC. ONTO THE EXISTING WATER MAIN.
2. THIS WORK WOULD BE PERFORMED IN ACCORDANCE WITH THE AWWA C651LATEST EDITION SECTION 4.11.3.1 'CONTROLLED PIPE REPAIR WITHOUT DEPRESSURIZATION'. THIS WOULD ALLOW THE CONTRACTOR TO MAINTAIN POSITIVE PRESSURE WITHIN THE SYSTEM AT ALL TIMES.
3. CONTRACTOR TO TAKE ALL NECESSARY PRECAUTIONS TO PREVENT CONTAMINANTS FROM ENTERING INTO THE EXISTING WATER MAIN.
4. CONTRACTOR TO STORE ALL PIPE MATERIALS SUCH AS VALVES, COUPLINGS, SOLID SLEEVE ETC. IN A CLEAN AND SANITARY CONDITION AND DISINFECT THEM BY SPRAYING OR SWABBING WITH 1% CHLORINE SOLUTION PRIOR TO ITS INSTALLATION.
5. AFTER THE INSTALLATION/REPAIR IS COMPLETE, CONTRACTOR TO FLUSH THE SECTIONS OF REPAIR SITE TO SCOUR THE PIPE AND FLUSH THE SECTION TILL THE TYPICAL SYSTEM CHLORINE RESIDUAL IS ACHIEVED.
6. CONTRACTOR OR THE TOWN PERSONNEL TO CONDUCT BACTERIOLOGICAL TESTING IN ACCORDANCE WITH THE AWWA C651 LATEST EDITION 'SECTION 5.1.2'. THE SAMPLE SHALL BE TAKEN FROM APPROXIMATELY 200–FEET DOWNSTREAM OF THE REPAIR SITE. IF REQUIRED, ANOTHER SET OF SAMPLES SHALL BE COLLECTED AFTER 16 HOURS OF THE FIRST SAMPLE.
7. CONTRACTOR TO NOTIFY THE AFFECTED CUSTOMERS IF ANY TO ADEQUATELY FLUSH THEIR SERVICE LINES UPON RETURN TO SERVICE.
8. FROM THE NEWLY INSTALLED GATE VALVE OR A TEE, CONTRACTOR WOULD THEN BEGIN THE INSTALLATION OF THE PROPOSED WATER MAIN AS SHOWN ON THE CONTRACT DRAWINGS.
9. THE PURPOSE FOR THE ABOVE–MENTIONED PROCEDURE WOULD ASSIST IN SUCCESSFULLY CONDUCTING THE PRESSURE AND LEAKAGE TEST IN ACCORDANCE WITH THE WCDOH REQUIREMENTS ONLY IN THE PROPOSED WATER MAIN.

THA Consulting, Inc.
144 Livingston Avenue
New Brunswick, NJ 08901
T. 732.253.0690
www.tha-consulting.com

PROFESSIONAL SEAL
CHARLES A. MANGANARO
CONSULTING ENGINEERS
A PROFESSIONAL CORPORATION
303 SOUTH BROADWAY, SUITE 223
TARRYTOWN, NY 10591-5488
TEL. 914-769-0000
SHAILESH R. NAIK, P.E.
NEW YORK LICENSE No. 072797-1, EXP: 08/31/2027

CONSULTANT
calderón architecture & design studio
Calderon Architecture
5 Cliff Street
Beacon, NY 12508
Tel: (212) 369-2766
www.calderonarchitecture.com

LANGAN
Langan
1 N Broadway #910
White Plains, NY 10601
Tel: (914) 323 7400
www.langan.com

KSE Engineers, P.C.
KSE Engineers
Two Riverfront Plaza, McCarter Highway
Newark, NJ 07102
Tel: (973) 623-2999
www.kse-eng.com

ama group
AMA Consulting Engineers PC
825 8th Ave., #18
New York, NY 10019
Tel: (212) 944-7722
www.amagroupusa.com

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STRUCTURAL DESIGN
Cuono Engineering PLLC
925 Westchester Avenue
Suite 100
Tel: 914-305-5679
https:\\www.cuonoengineering.com

PROJECT NO.

PROJECT
Village of Ossining Multi-Modal Transportation Hub
Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

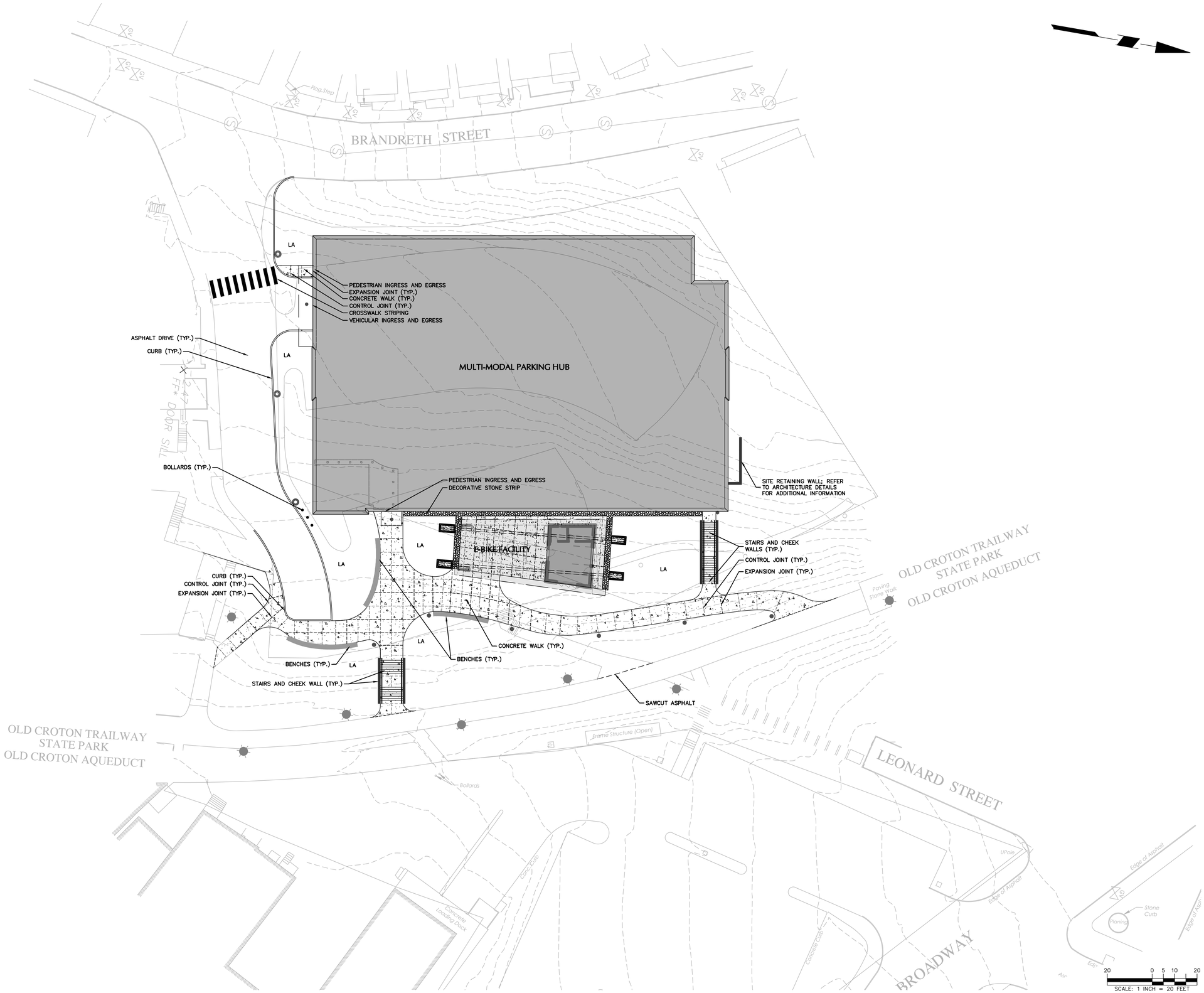
NO.	DESCRIPTION	DATE

NORTH

DRAWN: FB
REVIEWED: ST
DATE: 04.14.25

SHEET TITLE:
TYPICAL DETAILS

SHEET NO.
C 3.30



NORTH

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T. 732.253.0690
www.tha-consulting.com

PROFESSIONAL SEAL

REGISTERED LANDSCAPE ARCHITECT
KRISTEN MITCHELL
2887
STATE OF NEW YORK

LICENSE EXPIRATION DATE: 06/30/2025

CONSULTANT

calderón architecture & design studio
Calderon Architecture
5 Cliff Street
Beacon, NY 12508
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PROJECT NO.

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

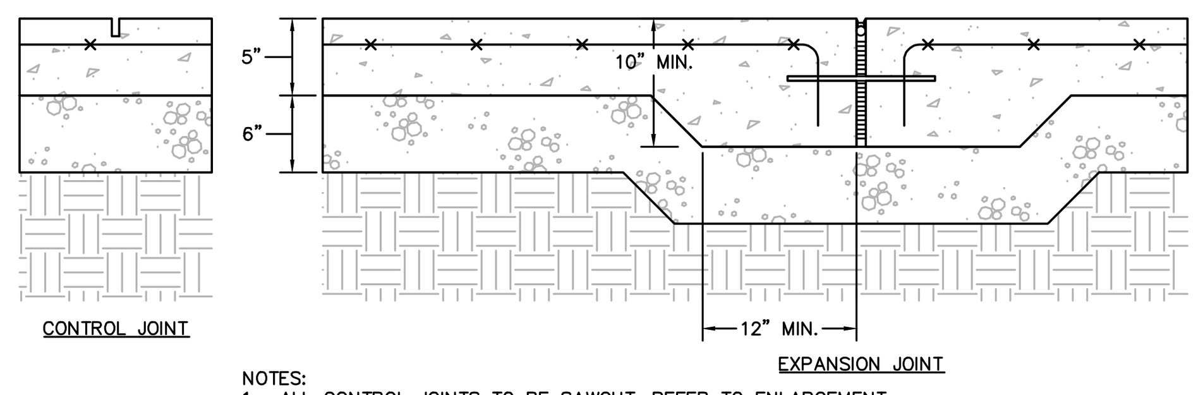
SUBMISSIONS / REVISIONS

NO.	DESCRIPTION	DATE

DRAWN: DK
REVIEWED: KM
DATE:

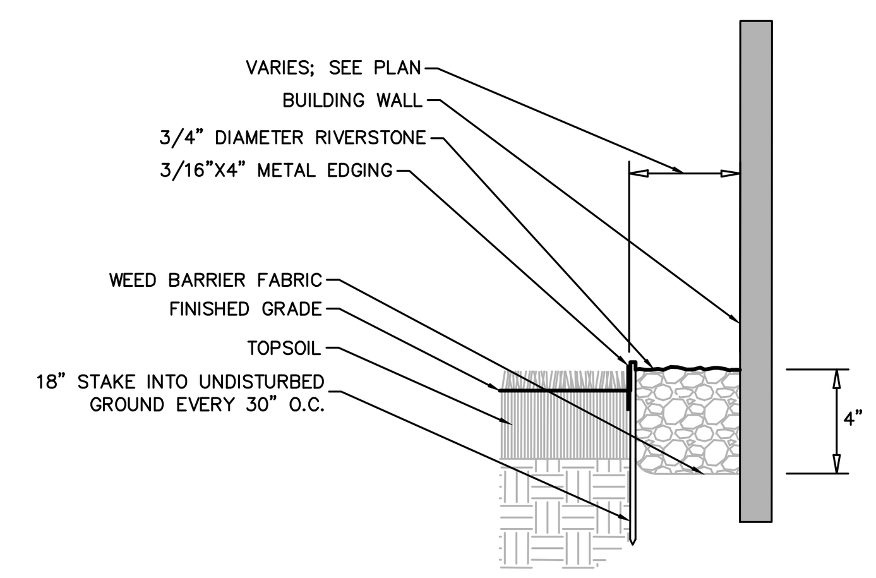
SHEET TITLE:
LAYOUT AND MATERIALS PLAN

SHEET NO.
L1.0



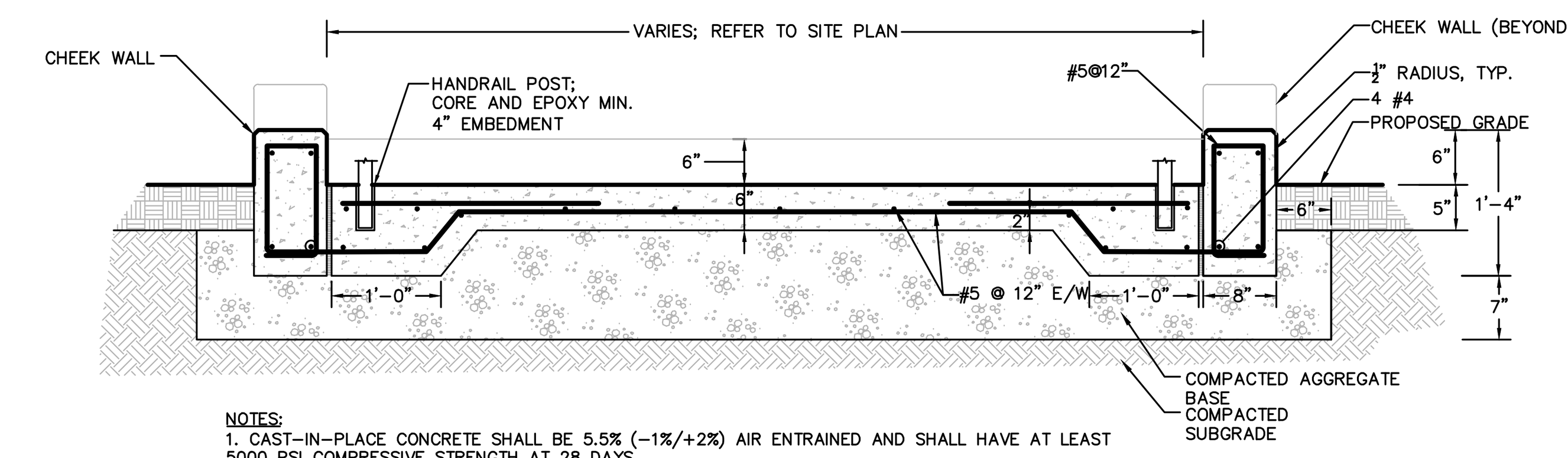
NOTES:
1. ALL CONTROL JOINTS TO BE SAWCUT, REFER TO ENLARGEMENT
2. SIDEWALKS TO COMPLY WITH VILLAGE STANDARDS WHERE APPLICABLE.
3. CONTRACTOR TO SUBMIT EXPANSION AND CONTROL JOINT LAYOUT TO PROJECT LANDSCAPE ARCHITECT FOR REVIEW PRIOR TO INSTALLATION. IF NOT SPECIFICALLY DETAILED MAXIMUM SPACING OF JOINTS SHALL BE AS FOLLOWS:
   EXPANSION – 20 FT.
   CONTROL – 5 FT.
4. CONTROL JOINTS SHALL BE SPACED EQUAL TO THE WIDTH. CARE SHALL BE TAKEN TO ASSURE UNIFORM GRADE, FREE OF SAGS AND SHORT GRADE CHANGES.
5. SURFACE TEXTURE SHALL BE A LIGHT BROOMING, TRANSVERSE TO THE LENGTH OF THE WALK.
6. CONTRACTOR TO PROVIDE 10'x10' MOCKUP SHOWING EXPANSION JOINTS, SAWCUT JOINTS, AND BROOM FINISH PRIOR TO INSTALLATION

1 CONCRETE WALK
N.T.S.



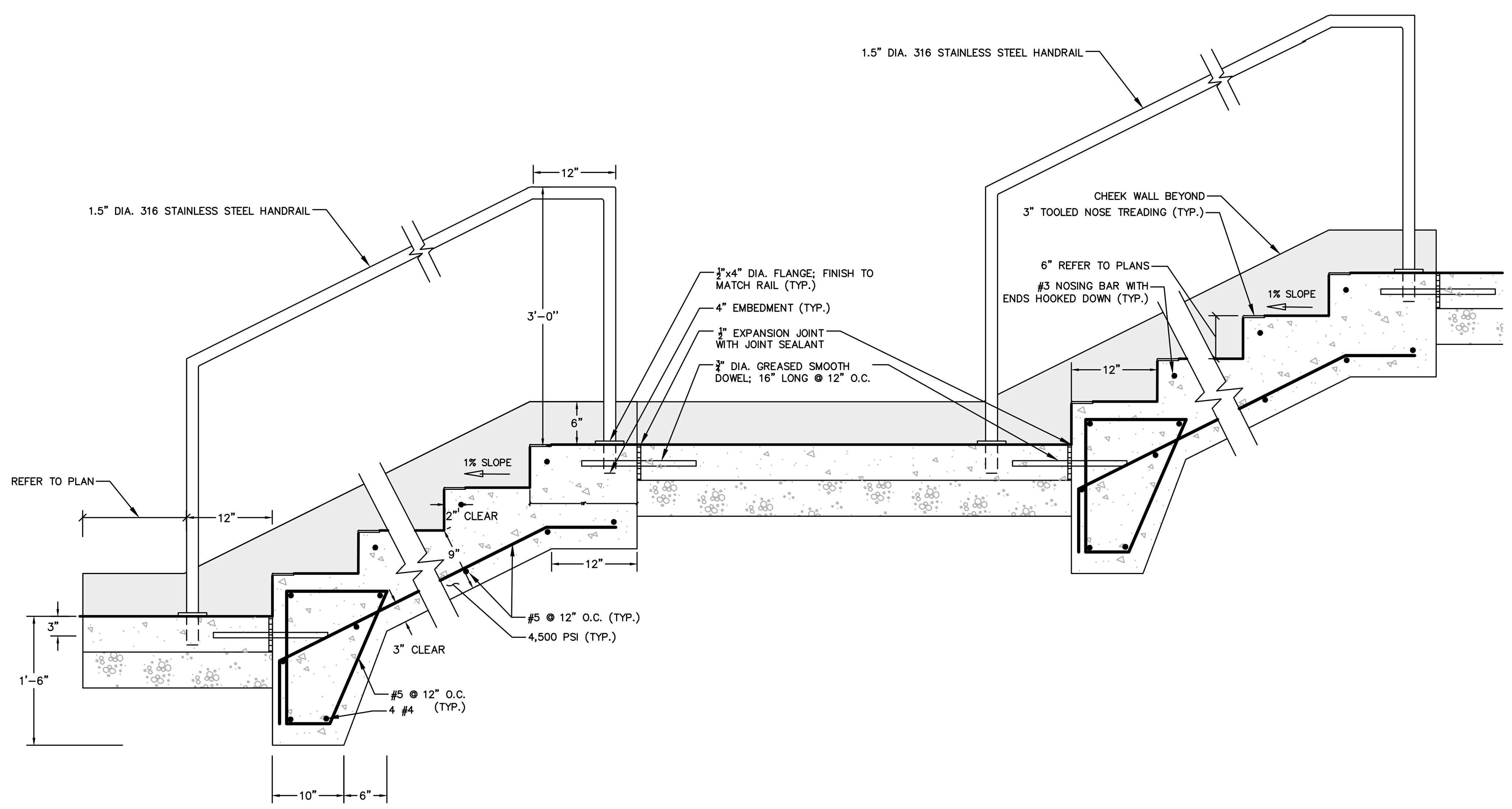
NOTES: FINAL RIVERSTONE IS TO BE DETERMINED. CONTRACTOR TO SUBMIT SAMPLES TO PROJECT LANDSCAPE ARCHITECT FOR REVIEW.

2 DECORATIVE STONE STRIP
N.T.S.



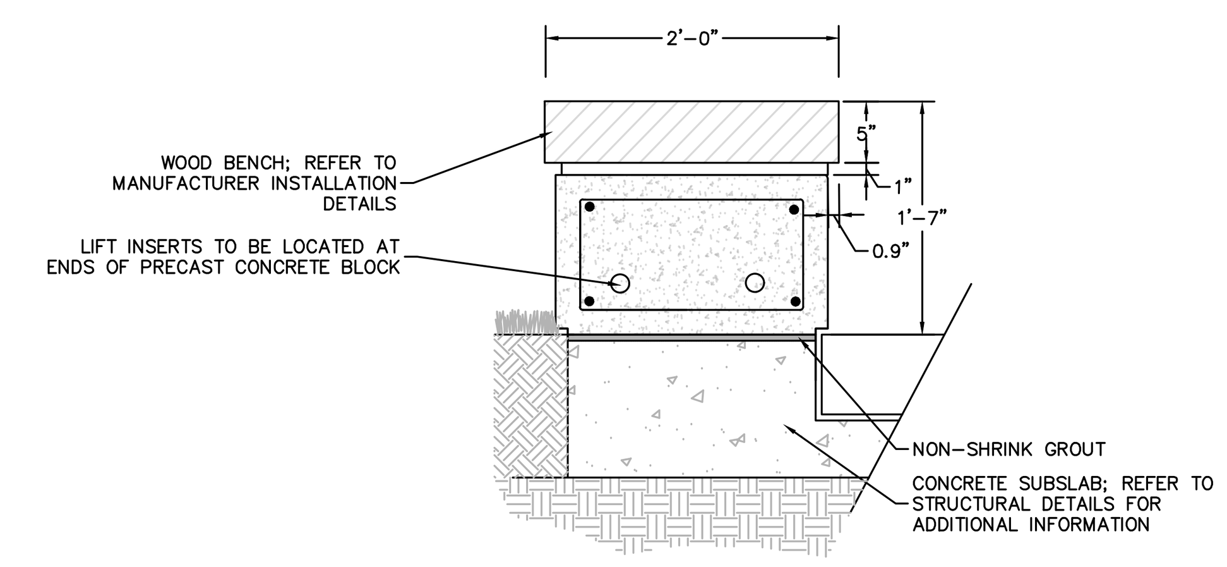
NOTES:
1. CAST-IN-PLACE CONCRETE SHALL BE 5.5% (-1%/+2%) AIR ENTRAINED AND SHALL HAVE AT LEAST 5000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. CONCRETE NOMINAL MAXIMUM COARSE AGGREGATE SIZE SHALL BE 1-1/2".
3. MAXIMUM WATER-CEMENTITIOUS MATERIALS RATIO SHALL BE 0.45.
4. REBAR SHALL BE ASTM A615 GRADE 60.
5. UNLESS OTHERWISE NOTED, REBAR SHALL HAVE 3 INCHES OF COVER WHERE CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE GROUND, AND 2 INCHES OF COVER IN ALL OTHER CASES.
6. ALL EXPOSED EDGES SHALL HAVE A 1/2" CHAMFER.
7. GROUT TO PITCH AWAY FROM RAILING TO ALLOW PROPER DRAINAGE AWAY FROM POST.
8. PROVIDE SHOP DRAWINGS FOR CHEEK WALL. INCLUDE EXPANSION JOINT IF NECESSARY.
9. SEE GRADING PLAN FOR TOP AND BOTTOM ELEVATIONS.
12. JOINTS TO BE FILLED WITH JOINT SEALANT MATCHING CONCRETE COLOR.

3 CONCRETE CHEEK WALL
N.T.S.



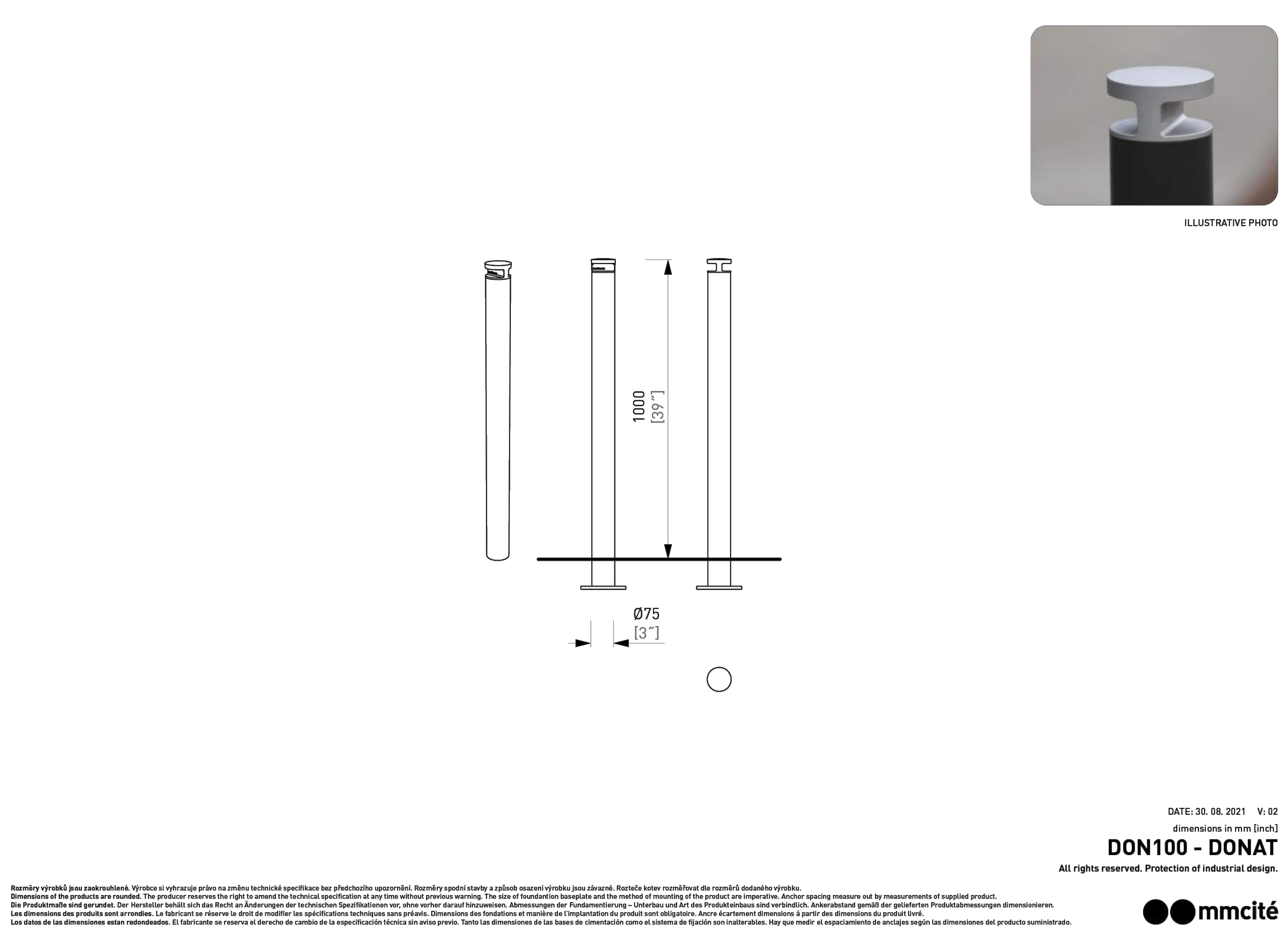
NOTES:
1. CONTRACTOR TO SUBMIT LAYOUT SHOP DRAWINGS AND HANDRAIL PRODUCT DATA FOR REVIEW PRIOR TO INSTALLATION.
2. INTERMEDIATE POST REQUIRED FOR HANDRAILS EXCEEDING 5'-0" IN LENGTH.

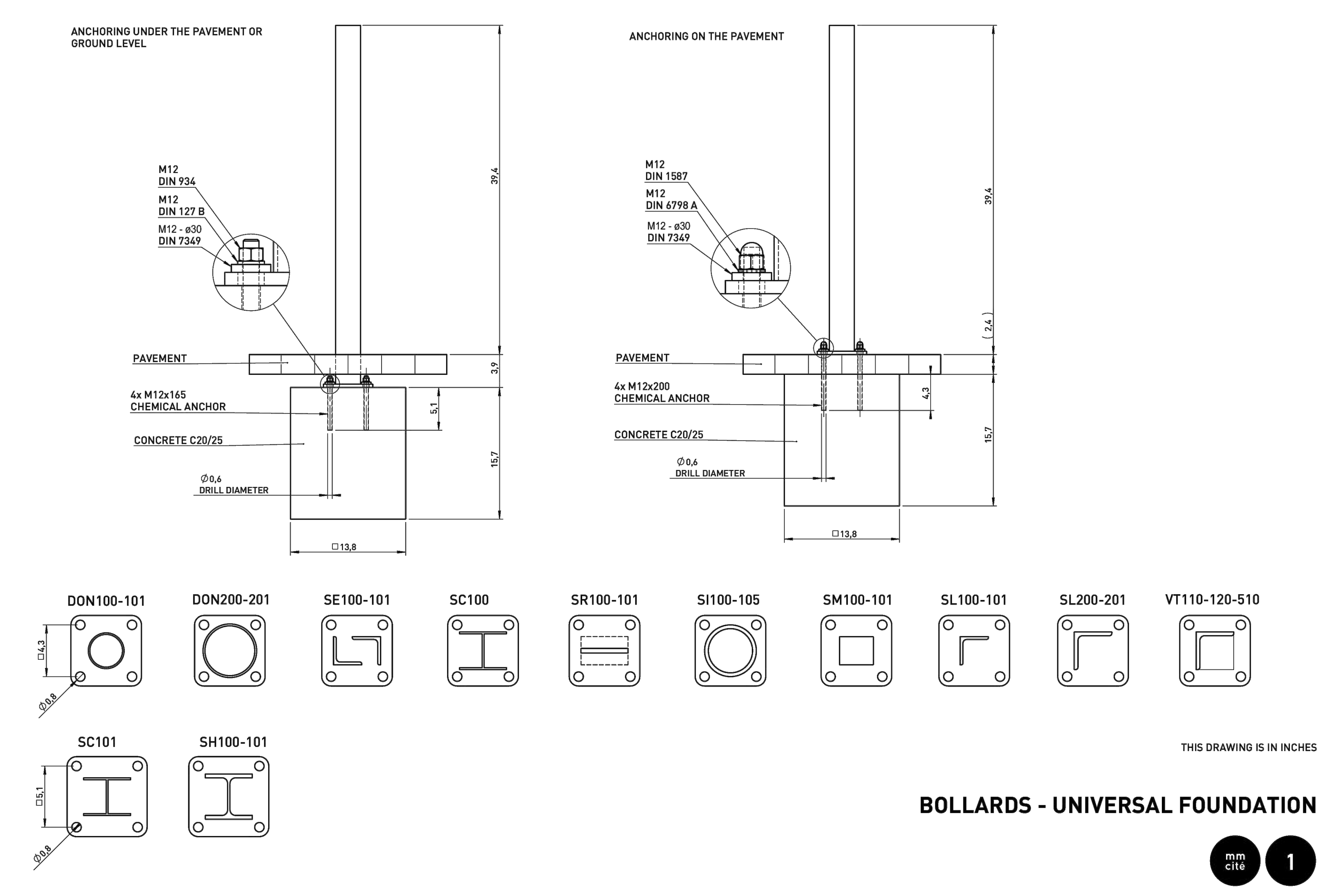
4 STAIRS AND CHEEK WALLS
N.T.S.



NOTES:
1. CONTRACTOR TO SUBMIT LAYOUT AND REINFORCEMENT SHOP DRAWINGS FOR REVIEW PRIOR TO INSTALLATION; DRAWINGS TO BE SIGNED AND SEALED BY NY LICENSED STRUCTURAL ENGINEER
2. JOINTS TO BE FILLED WITH PREFORMED JOINT FILLER WITH JOINT SEALANT TO MATCH SIDEWALK SEALANT
3. BENCHES: ROUGH AND READY TOP SEAT BY STREETLIFE (OR APPROVED EQUAL); PHYSICAL SAMPLE OF FINISH MATERIAL TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW.

5 BENCH
N.T.S.





NOTES:
1. BOLLARD TO BE MMCITE DON100 – DONAT; COLOR TO BE REVIEWED BY PROJECT LANDSCAPE ARCHITECT.
2. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO PURCHASE.

6 BOLLARDS
N.T.S.

THA

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PROFESSIONAL SEAL

LICENSE EXPIRATION DATE: 06/30/2025

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Ossining, NY 10562

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NORTH

DRAWN: DK
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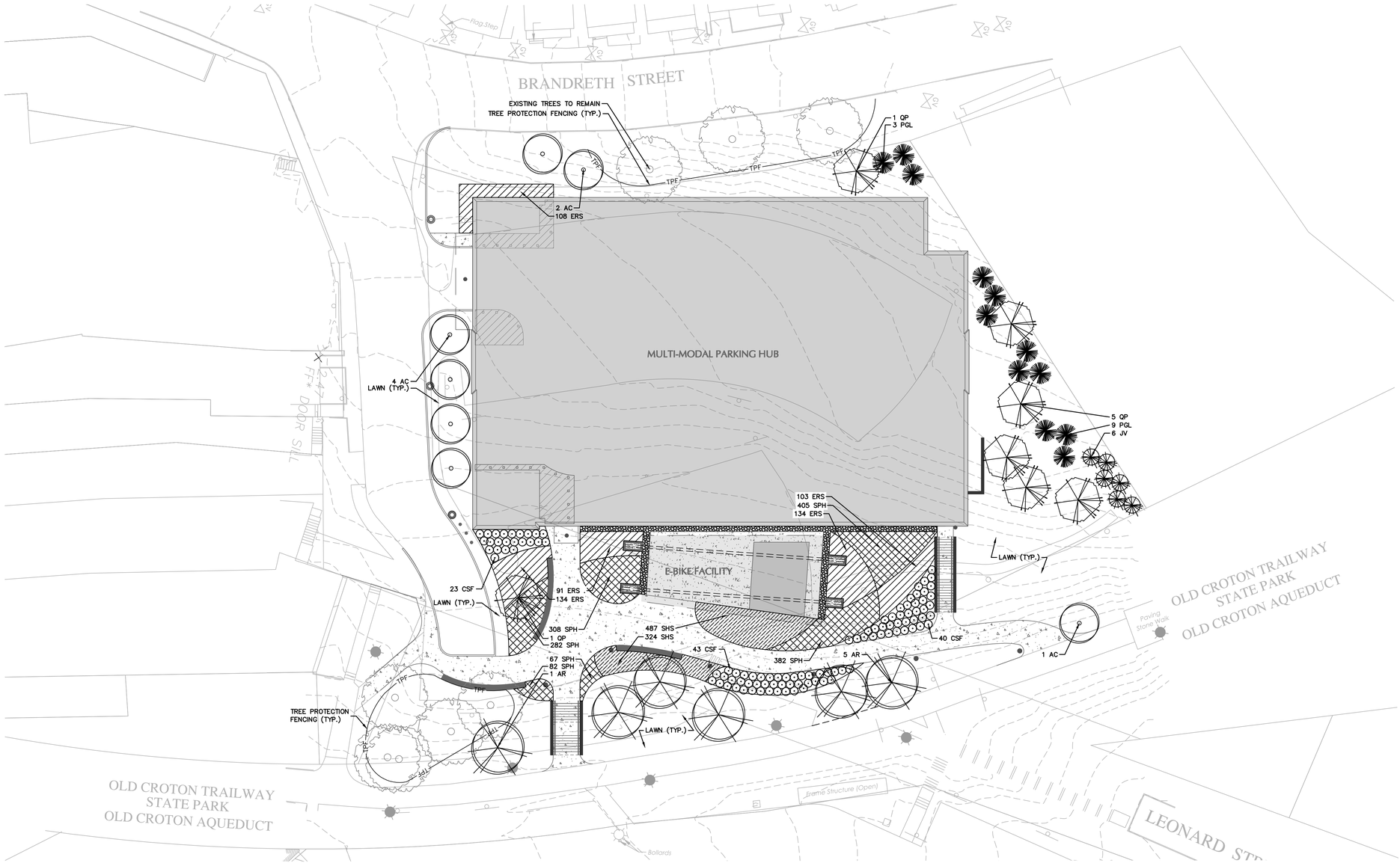
DATE:

SHEET TITLE:
LAYOUT AND MATERIALS DETAILS

SHEET NO. 2

L2.0



PLANT SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
SHADE TREE(S)						
AR	6	ACER RUBRUM	RED MAPLE	2 1/2–3" CAL.	B+B	–
QP	7	QUERCUS PALUSTRIS	PIN OAK	2 1/2–3" CAL.	B+B	–
ORNAMENTAL TREE(S)						
AC	7	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	8–10'	B+B	MULTISTEM
EVERGREEN TREE(S)						
JV	6	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	8–10'	B+B	–
PGL	12	PICEA GLAUCA	WHITE SPRUCE	8–10'	B+B	–
EVERGREEN SHRUB(S)						
IOS	162	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	24–30"	CONTAINER	spaced @ 24" o.c.
DECIDUOUS SHRUB(S)						
CSF	106	CORNUS SERICEA 'FLAVIRAMEA'	YELLOW TWIG DOGWOOD	2–3'	B+B	–
ORNAMENTAL GRASS(ES)						
SPH	1228	SPOROBOLUS HERERELEPIS	PRARIE DROPSEED	2 GAL.	CONTAINER	spaced @ 12" o.c.
SHS	800	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	2 GAL.	CONTAINER	spaced @ 12" o.c.
ERS	583	ERAGROSTIS SPECTABILIS	PURPLE LOVEGRASS	2 GAL.	CONTAINER	spaced @ 18" o.c.

NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN IN THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE.

20 0 5 10 20
SCALE: 1 INCH = 20 FEET

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PROFESSIONAL SEAL

REGISTERED LANDSCAPE ARCHITECT · KRISTEN MITCHELL · 2887 · STATE OF NEW YORK

LICENSE EXPIRATION DATE: 06/30/2025

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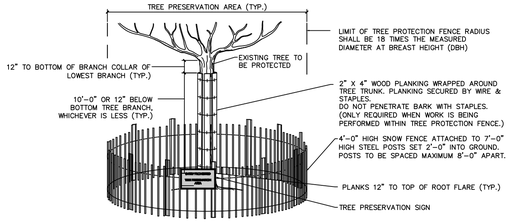
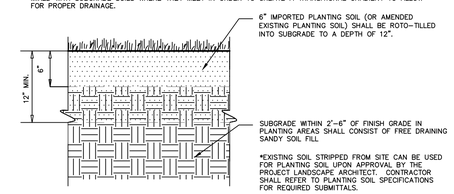
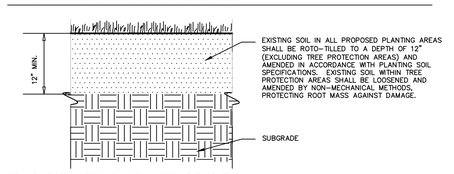
SHEET TITLE:
PLANTING PLAN

SHEET NO. 3

L3.0







GENERAL LANDSCAPE PLANTING NOTES

1. NAMES OF PLANTS AS DESCRIBED ON THIS PLAN CONFORM TO THOSE GIVEN IN "STANDARDIZED PLANT NAMES", 1942 EDITION, PREPARED BY THE AMERICAN JOINT COMMITTEE ON HORTICULTURAL NOMENCLATURE. NAMES OF PLANT VARIETIES NOT INCLUDED THEREIN CONFORM TO NAMES GENERALLY ACCEPTED IN NURSERY TRADE.
2. ALL EXPOSED GROUND SURFACES THAT ARE NOT PAVED WITHIN THE CONTRACT LIMIT LINE, AND THAT ARE NOT COVERED BY LANDSCAPE PLANTING OR SEEDING AS SPECIFIED, SHALL BE COVERED BY A NATURAL MULCH THAT WILL PREVENT SOIL EROSION AND THE EMANATION OF DUST.
3. NO PLANT SHALL BE PUT INTO THE GROUND BEFORE ROUGH GRADING HAS BEEN COMPLETED AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT OR PROJECT ENGINEER.
4. STANDARDS FOR TYPE, SPREAD, HEIGHT, ROOT BALL AND QUALITY OF NEW PLANT MATERIAL SHALL BE IN ACCORDANCE WITH GUIDELINES AS SET FORTH IN THE "AMERICAN STANDARD FOR NURSERY STOCK", PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN. PLANT MATERIAL SHALL HAVE NORMAL HABIT OF GROWTH AND BE HEALTHY, VIGOROUS, AND FREE FROM DISEASES AND INSECT INFESTATION.
5. NEW PLANT MATERIAL SHALL BE NURSERY GROWN UNLESS SPECIFIED OTHERWISE. ALL PLANTS SHALL BE SET PLUMB AND SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL GRADE BEFORE DIGGING. PLANT MATERIAL OF THE SAME SPECIES AND SPECIFIED AS THE SAME SIZE SHOULD BE SIMILAR IN SHAPE, COLOR AND HABIT. THE LANDSCAPE ARCHITECT HAS THE RIGHT TO REJECT PLANT MATERIAL THAT DOES NOT CONFORM TO THE TYPICAL OR SPECIFIED HABIT OF THAT SPECIES.
6. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITY AND SEWER LINES PRIOR TO THE START OF EXCAVATION ACTIVITIES. NOTIFY THE PROJECT ENGINEER AND OWNER IMMEDIATELY OF ANY CONFLICTS WITH PROPOSED PLANTING LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE.
7. THE CONTRACTOR SHALL NOT MAKE SUBSTITUTIONS. IF THE SPECIFIED LANDSCAPE MATERIAL IS NOT OBTAINABLE, THE CONTRACTOR SHALL SUBMIT PROOF OF NON-AVAILABILITY TO THE LANDSCAPE ARCHITECT AND OWNER, TOGETHER WITH A WRITTEN PROPOSAL FOR USE OF AN EQUIVALENT MATERIAL.
8. LANDSCAPE CONTRACTOR TO STAKE OUT PLANTING LOCATIONS, FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT AND/OR OWNER BEFORE PLANTING WORK BEGINS. THE LANDSCAPE ARCHITECT AND/OR OWNER SHALL DIRECT THE CONTRACTOR IN THE FINAL PLACEMENT OF ALL PLANT MATERIAL AND LOCATION OF PLANTING BEDS TO ENSURE COMPLIANCE WITH DESIGN INTENT UNLESS OTHERWISE INSTRUCTED.
9. THE LANDSCAPE ARCHITECT MAY REVIEW PLANT MATERIALS AT THE SITE, BEFORE PLANTING, FOR COMPLIANCE WITH REQUIREMENTS FOR GENUS, SPECIES, VARIETY, SIZE, AND QUALITY. THE LANDSCAPE ARCHITECT RETAINS THE RIGHT TO FURTHER REVIEW PLANT MATERIALS FOR SIZE AND CONDITION OF BALLS AND ROOT SYSTEM, INSECTS, INJURIES, AND LATENT DEFECTS, AND TO REJECT UNSATISFACTORY OR DEFECTIVE MATERIAL AT ANY TIME DURING PROGRESS OF WORK. THE CONTRACTOR SHALL REMOVE REJECTED PLANT MATERIALS IMMEDIATELY FROM PROJECT SITE AS DIRECTED BY THE LANDSCAPE ARCHITECT OR OWNER.
10. DELIVERY, STORAGE, AND HANDLING
    A. PACKAGED MATERIALS: PACKAGED MATERIALS SHALL BE DELIVERED IN CONTAINERS SHOWING WEIGHT, ANALYSIS, AND NAME OF MANUFACTURER. MATERIALS SHALL BE PROTECTED FROM DETERIORATION DURING DELIVERY, AND WHILE STORED AT SITE.
    B. TREES AND SHRUBS: THE CONTRACTOR SHALL PROVIDE TREES AND SHRUBS DUG FOR THE GROWING SEASON FOR WHICH THEY WILL BE PLANTED. DO NOT PRUNE PRIOR TO DELIVERY UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE ARCHITECT. DO NOT BEND OR BIND-TIE TREES OR SHRUBS IN SUCH A MANNER AS TO DAMAGE BARK, BREAK BRANCHES, OR DESTROY NATURAL SHAPE. PROVIDE PROTECTIVE COVERING DURING TRANSIT. DO NOT DROP BALLED AND BURLAPPED STOCK DURING DELIVERY OR HANDLING.
    C. ALL PLANTS SHALL BE BALLED AND BURLAPPED OR CONTAINER GROWN AS SPECIFIED. NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL ROOTBALL WRAPPING AND BINDING MATERIAL MADE OF SYNTHETICS OR PLASTICS SHALL BE REMOVED FROM THE TOP OF THE BALL AT THE TIME OF PLANTING. IF THE PLANT IS SHIPPED WITH A WIRE BASKET AROUND THE ROOT BALL, THE WIRE BASKET SHALL BE CUT AND FOLDED DOWN 8 INCHES INTO THE PLANTING HOLE. WITH CONTAINER GROWN STOCK, THE CONTAINER SHALL BE REMOVED AND THE ROOT BALL SHALL BE CUT THROUGH THE SURFACE IN TWO LOCATIONS.
    D. THE CONTRACTOR SHALL HAVE TREES AND SHRUBS DELIVERED TO SITE AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED AND PLANT IMMEDIATELY. IF PLANTING IS DELAYED MORE THAN 6 HOURS AFTER DELIVERY, THE CONTRACTOR SHALL SET TREES AND SHRUBS IN SHADE, PROTECT FROM WEATHER AND MECHANICAL DAMAGE AND KEEP ROOTS MOIST BY COVERING WITH MULCH, BURLAP OR OTHER ACCEPTABLE MEANS OF RETAINING MOISTURE.
11. ALL LANDSCAPED AREAS TO BE CLEARED OF ROCKS, STUMPS, TRASH AND OTHER UNSIGHTLY DEBRIS. ALL FINE GRADED AREAS SHOULD BE HAND RAKED SMOOTH ELIMINATING ANY CLUMPS AND AND UNEVEN SURFACES PRIOR TO PLANTING OR MULCHING.
12. ALL PLANT MATERIAL SHALL BE INSTALLED AS PER DETAILS, NOTES AND CONTRACT SPECIFICATIONS. THE LANDSCAPE ARCHITECT MAY REVIEW INSTALLATION AND MAINTENANCE PROCEDURES.
13. PER TOWN LANDSCAPE BOND REQUIREMENTS, NEW PLANT MATERIAL SHALL BE GUARANTEED TO BE ALIVE AND IN VIGOROUS GROWING CONDITION FOR A PERIOD OF TWO YEARS FOLLOWING ACCEPTANCE BY THE OWNER. PLANT MATERIAL FOUND TO BE UNHEALTHY, DYING OR DEAD DURING THIS PERIOD, SHALL BE REMOVED AND REPLACED IN KIND BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER. PLANTS WILL BE INSPECTED UPON COMPLETIION OF INSTALLATION ONCE A REQUEST FOR INSPECTION HAS BEEN SUBMITTED BY THE CONTRACTOR AND WILL BE INSPECTED AGAIN THE FOLLOWING FOUR GROWING SEASONS.
14. THE CONTRACTOR SHALL KEEP AREA CLEAN DURING DELIVERY AND INSTALLATION OF PLANT MATERIALS. REMOVE AND DISPOSE OF OFF-SITE ANY ACCUMULATED DEBRIS OR UNUSED MATERIALS. REPAIR DAMAGE TO ADJACENT AREAS CAUSED BY LANDSCAPE INSTALLATION OPERATIONS.
15. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL THEN BE WATERED WEEKLY OR AS REQUIRED BY SITE AND WEATHER CONDITIONS TO MAINTAIN VIGOROUS AND HEALTHY PLANT GROWTH.
16. THE BACKFILL MIXTURE AND SOIL MIXES TO BE INSTALLED PER THE SPECIFICATIONS.
17. AFTER PLANT IS PLACED IN TREE PIT LOCATION, ALL TWINE HOLDING ROOT BALL TOGETHER SHOULD BE COMPLETELY REMOVED AND THE BURLAP SHOULD BE PULLED DOWN SO 1/3 OF THE ROOT BALL IS EXPOSED. SYNTHETIC BURLAP SHOULD BE COMPLETELY REMOVED AFTER INSTALLATION.
18. MULCH SHOULD NOT BE PILED UP AROUND THE TRUNK OF ANY PLANT MATERIAL. NO MULCH OR TOPSOIL SHOULD BE TOUCHING THE BASE OF THE TRUNK ABOVE THE ROOT COLLAR.
19. ALL FENCE INSTALLATION SHALL BE COMPLETED PRIOR TO COMMENCEMENT OF ANY LANDSCAPE PLANTING, LAWN AND GRASSES, OR IRRIGATION WORK.
20. FOR ANY DISCREPANCIES BETWEEN THE PLANT SCHEDULE AND PLANTING PLAN THE GRAPHIC QUANTITY SHOWN SHALL GOVERN.
21. PLANT MATERIALS SHALL NOT BE PLANTED UNTIL THE FINISHED GRADING HAS BEEN COMPLETED.
22. ALL PLANT INSTALLATIONS SHALL BE COMPLETED EITHER BETWEEN APRIL 1 – JUNE 15 OR AUGUST 15 – NOVEMBER 1, UNLESS OTHERWISE DIRECTED BY THE PROJECT LANDSCAPE ARCHITECT. SEE LAWN SEEDING DATES IN SEEDING NOTES.

LAWN SEED MIX

1. <u>LAWN SEED MIX</u>: LESCO GRASS SEED – ALL PRO TRANSITION MIX (3 TURF-TYPE TALL-FESCUE GRASSES)

   NOTES:
   A) SEED RATE:
      1) NEW ESTABLISHMENT: SEED AT A RATE OF 6-8 LBS/1000 SQ FT
      2) RENOVATION: 20-50% EXISTING COVER: 5-7 LBS/1000 SQ FT
         50-75% EXISTING COVER: 4-6 LBS/1000 SQ FT

2. GENERAL SEED NOTES:
   A) FINAL SEED MIXTURES, RATES, AND SPECIES TO BE DETERMINED BASED ON PROJECT LANDSCAPE ARCHITECT REVIEW.
   B) SEEDING SHALL TAKE PLACE IN THE SPRING (APRIL 1 TO JUNE 15) OR THE FALL (SEPTEMBER 1 TO OCTOBER 15).
   C) ELIMINATE UNWANTED VEGETATION PRIOR TO SEEDING USING A GLYPHOSATE-BASED HERBICIDE PER MANUFACTURER'S SPECIFICATIONS.
   D) IT IS RECOMMENDED THAT CONTRACTOR INSTALL SEED MIXTURE USING A NO-TILL TRUAX-TYPE DRILL SEEDER WHERE APPLICABLE.
   E) THERE MUST BE CONTINUOUS SOIL MOISTURE FOR 4-6 WEEKS TO ALLOW FOR PROPER GERMINATION.

LAWN WATERING SCHEDULE

THE FOLLOWING WATERING SCHEDULE COVERS ROUGHLY 8 WEEKS TO ESTABLISH A HEALTHY STAND OF GRASS FROM SEED. THE CONTRACTOR SHALL BE OBLIGATED TO ENSURE A HEALTHY STAND OF GRASS AT THE END OF THE MAINTENANCE/BOND PERIOD. ANY BARE OR DEAD AREAS IN THE LAWN SHALL BE PREPARED, RESEEDED AND REESTABLISHED PRIOR TO THE END OF THE MAINTENANCE/BOND PERIOD AND TO THE SATISFACTION OF THE PROJECT LANDSCAPE ARCHITECT AND THE OWNER.

IMPORTANT ASPECTS TO ATTAINING AND SUSTAINING A HEALTHY STAND OF GRASS ARE THE INSTALLATION OF TOPSOIL, SEED BED PREPARATION, ATTAINING OPTIMAL pH FOR THE INTENDED PLANT SPECIES, FERTILIZING, MULCH COVERING, AND SUFFICIENT WATERING PER THESE NOTES AND/OR PROJECT SPECIFICATIONS.

1. SEEDING SHALL BE DONE DURING THE SEASONS SPECIFIED IN THE LAWN SEED MIX NOTES AND/OR PROJECT SPECIFICATIONS.
2. AFTER THE SEEDBED IS PREPARED, SEED IS INSTALLED, AND MULCH IS APPLIED, WATER LIGHTLY TO KEEP THE TOP 2 INCHES OF SOIL CONSISTENTLY MOIST, NOT SATURATED. AT NO TIME SHOULD WATER BE APPLIED TO THE POINT OF RUNOFF OR THE DISPLACEMENT OF SEED.
3. DEPENDING ON SOIL TEMPERATURES, IT MAY TAKE SEVERAL WEEKS FOR GERMINATION TO OCCUR. DIFFERENT SPECIES WITHIN THE MIX GERMINATE AT DIFFERENT TIMES AND THEREFORE CONTRACTOR SHOULD CONTINUE THE LIGHT WATERING, AS DESCRIBED ABOVE, UNTIL THERE IS AT LEAST 2 INCHES OF GROWTH THROUGHOUT.
4. AT THIS POINT, WATERING FREQUENCY MAY BE REDUCED TO EVERY 3 TO 5 DAYS. WATER SHALL BE APPLIED TO WET A 6 INCH MINIMUM SOIL DEPTH TO PROMOTE HEALTHY DEEP ROOTS.
5. BEGIN MOWING ONCE PER WEEK AFTER THE GRASS HAS REACHED 3 INCHES HEIGHT. MOW TO A HEIGHT OF NO LESS THAN 2-½ INCHES. AFTER 2 TO 3 WEEKS OF MOWING, CONTINUE TO WATER TO A 6 INCH MINIMUM SOIL DEPTH AS NECESSARY PER WEATHER CONDITIONS, AND SOIL MOISTURE SENSORS IF APPLICABLE.

PLANTING SOIL SPECIFICATIONS

1. PLANTING SOIL, ALTERNATELY MAY BE REFERRED TO AS TOPSOIL, SHOULD BE FRIABLE, FERTILE, WELL DRAINED, FREE OF DEBRIS, TOXINS, TRASH AND STONES OVER 1/2" DIA., IT SHOULD HAVE A HIGH ORGANIC CONTENT SUITABLE TO SUSTAIN HEALTHY PLANT GROWTH AND SHOULD LOOK AESTHETICALLY PLEASING HAVING NO NOXIOUS ODORS.
2. <u>PLANTING SOIL:</u>

   REUSE SURFACE SOILS STOCKPILED ON SITE, VERIFYING COMPLIANCE WITH PLANTING SOIL AND TOPSOIL CRITERIA IN THIS SPECIFICATION THROUGH TESTING. CLEAN SURFACE SOIL OF ALL ROOTS, PLANTS, SOD, AND GRAVEL OVER 1" IN DIAMETER AND DELETERIOUS MATERIALS. IF ON-SITE SOILS ARE TO BE USED FOR PROPOSED PLANTING, THE CONTRACTOR SHALL DEMONSTRATE, THROUGH SOIL TESTING, THAT ON-SITE SOILS MEET THE SAME CRITERIA AS INDICATED IN NOTES PLANS AND SPECIFICATIONS.

   SUPPLEMENT WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF SITE SOURCES WHEN TOPSOIL AND PLANTING SOIL QUANTITIES ARE INSUFFICIENT. OBTAIN SOIL DISPLACED FROM NATURALLY WELL-DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST 4" DEEP. DO NOT OBTAIN FROM AGRICULTURAL LAND, BOGS, MARSHES OR CONTAMINATED SITES.

   CONTRACTOR SHALL TEST SOILS AND FURNISH SAMPLES UPON REQUEST. PACKAGED MATERIALS SHALL BE UNOPENED BAGS OR CONTAINERS, EACH BEARING A NAME, GUARANTEE, AND TRADEMARK OF THE PRODUCER, MATERIAL COMPOSITION, MANUFACTURER'S CERTIFIED ANALYSIS, AND THE WEIGHT OF THE MATERIALS. SOIL OR AMENDMENT MATERIALS SHALL BE STORED ON SITE TEMPORARILY IN STOCKPILES PRIOR TO PLACEMENT AND SHALL BE PROTECTED FROM INTRUSION OF CONTAMINANTS AND EROSION. AFTER MIXING, SOIL MATERIALS SHALL BE COVERED WITH A TARPAULIN UNTIL TIME OF ACTUAL USE.

   ALL PLANTING SOILS SHALL BE SUBMITTED FOR TESTING TO THE STATE COOPERATIVE EXTENSION SERVICE, OR APPROVED EQUAL, PRIOR TO DELIVERY TO THE SITE. CONTRACTOR SHALL FURNISH SOIL SAMPLES AND SOIL TEST RESULTS TO LANDSCAPE ARCHITECT OR OWNER AT A RATE OF ONE SAMPLE PER 500 CUBIC YARDS TO ENSURE CONSISTENCY ACROSS THE TOTAL VOLUME OF PLANTING SOIL REQUIRED. TEST RESULTS SHALL EVALUATE FOR ALL CRITERIA LISTED IN THIS SPECIFICATION. IF TESTING AGENCY DETERMINES THAT THE SOILS ARE DEFICIENT IN ANY MANNER AND MAY BE CORRECTED BY ADDING AMENDMENTS, THE CONTRACTOR SHALL FOLLOW STATED RECOMMENDATIONS FOR SOIL IMPROVEMENT AND FURNISH SUBMITTALS FOR ALL AMENDMENTS PRIOR TO DELIVERY OF SOIL TO THE PROJECT SITE.

   A. THE FOLLOWING TESTING SHOULD BE PERFORMED AND RESULTS GIVEN TO THE LANDSCAPE ARCHITECT FOR APPROVAL BEFORE INSTALLATION:
      a. PARTICLE SIZE ANALYSIS – LOAMY SAND: 60-75% SAND, 25-40% SILT, AND 5-15% CLAY.
      b. FERTILITY ANALYSIS: pH (5.5-6.5), SOLUBLE SALTS (LESS THAN 2 MMHO/CM), NITRATE, PHOSPHATE, POTASSIUM, CALCIUM AND MAGNESIUM
      c. ORGANIC MATTER CONTENT: 2.5-5% IN NATIVE SOILS; UP TO 10% IN AMENDED SOILS
      d. TOXIC SUBSTANCE ANALYSIS
      e. MATERIAL DRAINAGE RATE: 60% PASSING IN 2 MINUTES, 40% RETAINED
      f. NOT MORE THAN 1% OF MATERIAL SHALL BE RETAINED BY A #4 SIEVE
3. <u>SOIL AMENDMENT FOR PLANT MATERIAL:</u>
   IF SOIL ORGANIC CONTENT IS INADEQUATE, SOIL SHALL BE AMENDED WITH COMPOST OR ACCEPTABLE, WEED FREE, ORGANIC MATTER. ORGANIC AMENDMENT SHALL BE WELL COMPOSTED, PH RANGE OF 6-8; MOISTURE CONTENT 35-55% BY WEIGHT 100% PASSING THROUGH 1" SIEVE; SOLUBLE SALT CONTENT LESS THAN 0.5 MM HOS/CM; MEETING ALL APPLICABLE ENVIRONMENTAL CRITERIA FOR CLEAN FILL.

   A. ORGANIC MATTER AS A SOIL AMENDMENT: LEAF MOLD WITH 60-90% ORGANIC CONTENT BY WEIGHT. SHREDDED LEAF LITTER, COMPOSTED FOR A MINIMUM OF 1 YR. SHOULD BE FREE OF DEBRIS, STONES OVER 1/2", WOOD CHIPS OVER 1".

   B. SOIL IN BEDS AND PLANTING ISLANDS OTHER THAN BACKFILL MATERIAL AND TOPSOIL, SHOULD BE FRIABLE, WELL DRAINED, AND FREE OF DEBRIS, INCLUDING STONES AND TRASH.

   C. AMENDMENTS FOR BACK FILL IN TREE AND SHRUB PITS:
      a. GROUND LIMESTONE (WITH A MIN. OF 88% OF CALCIUM AND MAGNESIUM CARBONATES) USED PENDING RESULTS OF SOIL ANALYSIS.
         - BRING pH LEVELS TO 5.5 MIN. TO 6.5 FOR NON-ERICACEOUS PLANTS
         - BRING pH LEVELS TO 4.5 MIN. TO 5.5 FOR ERICACEOUS PLANTS
      b. TERRA-SORB BY 'PLANT HEALTH CARE' 800-421-9051 (SEE MANUFACTURER RECOMMENDATIONS) USED IN PLANTER BACKFILL MIXTURE WITH TREES AND SHRUBS.
      c. MYCOR-ROOT SAVER BY 'PLANT HEALTH CARE' 800-421-9051 (SEE MANUFACTURER RECOMMENDATIONS) USED IN BACKFILL MIXTURE WITH TREES.
4. WHERE PLANTING AREAS ARE PROPOSED FOR FORMER PAVED OR GRAVEL AREAS, BEDS SHALL BE EXCAVATED TO A MINIMUM 30" DEPTH AND, AT A MINIMUM, BE BACKFILLED WITH BOTTOM LAYER OF SANDY LOAM (ORGANIC CONTENT LESS THAN 2%) OVER WHICH TOPSOIL AND PLANTING SOILS WILL BE PLACED AT DEPTHS INDICATED IN PLANS, DETAILS AND NOTES.
5. <u>CLEAN SOIL FILL IN LANDSCAPE AREAS:</u>
   LANDSCAPE FILL MATERIAL, BELOW PLANTING SOILS, SHALL HAVE THE PHYSICAL PROPERTIES OF A SANDY LOAM WITH AN ORGANIC CONTENT OF LESS THAN 2% AND A PH BETWEEN 5 – 7.
6. <u>SOIL PLACEMENT:</u>
   A. CONTRACTOR TO PROVIDE SIX INCHES (6") MINIMUM DEPTH PLANTING SOIL LAYER IN LAWN AREAS, TWELVE INCHES (12") MINIMUM DEPTH PLANTING SOIL LAYER IN GROUNDCOVER AND PERENNIAL AREAS, EIGHTEEN INCHES (18") MINIMUM DEPTH PLANTING SOIL LAYER IN SHRUB AREAS, AND THIRTY-SIX INCHES (36") MINIMUM DEPTH PLANTING SOIL LAYER IN TREE PLANTING AREAS.

   B. SCARIFY AND/OR TILL COMPACTED SUBSOILS TO A MINIMUM DEPTH OF 6 INCHES. THOROUGHLY MIX A 6 INCH DEPTH LAYER OF PLANTING SOIL INTO THE SUBSOIL PRIOR TO PLACING PLANTING SOIL AT THE DEPTHS INDICATED ABOVE. PLANTING SOIL SHALL BE PLACED IN 12-18" LIFTS AND WATER THOROUGHLY BEFORE INSTALLING NEXT LIFT. REPEAT UNTIL DEPTHS AND FINISH GRADES HAVE BEEN ACHIEVED. NO SOILS SHALL BE PLACED IN A FROZEN OR MUDDY CONDITION.

   C. PLANTING SOIL PRESENT AT THE SITE, IF ANY, MAY BE USED TO SUPPLEMENT TOTAL AMOUNT REQUIRED. CONTRACTOR TO FURNISH AN ANALYSIS OF ON-SITE PLANTING SOIL UTILIZED IN ALL PLANTING AREAS.
7. <u>SOIL CONDITIONING:</u>
   A. ADJUST pH AND NUTRIENT LEVELS AS REQUIRED TO ENSURE AN ACCEPTABLE GROWING MEDIUM. LOWER pH USING ELEMENTAL SULFUR ONLY. PEAT MOSS OR COPPER SULFATE MAY NOT BE USED. GROUND LIMESTONE AS A SOIL AMENDMENT MATERIAL WILL ONLY BE USED PENDING RESULTS OF SOIL ANALYSIS. PROVIDE WITH MINIMUM 88% CALCIUM AND MAGNESIUM CARBONATES AND SHALL HAVE TOTAL 100% PASSING THE 10 MESH SIEVE, MINIMUM 90% PASSING 20 MESH SIEVE, AND MINIMUM 60% PASSING 100 MESH SIEVE.

   B. ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

   C. <u>SOIL MODIFICATIONS (PENDING RESULTS OF SOIL ANALYSIS):</u>
      a. THOROUGHLY TILL ORGANIC MATTER (LEAF COMPOST) INTO THE TOP 6 TO 12 IN. OF MOST PLANTING SOILS TO IMPROVE THE SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A pH HIGHER THAN 7.0. PEAT MOSS MAY NOT BE USED AS ORGANIC MATTER AMENDMENT.

      b. MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. IMPROVE DRAINAGE IN HEAVY SOILS BY PLANTING ON RAISED MOUNDS OR BEDS AND INCLUDING SUBSURFACE DRAINAGE LINES.

      c. MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.

LANDSCAPE MAINTENANCE NOTES

1. <u>MAINTENANCE OPERATIONS BEFORE APPROVAL:</u>
   A. PLANT CARE SHALL BEGIN IMMEDIATELY AFTER EACH PLANT IS SATISFACTORILY INSTALLED AND SHALL CONTINUE THROUGHOUT THE LIFE OF THE CONTRACT UNTIL FINAL ACCEPTANCE OF THE PROJECT.
   B. CARE SHALL INCLUDE, BUT NOT BE LIMITED TO, REPLACING MULCH THAT HAS BEEN DISPLACED BY EROSION OR OTHER MEANS, REPAIRING AND RESHAPING WATER RINGS OR SAUCERS, MAINTAINING STAKES AND GUYS AS ORIGINALLY INSTALLED, WATERING WHEN NEEDED OR DIRECTED, AND PERFORMING ANY OTHER WORK REQUIRED TO KEEP THE PLANTS IN A HEALTHY CONDITION.
   C. CONTRACTOR SHALL REMOVE AND REPLACE ALL DEAD, DEFECTIVE AND/OR REJECTED PLANTS AS REQUIRED BEFORE FINAL ACCEPTANCE.
2. <u>MAINTENANCE DURING CONSTRUCTION:</u>
   A. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING. PLANTS SHALL BE WATERED, MULCHED, WEEDED, PRUNED, SPRAYED, FERTILIZED, CULTIVATED, AND OTHERWISE MAINTAINED AND PROTECTED UNTIL PROVISIONAL ACCEPTANCE. SETTLED PLANTS SHALL BE RESET TO PROPER GRADE AND POSITION, PLANTING SAUCER RESTORED AND DEAD MATERIAL REMOVED. STAKES AND WIRES SHALL BE TIGHTENED AND REPAIRED. DEFECTIVE WORK SHALL BE CORRECTED AS SOON AS POSSIBLE AFTER IT BECOMES APPARENT AND WEATHER AND SEASON PERMIT.
   B. IF A SUBSTANTIAL NUMBER OF PLANTS ARE SICKLY OR DEAD AT THE TIME OF INSPECTION, ACCEPTANCE SHALL NOT BE GRANTED AND THE CONTRACTOR'S RESPONSIBILITY FOR MAINTENANCE OF ALL PLANTS SHALL BE EXTENDED FROM THE TIME REPLACEMENTS ARE MADE OR EXISTING PLANTS ARE DEEMED ACCEPTABLE BY THE LANDSCAPE ARCHITECT.
   C. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE SPECIFIED ON THE PLANT LIST OR THAT WHICH WAS TO REMAIN OR BE RELOCATED. THEY SHALL BE FURNISHED AND PLANTED AS SPECIFIED. THE COST SHALL BE BORNE BY THE CONTRACTOR. REPLACEMENTS RESULTING FROM REMOVAL, LOSS, OR DAMAGE DUE TO OCCUPANCY OF THE PROJECT IN ANY PART, VANDALISM, PHYSICAL DAMAGE BY ANIMALS, VEHICLES, ETC., AND LOSSES DUE TO CURTAILMENT OF WATER BY LOCAL AUTHORITIES SHALL BE APPROVED AND PAID FOR BY THE OWNER.
   D. PLANTS SHALL BE GUARANTEED FOR A PERIOD OF TWO YEARS AFTER INSPECTION AND PROVISIONAL ACCEPTANCE.
   E. AT THE END OF THE ESTABLISHMENT PERIOD, INSPECTION SHALL BE MADE AGAIN. ANY PLANT REQUIRED UNDER THIS CONTRACT THAT IS DEAD OR UNSATISFACTORY TO THE LANDSCAPE ARCHITECT OR OWNER SHALL BE REMOVED FROM THE SITE AND REPLACED DURING THE NORMAL PLANTING SEASON.
3. <u>LAWN MAINTENANCE:</u>
   A. BEGIN MAINTENANCE IMMEDIATELY AFTER EACH PORTION OF LAWN IS PLANTED AND CONTINUE FOR 8 WEEKS AFTER ALL LAWN PLANTING IS COMPLETED.
   B. WATER TO KEEP SURFACE SOIL MOIST, REPAIR WASHED OUT AREAS BY FILLING WITH TOPSOIL, LIMING, FERTILIZING AND RE-SEEDING; MOW TO 2 1/2 – 3 INCHES AFTER GRASS REACHES 3 1/2 INCHES IN HEIGHT, AND MOW FREQUENTLY ENOUGH TO KEEP GRASS FROM EXCEEDING 3 1/2 INCHES. WEED BY LOCAL SPOT APPLICATION OF SELECTIVE HERBICIDE ONLY AFTER GRASS IS WELL-ESTABLISHED.

TREE PROTECTION NOTES:

1. ALL EXISTING TREES WITHIN THE LIMITS OF TREE PROTECTION FENCING. SHALL BE PROTECTED THOUGHOUT THE DURATION OF WORK. TREE PROTECTION FENCING SHALL BE INSTALLED AT THE DRIP-LINE OF THE PROTECTED TREE UNLESS CONDITIONS WARRANT THE FENCE TO BE LOCATED WITHIN THE LIMIT OF BRANCHING. THE PROJECT LANDSCAPE ARCHITECT TO APPROVE THE LOCATION OF ALL FENCING PRIOR TO EXCAVATION.
2. TREE PROTECTION PLANKING SHALL BE INSTALLED AROUND ALL EXISTING TREES AS NOTED ON THIS DRAWING. REFER TO DETAIL ON THIS SHEET.
3. TREE PROTECTION FENCING SHALL BE MAINTAINED TO PROTECT TREES AT ALL TIMES. ANY DAMAGED FENCING SHALL BE IMMEDIATELY REPLACED WHEN DAMAGED.
4. IF TREE PROTECTION FENCING NEEDS TO BE MOVED OR BREACHED DUE TO TEMPORARY CONSTRUCTION ACTIVITY WITHIN THE TREE PROTECTION ZONE, THE FENCING WILL BE RESET TO ITS ORIGINAL LOCATION IMMEDIATELY AFTER CONSTRUCTION WITHIN THE TREE PROTECTION ZONE IS COMPLETE.
5. DEMOLITION WORK ADJACENT TO PROTECTED TREES SHALL BE PERFORMED BY NON-MECHANICAL METHODS. CONTRACTOR TO PROTECT ROOT MASS AGAINST DAMAGE DURING EXCAVATION. ANY TREE ROOTS THAT ARE DISTURBED, BROKEN, OR CUT SHALL BE PRUNED BACK WITH CLEAN SHARP TOOLS.
6. ALL EXPOSED TREE ROOTS SHALL BE THOROUGHLY IRRIGATED ON A DAILY BASIS AS DIRECTED BY THE PROJECT LANDSCAPE ARCHITECT.
7. ALL WORK TO BE PERFORMED UNDER THE DIRECT SUPERVISION OF EITHER THE OWNER'S REPRESENTATIVE OR THE PROJECT LANDSCAPE ARCHITECT.

1 TREE PROTECTION FENCE

NTS

GENERAL NOTE:

DUE TO GENERAL CONSTRUCTION ACTIVITIES AND ADJACENT SITE COMPACTION REQUIREMENTS, SUBGRADE SOILS WITHIN PROPOSED PLANTING AREAS TEND TO BECOME HIGHLY COMPACTED. IN ORDER TO CREATE A HEALTHY GROWTH MEDIUM TO ALLOW PROPOSED PLANTINGS TO ESTABLISH A VIGOROUS ROOT MASS, THIS SUBGRADE SOIL MUST UNDERGO A RESTORATION PROCESS. IN ADDITION, IMPORTED OR AMENDED EXISTING SOILS SHALL BE MIXED WITH SUBGRADE SOILS WHERE THEY MEET IN ORDER TO CREATE A TRANSITIONAL GRADIENT TO ALLOW FOR PROPER DRAINAGE.

PLANTING SOIL WITHIN AREAS OF CUT OR RAISED GRADE

PLANTING SOIL WITHIN AREAS OF UNCHANGED GRADE

NOTES:

1. CONTRACTOR IS RESPONSIBLE TO SEND SAMPLES OF EXISTING SOILS INTENDED FOR USE IN PLANTING AREAS (1 PER 500 CY.) TO TESTING LABORATORY OR UNIVERSITY COOPERATIVE EXTENSION FOR TESTING. ALL TESTING COSTS ARE AT THE CONTRACTOR'S EXPENSE.
2. RECYCLED CRUSHED CONCRETE AND ASPHALT MILLINGS SHALL NOT BE PLACED WITHIN 2'-6" OF FINISH GRADE IN PROPOSED LANDSCAPE AREAS.
3. IMPORTED FILL SHALL CONTAIN NO CONTAMINATION IN EXCEEDENCE OF THE APPLICABLE STATE ENVIRONMENTAL STANDARDS AND MEET THE ENVIRONMENTAL REQUIREMENTS FOR THE PROJECT. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION OF COMPLIANCE PRIOR TO DELIVERY OF ANY FILL TO THE SITE.
4. CONTRACTOR TO LIGHTLY COMPACT ALL PLACED PLANTING SOILS AND RAISE GRADES ACCORDINGLY TO ALLOW FOR FUTURE SETTLEMENT OF PLANTING SOILS (TYP.)
5. NO STONES, WOOD CHIPS, OR DEBRIS LARGER THAN 1/2" SHALL BE ACCEPTABLE WITHIN PLANTING AREAS.

2 PLANTING SOIL

NTS

3 TREE PLANTING

NTS

NOTES:
1. ALL SHRUBS TO BE SET PLUMB.
2. REFER TO LANDSCAPE PLAN FOR SPACING OF INDIVIDUAL PLANTS.
3. REMOVE ALL WIRE, PLASTIC, TAGS OR SYNTHETIC MATERIAL FROM PLANTS PRIOR TO PLANTING.

4 SHRUB AND ORNAMENTAL GRASS PLANTING

NTS

5 EVERGREEN TREE PLANTING

NTS

NOTE: TREE STAKING SHOULD BE CONSIDERED FOR TREES PLANTED ON SLOPES GREATER THAN 3:1 AND/OR ON WINDY SITES PER THE FOLLOWING: STAKE TREES WITH (1.5" X 1.5" X 6') CEDAR OR PRESSURE TREATED STAKES (2 PER TREE). STAKES SHALL BE PLACED ON EITHER SIDE OF THE TREE PERPENDICULAR TO THE SLOPE AND ARE TO BE DRIVEN OUTSIDE OF THE ROOT BALL. SECURE STAKES TO TREE USING 2 ARBORTIES BY LOOPING TIES AROUND TREE AND NAILING TO CEDAR STAKES. FOLLOW MANUFACTURER'S RECOMMENDATIONS. ARBORTIES, OR APPROVED EQUAL, AT GEMPLERS 1-800-332-6744 OR GEMPLERS.COM. ALL STAKING MATERIALS SHALL BE REMOVED FOLLOWING THE PLANT GUARANTEE PERIOD.

6 PLANTING ON SLOPE

NTS

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LICENSE EXPIRATION DATE: 06/30/2025

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PROJECT NO.

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

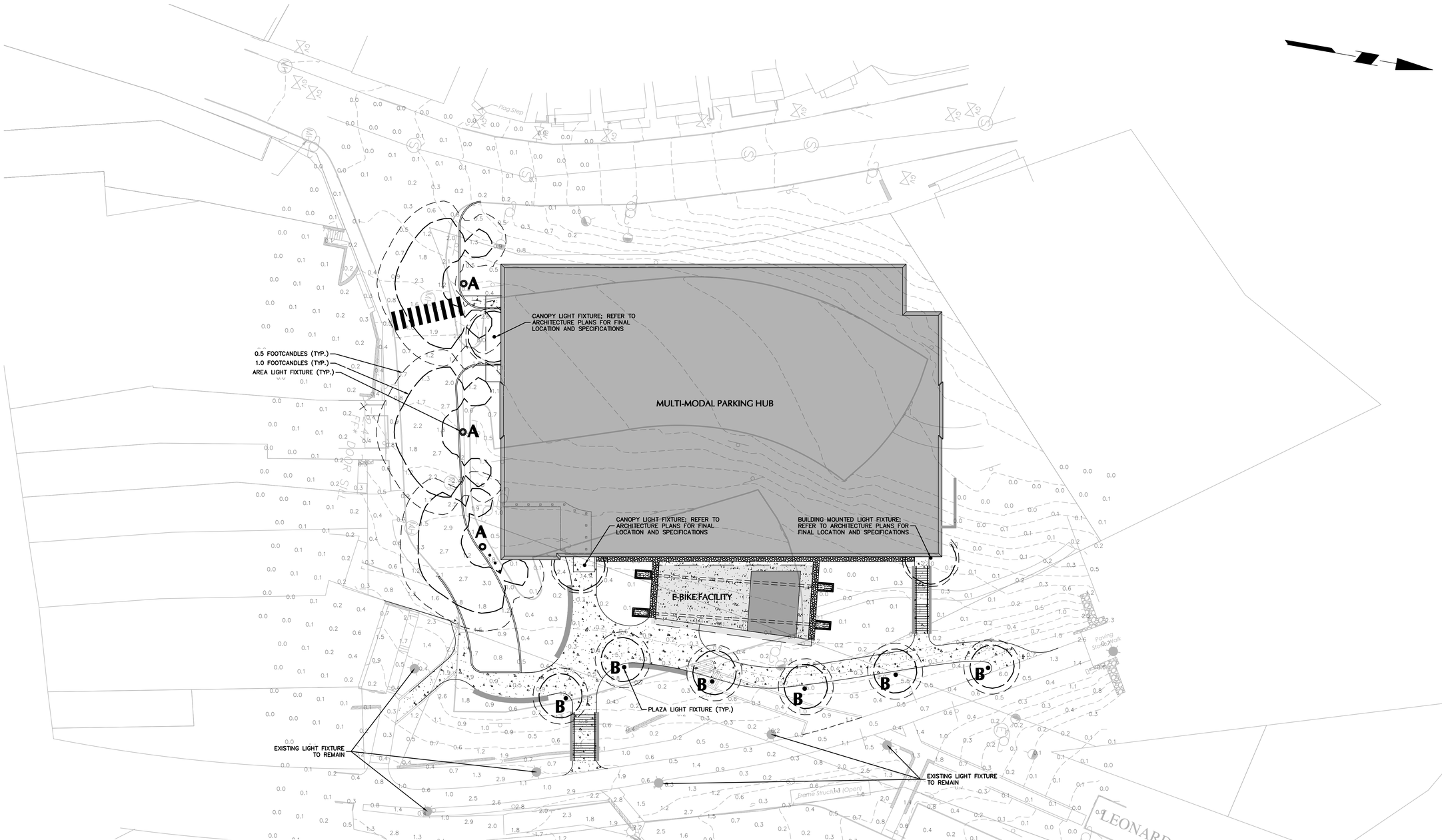
NO.	DESCRIPTION	DATE

NORTH

DRAWN: DK
REVIEWED: KM
DATE:

SHEET TITLE:
PLANTING NOTES & DETAILS

SHEET NO.
L4.0



SITE LIGHTING SCHEDULE

SYMBOL	KEY	QTY	FIXTURE MANUFACTURER	FIXTURE MODEL	FIXTURE DESCRIPTION	FIXTURE MOUNTING HEIGHT	WATTS	LUMENS	LLF	OPTICS	COLOR TEMPERATURE	FIXTURE CATALOGUE NO.	POLE MANUFACTURER	POLE DESCRIPTION	POLE LENGTH	POLE CATALOGUE NO.	NOTES
○	A	3	STERNBERG	VICTORIAN	AREA LIGHT	15	53.2	5996	.9	TYPE A	3000K	VCOB-6590-4L30TA-MDL 03	STERNBERG	ROUND ALUMINUM COLOR: TEXTURED BLACK	12	45-12-FP4-.18 8-BKT	
●	B	6	LANDSCAPE FORMS	TUMBLE	PLAZA LIGHT	12	20	1624	.9	TYPE M	3000K	TML-16-A-1-MO	LANDSCAPE FORMS	ROUND ALUMINUM COLOR: MATTE BLACK	11.2	TMF1109-MBK	

NOTE:
1. POLES SHALL BE FACTORY CUT TO SPECIFIED LENGTH BY MANUFACTURER.
2. CONTRACTOR TO CONFIRM AND COORDINATE FINAL LINE VOLTAGE WITH MEP PLANS PRIOR TO PURCHASING FIXTURES.
3. CONTRACTOR TO REFER TO ARCHITECTURAL PLANS FOR FINAL BUILDING MOUNTED AND CANOPY LIGHT LOCATIONS.

STATISTICS

DESCRIPTION	AVG.	MAX.	MIN.	MAX./MIN.	AVG./MIN.
BACK ENTRANCE	5.6fc	20.6fc	0.5fc	41.2:1	11.1:1
PARKING LOT ENTRANCE	2.0fc	8.0fc	0.5fc	16.0:1	3.9:1
PLAZA	2.2fc	22.0fc	0.1fc	220.0:1	21.7:1
ROADWAY	1.7fc	8.0fc	0.3fc	26.7:1	5.7:1
SIDE ENTRANCE	6.3fc	19.9fc	0.1fc	199.0:1	63.3:1

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PROJECT NO.

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

NO.	DESCRIPTION	DATE

NORTH

DRAWN: DK
REVIEWED: KM
DATE:

SHEET TITLE:
SITE LIGHTING PLAN

SHEET NO.

L5.0

SITE LIGHTING NOTES

GENERAL

1. POINT-BY-POINT CALCULATIONS PROVIDED WITHIN HAVE BEEN PREPARED IN ACCORDANCE TO IESNA STANDARDS AND IN CONSIDERATION OF THE VARIABLES WITHIN THESE NOTES AND SITE LIGHTING SCHEDULE. THE VALUES SHOWN ON THE PLANS ARE NOT AN INDICATION OF THE INITIAL LIGHT INTENSITIES OF THE LAMPS. THESE VALUES ARE AN APPROXIMATION OF THE MAINTAINED INTENSITIES DELIVERED TO THE GROUND PLANE USING INDUSTRY STANDARD LIGHT LOSS FACTORS (LLF) WHICH COVER LAMP DEGRADATION AND NATURAL BUILDUP/ DIRT DEGRADATION ON THE FIXTURE LENS. THE LIGHTING PLAN IS DESIGNED WITH AN INDUSTRY STANDARD LLF IN ACCORDANCE WITH GUIDANCE AS PROVIDED BY IESNA. MINOR VARIATIONS IN TOPOGRAPHY, PHYSICAL OBSTRUCTIONS, AMBIENT OR ADJACENT LIGHT SOURCES AND/OR OTHER POTENTIAL IMPACTS HAVE NOT BEEN INCLUDED IN THESE CALCULATIONS. THEREFORE, AS-BUILT LIGHT INTENSITIES MAY VARY, IN EITHER DIRECTION, FROM WHAT IS EXPLICITLY PORTRAYED WITHIN THESE DRAWINGS.NO GUARANTEE OF LIGHT LEVELS IS EXPRESSED OR IMPLIED BY THE POINT BY POINT CALCULATIONS SHOWN ON THESE PLANS.

2. LIGHT LEVEL POINT SPACING IS 10 FT. LEFT TO RIGHT AND 10 FT. TOP TO BOTTOM. POINT BY POINT CALCULATIONS ARE BASED ON THE LIGHT LOSS FACTOR AS STATED IN THE LIGHTING SCHEDULE.

COMPLIANCE

3. ALL SITE LIGHTING RELATED WORK AND MATERIALS SHALL COMPLY WITH CITY, COUNTY, AND OTHER APPLICABLE GOVERNING AUTHORITY REQUIREMENTS.

4. LIGHTING LAYOUT COMPLIES WITH THE ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) SAFETY STANDARDS FOR LIGHT LEVELS.

COORDINATION

5. CONTRACTOR TO COORDINATE POWER SOURCE WITH LIGHT FIXTURES TO ENSURE ALL SITE LIGHTING IS OPERATING EFFECTIVELY, EFFICIENTLY AND SAFELY.

6. REFER TO ELECTRIFICATION PLAN FOR PROVIDING ADEQUATE POWER FOR SITE LIGHTING.

7. CONTRACTOR TO COORDINATE LOCATION OF EASEMENTS, UNDERGROUND UTILITIES AND DRAINAGE BEFORE DRILLING POLE BASES.

8. INSTALLATION OF ALL LIGHTING FIXTURES, POLES, FOOTINGS, AND FEEDER CABLE TO BE COORDINATED WITH ALL SITE WORK TRADES TO AVOID CONFLICT WITH FINISHED AND PROPOSED WORK.

9. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND FEEDER CABLE FOR EXTERIOR LIGHTING WITH EXISTING AND PROPOSED UTILITIES, SITE DRAINAGE SYSTEMS, AND PAVING. CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER'S REPRESENTATIVE SHOULD ANY UTILITIES, NOT SHOWN ON THE PLANS, BE FOUND DURING EXCAVATIONS.

POLES AND FOOTINGS

10. PROVIDE A CONCRETE BASE FOR EACH LIGHT POLE AT THE LOCATIONS INDICATED ON THE CONSTRUCTION DRAWINGS AND/OR IN ACCORDANCE WITH PROJECT PLANS AND SPECIFICATIONS RELATING DIRECTLY TO CAST-IN-PLACE CONCRETE. THE USE OF ALTERNATE LIGHTING FOUNDATIONS, SUCH AS PRECAST, MAY CHANGE THE SIZING AND REINFORCEMENT REQUIREMENTS FROM THOSE SHOWN ON THESE PLANS. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO ORDERING ANY SUBSTITUTED PRODUCTS.

11. CONTRACTOR SHALL EXAMINE AND VERIFY THAT SOIL CONDITIONS ARE SUITABLE TO SUPPORT LOADS EXERTED UPON THE FOUNDATIONS DURING EXCAVATION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY UNSATISFACTORY CONDITIONS.

12. POLE FOUNDATIONS SHALL NOT BE POURED IF FREE STANDING WATER IS PRESENT IN EXCAVATED AREA.

13. ALL POLES HIGHER THAN 25 FT. SHALL BE EQUIPPED WITH FACTORY INSTALLED VIBRATION DAMPENERS.

WALL MOUNTED FIXTURES

14. CONTRACTOR TO COORDINATE INSTALLATION OF ALL THE WALL MOUNTED FIXTURES AND ELECTRICAL CONNECTIONS TO SITE STRUCTURE(S) WITH BUILDING MEP, ARCHITECT, AND/OR OWNER.

15. INSTALLATION AND ELECTRICAL CONNECTIONS FOR WALL MOUNTED FIXTURES TO BE COORDINATED WITH ARCHITECTURAL, STRUCTURAL, UTILITY AND SITE PLANS AND TO BE IN ACCORDANCE WITH ALL APPLICABLE CODES.

ADJUSTMENT AND INSPECTION

16. CONTRACTOR TO OPERATE EACH LUMINAIRE AFTER INSTALLATION AND CONNECTION. INSPECT FOR IMPROPER CONNECTIONS AND OPERATION.

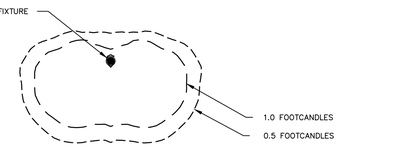
17. CONTRACTOR TO AIM AND ADJUST ALL LUMINAIRES TO PROVIDE ILLUMINATION LEVELS AND DISTRIBUTION AS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE LANDSCAPE ARCHITECT AND/OR OWNER.

18. CONTRACTOR TO CONFIRM THAT LIGHT FIXTURES, TILT ANGLE AND AIMING MATCH SPECIFICATIONS ON THE PLANS.

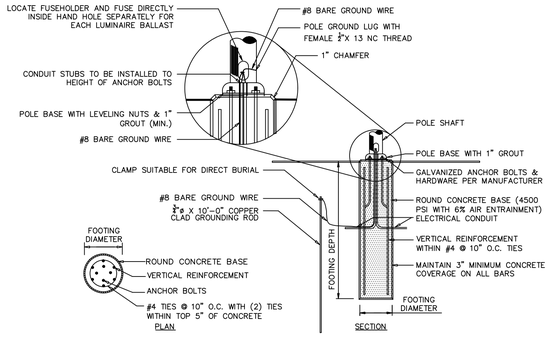
REQUIREMENTS FOR ALTERNATES

19. ALL LIGHTING SUBSTITUTIONS MUST BE MADE WITHIN 14 DAYS PRIOR TO THE BID DATE TO PROVIDE AMPLE TIME FOR REVIEW AND TO ISSUE AN ADDENDUM INCORPORATING THE SUBSTITUTION WITH THE FOLLOWING REQUIREMENTS:
   A. ANY SUBSTITUTION TO LIGHTING FIXTURES, POLES, ETC. MUST BE APPROVED BY THE OWNER, ENGINEER AND TENANTS. ANY COST ASSOCIATED WITH REVIEW AND/OR APPROVAL OF THE SUBSTITUTIONS SHALL BE ENTIRELY BORNE BY THE CONTRACTOR
   B. COMPUTER PREPARED PHOTOMETRIC LAYOUT OF THE PROPOSED LIGHTED AREA WHICH INDICATES, BY ISOFOOTCANDLE, THE SYSTEM'S PERFORMANCE.
   C. A PHOTOMETRIC REPORT FROM A NATIONAL INDEPENDENT TESTING LABORATORY WITH REPORT NUMBER, DATE, FIXTURE CATALOG NUMBER, LUMINAIRE AND LAMP SPECIFICATIONS; IES CALCULATIONS, POINT BY POINT FOOT CANDLE PLAN, STATISTIC ZONES SHOWING AVERAGE, MAXIMUM, MINIMUM AND UNIFORMITY RATIOS, SUMMARY, ISOLUX PLOT, AND CATALOGUE CUTS. CATALOGUE CUTS MUST IDENTIFY OPTICS, LAMP TYPE, DISTRIBUTION TYPE, REFLECTOR, LENS, BALLASTS, WATTAGE, VOLTAGE, FINISH HOUSING DESCRIPTION AND ALL OTHER PERTINENT INFORMATION.
   D. POLE MANUFACTURER AASHTO CALCULATIONS INDICATING THE POLE AND ANCHOR BOLTS BEING SUBMITTED ARE CAPABLE OF SUPPORTING THE POLE AND FIXTURE SYSTEMS BEING UTILIZED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
   E. THE UNDERWRITERS LABORATORY LISTING AND FILE NUMBER FOR THE SPECIFIC FIXTURE(S) TO BE UTILIZED.
   F. A COLOR PHOTOGRAPH THAT CLEARLY SHOWS THE REPLACEMENT FIXTURE POLE MOUNTED, THE FIXTURE'S COLOR, FINISH, AND PHYSICAL CHARACTERISTICS.

PHOTOMETRIC LIGHTING TEMPLATE:



NOTE: THE PHOTOMETRIC TEMPLATE REPRESENTS LIGHT THROW FOR EACH INDIVIDUAL FIXTURE. IT DOES NOT REPRESENT LIGHT COMING FROM OTHER SOURCES.

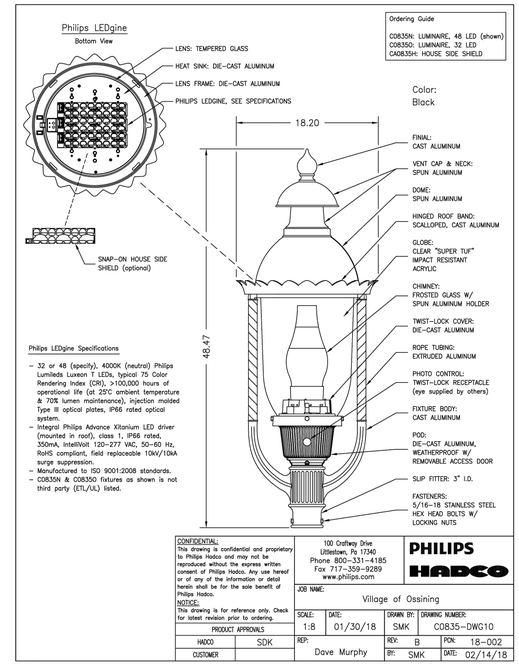


LIGHTING TYPE	MOUNTING HEIGHT	FOOTING DEPTH	FOOTING DIAMETER	VERTICAL REINFORCEMENT	'H'
A	15'-0"	6'-5"	2'-0"	6 #5 BARS	0'-0"
B	12'-0"	6'-5"	2'-0"	6 #5 BARS	0'-0"

NOTES:
1. SHAFT CAP, ARMS, BASE FLANGE, ANCHOR BOLTS, LEVELING NUTS, CONNECTION HARDWARE, BOLT COVERS, HANDHOLE COVER, AND BOLT CIRCLE TEMPLATE SHALL BE FURNISHED BY POLE MANUFACTURER.
2. EACH STANDARD TO BE PROTECTED AGAINST LIGHTNING WITH AN INTERCONNECTED GROUND ROD. THIS ROD SHALL BE BONDED PER SECTION NUMBER 250-86, N.E.C.
3. CONTRACTOR TO ENSURE CONCRETE POLE BASES ARE POURED / PLACED ABSOLUTELY VERTICAL & LEVEL.
4. POLE BASE SHALL BE ONE CONTINUOUS POUR. EXPOSED PORTION OF BASE SHALL BE HAND-RUBBED SMOOTH.
5. CONTRACTOR TO COMPACT SUBGRADE AROUND POLE BASE PER EARTHWORK SPECIFICATIONS / GEOTECH REPORT.
6. THE INFORMATION ILLUSTRATED IN THE LIGHT POLE FOUNDATION DETAIL HAS BEEN PROVIDED FOR GENERAL REFERENCE AND PRELIMINARY COST ESTIMATE PURPOSES. LIGHT POLE FOUNDATIONS SHOULD BE DESIGNED AND DETAILED BY A LICENSED STRUCTURAL ENGINEER BASED ON EXISTING SOIL CONDITIONS, LOCAL DESIGN STANDARDS AND MANUFACTURERS RECOMMENDATIONS.
7. CONTRACTOR SHALL CONFIRM GROUNDING SYSTEM WITH MEP PRIOR TO BID.

1 LIGHT POLE BASE

NTS



Philips LEDgine Specifications

- 32 or 48 (specify), 4000K (neutral) Philips Lumileds Luxeon T LEDs, typical 75 Color Rendering Index (CRI), >100,000 hours of operational life (at 25°C ambient temperature & 70% lumen maintenance), injection molded Type III optical plates, IP66 rated optical system.
- Integral Philips Advance Xitanium LED driver (mounted in roof), class 1, IP66 rated, 350mA, IntelliVolt 120-277 VAC, 50-60 Hz, RoHS compliant, field replaceable 10kV/10kA surge suppression.
- Manufactured to ISO 9001:2008 standards.
- C0835N & C08350 fixtures as shown is not third party (ETL/UL) listed.

CONFIDENTIAL:
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NOTICE:
This drawing is for reference only. Check for latest revision prior to ordering.

PRODUCT APPROVALS

HADCO	SDK
CUSTOMER	

100 Craftway Drive
Littlestown, Pa 17340
Phone 800-331-4185
Fax 717-359-9289
www.philips.com

PHILIPS HADCO

JOB NAME: Village of Ossining

SCALE:	DATE:	DRAWN BY:	DRAWING NUMBER:
1:8	01/30/18	SMK	C0835-DWG10

REP: Dave Murphy

REV:	PDN:
B	18-002
BY: SMK	DATE: 02/14/18

2 AREA LIGHT FIXTURE

NTS

HADCO

Poles & Brackets

Urban Decorative

P1500 Series Poles

Hadco P1500 Series decorative aluminum poles provide a wide range of options in a timeless aesthetic. All poles are made in the USA and always open to a wide range of add-ons and customizations to meet any project need.

Project:
Location:
Cat.No:
Type:
Qty:
Notes:

Ordering guide

example: P1526 12 B

Product Code	Pole Height	Finish	Accessory Location	Pole Accessories	Tenon Options
P1521	10	A			
P1511	8 8ft	A Black	N No Option	N No Option	N Standard Tenon - 3" OD x 3"
P1516	10 10ft	B White	T 12" Down from Top - Aligned with House Side	D Standard Duplex	ISF Internal Slip Fitter (for HFP Brackets)
P1521	12 12ft	G Verde	B 4" Up from Top of Base - Aligned with House Side	G GFI Duplex	T4 4" OD Tenon or 4" pole w/o standard 3" tenon (consult factory for 3" poles)
P1526	14[1] 14ft	H Bronze	Z Custom	M Motion Control[2]	
P1561	16[1] 16ft	I Gray			
P1566		J Green			
		Z* Custom			

Note: Top outlets not available with the HFP arms. Consult factory for HFP arm outlet mounting.

1. 14ft and 16ft heights only available with P1521 and P1526
2. Consult factory for quotation.

Anchor Bolts & Templates (ordered separately)

12NC	Description
912400110296	ANCHOR BOLT, 1/2-13x15x3, 4/PK
912400128323	AB TEMPLATE, P1500

P1500 Series Poles 11/24 page 1 of 6

BAA BABA

3 AREA LIGHT POLE

NTS

landscapeforms

Tumbler

Specification Sheet

Project Name: _____ Job Location: _____

Fixture Type: _____ Fixture Quantity: _____

Source	LED
Input Voltage	120V-277V
Frequency	50/60 Hz
EPA	0.84 ft²
Weight	14.5 lbs (luminaire only)

The Tumbler luminaire is aluminum extrusion with a natural aluminum powdercoat finish offered
Urbildermis with a clear or opal / diffused tempered glass.

Pole & Wall Mount Luminaire

_____	Product	TML		
_____	LED Configuration	16	24	C (Cob) *
_____	Drive Current	A (350 mA)	B (500 mA)	
_____	Color Temperature	3 (3000K)	2 (4000K)	
_____	Distribution	WF (Wide Flood)	F (Flood)	M (Medium) S (Spot Flood) TR (Type II) TIR (Type III) TIV (Type IV)
_____	Lens	Null (Clear)	O (Opal / Diffused)	
_____	Color	AS (Aluminum Silver)	BK (Black)	

* Cob provides a Wide Flood distribution only.

EXAMPLE: TML – 16 – B – 3 – WF – O – AS

Catenary Luminaire

_____	Product	TML		
_____	LED Configuration	16	24	C (Cob) *
_____	Drive Current	A (350 mA)	B (500 mA)	
_____	Color Temperature	3 (3000K)	2 (4000K)	
_____	Distribution	WF (Wide Flood) *	TR+R (Quad Oval)	TIV (Type V)
_____	Lens	Null (Clear)	O (Opal / Diffused)	
_____	Bracket	C (Catenary)		
_____	Color	AS (Aluminum Silver)	BK (Black)	

* Cob provides a Wide Flood distribution only.

EXAMPLE: TML – 16 – B – 3 – TIV – O – C – BK

Catenary

Page 1 of 2

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4 PLAZA LIGHT FIXTURE

NTS

landscapeforms

Mounting Accessories

_____	Product	TML			
_____	Bracket	01 (Single Column)	02 (Wall)	03 (Catenary) *	04 (Double Column)
_____	Color	AS (Aluminum Silver)	BK (Black)		

* Automatically selected when the catenary luminaire is selected.

EXAMPLE: TML – 01 – BK

Single Column Wall Double Column

Tumbler Aluminum Pole

Height	Pole #	Mounting	Diameter	Wall	Weight
3.4m (11.2 ft)	TMF11F	(1) Single Column Bracket	Straight 4.5"	0.125"	29 lbs
	TMF11P	(1) Double Column Bracket	Straight 4.5"	0.125"	29 lbs
4.2m (13.8 ft)	TMF21F	(2) Single Column Bracket	Straight 4.5"	0.125"	33 lbs
	TMF22F	(2) Single Column Brackets, Staggered Heights, 180° Orientation	Straight 4.5"	0.125"	33 lbs
	TMF21P	(1) Double Column Bracket	Straight 4.5"	0.125"	33 lbs
5.0m (16.4 ft)	TMF31F	(1) Single Column Bracket	Straight 4.5"	0.125"	38 lbs
	TMF32P	(2) Single Column Brackets, Staggered Heights, 180° Orientation	Straight 4.5"	0.125"	38 lbs
	TMF31P	(1) Double Column Bracket	Straight 4.5"	0.125"	38 lbs
6.6m (21.7 ft)	TMF41P	(3) Single Column Brackets, Spiral Configuration, 120° Orientation	Stepped 6" /4.5"	0.188"	80 lbs

* Landscape Forms can provide poles for your catenary project. Contact the factory for more information.

Pole Options

_____	Twist Lock	Null (None)	T (Twist Lock Receptacle)					
_____	Color	BLK (Black)	DSK (Dusk)	MBK (Matte Black)	MER (Mercury) *	SIL (Silver)	SCL (Storm Cloud)	TNM (Titanium)

* Mercury from Landscape Forms is our recommended color match for aluminum silver from Urbildermis.

EXAMPLE: TMF41P – T – MER

Modifications

Don't see what you are looking for? Our goal is to partner with you as the designer to manufacture solutions needed for the space you are creating. We offer the option to modify our standard product to meet certain design specifications or needs. Common modifications can include GCFI outlets, custom RAL colors, banner arm(s) mounting, and custom pole heights. Contact your local Landscape Forms representative to learn more about these offerings.

Notes

Please send completed forms to your Landscape Forms representative or contact us at (800) 430-6209 with any questions.

Page 2 of 2

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5 PLAZA LIGHT POLE

NTS

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PROFESSIONAL SEAL

LICENSE EXPIRATION DATE: 06/30/2025

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PROJECT NO.

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

NO.	DESCRIPTION	DATE

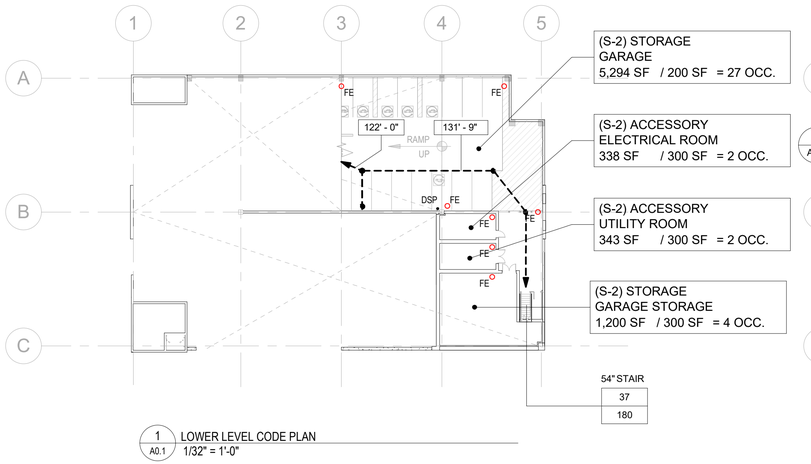
NORTH

DRAWN: AC
REVIEWED: KM
DATE:

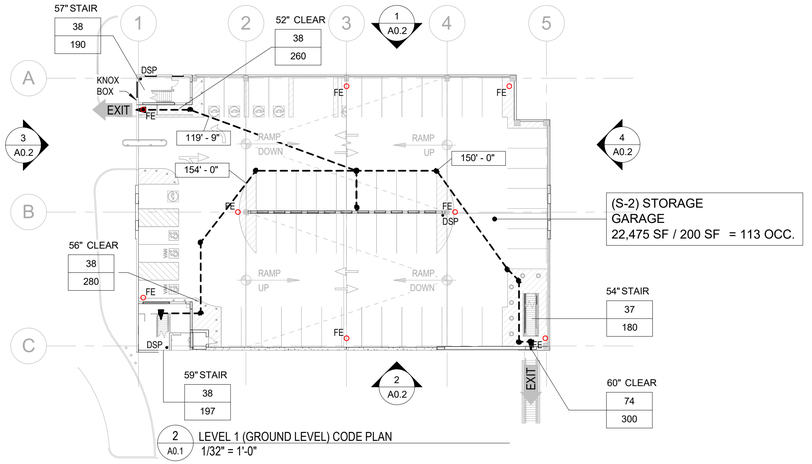
SHEET TITLE:
SITE LIGHTING NOTES & DETAILS

SHEET NO.

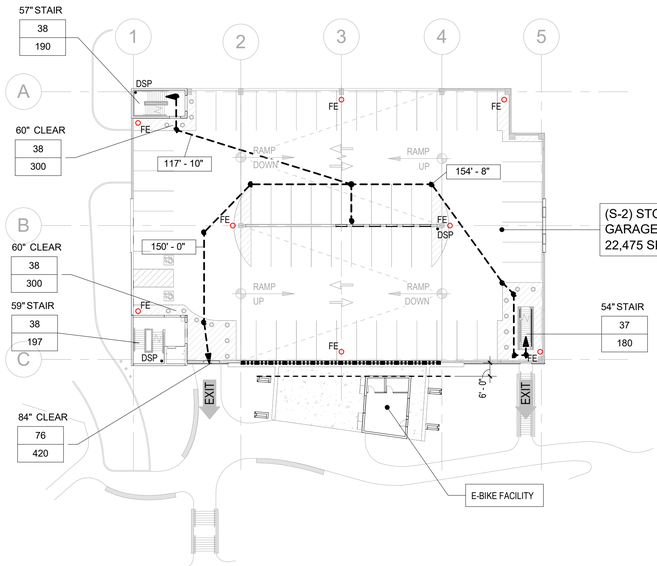
L6.0



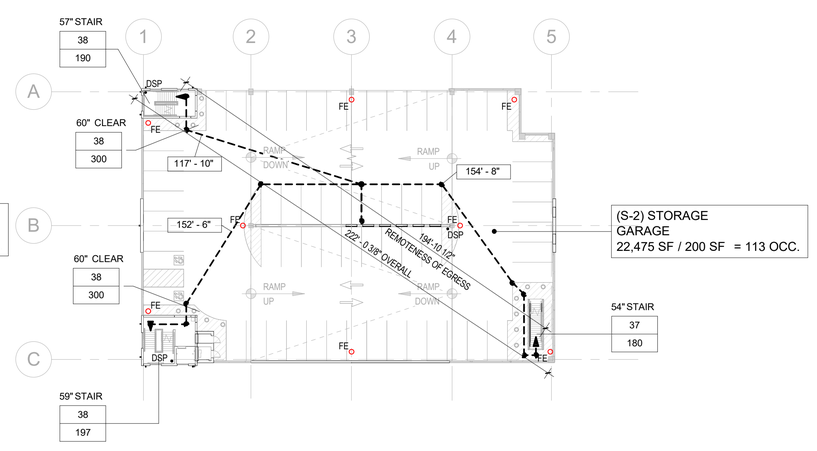
1 A0.1 LOWER LEVEL CODE PLAN
1/32" = 1'-0"



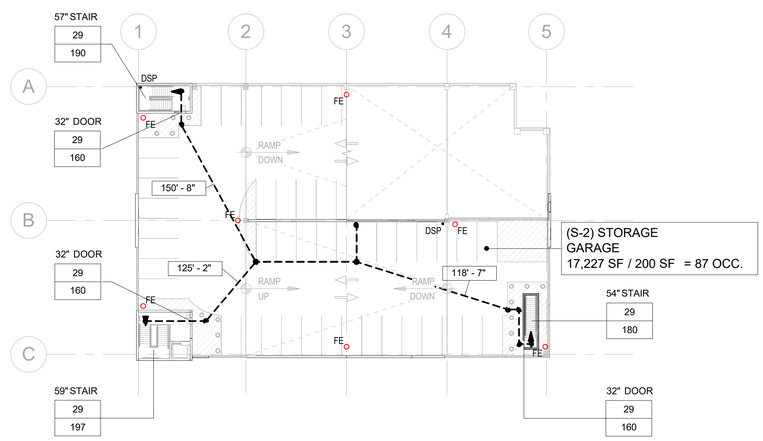
2 A0.1 LEVEL 1 (GROUND LEVEL) CODE PLAN
1/32" = 1'-0"



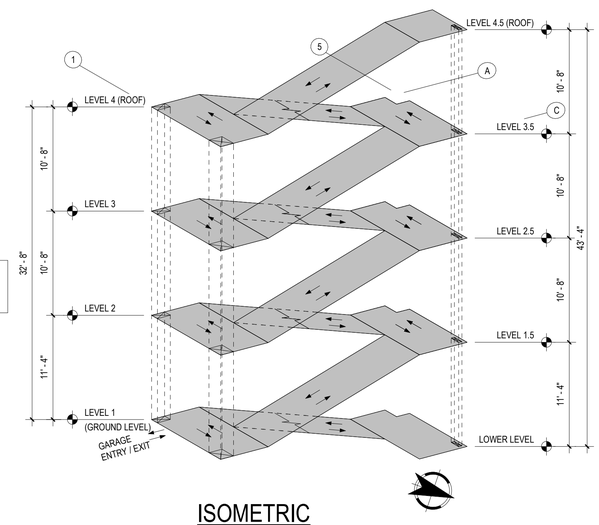
3 A0.1 LEVEL 2 CODE PLAN
1/32" = 1'-0"



4 A0.1 LEVEL 3 CODE PLAN
1/32" = 1'-0"



5 A0.1 LEVEL 4 (ROOF) CODE PLAN
1/32" = 1'-0"



ISOMETRIC

CODE PLAN LEGEND

- MEANS OF EGRESS PATH OF TRAVEL
- EXIT — MEANS OF EGRESS DISCHARGE LOCATION
- XXX'-XX" — MEANS OF EGRESS TRAVEL DISTANCE
- FE — PORTABLE FIRE EXTINGUISHER W/CABINET LOCATION (ALL OCCUPIED ROOMS HAVE F.E.), SEE DETAIL 9/A1.4
- DSP — DRY STANDPIPE (SEE FIRE PROTECTION DWG'S)
- DOOR OR STAIR CLEARANCE
- xx" OPEN
- xx — OCCUPANT CAPACITY REQ'D
- xx — OCCUPANT CAPACITY PROVIDED
- 1 HR FIRE-RESISTANCE RATING
- 2 HR FIRE-RESISTANCE RATING
- FIRE SEPARATION DISTANCE

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PROJECT NO.
PCNY0323.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

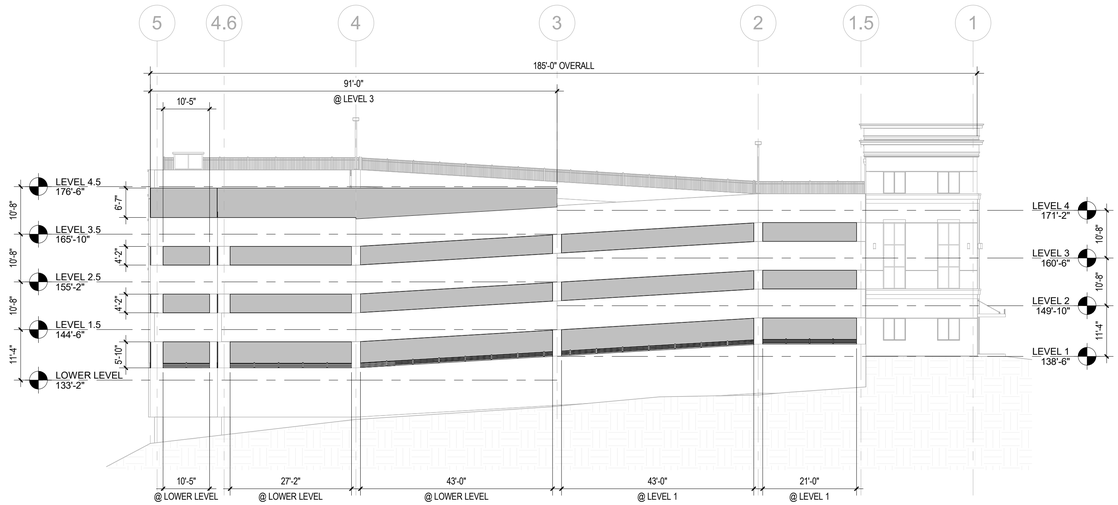
NO.	DESCRIPTION	DATE

DRAWN: VJ
REVIEWED: RP
DATE: 02.21.25

NORTH

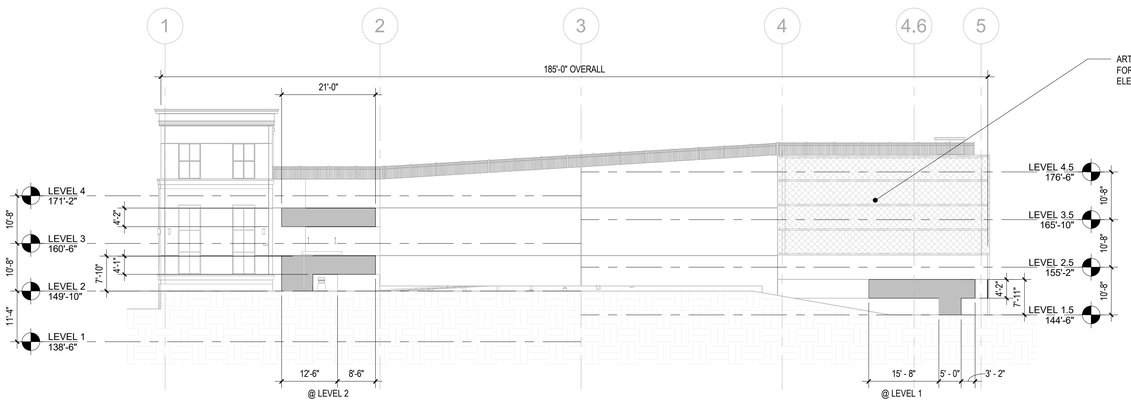
SHEET TITLE:
LIFE SAFETY PLANS

SHEET NO.
A0.1



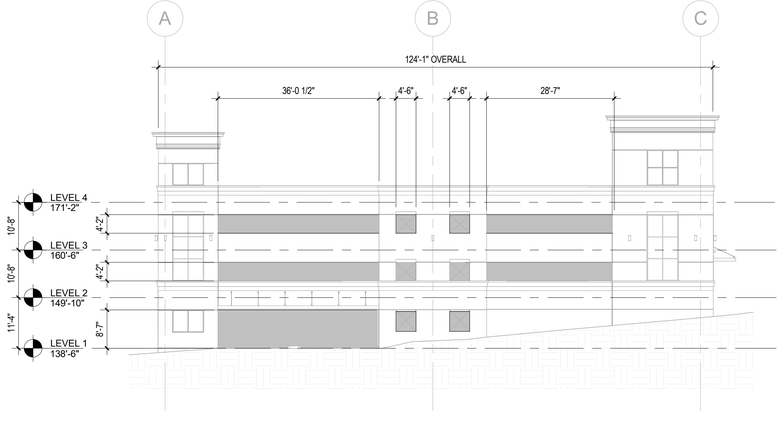
1 A0.2 WEST ELEVATION - OPENNESS ANALYSIS
1/16" = 1'-0"

OPEN AREA	LINEAR LENGTH
LEVEL 3	
820 SF	155'-0"
LEVEL 2	
601 SF	144'-7"
LEVEL 1 (GROUND)	
685 SF	144'-7"
LOWER LEVEL	
438 SF	80'-7"



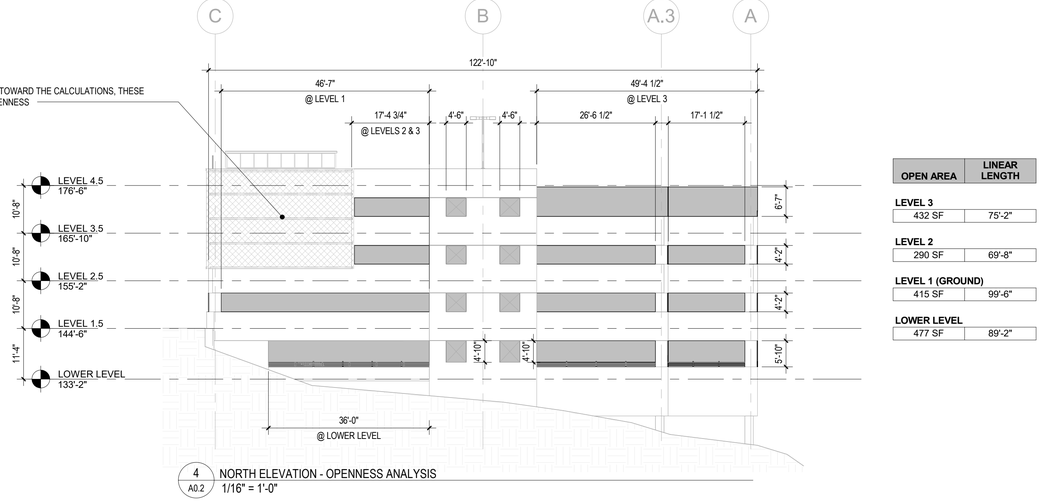
2 A0.2 EAST ELEVATION - OPENNESS ANALYSIS
1/16" = 1'-0"

OPEN AREA	LINEAR LENGTH
LEVEL 3	
88 SF	21'-0"
LEVEL 2	
114 SF	21'-0"
LEVEL 1 (GROUND)	
118 SF	23'-10"



3 A0.2 SOUTH ELEVATION - OPENNESS ANALYSIS
1/16" = 1'-0"

OPEN AREA	LINEAR LENGTH
LEVEL 3	
305 SF	74'-1"
LEVEL 2	
305 SF	74'-1"
LEVEL 1 (GROUND)	
350 SF	45'-6"



4 A0.2 NORTH ELEVATION - OPENNESS ANALYSIS
1/16" = 1'-0"

OPEN AREA	LINEAR LENGTH
LEVEL 3	
432 SF	75'-2"
LEVEL 2	
290 SF	69'-8"
LEVEL 1 (GROUND)	
415 SF	99'-6"
LOWER LEVEL	
477 SF	89'-2"

OPENNESS CALCULATIONS

	OPEN AREA CALCULATIONS				DISTRIBUTION OF OPENINGS CALCULATIONS			
	TOTAL WALL AREA (SF)	REQ'D SF OPEN (20% OF TOTAL)	PROVIDED SF OPEN	PROVIDED REQ'D	TOTAL LEVEL PERIMETER	REQ'D LN FT OPEN (40% OF TOTAL)	TOTAL LEVEL PERIMETER	PROVIDED REQ'D
LEVEL 3	6,387 SF	1,277 SF	1,644 SF	COMPLIES	618'-9"	247'-6"	325'-3"	COMPLIES
LEVEL 2	6,388 SF	1,278 SF	1,311 SF	COMPLIES	618'-10"	247'-6"	309'-4"	COMPLIES
LEVEL 1 (GROUND)	6,800 SF	1,360 SF	1,567 SF	COMPLIES	618'-9"	247'-6"	313'-5"	COMPLIES
LOWER LEVEL	4,412 SF	882 SF	916 SF	COMPLIES	409'-10"	163'-11"	169'-9"	COMPLIES

OPENNESS ELEVATION LEGEND

= NO INFILL 100% OPEN

= ART PANEL 0% OPEN

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02.21.25

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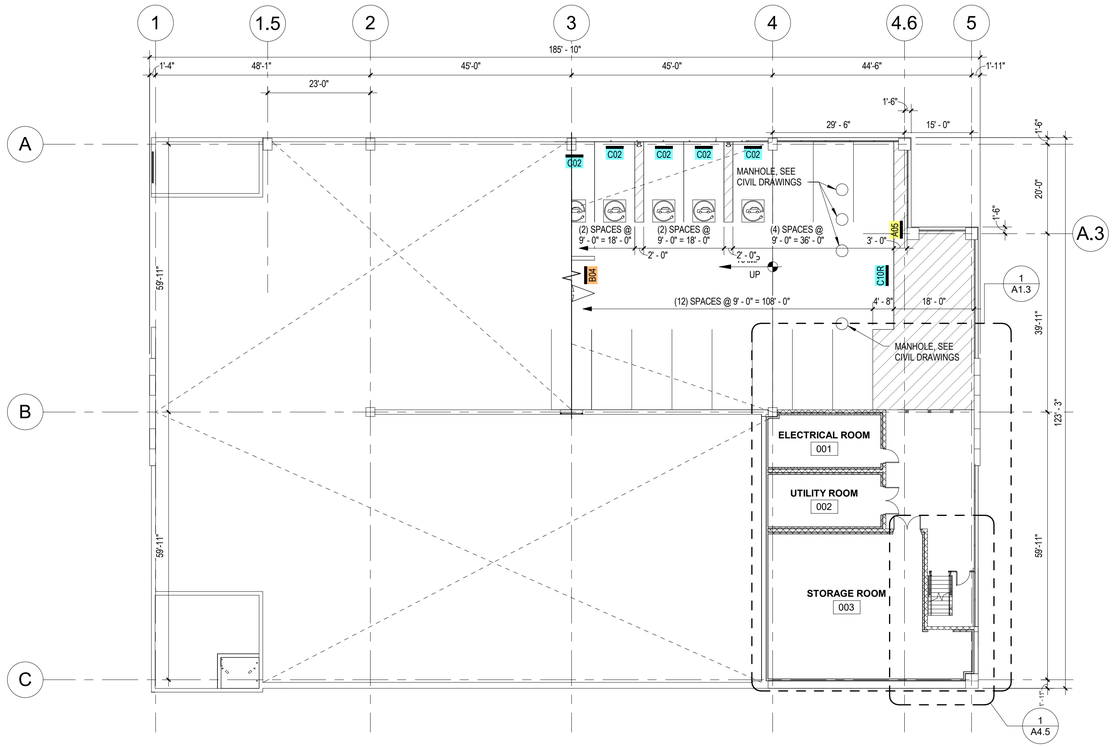
DRAWN: VJ
REVIEWED: RP
DATE: 02.21.25

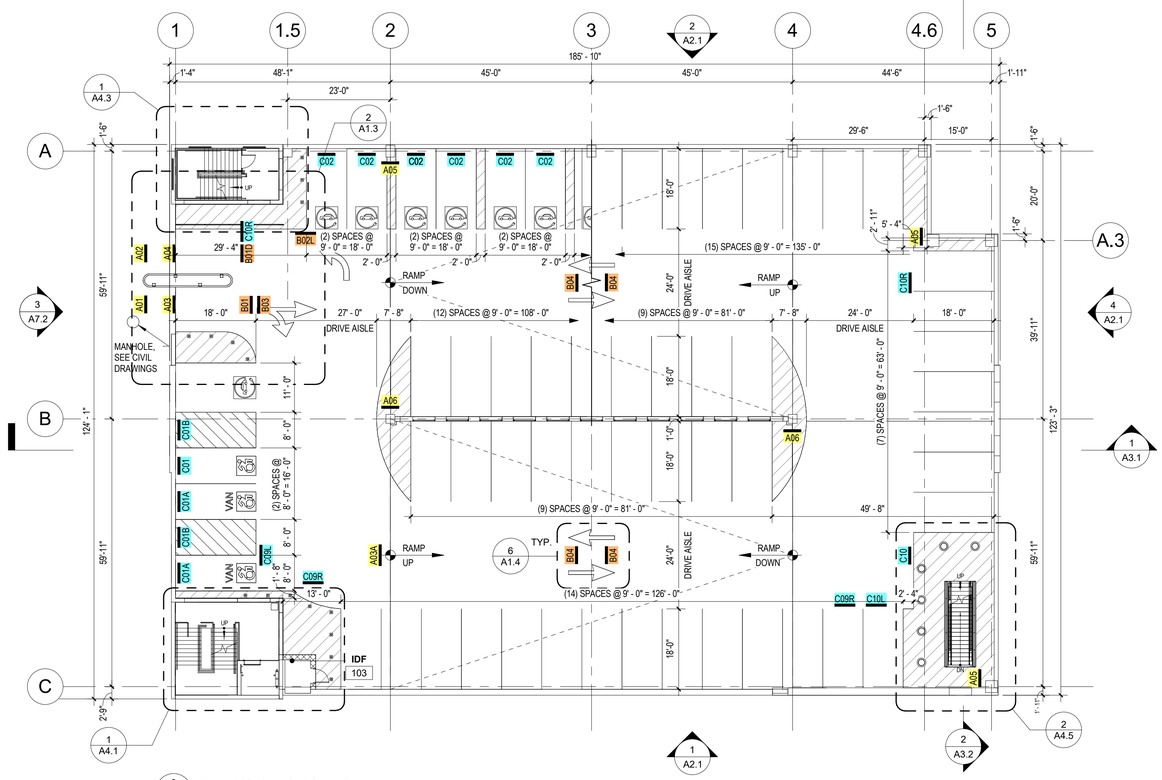
NORTH

SHEET TITLE:
OPENNESS ANALYSIS

SHEET NO.
A0.2



1 A1.1 LOWER LEVEL ARCHITECTURAL PLAN
1/16" = 1'-0"



2 A1.1 LEVEL 1 (GROUND) ARCHITECTURAL PLAN
1/16" = 1'-0"

PLAN LEGEND

	PIPE BOLLARD
	FLEXIBLE DELINEATOR
	PRECAST BOLLARD
	ACCESSIBLE PARKING SPACE
	4" WIDE STRIPES PAINTED @ 1'-6" O.C.
	PAINTED FLOOR ARROW
102	DOOR NUMBER, SEE DOOR SCHEDULE
1.1	WALL TAG
1.1	RATED WALL TAG
C#	CONSTRUCTION KEYNOTE TAG
XXX XXX	SIGNAGE KEYNOTE, SEE SHEETS GX.X - GX.X FOR SCHEDULE AND RELATED DETIALS

PARKING SPACE TABULATION

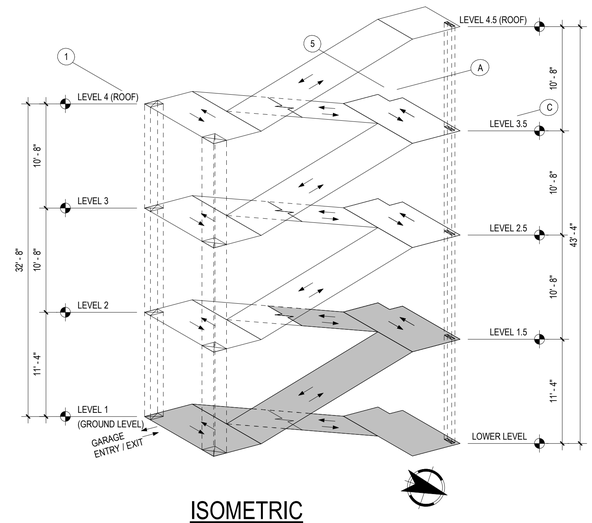
GARAGE LEVEL	STANDARD	ELECTRIC	ADA	ADA VAN	TOTAL
LEVEL 4	47	0	0	0	**47**
LEVEL 3	60	0	2	0	**62**
LEVEL 2	59	0	2	0	**61**
LEVEL 1	47	7	1	2	**57**
LOWER LEVEL	10	5	0	0	**15**
TOTAL SPACES	**223**	**12**	**5**	**2**	**242**

GENERAL NOTES

TYPICAL PARKING SPACE SIZE: 18'-0"L X 9'-0"W

TYPICAL ADA PARKING SPACE SIZE: 18'-0"L X 8'-0"W

5% OF TOTAL SPACES ARE ALLOCATED AS ELECTRIC VEHICLE CHARGING SPACES (5% OF 246 = 12)



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PROJECT NO.
PCNY0323.00

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

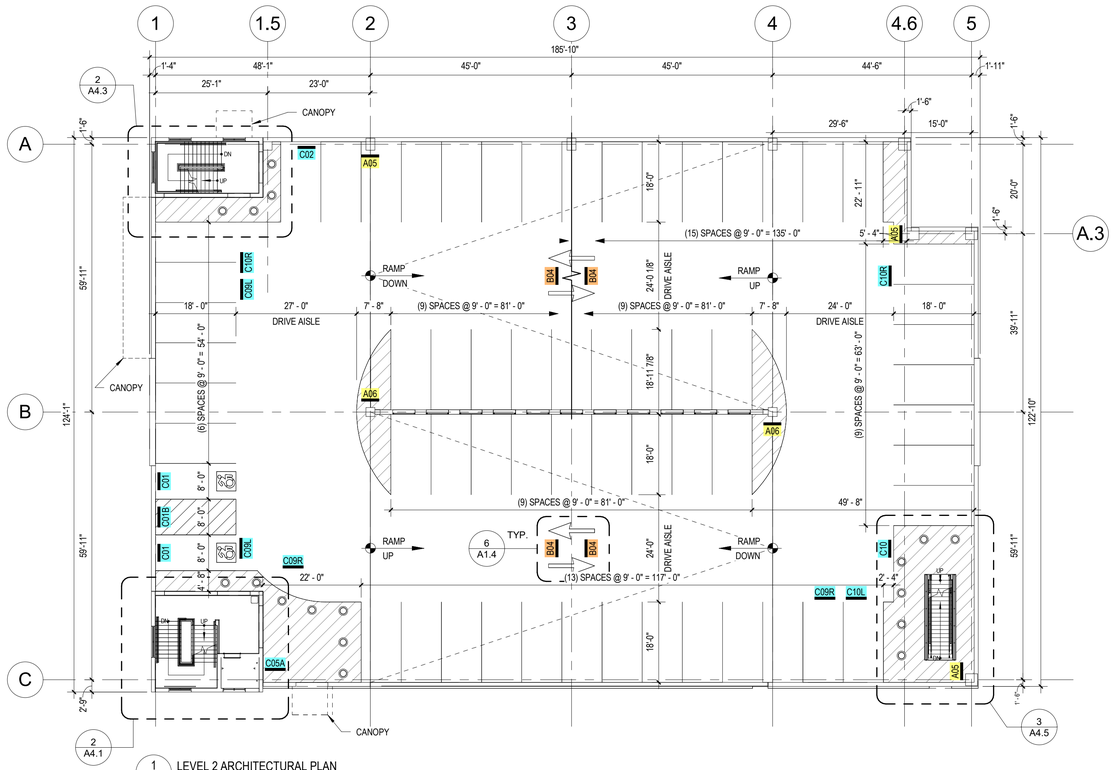
NO.	DESCRIPTION	DATE

NORTH

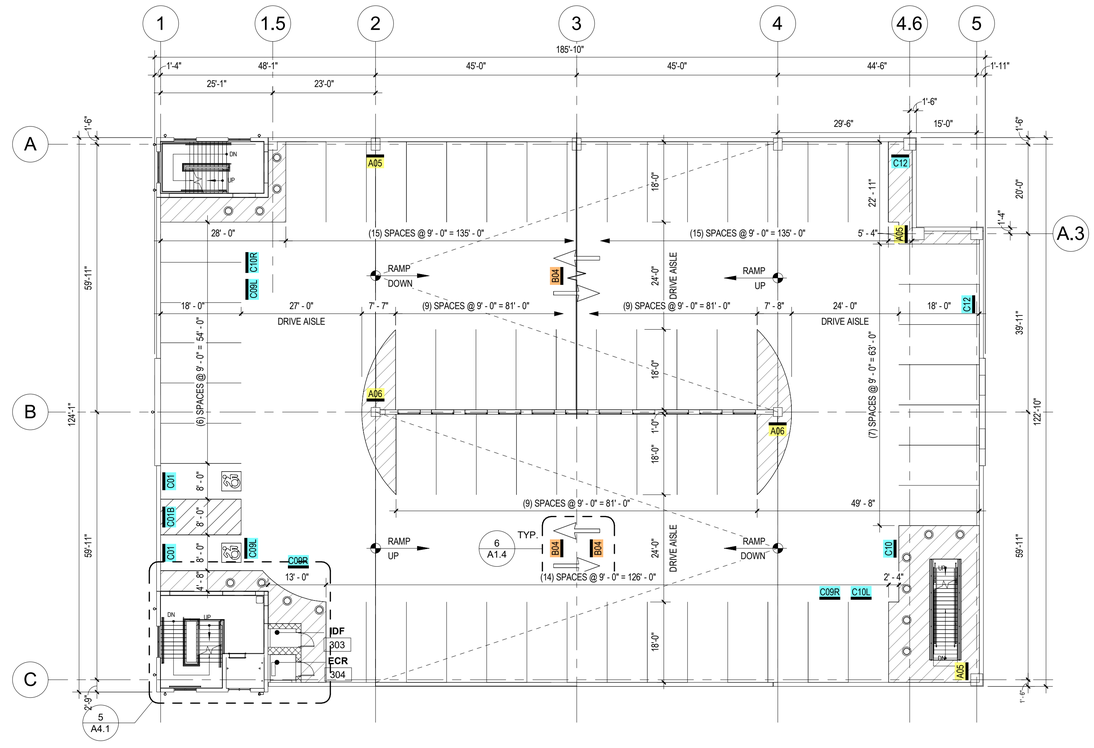
DRAWN: VJ
REVIEWED: RP
DATE: 02.21.25

SHEET TITLE:
LOWER LEVEL & LEVEL 1 (GROUND) ARCHITECTURAL PLANS

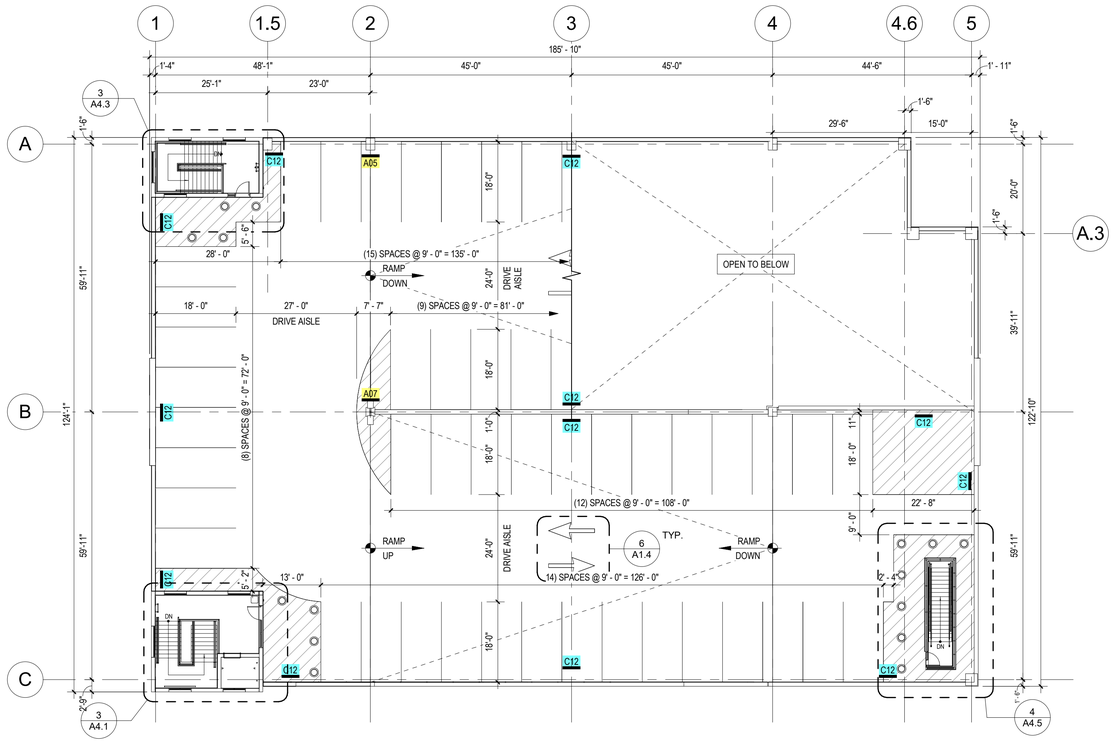
SHEET NO.
A1.1



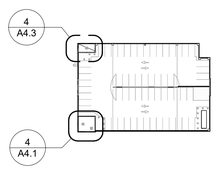
1 A1.2 LEVEL 2 ARCHITECTURAL PLAN
1/16" = 1'-0"



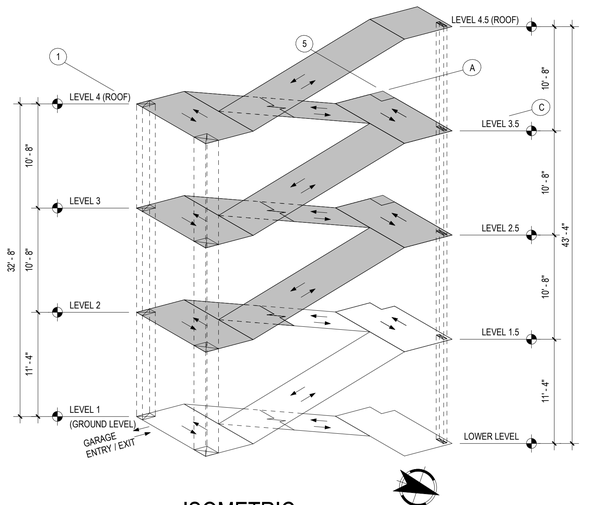
2 A1.2 LEVEL 3 ARCHITECTURAL PLAN
1/16" = 1'-0"



3 A1.2 LEVEL 4 (ROOF) ARCHITECTURAL PLAN
1/16" = 1'-0"



ROOF REFERENCE PLAN



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PLAN LEGEND

- PIPE BOLLARD
- FLEXIBLE DELINEATOR
- PRECAST BOLLARD
- ACCESSIBLE PARKING SPACE
- 4" WIDE STRIPES PAINTED @ 1'-6" O.C.
- PAINTED FLOOR ARROW
- 102 — DOOR NUMBER, SEE DOOR SCHEDULE
- 1.1 — WALL TAG
- 1.1 — RATED WALL TAG
- C# # — CONSTRUCTION KEYNOTE TAG
- XXX / XXX — SIGNAGE KEYNOTE, SEE SHEETS GX.X - GX.X FOR SCHEDULE AND RELATED DETIALS

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02.21.25

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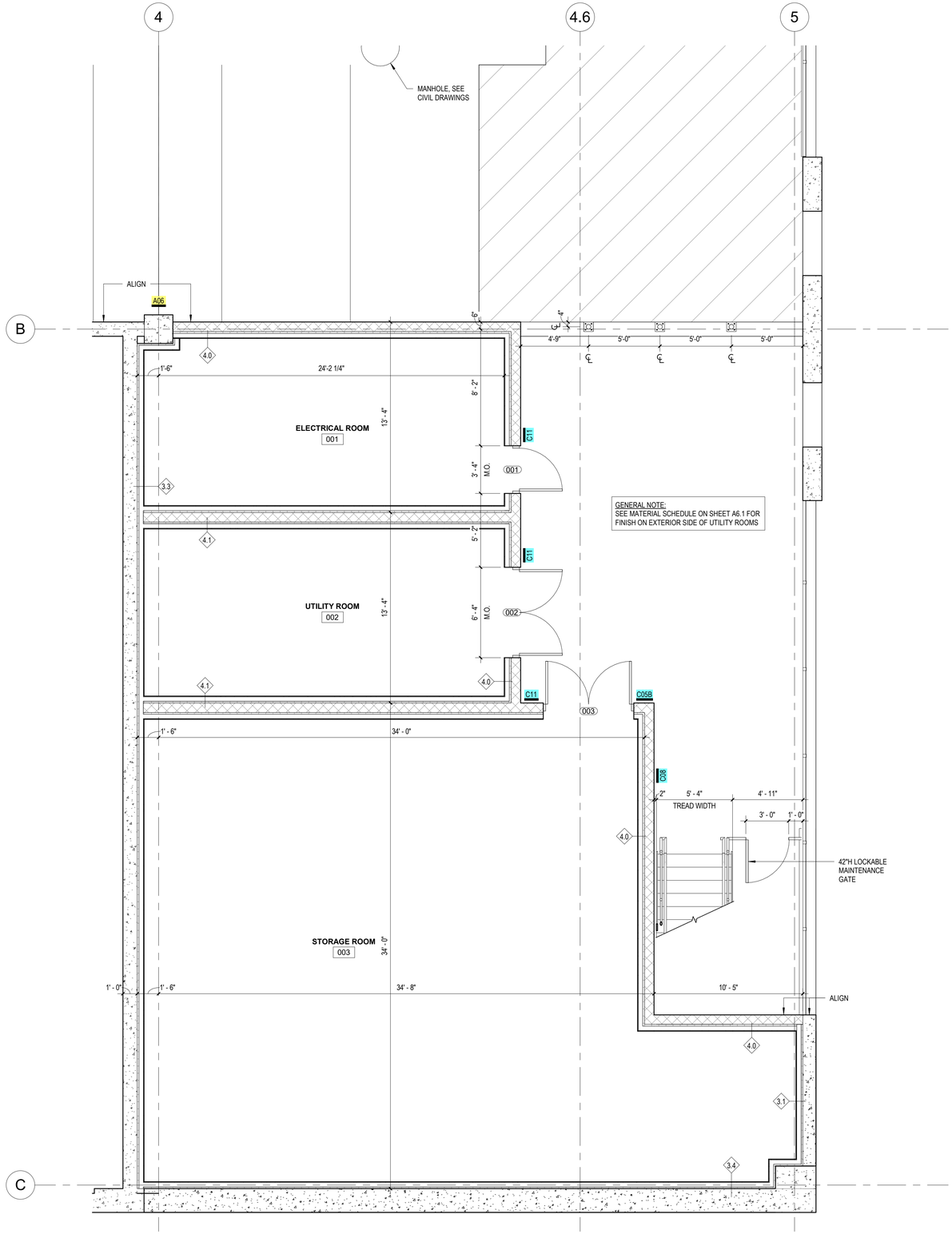
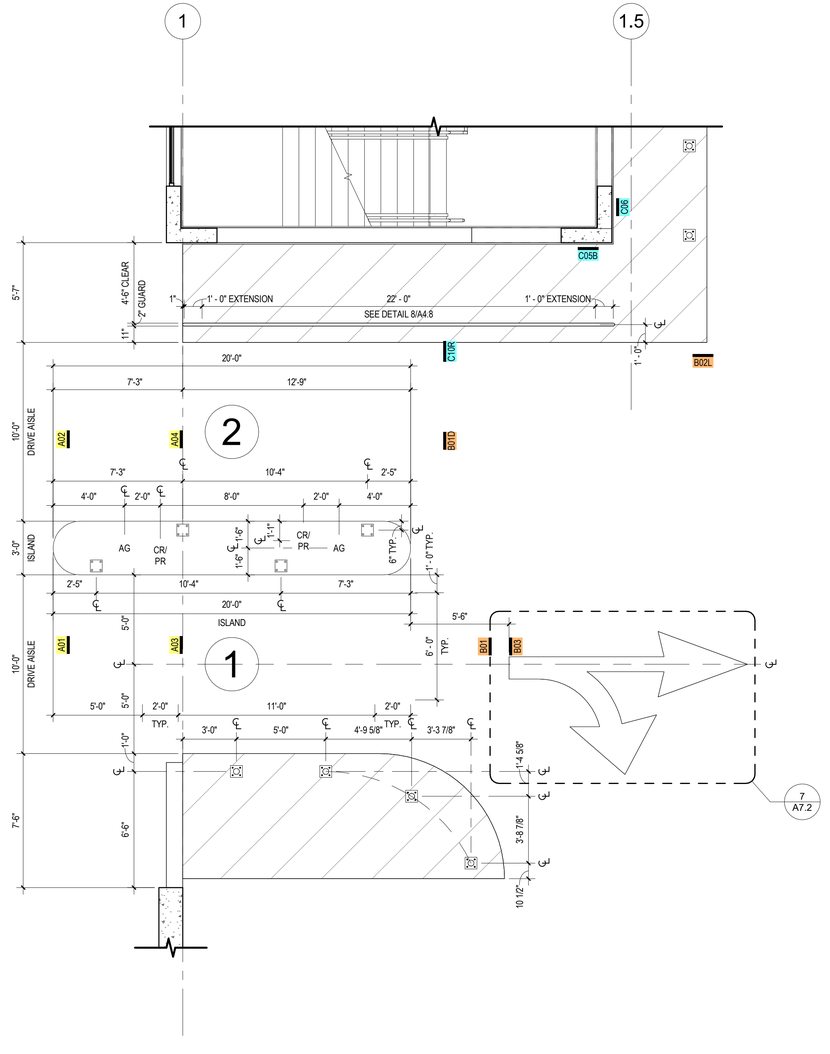
REVIEWED: RP
DATE: 02.21.25

SHEET TITLE:
LEVELS 2 - 4 ARCHITECTURAL PLANS

SHEET NO.
A1.2



1 A1.3 LOWER LEVEL ENLARGED PLAN
1/4" = 1'-0"



2 A1.3 ENTRY/EXIT ENLARGED PLAN
1/4" = 1'-0"

PARKING CONTROL EQUIPMENT LEGEND

- AG — AUTOMATIC GATE
- CR/PR — PROXIMITY CARD READER
- CR — CARD READER
- PR — PROXIMITY CARD READER
- DETECTOR LOOP
- (1) — LANE NUMBER (FOR REFERENCE ONLY, DO NOT PAINT)

NOTE: VERIFY C.I.P. ISLAND AND EQUIPMENT LOCATIONS WITH ARCHITECT PRIOR TO PLACING CONCRETE OR CONDUIT ROUGH-INS

KEYNOTE LEGEND

- C# — CONSTRUCTION KEYNOTE TAG
- 1.1 — WALL TAG
- 1.1 — RATED WALL TAG
- Room Name / 100A — ROOM NUMBER
- 11 / 1'-0" — CEILING HEIGHT A.F.F. / CEILING MATERIAL
- PNT-X — FINISH FULL HEIGHT WALL
- PNT-X / PTN-X — FINISH FROM 3'-6" AFF TO BOTTOM OF DECK / FINISH FROM TOP OF DECK TO 3'-6" AFF
- NEW WALL
- XXX / XXX — SIGNAGE KEYNOTE, SEE SHEETS GX.X - GX.X FOR SCHEDULE AND RELATED DETIALS

CONSTRUCTION KEYNOTES

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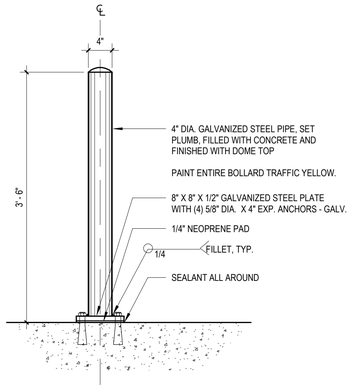
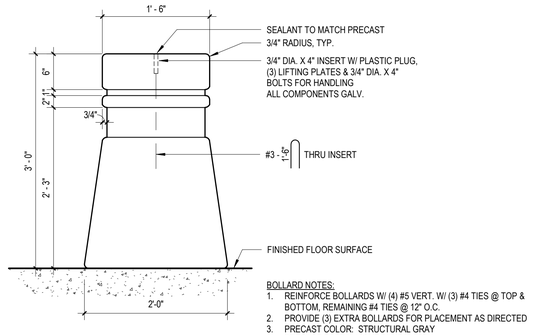
SHEET TITLE:
ENLARGED ARCHITECTURAL PLANS

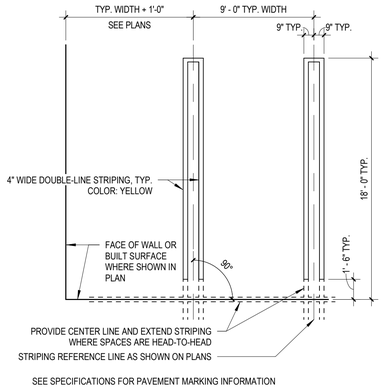
SHEET NO.
A1.3



1 A1.4 STEEL PIPE BOLLARD DETAIL
1" = 1'-0"

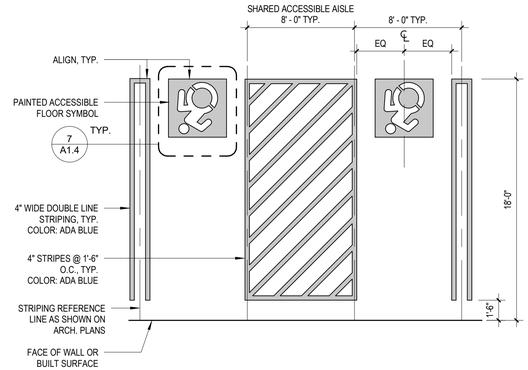


2 A1.4 PRECAST BOLLARD DETAIL
1" = 1'-0"



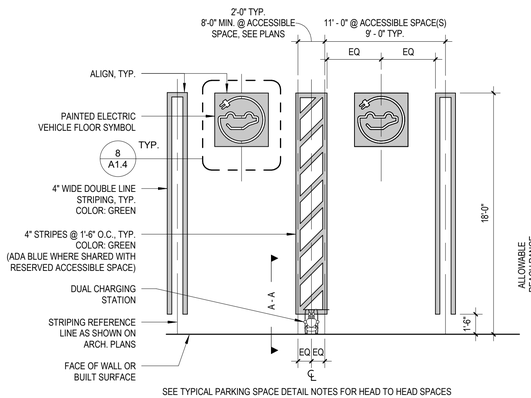
SEE SPECIFICATIONS FOR PAVEMENT MARKING INFORMATION

3 A1.4 PARKING STRIPING DETAIL
3/16" = 1'-0"



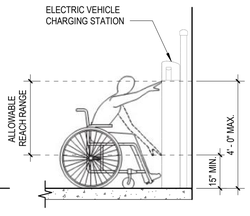
SEE TYPICAL PARKING SPACE DETAIL NOTES FOR HEAD TO HEAD SPACES
SEE SPECIFICATIONS FOR PAVEMENT MARKING INFORMATION

4 A1.4 PARKING STRIPING DETAIL - ACCESSIBLE
3/16" = 1'-0"



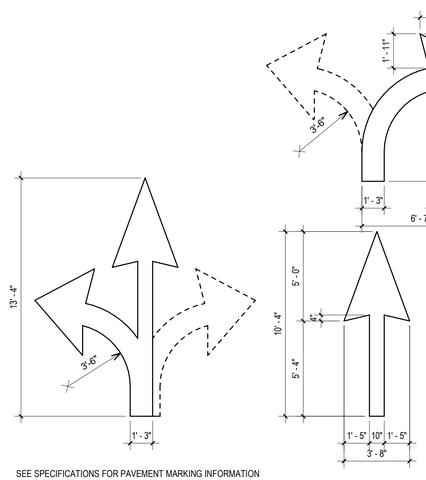
SEE TYPICAL PARKING SPACE DETAIL NOTES FOR HEAD TO HEAD SPACES
SEE SPECIFICATIONS FOR PAVEMENT MARKING INFORMATION

5 A1.4 PARKING STRIPING DETAIL - ELECTRIC VEHICLES
3/16" = 1'-0"



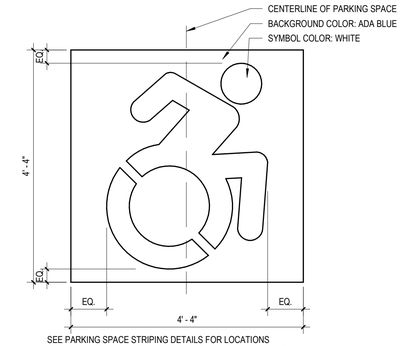
PER 2009 ICC A117.1, SECTIONS 308 & 309

A - A



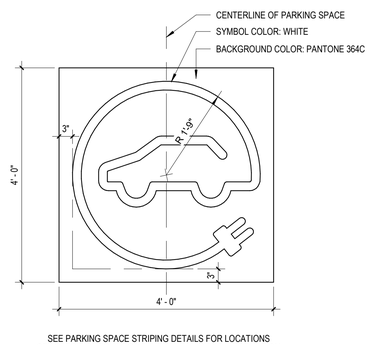
SEE SPECIFICATIONS FOR PAVEMENT MARKING INFORMATION
COLOR: YELLOW

6 A1.4 PAINTED FLOOR ARROW DETAILS
1/4" = 1'-0"



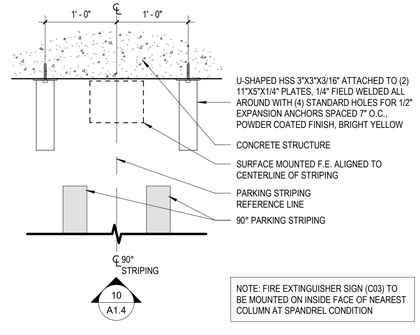
SEE PARKING SPACE STRIPING DETAILS FOR LOCATIONS
SEE SPECIFICATIONS FOR PAVEMENT MARKING INFORMATION

7 A1.4 PAINTED INTERNATIONAL SYMBOL OF ACCESS DETAIL
3/4" = 1'-0"



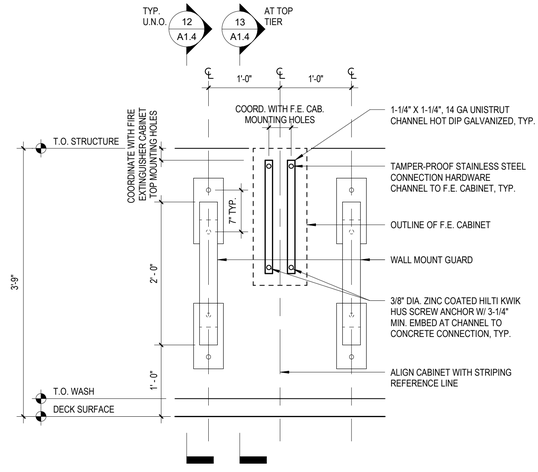
SEE PARKING SPACE STRIPING DETAILS FOR LOCATIONS
SEE SPECIFICATIONS FOR PAVEMENT MARKING INFORMATION

8 A1.4 PAINTED EV VEHICLE SYMBOL
3/4" = 1'-0"

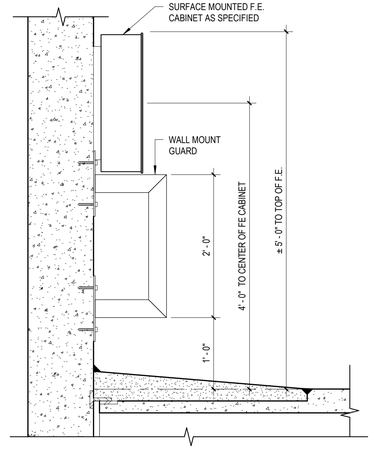


NOTE: FIRE EXTINGUISHER SIGN (C03) TO BE MOUNTED ON INSIDE FACE OF NEAREST COLUMN AT SPANDREL CONDITION

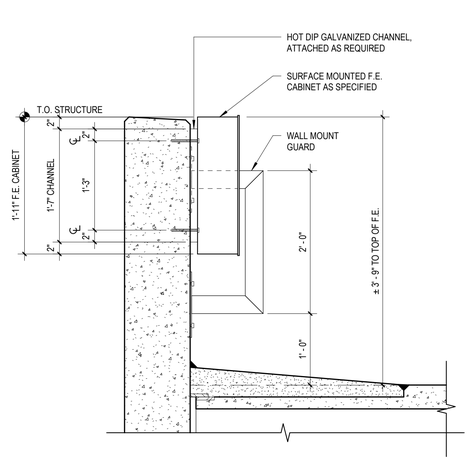
9 A1.4 FIRE EXTINGUISHER (FE) CABINET MOUNTING PLAN DETAIL
1" = 1'-0"



10 A1.4 FIRE EXTINGUISHER (FE) CABINET MOUNTING ELEVATION DETAIL
1" = 1'-0"



12 A1.4 FIRE EXTINGUISHER (FE) CABINET MOUNTING DETAIL - TYPICAL
1" = 1'-0"



13 A1.4 FIRE EXTINGUISHER (FE) CABINET MOUNTING DETAIL - AT TOP TIER
1" = 1'-0"

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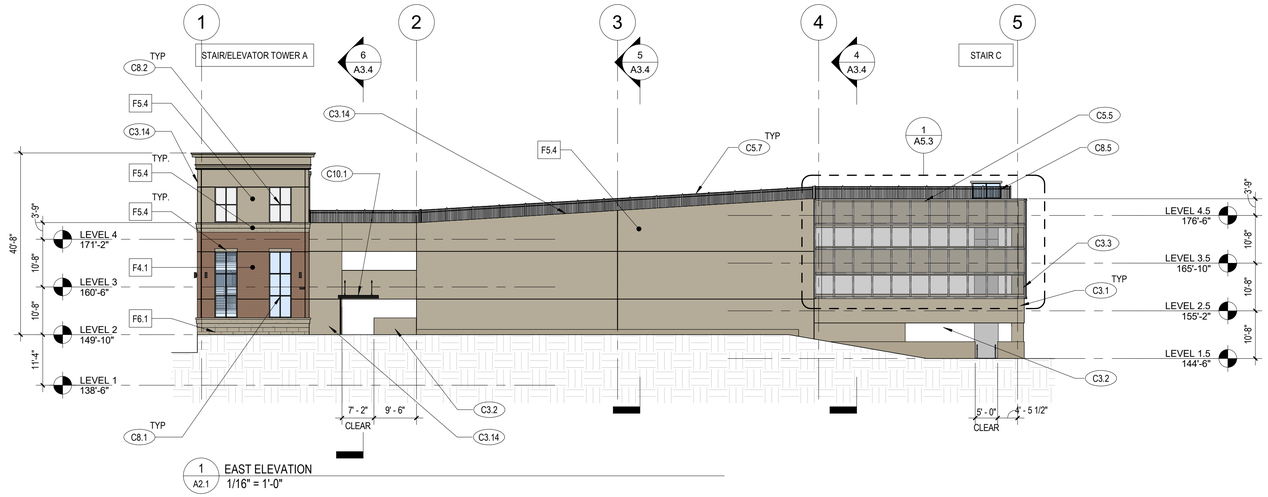
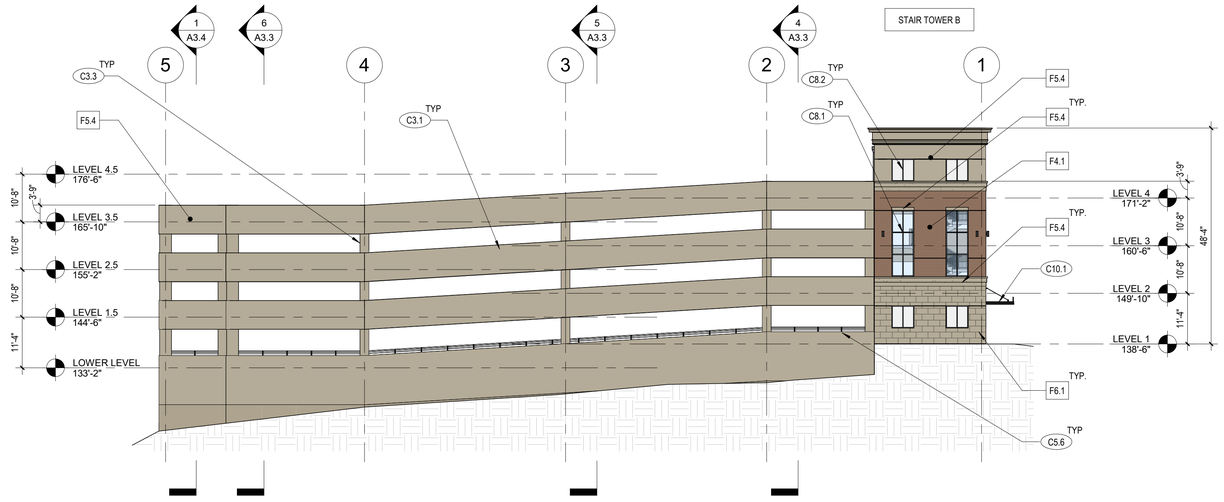
NORTH

SHEET TITLE:
ARCHITECTURAL PLAN DETAILS

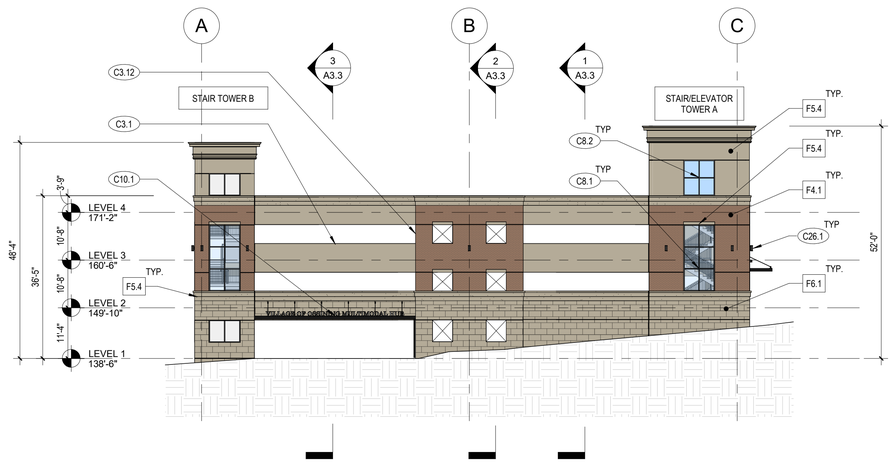
SHEET NO.
A1.4



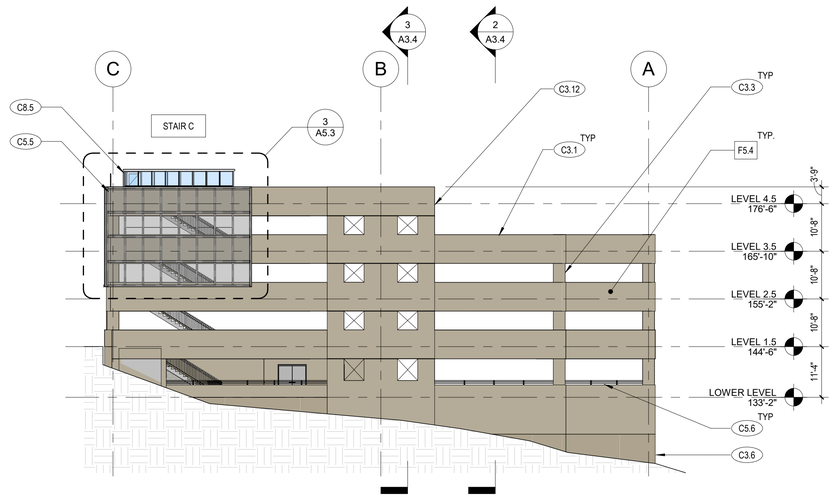
1 A2.1 EAST ELEVATION
1/16" = 1'-0"



2 A2.1 WEST ELEVATION
1/16" = 1'-0"



3 A2.1 SOUTH ELEVATION
1/16" = 1'-0"



4 A2.1 NORTH ELEVATION
1/16" = 1'-0"

CONSTRUCTION KEYNOTES	
C3.1	PRECAST SPANDREL
C3.2	GRADE SPANDREL
C3.3	PRECAST CONCRETE COLUMN, TYP.
C3.6	CAST IN PLACE WALL, TYP.
C3.12	PRECAST SHEAR WALL
C3.14	PRECAST STACK WALL
C5.5	ART PANEL, TYP.
C5.6	GUARDRAIL ASSEMBLY AT GRADE SPANDREL
C5.7	6' - 0" SECURITY FENCING
C8.1	ALUMINUM CURTAIN WALL SYSTEM, TYP.
C8.2	ALUMINUM STOREFRONT SYSTEM, TYP.
C8.5	ROOF LEVEL STAIR ENCLOSURE
C10.1	METAL CANOPY W/ DOWNSPOUT
C26.1	WALL SCONCE

KEYNOTE LEGEND	
C#.#	CONSTRUCTION KEYNOTE TAG
F#.#	MATERIAL FINISH KEYNOTE TAG
<G-#>	GLAZING KEYNOTE TAG

ELEVATION FINISH LEGEND			
MARK	DESCRIPTION	COLOR	FINISH
F1.1	PRECAST CONCRETE TYPE A	PCI COLOR #111	LIGHT SANDBLAST
F2.1	CAST IN PLACE TYPE	SEE SPECS	SEE SPECS
F3.1	CONCRETE MASONRY UNIT	WESTBROOK GROUND FACE - 351	
F4.1	BRICK VENEER TYPE A	SUMMITVILLE 95 NEW BEDFORD	
F5.4	PRECAST CONCRETE TYPE A	PCI COLOR #111	LIGHT SANDBLAST
F6.1	PRECAST CONCRETE TYPE B	PCI COLOR #219	ARCHITECTURAL POLYMERS #892 12" QUARRY STONE

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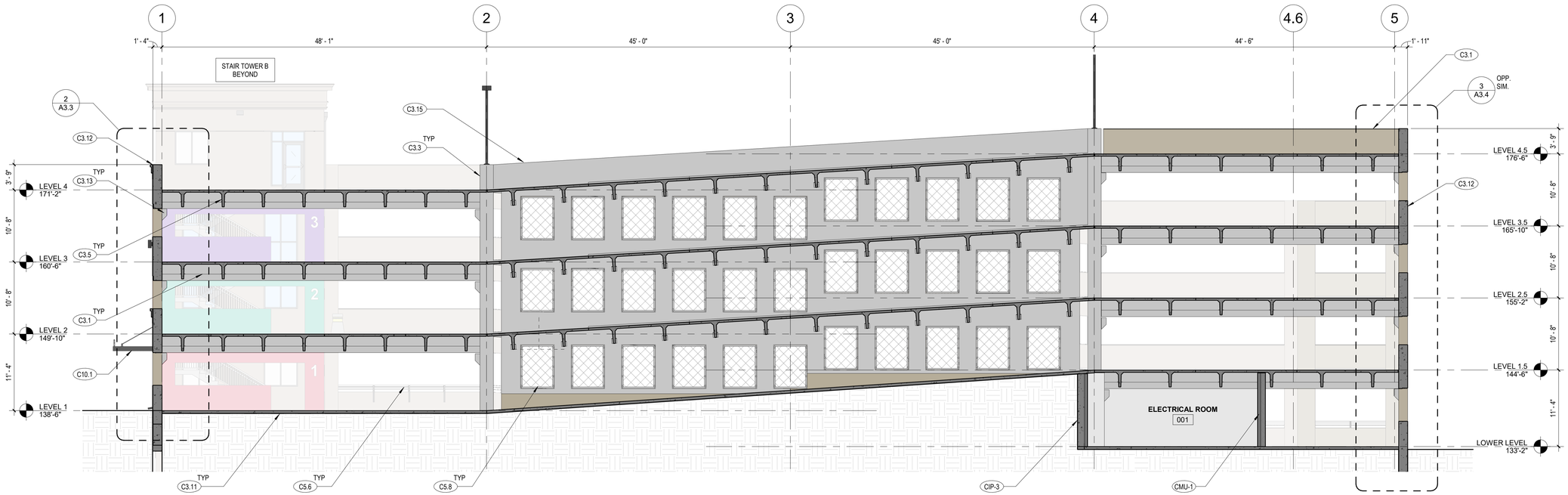
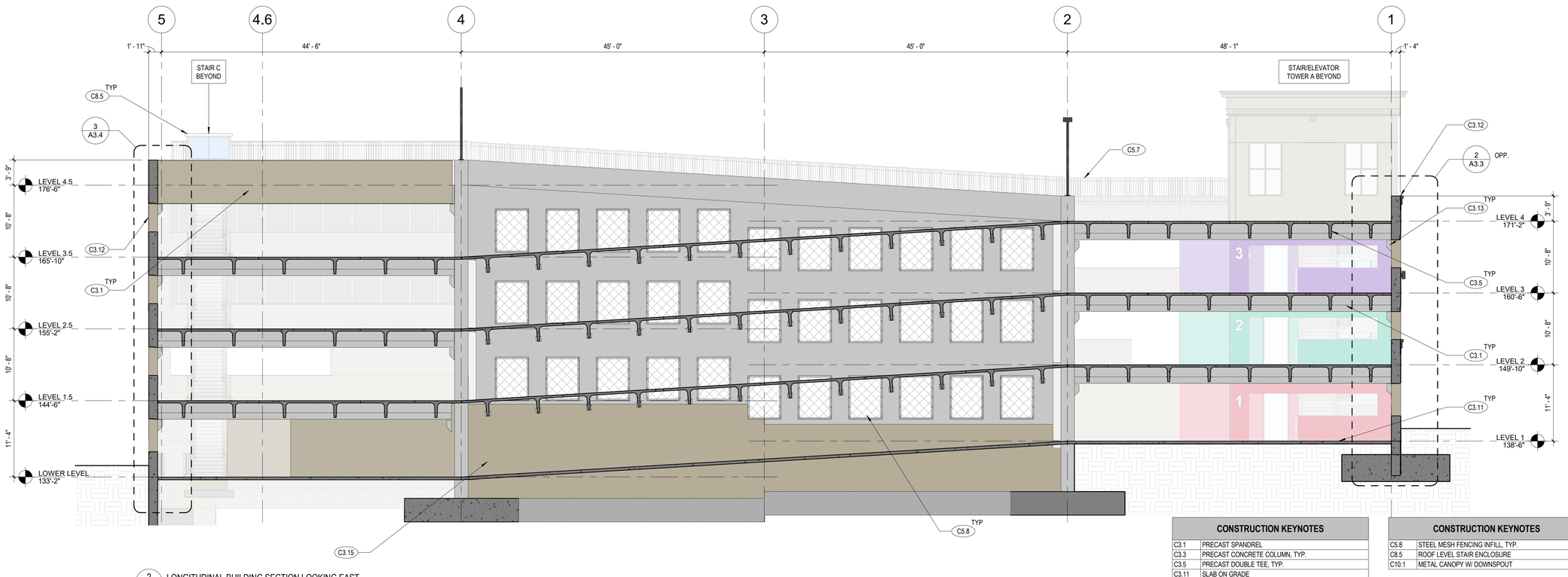
SHEET TITLE:
BUILDING ELEVATIONS

SHEET NO.
A2.1



1 A3.1 LONGITUDINAL BUILDING SECTION LOOKING WEST
1/8" = 1'-0"



2 A3.1 LONGITUDINAL BUILDING SECTION LOOKING EAST
1/8" = 1'-0"

CONSTRUCTION KEYNOTES	
C3.1	PRECAST SPANDREL
C3.3	PRECAST CONCRETE COLUMN, TYP.
C3.5	PRECAST DOUBLE TEE, TYP.
C3.11	SLAB ON GRADE
C3.12	PRECAST SHEAR WALL
C3.13	PRECAST HAUNCH, TYP.
C3.15	PRECAST LIGHT WALL
C5.6	GUARDRAIL ASSEMBLY AT GRADE SPANDREL
C5.7	6' - 0" SECURITY FENCING

CONSTRUCTION KEYNOTES	
C5.8	STEEL MESH FENCING INFILL, TYP.
C8.5	ROOF LEVEL STAIR ENCLOSURE
C10.1	METAL CANOPY W/ DOWNSPOUT

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PROJECT NO.
PCNY0323.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

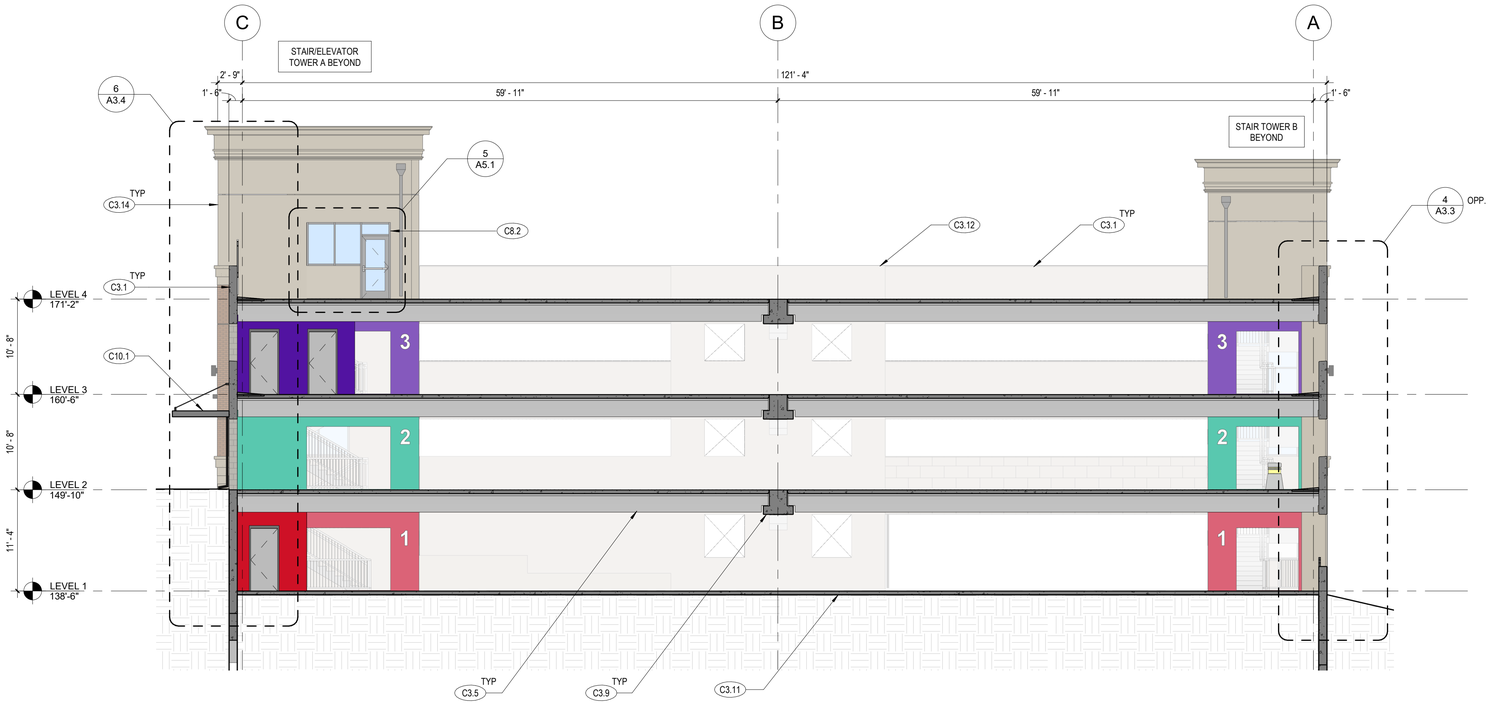
NO.	DESCRIPTION	DATE

DRAWN: VJ
REVIEWED: RP
DATE: 02.21.25

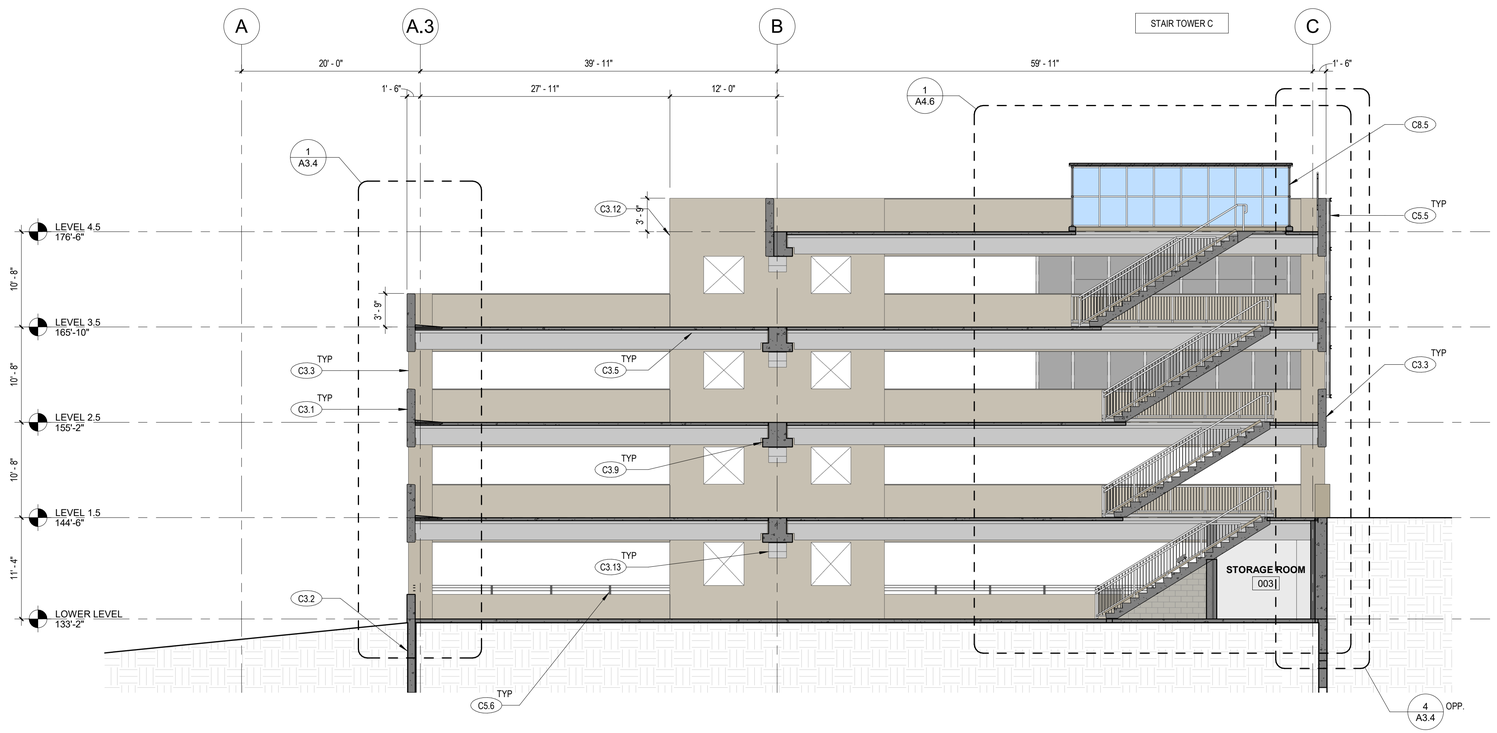
NORTH

SHEET TITLE:
BUILDING SECTIONS

SHEET NO.
A3.1



1 A3.2 LATITUDINAL BUILDING SECTION LOOKING SOUTH
1/8" = 1'-0"



2 A3.2 LATITUDINAL BUILDING SECTION LOOKING NORTH
1/8" = 1'-0"

CONSTRUCTION KEYNOTES	
C3.1	PRECAST SPANDREL
C3.2	GRADE SPANDREL
C3.3	PRECAST CONCRETE COLUMN, TYP.
C3.5	PRECAST DOUBLE TEE, TYP.
C3.9	PRECAST INVERTED TEE GIRDER, TYP.
C3.11	SLAB ON GRADE
C3.12	PRECAST SHEAR WALL
C3.13	PRECAST HAUNCH, TYP.
C3.14	PRECAST STACK WALL
C5.5	ART PANEL, TYP.
C5.6	GUARDRAIL ASSEMBLY AT GRADE SPANDREL
C8.2	ALUMINUM STOREFRONT SYSTEM, TYP.
C8.5	ROOF LEVEL STAIR ENCLOSURE
C10.1	METAL CANOPY W/ DOWNSPOUT

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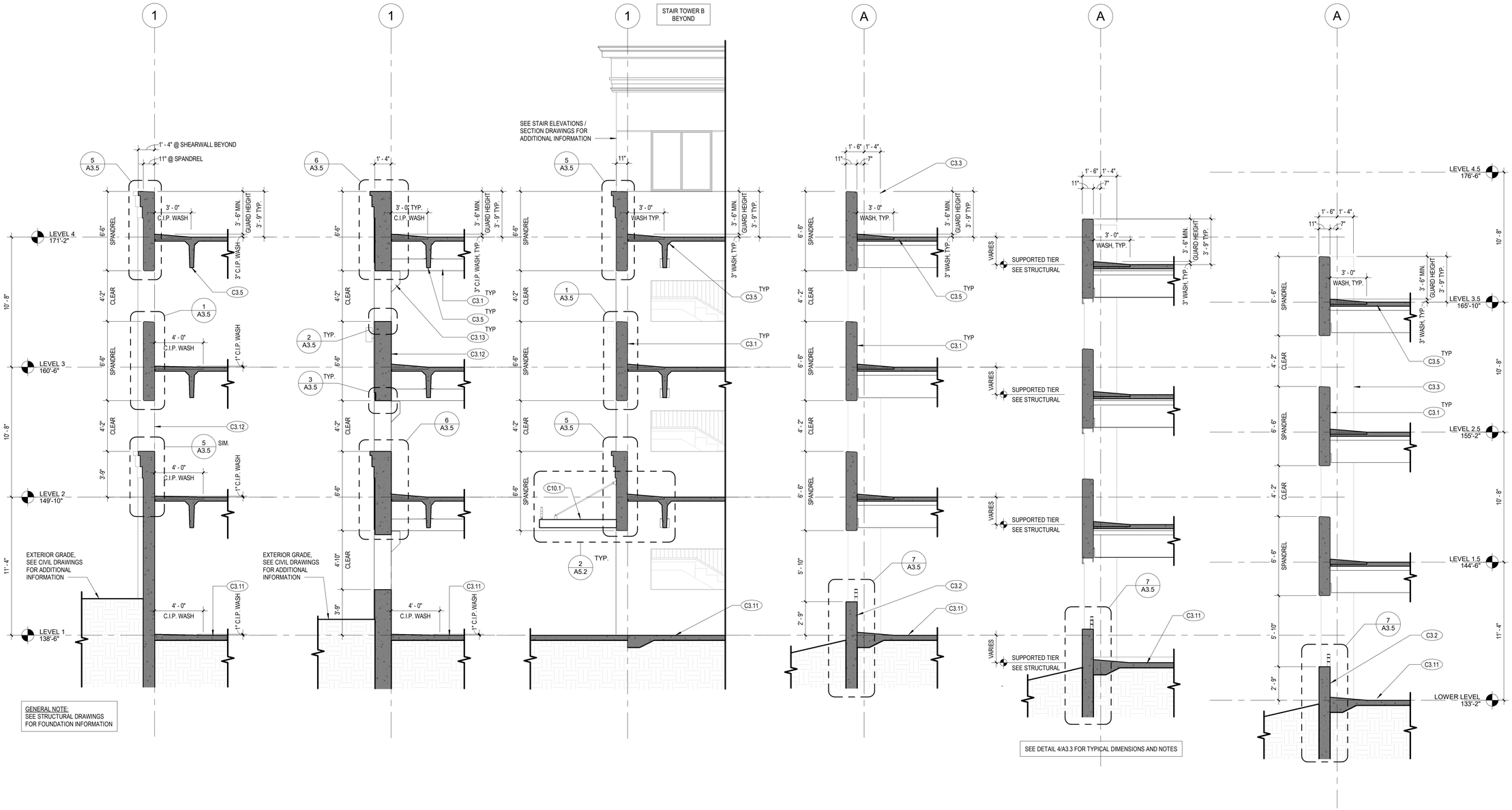
SHEET TITLE:
BUILDING SECTIONS

SHEET NO.
A3.2



1 A3.3 WALL SECTION - SOUTH
1/4" = 1'-0"

2 A3.3 WALL SECTION - SOUTH @ SHEAR WALL
1/4" = 1'-0"

3 A3.3 WALL SECTION - SOUTH @ ENTRY/EXIT
1/4" = 1'-0"

4 A3.3 WALL SECTION - WEST
1/4" = 1'-0"

5 A3.3 WALL SECTION - WEST @ RAMP
1/4" = 1'-0"

6 A3.3 WALL SECTION - WEST @ TOP OF RAMP
1/4" = 1'-0"

CONSTRUCTION KEYNOTES	
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C3.11	SLAB ON GRADE
C3.12	PRECAST SHEAR WALL
C3.13	PRECAST HAUNCH, TYP.
C10.1	METAL CANOPY W/ DOWNSPOUT

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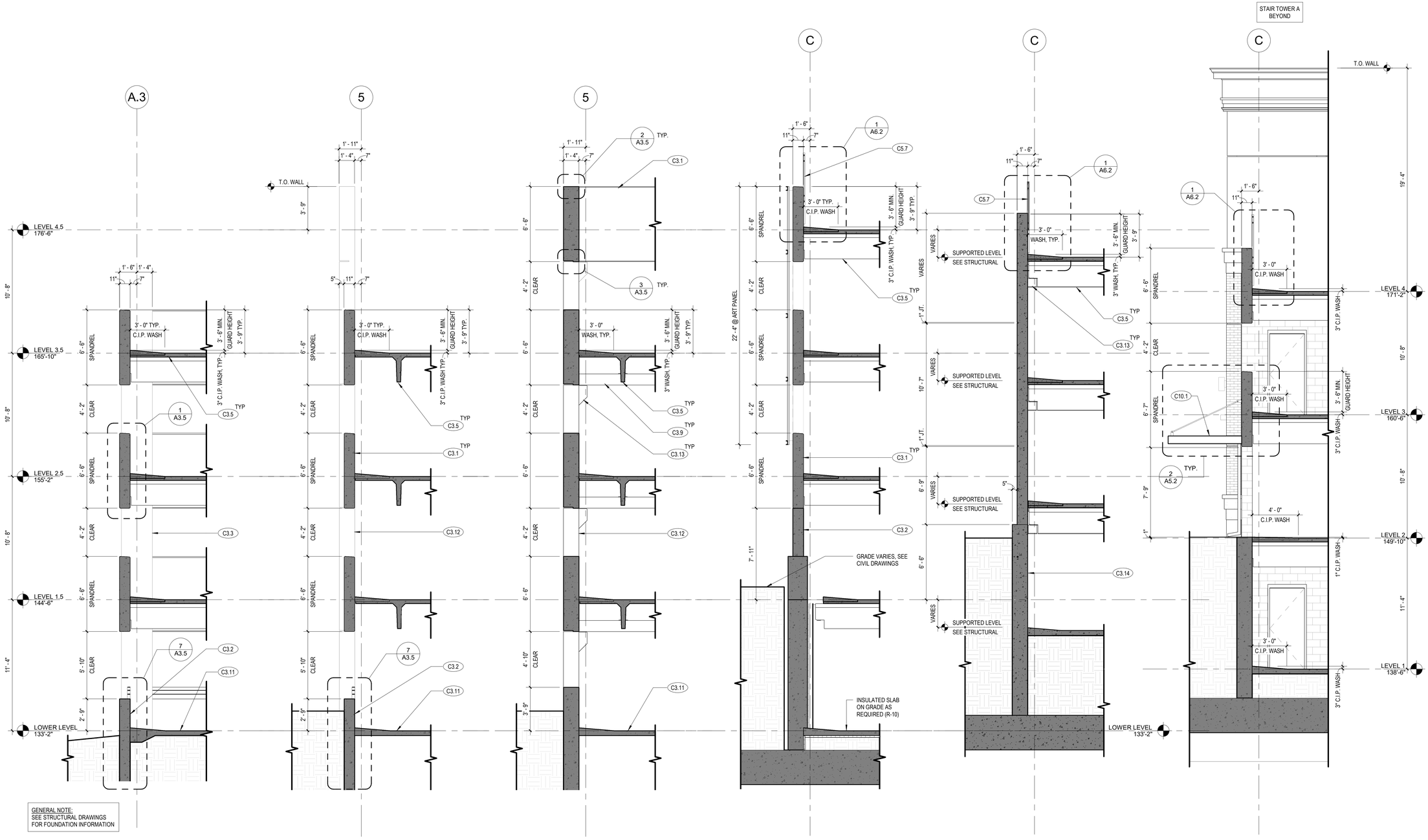
SHEET TITLE:
WALL SECTIONS

SHEET NO.

A3.3



GENERAL NOTE:
SEE STRUCTURAL DRAWINGS FOR FOUNDATION INFORMATION

1 / A3.4 WALL SECTION - WEST @ NOTCH
1/4" = 1'-0"

2 / A3.4 WALL SECTION - NORTH
1/4" = 1'-0"

3 / A3.4 WALL SECTION - NORTH @ SHEAR WALL
1/4" = 1'-0"

4 / A3.4 WALL SECTION - EAST
1/4" = 1'-0"

5 / A3.4 WALL SECTION - EAST @ STACK WALL
1/4" = 1'-0"

6 / A3.4 WALL SECTION - EAST @ PEDESTRIAN CONNECTION
1/4" = 1'-0"

CONSTRUCTION KEYNOTES

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C3.12	PRECAST SHEAR WALL
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C3.14	PRECAST STACK WALL
C5.7	6' - 0" SECURITY FENCING
C10.1	METAL CANOPY W/ DOWNSPOUT

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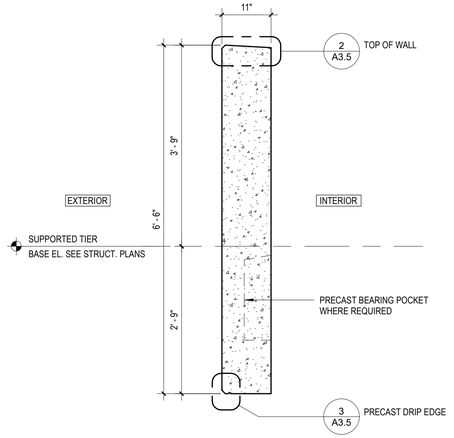
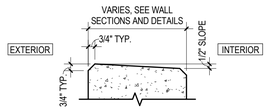
SHEET TITLE:
WALL SECTIONS

SHEET NO.
A3.4

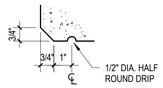


1 A3.5 TYPICAL PRECAST SPANDREL SECTION
3/4" = 1'-0"

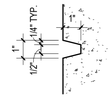


2 A3.5 PRECAST T.O. WALL DETAIL
1 1/2" = 1'-0"

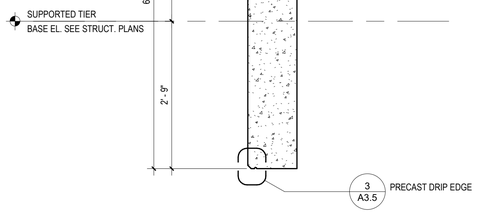
DISCONTINUE DRIP EDGE 1" SHORT OF BEARING POCKETS AT SHEAR WALLS, WALL PANELS AND COLUMN CONNECTION LOCATIONS. STOP 4" SHORT OF SPANDREL ENDS AT CANTILEVERED CONDITIONS. DRIP EDGE SHALL NOT BE VISIBLE AT SPANDREL END SURFACES.



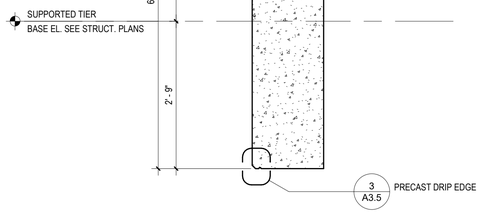
3 A3.5 PRECAST DRIP EDGE DETAIL
3" = 1'-0"



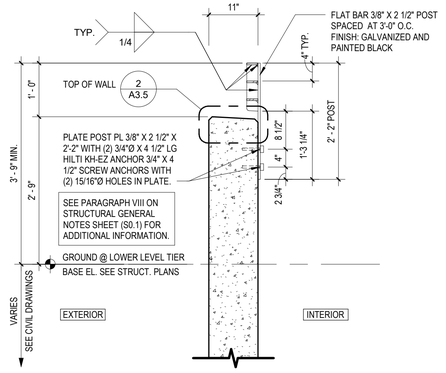
4 A3.5 PRECAST REVEAL DETAIL
3" = 1'-0"



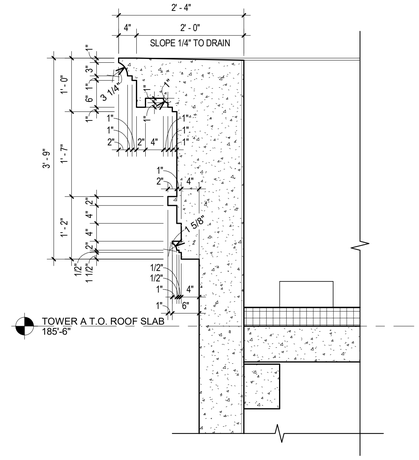
5 A3.5 PRECAST SPANDREL SECTION WITH DECORATIVE PROFILE
3/4" = 1'-0"



6 A3.5 PRECAST SHEAR WALL SECTION WITH DECORATIVE PROFILE
3/4" = 1'-0"



7 A3.5 GRADE LEVEL PRECAST SPANDREL SECTION
3/4" = 1'-0"



8 A3.5 STAIR TOWER CORNICE DETAIL
3/4" = 1'-0"

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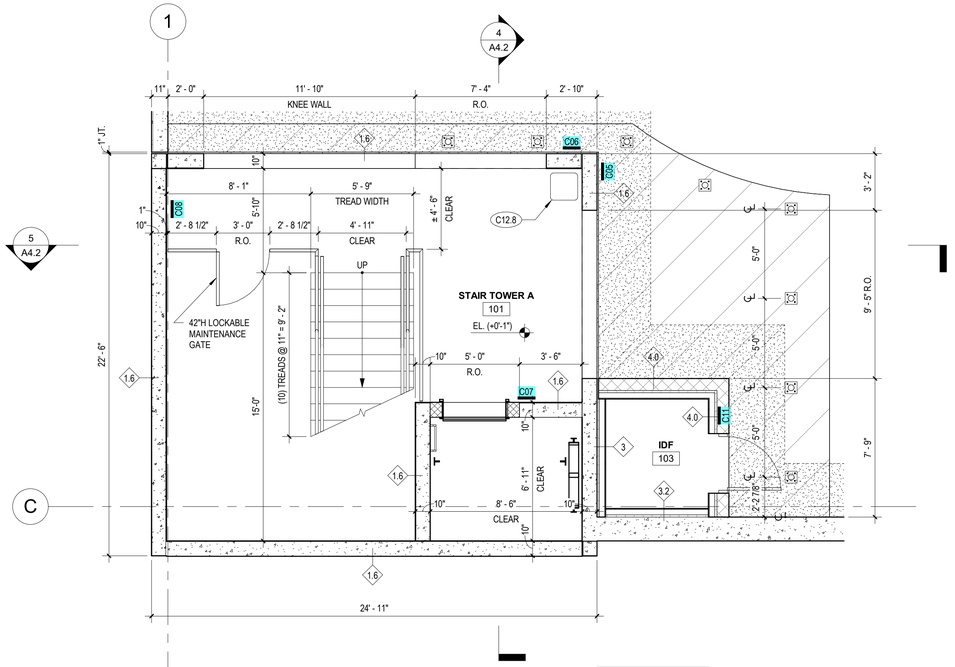
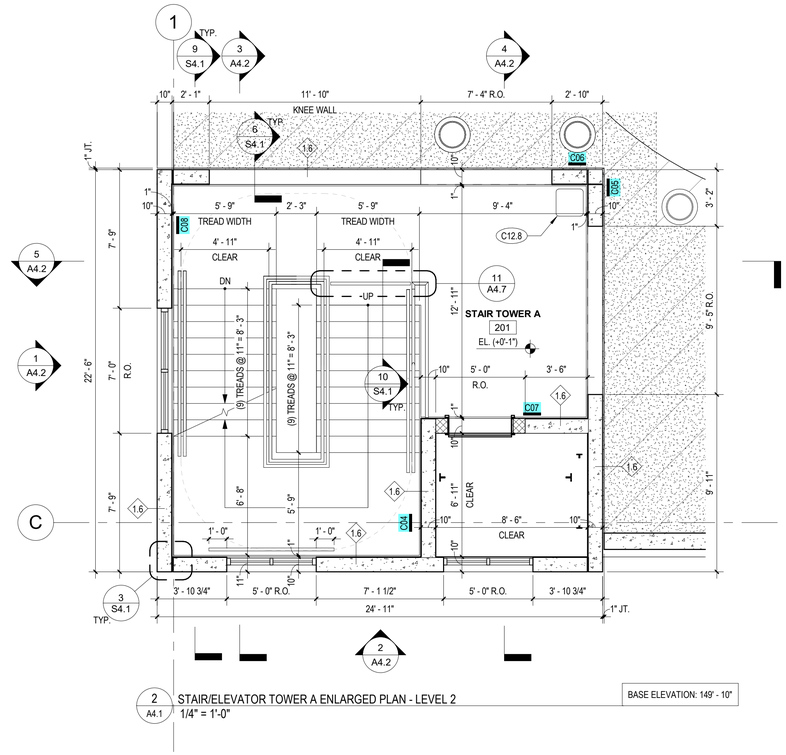
SHEET TITLE:
WALL SECTION DETAILS

SHEET NO.
A3.5



1 A4.1 STAIR/ELEVATOR TOWER A ENLARGED PLAN - LEVEL 1
1/4" = 1'-0"

BASE ELEVATION: 138' - 6"



2 A4.1 STAIR/ELEVATOR TOWER A ENLARGED PLAN - LEVEL 2
1/4" = 1'-0"

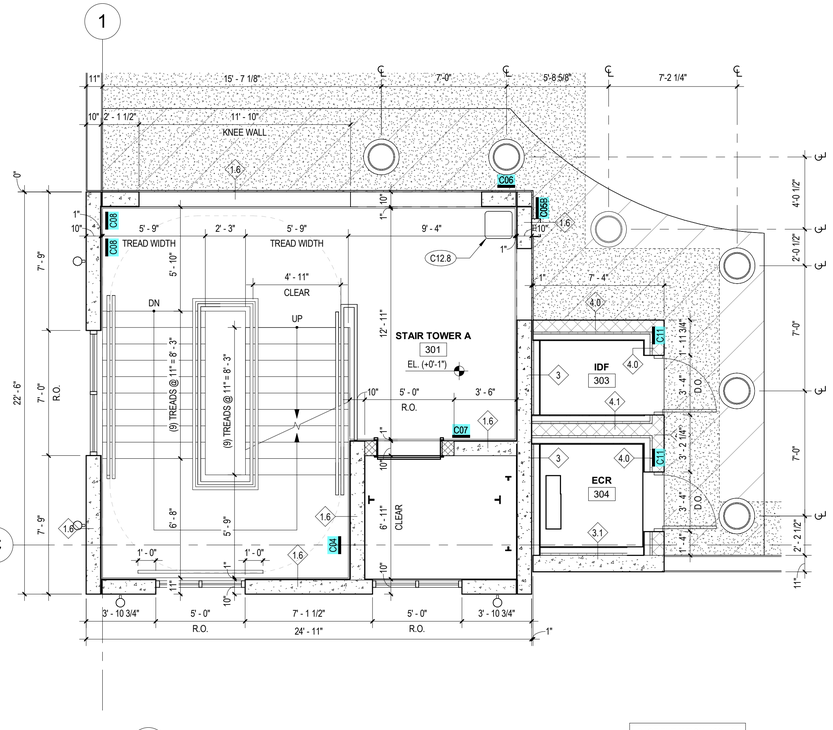
BASE ELEVATION: 149' - 10"

KEYNOTE LEGEND

C#	CONSTRUCTION KEYNOTE TAG
1.1	WALL TAG
1.1	RATED WALL TAG
Room Name / 100A / 11 / 1'-0"	ROOM NUMBER; CEILING HEIGHT A.F.F.
	CEILING MATERIAL
PNT-X	FINISH FULL HEIGHT WALL
PNT-X / PTN-X	FINISH FROM 3'-6" AFF TO BOTTOM OF DECK; FINISH FROM TOP OF DECK TO 3'-6" AFF
	NEW WALL
XXX / XXX	SIGNAGE KEYNOTE, SEE SHEETS GX.X - GX.X FOR SCHEDULE AND RELATED DETIALS

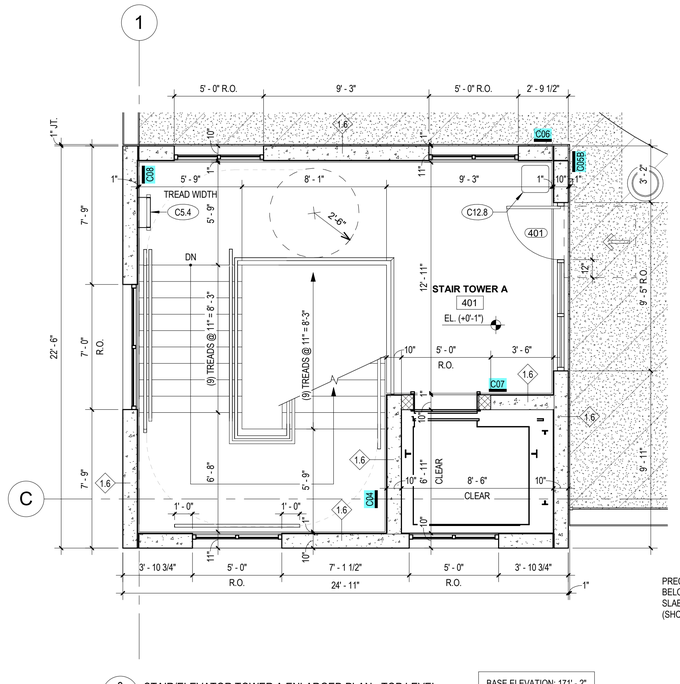
CONSTRUCTION KEYNOTES

C5.4	FIXED ACCESS LADDER W/ SAFETY POLE AND LOCKING SECURITY LADDER GUARD PANEL
C12.8	VANDAL RESISTANT WASTE RECEPTACLE



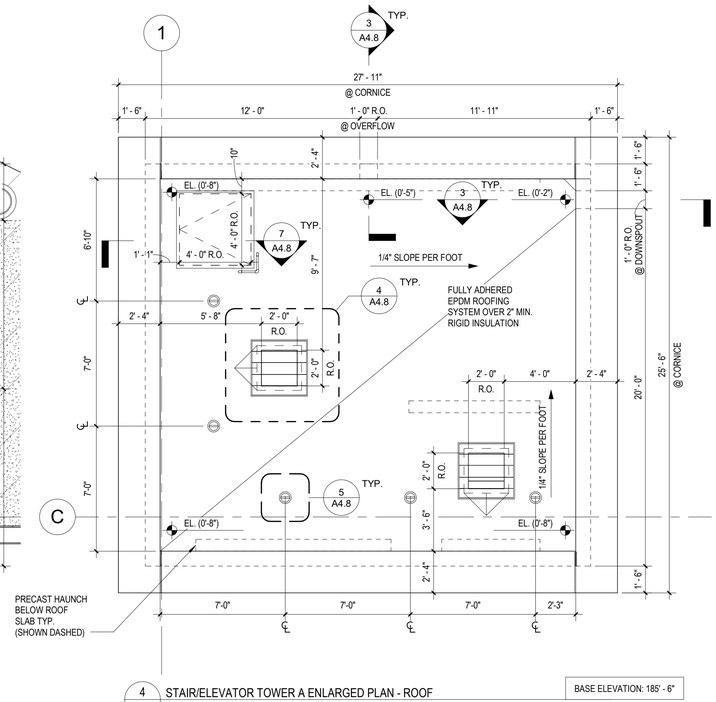
5 A4.1 STAIR/ELEVATOR TOWER A ENLARGED PLAN - LEVEL 3
1/4" = 1'-0"

BASE ELEVATION: 160' - 6"



3 A4.1 STAIR/ELEVATOR TOWER A ENLARGED PLAN - TOP LEVEL
1/4" = 1'-0"

BASE ELEVATION: 171' - 2"



4 A4.1 STAIR/ELEVATOR TOWER A ENLARGED PLAN - ROOF
1/4" = 1'-0"

BASE ELEVATION: 185' - 6"

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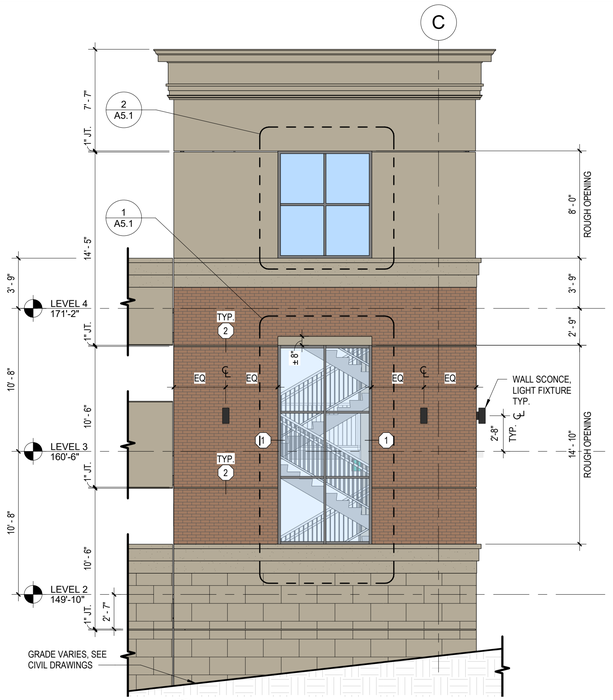
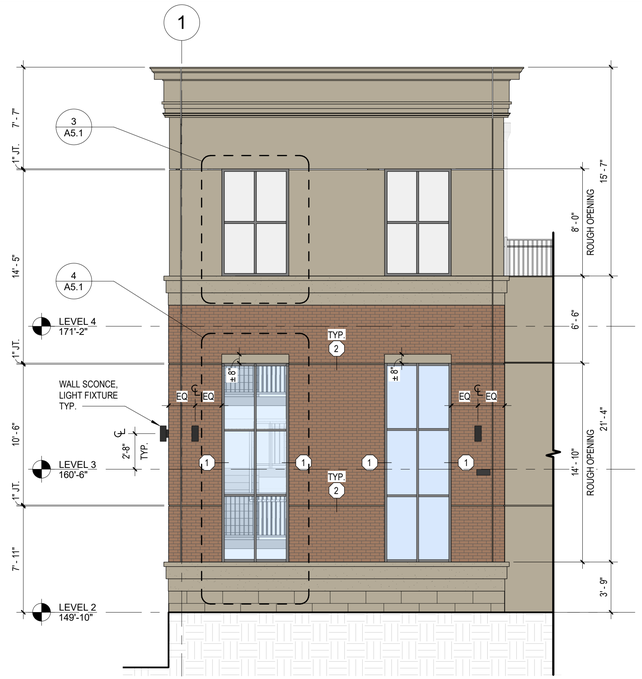
SHEET TITLE:
STAIR/ELEVATOR A ENLARGED PLANS

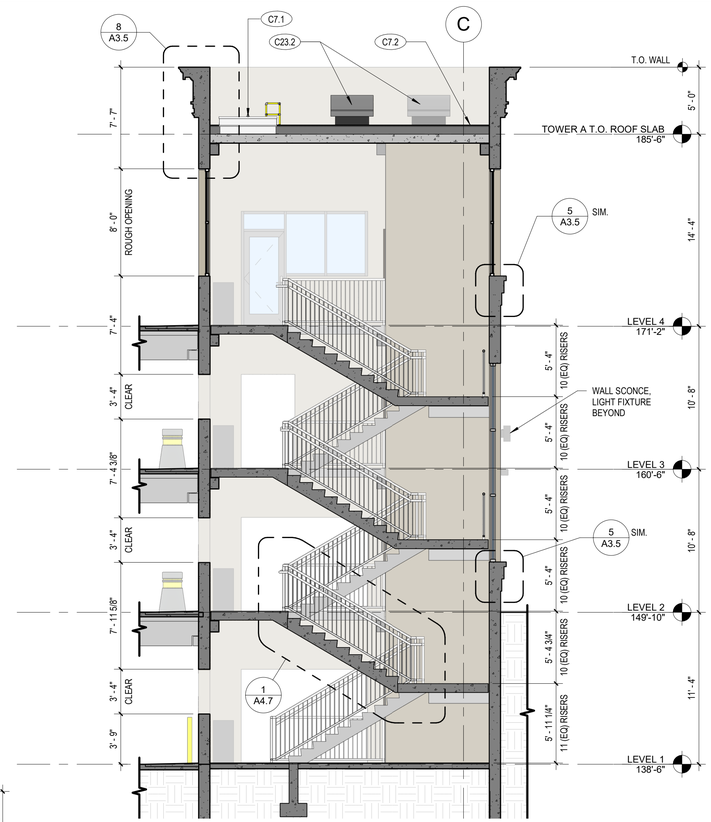
SHEET NO.
A4.1



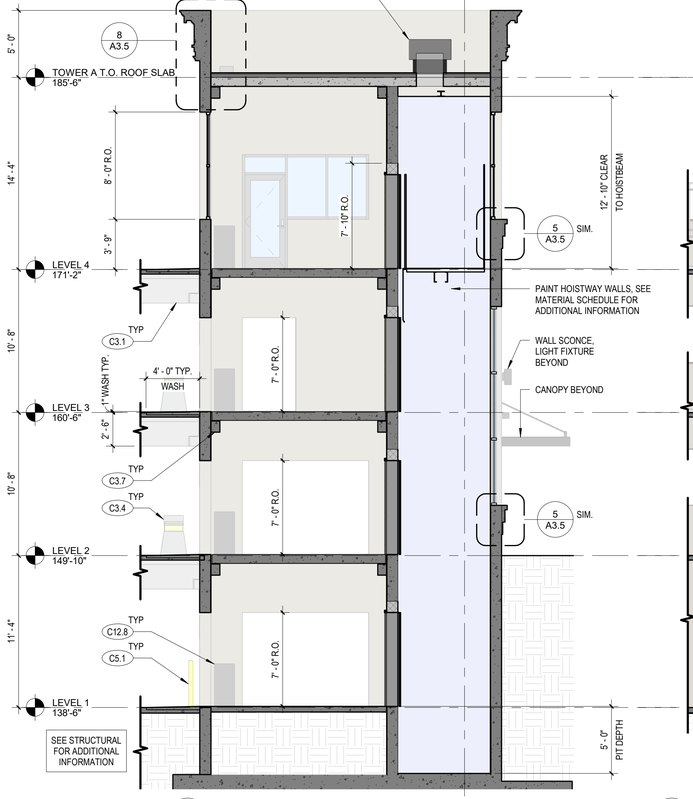
1 A4.2 STAIR/ELEVATOR TOWER A SOUTH ENLARGED ELEVATION
3/16" = 1'-0"



2 A4.2 STAIR/ELEVATOR TOWER A EAST ENLARGED ELEVATION
3/16" = 1'-0"



3 A4.2 STAIR/ELEVATOR TOWER A SECTION
3/16" = 1'-0"



4 A4.2 STAIR/ELEVATOR TOWER A SECTION @ SHAFT
3/16" = 1'-0"

5 A4.2 STAIR/ELEVATOR TOWER A SECTION/ELEVATION LOOKING EAST
3/16" = 1'-0"

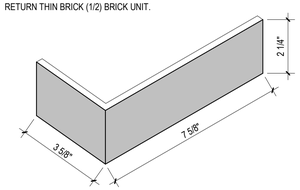
CONSTRUCTION KEYNOTES	
C3.1	PRECAST SPANDREL
C3.4	PRECAST BOLLARD, TYP.
C3.7	PRECAST LEDGE, TYP.
C5.1	STEEL PIPE BOLLARD, TYP.
C7.1	ROOF HATCH
C7.2	FULLY ADHERED EPDM ROOFING SYSTEM OVER 2" MINIMUM RIGID INSULATION
C12.8	VANDAL RESISTANT WASTE RECEPTACLE
C23.2	GRAVITY VENT, TYP.

ELEVATION FINISH LEGEND INTERIOR	
MARK	DESCRIPTION
F8.1	PANTONE DARK GRAY C
F8.2	PANTONE Red 186C
F8.3	PANTONE Green C
F8.4	PANTONE Violet C
F8.5	PANTONE Orange 021C

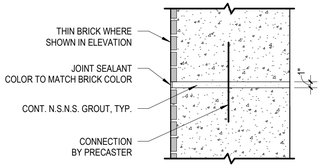
THIN BRICK NOTES

1. THIN BRICK TRIM UNIT DESIGNATIONS NOTED ON ELEVATIONS ARE TYPICAL CONDITIONS. SIMILAR CONDITIONS REQUIRE THE APPROPRIATE THIN BRICK TRIM UNIT.
2. ALL EXPOSED ENDS, CORNERS AND EDGES IN THE BRICK FIELD REQUIRE THIN BRICK TRIM UNITS TO TERMINATE THE FIELD.
3. THIN BRICK CORNER UNITS SHALL RETURN INTO JOINTS THAT WILL REMAIN OPEN OR WITH BACKER ROD AND SEALANT.
4. THIN BRICK TO EXTEND (3) COURSES MINIMUM BELOW GRADE.
5. THIN BRICK TO EXTEND (1/2) BRICK UNIT BEYOND EXT. SURFACE OF ADJACENT COLUMNS. TO BE CONCEALED BY COMPRESSIBLE EXP. JOINTS.

1 RETURN THIN BRICK (1/2) BRICK UNIT.



2 PANEL TO PANEL JOINT DETAIL.



3 RETURN THIN BRICK HALF THE DEPTH OF WINDOW AND DOOR OPENINGS AT HEAD AND JAMBS, TYP.

4 RETURN THIN BRICK ON ENTIRE EDGE OF PRECAST WALL PANEL OR CORNER SPANDREL.

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Ossining, NY 10562

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02.21.25

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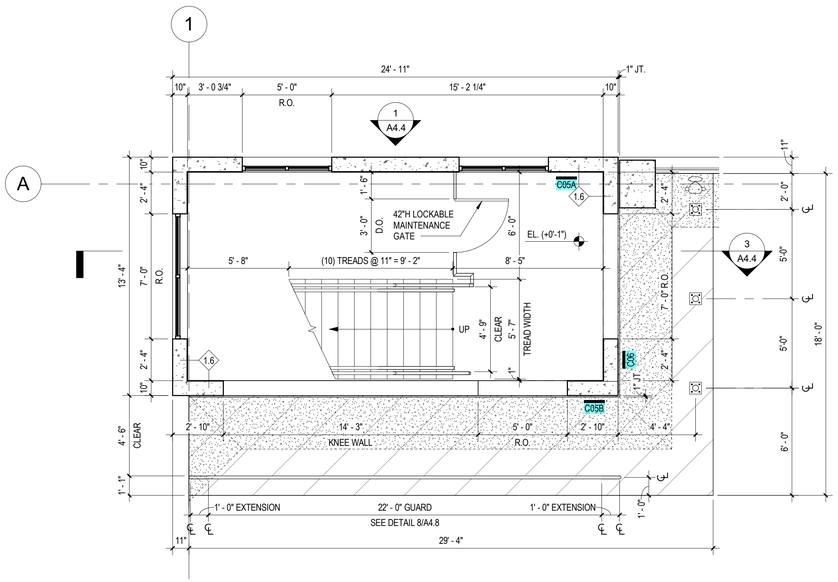
NORTH

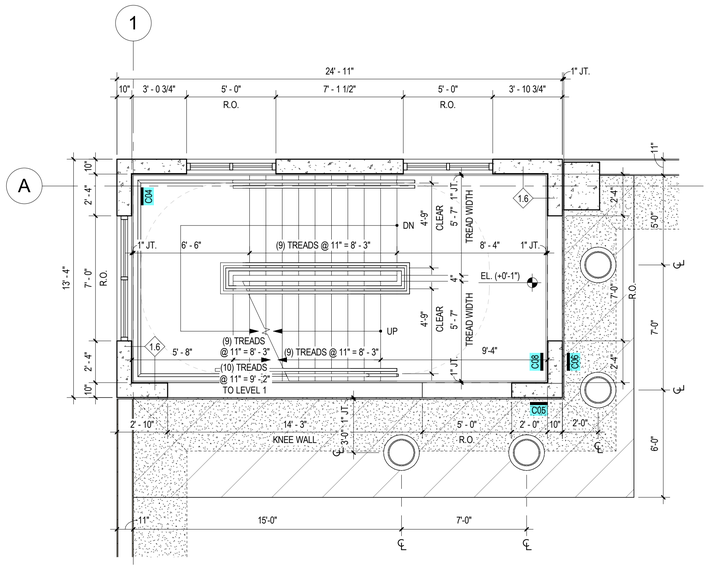
SHEET TITLE:
STAIR/ELEVATOR A ELEVATIONS & SECTIONS

SHEET NO.
A4.2



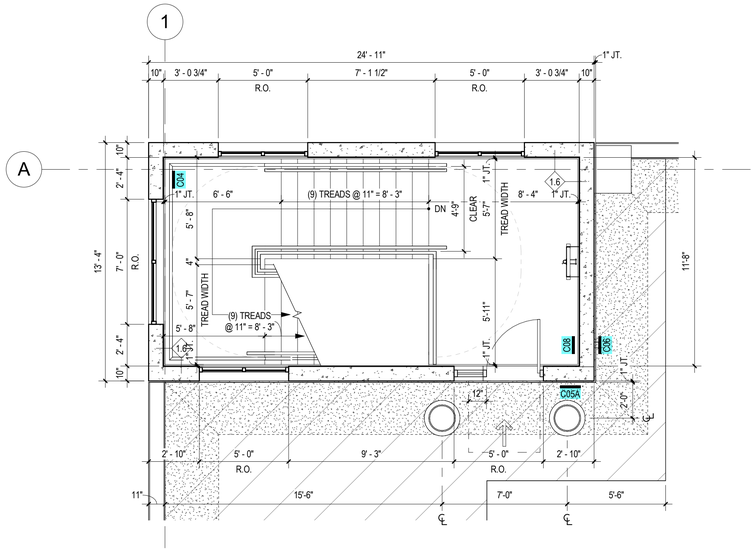
1 A4.3 STAIR TOWER B ENLARGED PLAN - LEVEL 1
1/4" = 1'-0"

BASE ELEVATION: 138' - 6"



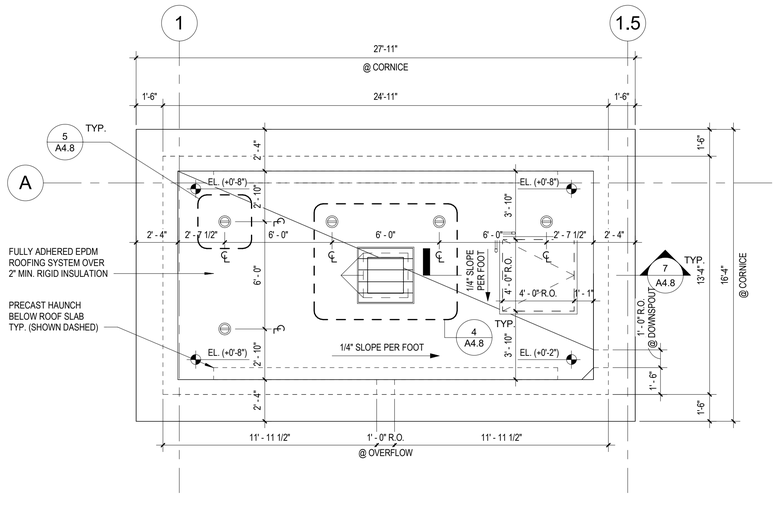
2 A4.3 STAIR TOWER B ENLARGED PLAN - LEVEL 2 & 3
1/4" = 1'-0"

BASE ELEVATION: 149' - 10"
BASE ELEVATION: 160' - 6"



3 A4.3 STAIR TOWER B ENLARGED PLAN - TOP LEVEL
1/4" = 1'-0"

BASE ELEVATION: 171' - 2"



4 A4.3 STAIR TOWER B ENLARGED PLAN - ROOF
1/4" = 1'-0"

BASE ELEVATION: 181' - 10"

KEYNOTE LEGEND

- C#.# — CONSTRUCTION KEYNOTE TAG
- 1.1 — WALL TAG
- 1.1 — RATED WALL TAG
- Room Name / 100A — ROOM NUMBER
- 11 / 1'-0" — CEILING HEIGHT A.F.F.
- CEILING MATERIAL
- PNT-X — FINISH FULL HEIGHT WALL
- PNT-X / PTN-X — FINISH FROM 3'-6" AFF TO BOTTOM OF DECK; FINISH FROM TOP OF DECK TO 3'-6" AFF
- NEW WALL
- XXX / XXX — SIGNAGE KEYNOTE, SEE SHEETS GX.X - GX.X FOR SCHEDULE AND RELATED DETIALS

CONSTRUCTION KEYNOTES

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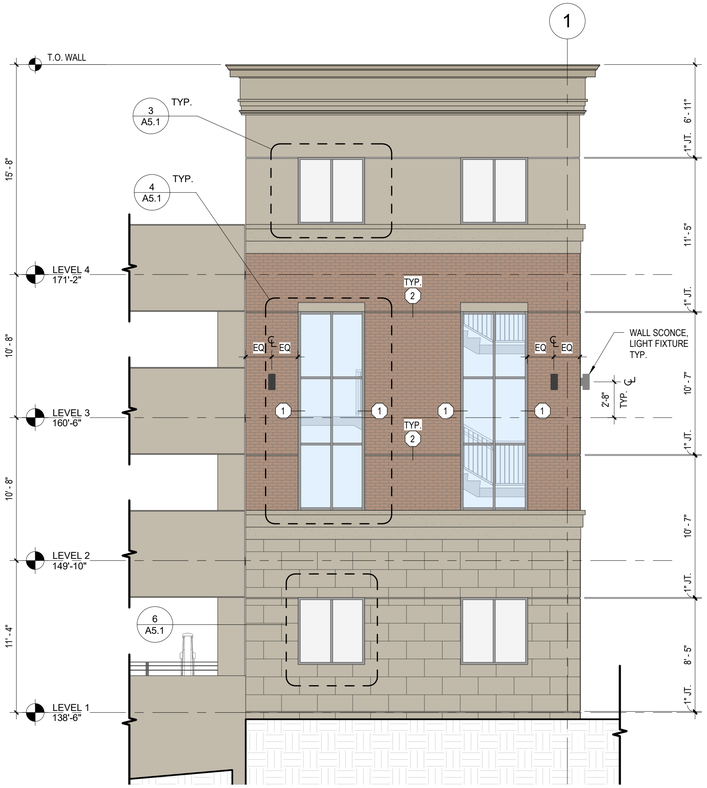
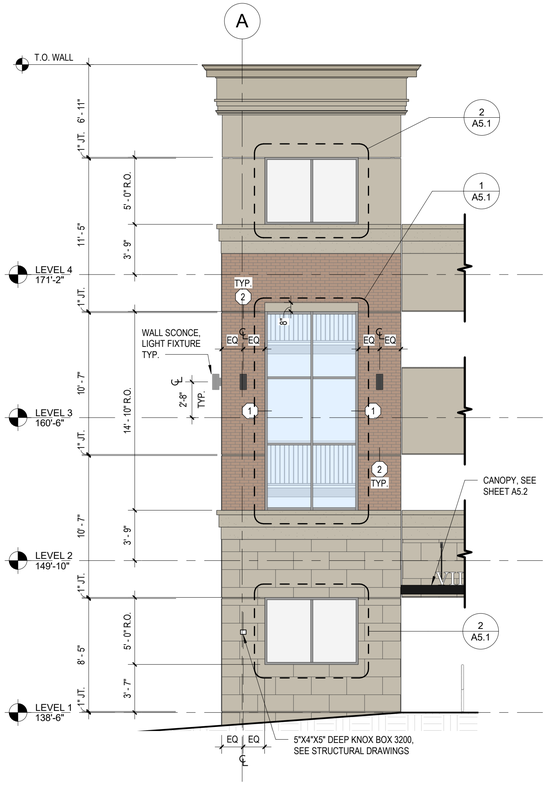
SHEET TITLE:
STAIR TOWER B ENLARGED PLANS

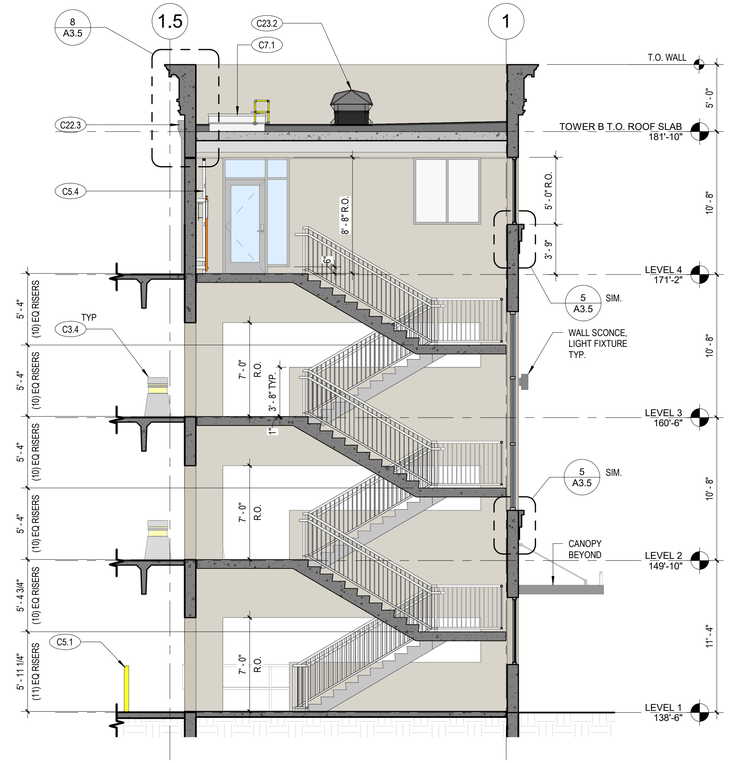
SHEET NO.
A4.3



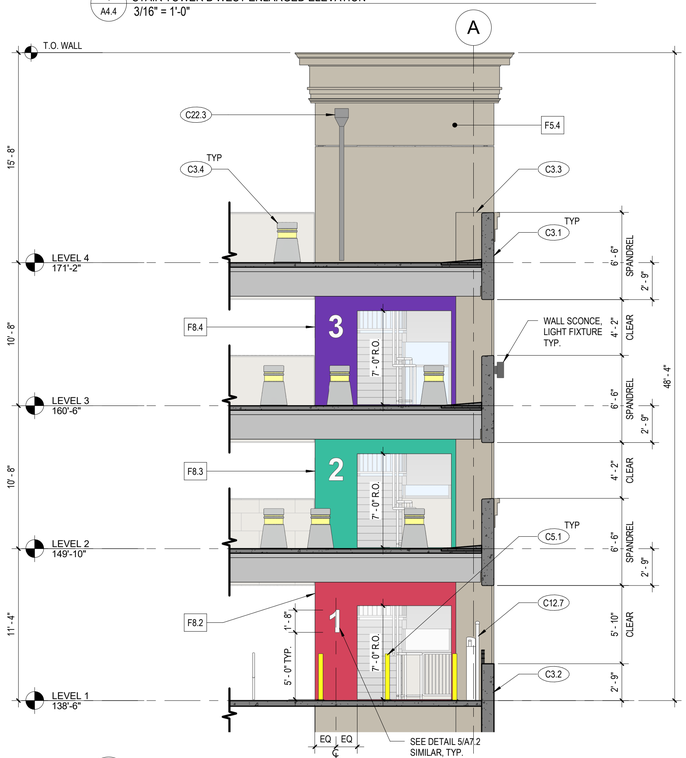
1 A4.4 STAIR TOWER B WEST ENLARGED ELEVATION
3/16" = 1'-0"



2 A4.4 STAIR TOWER B SOUTH ENLARGED ELEVATION
3/16" = 1'-0"



3 A4.4 STAIR TOWER B SECTION 1
3/16" = 1'-0"



4 A4.4 STAIR/ELEVATOR TOWER B SECTION/ELEVATION LOOKING SOUTH
3/16" = 1'-0"

CONSTRUCTION KEYNOTES	
C3.1	PRECAST SPANDREL
C3.2	GRADE SPANDREL
C3.3	PRECAST CONCRETE COLUMN, TYP.
C3.4	PRECAST BOLLARD, TYP.
C5.1	STEEL PIPE BOLLARD, TYP.
C5.4	FIXED ACCESS LADDER W/ SAFETY POLE AND LOCKING SECURITY LADDER GUARD PANEL
C7.1	ROOF HATCH
C12.7	EV CHARGING STATION
C22.3	SCUPPER & DOWNSPOUT, TYP.
C23.2	GRAVITY VENT, TYP.

ELEVATION FINISH LEGEND INTERIOR	
MARK	DESCRIPTION
F8.1	PANTONE DARK GRAY C
F8.2	PANTONE Red 186C
F8.3	PANTONE Green C
F8.4	PANTONE Violet C
F8.5	PANTONE Orange 021C

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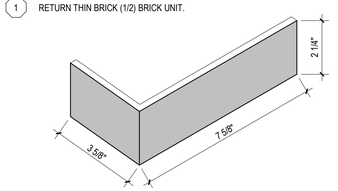
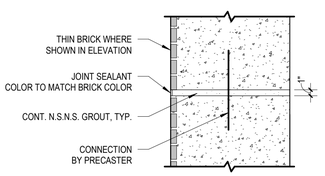


2 PANEL TO PANEL JOINT DETAIL.



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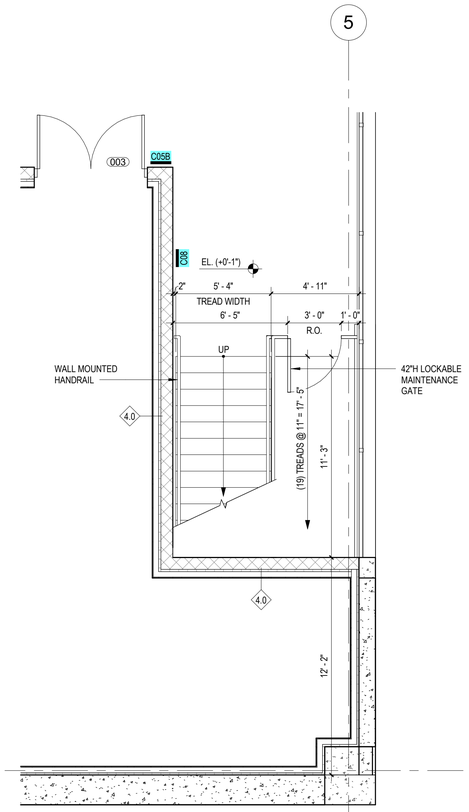
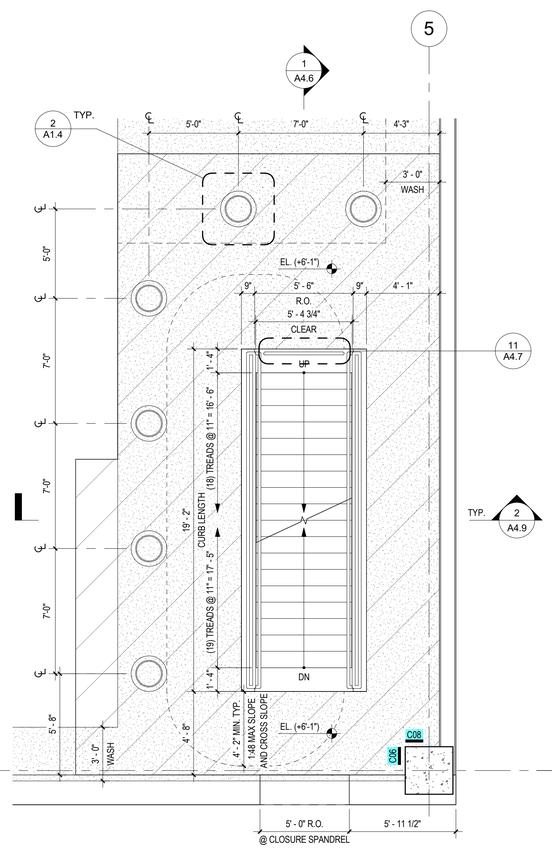


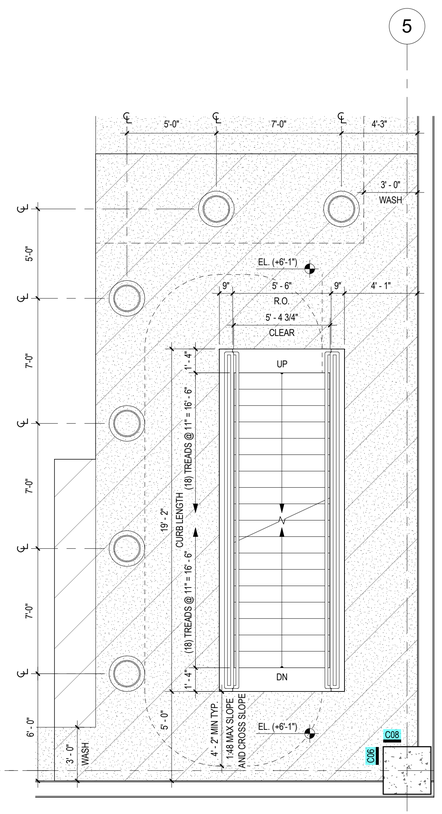
1 A4.5 STAIR C ENLARGED PLAN - LOWER LEVEL
1/4" = 1'-0"

BASE ELEVATION: 133' - 2"



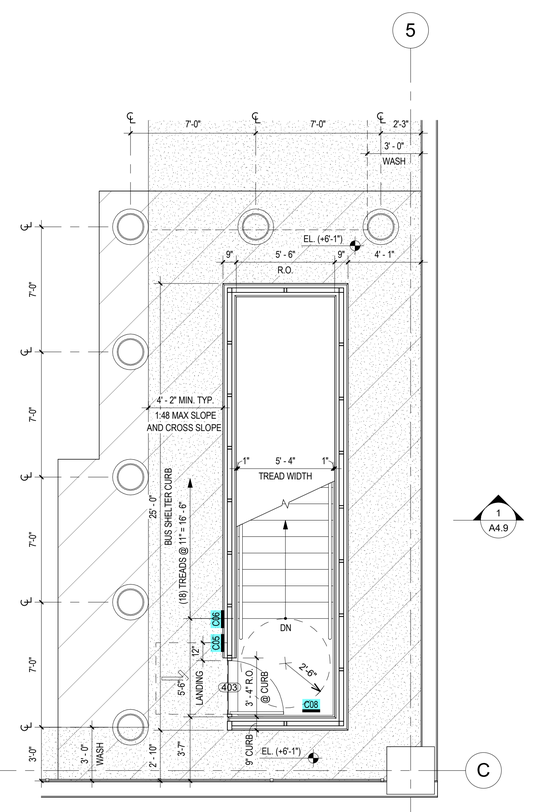
2 A4.5 STAIR C ENLARGED PLAN - LEVEL 1
1/4" = 1'-0"

BASE ELEVATION: 138' - 6"



3 A4.5 STAIR C ENLARGED PLAN - LEVEL 2
1/4" = 1'-0"

BASE ELEVATION: 149' - 10"



4 A4.5 STAIR C ENLARGED PLAN - TOP LEVEL
1/4" = 1'-0"

BASE ELEVATION: 171' - 2"

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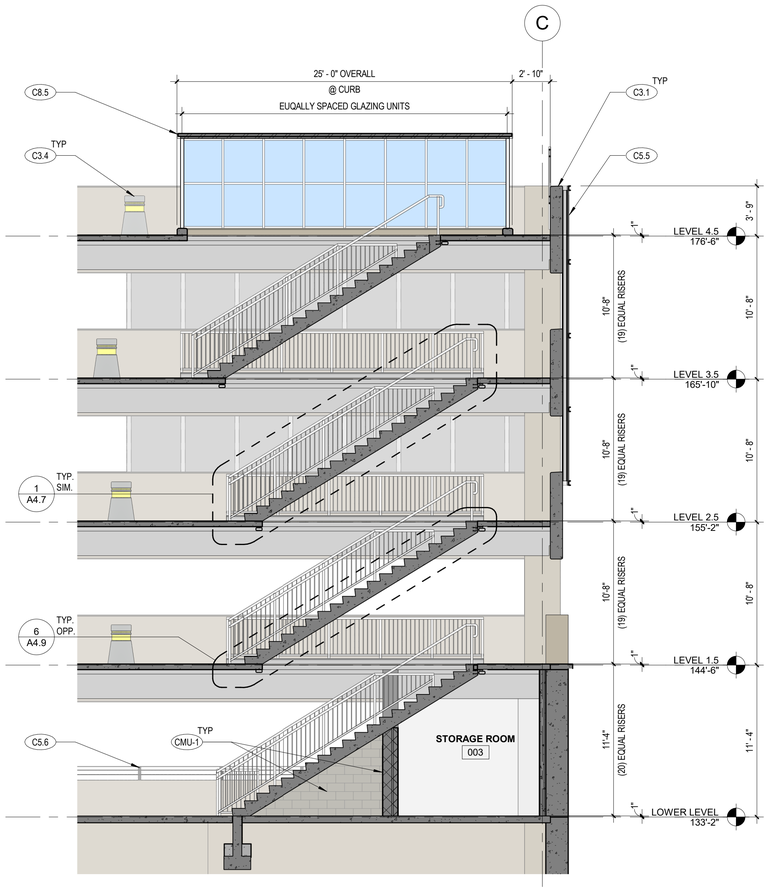

1 / A4.6 STAIR C SECTION 1
3/16" = 1'-0"

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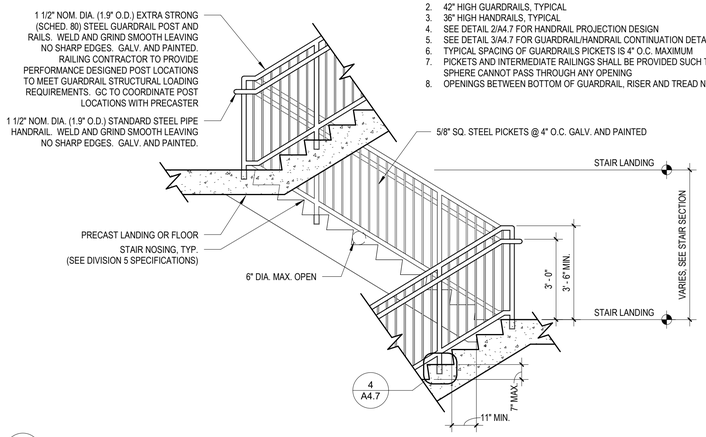
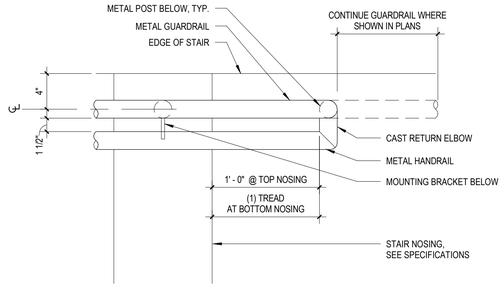
STAIR C ELEVATIONS & SECTIONS

SHEET NO.
A4.6

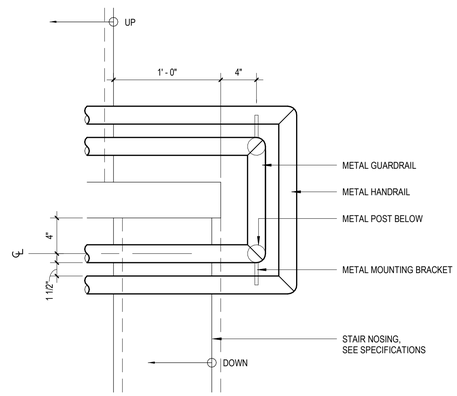
STAIRS, GUARDRAIL AND HANDRAIL GENERAL NOTES:
1. 7" MAXIMUM RISER HEIGHT
2. 42" HIGH GUARDRAILS, TYPICAL
3. 36" HIGH HANDRAILS, TYPICAL
4. SEE DETAIL 2/A4.7 FOR HANDRAIL PROJECTION DESIGN
5. SEE DETAIL 3/A4.7 FOR GUARDRAIL/HANDRAIL CONTINUATION DETAIL AT LANDINGS
6. TYPICAL SPACING OF GUARDRAILS PICKETS IS 4" O.C. MAXIMUM
7. PICKETS AND INTERMEDIATE RAILINGS SHALL BE PROVIDED SUCH THAT A 4" DIAMETER SPHERE CANNOT PASS THROUGH ANY OPENING
8. OPENINGS BETWEEN BOTTOM OF GUARDRAIL, RISER AND TREAD NOT TO EXCEED 6" DIA.



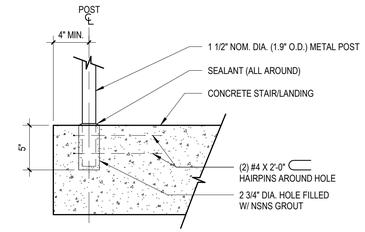
1 A4.7 STAIR/HANDRAIL/GUARDRAIL SECTION DETAIL
3/8" = 1'-0"



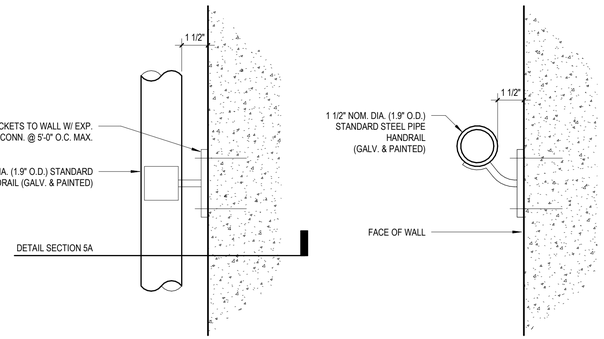
2 A4.7 HANDRAIL EXTENSION DETAIL
1 1/2" = 1'-0"



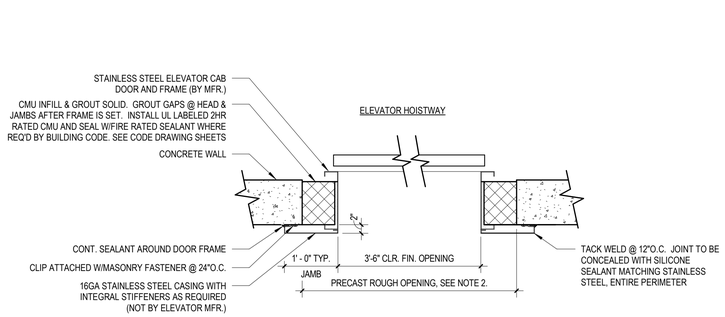
3 A4.7 HANDRAIL RETURN DETAIL
1 1/2" = 1'-0"



4 A4.7 POST MOUNTING DETAIL
1 1/2" = 1'-0"

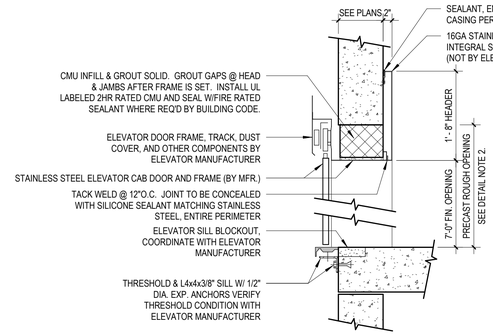


5 A4.7 WALL MOUNTED HANDRAIL DETAIL
3" = 1'-0"



DETAIL NOTES:
1. PROVIDE HALL FIXTURES WITHIN ELEVATOR DOOR FRAMES/STAINLESS STEEL CASING, U.N.O.
2. GC TO COORDINATE R.O. REQUIREMENTS WITH PRECASTER AND APPROVED ELEVATOR MFR
3. SEE FRAME TYPE 3 AT DETAIL 2/A6.1

6 A4.7 ELEVATOR JAMB DETAIL
3/4" = 1'-0"



DETAIL NOTES:
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2. GC TO COORDINATE R.O. REQUIREMENTS WITH PRECASTER AND APPROVED ELEVATOR MFR
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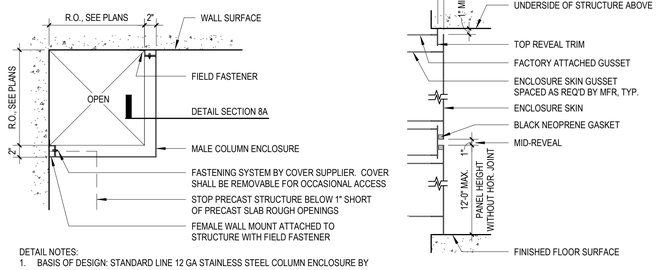
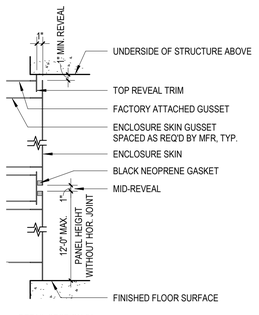
7 A4.7 ELEVATOR HEAD AND SILL DETAIL
3/4" = 1'-0"

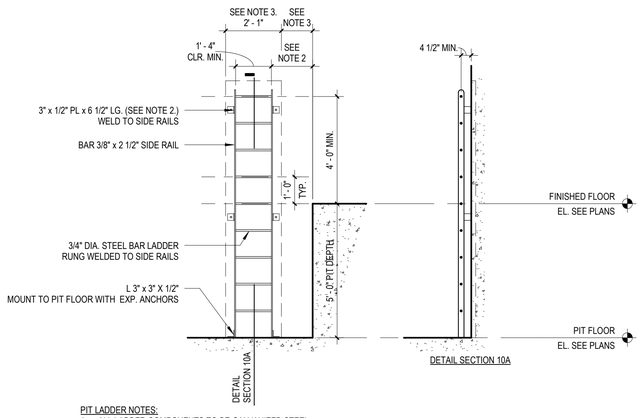


DETAIL NOTES:
1. BASIS OF DESIGN: STANDARD LINE 12 GA STAINLESS STEEL COLUMN ENCLOSURE BY GORDON INTERIOR SPECIALTIES
2. GC TO COORDINATE REQUIRED SIZE OF CHASE CLEAR OPENING AND RESULTING COLUMN ENCLOSURE WITH BUILDING SYSTEMS SUBCONTRACTORS AND PRECASTER



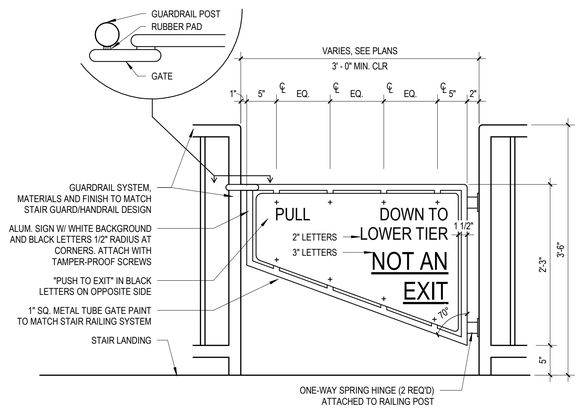
DETAIL SECTION 8A

8 A4.7 ELECTRICAL CHASE DETAIL
1" = 1'-0"



PIT LADDER NOTES:
1. ALL LADDER COMPONENTS TO BE GALVANIZED STEEL.
2. COORDINATE LADDER LOCATION AND ALL DIMENSIONS WITH APPROVED ELEVATOR MFR.
3. GC TO COORDINATE REQUIRED PRECAST/C.I.P. RECESS WHEN REQUIRED BY APPROVED BY ELEVATOR MFR.
4. PAINT LADDER TO MATCH HOISTWAY PAINT COLOR.
5. LADDER DESIGN TO ADHERE TO ALL APPLICABLE CODES

10 A4.7 PIT LADDER DETAIL - WALL MOUNTED
3/8" = 1'-0"



11 A4.7 PANIC GATE DETAIL
1" = 1'-0"

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PROJECT NO.
PCNY0323.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

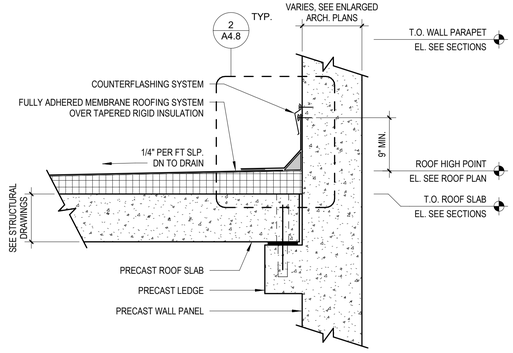
NO.	DESCRIPTION	DATE

DRAWN: VJ
REVIEWED: RP
DATE: 02.21.25

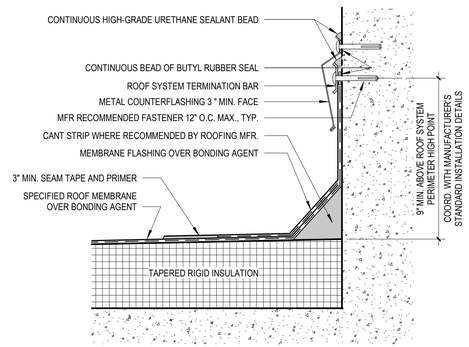
NORTH

SHEET TITLE:
STAIR AND ELEVATOR DETAILS

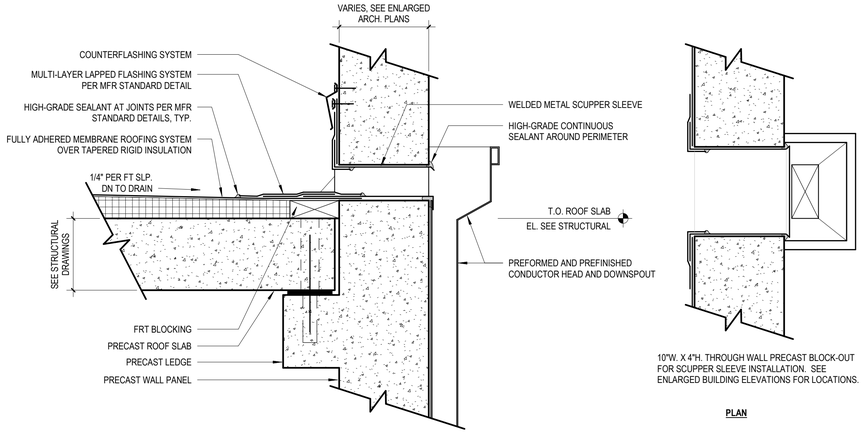
SHEET NO.
A4.7



1 A4.8 PARAPET DETAIL
1" = 1'-0"

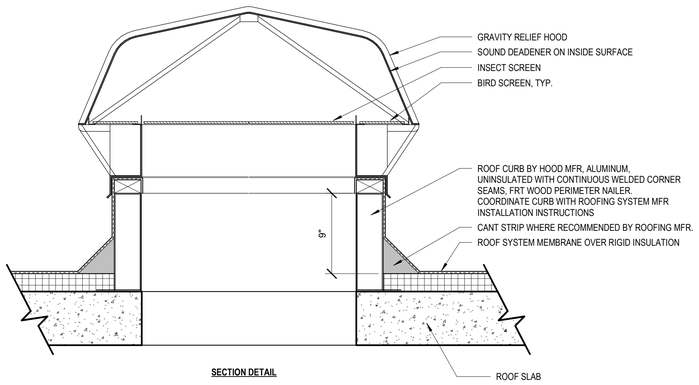


2 A4.8 ROOFING DETAIL
3" = 1'-0"

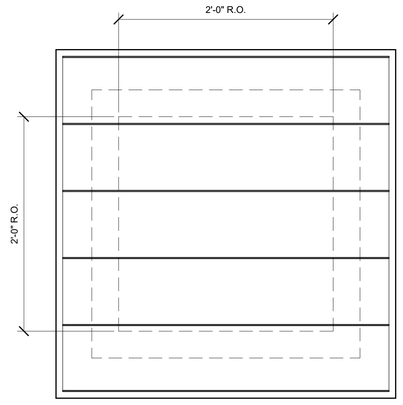


PLAN

3 A4.8 SCUPPER DETAIL
1 1/2" = 1'-0"



SECTION DETAIL



PLAN DETAIL

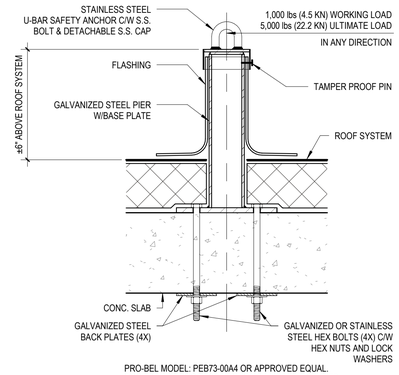
HOOD RELIEF GRAVITY VENTILATOR SPECIFICATIONS:

FURNISH AND INSTALL FABRA HOOD FGR BY GREENHECK OR APPROVED EQUAL.

GENERAL:
1. HOOD AND BASE TO BE FABRICATED OF ALUMINUM.
2. CORNERS, SILL MEMBER, WEATHER DAM CURB FLASHING SHALL BE MITERED AND CONTINUOUSLY WELDED.
3. CURB FLASHING AND INTERNAL WEATHER DAM SHALL BE INTEGRAL WITH HOOD.
4. FINISH SHALL BE HI-PRO POLYESTER COATING SELECTED FROM MANUFACTURER'S FULL RANGE.
5. INSTALL BIRD AND INSECT SCREENS

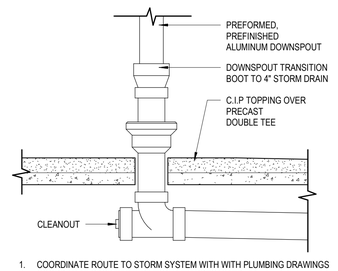
HOOD:
1. HOOD CONSTRUCTED OF PRECISION FORMED, ARCHED PANELS WITH INTERLOCKING SEAMS.
2. VERTICAL END PANELS ARE FULLY LOCKED INTO HOOD END PANELS.
3. BASE HEIGHT IS STANDARD OF 5 INCHES
4. CURB CAP IS SIX INCHES LARGER THEN THROAT SIZE
5. CURB CAP HAS PRE-PUNCHED MOUNTING HOLES FOR INSTALLATION
6. ENTIRE UNDERSIDE OF HOOD TO BE INSULATED WITH SOUND DEADENING MATERIAL.

4 A4.8 RELIEF GRAVITY VENTILATOR DETAIL
1 1/2" = 1'-0"



PRO-BEL MODEL: PEB73-00A4 OR APPROVED EQUAL.
COORDINATE ROOF LOCATIONS WITH MANUFACTURER.
SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

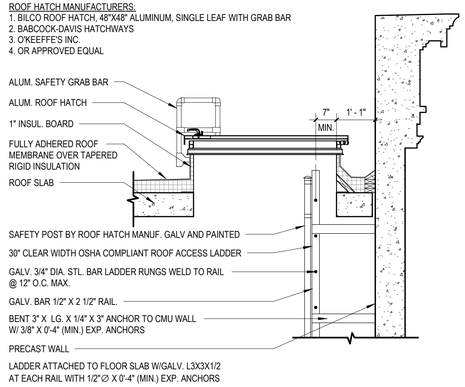
5 A4.8 ROOF ANCHOR DETAIL
3/8" = 1'-0"



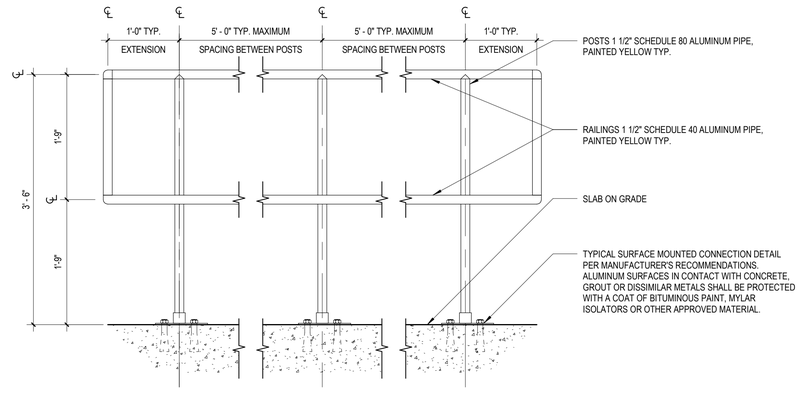
1. COORDINATE ROUTE TO STORM SYSTEM WITH WITH PLUMBING DRAWINGS
2. COORDINATE DECK PENETRATION WITH PRECASTER

6 A4.8 DOWNSPOUT TO STORM DRAIN SYSTEM TRANSITION DETAIL
1" = 1'-0"

ROOF HATCH MANUFACTURERS:
1. BILCO ROOF HATCH, 48"X48" ALUMINUM, SINGLE LEAF WITH GRAB BAR
2. BABCOCK-DAVIS HATCHWAYS
3. O'KEEFFE'S INC.
4. OR APPROVED EQUAL



7 A4.8 ROOF HATCH DETAIL
1/2" = 1'-0"



NOTE:
GUARDRAIL SHALL BE DESIGNED TO WITHSTAND 200 LB CONCENTRATED LOAD APPLIED IN ANY DIRECTION AND AT ANY POINT ON THE TOP RAIL. GUARDRAILS SHALL ALSO BE DESIGNED TO WITHSTAND A UNIFORM LOAD OF 50 LB/FT APPLIED HORIZONTALLY TO THE TOP RAIL. UNIFORM LOADS ARE NOT TO BE APPLIED SIMULTANEOUSLY WITH THE CONCENTRATED LOADS.

8 A4.8 GUARDRAIL DETAIL
1" = 1'-0"

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PROJECT

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Ossining, NY 10562

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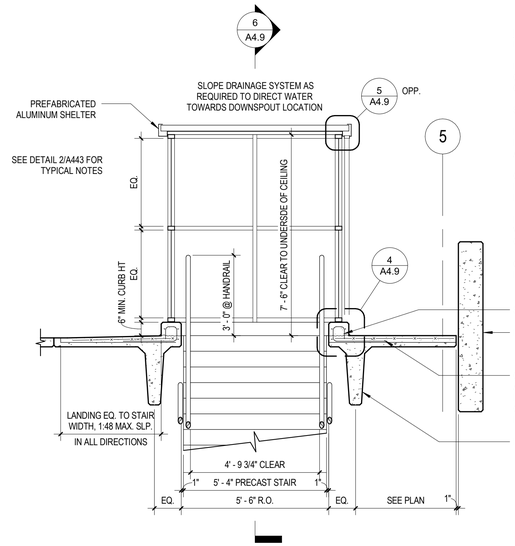


PREFABRICATED ALUMINUM SHELTER SPECIFICATIONS

PROVIDE BASIS OF DESIGN MANUFACTURER AUSTIN MOHAWK AND COMPANY, INC. OR APPROVED EQUAL.

DELEGATED DESIGN SUBMITTAL: TO ACCOMPANY SHOP DRAWINGS. FOR ALUMINUM SHELTERS AND GLASS TYPE INDICATED TO COMPLY WITH PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

SHELTER GENERAL: TO BE CONSTRUCTED FROM LOW-MAINTENANCE CORROSIVE RESISTANT ALUMINUM ALLOY.

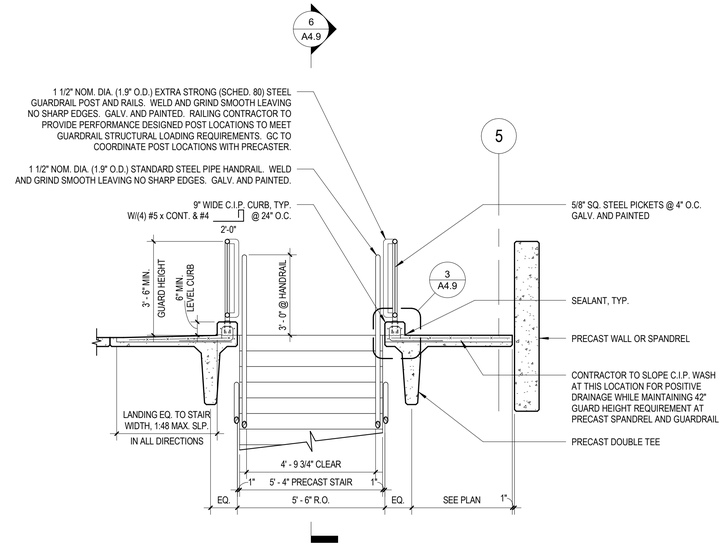
FRAME CONSTRUCTION: PROVIDE SNAP TOGETHER TYPE STRUCTURAL FRAMING OF 6063-T6 ALUMINUM ALLOY EXTRUSIONS. FRAMING ASSEMBLED USING INTERNALLY LOCATED MECHANICAL FASTENERS. EXPOSED FASTENERS ON SHELTER EXTERIOR ARE NOT ACCEPTABLE. FINISH TO BE SELECTED BY ARCHITECT FROM MANUFACTURERS COMPLETE LINE.

GLAZING: GLASS TYPE G1, SEE GLASS LEGEND. GLASS PANELS ARE REQUIRED TO RESIST GUARDRAIL INFILL LOADING REQUIREMENTS. GLASS PANELS ARE TO BE GLAZED WITHIN WALL PANEL SYSTEM EXTRUSIONS AND NOT FASTENED TO THE EXTERIOR WALL. GLASS SEALED WITH CONCEALED GASKET SYSTEM.

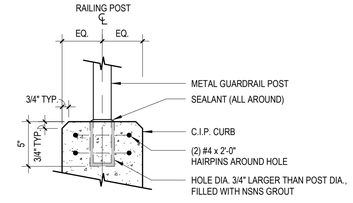
ROOF: GALVANIZED STEEL, 20 TO 24 GAUGE, G-60 ZINC COATING, INTERLOCKING PAN SECTIONS, 3 INCHES (76.2 MM) HIGH VARYING WIDTHS AND CAPABLE OF SUPPORTING A MINIMUM 40 PSF (1915 PA) LIVE LOAD. ROOF DRAINS INTO FULL PERIMETER GUTTER SYSTEM. EXPOSED ROOF SURFACES TO BE FACTORY PAINTED WHITE.

CEILING: INTERIOR CEILING, FOAM CORE PANEL SYSTEM PROVIDING SMOOTH FLAT INTERIOR. FABRICATE OF 24 GAUGE PREFINISHED STEEL PAINTED WHITE WITH EXPANDED POLYSTYRENE CORE.

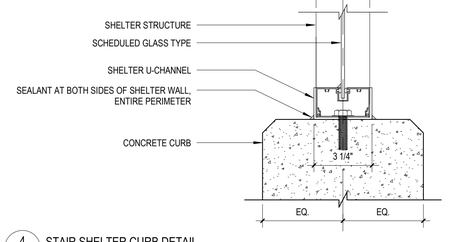
1 PUNCH THROUGH STAIR DETAIL - TOP TIER
A4.9 3/8" = 1'-0"



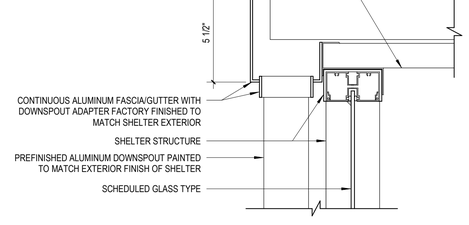
2 PUNCH THROUGH STAIR DETAIL - SUPPORTED TIER
A4.9 3/8" = 1'-0"



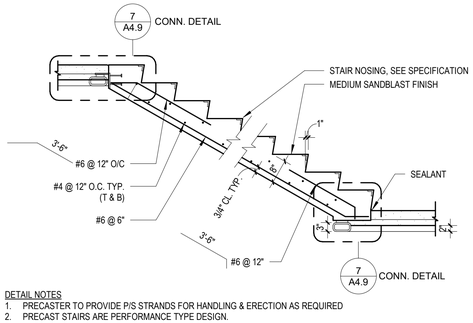
3 POST MOUNT DETAIL - HOLE
A4.9 1 1/2" = 1'-0"



4 STAIR SHELTER CURB DETAIL
A4.9 3" = 1'-0"

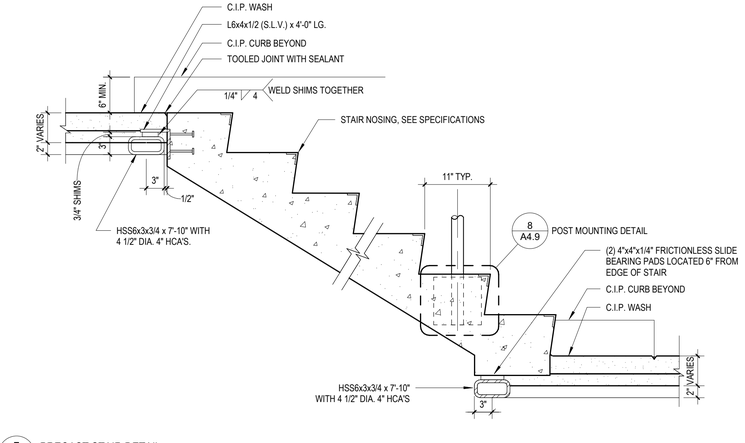


5 STAIR SHELTER ROOF DETAIL
A4.9 3" = 1'-0"

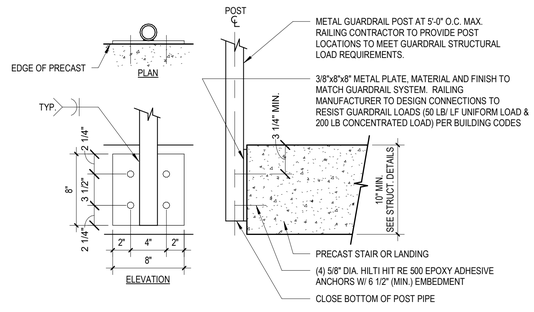


DETAIL NOTES
1. PRECASTER TO PROVIDE P/S STRANDS FOR HANDLING & ERECTION AS REQUIRED
2. PRECAST STAIRS ARE PERFORMANCE TYPE DESIGN.

6 PRECAST STAIR DETAIL
A4.9 1/2" = 1'-0"



7 PRECAST STAIR DETAIL
A4.9 1" = 1'-0"



8 POST MOUNT DETAIL - EDGE
A4.9 1 1/2" = 1'-0"

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PUNCH THROUGH STAIR DETAILS

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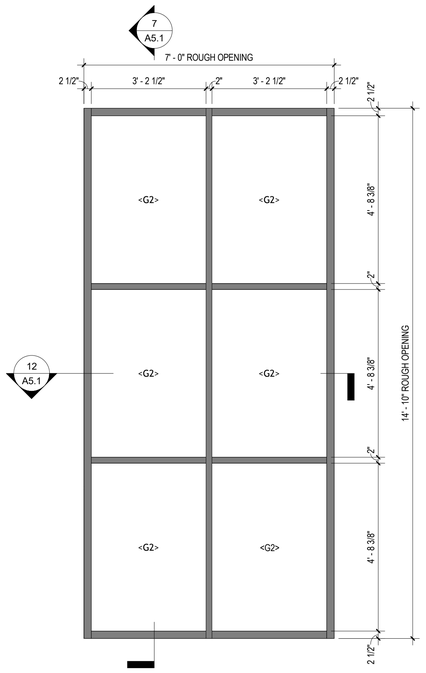
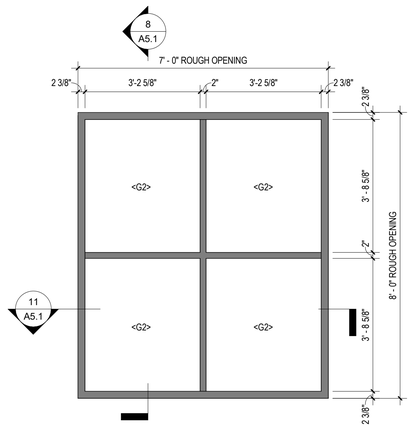
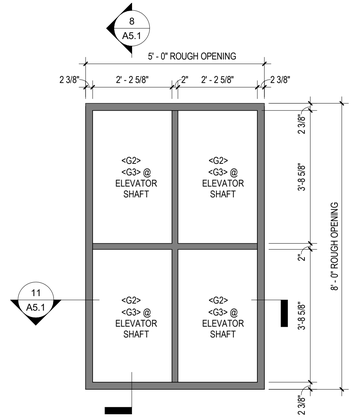


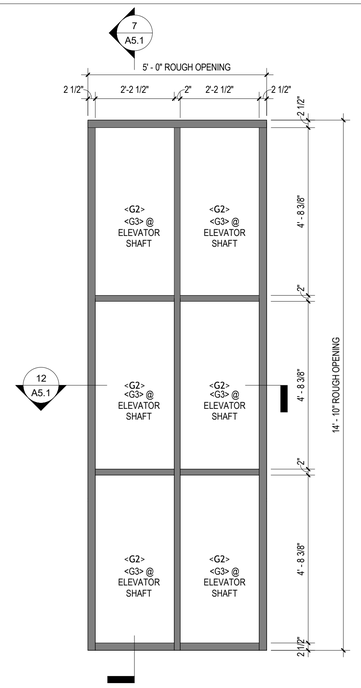
1 A5.1 TOWER A ENLARGED GLAZING ELEVATION - SOUTH
1/2" = 1'-0"



2 A5.1 TOWER A ENLARGED GLAZING ELEVATION - SOUTH @ TOP
1/2" = 1'-0"

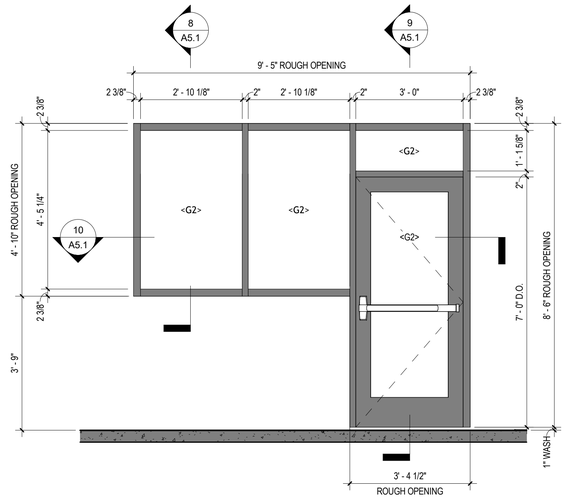


3 A5.1 TOWER A ENLARGED GLAZING ELEVATION - EAST@ TOP
1/2" = 1'-0"

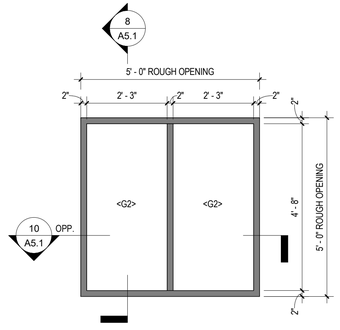


4 A5.1 TOWER A ENLARGED GLAZING ELEVATION - EAST
1/2" = 1'-0"

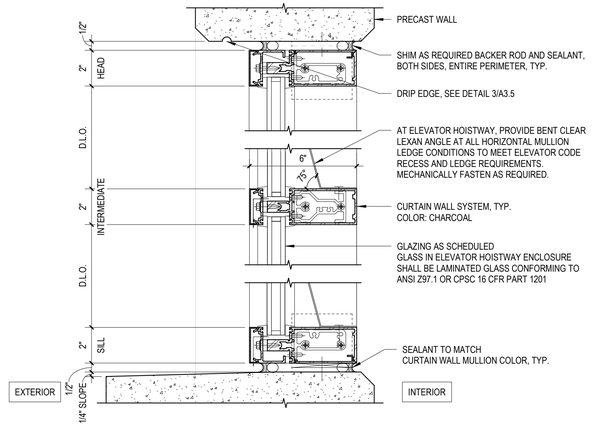
GLAZING SCHEDULE	
REF. NO.	DESCRIPTION
<G1>	GRAY, TEMPERED GLASS (1/4" TYPICAL)
<G2>	GRAY, LOW-E-COATED INSULATING GLASS (1" TYPICAL)
<G3>	GRAY, LOW-E-COATED LAMINATED INSULATING GLASS (1 1/8")



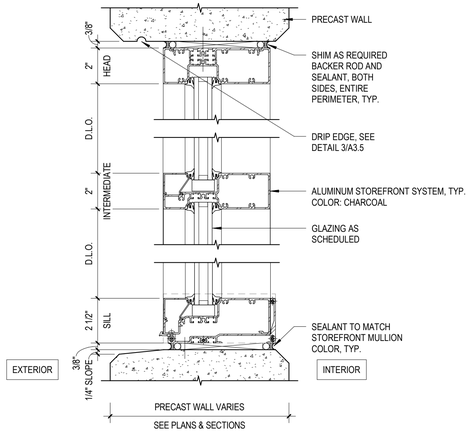
5 A5.1 TOWER A ENLARGED GLAZING ELEVATION - NORTH
1/2" = 1'-0"



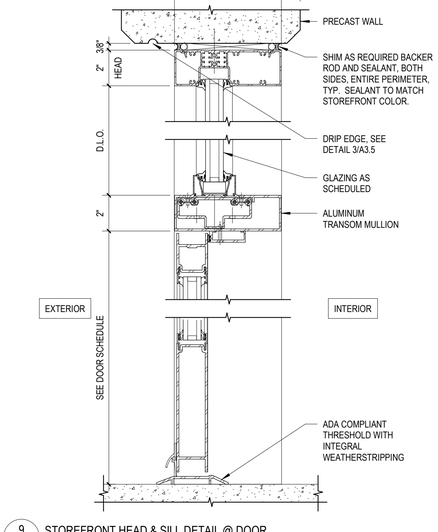
6 A5.1 TOWER B ENLARGED GLAZING ELEVATION - WEST
1/2" = 1'-0"



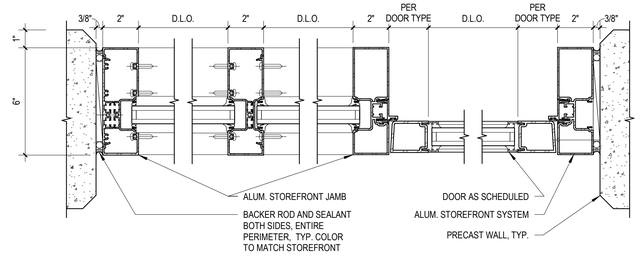
7 A5.1 CURTAINWALL HEAD & SILL DETAIL @ EXTERIOR
3" = 1'-0"



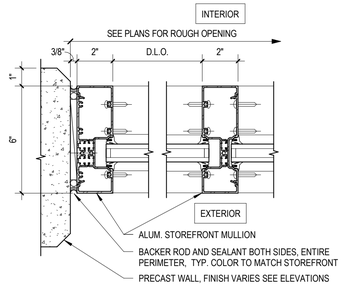
8 A5.1 STOREFRONT HEAD & SILL DETAIL
3" = 1'-0"



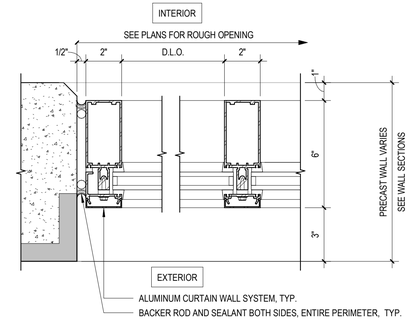
9 A5.1 STOREFRONT HEAD & SILL DETAIL @ DOOR
3" = 1'-0"



10 A5.1 STOREFRONT PLAN DETAIL @ DOOR
3" = 1'-0"



11 A5.1 STOREFRONT JAMB DETAIL
3" = 1'-0"



12 A5.1 CURTAIN WALL JAMB DETAILS
3" = 1'-0"

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PROJECT NO.
PCNY0323.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

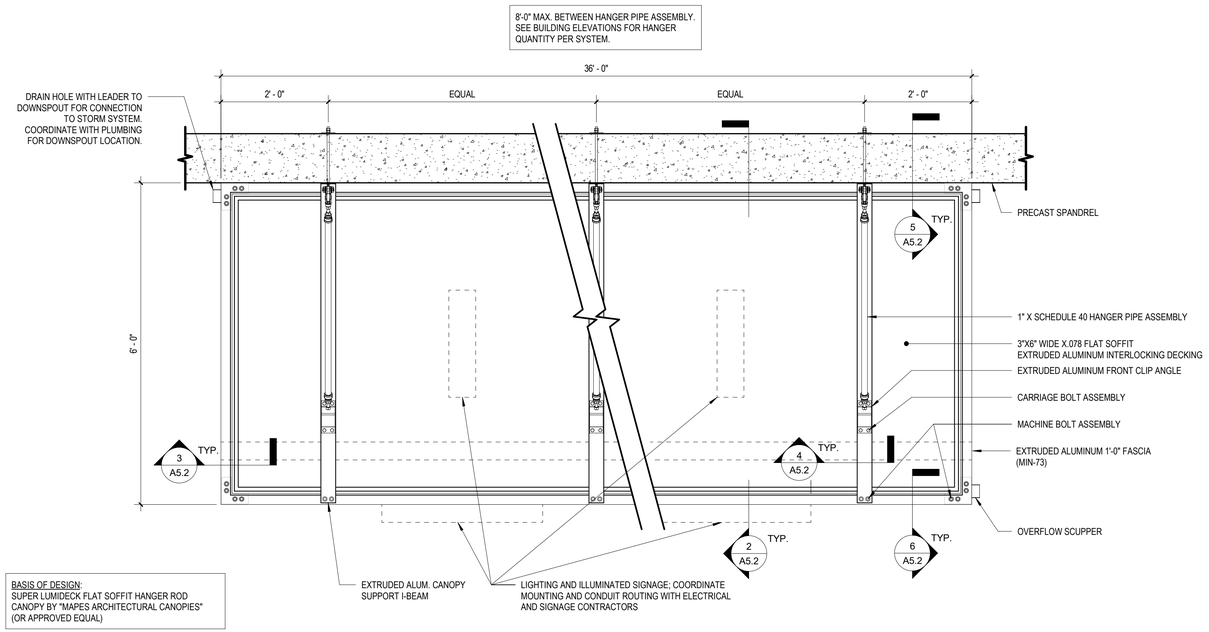
NO.	DESCRIPTION	DATE

DRAWN: VJ
REVIEWED: RP
DATE: 02.21.25

NORTH

SHEET TITLE:
EXTERIOR DETAILS

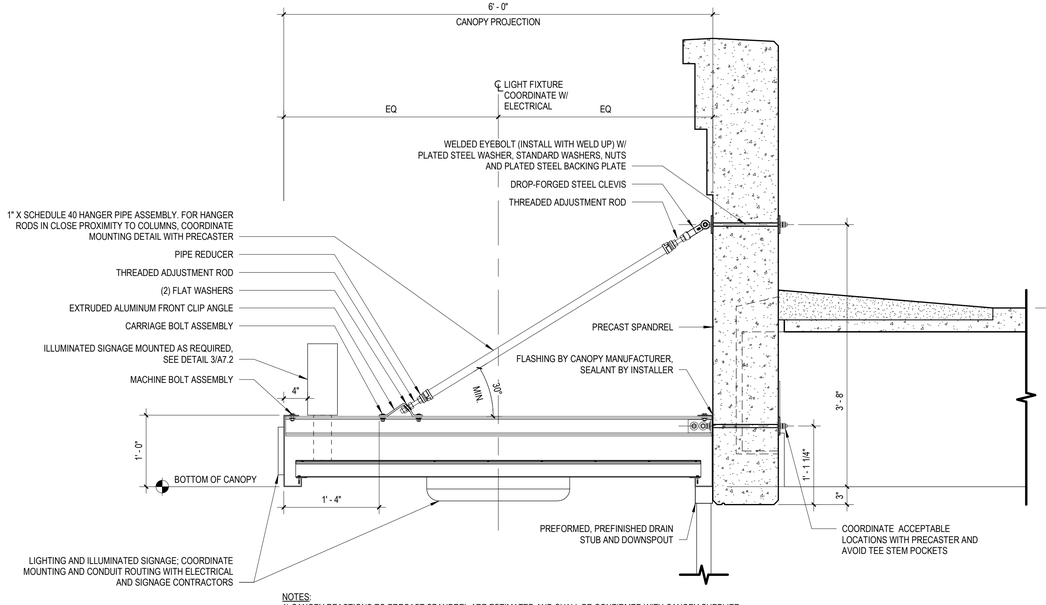
SHEET NO.
A5.1



1 A5.2 CANOPY PLAN DETAIL
3/4" = 1'-0"

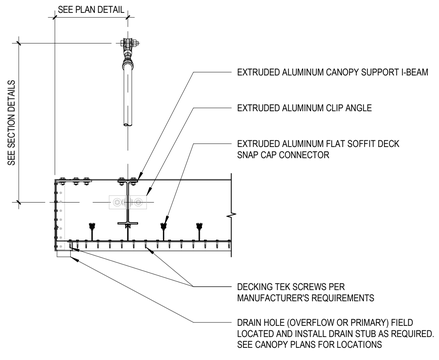
ALUMINUM CANOPY SYSTEM NOTES:

1. ALUMINUM CANOPY CONTRACTOR SHALL BE RESPONSIBLE TO PERFORMANCE DESIGN, SUPPLY, AND INSTALL THE ALUMINUM CANOPY SYSTEM INCLUDING THE ATTACHMENT TO PRECAST STRUCTURE.
2. THE ALUMINUM CANOPY CONTRACTOR'S PERFORMANCE DESIGN ENGINEER SHALL PROVIDE THE PRECASTER WITH LOCATIONS AND FINAL PERFORMANCE DESIGN LOADS AT EACH CONNECTION. THE PRECASTER SHALL PERFORMANCE DESIGN THE PRECAST SUPERSTRUCTURE TO RESIST THE GIVEN LOADS. THE CONSTRUCTION MANAGER SHALL ASSURE THAT THIS IS DONE IN A TIMELY MANNER TO ALLOW THE PRECASTER TO PROCEED WITH THEIR PERFORMANCE DESIGN. THE PRECASTER SHALL ASSURE THAT THE ALUMINUM CANOPY CONNECTIONS ARE POSITIONED WHERE DRILLING FOR INSTALLATION OF THE POST-INSTALLED ANCHORS IS PERMITTED WITHOUT IMPACTING THE PRECAST CONCRETE. THE ESTIMATED CONNECTION LOADS THAT ARE PROVIDED IN THE CANOPY SECTION DETAIL ARE FOR BIDDING PURPOSES ONLY. REFER TO THE ARCHITECTURAL PLANS AND ELEVATIONS FOR THE GEOMETRY OF THE CANOPIES AND HANGER PIPES. ADJUST THE LOCATION AND SPACING OF THE HANGER PIPES AS NEEDED BASED ON THE PERFORMANCE DESIGN AND COORDINATION WITH THE PRECASTER.
3. THE ALUMINUM CANOPY CONTRACTOR SHALL SURVEY THE AS-BUILT LOCATIONS OF THE PRECAST STRUCTURE PRIOR TO FABRICATION AND ERECTION OF THE ALUMINUM CANOPY SYSTEM AND MAKE ADJUSTMENTS AS NECESSARY.
4. BASIS OF DESIGN: SUPER LUMIDECK FLAT SOFFIT HANGER ROD CANOPY BY "MAPES ARCHITECTURAL CANOPIES" (OR APPROVED EQUAL)
COLOR: BLACK

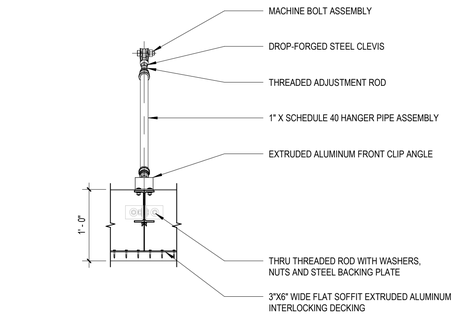


NOTES:
1) CANOPY REACTIONS TO PRECAST SPANDREL ARE ESTIMATED AND SHALL BE CONFIRMED WITH CANOPY SUPPLIER.
2) REACTIONS SHALL BE BASED ON STRENGTH DESIGN LOAD COMBINATIONS FROM 2020 BUILDING CODE OF NEW YORK STATE, SECTION 1605.2
3) DIRECTION OF LOADING IS REVERSIBLE.

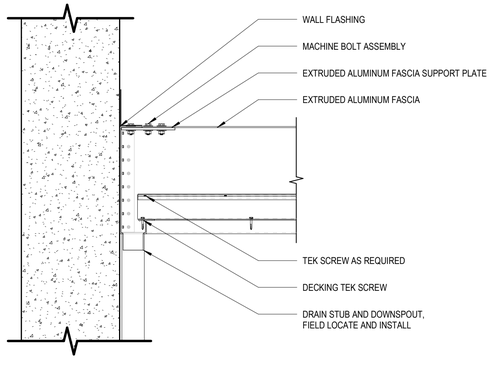
2 A5.2 CANOPY SECTION DETAIL
1" = 1'-0"



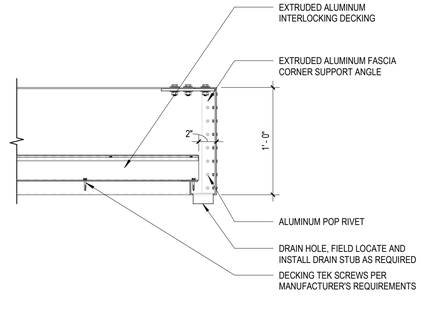
3 A5.2 CANOPY SECTION DETAIL
1" = 1'-0"



4 A5.2 CANOPY SECTION DETAIL
1" = 1'-0"



5 A5.2 CANOPY SECTION DETAIL
1 1/2" = 1'-0"



6 A5.2 CANOPY SECTION DETAIL
1 1/2" = 1'-0"

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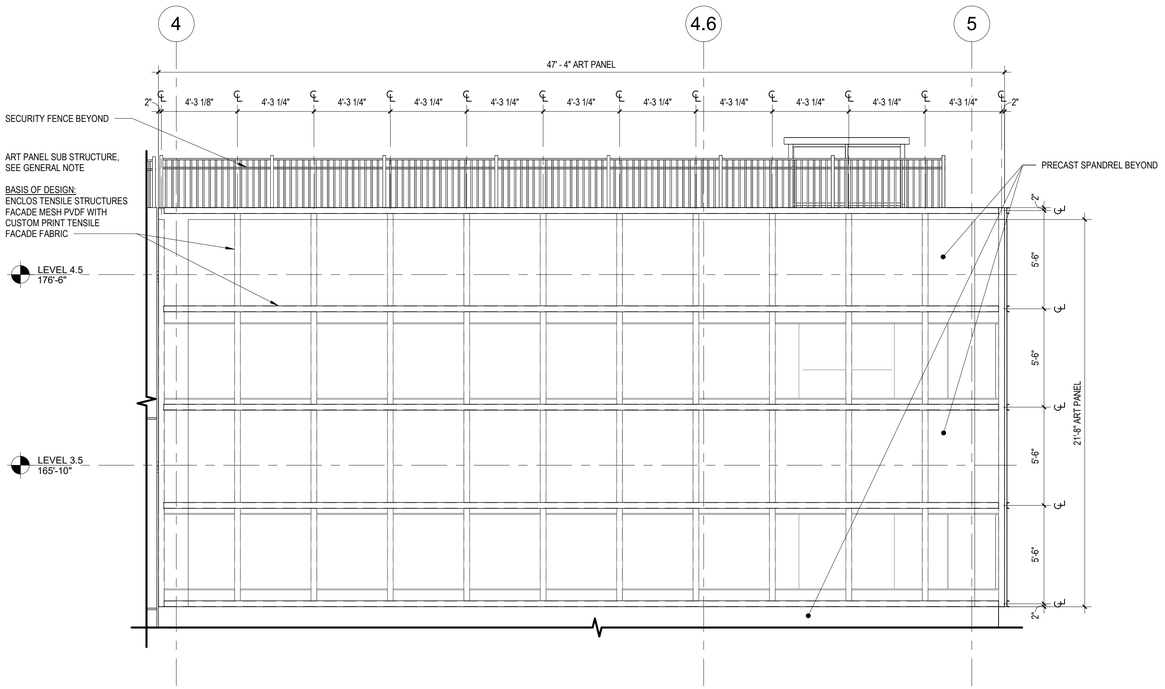
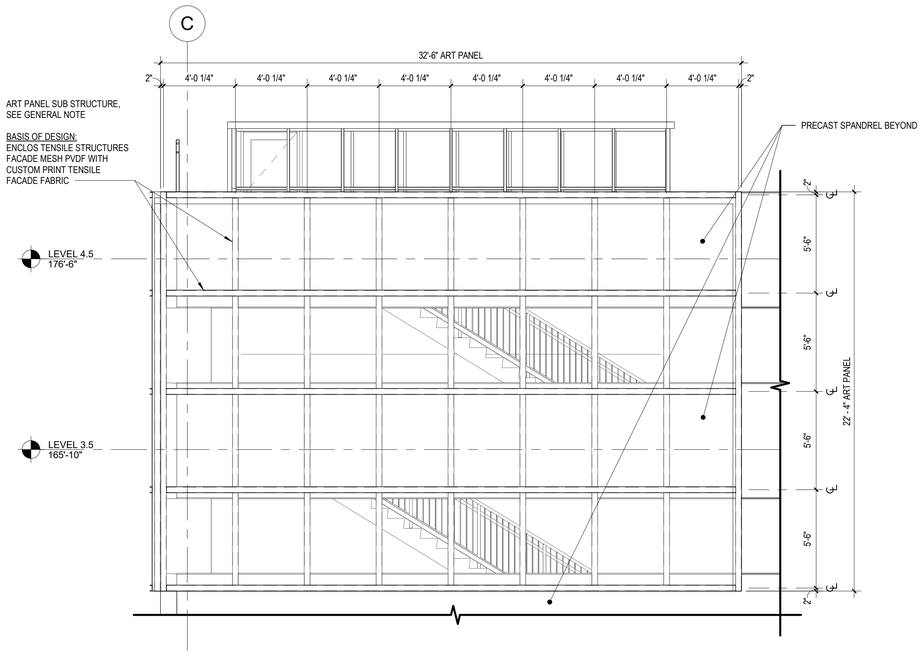


1 / A5.3 EAST ELEVATION - ART PANEL DETAIL
1/4" = 1'-0"

ART PANEL GENERAL NOTE:
MESH SCREEN - PVDF COATED POLYESTER MESH WITH GRAPHICS. IMAGE TO BE DETERMINED BY THE VILLAGE OF OSSINING. INSTALLATION AS PER THE MANUFACTURER SPECIFICATIONS. ALL CONNECTIONS SHALL BE PERFORMANCE DESIGNED TO RESIST THE APPLICABLE LOADS. SUBMIT CALCULATIONS SEALED BY PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF NEW YORK, FOR APPROVAL PRIOR TO ANY FABRICATION. REFER TO SPECIFICATION SECTION 133100 TENSILE MEMBRANE STRUCTURES FOR BASIS OF DESIGN.



3 / A5.3 NORTH ELEVATION - ART PANEL DETAIL
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A5.3

DOOR AND FRAME SCHEDULE

DOOR NO.	LOCATION	TYPE	DOOR						FRAME				FIRE-RATING LABEL	HARDWARE SET NO.	REMARKS
			SIZE			MATERIAL	FINISH	GLASS	TYPE	MATERIAL	FINISH	HEAD & JAMB			
			WIDTH	HEIGHT	THICKNESS										
LOWER LEVEL															
001	ELECTRICAL ROOM	D	3'-0"	7'-0"	1 3/4"	H.M.	PTD	-	1	H.M.	PTD	3/A6.1		SEE SPEC	
002	UTILITY ROOM	D	6'-0"	7'-0"	1 3/4"	H.M.	PTD	-	1	H.M.	PTD	3/A6.1		SEE SPEC	
003	STORAGE ROOM	A	6'-0"	7'-0"	1 3/4"	H.M.	PTD	-	1	H.M.	PTD	3/A6.1		SEE SPEC	
LEVEL 1															
103	IDF	A	3'-0"	7'-0"	1 3/4"	H.M.	PTD	-	1	H.M.	PTD	3/A6.1		SEE SPEC	INSULATED HM DOOR AND FRAME
LEVEL 3															
303	IDF	A	3'-0"	7'-0"	1 3/4"	H.M.	PTD	-	1	H.M.	PTD	3/A6.1		SEE SPEC	INSULATED HM DOOR AND FRAME
304	ECR	A	3'-0"	7'-0"	1 3/4"	H.M.	PTD	-	1	H.M.	PTD	3/A6.1		SEE SPEC	INSULATED HM DOOR AND FRAME
LEVEL 4															
401	STAIR TOWER A	B	3'-0"	7'-0"	1 3/4"	ALUM	PTD	G1	-	ALUM	PTD	SEE DETAILS		SEE SPEC	
402	STAIR TOWER B	B	3'-0"	7'-0"	1 3/4"	ALUM	PTD	G1	-	ALUM	PTD	SEE DETAILS		SEE SPEC	
403	STAIR C	B	3'-0"	7'-0"	1 3/4"	ALUM	PTD	G1	-	ALUM,	PTD	SEE DETAILS		SEE SPEC	

DOOR HARDWARE NOTE:

- HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERABLE PARTS ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST TO OPERATE. OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34" MINIMUM AND 48" MAXIMUM ABOVE THE FLOOR PER 2009 ICC A117.1 SECTION 404.2.6.

FINISH NOTES FOR STAIR / ELEVATOR TOWERS (TYPICAL EVERY LEVEL):

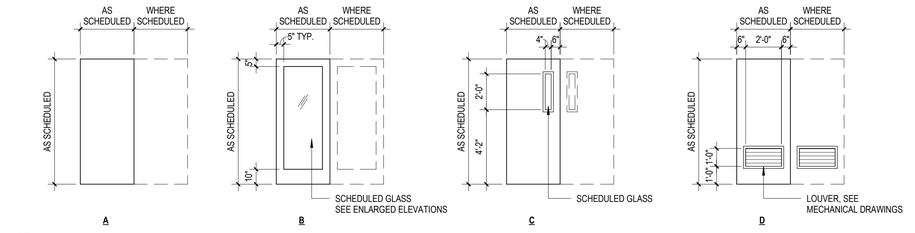
- PAINT ELEVATOR LOBBY EAST WALL AND ALL EXPOSED CONDUIT ON WALL FACE WITH LEVEL COLOR. SEE MATERIAL SCHEDULE FOR ADDITIONAL INFORMATION.
- PAINT THE UNDERSIDE & SIDES OF STAIR RUNS, LANDINGS AND UNDERSIDE OF ROOF OF STAIR TOWERS (INCLUDING EXPOSED CONDUIT, PLASTICS & MISC. STEEL).
- PAINT ALL EXPOSED STEEL IN COLOR TO BE SELECTED BY ARCHITECT.
- PAINT ALL INTERIOR FACES OF THE ELEVATOR SHAFT (EXCEPT FOR EAST FACING WALL), VERTICAL & HORIZONTAL TUBE STEEL AND STEEL BEAMS INCLUDING EXPOSED CONDUITS. SEE MATERIAL SCHEDULE.

ROOM FINISH SCHEDULE

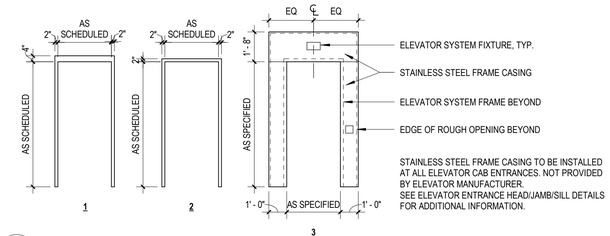
ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS				CEILING	COMMENTS
				NORTH	EAST	SOUTH	WEST		
LOWER LEVEL									
001	ELECTRICAL ROOM	SLAB ON GRADE W/ SEALER		INSULATED CMU, UNFINISHED	INSULATED CMU, UNFINISHED	INSULATED C.I.P, UNFINISHED	INSULATED CMU, UNFINISHED	(R-38) INSULATED STRUCTURE ABOVE	INSULATED FLOOR (R-10)
002	UTILITY ROOM	SLAB ON GRADE W/ SEALER	-	INSULATED CMU, UNFINISHED	INSULATED CMU, UNFINISHED	INSULATED C.I.P. UNFINISHED	INSULATED CMU, UNFINISHED	(R-38) INSULATED STRUCTURE ABOVE	INSULATED FLOOR (R-10)
003	STORAGE ROOM	SLAB ON GRADE W/ SEALER	-	INSULATED CMU, PRECAST UNFINISHED	INSULATED C.I.P. UNFINISHED	INSULATED C.I.P. UNFINISHED	INSULATED CMU, UNFINISHED	(R-38) INSULATED STRUCTURE ABOVE	INSULATED FLOOR (R-10)
LEVEL 1									
101	STAIR TOWER A	SLAB ON GRADE W/ SEALER	-	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, UNFINISHED	PRECAST, PAINTED	SEE MATERIAL SCHEDULE FOR ADDITIONAL INFORMATION
102	STAIR TOWER B	SLAB ON GRADE W/ SEALER	-	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, UNFINISHED	PRECAST, PAINTED	SEE MATERIAL SCHEDULE FOR ADDITIONAL INFORMATION
103	IDF	INSULATED FLOOR (R-10)	-	INSULATED CMU, UNFINISHED	INSULATED C.I.P. UNFINISHED	INSULATED PRECAST, UNFINISHED	INSULATED CMU, UNFINISHED	(R-38) INSULATED STRUCTURE ABOVE	PAINT EXTERIOR FACE TO MATCH LEVEL COLOR
LEVEL 2									
201	STAIR TOWER A	PRECAST CONCRETE W/ SEALER	-	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, UNFINISHED	PRECAST, PAINTED	SEE MATERIAL SCHEDULE FOR ADDITIONAL INFORMATION
202	STAIR TOWER B	PRECAST CONCRETE W/ SEALER	-	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, UNFINISHED	PRECAST, PAINTED	SEE SIGNAGE DRAWINGS FOR PAINTING SCOPE
LEVEL 3									
301	STAIR TOWER A	PRECAST CONCRETE W/ SEALER	-	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, UNFINISHED	PRECAST, PAINTED	SEE MATERIAL SCHEDULE FOR ADDITIONAL INFORMATION
302	STAIR TOWER B	PRECAST CONCRETE W/ SEALER	-	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, UNFINISHED	PRECAST, PAINTED	SEE MATERIAL SCHEDULE FOR ADDITIONAL INFORMATION
303	IDF	INSULATED FLOOR (R-10)	-	INSULATED CMU, UNFINISHED	INSULATED CMU, UNFINISHED	INSULATED PRECAST, UNFINISHED	INSULATED CMU, UNFINISHED	(R-38) INSULATED STRUCTURE ABOVE	PAINT EXTERIOR FACE TO MATCH LEVEL COLOR
304	ECR	INSULATED FLOOR (R-10)	-	INSULATED CMU, UNFINISHED	INSULATED PRECAST, UNFINISHED	INSULATED PRECAST, UNFINISHED	INSULATED CMU, UNFINISHED	(R-38) INSULATED STRUCTURE ABOVE	PAINT EXTERIOR FACE TO MATCH LEVEL COLOR
LEVEL 4									
401	STAIR TOWER A	PRECAST CONCRETE W/ SEALER	-	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, UNFINISHED	PRECAST, PAINTED	SEE MATERIAL SCHEDULE FOR ADDITIONAL INFORMATION
402	STAIR TOWER B	PRECAST CONCRETE W/ SEALER	-	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, PAINTED	PRECAST, UNFINISHED	PRECAST, PAINTED	SEE MATERIAL SCHEDULE FOR ADDITIONAL INFORMATION
403	STAIR C	PRECAST CONCRETE	-	GLAZING	GLAZING	GLAZING	GLAZING	STRUCTURE ABOVE	

MATERIAL SCHEDULE

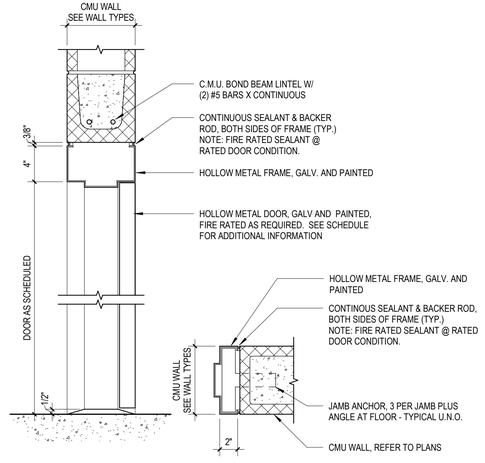
LOCATION	MATERIAL	BASIS OF DESIGN MANUFACTURER	STYLE & FINISH	COLOR	SIZE	REMARKS / CONTACT
STAIR TOWER	EXTERIOR PAINT	SHERWIN WILLIAMS	EXTERIOR LATEX, EGGSHELL	SEE REMARKS	-	ALL STAIR TOWER INTERIOR WALLS AND UNDERSIDE OF ROOF SHALL BE EIDER WHITE (SW 7014). FOR ELEVATOR LOBBIES, SEE DETAIL 5/A4.2. ALSO SEE SHEET A7.1 FOR SIGNAGE GENERAL NOTES FOR ELEVATOR SHAFT EAST WALL COLORS.
LOWER LEVEL UTILITY ROOMS	EXTERIOR PAINT	SHERWIN WILLIAMS	EXTERIOR LATEX, EGGSHELL	EIDER WHITE (SW 7014)		PAINT EXTERIOR FACE OF CMU WALLS AND DOORS
ELEVATOR HOISTWAY	EXTERIOR PAINT	SHERWIN WILLIAMS	EXTERIOR LATEX, EGGSHELL	GRAY AREA (SW 7052)		PAINT INTERIOR OF ELEVATOR HOISTWAY WALLS, EXPOSED STEEL STRUCTURE, CONDUITS AND PIPING



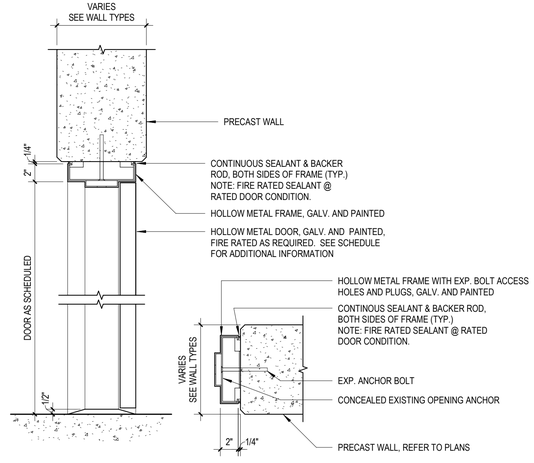
1 A6.1 DOOR TYPES
1/4" = 1'-0"



2 A6.1 FRAME TYPES
1/4" = 1'-0"



3 A6.1 HOLLOW METAL DOOR HEAD/JAMB DETAIL - CMU
1 1/2" = 1'-0"



4 A6.1 HOLLOW METAL DOOR HEAD/JAMB DETAIL - PRECAST
1 1/2" = 1'-0"

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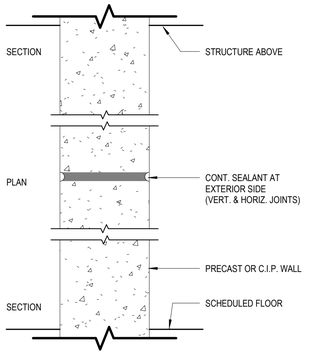
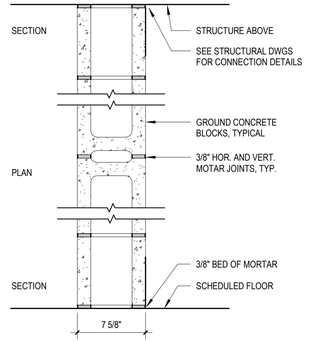
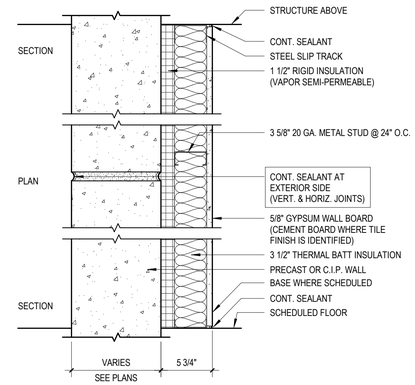


1 PARTITION

NOTE: FIRESTOP ALL PENETRATION THROUGH RATED WALL ASSEMBLIES W/ UL LISTED PRODUCTS



2 PARTITION



3 PARTITION

PARTITION TYPE 1

WALL TAG	TYPE	WIDTH	DESCRIPTION	FIRE RATING
1	PARTITION TYPE 1	1'-0"	PRECAST	
1.3	PARTITION TYPE 1.3	11"	PRECAST	
1.6	PARTITION TYPE 1.6	10"	PRECAST	
1.12	PARTITION TYPE 1.12	1'-4"	PRECAST	
1.15	PARTITION TYPE 1.15	1'-0"	CAST IN PLACE	
1.18	PARTITION TYPE 1.18	11"	CAST IN PLACE	
1.21	PARTITION TYPE 1.21	10"	CAST IN PLACE	
1.24	PARTITION TYPE 1.24	1'-2"	CAST IN PLACE	
1.27	PARTITION TYPE 1.27	8"	CAST IN PLACE	
1.28	PARTITION TYPE 1.28	1'-8"	CAST IN PLACE	

PARTITION TYPE 2

WALL TAG	TYPE	WIDTH	DESCRIPTION	FIRE RATING
2	PARTITION TYPE 2	8"	CONCRETE MASONRY UNIT	

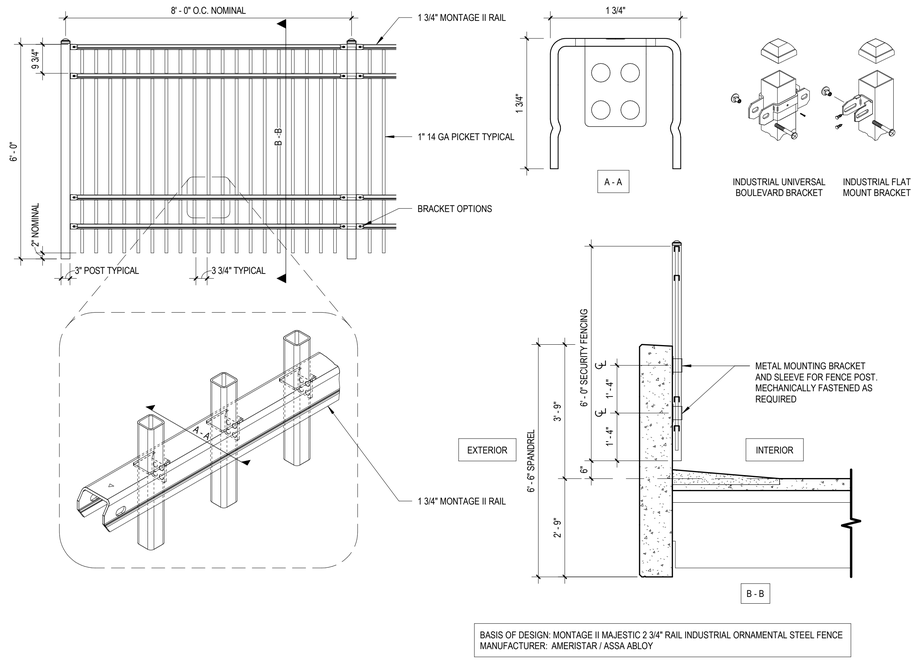
PARTITION TYPE 3

WALL TAG	TYPE	WIDTH	EXTERIOR SIDE	CORE	INTERIOR SIDE	INSULATION	DESCRIPTION	FIRE RATING
3	PARTITION TYPE 3	1'-3 3/4"					PRECAST	
3.1	PARTITION TYPE 3	1'-4 3/4"					PRECAST	
3.2	PARTITION TYPE 3	1'-4 3/4"					CAST IN PLACE	
3.3	PARTITION TYPE 3	1'-5 3/4"					CAST IN PLACE	
3.4	PARTITION TYPE 3	2'-1 3/4"					CAST IN PLACE	

4 PARTITION

PARTITION TYPE 4

WALL TAG	TYPE	WIDTH	EXTERIOR SIDE	CORE	INTERIOR SIDE	INSULATION	DESCRIPTION	FIRE RATING
4.0	PARTITION TYPE 4	1'-1 3/4"		CMU		YES	CONCRETE MASONRY UNIT	
4.1	PARTITION TYPE 4	1'-7 1/2"	GYP BD	CMU	GYP BD	YES	CONCRETE MASONRY UNIT	



BASIS OF DESIGN: MONTAGE II MAJESTIC 2 3/4" RAIL INDUSTRIAL ORNAMENTAL STEEL FENCE
MANUFACTURER: AMERISTAR / ASSA ABLOY

1 SECURITY FENCE DETAIL
A6.2 1/2" = 1'-0"

THA Consulting, Inc.
144 Livingston Avenue
New Brunswick, NJ 08901
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www.tha-consulting.com

PROFESSIONAL SEAL

STATE OF NEW YORK
SUN HEE HWANG
LICENSED PROFESSIONAL ENGINEER
LICENSE EXPIRATION DATE 11/30/2026

CONSULTANT

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Calderon Architecture
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Beacon, NY 12508
Tel: (212) 369-2766
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LANGAN
Langan
1 N Broadway #910
White Plains, NY 10601
Tel: (914) 323-7400
www.langan.com

KSE
KS Engineers, P.C.
KSE Engineers
Two Riverfront Plaza, McCarter Highway
Newark, NJ 07102
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ama group
AMA Consulting Engineers PC
825 8th Ave., #18
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CUONO ENGINEERING PLLC
STRUCTURAL DESIGN
Cuono Engineering PLLC
925 Westchester Avenue
Suite 100
Tel: (914) 305-5679
www.cuonoengineering.com

CALGI
Established 1919
Calgi Construction Company, Inc.
56 Lafayette Avenue
Suite 350
(914) 682-9423
www.calgiconstruction.com

PROJECT NO.
PCNY0323.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

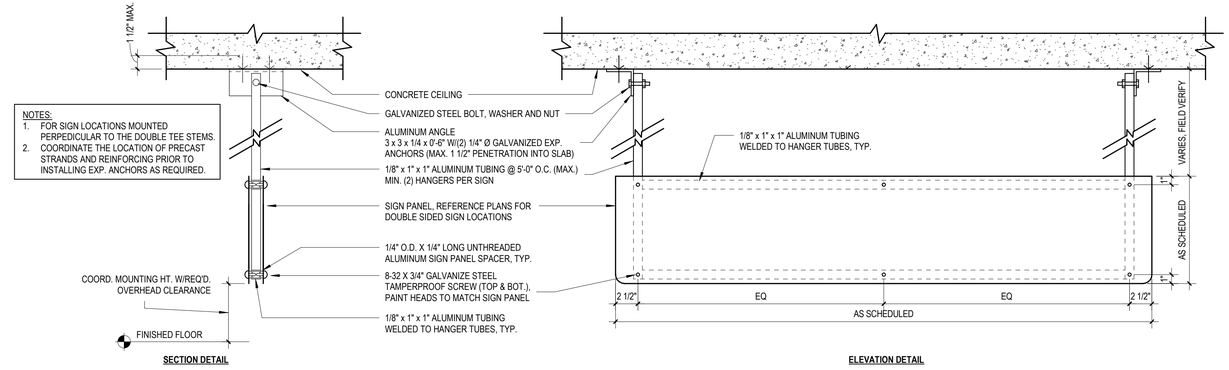
NO.	DESCRIPTION	DATE

DRAWN: VJ
REVIEWED: RP
DATE: 02.21.25

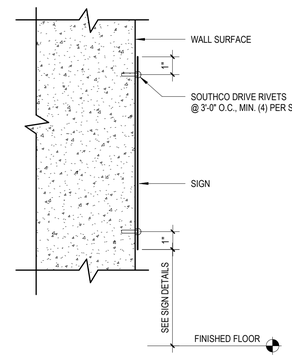
NORTH

SHEET TITLE:
WALL TYPES AND DETAILS

SHEET NO.
A6.2



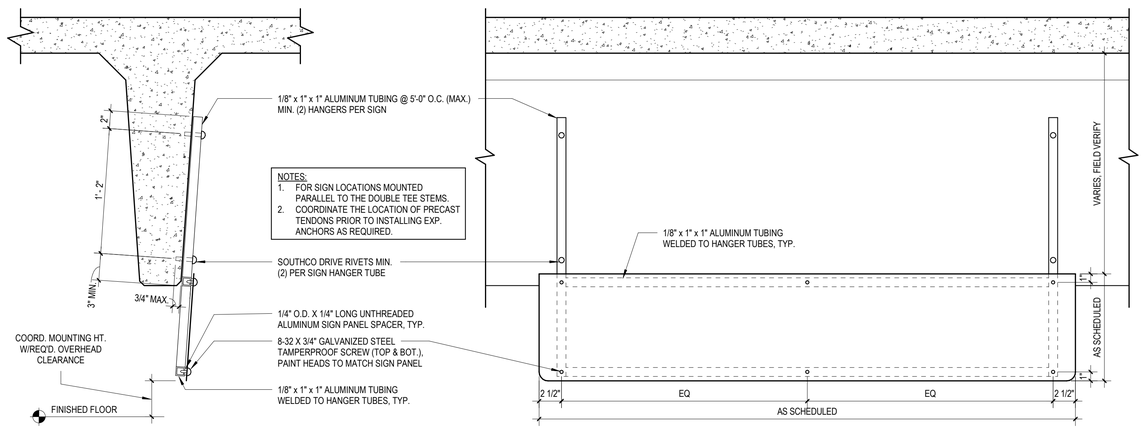
1 A7.1 SIGN MOUNTING DETAIL
1 1/2" = 1'-0"



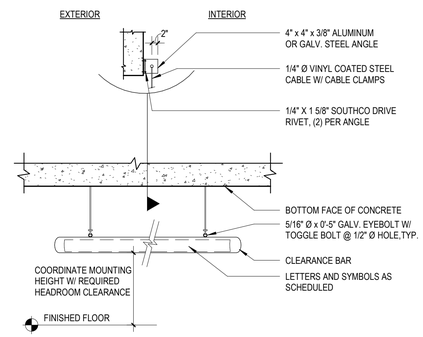
2 A7.1 SIGN MOUNTING DETAIL
3" = 1'-0"

SIGN SCHEDULE

MARK	SIZE W	SIZE H	LTR. HT.	SIGN GRAPHICS L	SIGN GRAPHICS TEXT	SIGN GRAPHICS R	SIGN DETAIL	MNTG. DTL.	REMARKS
A. ENTRY/EXIT SIGNS									
A01	7'-0"	0'-10"	10"	↓	ENTER	↓	1/A7.2	SEE DET.	CHANNEL LETTER SIGN
A02	7'-0"	0'-10"	10"	⊖	EXIT	⊖	1/A7.2	SEE DET.	CHANNEL LETTER SIGN
A03	6'-6"	0'-5.25"	4"	8'-2"	CLEARANCE (DO NOT ENTER ON BACK)	8'-2"	2/A7.2	4/A7.1	
A03A	6'-6"	0'-5.25"	4"	7'-2"	CLEARANCE	7'-2"	2/A7.2	4/A7.1	
A04	6'-6"	0'-5.25"	4"	⊖	DO NOT ENTER (EXIT ON BACK)	⊖	2/A7.2	4/A7.1	
B. LEVEL SIGNS									
A05	1'-10"	2'-6"	VARIES		LEVEL DESIGNATION (PARKING AREA)		3/A7.2	2/A7.1	
A06	SEE DET.	SEE DET.	1'-8"		LEVEL DESIGNATION (PARKING AREA)		4/A7.2	PAINTED	
A07	SEE DET.	SEE DET.	1'-8"		LEVEL DESIGNATION (PARKING AREA)		4/A7.2	PAINTED	
C. VEHICULAR WAYFINDING SIGNS									
B01	5'-0"	1'-0"	6"	↑	EV I PARK	→	7/A7.2	3/A7.1	
B01D	5'-0"	1'-0"	6"	↓	OUT	↓	7/A7.2	2/A7.1	
B02L	5'-0"	1'-0"	6"	←	OUT		7/A7.2	1/A7.1	
B03	5'-0"	1'-0"	5"		DO NOT ENTER		8/A7.2	1, 3/A7.1	
B04	5'-0"	1'-0"	VARIES	5 MPH	SPEED LIMIT	5 MPH	9/A7.2	3/A7.1	
D. PEDESTRIAN WAYFINDING SIGNS									
C01	SEE DET.	SEE DET.	VARIES		ADA PARKING		1/A7.3	2, 6/A7.1	
C01A	SEE DET.	SEE DET.	VARIES		ADA PARKING (VAN)		1/A7.3	2, 6/A7.1	
C01B	1'-0"	1'-6"	VARIES		NO PARKING ANY TIME		1/A7.3	2, 6/A7.1	
C02	1'-0"	1'-6"	1 1/2"		ELECTRIC VEHICLE PARKING		2/A7.3	2/A7.1	
C04	0'-10"	0'-8"	VARIES		FIRE DEPARTMENT CONNECTION		4/A7.3	2/A7.1	
C05	0'-6"	0'-10"	3/4"		EXIT STAIRS		5/A7.3	2, 8/A7.1	
C05A	0'-6"	0'-10"	3/4"		EXIT		5/A7.3	2/A7.1	
C05B	0'-6"	0'-10"	3/4"		EXIT ROUTE		5/A7.3	2/A7.1	
C06	0'-6"	0'-10"	3/4"		STAIR ID (PEDESTRIAN)		6/A7.3	2, 8/A7.1	
C07	0'-8"	1'-0"	5/8"		IN CASE OF FIRE...		7/A7.3	2/A7.1	
C08	1'-2"	1'-6"	VARIES		STAIR ID (LANDING)		8/A7.3	2/A7.1	
C09L	5'-0"	1'-0"	3 1/2"	←	STAIRS | ELEVATOR		9/A7.3	1, 3/A7.1	
C09R	5'-0"	1'-0"	3 1/2"		STAIRS | ELEVATOR	→	9/A7.3	1, 3/A7.1	
C10	5'-0"	1'-0"	5"		STAIRS	↓	9/A7.3	1, 3/A7.1	
C10L	5'-0"	1'-0"	5"	←	STAIRS		9/A7.3	1, 3/A7.1	
C10R	5'-0"	1'-0"	5"		STAIRS	→	9/A7.3	1, 3/A7.1	
C11	0'-8"	0'-4"	5/8"		ROOM IDENTIFICATION		10/A7.3	3/A7.1	
C12	2'-0"	1'-1"	3"		DO NOT PILE SNOW		11/A7.3	3/A7.1	



3 A7.1 SIGN MOUNTING DETAIL
1 1/2" = 1'-0"



4 A7.1 SIGN MOUNTING DETAIL
1/2" = 1'-0"

SIGNAGE GENERAL NOTES

A. SCHEDULE NOTES:
1. SEE ARCHITECTURAL AND ENLARGED PLAN SHEETS FOR SIGN LOCATIONS
2. ALL SURFACE MOUNTED SIGNS SHALL NOT EXTEND BEYOND EDGE OF PRECAST WALLS AND COLUMNS.
3. DIE CAST ALUMINUM LETTERS FONT: ARIAL AND ARIAL BOLD AS NOTED AT DETAILS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

B. TYPICAL PEDESTRIAN SIGNS (ROOM ID, STAIR ID, EXIT EGRESS IDENTIFICATION SIGNS):
1. TYPEFONT: ARIAL
2. SIGNS SHALL BE BACKGROUND COLOR-REVERSE PAINTED IN COLORS INDICATED.
3. ALL SIGNS TO BE ADA COMPLIANT WITH ICC/ANSI A117.1, INCLUDING TACTILE TEXT AND BRAILLE REQUIREMENTS.
4. CENTER ALL SYMBOLS AND TEXT ON SIGN HORIZONTALLY AND VERTICALLY, U.N.O.
5. MATERIAL: 1/4" THICKNESS, U.N.O., CLEAR NON-GLARE, EXTERIOR GRADE PHOTOPOLYMER.
6. SYMBOLS AND PICTOGRAMS: SHALL HAVE A NON-GLARE FINISH AND COMPLY WITH ICC/ANSI A117.1
7. SIGNS MOUNTED TO GLASS SURFACES TO BE ADHERED WITH EXTERIOR GRADE V.H.B. TAPE. WHEN A SIGN IS APPLIED TO GLAZING AND WITHOUT A SIGN ON THE OPPOSING GLAZING SURFACE TO CONCEAL THE V.H.B. MOUNTING TAPE FOR THE SIGN, A NON-PVC EXTERIOR GRADE MATTE BLACK VINYL 'PATCH' IS TO BE APPLIED ON THE OPPOSING GLASS SURFACE THAT MATCHES IN POSITION AND SIZE.
8. LAMINATE SIGN TO ALUMINUM BACKING WHEN POSTED MOUNTED. SEE NOTE C.4.

C. TYPICAL DIRECTIONAL / TRAFFIC SIGNS:
1. TYPEFONT: ARIAL NARROW BOLD. SEE SIGN DETAILS AND SCHEDULE FOR TEXT HEIGHTS.
2. PRIMARY BACKGROUND COLOR TO BE 426 C, U.N.O. AND SHALL BE SILK SCREENED OVER REFLECTIVE BACKGROUND (3M ENGINEER GRADE "SCOTCHLITE" #7310 WHITE REFLECTIVE SHEETING, OR APPROVED EQUAL) U.N.O.
3. REFLECTIVE SYMBOLS AND TEXT SHALL BE REVERSE STENCILED RESULTING FROM BACKGROUND COLOR APPLICATION OVER REFLECTIVE SHEETING.
4. BACKING MATERIALS FOR SIGNS SHALL BE 0.080" THICK ALUMINUM, U.N.O. PAINT EDGES AND BACKS OF ALUMINUM SIGNS THAT ARE MOUNTED DIRECTLY TO THE STRUCTURE FOR CATHODIC AND CORROSION PROTECTION.
5. MOUNT ALL SIGNS PLUMB AND LEVEL. OVERHEAD CLEARANCE HEIGHT SIGNS SHALL NOT ENCROACH INTO THE VERTICAL CLEARANCE REQUIREMENTS OF THE PARKING FACILITY.
6. SIGNAGE CONTRACTOR TO VERIFY LOCATIONS OF SIGNAGE IN THE FIELD WITH THE ARCHITECT PRIOR TO INSTALLATION.
7. WHERE SIGNS ARE MOUNTED BACK-TO-BACK, INCREASE THE WIDTH OF THE SMALLER SIGN TO MATCH THE LARGER.

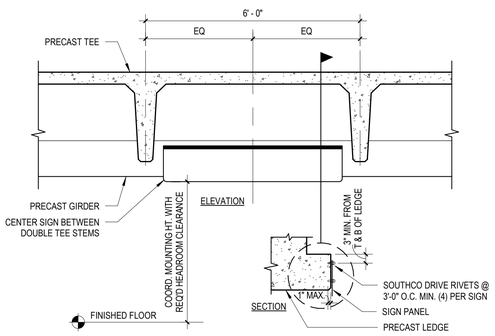
D. ILLUMINATED SIGNS:
1. POWER INFORMATION TO SIGN LOCATIONS TO BE PROVIDED BY ELECTRICAL ENGINEER. SEE ELECTRICAL DRAWINGS. SIGNAGE CONTRACTOR TO COORDINATE THE ELECTRICAL COMPONENTS OF SIGNS WITH THE PROVIDED POWER SUPPLY.
2. ALL ELECTRICAL SUPPLY COMPONENTS INCLUDING BUT NOT LIMITED TO JUNCTION BOXES, TRANFORMERS AND CONDUIT ARE TO BE CONCEALED AND NOT VISIBLE FROM THE BUILDING EXTERIOR.
3. PROVIDE TIME CLOCK SWITCH CONTROLS.

E. LEVEL COLOR DESIGNATION:

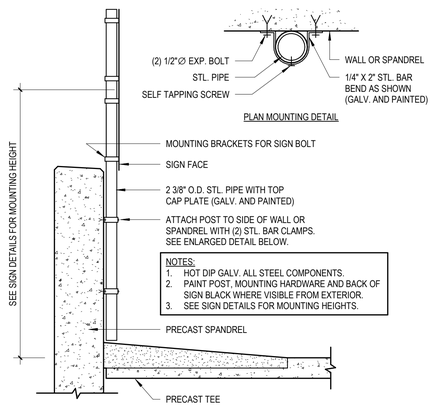
LEVEL 4	PANTONE ORANGE 021C, WHITE LETTERING
LEVEL 3	PANTONE VIOLET C, WHITE LETTERING
LEVEL 2	PANTONE GREEN C, WHITE LETTERING
LEVEL 1	PANTONE RED 186C, WHITE LETTERING
LOWER LEVEL	PANTONE DARK GRAY C, WHITE LETTERING

(ALL COLORS SELECTED FROM THE PANTONE SOLID COATED COLOR LIBRARY)

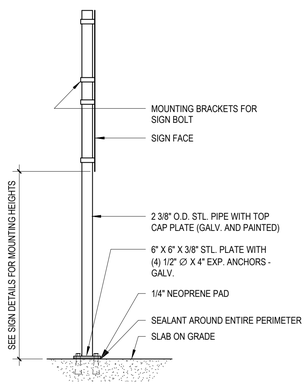
F. INSTALLATION COORDINATION:
1. DO NOT INSTALL ANY BUILDING ELEMENTS IN CONFLICT WITH SIGNAGE, WALL GRAPHICS OR DESIGN FEATURE LOCATIONS. SUCH ELEMENTS INCLUDE BUT ARE NOT LIMITED TO CONDUIT, SIGNALS, DEVICES, PIPES, FIXTURES AND EQUIPMENT.
2. THE CONTRACTOR IS TO REVIEW SIGNAGE, GRAPHIC AND INTERIOR ELEVATION DRAWINGS PRIOR TO INSTALLATIONS TO COORDINATE BUILDING ELEMENTS AND ASSOCIATED CONDUIT ROUTES.
3. ANY CONFLICTS IDENTIFIED SHALL BE SUBMITTED BY RFI TO THE DESIGN TEAM FOR REVIEW.
4. WHERE CONFLICTS ARE OBSERVED AFTER INSTALLATION, THE BUILDING ELEMENTS INVOLVED ARE TO BE RELOCATED AT THE CONTRACTOR'S EXPENSE.



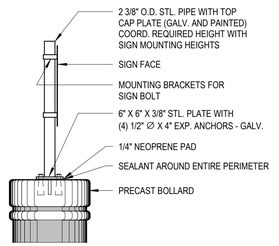
5 A7.1 SIGN MOUNTING DETAIL
1/2" = 1'-0"



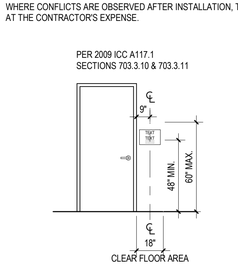
6 A7.1 SIGN MOUNTING DETAIL
3/4" = 1'-0"



7 A7.1 SIGN MOUNTING DETAIL
3/4" = 1'-0"



8 A7.1 SIGN MOUNTING DETAIL
3/4" = 1'-0"



9 A7.1 ROOM SIGN MOUNTING DETAIL
1/4" = 1'-0"

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PROJECT NO.
PCNY0323.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

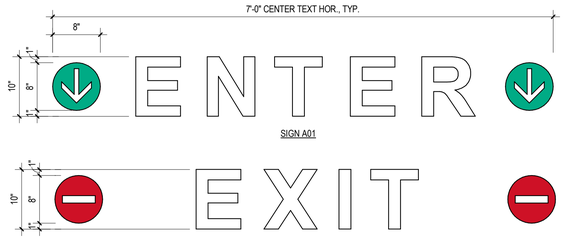
NO.	DESCRIPTION	DATE

DRAWN: VJ
REVIEWED: RP
DATE: 02.21.25
NORTH

SHEET TITLE:
SIGNAGE SCHEDULE, NOTES AND DETAILS

SHEET NO.
A7.1

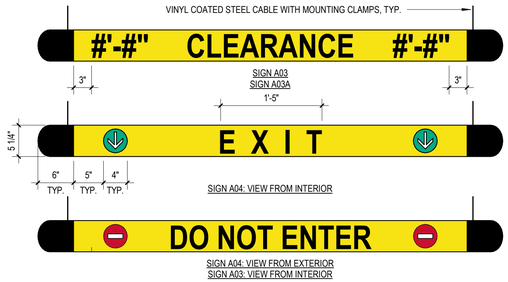
INTERNALLY ILLUMINATED CHANNEL LETTER SIGN NOTES:
1. FACE: COLORED ACRYLIC
   A. TEXT: TRANSLUCENT WHITE
   B. DO NOT ENTER SYMBOL: PANTONE RED 186 C
   C. ARROW SYMBOL: PANTONE GREEN 356 C
2. TRIM CAP COLOR: BLACK
3. 5" RETURN COLOR: BLACK
4. TEXT:
   A. FONT: ARIAL BOLD
   B. HEIGHT: 10"
5. CONCEALED STUD MOUNT ALL SYMBOLS AND LETTERS INDIVIDUALLY PER MANUFACTURER STANDARD INSTALLATION DETAILS.
6. ALL CONDUIT, TRANSFORMERS AND WIRING SHALL NOT BE VISIBLE ON THE EXTERIOR OF THE BUILDING AND CANOPY. COORDINATE WITH CANOPY MANUFACTURER AND ELECTRICAL DRAWINGS.



SIGN A01

SIGN A02

1 A01 & A02: ENTRY/EXIT
A7.2 1" = 1'-0"

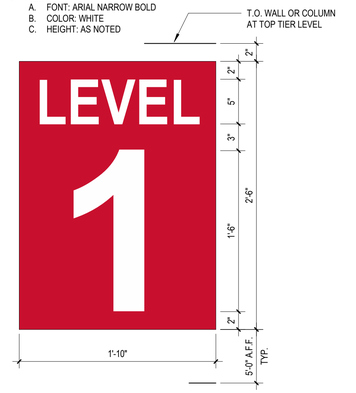


SIGN NOTES:
1. BASIS OF DESIGN: 5.25" OD X 78" LENGTH BY IDEAL SHIELD.
2. MOUNTING HEIGHTS:
   A. SIGN S03: 8'-2"
   B. SIGN S03A: 7'-2"
3. TEXT: CENTER HORIZONTALLY ON CLEARANCE BAR, U.N.O..
   A. FONT: ARIAL BOLD
   B. COLOR: BLACK
   C. HEIGHT: 4"

2 A03 & A04: CLEARANCE BARS
A7.2 1" = 1'-0"

INTERNALLY ILLUMINATED CHANNEL LETTER SIGN NOTES:
1. FACE: COLORED ACRYLIC
   A. COLOR: TRANSLUCENT WHITE
2. TRIM CAP COLOR: BLACK
3. 5" RETURN COLOR: BLACK
4. TEXT:
   A. FONT: CENTURY
   B. HEIGHT: 12"
5. CONCEALED STUD MOUNT ALL LETTERS INDIVIDUALLY PER MANUFACTURER'S STANDARD INSTALLATION DETAILS.
6. ALL CONDUIT, TRANSFORMERS AND WIRING SHALL NOT BE VISIBLE ON THE EXTERIOR OF THE CANOPY. COORDINATE WITH ELECTRICAL DRAWINGS.

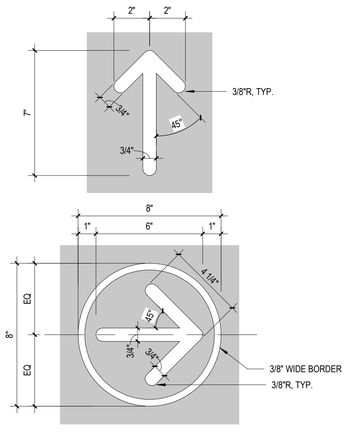
SIGN NOTES:
1. SIGN BE 0.080" THICK ALUMINUM, SEE SIGNAGE GENERAL NOTES PARAGRAPH C.4.
2. CENTER ALL TEXT HOR. ON THE SIGN.
3. BACKGROUND COLOR: TO MATCH LEVEL DESIGNATION, SEE SIGNAGE GENERAL NOTES SECTION E.
4. TEXT:
   A. FONT: ARIAL NARROW BOLD
   B. COLOR: WHITE
   C. HEIGHT: AS NOTED



SIGN A05

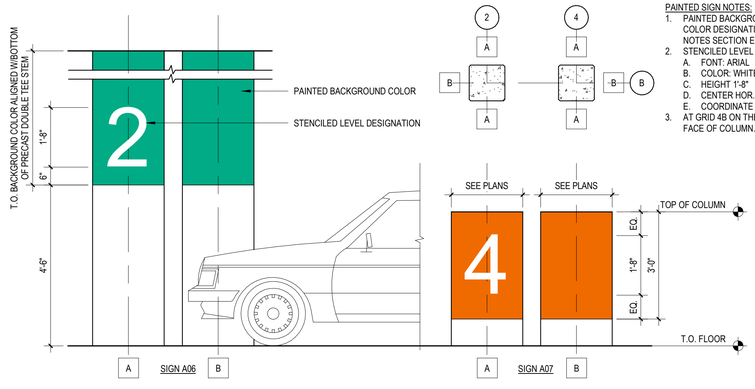
VILLAGE OF OSSINING MULTIMODAL HUB

4 A05: PARKING AREA LEVEL ID
A7.2 1 1/2" = 1'-0"



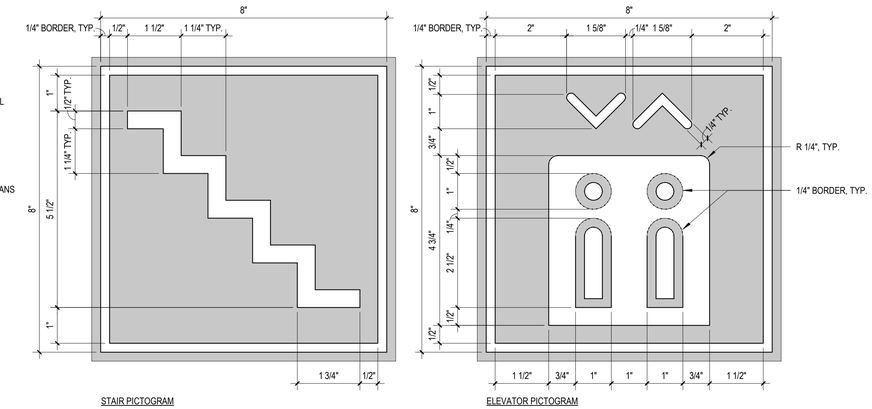
DETAIL NOTE:
1. SEE SIGNAGE GENERAL NOTES AND SIGN DETAILS FOR BACKGROUND AND PICTOGRAMS COLORS
2. SEE SIGN DETAILS FOR SYMBOL PLACEMENT AND ORIENTATION

7 SIGN ARROW DETAIL
A7.2 3" = 1'-0"



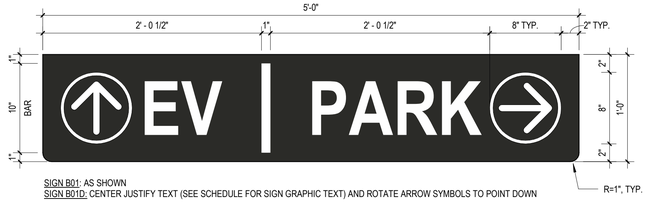
PAINTED SIGN NOTES:
1. PAINTED BACKGROUND COLOR TO MATCH LEVEL COLOR DESIGNATION PER SIGNAGE GENERAL NOTES SECTION E.
2. STENCILED LEVEL DESIGNATION
   A. FONT: ARIAL
   B. COLOR: WHITE
   C. HEIGHT 1'-8"
   D. CENTER HOR. ON SURFACE, U.N.O.
   E. COORDINATE LEVEL DESIGNATION WITH PLANS
3. AT GRID 4B ON THE TOP TIER, ONLY PAINT EAST FACE OF COLUMN.

5 SIGN A06 & A07: PARKING LEVEL ID PAINTED
A7.2 1/2" = 1'-0"



DETAIL NOTE:
1. SEE SIGNAGE GENERAL NOTES AND SIGN DETAILS FOR BACKGROUND AND PICTOGRAMS COLORS
2. SEE SIGN DETAILS FOR SYMBOL PLACEMENT

6 SIGN PICTOGRAM DETAILS
A7.2 6" = 1'-0"



SIGN NOTES:
1. SEE SIGNAGE GENERAL NOTES, SECTION C.
2. SEE SIGN SCHEDULE FOR SIGN MESSAGING
3. SEE SIGN SCHEDULE FOR SIGN SYMBOLS AND ORIENTATION
4. SEE DETAIL 6/A7.2 FOR ARROW SYMBOL DETAIL
5. SYMBOL COLOR: WHITE
6. TEXT
   A. FONT: ARIAL NARROW BOLD
   B. COLOR: WHITE
   C. HEIGHT: 6"
   D. CENTER HOR. AND VERT. ON SIGN, U.N.O.

SIGN B01: AS SHOWN
SIGN B01D: CENTER JUSTIFY TEXT (SEE SCHEDULE FOR SIGN GRAPHIC TEXT) AND ROTATE ARROW SYMBOLS TO POINT DOWN

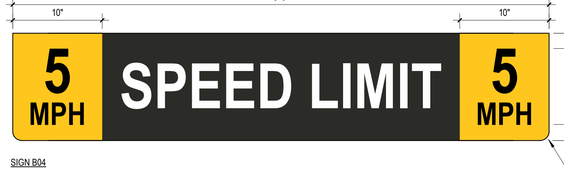
SIGN B02R (SHOWN)
SIGN B02L: RIGHT JUSTIFY TEXT AND MIRROR ARROW SYMBOL TO LEFT SIDE OF SIGN TO POINT LEFT

8 TYPICAL SIGN LAYOUT
A7.2 1 1/2" = 1'-0"

SIGN NOTES:
1. SEE SIGNAGE GENERAL NOTES, SECTION C.
2. SYMBOL COLOR: PANTONE RED 186 C, WHITE
3. ACCENT STRIP COLOR: PANTONE RED 186 C
4. TEXT
   A. FONT: ARIAL NARROW BOLD, WIDTH FACTOR .95
   B. COLOR: WHITE
   C. HEIGHT: 5"
   D. CENTER HOR. ON SIGN

SIGN B03

9 B03: DO NOT ENTER
A7.2 1 1/2" = 1'-0"



SIGN NOTES:
1. SEE SIGNAGE GENERAL NOTES, SECTION C.
2. MPH BOX COLOR: PANTONE PROCESS YELLOW C
3. TEXT
   A. FONT: ARIAL NARROW BOLD
   B. COLOR: BLACK AND WHITE AS SHOWN
   C. HEIGHT: "SPEED LIMIT" @ 5", "5" @ 5", "MPH" @ 2 1/2"
   D. CENTER "SPEED LIMIT" HOR. AND VERT. IN BACKGROUND COLOR FIELD
   E. CENTER "5 MPH" HOR. IN BACKGROUND COLOR FIELD

SIGN B04

10 B04: SPEED LIMIT
A7.2 1 1/2" = 1'-0"

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PROFESSIONAL SEAL

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LICENSE EXPIRATION DATE 11/30/2026

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CALGI Established 1919
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PROJECT NO.
PCNY0323.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

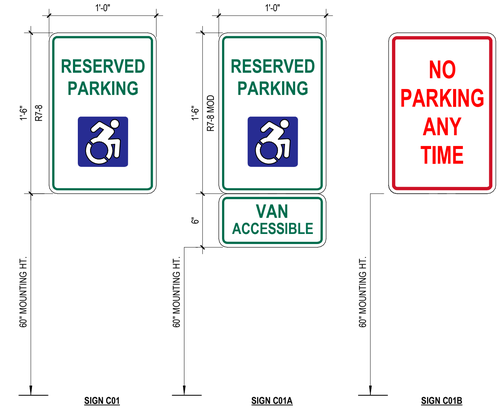
SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

DRAWN: VJ
REVIEWED: RP
DATE: 02.21.25
NORTH

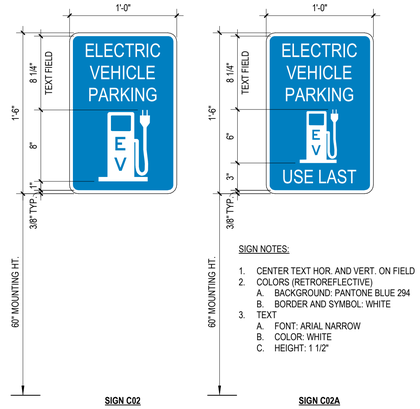
SHEET TITLE:
SIGNAGE AND GRAPHICS DETAILS

SHEET NO.
A7.2



SIGN C01 | SIGN C01A | SIGN C01B

1 C01 & C01A: ADA PARKING
A7.3 1 1/2" = 1'-0"



SIGN NOTES:

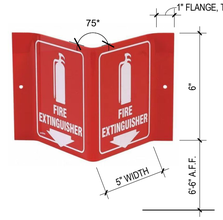
1. CENTER TEXT HOR. AND VERT. ON FIELD
2. COLORS (RETROREFLECTIVE)
   A. BACKGROUND: PANTONE BLUE 294
   B. BORDER AND SYMBOL: WHITE
3. TEXT
   A. FONT: ARIAL NARROW
   B. COLOR: WHITE
   C. HEIGHT: 1 1/2"

SIGN C02 | SIGN C02A

2 C02: EV PARKING
A7.3 1 1/2" = 1'-0"

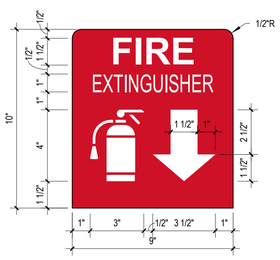
SIGN NOTES:

1. SIGN BE 0.080" THICK ALUMINUM, SEE SIGNAGE GENERAL NOTES PARAGRAPH C.4.
2. LOCATE ONE (1) SIGN ABOVE EACH FIRE EXTINGUISHER CABINET WHERE WALL MOUNTED
3. LOCATE ONE (1) SIGN ON INSIDE SURFACE OF NEAREST ADJACENT COLUMN WHERE CABINET IS SPANDREL PANEL MOUNTED
4. SEE BUILDING CODE PLAN DIAGRAMS FOR FIRE EXTINGUISHER CABINET LOCATIONS
5. BACKGROUND OF SIGN SHALL BE NON-REFLECTIVE SILK SCREENED, COLOR: PANTONE 186 C
6. CENTER TEXT, BORDER AND GRAPHICS HORIZONTALLY ON SIGN SURFACE U.N.O., COLOR: WHITE
7. MOUNTING HEIGHT TO BE ADJUSTED WHERE CONFLICT WITH STRUCTURE EXISTS



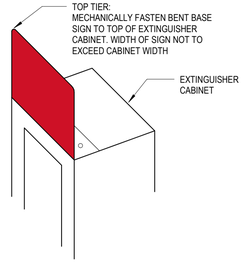
TYPICAL VERTICAL SURFACE MOUNTED SIGN

SIGN C03



TOP TIER, CABINET MOUNTED SIGN

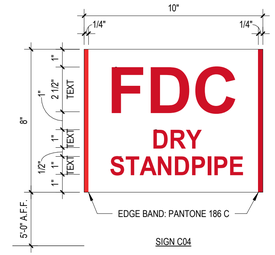
SIGN C03A



3 C03: FIRE EXTINGUISHER
A7.3 3" = 1'-0"

SIGN NOTES:

1. SIGN BE 0.080" THICK ALUMINUM, SEE SIGNAGE GENERAL NOTES PARAGRAPH C.4.
2. LOCATE ABOVE EXTERIOR BUILDING FIRE DEPARTMENT CONNECTIONS AND ADJACENT TO EACH STANDPIPE CONNECTION LOCATION
3. BACKGROUND OF SIGN SHALL BE NON-REFLECTIVE SILK SCREENED. COLOR: WHITE
4. CENTER TEXT HORIZONTALLY ON SIGN
5. TEXT
   A. FONT: ARIAL
   B. COLOR: PANTONE 186 C
   C. HEIGHT: AS NOTED

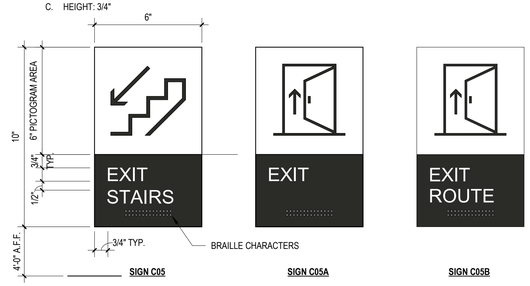


SIGN C04

4 C04: FD CONNECTION
A7.3 3" = 1'-0"

SIGN NOTES:

1. SEE SIGNAGE GENERAL NOTES SECTION B AND DETAIL 9/A7.1.
2. CENTER BRAILLE CHARACTERS HOR. ON SIGN.
3. CENTER SYMBOL HOR. AND VERT. IN PICTOGRAM AREA
4. BACKGROUND COLORS: PANTONE 426 C, WHITE
5. SYMBOL COLOR: PANTONE 426 C
6. ROTATE DIRECTIONAL ARROW 180° ON SIGN C05 AT LOWER LEVEL STAIR RUN.
7. TEXT
   A. FONT: ARIAL
   B. COLOR: WHITE
   C. HEIGHT: 3/4"

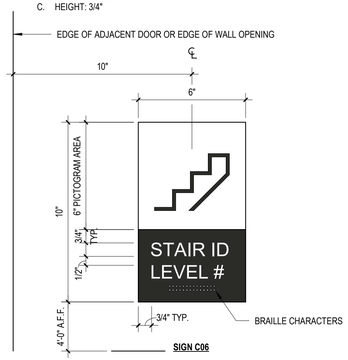


SIGN C05 | SIGN C05A | SIGN C05B

5 C05, C05A & C05B: EGRESS SIGNS
A7.3 3" = 1'-0"

SIGN NOTES:

1. SEE SIGNAGE GENERAL NOTES SECTION B AND DETAIL 9/A7.1.
2. CENTER TACTILE TEXT AND BRAILLE CHARACTERS ON SIGN.
3. STAIR "ID" AND LEVEL "#" TO CORRESPOND WITH PLAN DESIGNATIONS.
4. BACKGROUND COLORS: PANTONE 426 C, WHITE
5. SYMBOL COLOR: PANTONE 426 C
6. TEXT
   A. FONT: ARIAL
   B. COLOR: WHITE
   C. HEIGHT: 3/4"

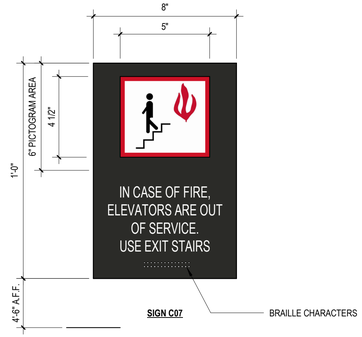


SIGN C06

6 C06: STAIR ID (PEDESTRIAN)
A7.3 3" = 1'-0"

SIGN NOTES:

1. SEE SIGNAGE GENERAL NOTES SECTION B.
2. CENTER BRAILLE CHARACTERS HOR. ON SIGN.
3. CENTER SYMBOL HOR. AND VERT. IN PICTOGRAM AREA
4. BACKGROUND COLOR: PANTONE 426 C
5. SYMBOL COLORS: BLACK, WHITE, PANTONE RED 186 C
6. TEXT
   A. FONT: ARIAL NARROW, WIDTH FACTOR .85
   B. COLOR: WHITE
   C. HEIGHT: 5/8"

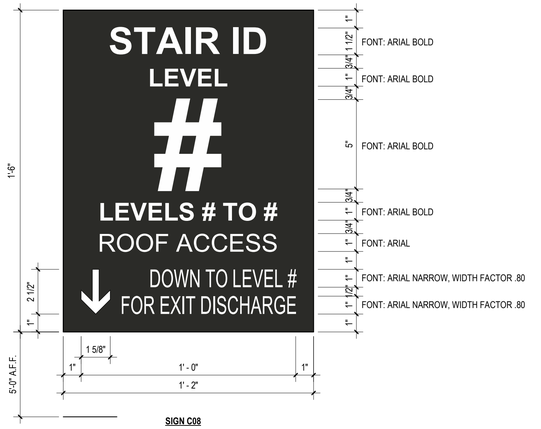


SIGN C07

7 C07: IN CASE OF EMERGENCY
A7.3 3" = 1'-0"

SIGN NOTES:

1. MATERIAL: 1/4" EXTERIOR GRADE PHOTOPOLYMER.
   A. BACKGROUND COLOR: PANTONE 426 C.
   B. TEXT COLOR: WHITE.
2. FONT: ARIAL. SEE DETAIL FOR ADDITIONAL INFORMATION.
3. CENTER ALL TEXT HOR. UNLESS SHOWN OTHERWISE.
4. ALL TEXT AND SYMBOLS TO BE TACTILE
5. "#" AND STAIR "ID" TO CORRESPOND WITH PLAN DESIGNATIONS.
6. OMIT "DOWN TO" AND ARROW SYMBOL AT LEVEL 1 (G) AND LOWER LEVEL



SIGN C08

8 C08: STAIR ID (LANDING)
A7.3 3" = 1'-0"

SIGN NOTES:

1. CENTER TEXT HOR. AND VERT. ON FIELD
2. COLORS (RETROREFLECTIVE)
   A. BACKGROUND: PANTONE BLUE 294
   B. BORDER AND SYMBOL: WHITE
3. TEXT
   A. FONT: ARIAL NARROW
   B. COLOR: WHITE
   C. HEIGHT: 1 1/2"

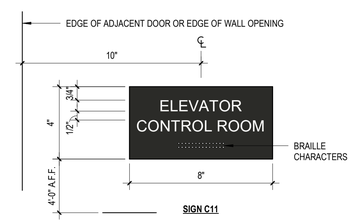
SIGN C10R: AS SHOWN
SIGN C10: ROTATE ARROW SYMBOL TO POINT DOWN.
SIGN C10L: LOCATE STAIR SYMBOL TO RIGHT SIDE OF SIGN. RIGHT JUSTIFY TEXT. MIRROR ARROW SYMBOL TO LEFT SIDE OF SIGN POINTING LEFT.

SIGN C09R: AS SHOWN
SIGN C09: ROTATE ARROW SYMBOL TO POINT DOWN.
SIGN C09L: LOCATE STAIR AND ELEVATOR SYMBOLS TO RIGHT SIDE OF SIGN. RIGHT JUSTIFY TEXT. MIRROR ARROW SYMBOL TO LEFT SIDE OF SIGN POINTING LEFT.

9 C09 & C10: STAIR & ELEVATOR
A7.3 1 1/2" = 1'-0"

SIGN NOTES:

1. SEE SIGNAGE GENERAL NOTES SECTION B AND DETAIL 9/A7.1.
2. COORDINATE SIGN TEXT WITH ROOM DESIGNATIONS IN PLANS AND ROOM FINISH SCHEDULE. PROVIDE ROOM SIGN SCHEDULE FOR APPROVAL.
3. CENTER TACTILE TEXT AND BRAILLE CHARACTERS HOR. ON SIGN.
4. BACKGROUND COLOR: PANTONE 426 C
5. TEXT
   A. FONT: ARIAL
   B. COLOR: WHITE
   C. HEIGHT: 5/8"



SIGN C11

10 C11: ROOM ID
A7.3 3" = 1'-0"

SIGN NOTES:

1. SIGN BE 0.080" THICK ALUMINUM, SEE SIGNAGE GENERAL NOTES C.4.
2. BACKGROUND OF SIGN SHALL BE NON-REFLECTIVE SILK SCREEN, COLOR: WHITE
3. CENTER TEXT HORIZONTALLY ON SIGN
4. TEXT:
   A. FONT: ARIAL NARROW
   B. COLOR: BLACK
   C. HEIGHT: AS NOTED

SIGN C12

11 C12: DO NOT PILE SNOW
A7.3 1 1/2" = 1'-0"

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PROJECT NO.
PCNY0323.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

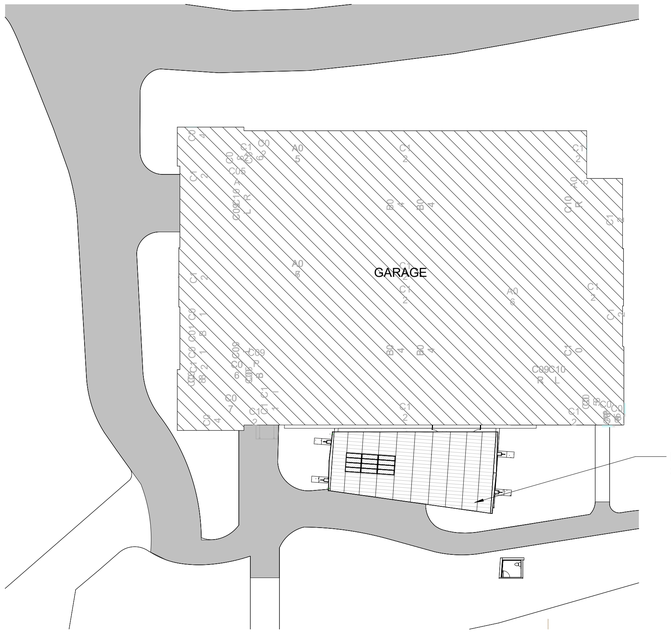
DRAWN: VJ
REVIEWED: RP
DATE: 02.21.25

NORTH

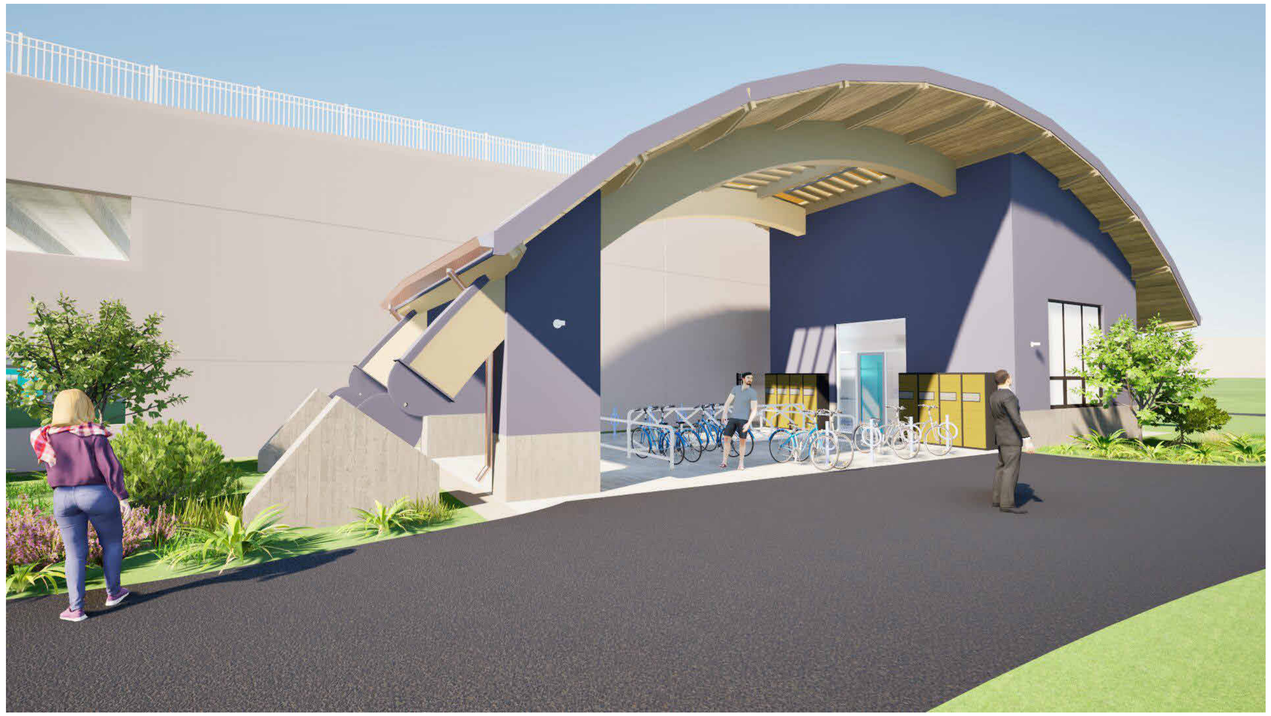
SHEET TITLE:
SIGNAGE AND GRAPHICS DETAILS

SHEET NO.
A7.3

E-BIKE SHARE SHELTER
VILLAGE OF OSSINING MULTI-MODAL TRANSPORTATION HUB



1 KEY PLAN
1" = 30'-0"



Allowable Building Height in Feet Above Grade Plane 504.3		
	Allowable	Designed
Height	40 Feet	25 Feet 6 Inches

Maximum Distance of Projection. Table 705.2		
	Allowable	Designed
Fire Separation Distance - FSD (feet)	5 or greater	5'9"
Minimum Distance From Line Use to Determine FSD	40 inches	5'9" (40 inches)

Fire Protection Requirements			
Building Elements	Fire Separation Distance	Rating	
		Required	Provided
Primary Structural Frame		0	0
Bearing Walls			
Exterior		0	0
North	X ≥ 30	0	0
East	X ≥ 30	0	0
South	X ≥ 30	0	0
West	5 ≤ 10	1	1
Interior		0	0
Nonbearing Walls Exterior			
North	X ≥ 30	0	0
East	X ≥ 30	0	0
South	X ≥ 30	0	0
West	5 ≤ 10	1	1
Floor Construction		0	0
Roof Construction		0	0
Shaft Enclosures - Exits		0	0
Shaft Enclosures - Other than Exit		0	0
		0	0
Occupancy Separation		NOT APPLICABLE	NOT APPLICABLE
Incidental Use Separation		NOT APPLICABLE	NOT APPLICABLE

Number and Arrangements of Exits								
Floor, Room or Space Designation	Minimum Number of Exits		Travel Distance		Remoteness of Exits or Exit Access Doorways			
	Required	Shown on Plans	Allowable Travel Distance	Provided Travel Distance	Required Distance Between Exits		Provided Exit Distance	
Level 1 (Ground)								

Occupant Load Calculations			
User Group or Space Description	Area sq ft (a)	Area per Occupant (b)	Calculated Occupant Load (a/b)
Level 1 (Ground) Bike Facility	553 sq ft (Gross)	300	2
Bike Facility (Workshop)	349 sq ft (approx)	300	2
Bike Facility (Storage)	61 sq ft (approx)	300	1
Bike Facility (Restroom)	46 sq ft (approx)	300	1

Accesibility E-Bike Parking Spaces					
Lot or Parking Area	Total E-Bike Parking Spaces		Typical Accessbile E-Bike Parking Spaces		Total Accessible Spaces
	Required	Provided	Required	Provided	
Bike Facility	Not Applicable	50	Not Applicable	Not Applicable	Not Specified

Means of Egress Sizing								
Garage Tier	Calculated Occpant Load	Egress Width per Occupant		Calculated Egress Width Required (in.)		Egress Width Provided (in.)	
		Stair	Other	Stair	Other	Stair	Other
Bike Facility		Non-applicable	Non-applicable				

Percentage of Allowable Openings			
Location	Fire Separation Distance (Feet)	Degree of Openings Protection	Allowable Area (%)
North	5 ≤ 10	Unprotected (UO)	No Limit
	5 ≤ 10	Non-sprinklered (UO)	No Limit
East	5 ≤ 10	Unprotected (UO)	10%
	5 ≤ 10	Non-sprinklered (UO)	No Limit
South	5 ≤ 10	Unprotected (UO)	No Limit
West	5 ≤ 10	Non-sprinklered (UO)	No Limit

BUILDING CODE SUMMARY

Building Code Summary	Applicable Codes and Standards
Project Name: City of Ossining Multi-Modal Transportation Hub (E-Bike Share Shelter) Location: Ossining , NY Project Description: Single Use E-Bike Facility Height: 25' Feet, 6 Inches, One Story, Ground Level Quantity of Bike Parking Spaces: 50 Construction Type: VB Sprinklered: No	•2020 Building Code of New York State (International Building Code 2018) with amendments and additions •2020 Fire Code of New York State •Energy Conservation Construction Code of New York State 2020 •New York State Plumbing Code 2020 •New York State Mechanical Code 2020 •New York State Electrical Code 2017 •New York State Accessibility Code 2009 (ANSI A117.1, 2009) •2010 ADA Standards for Accessible Design, For Public Accommodations and Commercial Facilities: Title III •NFPA 72 (2016) Fire Alarm Code •NFPA 720 (2015) Standard for the Installation of Carbon Monoxide Detection and Warning Equipment.
Occupancy Classification: Allowable Height and Area	**Life Safety & Means of Egress**
Building Classification: Low-Hazard Storage Group S-2 The E-Bike Share Shelter complies with the code definition of Low-Hazard Storage Group S-2.	Accessible Means of Egress Required: Accessible spaces shall be provided with no less than one accessible means of egress. Where more than one means of egress are required from any accessible space, each portion shall not be served by not less than two accessible means of egress.
Energy Code Compliance	**LIFE SAFETY**
Per the 2020 Energy Conservation Construction Code of New York State, the E-Bike Share Shelter shall comply.	• NYS LIFE SAFETY OCCUPANT LOADS AND EGRESS DISTANCE REQUIREMENT IN COMPLIANCE. DIAGRAM TO BE SUBMITTED SEPARATELY.
TO THE BEST OF MY KNOWLEDGE, BELIEF, AND PROFESSIONAL JUDGEMENT, THESE PLANS ARE IN COMPLIANCE WITH THE ENERGY CODE PER ECCCNYS SECTION C105.2.	

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PROFESSIONAL SEAL

REGISTERED ARCHITECT JOSE CORTES CALDERON 028455 STATE OF NEW YORK

LICENSE EXPIRATION DATE 03/31/2027

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PROJECT NO.
NBR23145.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub
Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

NORTH

SHEET TITLE:
COVER SHEET, KEY PLAN & BUILDING CODE

SHEET NO.
AB0.1

GENERAL NOTES:

1.1 GOVERNING AGENCIES:

1.1.1 ALL WORK PERFORMED BY THE CONTRACTOR/SUB CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF MUNICIPAL, LOCAL OR FEDERAL AND STATE LAWS, AS WELL AS ANY OTHER GOVERNING AGENCIES WHETHER OR NOT SPECIFIED ON THE DRAWINGS.

1.1.2 WHERE THE CONTRACT, NOTES OR DRAWINGS CALL FOR ANY WORK OF A MORE STRINGENT NATURE THAN THAT REQUIRED BY THE TOWN OF FISHKILL CODE OR ANY OTHER DEPARTMENT HAVING JURISDICTION OVER THE WORK, THE WORK OF THE MORE STRINGENT NATURE CALLED FOR BY THE CONTRACT, CONSTRUCTION NOTES OR DRAWINGS SHALL BE FURNISHED IN ALL CASES.

1.1.3 ALL WORK SHALL COMPLY WITH THE REGULATIONS OF THE GOVERNMENTAL AUTHORITIES HAVING JURISDICTION. THE NOTES SHALL BE SUPPLEMENTAL TO ALL LAWS AND CODES OF GOVERNMENTAL BODIES RELATING TO BUILDINGS AND ALL APPLICABLE REQUIREMENTS SPECIFIED IN THE NOTES OR DRAWINGS. THIS SHALL NOT, HOWEVER BE CONSTRUED TO MEAN BECAUSE THEY ARE SPECIFICALLY NOTED BY SUCH CODES OR LAWS.

1.2 EXECUTION, CORRELATION AND INTENT OF DOCUMENTS:

1.2.1 CONTRACTORS SHALL VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO SUBMITTING BIOS AND/OR COMMENCING ANY WORK AND NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES.

1.2.2 CONTRACTOR SHALL REVIEW PLANS AND THE AREA OF CONSTRUCTION CAREFULLY TO ENSURE FULL UNDERSTANDING OF EXACT SCOPE OR WORK. THE ARCHITECT WILL BE AVAILABLE TO REVIEW AND CLARIFY ALL WORK ON SITE AND RESOLVE ANY UNCLEAR ITEMS.

1.2.3 THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY IF HE CANNOT COMPLY WITH ALL NOTES CALLED FOR IN THESE NOTES AND ON ALL OTHER DRAWINGS.

1.2.4 ALL BIDDERS BEFORE SUBMITTING PROPOSALS SHALL VISIT THE PREMISES, FAMILIARIZE THEMSELVES AS TO THE NATURE AND SCOPE OF THE WORK AND THE DIFFICULTIES THAT ATTEND ITS EXECUTION. THE SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT AND/OR MATERIALS REQUIRED OR FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN MADE WILL NOT BE RECOGNIZED.

1.2.5 BEFORE COMMENCING ANY WORK THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND SHALL REQUEST CLARIFICATION OF ANY DISCREPANCIES BETWEEN THE DRAWINGS, THE CONSTRUCTION NOTES AND FIELD CONDITIONS.

1.2.6 ALL DRAWINGS AND ALL CONSTRUCTION NOTES ARE COMPLIMENTARY AND WHAT IS CALLED FOR BY EITHER WILL BE BINDING AS IF CALLED FOR BY ALL. ANY WORK SHOWN OR REFERRED TO ON ANY ONE SET OF DRAWINGS SHALL BE PROVIDED AS THOUGH SHOWN OR REFERRED TO ON ALL RELATED DRAWINGS.

1.2.7 THE USE OF THE WORDS "PROVIDE" OR "PROVIDED" IN CONNECTION WITH ANY ITEM SPECIFIED IS INTENDED TO MEAN, UNLESS OTHERWISE NOTED, THAT SUCH BE FURNISHED AND INSTALLED, AND CONNECTED WHERE SO REQUIRED.

1.2.8 WHERE THE TERMS "APPROVED EQUAL", "OTHER APPROVED", "EQUAL TO", "ACCEPTABLE", OR OTHER GENERAL QUALIFYING TERMS ARE USED IN THESE NOTES, IT SHALL BE UNDERSTOOD THAT REFERENCE IS MADE TO THE RULING AND JUDGEMENT OF THE ARCHITECT.

1.2.9 THE GENERAL CONTRACTOR SHALL INCLUDE IN HIS ESTIMATE ALL COSTS (INCLUDING OVERTIME WORK) FOR REMOVAL. NEW INSTALLATION AND REINSTALLATION WORK FOR ANY PLUMBING, CEILING, (TAKE DOWN AND REINSTALLATION), ELECTRICAL, TELEPHONE, COMMUNICATIONS EQUIPMENT, H.V.A.C. WORK ETC., CEILING PLENUM OF FLOOR BELOW TO COMPLETE WORK ON FLOOR UNDER CONSTRUCTION.

1.2.10 THE GENERAL CONTRACTOR SHALL MAINTAIN A CURRENT AND COMPLETE SET OF CONSTRUCTION DRAWINGS ON FLOOR DURING ALL PHASES OF CONSTRUCTION FOR USE BY ALL TRADES AND THE CLIENT'S FIELD REPRESENTATIVES.

1.2.11 THE GENERAL CONTRACTOR UPON ACCEPTANCE OF THE DRAWINGS ASSUMES FULL RESPONSIBILITY FOR THE CONSTRUCTION. MATERIAL AND WORKMANSHIP OF THE WORK DESCRIBED IN THESE NOTES AND DRAWINGS, AND HE/SHE WILL BE EXPECTED TO COMPLY WITH THE SPIRIT AS WELL AS THE LETTER IN WHICH THEY WERE WRITTEN

1.2.12 THE GENERAL CONTRACTOR AND SUB-CONTRACTORS SHALL SUBMIT CERTIFICATES TO THE ARCHITECT UPON COMPLETION OF WORK, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

(A) FIREPROOF WOOD TEST REPORT (IF REQUIRED).

(B) ELECTRICAL AND PLUMBING CERTIFICATES ISSUED BY: DEPARTMENT OF WATER & SUPPLY, GAS & ELECTRICITY BOARD OF FIRE UNDERWRITERS.

1.2.13 ALL EXISTING APPURTENANCES NOT BEING REMOVED SHALL BE REFURBISHED WHERE REQUIRED, ANY LOOSE ITEM TIGHTENED (CEILING EXIT SIGNS, ETC.) AND ANY MISSING PARTS REPLACED BY THE GENERAL CONTRACTOR TO ACHIEVE A FINISHED FIRST-CLASS INSTALLATION AND APPEARANCE.

1.2.14 ALL REQUIRED EXITS, WAY OF APPROACH THERETO, AND WAY OF TRAVEL FROM THE EXIT INTO THE STREET SHALL CONTINUOUSLY BE MAINTAINED FREE FROM ALL OBSTRUCTIONS AND IMPEDIMENTS FOR UNOBSTRUCTED EGRESS IN THE CASE OF FIRE OR OTHER EMERGENCY.

1.2.15 DURING THE ENTIRE PERIOD OF DEMOLITION AND CONSTRUCTION ALL EXISTING LIGHTING, FIRE PROTECTIVE DEVICES AND ALARMS SHALL BE CONTINUOUSLY MAINTAINED.

1.2.16 WHERE OPENINGS OCCUR IN EXISTING FIRE RATED AREAS OR PARTITIONS DUE TO EXISTING OR NEW CONDUIT RUNS, DUCTWORK, CABLES, PIPING, ETC., AND/OR WHERE EXISTING FIREPROOFING HAS BEEN REMOVED AS A RESULT OF EXISTING OR NEW CONSTRUCTION WORK THE GENERAL CONTRACTOR SHALL CLOSE AND/OR PATCH AS REQUIRED All OPENINGS TO MATCH IMMEDIATE ADJACENT AREAS IN MATERIAL, FINISH AND FIRE RATING ESCUTCHEON PLATES, ETC.

1.2.17 THE GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL FIRE EXTINGUISHERS AS REQUIRED BY THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) AND BY FIRE DEPARTMENT REGULATIONS.

1.2.18 ALL WORK IS TO CONFORM WITH DRAWINGS AND SPECIFICATIONS.

1.2.19 ALL WORK SHALL BE DONE BY SKILLED WORKMEN, AND THE ENTIRE WORK SHALL BE ACCOMPLISHED IN A NEAT AND ORDERLY MANNER.

1.2.20 THE CHARACTER AND SCOPE OF THE WORK ARE ILLUSTRATED BY THE DRAWINGS LISTED. ANY ADDITIONAL DETAIL DRAWINGS REQUIRED TO INTERPRET AND EXPLAIN THE DRAWINGS AND OTHER INFORMATION DEEMED NECESSARY SHALL BE FURNISHED TO THE CONTRACTOR AS REQUIRED BY THE WORK. IT SHALL BE UNDERSTOOD THAT THIS ADDITIONAL DATA SHALL BE CONSIDERED AS FORMING A PART OF THESE NOTES AS THEY RELATE.

1.2.21 WHERE DRAWINGS CALL FOR A SPECIFIC MANUFACTURER OR SUB-CONTRACTOR THE GENERAL CONTRACTOR'S ACCEPTANCE OF THE CONTRACT OBLIGES HIM TO USE THESE MANUFACTURERS OR SUB-CONTRACTORS. THE ARCHITECT WILL REVIEW AND APPROVE A LIST OF ALL OTHER SUB-CONTRACTORS ON THE JOB.

1.2.22 DRAWINGS ARE NOT TO BE SCALED FOR INFORMATION. LARGE SCALE DETAILS GOVERN OVER SMALLER SCALE PLANS.

1.2.23 ALL WORK LISTED ON THE CONSTRUCTION NOTE SHEETS AND SHOWN OR IMPLIED ON ALL DRAWINGS SHALL BE SUPPLIED AND INSTALLED BY THE GENERAL CONTRACTOR UNLESS OTHERWISE NOTED ON DRAWINGS, HOWEVER, IT IS EXPECTED THAT THE GENERAL CONTRACTOR SHALL CLOSELY COORDINATE HIS WORK WITH THE WORK OF ALL CONTRACTORS TO ASSURE THAT ALL SCHEDULES ARE MET.

1.3 PERMITS:

1.3.1 IF THE CONTRACTOR VIOLATES ANY BUILDING DEPARTMENT CODES, LAWS, ORDINANCE OR REGULATION IN PERFORMING THE WORK, HE SHALL, AT HIS OWN EXPENSE, BEAR ALL PENALTIES AND COSTS AND SHALL INDEMNIFY AND HOLD HARMLESS THE ARCHITECT AND THE CLIENT AGAINST ANY DAMAGES WHICH MAY RESULT FROM SUCH VIOLATIONS.

1.4 INSURANCE

1.4.1 THE GENERAL CONTRACTOR SHALL PURCHASE AND MAINTAIN SUCH INSURANCE AS MADE MANDATORY BY THE REQUIREMENTS OF THE OWNER. THE CONTRACTOR SHALL REQUEST FROM THE OWNER THE EXACT COVERAGE REQUIRED AND UPON PROCURING SUCH REQUIREMENTS SHALL PROVE TO THE OWNER THAT ALL COVERAGE HAS BEEN FULFILLED PRIOR TO COMMENCEMENT OF THE WORK

GENERAL NOTES:

1.5 TAXES:

1.5.1 THE CONTRACTOR SHALL MAINTAIN AND BEAR ALL COSTS ARISING FROM ALL MANDATORY UNEMPLOYMENT INSURANCE AND FEDERAL OLD AGE BENEFITS IMPOSED BY THE STATE OR FEDERAL GOVERNMENT AND MEASURED BY WAGES, SALARY, OR OTHER REMUNERATION PAID FOR WORK PERFORMED UNDER THE CONTRACT.

1.6 SCHEDULES & PROGRESS MEETINGS:

1.6.1 PRIOR TO BEGINNING ANY WORK, THE GENERAL CONTRACTOR SHALL FURNISH A CONSTRUCTION SCHEDULE SHOWING THE CHRONOLOGICAL PHASES OF HIS WORK, AND ALL OF THE CLIENTS CONTRACTORS' WORK FOR THE COMPLETION OF THE PROJECT. THE SCHEDULE SHALL INDICATE ALL ORDERING LEAD TIME, LENGTH OF TIME FOR EACH PHASE, ITS START AND COMPLETION, WITH A PROJECTED COMPLETION DATE.

1.6.2 THE GENERAL CONTRACTOR SHALL FURNISH PROJECT MANAGER SCHEDULES FOR ALL PHASES OF CONSTRUCTION WHICH SHALL BE UPDATED EVERY TWO WEEKS.

1.6.3 THE GENERAL CONTRACTOR AND THE PROJECT MANAGER SHALL HOLD PROGRESS MEETINGS AT A MUTUALLY AGREED PLACE AND TIME INTERVAL TO REVIEW THAT WHICH INCLUDES BUT IS NOT LIMITED TO: OPEN ITEMS, SCHEDULES, JOB CONDITIONS, ETC.

1.7 SUPERVISION:

1.7.1 THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SUPERVISION BY A PERSON ESPECIALLY QUALIFIED AND EXPERIENCED IN HANDLING THE WORK. THIS INDIVIDUAL AND HIS QUALIFICATIONS SHALL BE SATISFACTORY AND APPROVED BY THE ARCHITECT. THE CONTRACTOR SHALL CAREFULLY EXAMINE ALL DRAWINGS, SPECIFICATIONS AND OTHER INFORMATION GIVEN TD IT BY THE ARCHITECT AS TO MATERIALS AND METHODS OF INSTALLATION AND SHALL PROMPTLY NOTIFY THE ARCHITECT OF ANY DEFECTS, ERRORS, INCONSISTENCIES OR AMBIGUITIES IN SUCH DRAWINGS AND SPECIFICATIONS.

THE CONTRACTOR SHALL CONSULT WITH THE ARCHITECT SHOULD AN ERROR OR INCONSISTENCY DEVELOP IN THE DRAWINGS AND SPECIFICATIONS, OR SHOULD ANY WORK NOT BE SUFFICIENTLY DETAILED AND EXPLAINED ON THE DRAWINGS AND IN THE SPECIFICATIONS. IN NO CASE SHALL THE CONTRACTOR PROCEED WITH THE WORK AFTER BECOMING AWARE OF ANY SUCH ERROR, INCONSISTENCY OR LACK OF SUFFICIENT DETAIL WITHOUT HAVING CONSULTED WITH THE ARCHITECT.

1.7.2 THE CONTRACTOR SHALL BE ENTIRELY RESPONSIBLE FOR THE PROPER LAYING OUT OF THE WORK AND FOR ANY DAMAGE WHICH MAY OCCUR BECAUSE OF ITS ERRORS OR INACCURACIES.

1.8 WORKMANSHIP AND MATERIALS

1.8.1 ALL WORK SHALL BE DONE IN A FIRST CLASS WORKMANLIKE MANNER BY MECHANICS SKILLED IN THEIR RESPECTIVE TRADES.

1.8.2 THESE CONSTRUCTION NOTES AND/OR DRAWINGS ARE SUPPLIED TO ILLUSTRATE THE DESIGN AND THE GENERAL TYPE OF CONSTRUCTION DESIRED AND ARE INTENDED TO IMPLY TO THE FINEST QUALITY OF CONSTRUCTION, MATERIAL AND WORKMANSHIP THROUGHOUT.

GENERAL NOTES:

1.8.3 THE CONTRACTOR WARRANTS AND GUARANTEES THAT NONE BUT
EXPERIENCED WORKMEN WILL BE EMPLOYED ON THE WORK AND THAT ALL FURNISHINGS FABRICATED AND/OR PROVIDED BY IT SHALL BE THE BEST OF THEIR RESPECTIVE KINDS. IT IS UNDERSTOOD THAT NO INFERIOR WORK OR MATERIALS WILL BE ACCEPTED, WHETHER DISCOVERED AT THE TIME THEY'RE INCORPORATED IN THE WORK OR AFTERWARDS. THE CONTRACTOR SHALL, WHEN REQUIRED BY THE ARCHITECT, PRODUCE SUCH EVIDENCE AS MAY BE REQUIRED BY THE ARCHITECT, TO SHOW THE KIND AND QUALITY OF MATERIALS USED. ALL
THE MATERIALS FURNISHED SHALL HAVE THE SAME CHARACTER, FINISH, COLOR, TEXTURE AND QUALITY OF WORKMANSHIP AS THE APPROVED SAMPLES.

1.8.4 WHERE NOTED, EQUIVALENT PRODUCTS OF MANUFACTURERS OTHER THAN THOSE LISTED WILL BE ACCEPTABLE, PROVIDING PROOF THAT THEY ARE OF AN EQUIVALENT QUALITY, CONSTRUCTION, MATERIAL, FUNCTION AND DESIGN. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FURNISH THE ARCHITECT WITH SAMPLES, CATALOGUES, INDEPENDENT LABORATORY PERFORMANCE AND TEST REPORTS, AND OTHER PRODUCT INFORMATION WHICH THE ARCHITECT
MAY REQUIRE BEFORE FINAL APPROVAL OF THE PRODUCT IS GIVEN. IN ANY CASE, APPROVAL OF SUCH EQUIVALENT WILL BE SOLELY AT THE DISCRETION OF THE ARCHITECT.

1.8.5 SHOULD THE CONTRACTOR WISH TO USE ANY MATERIALS OR EQUIPMENT OTHER THAN THOSE NAMED, HE SHALL SO STATE IN HIS BID, NAMING THE PROPOSED SUBSTITUTION AND INDICATING WHAT DIFFERENCE, IF ANY, WILL BE MADE IN THE CONTRACT PRICE FOR SUCH
SUBSTITUTION, SHOULD IT BE ACCEPTED.

1.8.6 THE ARCHITECT MAY REJECT ALL WORKMANSHIP AND MATERIALS WHICH DO NOT CONFORM TO THE DRAWINGS AND SPECIFICATIONS. ALL
SUCH REJECTED WORK OR MATERIALS SHALL BE REMOVED FORTHWITH
AND IMMEDIATELY REPLACED WITH PROPER AND ACCEPTABLE WORK AND MATERIALS. FAILURE TO EXERCISE SUCH POWER, HOWEVER, SHALL NOT BE CONSTRUED OR HELD BY THE CONTRACTOR AS A WAIVER OF THE ARCHITECT'S RIGHT TO REJECT SUCH NONCONFORMING WORK OR MATERIAL.

1.9 SHOP DRAWINGS

1.9.1 THE GENERAL CONTRACTOR SHALL SUPPLY CUTS OF ALL FIXTURES AND EQUIPMENT CALLED FOR ON THE ARCHITECT'S DRAWINGS, IE: LIGHT FIXTURES, HARDWARE, ETC., FOR WRITTEN APPROVAL PRIOR TO ORDERING OR FABRICATION.

1.9.2 THE GENERAL CONTRACTOR SHALL SUBMIT FABRICATION SHOP DRAWINGS TO THE ARCHITECT FOR APPROVAL. THREE COPIES OF SHOP
DRAWINGS TOGETHER WITH ONE SEPIA TRANSPARENCY SHALL BE SUBMITTED. SUBMIT SAMPLES AS REQUIRED BY THE CLIENT.

1.9.3 ALL CUTS OF FIXTURES AND EQUIPMENT, SHOP AND ENGINEERING
DRAWINGS SIGNED "APPROVED" SHALL SUPERSEDE ORIGINATING DRAWINGS IN DESIGN APPEARANCE ONLY. CONTRACTORS AND ENGINEERS SHALL ASSUME RESPONSIBILITY FOR ERRORS IN THEIR DRAWINGS.

1.9.4 BY APPROVING AND SUBMITTING SHOP DRAWINGS, SAMPLES AND PRODUCE DATA THE CONTRACTOR REPRESENTS THAT HE HAS VERIFIED FIELD MEASUREMENTS, CONDITIONS AND RELATED CONSTRUCTION TO THE SUBMISSION AND THAT HE HAS CHECKED AND COORDINATED THE SUBMISSION WITH THE REQUIREMENTS OF ALL OTHER WORK IN THE CONTRACT DOCUMENTS.

1.9.5 THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR ANY DEVIATIONS, ERRORS OR OMISSIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE ARCHITECT'S APPROVAL OF THE SUBMISSION. CONTINUED ON A-002.00

A
AB. - ABOVE
ADJ. - ADJUST (OR) ASJACENT
A.F.F. - ABOVE FINISHED FLOOR
ALUM. - ALIMINUM
APP'D. - APPROVED
ARCH. - ARCHITECT
ASSEM. - ASSEMBLY
& - AND
∠ - ANGLE
@ - AT

B
BD. - BOARD
BD. - BUILDING
B.O. - BOTTOM OF
BM - BEAM
B.O.W./B.W. - BOTTOM OF WALL
BOT. - BOTTOM

C
C. - CASEMENT
CAB'T - CABINET
CEM'T - CEMENT
CL - CENTER LINE
CL./CLOS. - CLOSET
CLG - CEILING
COL. - COLUMN
CONT. - CONTINUOUS
CONC. - CONCRETE
C.T. - CERAMIC TILE
CU.FT. - CUBIC FEET

D
DET. - DETAIL
D.H. - DOUBLE HUNG
DIA. - DIAMETER
DIM. - DIMENSION
DN - DOWN
DR - DOOR
DWG - DRAWING

E
EL./ELEV - ELEVATION
ELEC. - ELECTRIC
EQ. - EQUAL
EQUIP. - EQUIPMENT
EXG. - EXISTING
EXT. - EXTERIOR

F
F. - FIXED
FIN. - FINISH
FL./FLR - FLOOR
FOUND. - FOUNDATION
F.P.S.C. - FIRE PROOF SELF CLOSING
FR. - FRAME

G
GA. - GAUGE
GALV. - GALVANIZED
G.C. - GENERAL CONTRACTOR
GL. - GLASS
GR. - GRILLE
GR.EL. - GRADE ELEVATION
GWB - GYPSUM BOARD

H
H. - HIGH
HT. - HEIGHT
HM. - HOLLOW METAL
HORIZ. - HORIZONTAL
H.R. - HAND RAIL
H&V. - HEATING / VENTILATION
HR. - HOUR

I
I.D. - INSIDE DIAMETER
INSUL. - INSULATION

J
JT. - JOINT

L
L. - LEADER
LAV. - LAVATORY
LINO. - LINOLEUM
LT. - LIGHT

M
M./MA. /MTL - METAL
MAR. - MARBLE
MAT. - MATERIAL
MAX. - MAXIMUM
MECH. - MECHANICAL
M.F. - METAL FABRIC
MIN. - MINIMUM

N
N.I.C. - NOT IN CONTRACT
NO. - NUMBER
NOM. - NOMINAL
N.T.S. - NOT TO SCALE

O
O.A.I - OUTSIDE AIR INTAKE
O.C. - ON CENTER
O.D. - OUTSIDE DIAMETER
OP'G / OPEN'G - OPENING

P
PART. - PARTITION
P.L. - PROPERTY LINE
PLAS. - PLASTER
PTD - PAINTED

R
r. - RADIUS
R. - RISER
RAD. - RADIATOR
RAIL'G. - RAILING
RD - ROOF DRAIN
REINF. - REINFORCING
REQ'D - REQUIRED
RM - ROOM
R.O. - ROUGH OPENING

S
SAD. - SADDLE
S.A.E. - SAME AS EXISTING
SECT. - SECTION
SH./SHELV'G. - SHELVING
SIM. - SIMILAR
SPEC. - SQUARE FEET
S.S./STN STL - STAINLESS STEEL
STD. - STANDARD
STL - STEEL
STOR. - STORAGE
STRUCT. / STRL. - STRUSTURAL
SY - SQUARE YARD
SYS. - SYSTEM

T
T&B - TOP AND BOTTOM
TH. - THICKNESS
T.O.S. - TOP OF SALB
TR. - TREAD
TYP. - TYPICAL

U
U. - UNFINISHED
U.O.N.. - UNLESS OTHERWISE NOTED

V
V./VIN. - VINYL
V.C.T. - VINYL COMPOSEITE TILE
VENT. - VENTILATOR
VERT. - VERTICAL
V.I.F. - VERIFY IN FIELD

W
W/ - WITH
W.C. - WATER CLOSET
WD - WOOD
W.F. - WIDE FLANGE
W.H. - WEEPHOLE
WT - BOTTOM

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PROJECT NO.
NBR23145.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

SHEET TITLE:
GENERAL NOTES AND ABBREVIATIONS

SHEET NO.
AB0.2

GENERAL NOTES CONTINUED:

1.10 TEMPORARY FACILITIES

1.10.1 THE GENERAL CONTRACTOR SHALL FURNISH AND PAY FOR ALL TEMPORARY LIGHT AND POWER, COMPLETE WITH ALL WIRING LAMPS AND SIMILAR EQUIPMENT, AS REQUIRED FOR THE COMPLETION OF THE WORK. HE SHALL REMOVE ALL TEMPORARY LIGHT AND POWER WIRING WHEN DIRECTED.

1.10.2 THE CONTRACTOR SHALL ONLY USE TOILET FACILITIES AND WATER AS ASSIGNED BY THE OWNER. THE CONTRACTOR SHALL MAINTAIN THOSE FACILITIES IN A SANITARY CONDITION AND BE RESPONSIBLE FOR DAMAGES TO THE TOILET AREAS.

1.11 SEPARATE CONTRACTS:

1.11.1 THE CLIENT RESERVES THE RIGHT TO LET OTHER CONTRACTS IN CONNECTION WITH THE WORK. THE CONTRACTOR SHALL AFFORD OTHER CONTRACTORS REASONABLE ACCESS AND OPPORTUNITY FOR THE INTRODUCTION AND STORAGE OF THEIR MATERIALS AND THE EXECUTION OF THEIR WORK, AND SHALL PROPERLY CONNECT AND COORDINATE ITS WORK WITH THEIRS.

1.11.2 IF ANY PART OF THE CONTRACTOR'S WORK DEPENDS, FOR PROPER EXECUTION OR RESULT, UPON THE WORK OF THE CLIENT OR ANY OTHER CONTRACTOR, THE CONTRACTOR SHALL INSPECT AND PROMPTLY REPORT TO THE ARCHITECT ANY DEFECTS IN SUCH WORK THAT RENDER IT UNSUITABLE FOR SUCH PROPER EXECUTION AND RESULTS. A FAILURE BY THE CONTRACTOR TO SO INSPECT AND RE.PORT SHALL CONSTITUTE AN ACCEPTANCE OF THE OTHER CONTRACTOR'S WORK AS FIT AND PROPER FOR THE RECEPTION OF HIS WORK, EXCEPT AS TO DEFECTS WHICH MAY DEVELOP IN THE OTHER CONTRACTOR'S WORK AFTER THE EXECUTION OF ITS WORK.

1.11.3 THE OWNER AND THE ARCHITECT SHALL BE INFORMED IMMEDIATELY IN WRITING, PRIOR TO ANY CORRECTIVE WORK, THAT DAMAGES OCCURRED BECAUSE OF ANOTHER CONTRACTOR.

1.12 CHANGES IN WORK:

THE CLIENT, WITHOUT INVALIDATING THE CONTRACT, MAY ORDER EXTRA WORK OR MAKE CHANGES BY ALTERING, ADDING TO OR DEDUCTING FROM THE WORK, THE CONTRACT SUM BEING ADJUSTED ACCORDINGLY. ALL SUCH WORK SHALL BE EXECUTED UNDER THE: CONDITIONS OF THE ORIGINAL CONTRACT EXCEPT THAT ANY CLAIM FOR EXTENSIONS OF TIME CAUSED THEREBY SHALL BE ADJUSTED AT THE TIME OF ORDERING SUCH CHANGE. THE WORK SHALL BE ADJUSTED BY ONE OF THE FOLLOWING PROCEDURES:

1.12.1 CHANGE ORDER:

A CHANGE ORDER TO THE CONTRACTOR, INITIATED BY THE CLIENT AUTHORIZES AN ADJUSTMENT IN THE CONTRACT SUM OR THE CONTRACT TIME. UPON REVIEW OF THE CHANGE ORDER THE CONTRACTOR SHALL SUBMIT TO THE CLIENT A COST OR CREDIT RESULTING FROM THIS CHANGE IN THE WORK. WITH THE FOLLOWING INFORMATION:

(A) DATE & NUMBER OF THE CHANGE ORDER.

(B) THE CONSTRUCTION SPACE NUMBER OF THE AREA UNDER CONSTRUCTION.

(C) A COMPLETE DESCRIPTION OF THE WORK BEING PERFORMED.

(D) A LUMP SUM SUPPORTED BY SUFFICIENT ITEMIZED DATA TO PERMIT EVALUATION ORA UNIT PRICE WHICH WAS SUBSEQUENTLY AGREED UPON.

(E) DATE OF WHICH WORK WILL START.

(F) DATE OF WHICH WORK WILL BE COMPLETED.

ONLY UPON AGREEMENT OF THE ABOVE AND SIGNED BY THE CLIENT AND ARCHITECT UNLESS OTHER AGREED. NO PAYMENT ON SUCH BILLS WILL BE MADE UNTIL FINAL COMPLETION OF THE WORK.

1.12.2 FIELD ORDER:

A FIELD ORDER TO THE CONTRACTOR AUTHORIZES NO ADJUSTMENT IN THE CONTRACT TIME, HOWEVER, THE CONTRACTOR UPON REVIEW OF THE FIELD ORDER WILL ISSUE TO THE CLIENT THE FOLLOWING INFORMATION:

(A) DATE & NUMBER OF THE FIELD ORDER.

(B) DATE OF WHICH WORK WILL START.

(C) DATE OF WHICH WORK WILL BE COMPLETED.

1.12.3 CLAIMS FOR ADDITIONAL WORK:

IF THE CONTRACTOR WOULD LIKE TO MAKE A CLAIM FOR AN INCREASE IN THE CONTRACT SUM OR TIME, HE SHALL MAKE A REQUEST TO THE CLIENT IN THE FORM OF A CHANGE ORDER, EXCEPT IN AN EMERGENCY ENDANGERING LIFE OR PROPERTY.

1.13 DELIVERY OF MATERIAL:

1.13.1 CONTRACTOR SHALL BE RESPONSIBLE FOR ARRANGING ANY HOISTING FACILITIES FOR HANDLING MATERIALS.

1.13.2 THE GENERAL CONTRACTOR AGREES TO PAY ALL TRANSPORTATION CHARGES FOR SUPPLIES AND EQUIPMENT TO THE POINT OF USE, AND SHALL BE RESPONSIBLE FOR ALL CHECKING AND STORAGE OF SAME IN CONNECTION WITH THIS CONTRACT.

1.13.3 ALL CONTRACTORS SHALL CONTACT THE OWNER TO DETERMINE WHEN AND HOW DELIVERIES CAN BE MADE (SEE BELOW), WHAT PHASES OF CONSTRUCTION CAN BE DONE ON REGULAR OR OVERTIME HOURS, AND IN GENERAL, ANY SPECIAL BUILDING REQUIREMENTS WHICH WILL AFFECT THEIR WORK. (IF OVERTIME WORK IS REQUIRED BY ANY TRADE, APPROVAL, INCLUDING THAT OF COST, MUST BE OBTAINED PRIOR TO THE EXECUTION OF ANY WORK.) THE GENERAL INTENT IS THAT ALL CONSTRUCTION WORK WITH THE POSSIBLE EXCEPTION OF NOISY WORK SHALL BE DONE DURING REGULAR HOURS.

1.13.4 EACH WORKER SHALL MAKE ALL REQUIRED ARRANGEMENTS FOR DELIVERY OF EQUIPMENT AND/OR MATERIALS. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO CHECK THE RULES AND REGULATIONS GOVERNING WORK ON THE PREMISES, INCLUDING THE FOLLOWING:

(A) DATE AND TIME OF DELIVERY SHALL BE ESTABLISHED IN CONJUNCTION WITH THE OWNER (OVERTIME CHARGES OR OTHER NECESSARY EXPENSE SHALL BE PAID BY CONTRACTOR REQUIRING SERVICE).

(B) BUILDING CONDITIONS, INCLUDING SIZE OF DOORWAYS, CORRIDORS, WINDOW OPENINGS, ETC., SHALL BE CHECKED FOR ITEMS BEING DELIVERED BY CONTRACTOR REQUESTING DELIVERY.

(C) ALL CHARGES INVOLVING THE INSTALLATION AND/OR OPERATION OF A HOIST SYSTEM IF REQUIRED, SHALL BE BORNE BY THE CONTRACTOR USING THE SYSTEM. CHARGES INVOLVING THE TEMPORARY REMOVAL AND REINSTALLATION OF WINDOW SASH AND/OR FIXED PANELS REQUIRED FOR DELIVERY SHALL BE BORNE BY THE
CONTRACTOR.

1.14 PROTECTION OF WORK AND PROPERTY:

1.14.1 THE GENERAL CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS. ORDINANCES, REGULATIONS AND ANY OTHER GOVERNING AGENCY WHICH HAS JURISDICTION OVER THE PROTECTION AND SAFETY OF PERSONS AND OR PROPERTY.

1.14.2 THE CONTRACTOR SHALL ERECT AND MAINTAIN, AS REQUIRED BY EXISTING FIELD CONDITIONS, THRU THE PROGRESS OF THE WORK. ALL SAFEGUARDS FOR SAFETY INCLUDING POSTING DANGER SIGNS AND OTHER WARNINGS AGAINST HAZARDS. ENFORCING ALL SAFETY REGULATIONS AND PROTECTION OF PROPERTY.

1.14.3 THE GENERAL CONTRACTOR SHALL PROPERLY PROTECT THE OWNER'S ADJOINING PROPERTY AND ANY DAMAGE TO SAME CAUSED BY HIS/HER WORK OR THAT OF SUB-CONTRACTORS MUST BE MADE GOOD WITHOUT DELAY. PATCHING AND REPLACING OF DAMAGED WORK SHALL BE DONE AT THE COST AND EXPENSE OF THE CONTRACTOR RESPONSIBLE FOR HIS/HER SUB-CONTRACTORS.

1.14.4 THE GENERAL CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTION AGAINST DIRT AND DAMAGE WITHIN THE PREMISES, AS WELL AS PUBLIC AREAS AND SHALL BE RESPONSIBLE FOR KEEPING THESE AREAS CLEAN AND FREE OF MATERIALS AT ALL TIMES UNTIL THE PREMISES IS TURNED OVER TO THE CLIENT.

1.14.5 THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY OF THE CONSTRUCTION AREAS UNTIL THE SPACE IS TURNED OVER TO THE CLIENT.

1.14.6 WHEN FLAMMABLE MATERIALS ARE PLACED IN STORAGE THE CONTRACTOR SHALL EXERCISE THE UTMOST CARE AS PRESCRIBED BY THE MANUFACTURERS AND/OR FIRE DEPARTMENT OR OTHER GOVERNING AGENCY.

1.15 CLEANING OF WORK:

1.15.1 THE GENERAL CONTRACTOR SHALL PERIODICALLY REMOVE ALL RUBBISH AND WASTE MATERIALS, OF BOTH HIS OWN AND OTHER SUB-CONTRACTOR'S EMPLOYEES, INCLUDING THAT RUBBISH WHICH IS A BY-PRODUCT OF CARPET AND CABINET INSTALLATION, TELEPHONE COMPANY INSTALLATION, ETC., AND AT THE COMPLETION OF THE WORK, SHALL LEAVE THE JOB SITE BROOM CLEAN AND FREE OF ALL MATERIALS.

1.15.2 THE GENERAL CONTRACTOR SHALL THOROUGHLY CLEAN OUT ALL DEBRIS AND VACUUM CLEAN WITHIN THE CONVECTOR ENCLOSURE BEFORE THESE UNITS ARE PAINTED OR A FINISH FLOOR INSTALLED.

1.15.3 THE GENERAL CONTRACTOR SHALL THOROUGHLY CLEAN COVE BASE AND STRAIGHT BASE, ANY CORRIDOR VINYL WALL COVERING, ALL DOORS AND CONVECTOR ENCLOSURES, ETC., PRIOR TO COMPLETION OF THE WORK.

1.16 CUTTING AND PATCHING OF WORK:

1.16.1 THE GENERAL CONTRACTOR SHALL DO ALL CUTTING, FITTING AND PATCHING WORK THAT MAY BE REQUIRED TO MAKE ALL PARTS COME TOO ETHER PROPERLY AND FIT TO RECEIVE OR BE RECEIVED BY WORK OF OTHER CONTRACTORS.

1.16.2 THE GENERAL CONTRACTOR SHALL NOT DAMAGE ANY PORTION OF HIS WORK OR THE WORK OF OTHER CONTRACTORS BY CUTTING OR PATCHING.

1.17 SUBSTANTIAL COMPLETION:
1.17.1 SUBSTANTIAL COMPLETION OF THE WORK IS DEFINED AS THE DATE CERTIFIED BY THE ARCHITECT WHEN CONSTRUCTION IS SUFFICIENTLY COMPLETE, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, SO THE CLIENT CAN OCCUPY OR UTILIZE THE WORK FOR THE USE FOR WHICH IT IS INTENDED.

1.7.2 WHEN THE CONTRACTOR CONSIDERS THAT THE WORK IS ACCEPTABLE, THE ARCHITECT WILL PREPARE A PUNCH LIST OF OPEN ITEMS TO BE COMPLETED OR CORRECTED. FAILURE OF THE ARCHITECT TO INCLUDE OR REVIEW ANY ITEMS ON THE PUNCH LIST DOES NOT RELIEVE THE CONTRACTOR TO COMPLETE ALL WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. UPON FIELD INSPECTION AND VERIFICATION OF THE LIST, THE CLIENT WILL APPROVE THAT THE WORK IS SUBSTANTIALLY COMPLETE. IN TURN, THE CONTRACTOR WILL ESTABLISH A DATE OF FINAL COMPLETION AND A SCHEDULE OF HIS REMAINING OPEN ITEMS WITH THE WORK OF OTHER CONTRACTORS.

1.17.3 UPON WRITTEN NOTICE FROM THE CONTRACTOR TO THE ARCHITECT THAT THE WORK IS READY FOR FINAL INSPECTION, THE ARCHITECT WILL PROMPTLY MAKE AN INSPECTION AND WHEN ALL WORK HAS BEEN DONE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND THAT THE ENTIRE BALANCE SHALL BE DUE TO THE CONTRACTOR THE CLIENT WILL ISSUE FINAL PAYMENT. UNDER THE FOLLOWING CONDITIONS:

(A) AN AFFIDAVIT THAT ALL PAYROLLS, BILLS FOR MATERIALS AND EQUIPMENT AND OTHER INDEBTEDNESS CONNECTED WITH THE WORK HAVE BEEN PAID.

(B) ALL LIEN AND RELEASES HAVE BEEN WAIVED.

(C) FAULTY OR DEFECTIVE WORK HAS BEEN CORRECTED.

(D) WORK COMPLIES WITH THE CONTRACT DOCUMENTS.

(E) TERMS OF ANY SPECIAL WARRANTIES HAVE BEEN MET.

(F) ALL WARRANTIES. MANUALS, ETC., HAVE BEEN TURNED OVER TO THE CLIENT.

(G) ALL PANEL BOXES, SWITCHES, ETC., THAT ARE MAINTAINED BY THE CLIENT ARE TAGGED AND LABELED. ACCEPTANCE OF FINAL PAYMENT CONSTITUTES A WAIVER OF ALL CLAIMS EXCEPT THOSE PREVIOUSLY MAKE IN WRITING AS UNSETTLED AT THE TIME OF FINAL PAYMENT.

1.18 DEFECTIVE WORK:
1.18.1 THE GENERAL CONTRACTOR SHALL REPLACE ALL BROKEN OR CRACKED WINDOW GLAZING. ALL WINDOW SASH SHALL BE INSPECTED BY THE CONTRACTOR AND ALL INOPERABLE CONDITIONS SHALL BE REPAIRED.

1.18.2 THE GENERAL CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR THE REMOVAL, REPLACEMENT AND RECERTIFICATION OF ALL DAMAGED AND DEFECTIVE MATERIAL AND WORKMANSHIP IN CONNECTION WITH THE CONTRACT WORK. HE SHALL REPLACE OR REPAIR AS DIRECTED ALL DEFECTIVE MATERIALS WHICH SHALL APPEAR WITHIN A PERIOD OF ONE YEAR OF DATE OF SUBSTANTIAL COMPLETION.

1.19 GUARANTEES:
1.19.1 IN ADDITION TO ANY SPECIFIC GUARANTEES WHICH MAY BE REQUIRED BY OTHER SECTIONS OF THE SPECIFICATIONS AND THE CONTRACT DOCUMENTS,THE CONTRACTOR SHALL GUARANTEE ALL WORK PERFORMED AND MATERIALS FURNISHED UNDER THE CONTRACT AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL
COMPLETION.

1.19.2 THE CONTRACTOR SHALL, WITHIN A REASONABLE TIME AFTER RECEIPT OF WRITTEN NOTICE THEREOF, AND AT ITS OWN COST AND EXPENSE AND WITHOUT COST TO THE CLIENT, MAKE GOOD ANY DEFECTS IN MATERIALS OR WORKMANSHIP WHICH MAY DEVELOP WITHIN PERIODS FOR WHICH SAID MATERIALS AND WORKMANSHIP ARE GUARANTEED AND ALSO MAKE GOOD ANY DAMAGE TO OTHER WORK OR OTHER PROPERTY OF THE CLIENT CAUSED BY THE REPAIRING OF SUCH DEFECTS All REPAIRS OF SUCH DEFECTS IN MATERIALS AND WORKMANSHIP SHALL BE PERFORMED AT TIMES AND IN A MANNER WHICH WILL NOT INTERFERE WITH THE CLIENT'S BUSINESS OPERATION.

1.19.3 NEITHER THE FINAL PAYMENT NOR ANY PROVISIONS IN THE CONTRACT SHALL RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR NEGLIGENCE,FAULTY MATERIALS, OR WORKMANSHIP EVIDENCED WITHIN THE EXTENT OF THE GUARANTEE. UPON WRITTEN NOTICE, REMEDY ANY SUCH DEFECTS AND PAY ALL EXPENSES FOR ANY DAMAGES TO OTHER WORK RESULTING THEREFROM.

1.20 INDEMNIFICATION:

1.20.1 TO THE FULLEST EXTENT PERMITTED BY LAW, THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE ARCHITECT AND THE CLIENT AND THEIR AGENTS AND EMPLOYEES FROM AND AGAINST ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES RESULTING FROM THE PERFORMANCE OF THE WORK PROVIDED THAT SUCH CLAIM IS ATTRIBUTABLE TO BODILY INJURY, SICKNESS, DISEASE OR DEATH WHICH HAS CAUSED IN WHOLE OR IN PART BY ANY NEGLIGENT ACT OR OMISSION OF THE CONTRACTOR AND/OR ANYONE LIABLE UNDER HIS/HER EMPLOY.

INDOOR AIR QUALITY MANAGEMENT PLAN:

IF PREMISES ARE TO BE OCCUPIED DURING CONSTRUCTION OR AS APPLICABLE, CONTRACTOR MUST DEVELOP AND IMPLEMENT INDOOR AIR QUALITY (IAQ) MANAGEMENT PLAN FOR THE CONSTRUCTION AND PRE-OCCUPANCY PHASES OF THE ALTERATIONS TO THE EXISTING BUILDING THAT MEETS OR EXCEEDS THE RECOMMENDED DESIGN APPROACHES OF 2008 SMACNA IAQ GUIDELINES FOR OCCUPIED BUILDINGS UNDER CONSTRUCTION.

THE PLAN SHALL REQUIRE THE FOLLOWING:

A) PROTECTION OF STORED ON-SITE OR INSTALLED ABSORPTIVE MATERIALS FROM MOISTURE DAMAGE, PESTS AND OTHER FORMS OF CONTAMINATION.

B) PROTECTION OF ALL DUCTWORK DURING CONSTRUCTION AND REPLACEMENT OF ALL FILTRATION MEDIA IMMEDIATELY PRIOR TO OCCUPANCY.

C) MONITORING OF INDOOR AIR QUALITY DURING CONSTRUCTION AS PER SMACNA CRITERIA.

D) IMPLEMENTATION OF SITE SANITATION AND PEST MANAGEMENT TO BE ENFORCED FROM PRE-CONSTRUCTION THROUGH END OF CONSTRUCTION.

INDOOR PEST CONTROL:

A) PROPERLY SEAL, CAULK, AND REPAIR POINTS OF ENTRY, HABITATION AND BREEDING AREAS TO MITIGATE AGAINST PEST OCCURRENCES WITHIN THE UNIT. USE METAL SHEETING OR MESH WHENEVER POSSIBLE.

B) PROPERLY SEAL ALL PENETRATIONS (I.E. AROUND ALL WATER PIPES, STEAM RISERS, ELECTRICAL CONDUITS, ETC.) WITH COPPER MESH, METAL SHEETING OR CONCRETE. USE CAULKING AND PLASTER AS A LAST RESORT.

C) CAULK EVERY JOINT WITHIN AND BETWEEN CABINETS, OVER EXPOSED SCREW HEADS, AND WITHIN THE CABINET STRUCTURE. PROPERLY SEAL CRACKS AND JOINTS AT TILE FLOOR/WALL JOINTS AND CAVITIES, BASEBOARD/WALL INTERFACES AND WINDOW/FRAME INTERFACES.

D) COVER ALL VENTILATION PORTALS WITH INSECT MESH AND ¼" WIRE MESH (HARDWARE CLOTH). ENSURE EASY ACCESS TO PORTALS AND TO ALLOW FOR FREQUENT CLEANING.

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REGISTERED ARCHITECT JOHN CORTES CALDERON STATE OF NEW YORK 028455

LICENSE EXPIRATION DATE 03/31/2027

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PROJECT NO.
NBR23145.00

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

SHEET TITLE:
GENERAL NOTES CONTINUED

SHEET NO.

AB0.3

FIGURES FOR HANDICAPPED ACCESS

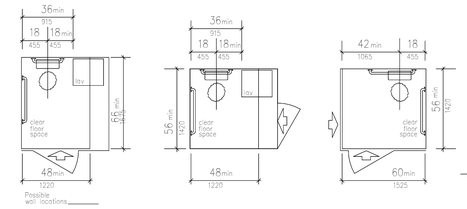


Fig 28
Clear Floor Space at Water Closets

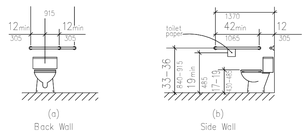


Fig 29
Grab Bars at Water Closets

Fig 24
Clear Doorway Width and Depth

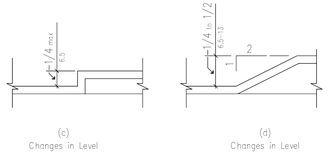
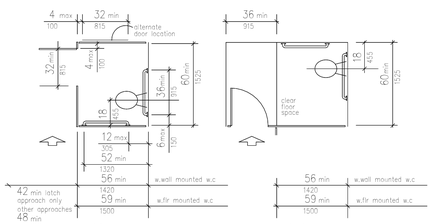


Fig 7
Width of Accessible Route (Partial)



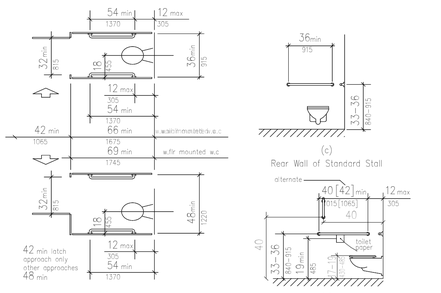


Fig 30
Toilet Stalls

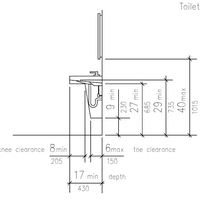


Fig 31
Lavatory Clearances

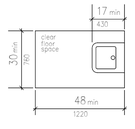


Fig 32
Clear Floor Space at Lavatories

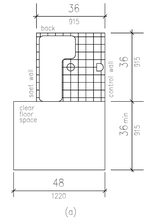


Fig 35
Shower Size and Clearances

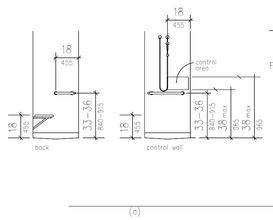
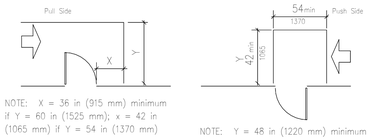
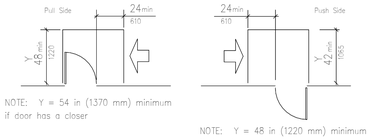
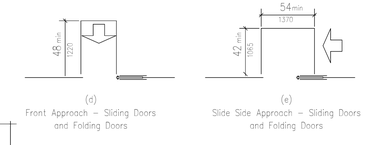


Fig 37
Grab Bars at Shower Stalls







NOTE: All doors in alcoves shall comply with the clearance for front approaches

Fig 25
Maneuvering Clearances at Doors

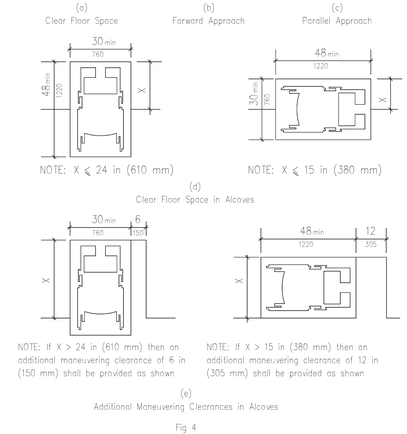


Fig 4
Minimum Clear Floor Space for Wheelchairs

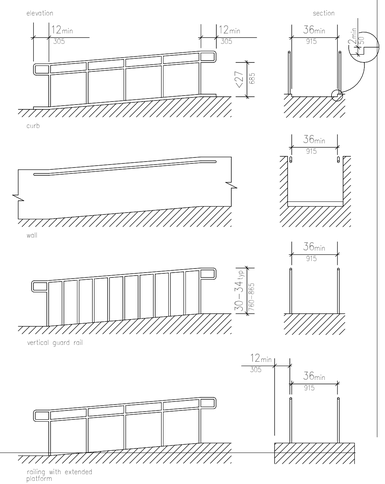


Fig 17
Examples of Edge Protection and Handrail Extensions

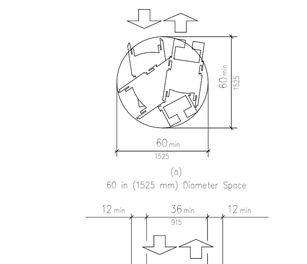


Fig 3
Wheelchair Turning Space

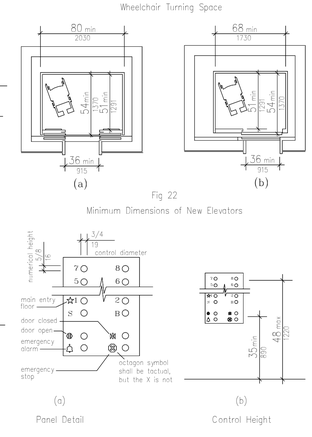


Fig 22
Minimum Dimensions of New Elevators

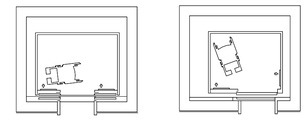


Fig 23
Car Controls

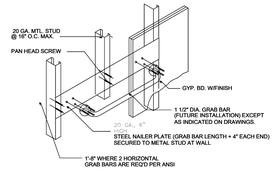


Fig 38
Typ. Grab Bar Reinforcement Detail

ADA COMPLIANCE NOTES

PROPOSED WORK TO COMPLY WITH APPLICABLE REQUIREMENTS OF ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES 2009 OF NEW YORK STATE.
ADOPTED WITHOUT AMENDMENTS A117.1, 2009

1. CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST

2. ACCESSIBLE ROUTES TO BE PROVIDED BETWEEN FACILITIES ON THE GROUND FLOOR, PROVIDING A MINIMUM WIDTH OF 36" ALONG THE ACCESSIBLE ROUTE AND A MINIMUM WIDTH OF 32" AT DOORWAYS

3. PROPOSED STORAGE FACILITIES SUCH AS CABINETS, SHELVES, CLOSETS AND DRAWERS SHALL COMPLY:

   a. CLEAR FLOOR SPACE OF A MINIMUM OF 30" x 48".

   b. STORAGE SPACES SHALL COMPLY WITH SECTION 4. CLOTHES RODS SHALL BE A MAXIMUM OF 54" AFF.

   c. HARDWARE FOR STORAGE FACILITIES SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST

4.2 SPACE ALLOWANCES AND REACH RANGES

a. A CLEAR FLOOR SPACE OF 30"x 48" SHALL BE PROVIDED FORWARD AND PARALLEL APPROACHES SEE (FIGURE 4)
b. 60" ∅ SPACE SHALL BE PROVIDED FOR WHEELCHAIR TURNING SEE (FIGURE 3)

4.8.5 HANDRAILS

a. PROVIDE HANDRAILS ON BOTH SIDES OF RAMP SEGMENTS.
b. THE CLEAR SPACE BETWEEN THE HANDRAIL AND THE WALL SHALL BE 1-1/2".
c. THE GRIPPING SURFACE SHALL BE 1-1/4" ∅ OR 1-1/2" ∅.
d. THE TOP OF THE GRIPPING SURFACE SHALL BE MOUNTED BETWEEN 30" AND 34" ABOVE THE RAMP SURFACE.

4.13 DOORS

a. DOORWAYS SHALL HAVE A MINIMUM CLEAR OPENING OF 32" WITH THE DOOR OPEN 90 DEGREES MEASURED BETWEEN THE FACE OF THE DOOR AND THE STOP. FOR CLEARWAY WIDTH AND DEPTH SEE (FIGURE 24)
b. FOR MANEUVERING CLEARANCES AT DOORS SEE (FIGURE 25)

4.16 WATERCLOSETS

a. THE HEIGHT OF WATERCLOSETS SHALL BE 17" TO 19" ABOVE THE FLOOR TO THE TOP OF THE TOILET SEAT. FOR HEIGHTS, CONFIGURATIONS AND GRAB BARS SEE (FIGURES 28 AND 29) FOR STALLS SEE (FIGURE 30)

4.19 LAVATORIES AND SINKS

a. LAVATORIES SHALL BE MOUNTED WITH A CLEARANCE OF 29" FROM THE FLOOR TO THE BOTTOM OF THE APRON. KNEE AND TOE CLEARANCE TO COMPLY WITH (FIGURE 31)
b. SINKS SHALL BE MOUNTED WITH THE COUNTER OR RIM NO HIGHER THAN 34" FROM THE FLOOR
c. A CLEAR FLOOR SPACE OF 30"x 48" SHALL BE PROVIDED IN FRONT OF A LAVATORY OR SINK TO ALLOW A FORWARD APPROACH AND TO COMPLY WITH (FIGURE 32)
d. HOT WATER AND DRAIN PIPES UNDER LAVATORIES OR SINKS SHALL BE INSULATED

MOUNTING HEIGHT SCHEDULE

1. FLOOR LEVEL RECEPTACLES: DUPLEX, TELEPHONE AND COMPUTER, 1'-3" AFF TO CENTERLINE.
2. COUNTER LEVEL RECEPTACLES: 3'-4" AFF TO CENTERLINE.
3. WALL SWITCHES, INTERCOM, WALL PHONES, FIRE ALARM, PULL STATIONS: 4'-0" AFF TO CENTERLINE.
4. FIRE ALARM, STROBE ALARM: TOP EDGE TO ALIGN WITH TOP OF DOOR FRAME (7'-2") UNLESS OTHERWISE NOTED.
5. RECESSED WALL EXIT SIGN: CENTER OVER DOOR @ 8" (TO CENTERLINE) ABOVE TOP OF DOOR FRAME.
6. FIRE EXTINGUISHER CABINET: 4'-6" AFF TO CENTERLINE OF CABINET.

ACCESSIBLE ROUTES

1. IN ADDITION TO ACCESSIBLE ENTRANCES REQUIRED BY SECTION 4.2 THROUGH 4.12, PUBLIC ENTRANCES SHALL BE ACCESSIBLE.

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PROFESSIONAL SEAL

REGISTERED ARCHITECT JOHN CORTES CALDERON STATE OF NEW YORK 028455

LICENSE EXPIRATION DATE 03/31/2027

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PROJECT NO.
NBR23145.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

SHEET TITLE:
ADA COMPLIANCE

SHEET NO.
AB0.4

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C303.2 [FO4][2]	Slab edge insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2.1 [FO6][1]	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [FO3][2]	Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.4 [FO7][2]	Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or >= 10 inches of soil.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C402.4.2 [PR14][1]	In enclosed spaces > 2,500 ft2 directly under a roof with ceiling heights >15 ft, and used as an office, lobby, atrium, concourse, corridor, storage, gymnasium/exercise center, convention center, automotive service, manufacturing, non-refrigerated warehouse, retail store, distribution/sorting area, transportation, or workshop, the following requirements apply: (a) the daylight zone under skylights is >= half the floor area; (b) the skylight area to daylight zone is >= 3 percent with a skylight VT >= 0.40; or a minimum skylight effective aperture >= 1 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

COMcheck Software Version COMcheckWeb
Inspection Checklist
Energy Code: 2020 New York State Energy Conservation Construction Code

Requirements: 2.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR1][1]	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C103.2 [PR4][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C103.2 [PR8][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.1 [PR10][1]	The vertical fenestration area <= 30 percent of the gross above-grade wall area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.1 [PR11][1]	The skylight area <= 3 percent of the gross roof area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

COMcheck Software Version COMcheckWeb
Mechanical Compliance Certificate

Project Information

Energy Code: 2020 New York State Energy Conservation Construction Code
Project Title: Ossining E-Bike Share
Location: Ossining, New York
Climate Zone: 4a
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed
Reduced Lighting Power, 1.0 credit

Mechanical Systems List

Quantity System Type & Description

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2020 New York State Energy Conservation Construction Code requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

COMcheck Software Version COMcheckWeb
Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2020 New York State Energy Conservation Construction Code
Project Title: Ossining E-Bike Share
Project Type: New Construction
Exterior Lighting Zone 3 (Other (LZ3))

Construction Site: Owner/Agent: Designer/Contractor:

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts /	D Tradable Wattage	E Allowed Watts (B X C)
Free standing/attached sales canopy	885 ft2	0.6	Yes	531
			Total Tradable Watts (a) =	531
			Total Allowed Watts =	531
			Total Allowed Supplemental Watts (b) =	500

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 500 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
Free standing/attached sales canopy (885 ft2): Tradable Wattage				
LED:: E2: Signify Stonco Roughlyte: Other:	1	10	25	250
LED: K: StarTek StarShield: Other:	1	3	45	135
			Total Tradable Proposed Watts =	385

Exterior Lighting PASSES: Design 63% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2020 New York State Energy Conservation Construction Code requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

COMcheck Software Version COMcheckWeb
Interior Lighting Compliance Certificate

Project Information

Energy Code: 2020 New York State Energy Conservation Construction Code
Project Title: Ossining E-Bike Share
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed
Reduced Lighting Power, 1.0 credit

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-Retail Sales Area (Workshop)	340	0.81	275
2-Common Space Types: Restroom (Workshop)	50	0.81	40
3-Common Space Types: Storage (Workshop)	70	0.81	57
		Total Allowed Watts =	373

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
1-Retail Sales Area (Workshop)				
LED: J: Thinline DTL Arch SQ: Other:	1	3	50	150
2-Common Space Types: Restroom (Workshop)				
LED: E4: Eclipse Lighting Inc.: Other:	1	1	30	30
3-Common Space Types: Storage (Workshop)				
LED: E4: Eclipse Lighting Inc.: Other:	1	1	30	30
			Total Proposed Watts =	210

Interior Lighting PASSES: Design 44% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2020 New York State Energy Conservation Construction Code requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

John C. Calderon, Founder & Principal — April 16, 2025
Name - Title Signature Date

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor[a]
SOUTH					
South Conc Ext. Wall: Solid Concrete, Bin. Thickness, Normal Density, Furring: Metal, [Bldg. Use 1 - Retail Sales Area]	53	0.0	10.0	0.079	0.104
South Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Retail Sales Area]	528	39.0	10.0	0.039	0.064
South Window: Metal Frame with Thermal Break: Fixed, Perf. Type: Energy code default, Double Pane with Low-E, Tinted , SHGC 0.36, [Bldg. Use 1 - Retail Sales Area]	53	---	---	0.650	0.380
South Door: Glass (over 50% glazing): Metal Frame, Entrance Door, Perf. Type: Energy code default, Double Pane with Low-E, Tinted , SHGC 0.60, [Bldg. Use 1 - Retail Sales Area]	22	---	---	0.800	0.770
WEST					
West Conc Ext. Wall: Solid Concrete, Bin. Thickness, Normal Density, Furring: Metal, [Bldg. Use 1 - Retail Sales Area]	61	0.0	10.0	0.079	0.104
West Ext. Wall 1: Steel-Framed, 16in. o.c., [Bldg. Use 2 - Common Space Types: Restroom]	160	39.0	10.0	0.039	0.064
West Ext. Wall 2: Steel-Framed, 16in. o.c., [Bldg. Use 3 - Common Space Types: Storage]	200	39.0	10.0	0.039	0.064

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.
(c) Thermal spacer block with minimum R-3.5 must be installed above the purlin/batt, and the roof deck secured to the purlins.

Envelope PASSES: Design 4% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2020 New York State Energy Conservation Construction Code requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

John C. Calderon, Founder & Principal — April 16, 2025
Name - Title Signature Date

COMcheck Software Version COMcheckWeb
Envelope Compliance Certificate

Project Information

Energy Code: 2020 New York State Energy Conservation Construction Code
Project Title: Ossining E-Bike Share
Location: Ossining, New York
Climate Zone: 4a
Project Type: New Construction
Vertical Glazing / Wall Area: 9%

Construction Site: Owner/Agent: Designer/Contractor:

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed
Reduced Lighting Power, 1.0 credit

Building Area	Floor Area
1-Retail Sales Area (Workshop) : Nonresidential	340
2-Common Space Types: Restroom (Workshop) : Nonresidential	50
3-Common Space Types: Storage (Workshop) : Nonresidential	70

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor[a]
Floor: Unheated Slab-On-Grade, Vertical 3 ft., [Bldg. Use 1 - Retail Sales Area] (b)	95	---	12.0	0.498	0.540
Roof: Metal Building, Standing Seam, Filled Cavity with Thermal Blocks (c), [Bldg. Use 1 - Retail Sales Area]	574	39.0	10.0	0.027	0.035
NORTH					
North Conc Ext. Wall: Solid Concrete, 8in. Thickness, Normal Density, Furring: Metal, [Bldg. Use 1 - Retail Sales Area]	50	0.0	0.0	0.377	0.104
North Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Retail Sales Area]	356	39.0	10.0	0.039	0.064
North Doors: Insulated Metal, Swinging, [Bldg. Use 1 - Retail Sales Area]	21	---	---	0.260	0.610
Garage Door: Insulated Metal, Garage door 14% glazing, [Bldg. Use 1 - Retail Sales Area]	56	---	---	0.190	0.310
EAST					
East Conc Ext. Wall: Solid Concrete, 8in. Thickness, Normal Density, Furring: Metal, [Bldg. Use 1 - Retail Sales Area]	61	0.0	10.0	0.079	0.104
East Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Retail Sales Area]	360	39.0	10.0	0.039	0.064
East Window: Metal Frame with Thermal Break: Fixed, Perf. Type: Energy code default, Double Pane with Low-E, Tinted , SHGC 0.60, [Bldg. Use 1 - Retail Sales Area]	61	---	---	0.650	0.380
East Window: Metal Frame with Thermal Break: Operable, Perf. Type: Energy code default, Double Pane with Low-E, Tinted , SHGC 0.60, [Bldg. Use 1 - Retail Sales Area]	23	---	---	0.650	0.450

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PROJECT NO.
NBR23145.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub
Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

SHEET TITLE:
COMCHECK

SHEET NO.
AB0.5

Section # & Req.ID	Insulation Inspection	Complies?	Comments/Assumptions
C303.1 [IN3][1]	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.2.1 [IN20][1]	Insulation installed on a suspended ceiling having ceiling tiles is not being specified for roor/ceiling assemblies. Continuous insulation board installed in 2 or more layers with edge joints offset between layers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.1 [IN10][2]	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2 [IN7][1]	Above-grade wall insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [IN6][1]	Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.3 [IN8][1]	Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.6 [IN18][1]	Radiant panels and associated components, designed for heat transfer from the panel surfaces to the occupants or indoor space are insulated with a minimum of R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [IN2][1]	Installed roof insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. For some ceiling systems, verification may need to occur during Framing Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.5.1.1 [IN1][1]	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.2 [FI17][3]	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.6 [FI37][1]	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.8 [FI26][1]	Recessed luminaires in thermal envelope to limit infiltration and be IC rated and labeled. Seal between interior finish and luminaire housing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.4.1 [FI18][1]	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Interior Lighting fixture schedule for values.*
C405.5.1 [FI19][1]	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Exterior Lighting fixture schedule for values.*
C408.2.5.1 [FI16][3]	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.3 [FI33][1]	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.3, C405.2.3.1, C405.2.3.2 [EL23][2]	Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces, C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.4 [EL26][1]	Separate lighting control devices for specific uses installed per approved lighting plans.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.4 [EL27][1]	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.5 [EL28][1]	Manual controls required by the energy code are in a location with ready access to occupants and located where the controlled lights are visible, or identify the area served and their status.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.6 [EL30][1]	Automatic lighting controls for exterior lighting installed. Controls will be daylight controlled, set based on business operation time-of-day, or reduce connected lighting > 30%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.3 [EL6][1]	Exit signs do not exceed 5 watts per face.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.2.2 [EL22][1]	Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern >= 50 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1, C405.2.1.1 [EL18][1]	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1.2 [EL19][1]	Occupancy sensors control function in warehouses: In warehouses, the lighting in aisleways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1.3 [EL20][1]	Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces >= 300 sq.ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas <= 600 sq.ft. within the space, 2) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 3) are configured so that general lighting power in each control zone is reduced by >= 80% of the full zone general lighting power within 20 minutes of all occupants leaving that control zone, and 4) are configured such that any daylight responsive control will activate space general lighting or control zone general lighting only when occupancy for the same area is detected.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.2, C405.2.2.1, C405.2.2.2 [EL21][2]	Each area not served by occupancy sensors (per C405.2.1) have time-switch controls and functions detailed in sections C405.2.2.1 and C405.2.2.2.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.5.5, C403.2.4.3 [ME3][3]	Stair and elevator shaft vents have motorized dampers that automatically close. Refernece section C403.7.7 for operational details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.7.7 [ME58][1]	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed. Reference section language for operational details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Framing / Rough-In Inspection	Complies?	Comments/Assumptions
C303.1.3 [FR12][2]	Fenestration products rated in accordance with NFRC.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.1.3 [FR13][1]	Fenestration products are certified as to performance labels or certificates provided.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.3 [FR10][1]	Vertical fenestration SHGC value.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.4.3, C402.4.3.4 [FR8][1]	Installed vertical fenestration U-factor and SHGC consistent with label specifications and as reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.5.1.2.1 [FR19][1]	The building envelope contains a continuous air barrier that is sealed in an approved manner and material permeability <= 0.004 dfm/ft2. Air barrier penetrations are sealed in an approved manner.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.2, C402.5.4 [FR18][3]	Factory-built fenestration and doors are labeled as meeting air leakage requirements.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.7 [FR17][3]	Vestibules are installed on all building entrances. Doors have self-closing devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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PROJECT NO.
NBR23145.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

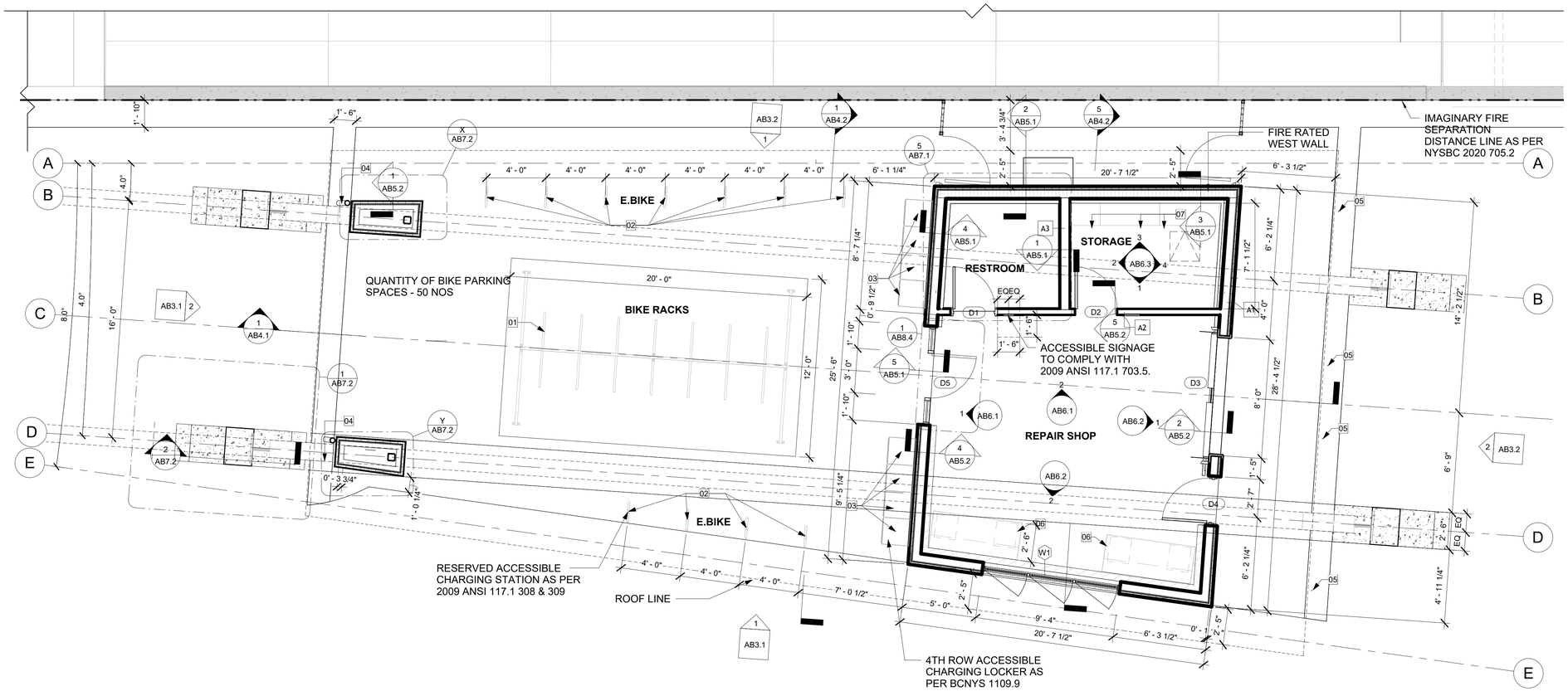
NO.	DESCRIPTION	DATE

NORTH

DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

SHEET TITLE:
COMCHECK

SHEET NO.
AB0.6



1 1ST FL CD
1/4" = 1'-0"

KEY NOTE	ITEM	SPECIFICATION - BASIS OF DESIGN	QUANTITY
01	BIKE RACK		
02	E.BIKE CHARGING	SARIS INFRASTRUCTURE - POWER POST-34102	11
03	LOCKER	"POWERSHELTER" - SMART SHELTER	08
04	4" DIA 16 GAUGE COPPER RAINWATER LEADER		02
05	RAIN CHAIN	GUTTERSUPPLY - XL SCALLOP CUPS - COPPER RAIN CHAIN	04
06	WORK BENCH	6'L X 2'6"W X3'H METAL TABLE WITH BUTCHER BLOCK WOOD COUNTER	02
07	STORAGE	WIRE SHELVING	10 ' LF, 6' HT.

GENERAL FLOOR PLAN NOTES:

1. DIMENSIONS ARE TO FACE OF WALL FINISH UNLESS NOTED OTHERWISE.
2. ALL PARTITIONS SHALL BE NON-RATED EXCEPT WEST WALL UNLESS TAGGED/NOTED OTHERWISE.
3. PROVIDE FIRE TREATED WOOD BLOCKING OR METAL STRAPPING AS REQUIRED FOR MOUNTING, MILLWORK, OR OTHER ITEMS INCLUDED IN THE PROJECT SCOPE. COORDINATE BLOCKING INSTALLATION FOR OWNER PROVIDED ITEMS.
4. ALL GLASS SLIDING/SWING DOORS AND GLASS PARTITIONS ON PLAN ARE BY VENDOR. COORDINATE FINISH OPENINGS SIZES.

GENERAL CONSTRUCTION NOTES:

1. PROVIDE WORK LIGHTING THROUGHOUT CONSTRUCTION SITE.
2. NOTIFY BUILDING OWNER PRIOR TO SHUTTING OFF ANY SYSTEMS THAT EFFECT AREAS BEYOND DEMISED PREMISES.
3. ALL CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE LOCAL, CITY AND FEDERAL CODES, STANDARDS AND ORDINANCES.
4. ALL ELECTRICAL WORK TO BE FILED AND PERFORMED BY NYS LICENSED ELECTRICIANS.
5. PUBLIC AREA OF SIDEWALK TO BE PROTECTED AND FREE FROM ACCUMULATION OF WASTE MATERIALS, RUBBISH, AND CONSTRUCTION DEBRIS.
6. REMOVE DEBRIS PROMPTLY.

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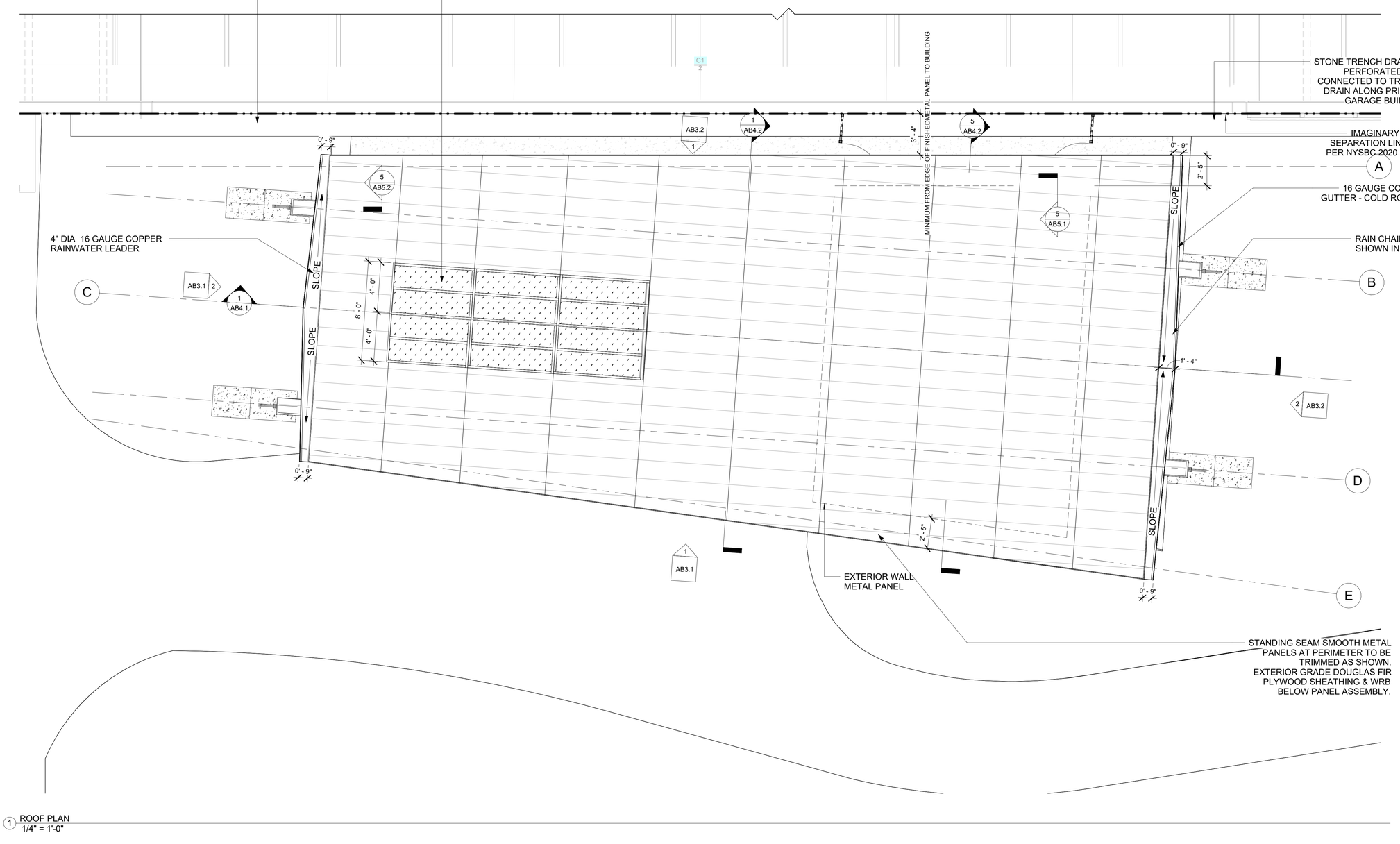
SHEET TITLE:
CONSTRUCTION PLAN

SHEET NO.
AB1.1

- Basis of Design: Super Sky Product's standard tubular high guttered aluminum frame with two-sided capped glazing system.
- Fully engineered inclusive of support connections between skylight frame and glulam structure.
- single laminating safety glass as per ANSI 79.1 to be 1/2" - 5/8" or as required.
- skylight to meet deflection criteria of L/175 and 8-9 ibs per SF in weight.
- For Glazing: Use 9/16" Laminated glass consisting of with two 1/4" lites and .060" PVB core.



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

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NORTH

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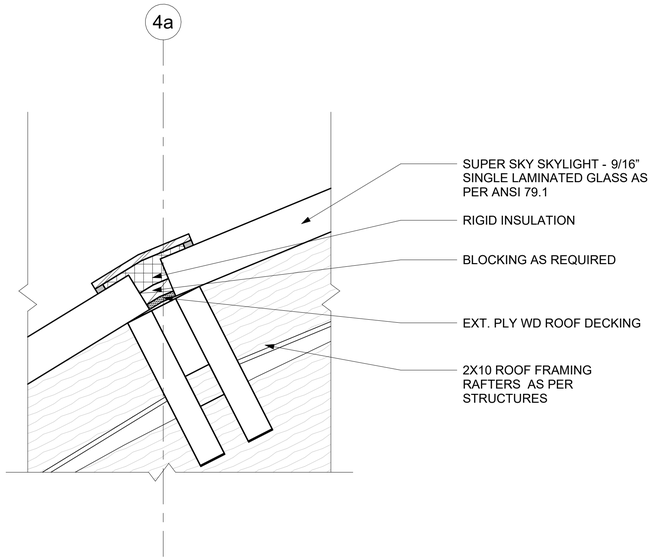
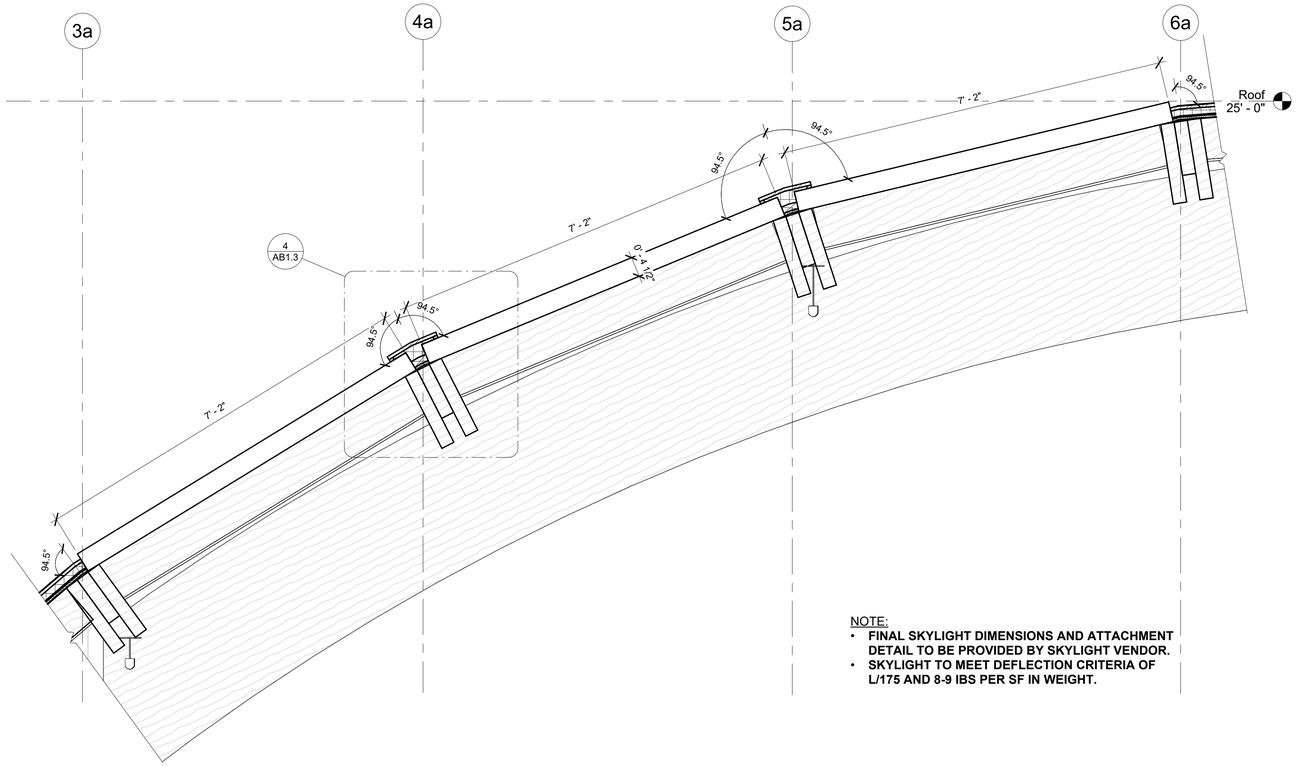
SHEET TITLE:
ROOF PLAN

SHEET NO.
AB1.2

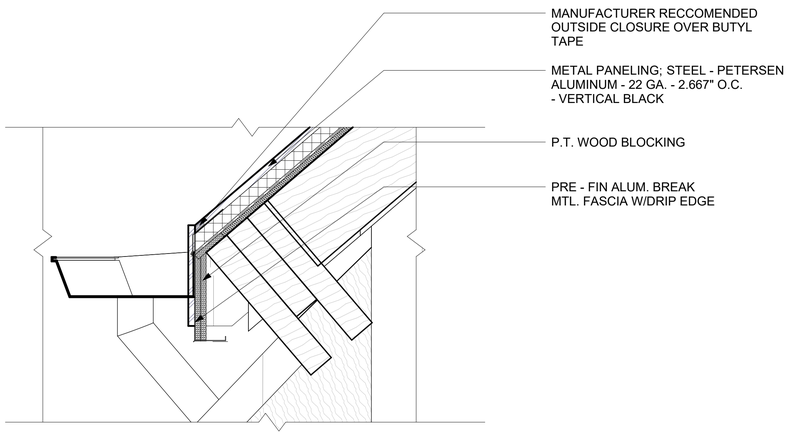


4 SKYLIGHT TO SKYLIGHT
1 1/2" = 1'-0"

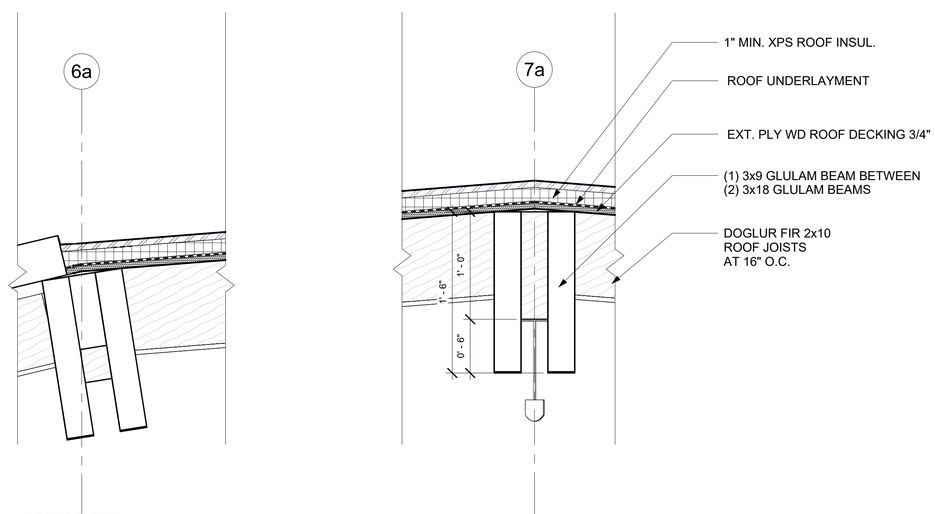


NOTE:
- **FINAL SKYLIGHT DIMENSIONS AND ATTACHMENT DETAIL TO BE PROVIDED BY SKYLIGHT VENDOR.**
- **SKYLIGHT TO MEET DEFLECTION CRITERIA OF L/175 AND 8-9 IBS PER SF IN WEIGHT.**

3 SKY LIGHT SECTION
3/4" = 1'-0"



2 SECTION 2 - EDGE OF ROOF DETAIL
1 1/2" = 1'-0"



1 ROOF SECTION -1
1 1/2" = 1'-0"

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PROJECT NO.
NBR23145.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

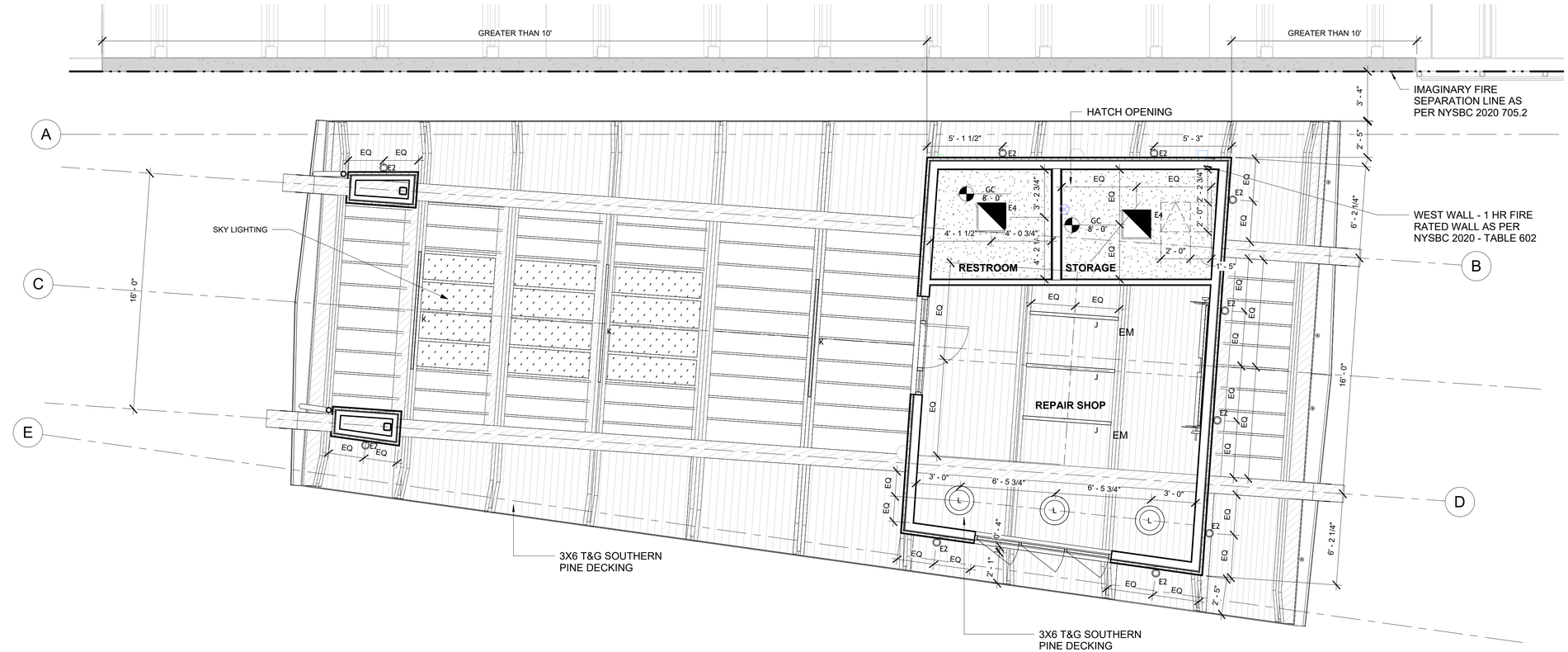
NO.	DESCRIPTION	DATE

NORTH

DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

SHEET TITLE:
ROOF DETAILS

SHEET NO.
AB1.3



1 1ST FL MA
1/4" = 1'-0"

LIGHTING SCHEDULE			
MARK	**MANUFACTURER**	**COMMENTS - " B.O.D "**	**QUANTITY**
E2	SIGNIFY	STONCO ROUGHLYTE - CEILING MOUNT (VCXL) TO BE INSTALLED ON PERIMETER WALLS: VWXL-14-NW-G1-8	10
E4	ECLIPSE LIGHTING INC.	BLP ET2X2	1
J	DELVIRO ENERGY	DTL ARCH 6 - THINLINE SERIES SIGNAL BLACK	4
K	STARTEK	STARTEK STARSHIELD STS-8-1000-SD-40K-80 BLACK MINI TEXTURE 8 FEET	6
L	BEGA	BEGA SYSTEM PENDANT LUMINAIRE 50 993.1 K3 COLOR: VELVET BLACK (WHITE INTERIOR)	3

LIGHTING FIXTURE
1/4" = 1'-0"

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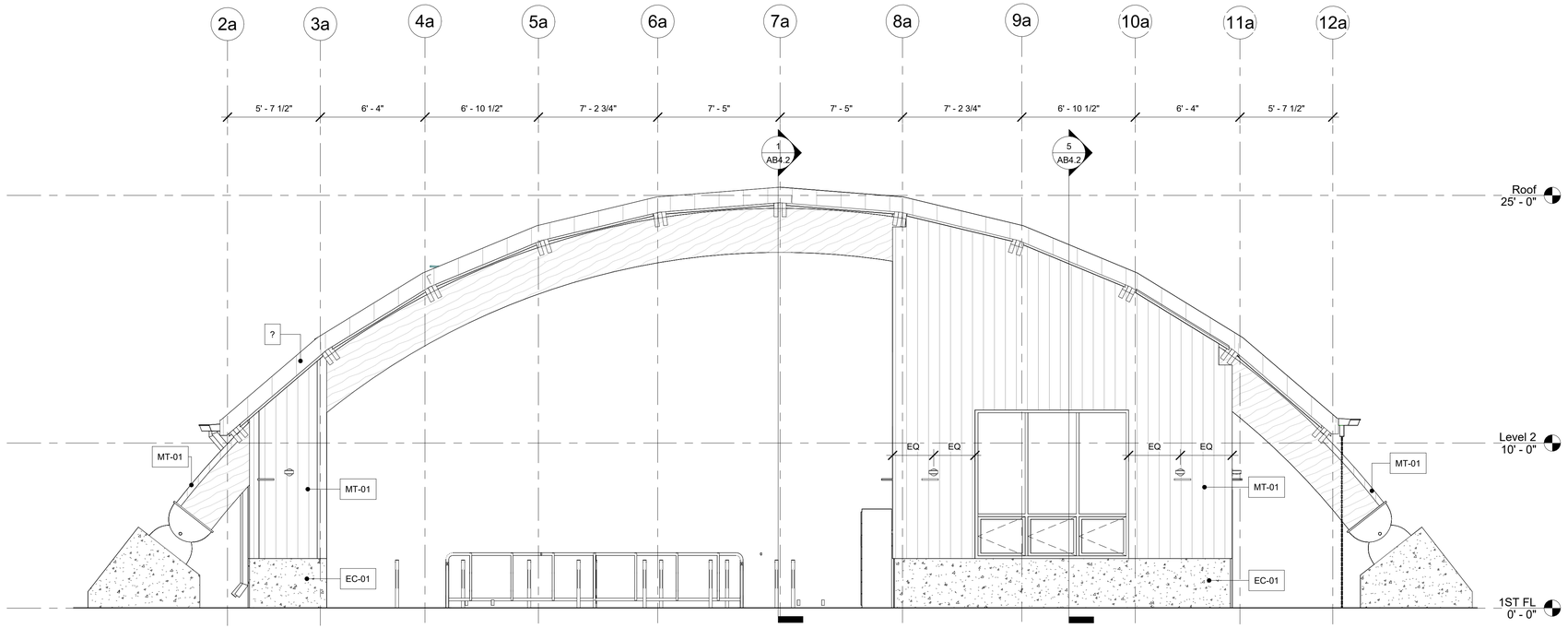
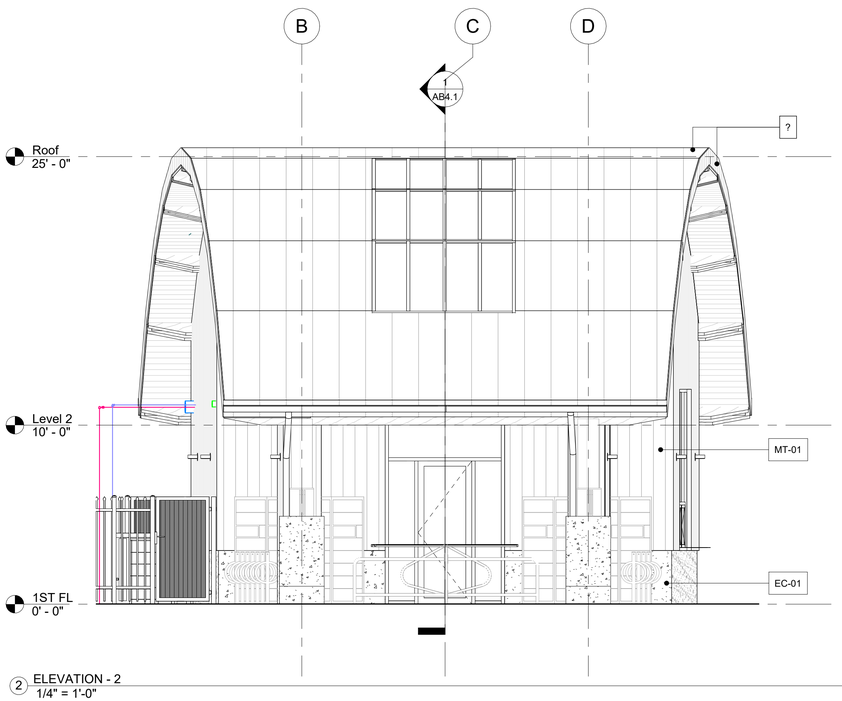
SHEET TITLE:
REFLECTED CELING PLAN

SHEET NO.
AB2.1



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



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

FINISH MATERIAL SCHEDULE

MARK	DESCRIPTION	COMMENTS
EC-01	EXPOSED CONCRETE	
MT-01	CORRUGATED METAL PANEL	MASTER RIB - WIDE RIBBED PANELS (UNION CORRUGATING) - COBALT BLUE
MT-02	CORRUGATED METAL PANEL	MASTER RIB - WIDE RIBBED PANELS (UNION CORRUGATING) - COBALT BLUE
MT-03	Copper, matte finish	
PT-01	EGG SHELL FINISH	Benjamin Moore Off White Collection OC-145 Atrium White
T&G - 3X6	3X6 T&G SOUTHERN PINE DECKING	
T-01	CERAMIC TILE 12" X 6" - BULLNOSE	GIORBELLOW (GLASS SUBWAY) LIGHT GREY - BOD
T-01A	CERAMIC TILE 12" X 6"	GIORBELLOW (GLASS SUBWAY) LIGHT GREY - BOD
T-02	CERAMIC TILE 3" X 6" - ACCENT	DALTILE -COBALT - BOD
T-03	PORCELAIN TILE 12" X 12"	DALTILE - GRAY (COLOR TO FOLLOW)-BOD
WD-01	DOUGLAS FIR VINEER 5/8" PLYWOOD	HORIZONTAL GRAINS, APPLY CLEAR FINISH WOOD VA

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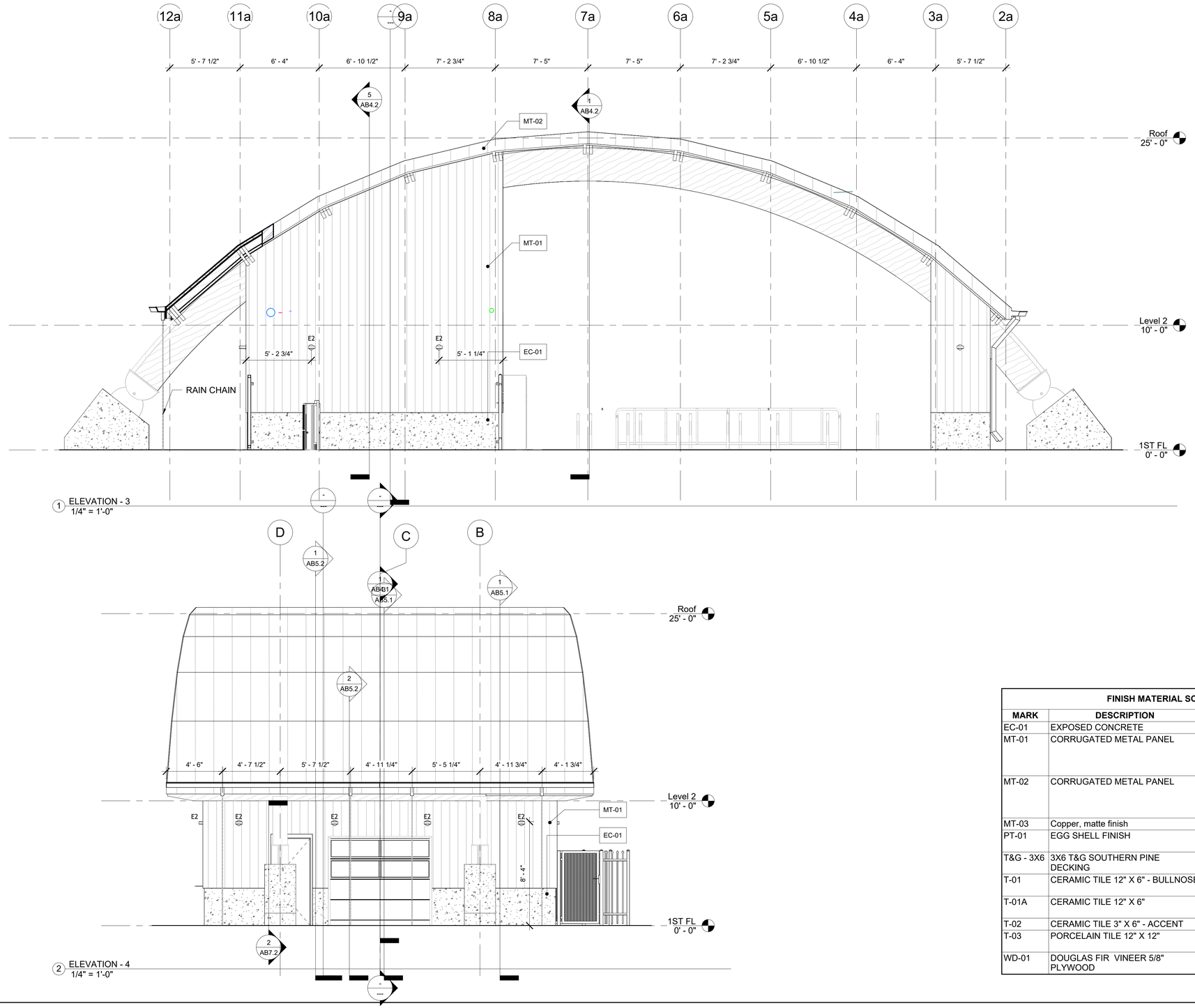
SHEET TITLE:
EXTERIOR ELEVATIONS

SHEET NO.
AB3.1



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MT-03	Copper, matte finish	
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T&G - 3X6	3X6 T&G SOUTHERN PINE DECKING	
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Ossining, NY 10562

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02.21.25

NO.	DESCRIPTION	DATE

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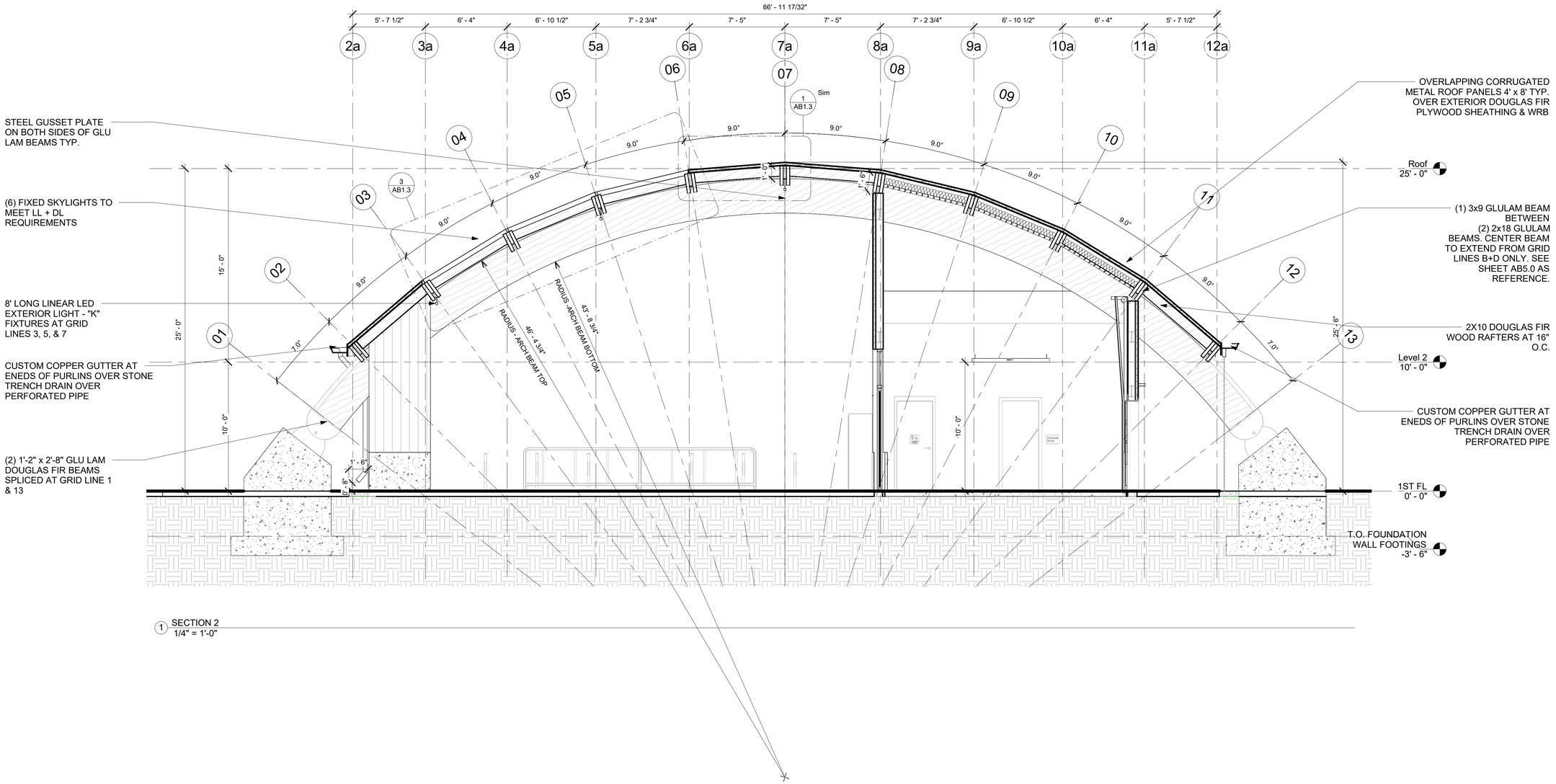
SHEET TITLE:
EXTERIOR ELEVATIONS

SHEET NO.
AB3.2



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

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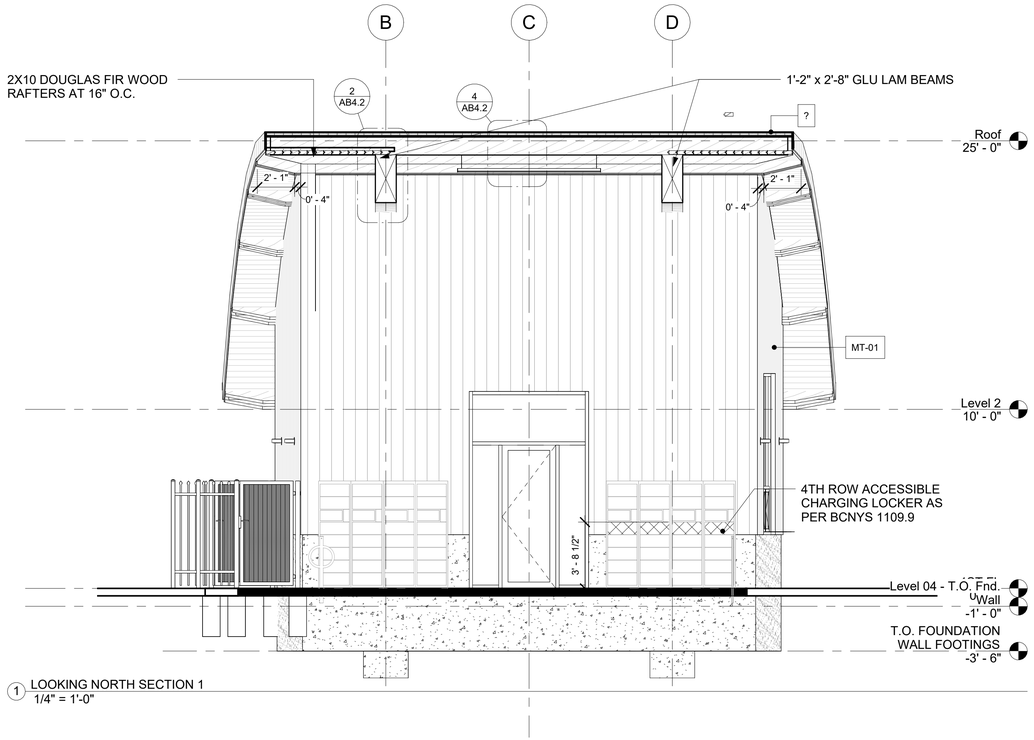
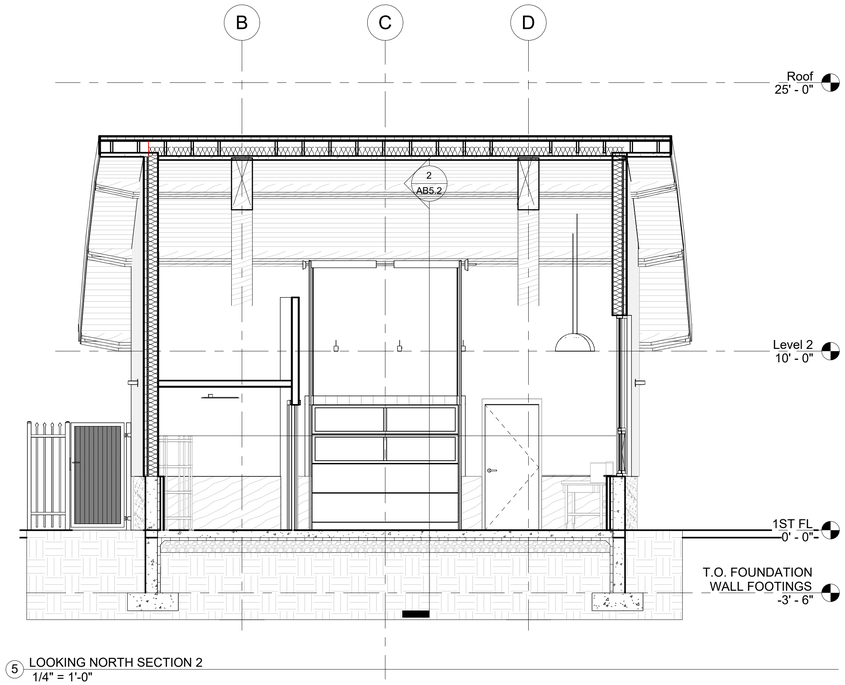
SHEET TITLE:
BUILDING SECTION

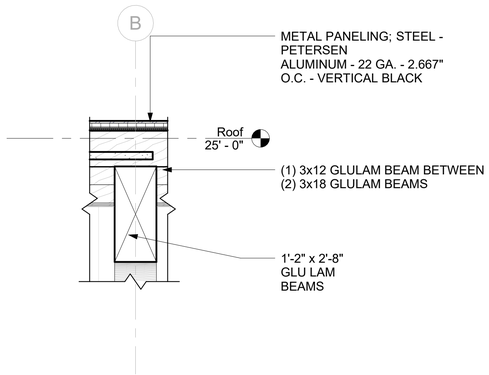
SHEET NO.
AB4.1



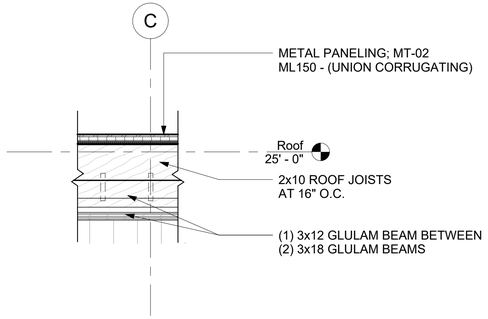
1 LOOKING NORTH SECTION 1
1/4" = 1'-0"



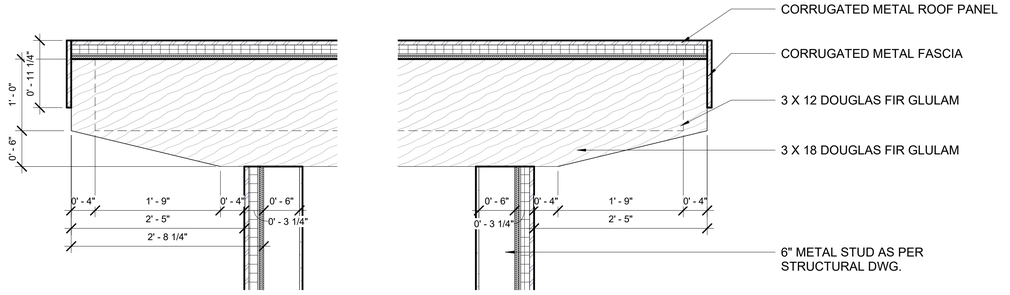
5 LOOKING NORTH SECTION 2
1/4" = 1'-0"



2 SECTION 1 - Callout 1
1/2" = 1'-0"



4 SECTION 1 - Callout 2
1/2" = 1'-0"



3 TYPICAL WALL TO ROOF DETAIL
1" = 1'-0"

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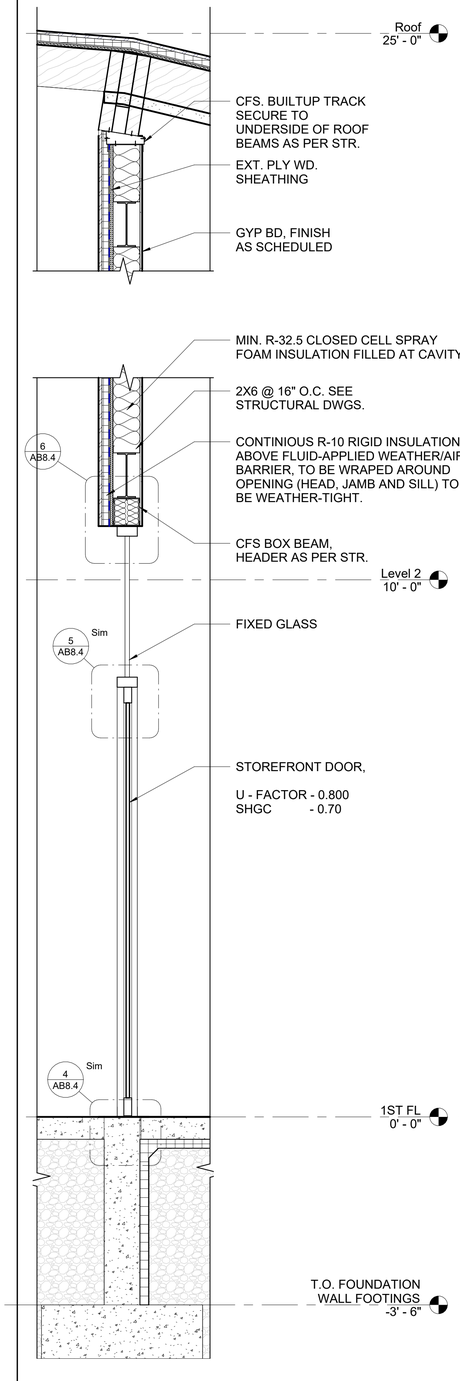
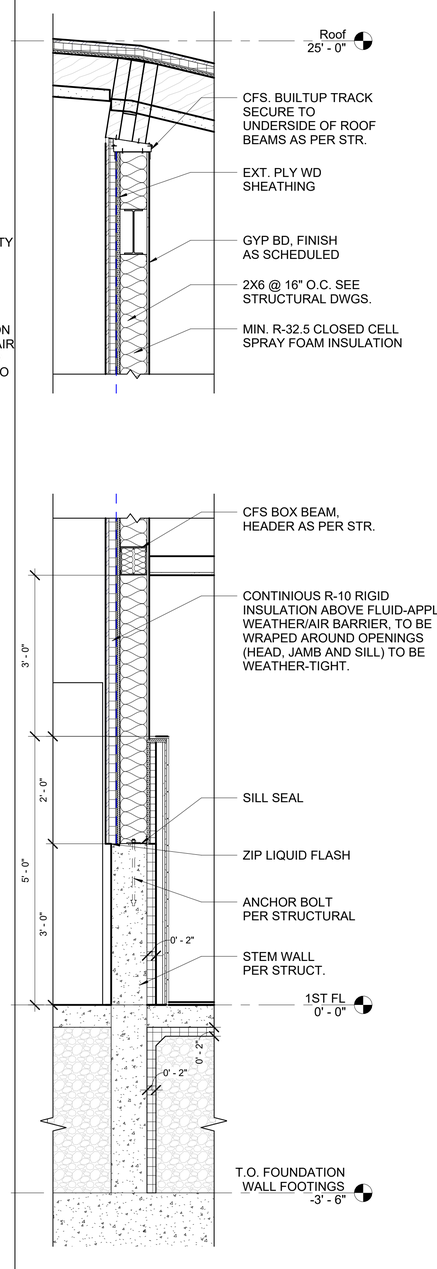
SHEET TITLE:
BUILDING SECTIONS

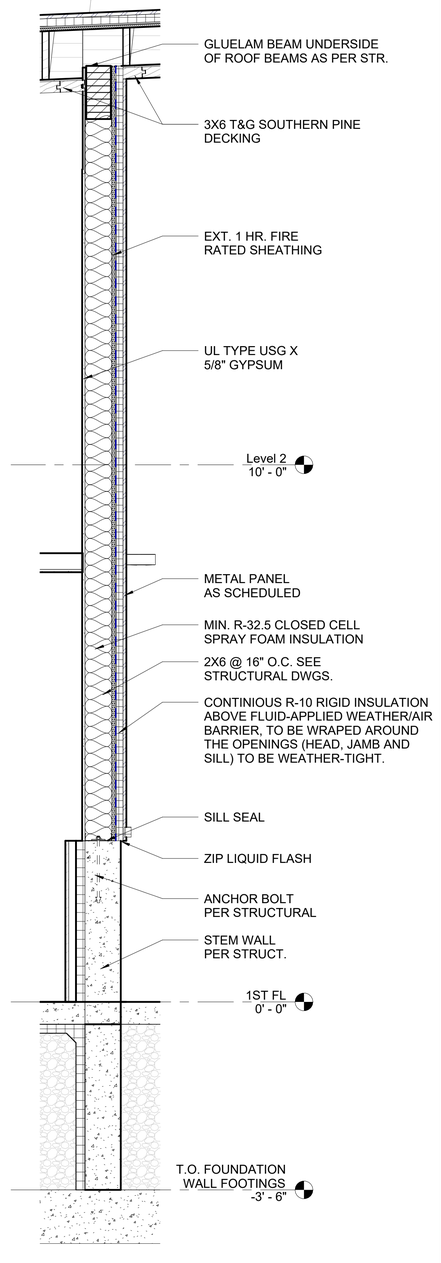
SHEET NO.
AB4.2



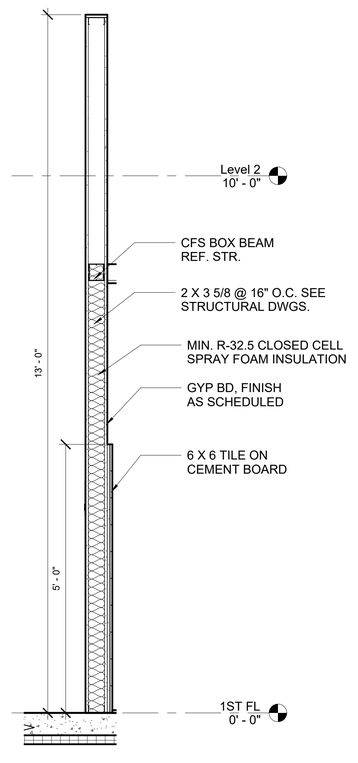
5 REPAIR SHOP SECTION - 1
3/4" = 1'-0"



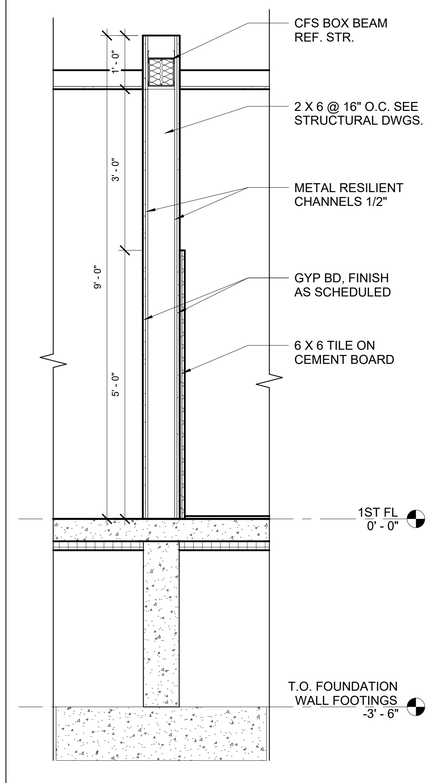
4 RESTROOM WALL
3/4" = 1'-0"



3 WEST FIRE RATED WALL
3/4" = 1'-0"



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



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

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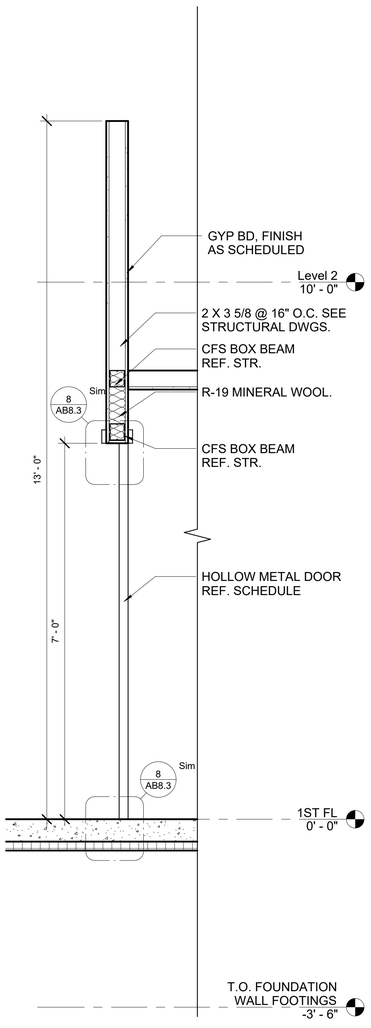
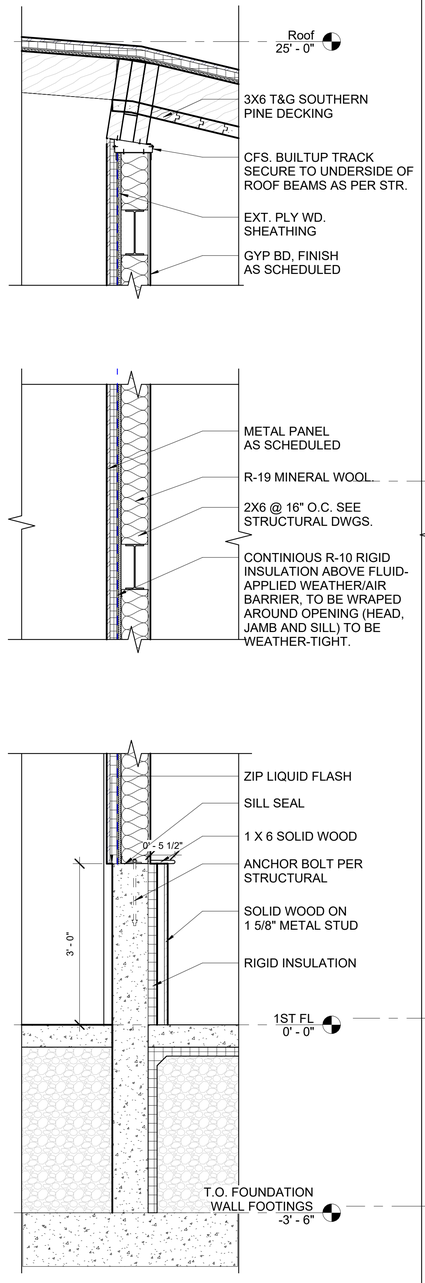
SHEET TITLE:
WALL SECTIONS

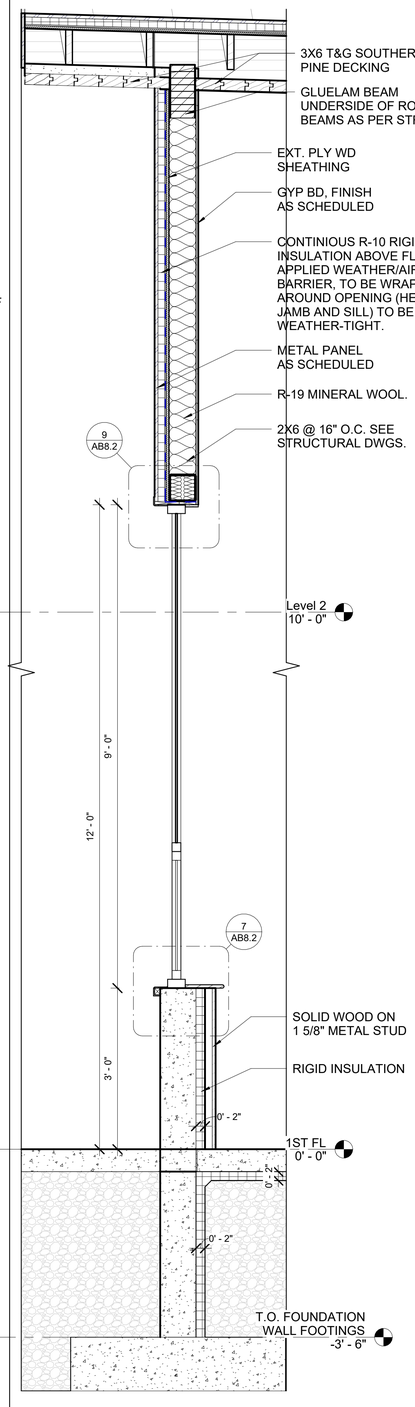
SHEET NO.
AB5.1



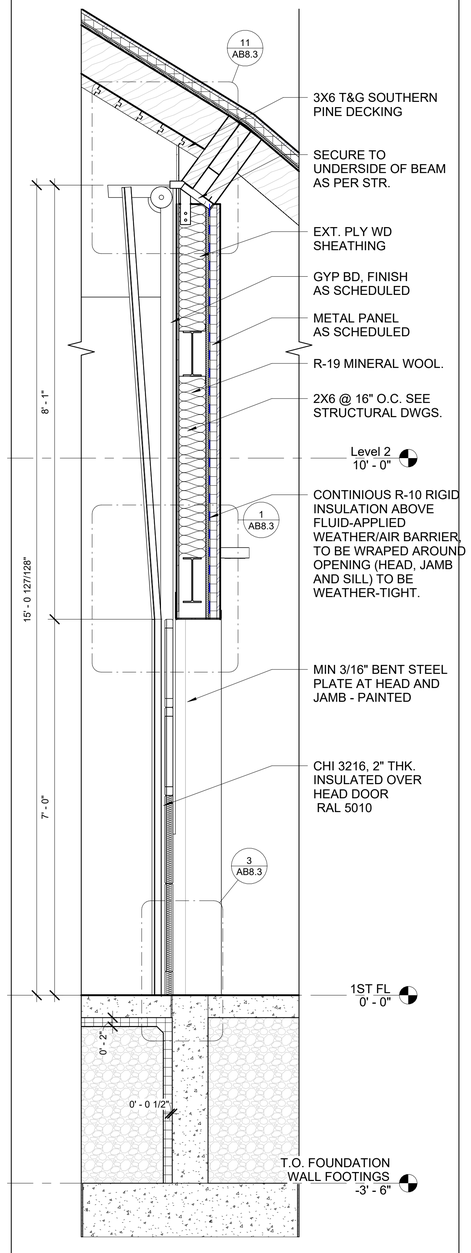
5 STORAGE WALL
3/4" = 1'-0"



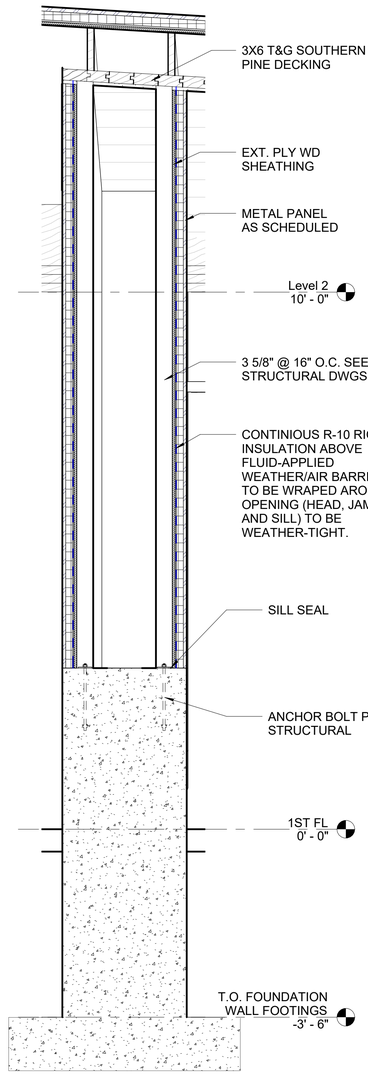
4 REPAIR SHOP SECTION - 2
3/4" = 1'-0"



3 REPAIR SHOP SECTION - 3
3/4" = 1'-0"



2 REPAIR SHOP SECTION - 4
3/4" = 1'-0"



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

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REGISTERED ARCHITECT
JOINT CORTES CALDERON
STATE OF NEW YORK
026455

LICENSE EXPIRATION DATE 03/31/2027

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CALGI
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Calgi Construction Company, Inc.
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Suite 350
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PROJECT NO.
NBR23145.00

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

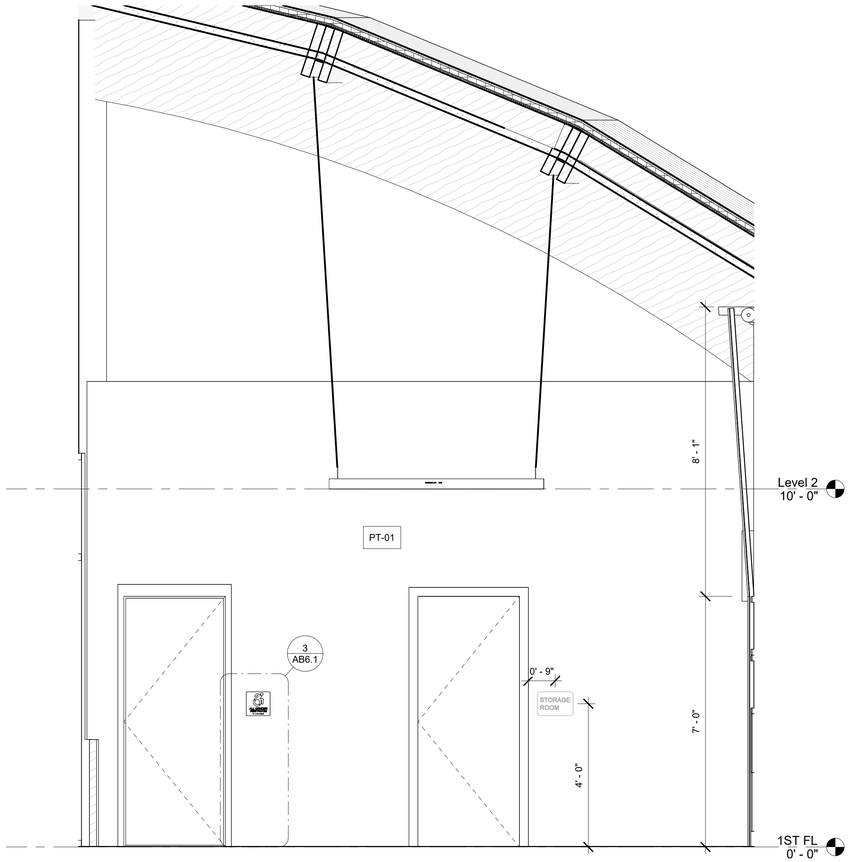
NORTH

DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

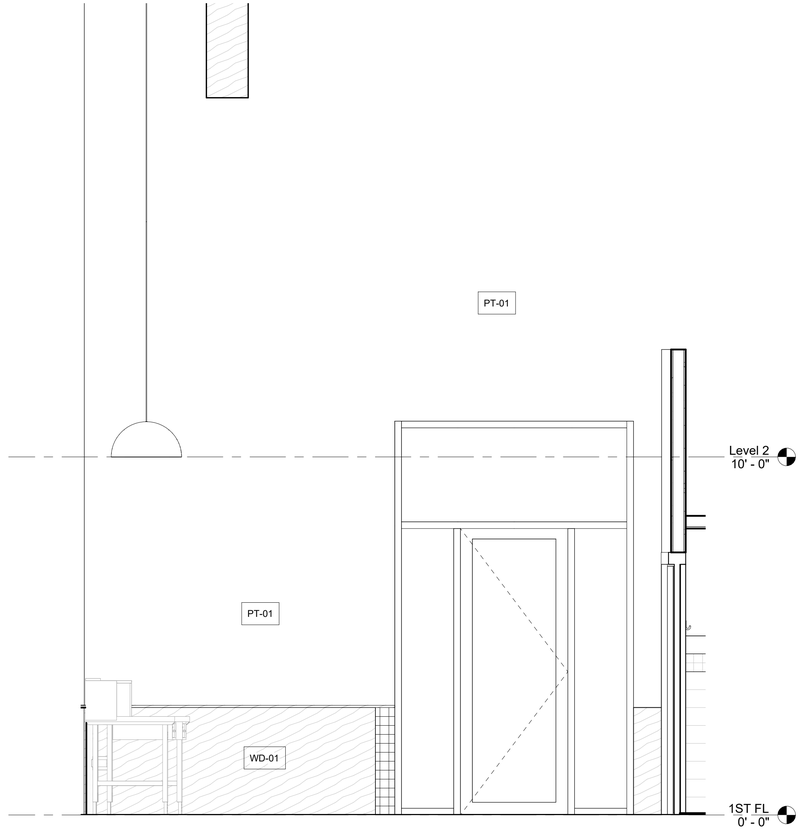
SHEET TITLE:
WALL SECTIONS

SHEET NO.

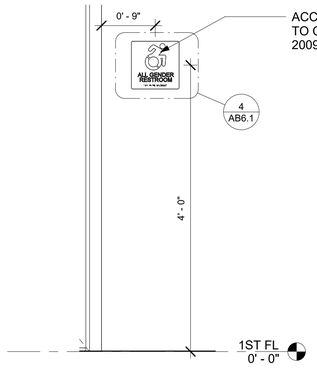
AB5.2



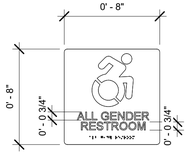
2 REPAIR SHOP -2
1/2" = 1'-0"



1 REPAIR SHOP -1
1/2" = 1'-0"



3 ACCESSIBLE ROOM SIGNAGE
1" = 1'-0"



4 ACCESSIBLE ROOM SIGNAGE -
DYNAMIC SYMBOL
1 : 6

FINISH MATERIAL SCHEDULE

MARK	DESCRIPTION	COMMENTS
EC-01	EXPOSED CONCRETE	
MT-01	CORRUGATED METAL PANEL	MASTER RIB - WIDE RIBBED PANELS (UNION CORRUGATING) - COBALT BLUE
MT-02	CORRUGATED METAL PANEL	MASTER RIB - WIDE RIBBED PANELS (UNION CORRUGATING) - COBALT BLUE
MT-03	Copper, matte finish	
PT-01	EGG SHELL FINISH	Benjamin Moore Off White Collection OC-145 Atrium White
T&G - 3X6	3X6 T&G SOUTHERN PINE DECKING	
T-01	CERAMIC TILE 12" X 6" - BULLNOSE	GIORBELLOW (GLASS SUBWAY) LIGHT GREY - BOD
T-01A	CERAMIC TILE 12" X 6"	GIORBELLOW (GLASS SUBWAY) LIGHT GREY - BOD
T-02	CERAMIC TILE 3" X 6" - ACCENT	DALTILE -COBALT - BOD
T-03	PORCELAIN TILE 12" X 12"	DALTILE - GRAY (COLOR TO FOLLOW)-BOD
WD-01	DOUGLAS FIR VINEER 5/8" PLYWOOD	HORIZONTAL GRAINS, APPLY CLEAR FINISH WOOD VA

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Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

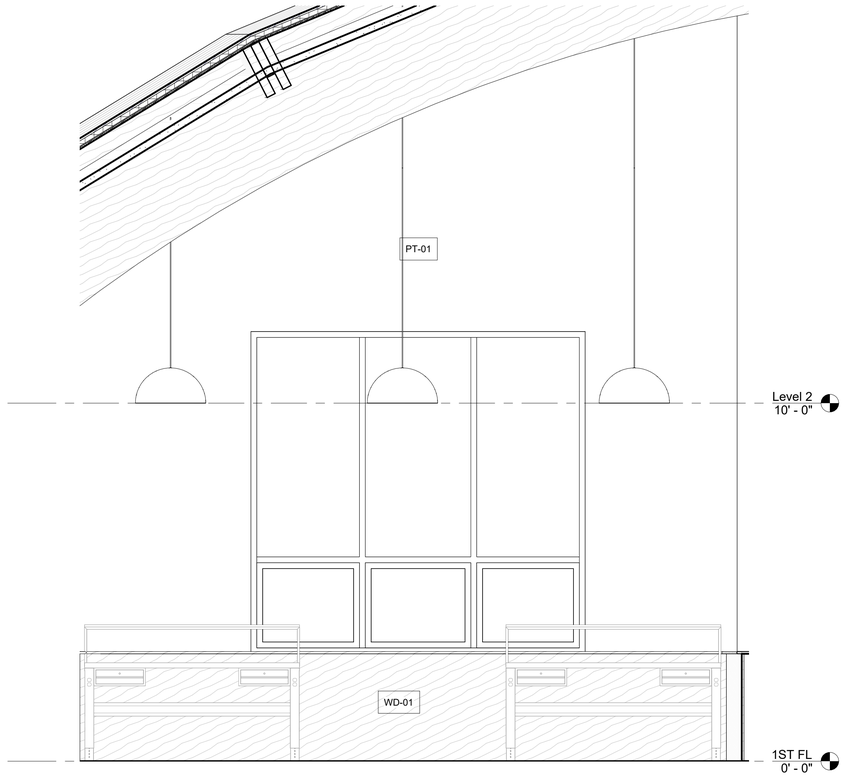
NO.	DESCRIPTION	DATE

NORTH

DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

SHEET TITLE:
INTERIOR ELEVATIONS

SHEET NO.
AB6.1



2 REPAIR SHOP -4
1/2" = 1'-0"

1 REPAIR SHOP -3
1/2" = 1'-0"

FINISH MATERIAL SCHEDULE

MARK	DESCRIPTION	COMMENTS
EC-01	EXPOSED CONCRETE	
MT-01	CORRUGATED METAL PANEL	MASTER RIB - WIDE RIBBED PANELS (UNION CORRUGATING) - COBALT BLUE
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REVIEWED: JCC
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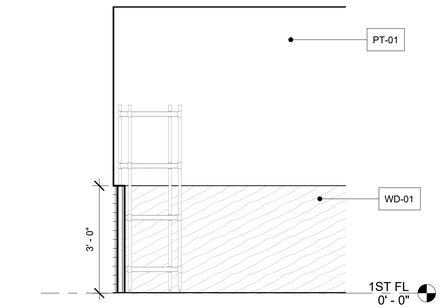
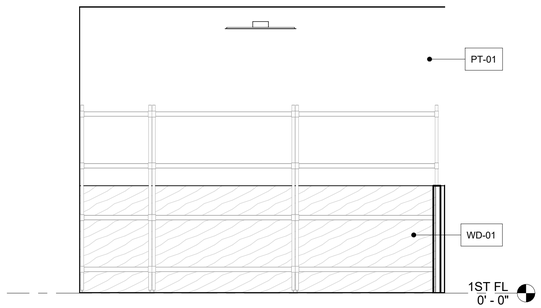
SHEET TITLE:
INTERIOR ELEVATIONS

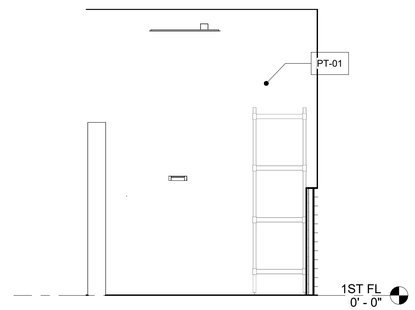
SHEET NO.
AB6.2



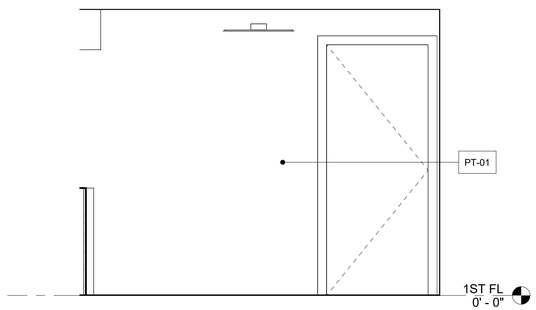
4 STORAGE - 4
1/2" = 1'-0"



3 STORAGE - 3
1/2" = 1'-0"



2 STORAGE - 2
1/2" = 1'-0"



1 STORAGE - 1
1/2" = 1'-0"

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02.21.25

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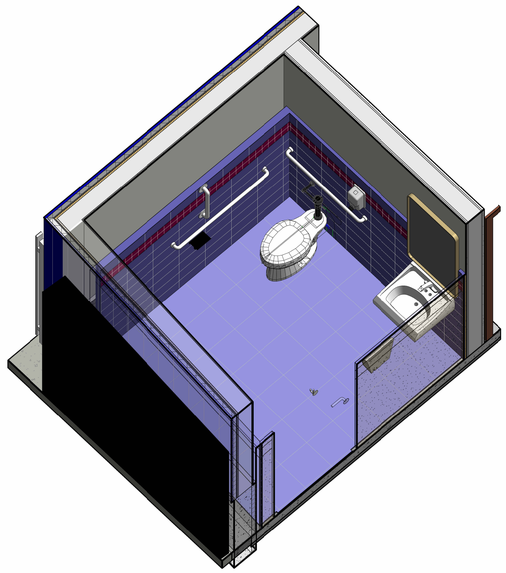
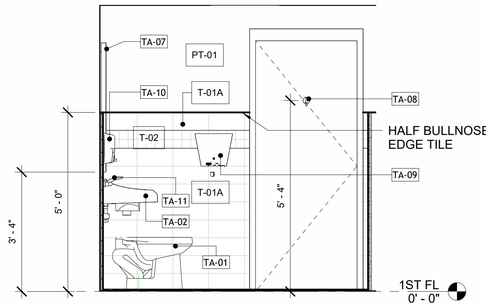
REVIEWED: JCC
DATE: 01/17/25

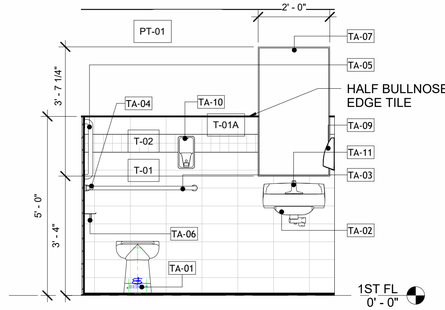
SHEET TITLE:
INTERIOR ELEVATIONS

SHEET NO.
AB6.3





4 RESTROOM - 4
1/2" = 1'-0"



3 RESTROOM - 3
1/2" = 1'-0"

TOILET ACCESSORIES		
MARK	DESCRIPTION	Model
TA-01		Madera™ FloWise® 16-1/2" Height 1.28 GPF Flushometer Toilet System
TA-02	WALL MOUNTED SINK WITH INSULATED PIPES	Lucerne™ AMERICAN STANDARD - Wall-Hung Lavatory - VITREOUS CHINA - 0356.041
TA-03	HORIZONTAL GRAB BAR - 36"	
TA-04	HORIZONTAL GRAB BAR - 42"	
TA-05	VERTICAL GRAB BAR - 18"	
TA-06	TISSUE DISPENSER	(BOBRICK) SURFACE MOUNTED SINGLE-ROBE HOOK. SATIN FINISHED STAINLESS STEEL (B-6717)
TA-07	MIRROR	(BOBRICK) MIRROR OF STAINLESS STEEL CHANNEL FRAME (B-1656)
TA-08	ROBE HOOK	(BOBRICK) SURFACE MOUNTED SINGLE-ROBE HOOK. SATIN FINISHED STAINLESS STEEL (B-6717)
TA-09	HAND DRYER	InstaDry™ Surface-Mounted Automatic Hand Dryer, ADA Compliant, Satin Finish
TA-10	SOAP DRYER	(BOBRICK) AUTOMATIC WALL MOUNTED SOAP DISPENSER (B-2013)
TA-11	TOUCHLESS FAUCET	AMERICAN STANDARD - INNSBROOK SELECTRONIC ELECTRONIC TOUCHLESS LAVATORY FAUCET CAST CENTERSET SPOUT, BASE MODEL

RESTROOMS MUST COMPLY WITH ACCESSIBILITY STANDARDS

TOILET ACCESSORY NOTES:

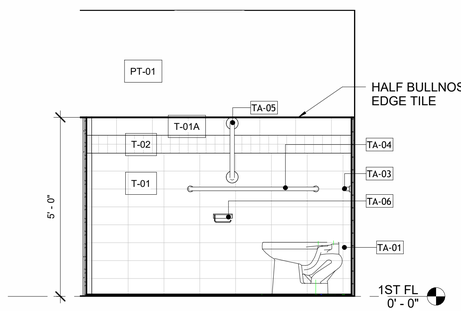
1. ALL ACCESSORIES BY G.C. U.N.O. VERIFY ALL TOILET ACCESSORIES WITH ARCHITECT PRIOR TO PURCHASE & INSTALLATION. SUBMIT CUT SHEETS TO ARCHITECT FOR APPROVAL.

2. ALL GRAB BARS SHALL BE ABLE TO SUPPORT A SUSTAINED LOAD OF 250 POUNDS APPLIED AT ANY POINT ALONG THE GRAB BAR. PROVIDE FRT PLYWOOD BLOCKING IN WALL AT ALL GRAB BAR LOCATIONS.

3. G.C. TO PROVIDE FRT BLOCKING OR PLYWOOD BACKING FOR ALL TOILET ROOM ACCESSORIES IN WALLS.

4. FURNISH AIR DRYER AS PER SPEFICATIONS.

5. ALL TOILET ACCESSORIES TO MEET 2009 ANSI 117.1 REQUIREMENTS MOUNTING HEIGHTS.



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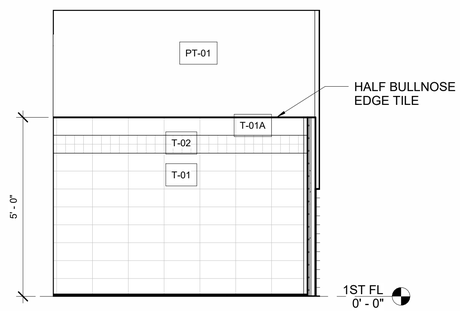
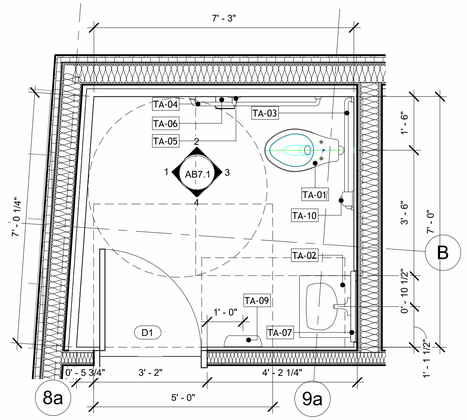


1 RESTROOM - 1
1/2" = 1'-0"



5 RESTROOM PLAN
1/2" = 1'-0"

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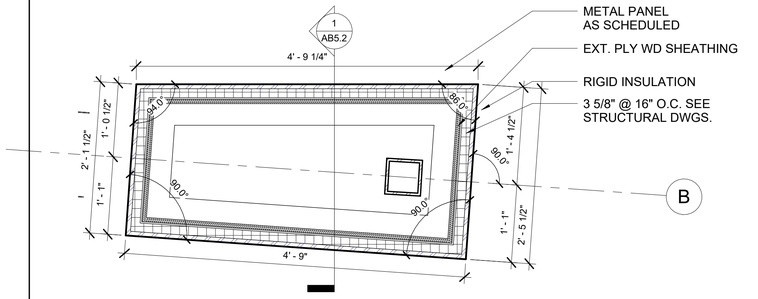
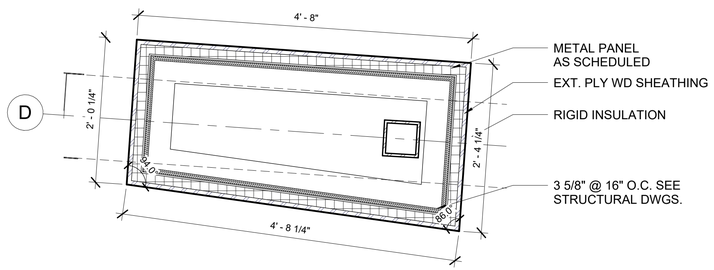
SHEET TITLE:
ENLARGED PLANS

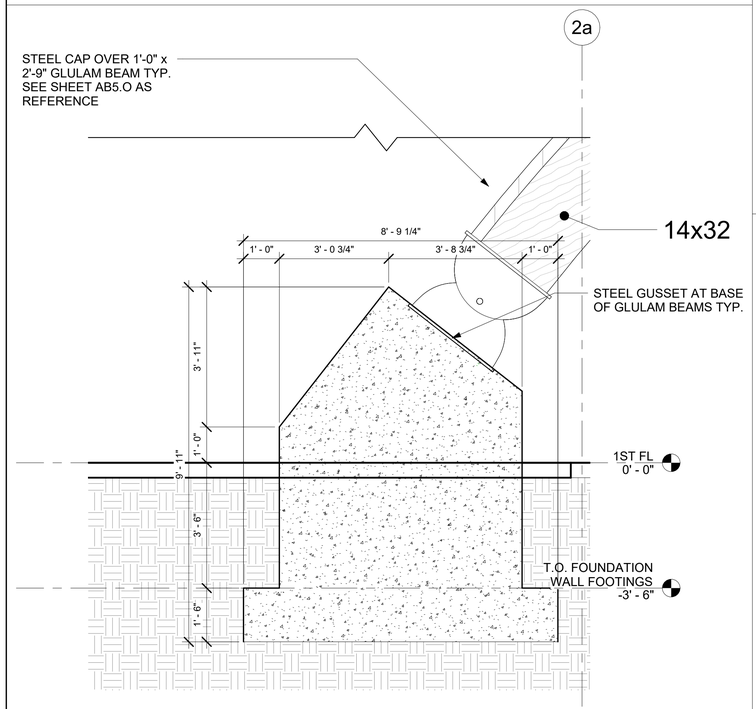
SHEET NO.
AB7.1



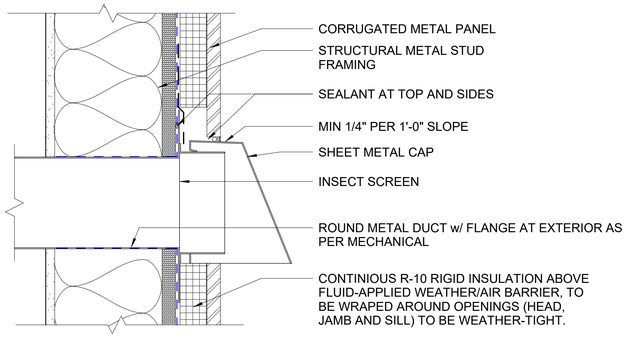
X PIER - 2
1" = 1'-0"



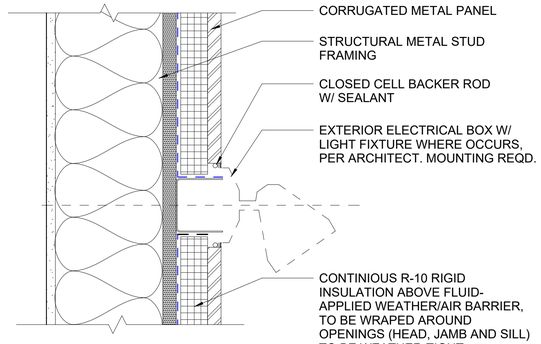
Y PIER - 1
1" = 1'-0"



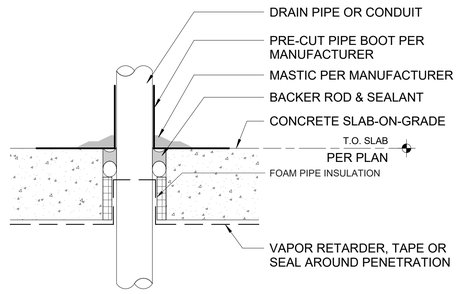
2 SECTION 3 - CONC. PIER
1/2" = 1'-0"



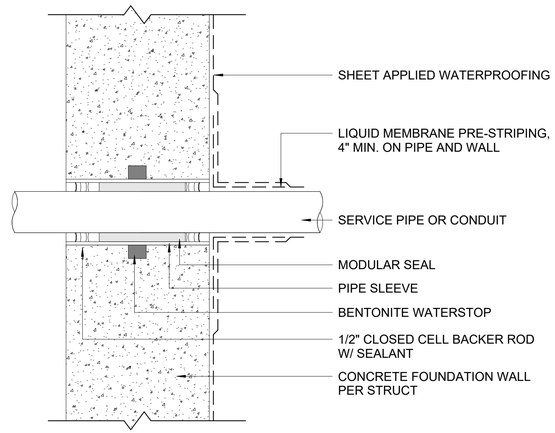
6 TYPICAL EXTERIOR DUCT
PENETRATION DETAIL
3" = 1'-0"



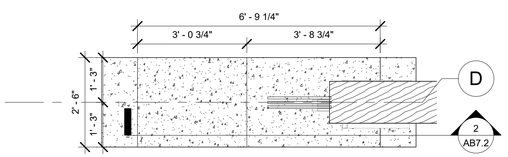
5 TYPICAL EXTERIOR LIGHT
PENETRATION DETAIL
3" = 1'-0"



4 FLOOR SLAB PENETRATION
3" = 1'-0"



3 FOUNDATION WALL PENETRATION
3" = 1'-0"



1 TYPICAL CONC. PIER PLAN
1/2" = 1'-0"

NOTE

- **REFER MECHANICAL & PLUMBING DRAWING FOR THE PENETRATION LOCATION**
- **REFER STRUCTURAL DWG. FOR CONCRETE PIER CONSTRUCTION DETAIL**

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PROFESSIONAL SEAL

REGISTERED ARCHITECT
JOHN CORTES CALDERON
028455
STATE OF NEW YORK

LICENSE EXPIRATION DATE 03/31/2027

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(914) 682-9423
www.calgiconstruction.com

PROJECT NO.
NBR23145.00

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

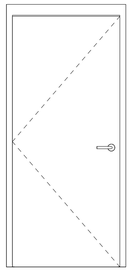
NO.	DESCRIPTION	DATE

NORTH

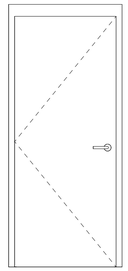
DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

SHEET TITLE:
ENLARGED PLANS & DETAILS

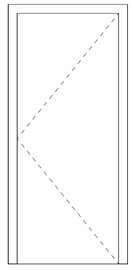
SHEET NO.
AB7.2



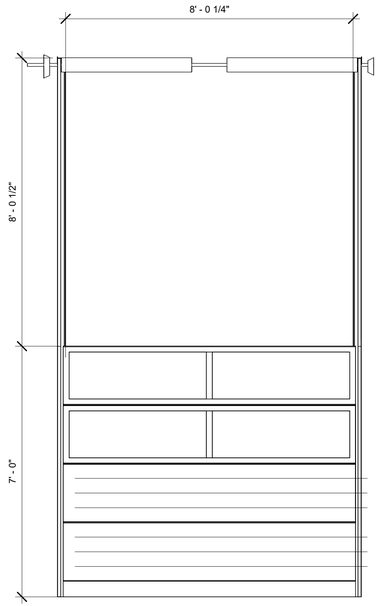
D1
ALUMINUM DOOR
4" HOLLOW METAL FRAME



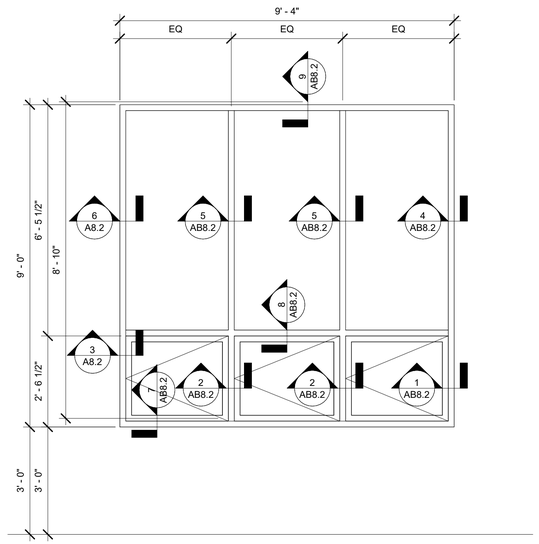
D2
ALUMINUM DOOR
4" HOLLOW METAL FRAME



D4
ALUMINUM DOOR
4" HOLLOW METAL FRAME



D3
GALVANIZED STEEL
INSULATED DOOR
GALVANIZED STEEL FRAME
R-17.54.



W1
ALUMINUM CASEMENT WINDOW

U - FACTOR - 0.650
SHGC - 0.70

DOOR SCHEDULE

DOOR					FRAME		FIRE RATING	Comments
NUMBER	WIDTH	HEIGHT	MATERIAL	FINISH	MATERIAL	FINISH		
D1	2' - 10"	7' - 0"	AL		AL			
D2	2' - 10"	7' - 0"	AL		AL			
D3	8' - 0"	7' - 0"	GI	COBALT BLUE	GI			CHI 3216
D4	3' - 0"	7' - 0"	AL		AL		45 MIN.	
D5	3' - 0"	8' - 0"	AL		AL		N/A	
F1	3' - 8"	6' - 0"	GI		GI			EXTERIOR FENCE
F2	3' - 8"	6' - 0"	GI		GI			EXTERIOR FENCE
F4	2' - 10"	7' - 0"						

WINDOW SCHEDULE

MARK	WIDTH	HEIGHT	MATERIAL	FINISH
W1	9' - 4"	9' - 0"	Aluminum	

GENERAL NOTES: DOOR TYPES

1. TYPICAL UNDERCUT AT DOORS IS TO BE 3/8" AT THRESHOLDS
AND 3/4" AT OTHER LOCATIONS. MAX. UNDERCUT AT FIRE
RATED DOORS IS 3/4" PER NFPA 80.

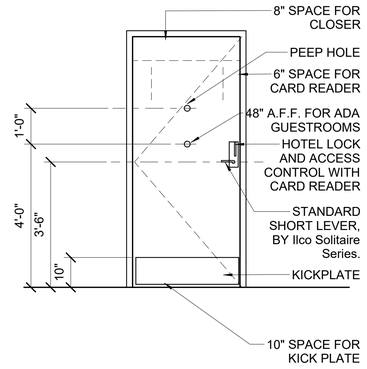
2. ALL DOOR HARDWARE IS TO MEET ADA REQUIREMENTS FOR
OPERATION, MOUNTING HEIGHTS, AND LOCKING/ LATCHING.

3. LOCATE OVERHEAD CLOSER ON PRIVATE SIDE OF DOOR U.N.O.

4. DOORS WITH ACOUSTICAL BOTTOM SEALS ARE TO HAVE A
SOLID SURFACE FLOORING OR THRESHOLD FOR PROPER
SEAL, CARPET IS NOT ACCEPTABLE .

5. LOCATE DOORS 6" OFF PERPENDICULAR WALL U.N.O., LOCATE
DOORS WITH WOOD CASING TRIM 6" OFF PERPENDICULAR
WALL U.N.O.

TYPICAL DOOR ELEVATIONS



TYPICAL GUESTROOM DOOR (SINGLE OR DOUBLE DOOR)

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BID SET
02.21.25

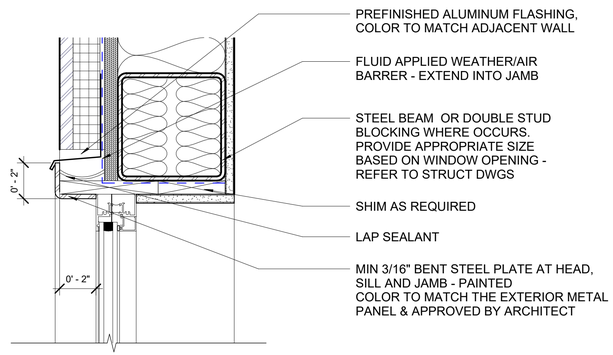
NO.	DESCRIPTION	DATE

DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

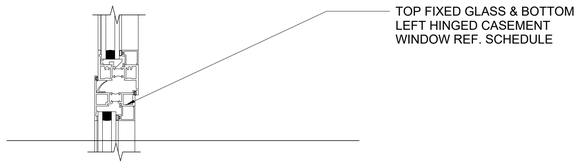
NORTH

SHEET TITLE:
DOOR & WINDOW SCHEDULE & DETAILS

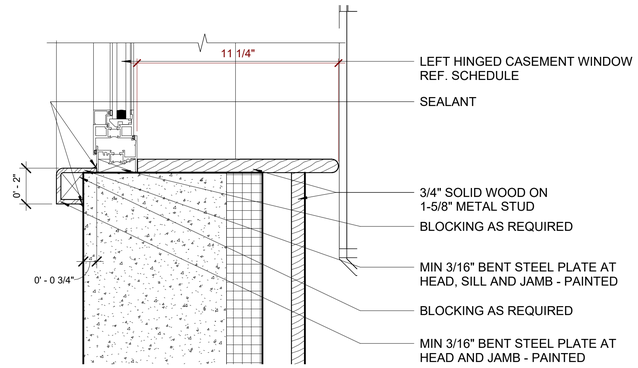
SHEET NO.
AB8.1



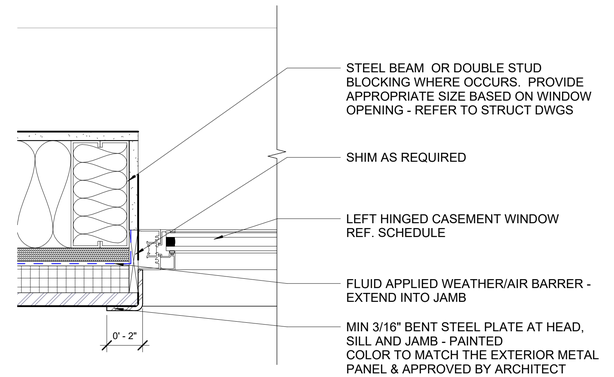
9 CASEMENT WINDOW HEADER
3" = 1'-0"



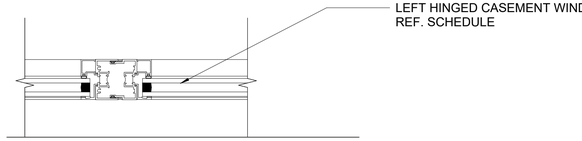
8 CASEMENT WINDOW FIXED GLASS INTERMEDIATE JAMB Copy 1
3" = 1'-0"



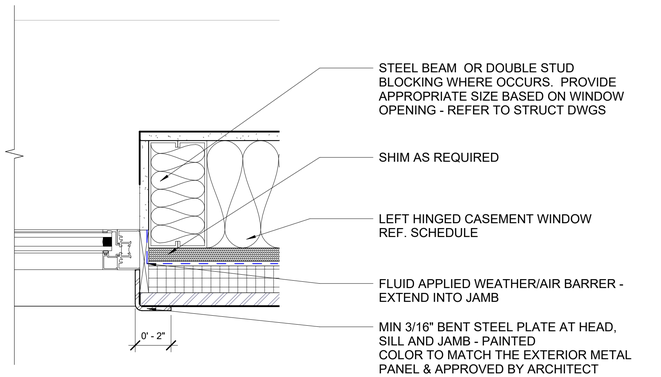
7 CASEMENT WINDOW SILL
3" = 1'-0"



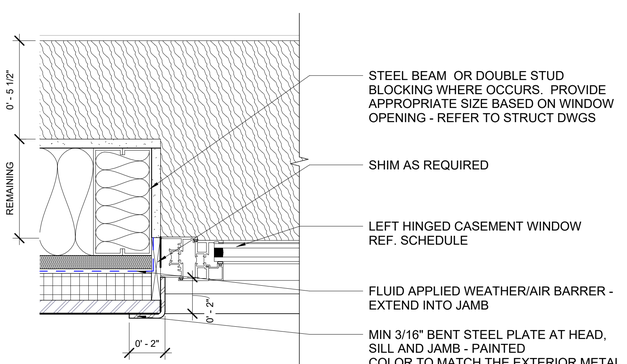
6 CASEMENT WINDOW -FIXED GLASS JAMB
3" = 1'-0"



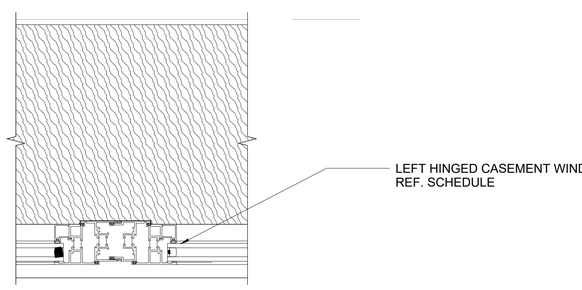
5 CASEMENT WINDOW FIXED GLASS INTERMEDIATE JAMB
3" = 1'-0"



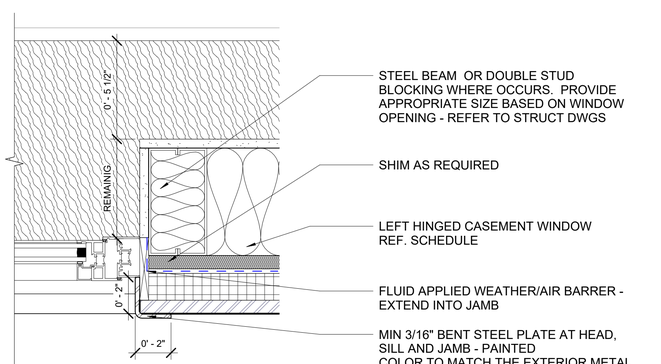
4 CASEMENT WINDOW - FIXED GLASS END JAMB
3" = 1'-0"



3 CASEMENT WINDOW - LEFT HINGED JAMB
3" = 1'-0"



2 CASEMENT WINDOW LEFT HINGED INTERMEDIATE JAMB
3" = 1'-0"



1 CASEMENT WINDOW - LEFT HINGED END JAMB
3" = 1'-0"

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SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

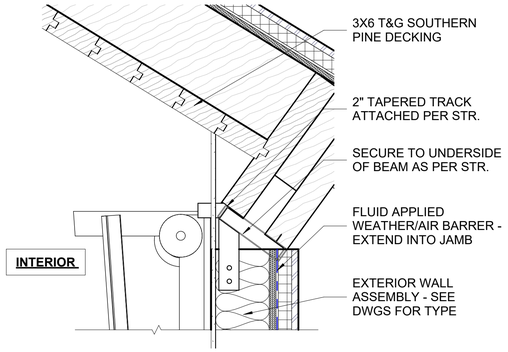
NORTH

DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

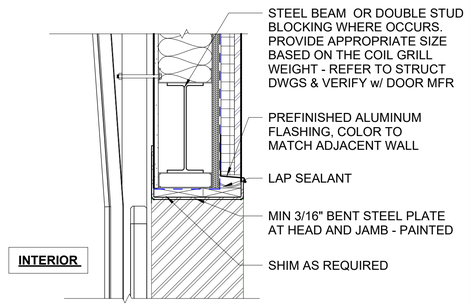
SHEET TITLE:
WINDOW DETAILS

SHEET NO.

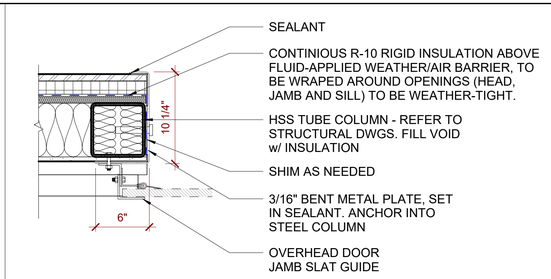
AB8.2



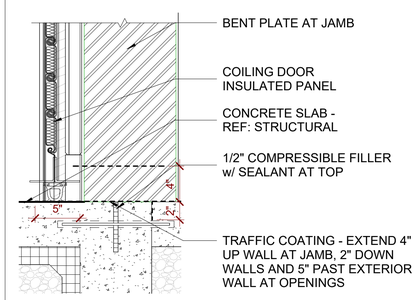
11 COILED DOOR HEADER - 2
1 1/2" = 1'-0"



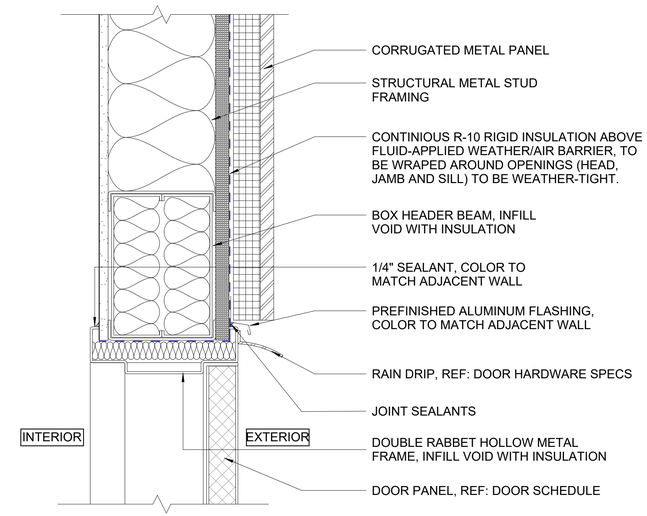
1 COILED DOOR HEADER
1 1/2" = 1'-0"



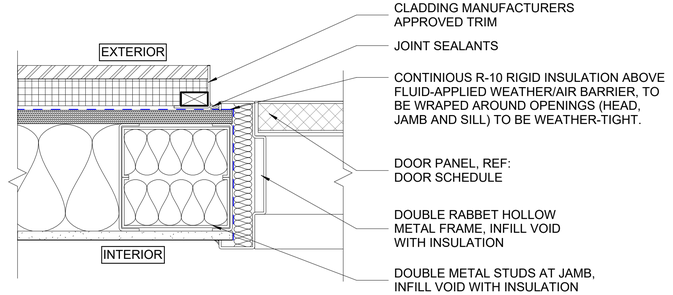
2 COILED DOOR JAMB
1 1/2" = 1'-0"



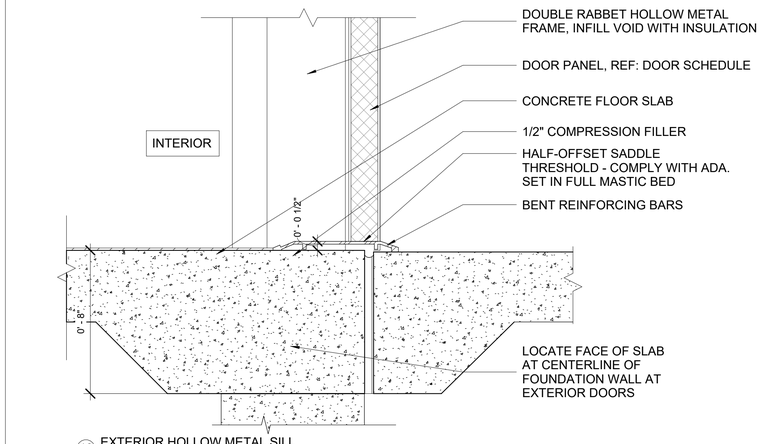
3 COILED DOOR SILL
1 1/2" = 1'-0"



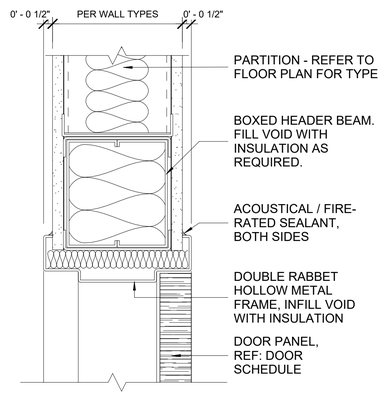
4 EXTERIOR HOLLOW METAL HEAD
3" = 1'-0"



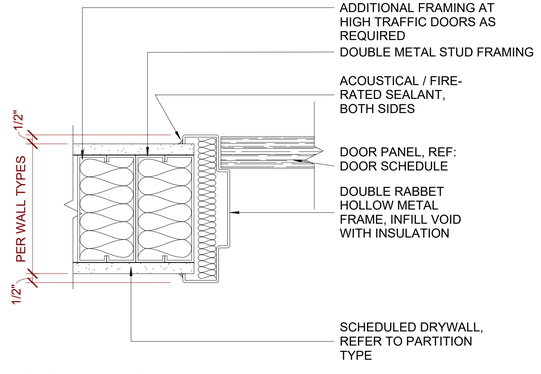
5 EXTERIOR HOLLOW METAL JAMB
3" = 1'-0"



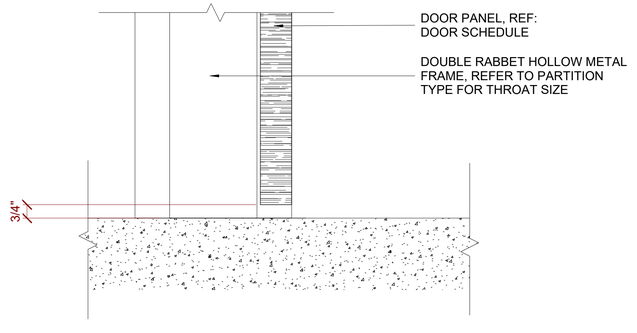
10 EXTERIOR HOLLOW METAL SILL
3" = 1'-0"



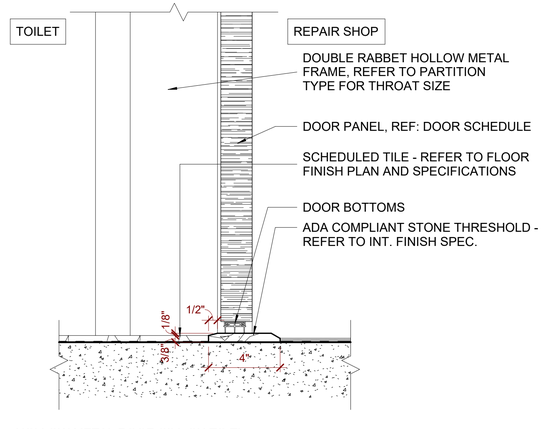
6 HOLLOW METAL DOOR HEAD
3" = 1'-0"



7 HOLLOW METAL DOOR JAMB
3" = 1'-0"



8 HOLLOW METAL DOOR SILL CN TO CN
3" = 1'-0"



9 HOLLOW METAL DOOR SILL CN TO TL
3" = 1'-0"

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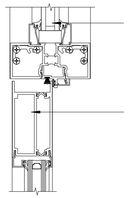
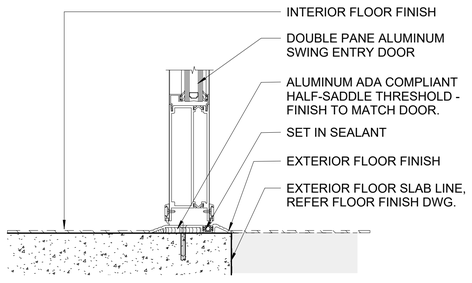
DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

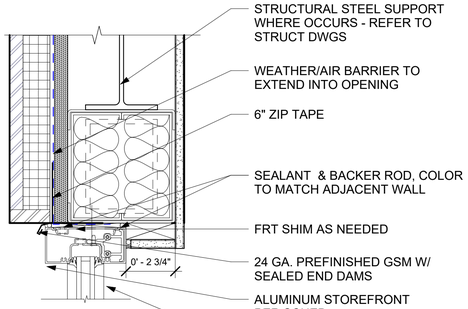
SHEET TITLE:
DOOR DETAILS

SHEET NO.
AB8.3

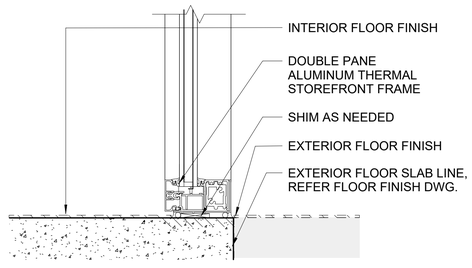




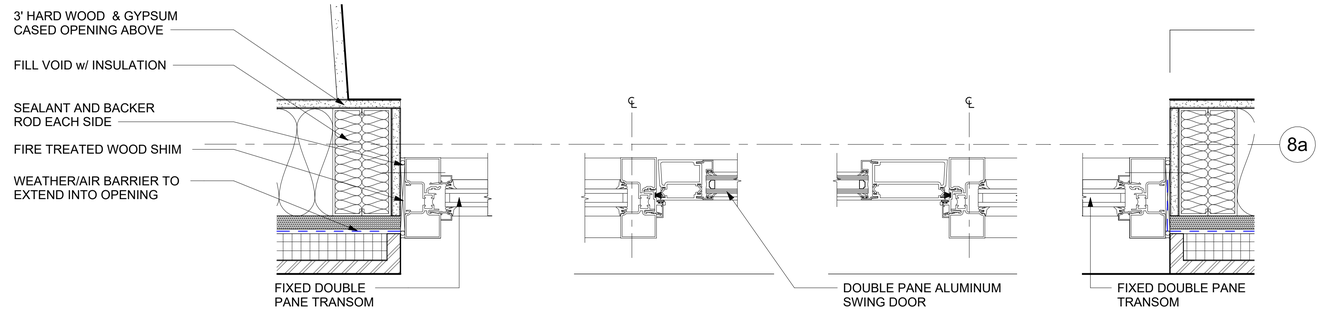
5 STOREFRONNT DOOR HEADER & SILL
3" = 1'-0"



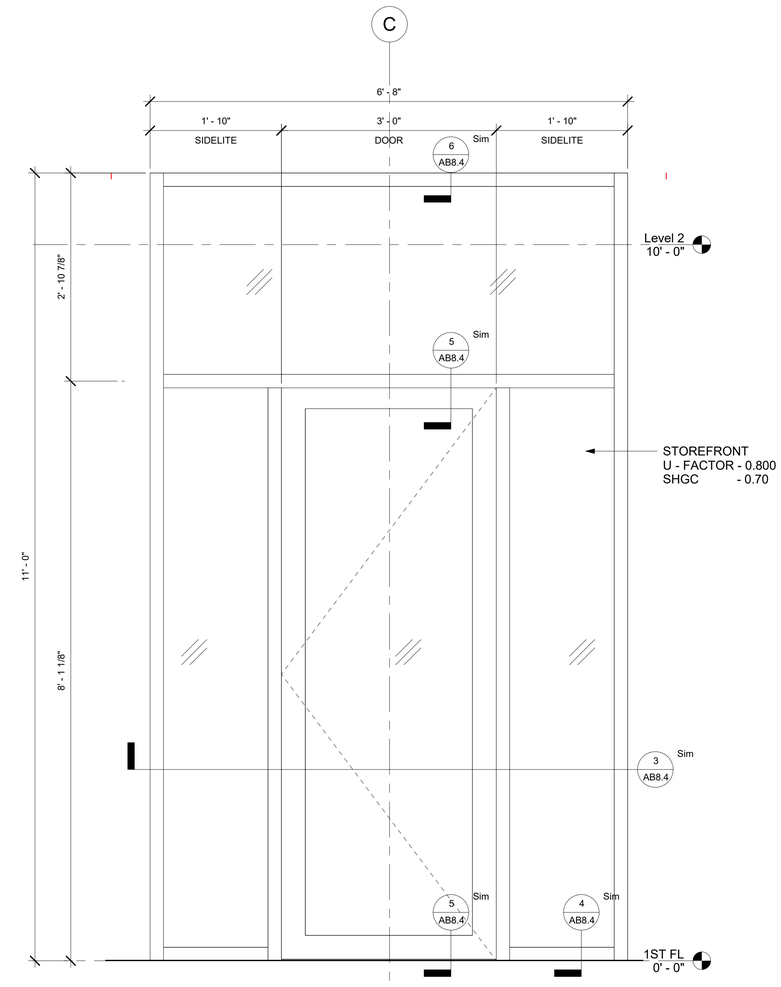
6 STOREFRONT HEADER
3" = 1'-0"



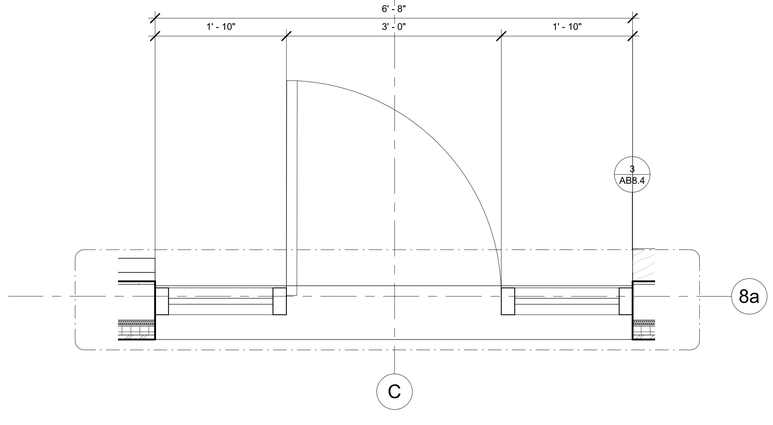
4 STOREFRONNT SILL
3" = 1'-0"



3 STOREFRONT JAMB DETAIL
3" = 1'-0"



2 STOREFRONT ELEVATION
1" = 1'-0"



1 STOREFRONT
1" = 1'-0"

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REVIEWED: JCC
DATE: 01/17/25

SHEET TITLE:
STOREFRONT ELEVATIONS

SHEET NO.
AB8.4

FINISH MATERIAL SCHEDULE

MARK	DESCRIPTION	COMMENTS
EC-01	EXPOSED CONCRETE	
MT-01	CORRUGATED METAL PANEL	MASTER RIB - WIDE RIBBED PANELS (UNION CORRUGATING) - COBALT BLUE
MT-02	CORRUGATED METAL PANEL	MASTER RIB - WIDE RIBBED PANELS (UNION CORRUGATING) - COBALT BLUE
MT-03	Copper, matte finish	
PT-01	EGG SHELL FINISH	Benjamin Moore Off White Collection OC-145 Atrium White
T&G - 3X6	3X6 T&G SOUTHERN PINE DECKING	
T-01	CERAMIC TILE 12" X 6" - BULLNOSE	GIORBELLOW (GLASS SUBWAY) LIGHT GREY - BOD
T-01A	CERAMIC TILE 12" X 6"	GIORBELLOW (GLASS SUBWAY) LIGHT GREY - BOD
T-02	CERAMIC TILE 3" X 6" - ACCENT	DALTILE -COBALT - BOD
T-03	PORCELAIN TILE 12" X 12"	DALTILE - GRAY (COLOR TO FOLLOW)-BOD
WD-01	DOUGLAS FIR VINEER 5/8" PLYWOOD	HORIZONTAL GRAINS, APPLY CLEAR FINISH WOOD VA

TOILET ACCESSORIES

MARK	DESCRIPTION	Model
TA-01	ACCESSIBLE FLOOR MOUNTED WATER CLOSET - REFER PLUMBING DRAWING	AMERICAN STANDAR - Cadet Chair Height Elongated Pressure-Assisted Toilet 1.6 gpf / 6.0 Lpf
TA-02	WALL MOUNTED SINK WITH INSULATED PIPES	Lucerne™ AMERICAN STANDARD - Wall-Hung Lavatory
TA-03	HORIZONTAL GRAB BAR - 36"	
TA-04	HORIZONTAL GRAB BAR - 42"	
TA-05	VERTICAL GRAB BAR - 18"	
TA-06	TISSUE DISPENSER	(BOBRICK) SURFACE MOUNTED SINGLE-ROBE HOOK. SATIN FINISHED STAINLESS STEEL (B-6717)
TA-07	MIRROR	(BOBRICK) MIRROR OF STAINLESS STEEL CHANNEL FRAME (B-1656)
TA-08	ROBE HOOK	(BOBRICK) SURFACE MOUNTED SINGLE-ROBE HOOK. SATIN FINISHED STAINLESS STEEL (B-6717)
TA-09	HAND DRYER	InstaDry™ Surface-Mounted Automatic Hand Dryer, ADA Compliant, Satin Finish
TA-10	SOAP DRYER	(BOBRICK) AUTOMATIC WALL MOUNTED SOAP DISPENSER (B-2013)
TA-11	TOUCHLESS FAUCET	AMERICAN STANDARD - INNSBROOK SELECTRONIC ELECTRONIC TOUCHLESS LAVATORY FAUCET CAST CENTERSET SPOUT, BASE MODEL

LIGHTING SCHEDULE

MARK	MANUFACTURER	COMMENTS - " B.O.D "	QUANTITY
E2	SIGNIFY	STONCO ROUGHLYTE - CEILING MOUNT (VCXL) TO BE INSTALLED ON PERIMETER WALLS: VWXL-14-NW-G1-8	10
E4	ECLIPSE LIGHTING INC.	BLP ET2X2	1
J	DELVIRO ENERGY	DTL ARCH 6 - THINLINE SERIES SIGNAL BLACK	4
K	STARTEK	STARTEK STARSHIELD STS-8-1000-SD-40K-80 BLACK MINI TEXTURE 8 FEET	6
L	BEGA	BEGA SYSTEM PENDANT LUMINAIRE 50 993.1 K3 COLOR: VELVET BLACK (WHITE INTERIOR)	3

DOOR SCHEDULE

	DOOR				FRAME			
NUMBER	WIDTH	HEIGHT	MATERIAL	FINISH	MATERIAL	FINISH	FIRE RATING	Comments
D1	2' - 10"	7' - 0"	AL		AL			
D2	2' - 10"	7' - 0"	AL		AL			
D3	8' - 0"	7' - 0"	GI	COBALT BLUE	GI			CHI 3216
D4	3' - 0"	7' - 0"	AL		AL		45 MIN.	
D5	3' - 0"	8' - 0"	AL		AL		N/A	
F1	3' - 8"	6' - 0"	GI		GI			EXTERIOR FENCE
F2	3' - 8"	6' - 0"	GI		GI			EXTERIOR FENCE
F4	2' - 10"	7' - 0"						

WINDOW SCHEDULE

MARK	WIDTH	HEIGHT	MATERIAL	FINISH
W1	9' - 4"	9' - 0"	Aluminum	

CEILING SCHEDULE

MARK	MANUFACTURER	COMMENTS
GC		GYPSUM CEILING
T&G		3X6 TONGUE &GROOVE SOUTHERN PINE DECKING

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PROFESSIONAL SEAL

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LICENSE EXPIRATION DATE 03/31/2027

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PROJECT NO.
NBR23145.00

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

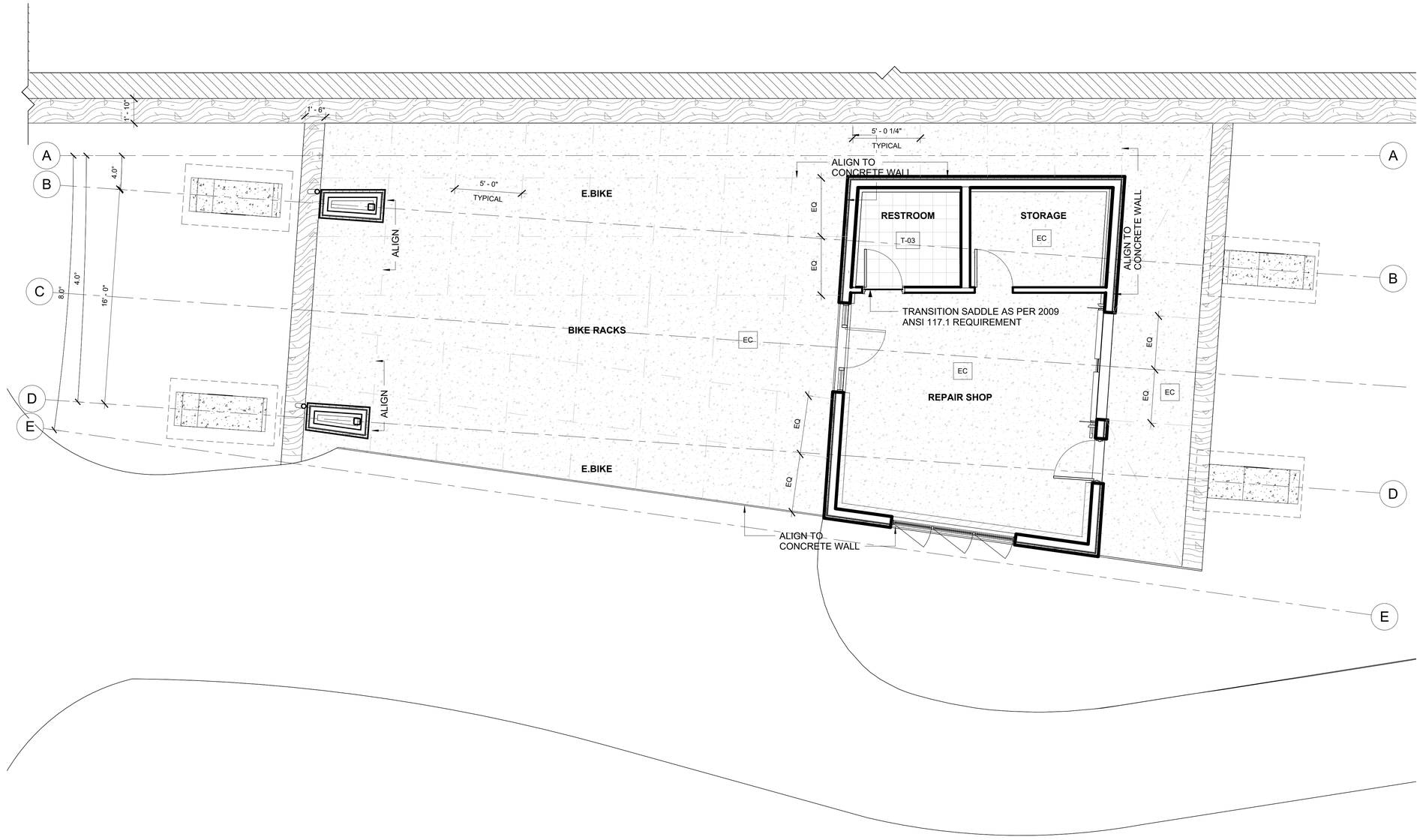
NO.	DESCRIPTION	DATE

NORTH

DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

SHEET TITLE:
SCHEDULES & GENERAL NOTES

SHEET NO.
AB9.1



1 1ST FLOOR FINISH
1/4" = 1'-0"

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02.21.25

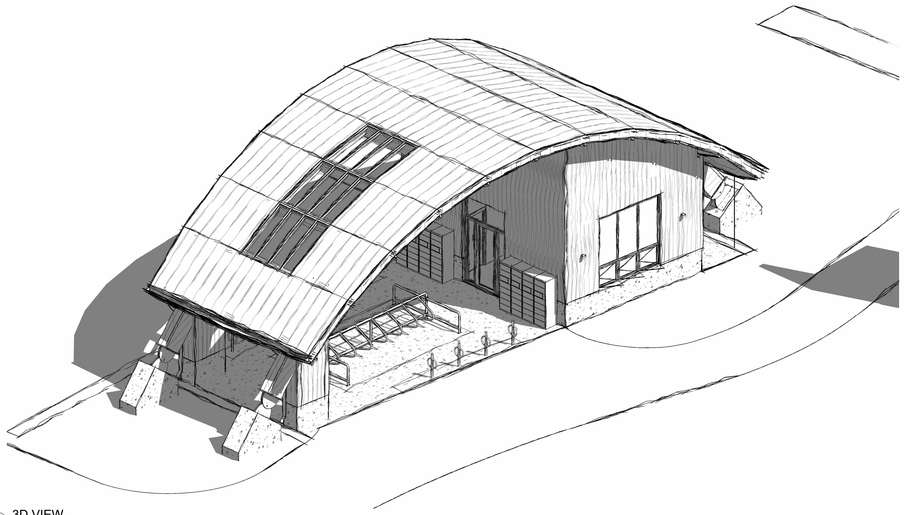
NO.	DESCRIPTION	DATE

NORTH

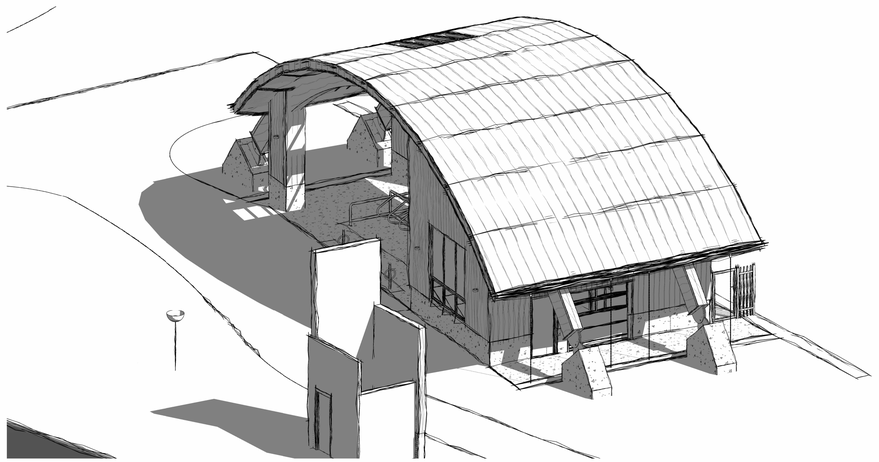
DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

SHEET TITLE:
FLOOR FINISH PLAN

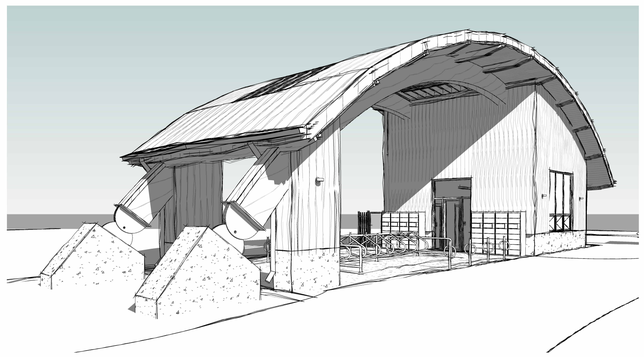
SHEET NO.
AB9.2



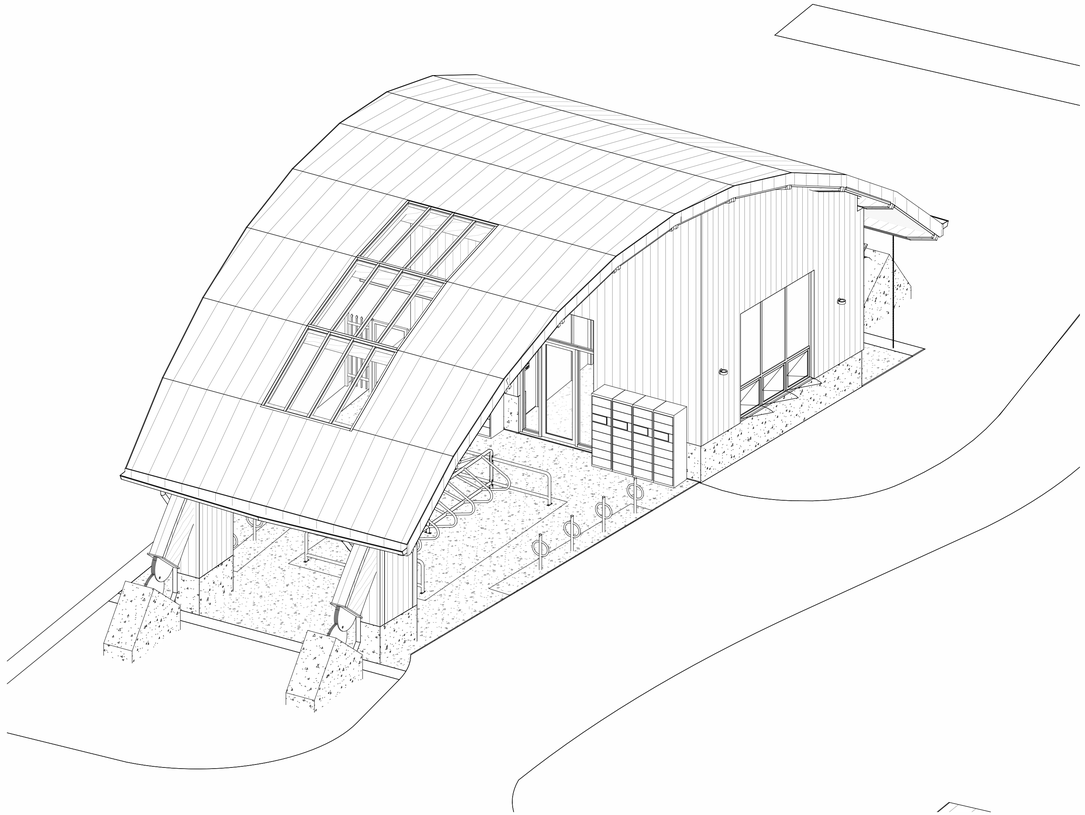
1 3D VIEW



2 3D VIEW 2



3 3D VIEW 3



4 EXTERIOR VIEW - TRANSPARENCY

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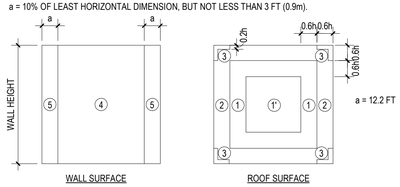
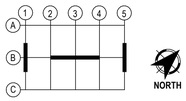
NORTH

DRAWN: MA
REVIEWED: JCC
DATE: 01/17/25

SHEET TITLE:
3D MODEL VIEWS

SHEET NO.
AB10





I. CODES AND STANDARDS

A. THE FOLLOWING CODES AND STANDARDS SHALL APPLY TO THE DESIGN AND CONSTRUCTION OF THIS STRUCTURE. USE THE LATEST EDITION UNLESS NOTED OTHERWISE.

1. "INTERNATIONAL BUILDING CODE" (IBC 2018) - INTERNATIONAL CODE COUNCIL
2. "NEW YORK STATE BUILDING CODE" (NYSBC 2020)
3. "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" (ASCE 7-16) - AMERICAN SOCIETY OF CIVIL ENGINEERS
4. "BUILDING CODE REQUIREMENTS FOR STUCTURAL CONCRETE" (ACI 318-14) - AMERICAN CONCRETE INSTITUTE
5. "MANUAL OF STEEL CONSTRUCTION" (15TH EDITION) - AMERICAN INSTITUTE OF STEEL CONSTRUCTION
6. "ACI MANUAL OF CONCRETE PRACTICE" (2016; PART 1 THROUGH PART 5) - AMERICAN CONCRETE INSTITUTE
7. "CRSI HANDBOOK" (2008) - CONCRETE REINFORCING STEEL INSTITUTE
8. "PCI DESIGN HANDBOOK" (8TH EDITION) - PRECAST/PRESTRESSED CONCRETE INSTITUTE
9. "STRUCTURAL WELDING CODE" (LATEST EDITION) - AMERICAN WELDING SOCIETY

B. THE CONSTRUCTION OF THIS STRUCTURE INCLUDING THE QUALITY CONTROL AND SAFETY OF ALL WORK SHALL BE GOVERNED BY ALL APPLICABLE FEDERAL, STATE OF NEW YORK, AND LOCAL CODES AND ORDINANCES INCLUDING FIRE CODES. THIS STRUCTURE SHALL BE CLASSIFIED AS TYPE IIA.

C. THE STRUCTURE IS NOT DESIGNED FOR FUTURE HORIZONTAL OR VERTICAL EXPANSION.

II. EXISTING CONDITION AND CONSTRUCTION

PRIOR TO FABRICATION AND ERECTION OR INSTALLATION OF ANY MATERIAL OR PLACEMENT OF CONCRETE FOR NEW CONSTRUCTION, FIELD VERIFY ALL EXISTING ELEVATIONS, DIMENSIONS, AND CONDITIONS OF ADJACENT EXISTING CONSTRUCTION, INCLUDING FOUNDATION, AND COMPARE THEM WITH THE CONTRACT DOCUMENTS. REPORT ANY CONTRADICTION OR DISCREPANCY TO THE ARCHITECT/ENGINEER IMMEDIATELY FOR INTERPRETATIONS AND/OR ADJUSTMENTS PRIOR TO COMMENCING WORK. COST OF CORRECTING DISCREPANCIES AFTER WORK HAS BEEN STARTED SHALL BE BORNE BY THE CONTRACTOR.

III. DESIGN LOADS

A. LIVE LOADS:

1. PARKING LEVELS	
a. UNIFORM LOAD	40 PSF
b. CONCENTRATED LOAD (ON 4.5" x 4.5" AREA)	3000 LBS.
c. LIVE LOAD REDUCTIONS PERMITTED PER IBC 1607.9	
2. STAIRS, LANDINGS, LOBBIES	
a. UNIFORM LOAD	100 PSF
b. CONCENTRATED LOAD ON STAIR TREADS (ON 4 SQ IN AREA)	300 LBS.
3. STAIR / ELEVATOR TOWER ROOF	20 PSF
4. BUMPER IMPACT LOAD AT 18" & 27" A.F.F. (ON 1 SQ. FT. SURFACE)	6000 LBS.
ELEVATOR MACHINE ROOM	PER ELEVATOR MANUFACTURER'S DATA

NOTE: CONCENTRATED LOADS APPLIED TO PRODUCE MAXIMUM STRESS ON ALL SUSCEPTIBLE MEMBERS.

B. SUPERIMPOSED DEAD LOADS:

1. MECHANICAL AND ELECTRICAL COMPONENTS	5 PSF

C. WIND LOADS:

1. BASIC WIND SPEED, V	115 MPH
2. ALLOWABLE STRESS DESIGN WIND SPEED, Vasd	89 MPH
3. WIND IMPORTANCE FACTOR, Iw	1.0
4. OCCUPANCY CATEGORY	II
5. WIND EXPOSURE CATEGORY	B
6. INTERNAL PRESSURE COEFFICIENT, GCpi	+/- 0.18
7. COMPONENTS & CLADDING WIND DESIGN PRESSURE, Ps	SEE TABLE BELOW

COMPONENTS & CLADDING WIND PRESSURES BASED ON LOCATION AND COMPONENT EFFECTIVE WIND AREA, A (PSF)

LOCATION	A ≤ 50 FT^2		50 FT^2 < A < 200 FT^2		200 FT^2 < A < 500 FT^2		500 FT^2 ≤ A	
	POSITIVE	NEGATIVE	POSITIVE	NEGATIVE	POSITIVE	NEGATIVE	POSITIVE	NEGATIVE
ZONE 1'	16.0	-24.9	16.0	-24.9	16.0	-21.5	16.0	-21.5
ZONE 1	16.0	-43.4	16.0	-36.8	16.0	-31.0	16.0	-31.0
ZONE 2	16.0	-57.3	16.0	-48.7	16.0	-41.4	16.0	-41.4
ZONE 3	16.0	-78.1	16.0	-61.0	16.0	-46.2	16.0	-46.2
ZONE 4	24.9	-27.0	22.4	-24.5	20.2	-22.3	20.2	-22.3
ZONE 5	24.9	-33.3	22.4	-28.1	20.2	-23.7	20.2	-23.7

NOTES:
1. REFER TO ASCE 7-16, FIGURES 30.3.1 AND 30.3-2A FOR ADDITIONAL INFORMATION.
2. POSITIVE AND NEGATIVE PRESSURES REPRESENT PRESSURES ACTING TOWARD AND AWAY FROM THE APPLICABLE SURFACE, RESPECTIVELY.
3. FOR ZONES INDICATED IN THE TABLE ABOVE, REFER TO THE GENERIC WALL AND ROOF SURFACE DIAGRAMS BELOW. NOTE THAT IF A PARAPET EQUAL TO OR HIGHER THAN 3 FT IS PROVIDED AROUND THE PERIMETER OF ROOF SURFACE, ZONE 3 SHOULD BE TREATED AS ZONE 2.
4. MODIFY VALUES SHOWN FOR PARAPET CONDITIONS USING INTERAL PRESSURE COEFFICIENT, GCpi SHOWN ABOVE.

a = 10% OF LEAST HORIZONTAL DIMENSION, BUT NOT LESS THAN 3 FT (0.9m).

WALL SURFACE

a = 12.2 FT

ROOF SURFACE

D. SEISMIC LOADS:

1. SEISMIC IMPORTANCE FACTOR, Ie	1.0
2. OCCUPANCY (RISK) CATEGORY	II
3. Ss: 0.2 SECOND SPECTRAL RESPONSE ACCELERATION	0.293% g
S1: 1.0 SECOND SPECTRAL RESPONSE ACCELERATION	0.061% g
4. SITE CLASS	C
5. Sds: 0.2 SECOND SPECTRAL RESPONSE COEFFICIENT	0.254% g
Sd1: 1.0 SECOND SPECTRAL RESPONSE COEFFICIENT	0.061% g
6. SEISMIC DESIGN CATEGORY	B

7. (BASIC) SEISMIC FORCE RESISTING SYSTEM
   a. THE SEISMIC FORCE RESISTING SYSTEM SHALL BE CLASSIFIED AS INTERMEDIATE PRECAST STRUCTURAL WALLS AND SHALL COMPLY WITH THE REQUIREMENTS OF ASCE 7-16 SECTION 14.2.2.4.
   b. BEARING WALL SYSTEM WITH INTERMEDIATE PRECAST SHEAR WALLS (N-S DIRECTION)
      i. RESPONSE MODIFICATION FACTOR, R — 4
      ii. DEFLECTION MODIFICATION FACTOR, Cd — 4
   c. BEARING WALL SYSTEM WITH INTERMEDIATE PRECAST SHEAR WALLS (E-W DIRECTION)
      i. RESPONSE MODIFICATION FACTOR, R — 4
      ii. DEFLECTION MODIFICATION FACTOR, Cd — 4
8. C/S: SEISMIC RESPONSE COEFFICIENT
   A. N-S SHEARWALL — Cs = 0.044
   B. E-W SHEARWALL — Cs = 0.044
9. ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PROCEDURE
10. SHEARWALL IDENTIFICATION PLAN

11. DESIGN BASE SHEAR

A. N-S SHEARWALL SEISMIC LOADS

WALL LEVEL	TYP. SHEARWALL (EACH SHEARWALL)
LEVEL 4	150.3 k
LEVEL 3	111.8 k
LEVEL 2	74.8 k
LEVEL 1	24.6 k
BASE SHEAR	361.4 k

B. E-W SHEARWALL SEISMIC LOADS

WALL LEVEL	TYP. LIGHTWALL (PER 42.5 FT)
LEVEL 4	104.5 k
LEVEL 3	86.4 k
LEVEL 2	57.5 k
LEVEL 1	20.6 k
BASE SHEAR	269.1 k

E. SNOW LOADS:

1. GROUND SNOW LOAD, pg	30 PSF
2. SNOW EXPOSURE FACTOR, Ce	1.0
3. THERMAL FACTOR, Ct	1.2
4. SNOW IMPORTANCE FACTOR, Is	1.0
5. FLAT ROOF SNOW LOAD, pf	25.2 PSF
6. SNOW DRIFT SURCHARGE LOAD, klf	0.393 KLF
7. SNOW DRIFT WIDTH, ft	12 FT

F. VOLUME CHANGE PARAMETERS:

1. DESIGN TEMPERATURE DIFFERENTIAL	54°F
2. ANNUAL AVERAGE AMBIENT RELATIVE HUMIDITY	70%

G. RAIN LOADS:

1. DEPTH OF WATER UP TO SECONDARY DRAINAGE SYSTEM, ds	3"
2. ADD'L DEPTH OF WATER ABOVE SECONDARY DRAINAGE SYSTEM, dH	0.5"
3. RAIN LOAD, R	18.2 PSF

IV. FOUNDATION WORK

A. THE FOUNDATION (INCLUDING SPREAD FOOTINGS, RETAINING WALLS, AND SLAB-ON-GRADE) HAS BEEN DESIGNED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PREPARED BY LANGAN DATED SEPTEMBER 19, 2024. SEE DIVISION 31 OF THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

B. FOUNDATION DESIGN PARAMETERS

1. ALLOWABLE NET SOIL BEARING CAPACITY	4,000 PSF (STRUCTURAL FILL/ GLACIAL TILL)
2. RETAINING WALL DESIGN PARAMETERS:	
a. MOIST UNIT WEIGHT OF SOIL	135 PCF
b. SOIL FRICTION ANGLE	32°
c. COEFFICIENT OF AT-REST EARTH PRESSURE	0.45
d. COEFFICIENT OF ACTIVE EARTH PRESSURE	0.31
e. COEFFICIENT OF PASSIVE EARTH PRESSURE	3.25
f. COEFFICIENT OF SOIL FRICTION	0.35
3. FROST DEPTH	3.5 FT

C. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ALL TEMPORARY EXCAVATIONS, BRACING, SHEETING, AND SHORING.

V. CONCRETE

A. MATERIAL PROPERTIES - CONCRETE:

	MIN. fc @ 28 DAYS (PSI)	MAX. W/C RATIO	MAX. SLUMP (INCHES)	TOTAL AIR CONTENT
1. CAST-IN-PLACE CONCRETE:				
FOUNDATIONS (SPREAD FOOTINGS)	4000	0.45	4	NOT REQ'D
WALLS, PIERS	5000	0.40	4	5 ±1½%
SLAB-ON-GRADE	5000	0.40	3	6 ±1½%
WASHES, TOPPINGS, POURSTRIPS	5000	0.40	3	7½ ±1½%
OTHER	4000	0.45	4	NOT REQ'D
2. PRECAST CONCRETE:				
COLUMNS, GIRDERS	6000	0.38	NOT REQ'D	5 ±1½%
TEES, SLABS, STAIRS	6000	0.38	NOT REQ'D	6 ±1½%
BEAMS, WALL PANELS	5500	0.40	NOT REQ'D	5 ±1½%
3. DRY PACK / GROUT:				
COLUMN BASE DRY PACK	6000	N/A	0	NOT REQ'D
MASONRY GROUT FILL	3000	N/A	8-11	NOT REQ'D
N.S.N.S. GROUT	6000	N/A	0	NOT REQ'D

4. THE ALLOWABLE MAXIMUM SLUMP SHOWN ABOVE SHALL BE PRIOR TO ADDING SUPERPLASTICIZER AS APPLICABLE. THE ALLOWABLE MAXIMUM SLUMP AFTER ADDING PLASTICIZERS IS 8"±1½", TYP.

5. ALL CONCRETE AGGREGATES SHALL BE NORMAL-WEIGHT, U.N.O.

6. ALL COARSE AGGREGATE SHALL BE 3/4" MAX (NOM.) EXCEPT WASHES/TOPPINGS/POURSTRIPS SHALL BE 3/8" MAX (NOM).

B. MATERIAL PROPERTIES - REINFORCING & CONNECTION STEEL:

TYPE	GRADE, KSI	ASTM REF.
DEFORMED REBARS, U.N.O.	60	A615
WELDABLE DEFORMED REBARS	60	A706
WELDED WIRE REINFORCEMENT (W.W.R.)	65	A185
PRESTRESSING STRANDS	270	A416
DEFORMED BAR ANCHORS (D.B.A.)	70	A496
HEADED ANCHOR STUDS (H.A.S.)	60	A108

C. CONCRETE PROTECTION FOR REINFORCEMENT:

1. THE MINIMUM CONCRETE COVER PROVIDED FOR REINFORCEMENT SHALL BE PROVIDED PER ACI 318-14, SECTION 20.6, U.N.O. REFER TO THE TABLE BELOW FOR THE REQUIRED CONCRETE COVERS FOR NON-PRESTRESSED, C.I.P. CONCRETE, TYP.

TABLE 20.6.1.3.1 - SPECIFIED CONCRETE COVER FOR CAST-IN-PLACE NON-PRESTRESSED CONCRETE MEMBERS

Concrete Exposure	Member	Reinforcement	Specified cover, in.
Cast against and permanently in contact with ground	All	All	3
Exposed to weather or in contact with ground	All	No. 6 through No. 18 bars	2
		No. 5 bar, W31 or D31 wire, and smaller	1-1/2
Not exposed to weather or in contact with ground	Slabs, joists, and walls	No. 14 and No. 18 bars	1-1/2
		No. 11 bars and smaller	3/4
	Beams, columns, pedestals, and tension ties	Primary reinforcement, stirrups, ties, spirals, and hoops	1-1/2

2. FOR PRESTRESSED/PRECAST CONSTRUCTION, THE MINIMUM CONCRETE COVER FOR REINFORCEMENT AT TOP OF ALL PRESTRESSED/PRECAST MEMBERS SHALL BE 1-1/2 INCHES, U.N.O.

D. CAST-IN-PLACE AND PRECAST CONCRETE NOTES:

1. ALL REINFORCEMENT SHALL BE CONTINUOUS AND NO SPLICES SHALL BE PERMITTED EXCEPT AS DETAILED OR AUTHORIZED BY THE ENGINEER. WHEN PERMITTED, COLUMN REINFORCING SHALL BE SPLICED ACCORDING TO ACI 318-14, SECTION 25.5, U.N.O.

2. TENSION SPLICES SHALL BE MADE BY CLASS B LAP SPLICES, TYPICAL, U.N.O.

3. PROVIDE ADDITIONAL REINFORCING AROUND ALL OPENINGS, I.E., DOORS, WINDOWS, BLOCKOUTS, ETC., AS FOLLOWS: (2)#5 BARS ON ALL SIDES OF EACH OPENING EXTENDED 2'-0" BEYOND THE CORNERS OF EACH OPENING PLUS (2)#5 BY 4'-0" LONG DIAGONALS AT EACH CORNER, U.N.O.

4. PROVIDE 3/4" CHAMFERS ON EXPOSED CORNERS OF CONCRETE, U.N.O.

5. PROVIDE CONSTRUCTION AND CONTROL JOINTS IN SLABS AND WALLS AS SHOWN ON THE DRAWINGS. REFER TO SECTION 033000 OF THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

6. ALL INSERTS, COIL RODS, AND PLATE CONNECTIONS SHALL BE GALVANIZED, U.N.O. WHENEVER FEASIBLE, ALL INSERTS AND SLEEVES SHALL BE CAST IN THE CONCRETE. ANCHORAGES (INCLUDING MEP&FP AND FACADE SUPPORTS) ARE NOT PERMITTED IN THE BOTTOM 2/3 OF PRECAST CONCRETE DOUBLE TEE STEMS AND OTHER LOCATIONS (SUCH AS BOTTOMS OF GIRDERS OR TOP AND BOTTOM OF SPANDREL BEAMS) WHERE THE PRECAST CONCRETE SHOP DRAWINGS SHOW PRESTRESSING STRANDS. POST-INSTALLED ANCHORS MUST BE AT LEAST 2" CLEAR FROM ALL PRESTRESSING STRANDS OR AS DIRECTED BY THE PRECAST MANUFACTURER.

7. TEE-TO-TEE CONNECTOR PLATES AND REBAR SHALL BE STAINLESS STEEL PER ASTM A666, TYPE 304L. WELDING ON STAINLESS STEEL PLATES SHALL BE IN ACCORDANCE WITH LATEST EDITION OF AWS CODE.

8. TEE-TO-GIRDER CONNECTOR PLATES AND ACCESSORIES SHALL BE HOT-DIPPED GALVANIZED, U.N.O.

9. ALL C.I.P. TOPPINGS, POURSTRIPS, AND WASHES SHALL CONTAIN 3 GALLONS CALCIUM NITRITE CORROSION INHIBITOR PER CUBIC YARD OF CONCRETE AND 1½ LBS. FIBROUS REINFORCEMENT PER CUBIC YARD OF CONCRETE IN ACCORDANCE WITH SPECIFICATION SECTION 033000. MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 3/8".

10. SLAB-ON-GRADE SHALL CONTAIN 1½ LBS. FIBROUS REINFORCEMENT PER CUBIC YARD OF CONCRETE IN ACCORDANCE WITH SPECIFICATION SECTION 033000. MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 3/4".

E. ADDITIONAL PRECAST CONCRETE NOTES:

1. THE STRUCTURAL DRAWINGS HAVE BEEN DETAILED BASED ON PERFORMANCE-TYPE DESIGN OF THE PRECAST MEMBERS UNLESS NOTED OTHERWISE. PRECAST CONTRACTOR SHALL SUBMIT THE DESIGN CALCULATIONS AND SHOP DRAWINGS, WITH PROFESSIONAL ENGINEER'S SEAL IN THE STATE OF NEW YORK. REFER TO SPEC. SECTION 034000 FOR FURTHER REQUIREMENTS.

2. PRECAST CONTRACTOR IS RESPONSIBLE TO PERFORMANCE DESIGN THE PRECAST MEMBERS, EMBEDS, INSERTS, AND CONNECTIONS TO BE CAPABLE OF WITHSTANDING GOVERNING DESIGN LOADS AND THE LOADS EXERTED FROM ALL SYSTEMS AND ELEMENTS THAT ATTACH TO THE PRECAST STRUCTURE INCLUDING, BUT NOT LIMITED TO
   a. STOREFRONT/CURTAINWALL.
   b. FACADE, INCLUDING BANNERS, LIGHTING, ETC.
   c. CANOPIES.
   d. LIGHT POLES.
   e. FENCING, BARRIERS, HANDRAILS, AND GUARDRAILS.
   f. SOLAR ARRAY FRAMING.
   g. ELEVATOR AND ELEVATOR MACHINE ROOM.
   h. ANY OTHER SYSTEM OR ELEMENT AS SHOWN ON THE CONTRACT DRAWINGS.

3. THE STRUCTURE HAS BEEN DESIGNED FOR ITS INTENDED FINAL SERVICE CONDITION. THE PRECAST CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLEMENTAL MEMBER DESIGN TO WITHSTAND FORCES DUE TO HANDLING AND ERECTION INCLUDING TRANSPORTING, SEQUENCING, GUYING, BRACING, STAYING AND SHORING REQUIRED FOR STRUCTURAL STABILITY DURING CONSTRUCTION UNTIL FINAL STABILITY IS ACHIEVED THROUGH COMPLETION OF DESIGN CONNECTIONS.

4. PROVIDE ALL OPENINGS, BLOCKOUTS, REVEALS, RUSTICATIONS, RECESSES, DRIPS, INSERTS, ETC., CAST INTO PRECAST CONCRETE ACCORDING TO THE REQUIREMENTS OF THE ARCHITECTURAL, ELECTRICAL, PLUMBING, MECHANICAL, AND FIRE PROTECTION DRAWINGS. COORDINATE ACTUAL SIZES AND LOCATIONS WITH RESPECTIVE TRADES. THESE INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   a. BLOCKOUTS FOR EXTERIOR LIGHTING CONDUITS AS REQUIRED.
   b. BLOCKOUTS FOR ELECTRIFIED SIGNS AT ENTRY/EXIT LOCATION(S).
   c. ANCHOR BOLTS AND CONDUITS FOR LIGHT POLES AT TOP TIER.
   d. EMBED PLATES AND/OR BLOCKOUTS FOR SEPARATOR AND HOIST BEAM CONNECTIONS PER ELEVATOR LOAD REQUIREMENTS.
   e. BLOCKOUTS/OPENINGS FOR ELEVATOR BUTTONS, FIXTURES, ETC.
   f. VERTICAL CHASES ALONG LIGHTWALLS FOR PLUMBING/DRAINAGE RISERS.
   g. BLOCKOUTS FOR DRY STAND PIPES AND SPRINKLERS.
   h. BLOCKOUTS FOR FLOOR DRAINS.
   i. EMBED PLATES AND INSERTS FOR EXTERIOR FACADE FRAMING AS REQUIRED.
   j. EMBED PLATES, INSERTS, AND SLEEVES FOR BARRIER CABLE SYSTEM.

5. PROVIDE TWO #4 L BARS WITH 3'-0" LEGS (MINIMUM) AT EACH CORNER OF PRECAST PANELS.

6. P/C DOUBLE TEES, INVERTED TEE GIRDERS, SOLID SLABS, AND STAIRS OPEN TO THE ENVIRONMENT SHALL CONTAIN 2 GALLONS CALCIUM NITRITE CORROSION INHIBITOR PER CUBIC YARD OF CONCRETE.

7. FOR FIELD WELDING GALVANIZED CONNECTION HARDWARE, REMOVE SLAG, WIRE BRUSH, AND APPLY TWO COATS OF Z.R.C. COLD GALVANIZING.

VI. CONCRETE MASONRY

A. MATERIAL PROPERTIES - MASONRY:

1. NET AREA COMPRESSIVE STRENGTH OF MASONRY SYSTEM, f'/M = 1900 PSI.

2. MORTAR TYPE "M" (BELOW GRADE) OR "S" (ABOVE GRADE), REFER TO SPEC. SECTION 042000 FOR FURTHER REQUIREMENTS.

B. GENERAL NOTES FOR MASONRY

1. MINIMUM VERTICAL REINFORCEMENT FOR MASONRY WALLS SHALL BE #4 @ 48" O.C., TYPICAL, U.N.O. PROVIDE ONE #5 VERTICAL AT ALL CORNERS, AT EACH SIDE OF OPENINGS AND AT ENDS OF WALLS. MASONRY WALLS SUBJECT TO BUMPER LOADS SHALL BE REINFORCED WITH #4 @ 16" O.C. EXTENDED TO AT LEAST 2'-8" ABOVE FLOOR, AND ALL CORES SHALL BE GROUTED SOLID UP TO 2'-8" ABOVE FLOOR.

2. PROVIDE DOWELS BETWEEN FOUNDATION AND MASONRY WALLS TO MATCH VERTICAL WALL REINFORCEMENT IN SIZE AND SPACING, U.N.O.

3. HORIZONTAL JOINT REINFORCEMENT FOR MASONRY WALLS SHALL BE STANDARD WEIGHT, GALVANIZED, AND SPACED @ 16" O.C., TYPICAL, U.N.O. PROVIDE ONE-PIECE PREFABRICATED UNITS SPACED @ 8" O.C. AT WALL CORNERS AND INTERSECTIONS.

4. MINIMUM 1-COURSE BOND BEAM REQUIREMENTS, U.N.O. - PROVIDE CONTINUOUS HORIZONTAL BOND BEAM WITH (2) #5 CONTINUOUS BARS AT THE FOLLOWING LOCATIONS:
   a. ABOVE DOOR OPENINGS
   b. AT TOP OF WALL PER "TYPICAL TOP OF C.M.U. WALL DETAIL"
   c. A MAXIMUM OF 8'-0" ABOVE THE FLOOR AND SPACED VERTICALLY AT 8'-0" O.C. (MAX) THEREAFTER
   d. PER APPLICABLE BUILDING CODE REQUIREMENTS

5. PROVIDE BOND BEAM LINTELS WITH TWO #5 CONTINUOUS BARS ABOVE OPENINGS, U.N.O. LENGTH OF BEARING SUPPORT FOR BOND BEAMS SHALL BE 1" PER FOOT OF OPENING BUT NOT LESS THAN 8" AND BEARING SUPPORT SHALL BE SOLID BLOCKS OR HOLLOW BLOCKS GROUTED SOLID, OVER THREE COURSES BELOW AND EXTENDING OUT AT AN ANGLE OF 45 DEGREES, U.N.O.

6. THE CONTRACTOR SHALL VERIFY THAT ALL OPENINGS BELOW LINTELS ARE ADEQUATE TO ACCEPT DOOR OR WINDOW FRAMES, LOUVERS, ETC., AS SHOWN ON THE DRAWINGS. NOTIFY ARCHITECT AND/OR ENGINEER OF ANY CONFLICT PRIOR TO LINTEL INSTALLATION.

7. PROVIDE CONTROL JOINTS IN MASONRY OR BRICK WALLS AT 20'-0" O.C. MAXIMUM, U.N.O.

8. FOR CONTINUOUS BOND BEAMS, PROVIDE HORIZONTAL REINFORCING AT WALL CORNERS AND INTERSECTIONS PER C.I.P. WALL "CORNER REINFORCING DETAIL", SIM.

9. SEE ARCHITECTURAL DRAWINGS FOR BLOCK THICKNESSES AND FINISHES.

VII. STRUCTURAL STEEL

A. MATERIAL PROPERTIES - STRUCTURAL STEEL:

	Fy, PSI	ASTM REF. (U.N.O.)
W-SHAPES	50,000	A992
ANCHOR BOLTS	36,000	F1554, GRADE 36
CONNECTION STEEL	36,000	A36
STEEL PIPES	35,000	A53, GRADE B
HSS STEEL MEMBER	50,000	A1085, GRADE B
COLD FORMED STEEL	33,000	A924
WELDING ELECTRODES	E70XX	AWS D1.1, D1.6 OR D19.0

TYPE	Fu, PSI	ASTM REF.
HIGH STRENGTH BOLTS	120,000	A325

B. STRUCTURAL STEEL FABRICATION, ERECTION AND CONNECTION DESIGN SHALL CONFORM TO AISC "MANUAL OF STEEL CONSTRUCTION".

C. ALL STRUCTURAL STEEL CONNECTIONS SHALL BE PERFORMANCE DESIGNED (INCLUDING FIELD SPLICE CONNECTIONS) TO RESIST THE DESIGN LOADS. SUBMIT CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED, FOR APPROVAL PRIOR TO ANY FABRICATION.

D. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO ANY FABRICATION.

E. MEMBER CONNECTIONS SHALL BE DETAILED FOR A MINIMUM FACTORED FORCE OF NO LESS THAN 10 KIPS AS PER AISC "MANUAL OF STEEL CONSTRUCTION".

1. MINIMUM BOND BEAM REQUIREMENTS, U.N.O. - PROVIDE CONTINUOUS HORIZONTAL BOND BEAM WITH (2) #5 CONTINUOUS BARS AT THE FOLLOWING LOCATIONS:
   a. ABOVE DOOR OPENINGS
   b. AT TOP OF WALL PER "TYPICAL TOP OF C.M.U. WALL DETAIL"
   c. A MAXIMUM OF 8'-0" ABOVE THE FLOOR AND SPACED VERTICALLY AT 8'-0" O.C. (MAX) THEREAFTER
   d. PER APPLICABLE BUILDING CODE REQUIREMENTS

2. PROVIDE BOND BEAM LINTELS WITH TWO #5 CONTINUOUS BARS ABOVE OPENINGS, U.N.O. LENGTH OF BEARING SUPPORT FOR BOND BEAMS SHALL BE 1" PER FOOT OF OPENING BUT NOT LESS THAN 8" AND BEARING SUPPORT SHALL BE SOLID BLOCKS OR HOLLOW BLOCKS GROUTED SOLID, OVER THREE COURSES BELOW AND EXTENDING OUT AT AN ANGLE OF 45 DEGREES, U.N.O.

3. THE CONTRACTOR SHALL VERIFY THAT ALL OPENINGS BELOW LINTELS ARE ADEQUATE TO ACCEPT DOOR OR WINDOW FRAMES, LOUVERS, ETC., AS SHOWN ON THE DRAWINGS. NOTIFY ARCHITECT AND/OR ENGINEER OF ANY CONFLICT PRIOR TO LINTEL INSTALLATION.

4. PROVIDE CONTROL JOINTS IN MASONRY OR BRICK WALLS AT 20'-0" O.C. MAXIMUM, U.N.O.

5. FOR CONTINUOUS BOND BEAMS, PROVIDE HORIZONTAL REINFORCING AT WALL CORNERS AND INTERSECTIONS PER C.I.P. WALL "CORNER REINFORCING DETAIL", SIM.

6. SEE ARCHITECTURAL DRAWINGS FOR BLOCK THICKNESSES AND FINISHES.

F. ALL CONNECTIONS SHALL BE STANDARD AISC FRAMED OR SEATED BEAM CONNECTIONS, U.N.O.

G. ALL EXTERIOR STEEL MEMBERS AND CONNECTIONS SHALL BE PAINTED WITH RUST-INHIBITING PRIMER OR HOT-DIP GALVANIZED AND PAINTED PER SPECIFICATIONS. DO NOT GALVANIZE OR PAINT SURFACES TO BE FIELD WELDED. TOUCH UP ALL FIELD WELDS WITH RUST-INHIBITING PRIMER OR GALVANIZING REPAIR PAINT AND PAINT PER SPECIFICATIONS. REFER TO AWS D19.0 FOR ADDITIONAL INFO.

H. BOLTED CONNECTIONS:

1. ALL BOLTED CONNECTIONS SHALL BE MADE WITH 3/4"Ø ASTM A325 BOLTS WITH ASTM F436 WASHERS AND ASTM A563 NUTS, U.N.O.

2. ALL HIGH-STRENGTH BOLT CONNECTIONS SHALL CONFORM TO "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 BOLTS" AS ENDORSED BY AISC.

3. HIGH-STRENGTH BOLTED CONNECTION SHALL BE BEARING TYPE WITH THREADS ALLOWED IN THE SHEAR PLANE, U.N.O.

4. HIGH-STRENGTH BOLTS SHALL BE SNUG-TIGHTENED, UNLESS REQUIRED BY AISC "MANUAL OF STEEL CONSTRUCTION" TO BE FULLY PRETENSIONED OR NOTED AS PRETENSIONED ON THE DRAWINGS. PRETENSION BOLTS WITH A CALIBRATED TORQUE WRENCH OR BY THE "TURN OF THE NUT" METHOD.

I. ALL WELDING SHALL CONFORM TO THE LATEST EDITION OF AWS D1.1, AWS D1.6 (STAINLESS STEEL), OR AWS D19.0 (GALVANIZED STEEL), AS APPLICABLE.

J. WELDED CONNECTIONS:

1. MINIMUM SIZE OF WELD SHALL BE 3/16", U.N.O.

2. SURFACE TO BE FIELD WELDED SHALL BE CLEAN AND FREE OF PAINT, DIRT, GREASE OR OTHER FOREIGN MATERIAL.

VIII. EXAMINATION PRIOR TO CUTTING, DRILLING, AND CORING THROUGH STRUCTURE

A. DO NOT CUT, DRILL, OR CORE THROUGH ANY STRUCTURAL ELEMENT WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER, U.N.O.

B. THE CONTRACTOR SHALL SCAN THE CONCRETE AT ALL LOCATIONS OF PROPOSED CUTS AND PENETRATIONS TO LOCATE AND MARK ALL EMBED HARDWARE. SCANNING SHALL BE PERFORMED BY A CERTIFIED TECHNICIAN USING A PACHOMETER OR GROUND PENETRATING RADAR (GPR) TYPE SCANNER. CALIBRATE THE SCANNER AT THE BEGINNING OF EACH SHIFT AND WHEN CONDITIONS CHANGE. LOCATE AT LEAST THREE REINFORCING BARS USING THE SCANNER, AND HAMMER DRILL TEST HOLES TO DETERMINE DEPTH OF COVER. CALIBRATE SCANNER USING DEPTH OF COVER MEASUREMENTS.

C. ADJUST LOCATIONS OF CUTS AND PENETRATIONS AS REQUIRED TO AVOID EMBEDDED HARDWARE/EQUIPMENT.

X. ABBREVIATIONS

A.B.	ANCHOR BOLT
A.F.F.	ABOVE FINISHED FLOOR
ALT.	ALTERNATE
ARCH.	ARCHITECT
BET.	BETWEEN
BIT.	BITUMINOUS
BOT.	BOTTOM
BRG.	BEARING
C.I.P.	CAST-IN-PLACE
C.J.	CONTROL JOINT/ CONSTRUCTION JOINT
CL./CLR.	CLEAR
C.M.	CONSTRUCTION MANAGER
C.M.U.	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
D.B.A.	DEFORMED BAR ANCHOR
DET.	DETAIL
DIA./	DIAMETER
DIM.	DIMENSION
DN.	DOWN
DWG(S).	DRAWING(S)
EA.	EACH
E.B.F.	ELEVATION BOTTOM OF FOOTING
E.B.P.	ELEVATION BOTTOM OF PIER
E.F.	EACH FACE
E.F.G.	ELEVATION FINISHED GRADE
E.J.	EXPANSION JOINT
EL./ELEV.	ELEVATION
ELEC.	ELECTRICAL
EQ.	EQUAL
E.T.B.	ELEVATION TOP OF BEAM
E.T.P.	ELEVATION TOP OF PILE OR DRILLED PIER CAP
E.T.F.	ELEVATION TOP OF FOOTING
E.T.L.	ELEVATION TOP OF LEDGE
E.T.P.	ELEVATION TOP OF PIER
E.T.P/C.	ELEVATION TOP OF PRECAST
E.T.S.	ELEVATION TOP OF STEEL
E.T.W.	ELEVATION TOP OF WALL
E.W.	EACH WAY
E.W.E.F.	EACH WAY, EACH FACE
E.W.P.	ELEVATION WORKING POINT
EXT.	EXTERIOR
F.D.	FLOOR DRAIN
F.E.	FIRE EXTINGUISHER
F.F.	FAR FACE / FINISH FLOOR
FDN.	FOUNDATION
FIN.	FINISH
FL./FLR.	FLOOR
FTG.	FOOTING
GA.	GAUGE
GALV.	GALVANIZED
G.B.	GRADE BEAM
G.C.	GENERAL CONTRACTOR
GR.	GRADE
G.W.B.	GYPSUM WALL BOARD
H.A.S.	HEADED ANCHOR STUDS
H.D.G.	HOT-DIP GALVANIZED
H.M.	HOLLOW METAL
HOR.	HORIZONTAL
HT.	HEIGHT
H.V.A.C.	HEATING, VENTILATION & AIR CONDITIONING
I.D.	INSIDE DIAMETER
INFO.	INFORMATION
INSUL.	INSULATION
INT.	INTERIOR
INV.	INVERT
IT	INVERTED TEE
JT.	JOINT
LBS.	POUNDS
LIN.	LINEAL
L.L.V.	LONG LEG VERTICAL
MAX.	MAXIMUM
MECH.	MECHANICAL
MANUF.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MTL.	METAL
N.F.	NEAR FACE
N.I.C.	NOT IN CONTRACT
N.S.N.S.	NON-SHRINK, NON-STAIN
N.T.S.	NOT TO SCALE
O.C.,	O/C ON CENTER
O.D.	OUTSIDE DIAMETER
O.H.	OPPOSITE HAND
P/C	PRECAST CONCRETE
PSI	POUNDS PER SQUARE INCH
PSF	POUNDS PER SQUARE FOOT
P/T	POST-TENSIONED
R.D.	ROOF DRAIN
RM.	ROOM
R.O.	ROUGH OPENING
R.O.F.	RANDOM ORIENTED FIBER
SCHED.	SCHEDULE
SECT.	SECTION
SHT.	SHEET
SIM.	SIMILAR
S.L.V.	SHORT LEG VERTICAL
S.0.G.	SLAB-ON-GRADE
SPEC(S).	SPECIFICATION(S)
SQ.	SQUARE
STD.	STANDARD
STL.	STEEL
T.&B.	TOP AND BOTTOM
T.B.D.	TO BE DETERMINED
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
V.I.F.	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
W.P.	WORKING POINT
WT.	WEIGHT
W.W.R.	WELDED WIRE REINFORCEMENT

D. NOTIFY ARCHITECT/ENGINEER AFTER SCANNING IS COMPLETE AND EMBEDDED HARDWARE/EQUIPMENT HAS BEEN MARKED ON ALL SURFACES OF P/C CONCRETE MEMBERS. ALLOW SEVEN DAYS FOR ARCHITECT/ENGINEER TO REVIEW AND APPROVE OR COMMENT ON THE PROPOSED CUTS AND PENETRATIONS. ADJUST THE LOCATIONS AS DIRECTED BY THE ARCHITECT/ENGINEER.

E. USE HAMMER DRILLS WHEN POSSIBLE; DO NOT CORE DRILL UNLESS THE SCANNING OPERATION HAS CLEARLY SHOWED THAT THE AREA IS FREE OF EMBEDDED HARDWARE/EQUIPMENT.

F. DO NOT CUT THROUGH OR DAMAGE THE EMBEDDED REINFOCRING, PRESTRESSING STRANDS, EMBEDDED PRECAST CONNECTIONS, ELECTRICAL CONDUIT, AND ANY OTHER EMBEDD HARDWARE/EQUIPMENT.

IX. GENERAL ITEMS

A. THESE NOTES SUPPLEMENT THE SPECIFICATIONS, WHICH SHALL BE REFERRED TO FOR FURTHER INFORMATION.

B. IN CASE OF CONFLICT BETWEEN NOTES, DETAILS, AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN.

C. FOR EXACT SIZES AND LOCATIONS OF ALL MECHANICAL, PLUMBING, AND ELECTRICAL ITEMS AND PENETRATIONS, CONSULT RESPECTIVE TRADES FOR COORDINATION.

D. DO NOT SCALE THE DRAWINGS.

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PROJECT NO.
PCNY0323.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

DRAWN: TCT
REVIEWED: JCR
DATE: 2.21.25

NORTH

SHEET TITLE:
STRUCTURAL GENERAL NOTES

SHEET NO.
S0.1

REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTIONS (IBC TABLE 1705.3)

	TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD[a]	IBC REFERENCE
1.	Inspect reinforcement, including prestressing tendons, and verify placement.	-	X	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1 - 26.6.3	1908.4
2.	Reinforcing bar welding: a. Verify weldability of reinforcing bars other than ASTM A706; b. Inspect single-pass fillet welds, maximum 5/16"; and c. Inspect all other welds.	- X	X X 	AWS D1.4 ACI 318: 26.6.4	-
3.	Inspect anchors cast in concrete.	-	X	ACI 318: 17.8.2	-
4.	Inspect anchors post-installed in hardened concrete members.[b] a. Adhesive anchors installed in horizontally or upwardly inclined orietations to resist sustained tension loads. b. Mechanical anchors and adhesive anchors not defined in 4.a.	 X -	 - X	 ACI 318: 17.8.2.4 ACI 318: 17.8.2	-
5.	Verify use of required design mix.	-	X	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6.	Prior to concrete placement, fabricate speciments for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	-	ASTM C172 ASTM C31 ACI 318: 26.5 - 26.12	1908.10
7.	Inspect concrete and shotcrete placement for proper application techniques.	X	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8.	Verify maintenance of specified curing temperature and techniques.	-	X	ACI 318: 26.5.3 - 26.5.5	1908.9
9.	Inspect prestressed concrete for: a. Application of prestressing forces; and b. Grouting of bonded prestressing tendons.	X X	-	ACI 318: 26.10	-
10.	Inspect erection of precast concrete members.	-	X	ACI 318: 26.9	-
11.	Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	-	X	ACI 318: 26.11.2	-
12.	Inspect formwork for shape, location and dimensions of the concrete member being formed.	-	X	ACI 318: 26.11.1.2 (b)	-

NOTE:
1. Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with 17.8.2 in ACI 318, or other qualification procedures. where specific requirements are not provided, special inspections requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencment of the work.
2. Where applicable, see section 1705.12, special inspections for seismic resistance, in IBC 2018.

REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOIL (IBC TABLE 1705.6)

	TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1.	Verify materials below shallow foundations are adequate to achive the design bearing capacity.	-	X
2.	Verify excavations are extended to proper depth and have reached proper material.	-	X
3.	Perform classification and testing of compacted fill materials.	-	X
4.	Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X	-
5.	Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	-	X

REQUIRED SPECIAL INSPECTIONS AND TESTS OF STRUCTURAL STEEL CONSTRUCTION (AISC 360) WELDING

Table N5.4-1 Inspection Tasks Prior to Welding

Table N5.4-1 Inspection Tasks Prior to Welding	QC	QA
Welder qualification records and continuity records	P	O
WSP available	P	P
Manufacturer certifications for welding consumables available	P	P
Material identification (type/grade)	O	O
Welder identification system[a]	O	O
Fit-up of groove welds (including joint geometry) • Joint preparation • Dimensions (alignment, root opening, root face, bevel) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location) • Backing type and fit (if applicable)	O	O
Fit-up of CJP groove welds of HSS T-, Y- and K-connections without backing (including joint geometry) • Joint Preparations • Dimensions (alignment, root opening, root face, bevel) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location)	P	O
Configuration and finish of access holes	O	O
Fit-up of fillet welds • Dimensions (alignment, gaps and root) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location)	O	O
Check welding equipment	O	-

[a] The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Die Stamping of members subjected to fatigue shall be prohibited unless approved by the engineer of record.

Table N5.4-2 Inspection Tasks During Welding

Table N5.4-2 Inspection Tasks During Welding	QC	QA
Control and handling of welding consumables • Packaging • Exposure control	O	O
No welding over cracked tack welds	O	O
Environmental conditions • Wind speed within limits • Precipitation and temperature	O	O
WPS followed • Settings on welding equipment • Travel speed • Selected welding materials • Shielding gas type/flow rate • Preheat applied • Interpass temperature maintained (min./max.) • Proper position (F, V, H, OH)	O	O
Welding techniques • Interpass and final cleaning • Each pass within profile limitations • Each pass meets quality requirements	O	O
Placement and installation of steel headed stud anchors	P	P

Table N5.4-3 Inspection Tasks After Welding

Table N5.4-3 Inspection Tasks After Welding	QC	QA
Weld cleaned	O	O
Size, length and location of welds	P	P
Welds meet visual acceptance criteria • Crack prohibition • Weld/base-metal fusion • Crater cross section • Weld profiles • Weld size • Undercut • Porosity	P	P
Arc strikes	P	P
k-area[a]	P	P
Weld access holes in rolled heavy shapes and built-up heavy shapes[b]	P	P
Backing removed and weld tabs removed (if required)	P	P
Repair activity	P	P
Document acceptance or rejection of welded joint of member[c]	P	P
No prohibited welds have been added without the approval of the EOR	O	O

[a] When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3 in. (75 mm) of the weld.
[b] After rolled heavy shapes (see Section A3.1c) and built-up heavy shapes (see Section A3.1d) are welded, visually inspect the weld access hole for cracks.
[c] Die stamping of members subjected to fatigue shall be prohibited unless approved by the EOR.

REQUIRED SPECIAL INSPECTIONS AND TESTS OF STRUCTURAL STEEL CONSTRUCTION (AISC 360) BOLTING

Table N5.6-1 Inspection Tasks Prior to Bolting

Table N5.6-1 Inspection Tasks Prior to Bolting	QC	QA
Manufacturer's certifications available for fastener materials	O	P
Fasteners marked in accordance with ASTM requirements	O	O
Correct fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane)	O	O
Correct bolting procedure selected for joint detail	O	O
Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements	O	O
Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and method used	P	O
Protected storage provided for bolts, nuts, washers and other fastener components	O	O

Table N5.6-2 Inspection Tasks During Bolting

Table N5.6-2 Inspection Tasks During Bolting	QC	QA
Fastener assemblies placed in all holes, and washers and nuts are positioned as required	O	O
Joint brought to the snug-tight condition prior to the pretensioning operation	O	O
Fastener component not turned by the wrench prevented from rotating	O	O
Fasteners are pretensioned in accordance with RCSC Specification, progressing systematically from the most rigid point toward the free edges	O	O

Table N5.6-3 Inspection Tasks After Bolting

Table N5.6-3 Inspection Tasks After Bolting	QC	QA
Document acceptance or rejection of bolted connections	P	P

O - Observe these items on a random basis. Operations need not be delayed pending these inspections.
P - Perform these tasks for each welded joint or member.
QC - Quality Control Inspector (fabricator or erector).
QA - Quality Assurance Inspector (QA inspection of fabricated items shall be made at the fabricators plant, while QA inspection of erected steel system shall be made at the project site).

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NO.	DESCRIPTION	DATE

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DRAWN: TCT
REVIEWED: JCR
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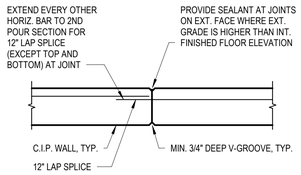
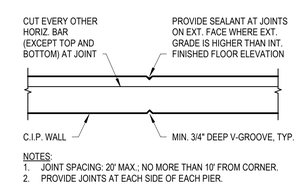
SHEET TITLE:
STATEMENT OF SPECIAL INSPECTION

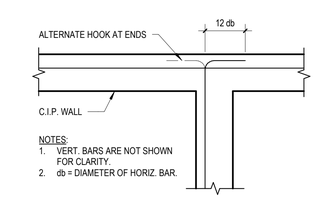
SHEET NO.
S0.1a



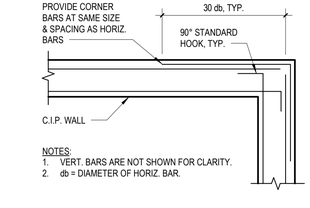
1 S0.2 C.I.P. WALL CONSTRUCTION JOINT DETAIL
N.T.S.



2 S0.2 C.I.P. WALL CONTROL JOINT DETAIL
N.T.S.



3 S0.2 C.I.P. WALL "T" CORNER REINFORCING DETAIL
N.T.S.



4 S0.2 C.I.P. WALL "L" CORNER REINFORCING DETAIL
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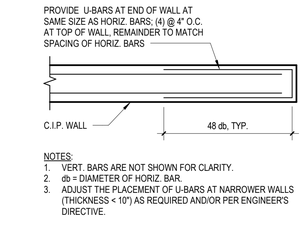
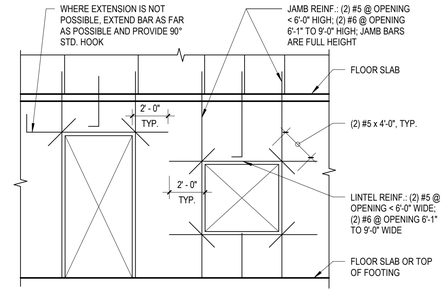


5 S0.2 C.I.P. WALL END REINFORCING DETAIL
N.T.S.



6 S0.2 C.I.P. WALL OPENING REINFORCEMENT DETAIL
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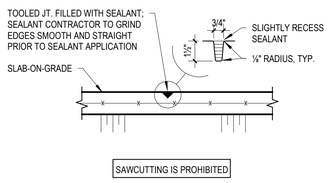
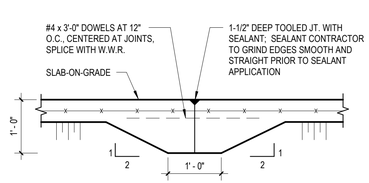
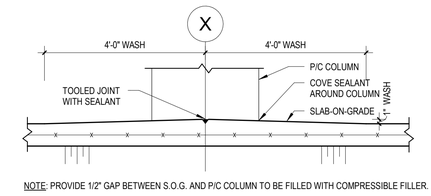


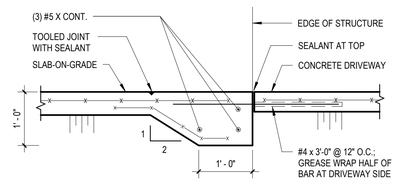
7 S0.2 S.O.G. CONTROL JOINT DETAIL
3/4" = 1'-0"



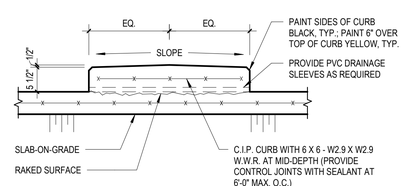
8 S0.2 S.O.G. CONSTRUCTION JOINT DETAIL
3/4" = 1'-0"



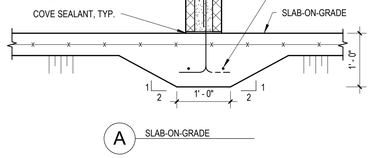
9 S0.2 S.O.G. INTERIOR WASH DETAIL
3/4" = 1'-0"



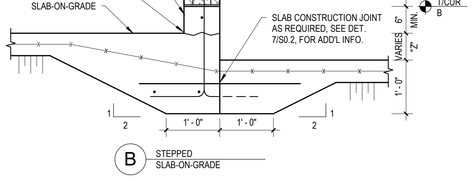
10 S0.2 S.O.G. EDGE DETAIL
3/4" = 1'-0"



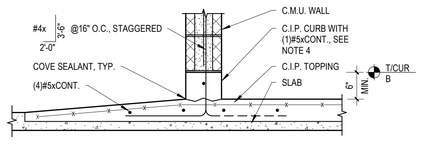
11 S0.2 S.O.G. CURB/ISLAND DETAIL
3/4" = 1'-0"



A SLAB-ON-GRADE



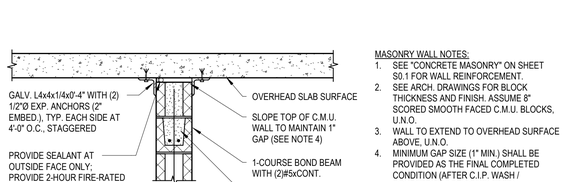
B STEPPED SLAB-ON-GRADE



C SUPPORTED SLAB

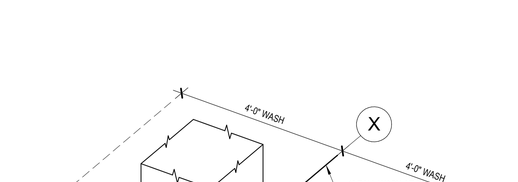
NOTES:
1. SEE "CONCRETE MASONRY" ON SHEET S0.1 FOR WALL REINFORCEMENT.
2. SEE ARCH. DRAWINGS FOR BLOCK THICKNESS AND FINISH. ASSUME 8" SCORED SMOOTH FACED C.M.U. BLOCKS, U.N.O.
3. GROUT CORES 2'-8" HIGH FROM BOTTOM OF HIGHEST FINISHED FLOOR ELEVATION WHERE SUBJECT TO VEHICULAR IMPACT.
4. DELETE C.I.P. CURB WHEN UPPER PORTION OF SLAB IS LEVEL.

12 S0.2 BOTTOM OF C.M.U. WALL DETAILS
3/4" = 1'-0"



MASONRY WALL NOTES:
1. SEE "CONCRETE MASONRY" ON SHEET S0.1 FOR WALL REINFORCEMENT.
2. SEE ARCH. DRAWINGS FOR BLOCK THICKNESS AND FINISH. ASSUME 8" SCORED SMOOTH FACED C.M.U. BLOCKS, U.N.O.
3. WALL TO EXTEND TO OVERHEAD SURFACE ABOVE, U.N.O.
4. MINIMUM GAP SIZE (1" MIN.) SHALL BE PROVIDED AS THE FINAL COMPLETED CONDITION (AFTER C.I.P. WASH / POURSTRIPS ARE COMPLETED).

13 S0.2 TOP OF C.M.U. WALL DETAILS
3/4" = 1'-0"



14 S0.2 SLAB-ON-GRADE JOINT SEALANT AT COLUMN ISOMETRIC
3/4" = 1'-0"

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PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
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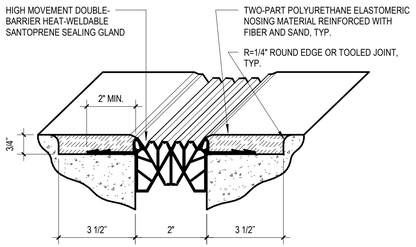
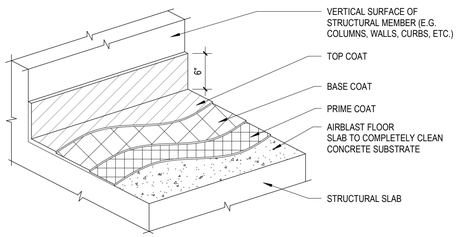
SHEET TITLE:
STRUCTURAL GENERAL DETAILS

SHEET NO.
S0.2



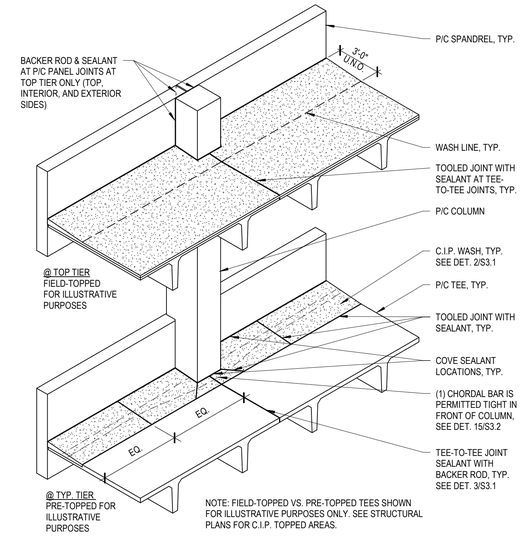
NOTES:
1. THE GAP SHOWN IS AT A TYPICAL TEMPERATURE (70°F). IT WILL VARY DEPENDING ON THE PREVAILING TEMPERATURE DURING INSTALLATION AS WELL AS MOVEMENT DUE TO SHRINKAGE, CREEP AND ELASTIC SHORTENING OF CONCRETE WHICH MAY OCCUR PRIOR TO ACTUAL INSTALLATION.
2. THE GAP MAY BE PROGRESSIVELY WIDER AT THE UPPER TIERS.
3. THE C.I.P. & P/C CONCRETE CONTRACTOR MUST COORDINATE ACTUAL SIZE OF BLOCKOUTS REQUIRED BY EXPANSION JOINTS WITH THE EXPANSION JOINT INSTALLER.
4. PROVIDE 6" VERTICAL RETURN (UP) AT WALL OR COLUMN TERMINATION AS APPLICABLE.
5. THE EXPANSION JOINT SYSTEM MUST BE ADA ACCESSIBLE.

1 S0.3 EXPANSION JOINT DETAIL
6" = 1'-0"



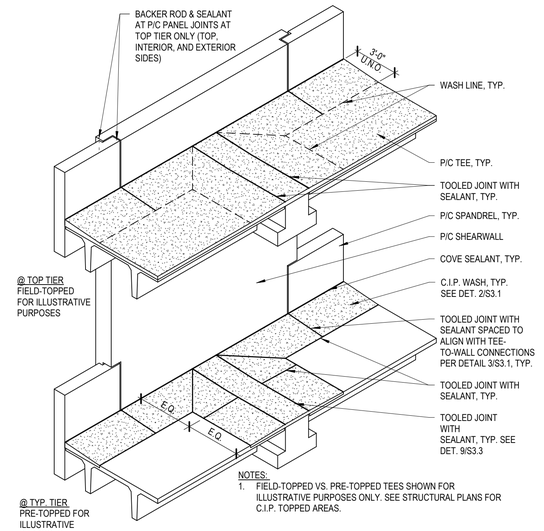
INSTALLATION PROCEDURE:
1. REFER TO STRUCTURAL PLANS FOR LOCATIONS OF TRAFFIC DECK COATING APPLICATION.
2. APPLY COATING AS SHOWN PER SPEC. SECTION 079020 AND PER MANUFACTURER'S WRITTEN INSTRUCTIONS. EXTENSD 6" MIN. UP VERTICAL SURFACES OF STRUCTURAL MEMBERS, TYP.
3. DEGREASE AND SHOT BLAST EXISTING FLOOR SURFACES.

2 S0.3 TRAFFIC DECK COATING DETAIL
1" = 1'-0"



NOTE: FIELD-TOPPED VS. PRE-TOPPED TEES SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. SEE STRUCTURAL PLANS FOR C.I.P. TOPPED AREAS.

3 S0.3 TYPICAL EXTERIOR INBOARD COLUMN JOINT SEALANT ISOMETRIC
3/16" = 1'-0"

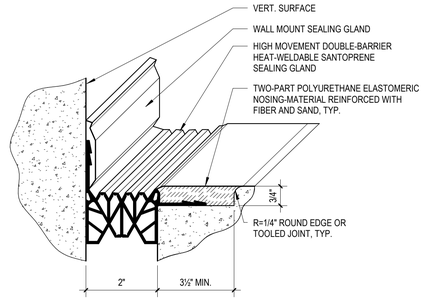


NOTES:
1. FIELD-TOPPED VS. PRE-TOPPED TEES SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. SEE STRUCTURAL PLANS FOR C.I.P. TOPPED AREAS.

4 S0.3 TYPICAL OUTBOARD SHEARWALL JOINT SEALANT ISOMETRIC
3/16" = 1'-0"

NOTES:
1. FIELD-TOPPED VS. PRE-TOPPED TEES SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. SEE STRUCTURAL PLANS FOR C.I.P. TOPPED AREAS.

5 S0.3 TYPICAL LIGHTWALL JOINT SEALANT ISOMETRIC
3/16" = 1'-0"



NOTES:
1. THE GAP SHOWN IS AT A TYPICAL TEMPERATURE (70°F). IT WILL VARY DEPENDING ON THE PREVAILING TEMPERATURE DURING INSTALLATION AS WELL AS MOVEMENT DUE TO SHRINKAGE, CREEP AND ELASTIC SHORTENING OF CONCRETE WHICH MAY OCCUR PRIOR TO ACTUAL INSTALLATION.
2. THE GAP MAY BE PROGRESSIVELY WIDER AT THE UPPER TIERS.
3. THE C.I.P. & P/C CONCRETE CONTRACTOR MUST COORDINATE ACTUAL SIZE OF BLOCKOUTS REQUIRED BY EXPANSION JOINTS WITH THE EXPANSION JOINT INSTALLER.
4. PROVIDE 6" VERTICAL RETURN (UP) AT WALL OR COLUMN TERMINATION AS APPLICABLE.
5. THE EXPANSION JOINT SYSTEM MUST BE ADA ACCESSIBLE.

6 S0.3 EXPANSION JOINT DETAIL (AT VERTICAL SURFACE)
6" = 1'-0"

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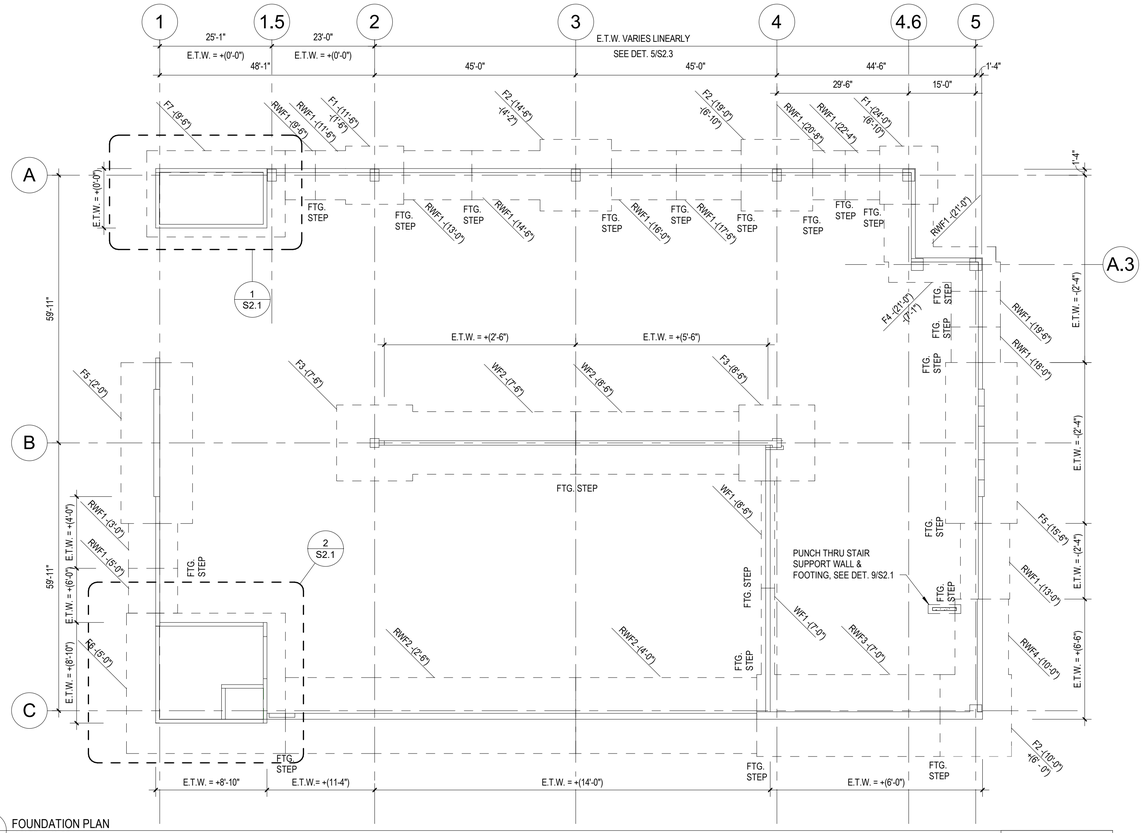
SHEET TITLE:
WATERPROOFING DETAILS

SHEET NO.
S0.3



1 S1.0 FOUNDATION PLAN
1/16" = 1'-0"

BASE ELEVATION: 138' - 6"

SHEET NOTES (SPREAD FOOTINGS):

1. REFER TO SHEET S0.1 FOR GENERAL NOTES.
2. REFER TO SHEET S0.2 FOR GENERAL DETAILS.
3. REFER TO SHEET S1.1 FOR GROUND TIER PLAN WITH FOUNDATION DETAIL REFERENCES.
4. REFER TO THIS SHEET & SHEET S2.1 THROUGH S2.3 FOR FOUNDATION DETAILS.
5. REFER TO SHEETS S2.1 THROUGH S2.3 FOR E.T.W. (C.I.P. WALLS) NOT SHOWN ON PLAN.
6. REFER TO THIS SHEET FOR FOOTING SCHEDULE.
7. ALL FOOTINGS AND COLUMNS ARE CENTERED ON GRIDLINES U.N.O.
8. THE TOP OF FOOTING ELEVATIONS INDICATED IN THIS PLAN ARE ESTIMATED FOR THE SOIL BEARING DATA AND ARE TO BE USED FOR BIDDING AND ESTIMATING PURPOSES ONLY. THE ACTUAL BEARING ELEVATION OF THE FOOTING SHALL BE VERIFIED IN THE FIELD BY THE GEOTECHNICAL ENGINEER.
9. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ALL TEMPORARY EXCAVATIONS, BRACING, SHEETING, AND SHORING.
10. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING ANY GROUNDWATER ENCOUNTERED DURING EXCAVATION.
11. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATING EXISTING UTILITIES WITHIN THE NEW FOUNDATION LOCATIONS.
12. STEP WALL FOOTINGS AT LOCATIONS SHOWN ON PLAN PER DETAIL 7/S2.1
13. BASE EL. REPRESENTS THE BENCH MARK BY WHICH ACTUAL ELEVATIONS ARE CALCULATED BY ADDING OR SUBTRACTING ELEVATIONS SHOWN ON THE SPECIFIC LOCATION OF FOUNDATIONS.

C.I.P. FOUNDATION/WALL CONSTRUCTION TOLERANCE NOTE:

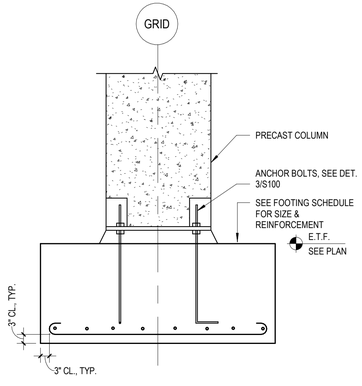
1. ALL C.I.P. CONSTRUCTION SHALL MEET REQUIRED TOLERANCES PER ACI 117, U.N.
2. ALL C.I.P. WALLS/FOUNDATIONS, WHICH WILL SUPPORT PRECAST MEMBERS ABOVE, SHALL BE CONSTRUCTED TO MEET PRECAST CONCRETE TOLERANCE REQUIREMENTS PER ACI 117 & PCI MANUAL 116, 120, 127.

FOOTING SCHEDULE

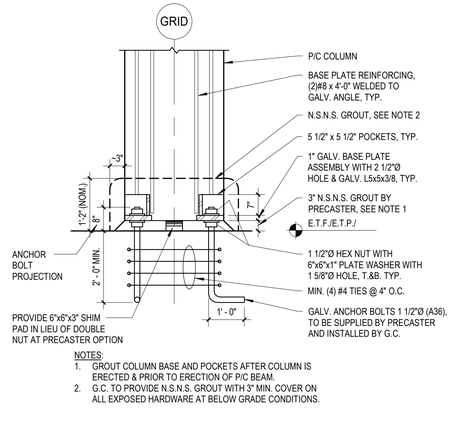
FOOTING MARK	SIZE OF FOOTING (L x W x D)	BOTTOM REINFORCEMENT		TOP REINFORCEMENT	
		LONG	SHORT	LONG	SHORT
F1	13'-0" x 13'-0" x 36"	(13) #8H (EW)		-	-
F2	16'-0" x 16'-0" x 36"	(16) #9H (EW)		-	-
F3	17'-0" x 17'-0" x 42"	(16) #9H (EW)		-	-
F4	24'-0" x 8'-0" x 36"	(12) #9H	#9H @ 9" O.C.	(12) #9H	#5H @ 12" O.C.
F5	36'-0" x 16'-0" x 48"	(16) #9H	#8 @ 8" O.C.	(16) #9H	#8 @ 8" O.C.
F6	31'-5" x 35'-7" x 36"	#9 @ 12" O.C.	#9 @ 12" O.C.	#9 @ 12" O.C	#9 @ 12" O.C.
F7	19'-4" x 31'-0" x 36"	#9 @ 12" O.C	#9 @ 12" O.C.	#9 @ 12" O.C	#9 @ 12" O.C.
WF1	CONT. x 3'-0" x 36"	(6) #8 x CONT.	#8H @ 12" O.C.	-	-
WF2	CONT. x 14'-0" x 42"	(15) #9 x CONT.	#9H @ 12" O.C.	(13) #5 X CONT.	#5H @ 12" O.C.
RWF1	CONT. x 11'-0" x 36"	(11) #8 x CONT.	#8H @ 12" O.C.	(8) #5 X CONT.	#5H @ 12" O.C.
RWF2	CONT. x 17'-0" x 36"	(18) #9 x CONT.	#9H @ 10" O.C.	(16) #5 X CONT.	#5H @ 12" O.C.
RWF3	CONT. x 18'-4" x 36"	(30) #9 x CONT.	#9H @ 6" O.C.	(20) #5 X CONT.	#5H @ 12" O.C.
RWF4	CONT.x 12'-0" x 36"	(12) #8 x CONT.	#8H @ 12" O.C.	(10) #5 X CONT.	#5H @ 12" O.C.

FOOTING NOTE:

1. FOOTINGS ARE DESIGNED BASED ON 4 KSF NET ALLOWABLE BEARING PRESSURE. EXISTING SURFICIAL MATERIALS THAT EXIST WHERE FOUNDATIONS ARE TO BE LOCATED SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL PER THE GEOTECHNICAL REPORT.
2. SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.
3. "H" AFTER REINFORCEMENT DENOTES A 180° HOOK ON EACH END OF REINFORCING BAR.



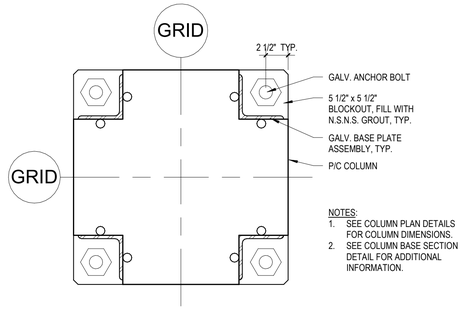
2 S1.0 TYPICAL C.I.P. FOOTING SECTION
1/2" = 1'-0"



NOTES:

1. GROUT COLUMN BASE AND POCKETS AFTER COLUMN IS ERECTED & PRIOR TO ERECTION OF P/C BEAM.
2. G.C. TO PROVIDE N.S.N.S. GROUT WITH 3" MIN. COVER ON ALL EXPOSED HARDWARE AT BELOW GRADE CONDITIONS.

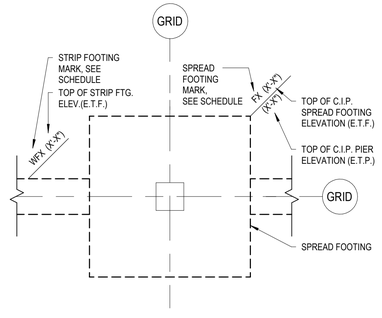
3 S1.0 TYPICAL P/C COLUMN SECTION AT C.I.P. BASE
1/2" = 1'-0"



NOTES:

1. SEE COLUMN PLAN DETAILS FOR COLUMN DIMENSIONS.
2. SEE COLUMN BASE SECTION DETAIL FOR ADDITIONAL INFORMATION.

4 S1.0 P/C COLUMN PLAN AT C.I.P. BASE
N.T.S.



5 S1.0 FOUNDATION LEGEND
3/16" = 1'-0"

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PROJECT NO.
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PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: TCT
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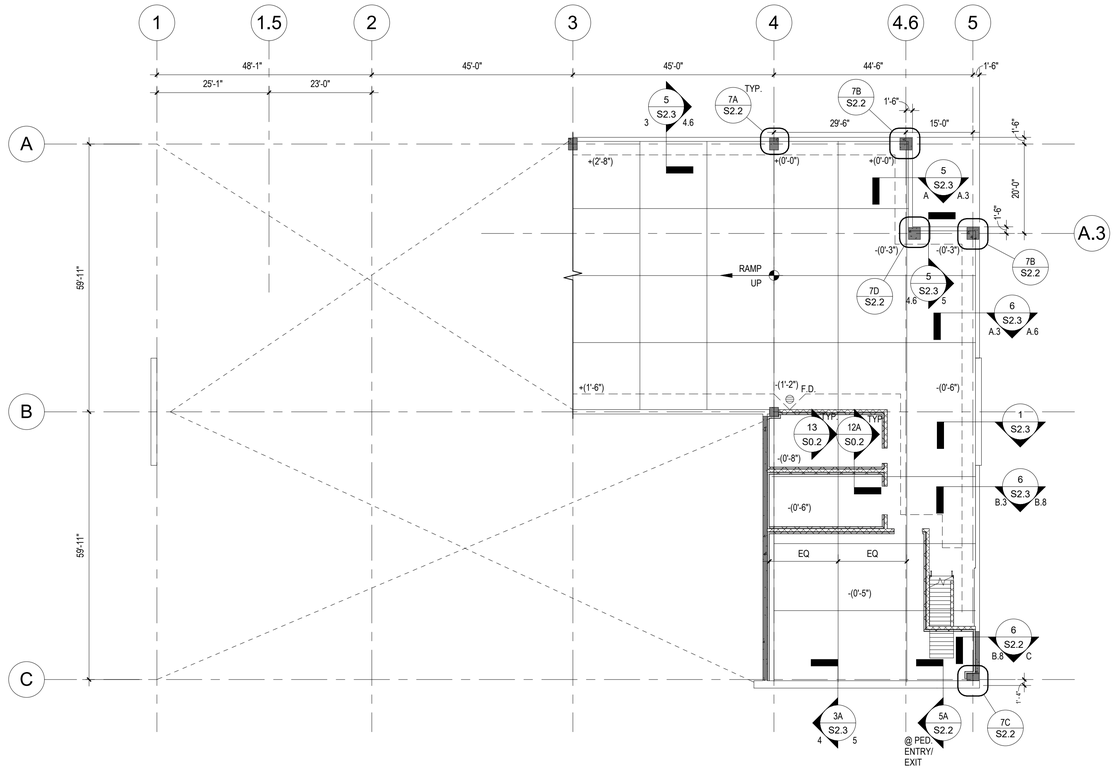
SHEET TITLE:
FOUNDATION PLAN & DETAILS

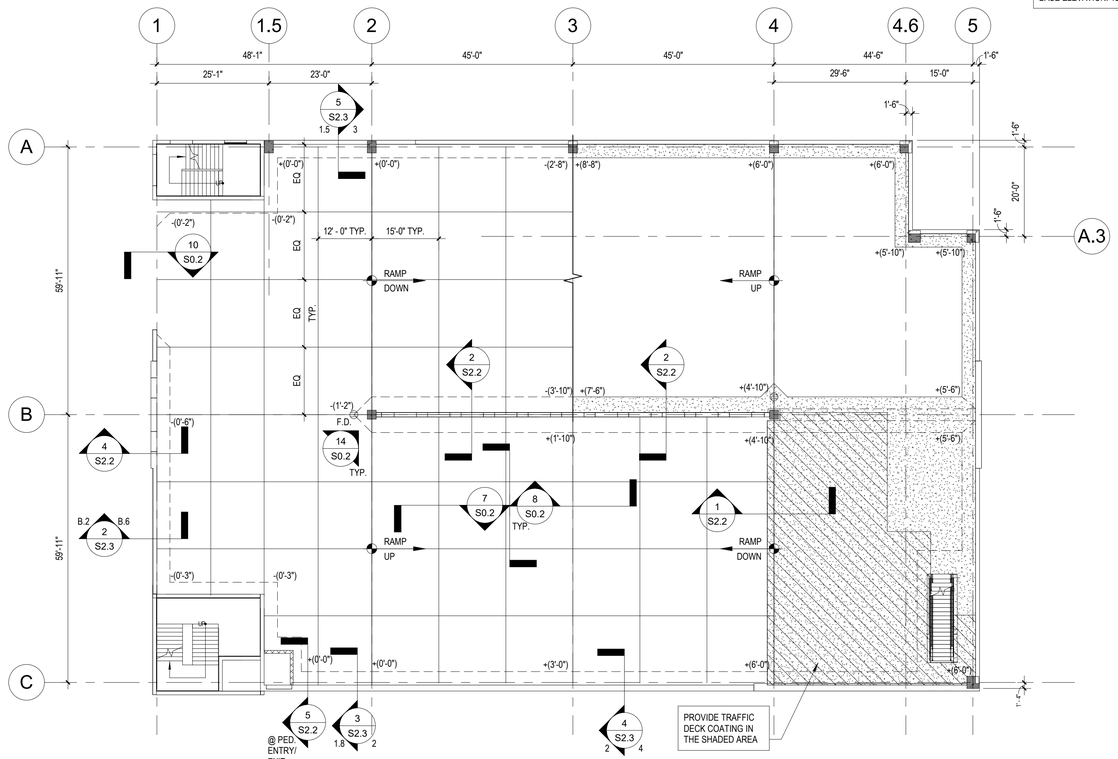
SHEET NO.

S1.0



1 S1.1 LOWER LEVEL STRUCTURAL PLAN
1/16" = 1'-0"

BASE ELEVATION: 133' - 2"



2 S1.1 LEVEL 1 STRUCTURAL PLAN
1/16" = 1'-0"

BASE ELEVATION: 138' - 6"

SLAB ON GRADE SHEET NOTES:

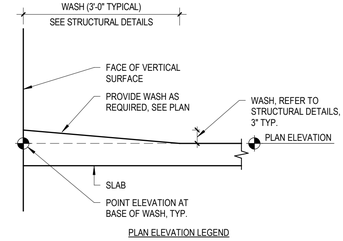
1. REFER TO SHEET S0.1 FOR GENERAL NOTES.
2. REFER TO SHEET S3.1 FOR TEE AND BEAM DETAILS.
3. REFER TO SHEET S3.2 FOR COLUMN DETAILS.
4. REFER TO SHEETS S1.0 AND S2.1 THROUGH S2.2 FOR FOUNDATION DETAILS.
5. REFER TO STRUCTURAL PLANS FOR FLOOR DRAIN LOCATIONS. COORDINATE WITH MECHANICAL DRAWINGS.
6. REFER TO CIVIL DRAWINGS FOR EXTERIOR GRADE ELEVATIONS.
7. REFER TO MECHANICAL AND CIVIL DRAWINGS FOR UNDERGROUND UTILITIES.
8. REFER TO AS SHEETS FOR STAIRTOWER PLANS, SECTIONS, AND DETAILS.
9. 5" SLAB-ON-GRADE SHALL BE REINFORCED WITH 6x6-W4.5xW4.5 WWR AT 1/3 DEPTH FROM TOP BUT NOT LESS THAN 1-1/2" CLEAR COVER. PROVIDE A 6" GRANULAR SUB-BASE COURSE OF 3/4" CLEAN CRUSHED STONE OVER COMPACTED SUBGRADE. COMPACT SUBGRADE TO MEET AT LEAST 95% OF MODIFIED MAXIMUM DENSITY (OR MAXIMUM DRY DENSITY) DETERMINED BY ASTM D-1557 TEST, METHOD C (OR ASTM D-698).
10. PROVIDE 1/2" JOINT FILLER & SEALANT AT INTERSECTION OF P/C COLUMNS AND SLAB ON GRADE AND WHERE SHOWN.
11. THE EXTENT OF SURFACES TO RECEIVE BITUMINOUS (LIQUID) DAMPROOFING IS AS FOLLOWS:
    A. INTERIOR C.I.P. (AND P/C) WALLS BETWEEN EARTH AND AIR.
    B. EXTERIOR WALL SURFACES WHERE EXTERIOR GRADE ELEVATIONS ARE ABOVE INTERIOR GRADE ELEVATIONS.
12. FOR FLOOR ELEVATIONS BETWEEN POINTS, USE STRAIGHT LINE INTERPOLATION.
13. IF C.I.P. WALLS ARE BACKFILLED BEFORE THE ERECTION OF P/C COLUMNS AND WALLS, CONTRACTOR TO PROVIDE ACCESS TO COLUMN ANCHOR BOLTS AND P/C WALL / FOUNDATION (OR C.I.P. WALL) CONNECTION.
14. PROVIDE SLABS SLOPED TO FLOOR DRAINS (MIN. 1/8" PER FOOT) IN ROOMS AND AS SHOWN ON PLANS. COORDINATE WITH MECHANICAL DRAWINGS.
15. ELEVATIONS SHOWN ON THESE PLANS REPRESENT ELEVATIONS AT TOP OF SLAB-ON-GRADE AT THE COLUMN CENTERLINE, U.N.O. WITH AN ELEVATION TARGET SYMBOL. (THIS DOES NOT INCLUDE THE HEIGHT OF WASH/CURB.)
16. BASE ELEVATIONS REPRESENT THE BENCHMARK BY WHICH ACTUAL SPOT ELEVATIONS ARE CALCULATED BY ADDING/SUBTRACTING THE ELEVATIONS SHOWN AT SPECIFIC LOCATIONS.
17. PRIOR TO CONCRETE S.O.G. POURS, CONCRETE CONTRACTOR TO VERIFY THE FOLLOWING REQUIREMENTS ARE SATISFIED. ALL DISCREPENCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER VIA AN RFI IN A TIMELY MANNER FOR RESOLUTION PRIOR TO THE POUR. CONCRETE POURS RESULTING IN UNRESOLVED, NON-CONFORMING CONDITIONS SHALL BE CORRECTED BY THE CONCRETE CONTRACTOR AT NO ADDITIONAL COST.
    A. FLOOR SLOPES WITHIN ACCESSIBLE SPACES AND UNLOADING ZONES MUST NOT BE GREATER THAN 2%.
    B. CROSS SLOPES OF ACCESSIBLE ROUTES MUST NOT BE GREATER THAN 2%.
    C. FLOORS MUST BE LEVEL ACROSS ELEVATOR DOOR AND MAN DOOR OPENINGS AND FLOORS MUST BE SLOPED AWAY FROM DOOR OPENING AT 1% MIN. AND 2% MAX. SLOPE, UNLESS WITHIN A CONDITIONED ROOM THAT CALLS FOR A FLAT FLOOR.
    D. FLOOR SLOPES AT ELEVATOR DOOR AND MAN-DOORS MUST NOT BE GREATER THAN 2% WITHIN AN AREA DEFINED AS THE FOLLOWING:
        a. 5'-0" PERPENDICULAR TO DOOR AND EXTENDED PARALLEL TO DOOR 2'-0" PAST THE DOOR JAMS.
        b. THE HEADROOM CLEARANCE MUST NOT BE LESS THAN THE SPECIFIED HEADROOM CLEARANCE.

THE CONTRACTOR SHALL BE RESPONSIBLE TO ASSURE A MINIMUM OF 8'-2" HEADROOM CLEARANCE BETWEEN ALL DRIVING SURFACES AND OVERHEAD STRUCTURE FOR ACCESSIBLE VANS ALONG ITS PATH OF TRAVEL FROM POINT OF ENTRY TO POINT OF EXIT.

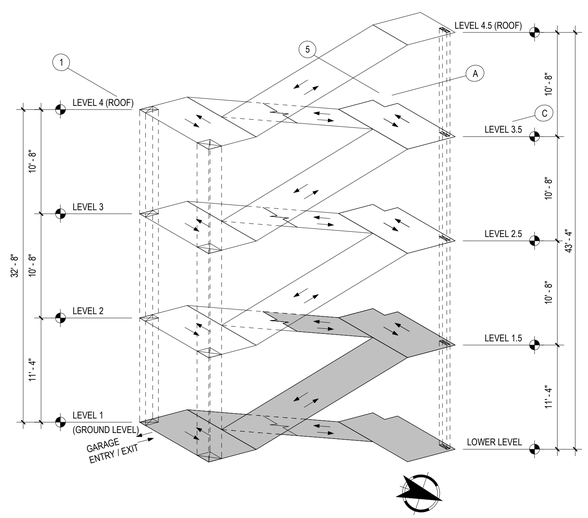
SUPPORTED TIER SHEET NOTES:

1. REFER TO SHEET S0.1 FOR GENERAL NOTES.
2. REFER TO SHEET S3.1 FOR TEE AND BEAM DETAILS.
3. REFER TO SHEET S3.2 FOR COLUMN DETAILS.
4. REFER TO STRUCTURAL PLANS FOR FLOOR DRAIN LOCATIONS. COORDINATE WITH MECHANICAL DRAWINGS.
5. REFER TO AS SHEETS FOR STAIRTOWER PLANS, SECTIONS, AND DETAILS.
6. FLOOR SLAB SYSTEM IS PRECAST DOUBLE TEES, U.N.O. DOUBLE TEE LAYOUT BY PRECASTER. WARP DOUBLE TEES AS REQUIRED TO PROVIDE A SMOOTH TRANSITION FOR ELEVATION DIFFERENCES.
7. PLAN 1/S1.2 REPRESENTS THE TYPICAL TIER PLAN. ALL SECTION CUTS, PLAN DETAILS, AND NOTES SHOWN ON IT ARE TYPICAL OF EVERY TIER U.N.O.
8. USE STRAIGHT LINE INTERPOLATION FOR FLOOR ELEVATIONS BETWEEN THOSE INDICATED.
9. SLOPE BEARING PLATES IN BEAM OR SUPPORT PLATES IN COLUMNS/WALLS TO PROVIDE UNIFORM BEARING SURFACES FOR P/C MEMBERS AS REQUIRED, TYP.
10. [////] SHADED AREAS DEPICT EXTENT OF C.I.P. TOPPING.
11. [////] SHADED AREAS DEPICT EXTENT OF TRAFFIC DECK COATING. PRECASTER TO COORDINATE TEE FINISH AT SURFACES WHICH WILL RECEIVE TRAFFIC DECK COATING WITH WATERPROOFING CONTRACTOR.
12. ——— INDICATES TOOLED JOINT WITH SEALANT. PROVIDE TOOLED JOINT WITH SEALANT ABOVE ALL TEE-TO-TEE JOINTS PER DETAILS 3/S3.1. PROVIDE TRANSVERSE TOOLED JOINT WITH SEALANT OVER EACH CONNECTION ALONG FULL LENGTH OF C.I.P. WASH OR AT 6'-0" O.C.
13. ——— INDICATES WASH LINE.
14. ALL TOPPING ON TEES AND POURSTRIPS TO HAVE CORROSION INHIBITOR AT THE RATE OF 3 GALS./CU. YARD OF CONCRETE AND PROVIDE 11/2 POUNDS OF FIBROUS REINFORCING PER CU. YARD OF CONCRETE.
15. '-' DEPICTS LOCATIONS WHERE COLUMNS/WALLS STOP AT FLOOR ELEVATION.
16. ELEVATIONS SHOWN ON STRUCTURAL PLANS ARE TOP OF THE SLAB (P/C DOUBLE TEE) ELEVATIONS AT THE COLUMN CENTERLINE, U.N.O. WITH AN ELEVATION TARGET SYMBOL. (THIS DOES NOT INCLUDE THE HEIGHT OF WASH/CURB.) REFER TO PLAN ELEVATION KEY FOR ADD'L. INFO.
17. BASE ELEVATIONS REPRESENT THE BENCHMARK BY WHICH ACTUAL SPOT ELEVATIONS ARE CALCULATED BY ADDING/SUBTRACTING THE ELEVATIONS SHOWN AT SPECIFIC LOCATIONS.
18. PRIOR TO CONCRETE S.O.G. AND TOPPING POURS, CONCRETE CONTRACTOR TO VERIFY THE FOLLOWING REQUIREMENTS ARE SATISFIED. ALL DISCREPENCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER VIA AN RFI IN A TIMELY MANNER FOR RESOLUTION PRIOR TO THE POUR. CONCRETE POURS RESULTING IN UNRESOLVED, NON-CONFORMING CONDITIONS SHALL BE CORRECTED BY THE CONCRETE CONTRACTOR AT NO ADDITIONAL COST.
    A. FLOOR SLOPES WITHIN ACCESSIBLE SPACES AND UNLOADING ZONES MUST NOT BE GREATER THAN 2%.
    B. CROSS SLOPES OF ACCESSIBLE ROUTES MUST NOT BE GREATER THAN 2%.
    C. FLOORS MUST BE LEVEL ACROSS ELEVATOR DOOR AND MAN DOOR OPENINGS AND FLOORS MUST BE SLOPED AWAY FROM DOOR OPENING AT 1% MIN. AND 2% MAX. SLOPE, UNLESS WITHIN A CONDITIONED ROOM THAT CALLS FOR A FLAT FLOOR.
    D. FLOOR SLOPES AT ELEVATOR DOOR AND MAN-DOORS MUST NOT BE GREATER THAN 2% WITHIN AN AREA DEFINED AS THE FOLLOWING:
        a. 5'-0" PERPENDICULAR TO DOOR AND EXTENDED PARALLEL TO DOOR 2'-0" PAST THE DOOR JAMS.
        b. C.I.P. WASHES/TOPPINGS MUST BE SLOPED AWAY FROM STAIR/ELEVATOR LOBBIES AT % MIN. AND 2% MAX. SLOPE.
        c. THE HEADROOM CLEARANCE MUST NOT BE LESS THAN THE SPECIFIED HEADROOM CLEARANCE.

THE CONTRACTOR SHALL BE RESPONSIBLE TO ASSURE A MINIMUM OF 7'-2" HEADROOM CLEARANCE BETWEEN ALL DRIVING SURFACES AND OVERHEAD STRUCTURE AT THIS TIER PRIOR TO PLACING CONCRETE POURSTRIP AND TOPPING.



PLAN ELEVATION LEGEND



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PROJECT NO.
PCNY0323.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

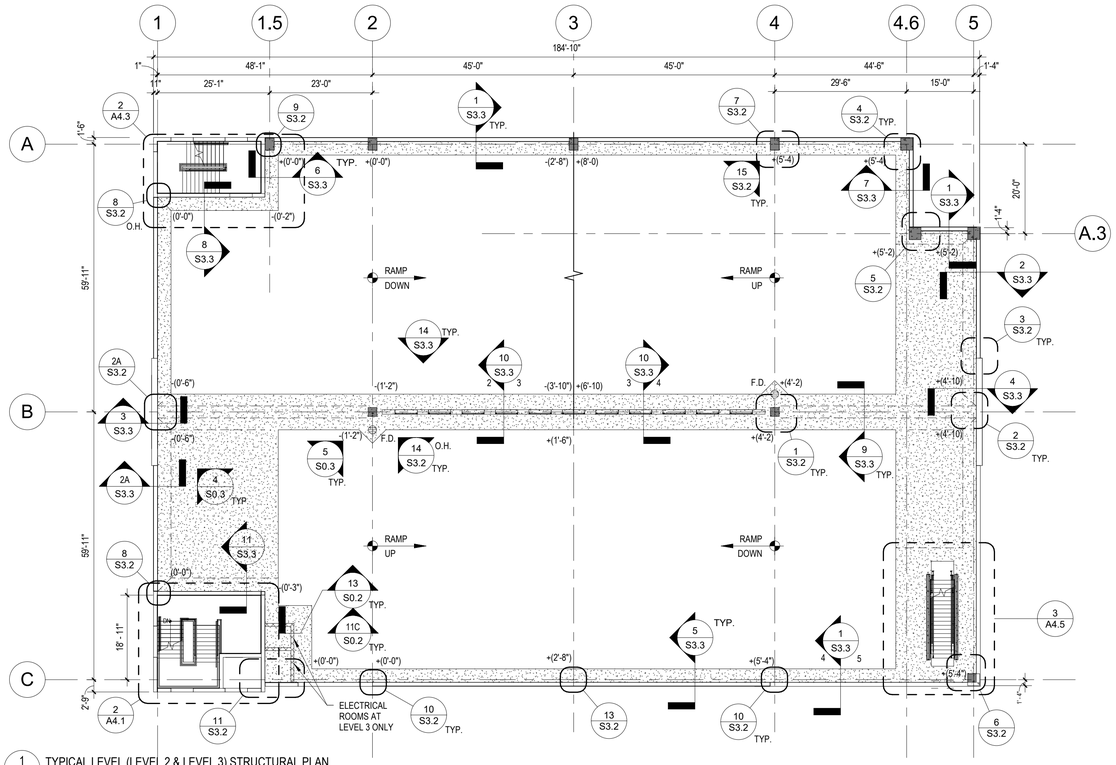
NO.	DESCRIPTION	DATE

NORTH

DRAWN: TCT
REVIEWED: JCR
DATE: 2.21.25

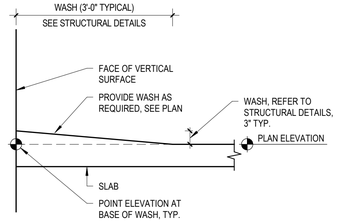
SHEET TITLE:
LOWER LEVEL & LEVEL 1 STRUCTURAL PLAN

SHEET NO.
S1.1



1 S1.2 TYPICAL LEVEL (LEVEL 2 & LEVEL 3) STRUCTURAL PLAN
1/16" = 1'-0"

LEVEL 2 BASE ELEVATION: 149' - 10"
LEVEL 3 BASE ELEVATION: 160' - 6"



PLAN ELEVATION LEGEND

SUPPORTED TIER SHEET NOTES:

1. REFER TO SHEET S0.1 FOR GENERAL NOTES.
2. REFER TO SHEET S3.1 FOR TEE AND BEAM DETAILS.
3. REFER TO SHEET S3.2 FOR COLUMN DETAILS.
4. REFER TO STRUCTURAL PLANS FOR FLOOR DRAIN LOCATIONS. COORDINATE WITH MECHANICAL DRAWINGS.
5. REFER TO AS SHEETS FOR STAIRTOWER PLANS, SECTIONS, AND DETAILS.
6. FLOOR SLAB SYSTEM IS PRECAST DOUBLE TEES, U.N.O. DOUBLE TEE LAYOUT BY PRECASTER. WARP DOUBLE TEES AS REQUIRED TO PROVIDE A SMOOTH TRANSITION FOR ELEVATION DIFFERENCES.
7. PLAN 1/S1.2 REPRESENTS THE TYPICAL TIER PLAN. ALL SECTION CUTS, PLAN DETAILS, AND NOTES SHOWN ON IT ARE TYPICAL OF EVERY TIER U.N.O.
8. USE STRAIGHT LINE INTERPOLATION FOR FLOOR ELEVATIONS BETWEEN THOSE INDICATED.
9. SLOPE BEARING PLATES IN BEAM OR SUPPORT PLATES IN COLUMNS/WALLS TO PROVIDE UNIFORM BEARING SURFACES FOR P/C MEMBERS AS REQUIRED, TYP.
10. SHADED AREAS DEPICT EXTENT OF C.I.P. TOPPING.
11. SHADED AREAS DEPICT EXTENT OF TRAFFIC DECK COATING. PRECASTER TO COORDINATE TEE FINISH AT SURFACES WHICH WILL RECEIVE TRAFFIC DECK COATING WITH WATERPROOFING CONTRACTOR.
12. ——— INDICATES TOOLED JOINT WITH SEALANT. PROVIDE TOOLED JOINT WITH SEALANT ABOVE ALL TEE-TO-TEE JOINTS PER DETAILS 3/S3.1. PROVIDE TRANSVERSE TOOLED JOINT WITH SEALANT OVER EACH CONNECTION ALONG FULL LENGTH OF C.I.P. WASH OR AT 6'-0" O.C.
13. — — INDICATES WASH LINE.
14. ALL TOPPING ON TEES AND POURSTRIPS TO HAVE CORROSION INHIBITOR AT THE RATE OF 3 GALS./CU. YARD OF CONCRETE AND PROVIDE 11/2 POUNDS OF FIBROUS REINFORCING PER CU. YARD OF CONCRETE.
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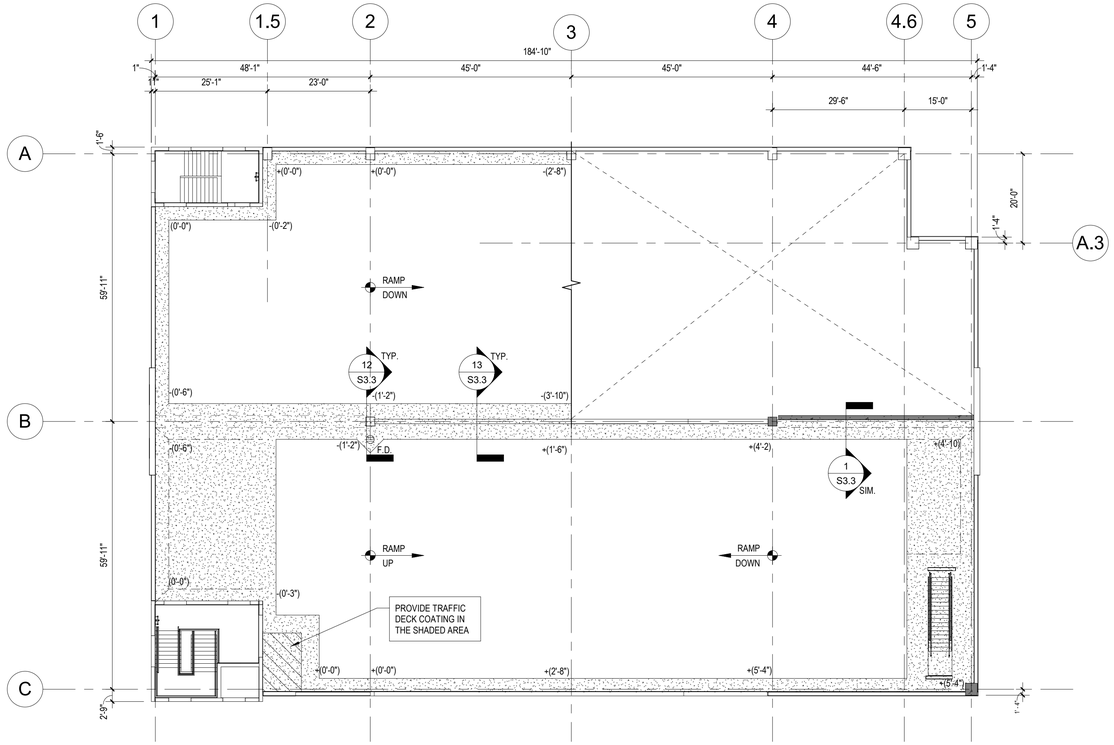
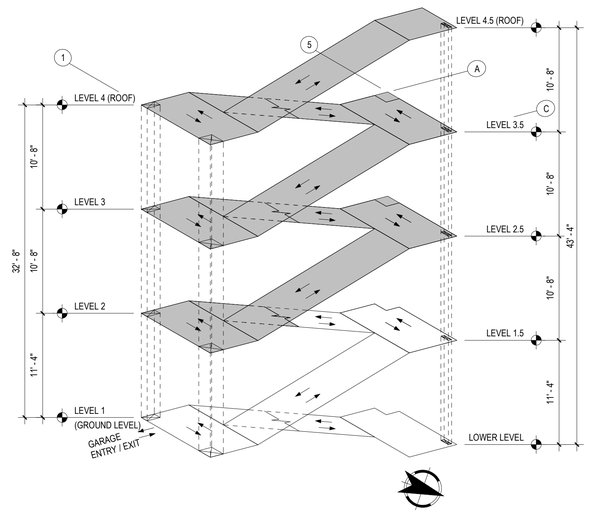
    D. FLOOR SLOPES AT ELEVATOR DOOR AND MAN-DOORS MUST NOT BE GREATER THAN 2% WITHIN AN AREA DEFINED AS THE FOLLOWING:
        a. 5'-0" PERPENDICULAR TO DOOR AND EXTENDED PARALLEL TO DOOR 2'-0" PAST THE DOOR JAMS.
        b. C.I.P. WASHES/TOPPINGS MUST BE SLOPED AWAY FROM STAIR/ELEVATOR LOBBIES AT ¼ MIN. AND 2% MAX. SLOPE.
        c. THE HEADROOM CLEARANCE MUST NOT BE LESS THAN THE SPECIFIED HEADROOM CLEARANCE.

THE CONTRACTOR SHALL BE RESPONSIBLE TO ASSURE A MINIMUM OF 7'-2" HEADROOM CLEARANCE BETWEEN ALL DRIVING SURFACES AND OVERHEAD STRUCTURE AT THIS TIER PRIOR TO PLACING CONCRETE POURSTRIP AND TOPPING.



2 S1.2 LEVEL 4 STRUCTURAL PLAN
1/16" = 1'-0"

LEVEL 4 BASE ELEVATION: 171' - 2"



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NO.	DESCRIPTION	DATE

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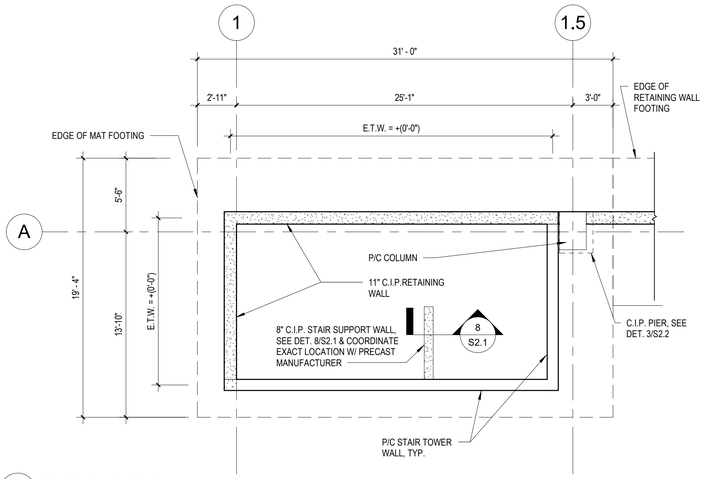
SHEET TITLE:
TYPICAL LEVEL (LEVEL 2 & LEVEL 3) AND TOP LEVEL STRUCTURAL PLAN

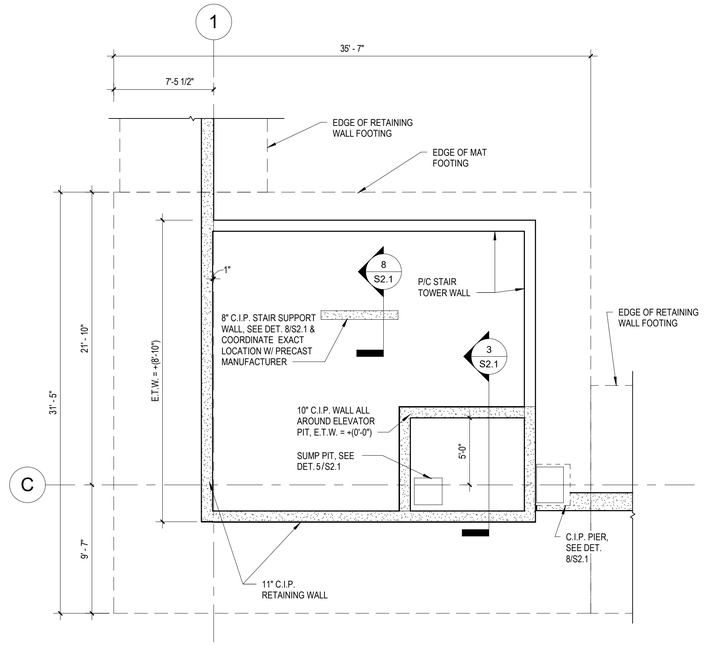
SHEET NO.

S1.2



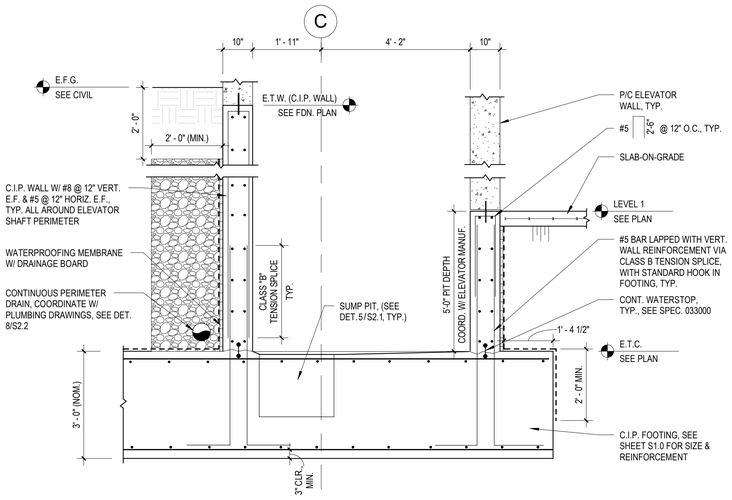
1 S2.1 STAIR B FOUNDATION PLAN
3/16" = 1'-0"

BASE ELEVATION: 138' - 6"

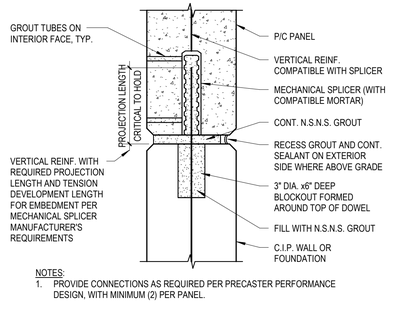


2 S2.1 STAIR A FOUNDATION PLAN
3/16" = 1'-0"

BASE ELEVATION: 138' - 6"

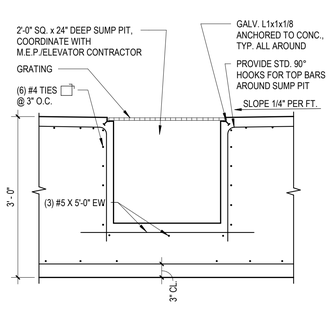


3 S2.1 C.I.P. ELEVATOR FOUNDATION SECTION
1/2" = 1'-0"

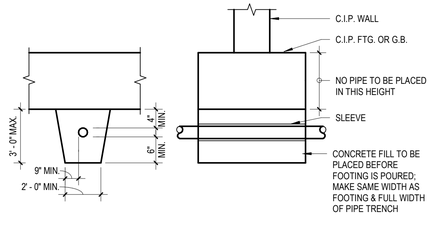


NOTES:
1. PROVIDE CONNECTIONS AS REQUIRED PER PRECASTER PERFORMANCE DESIGN, WITH MINIMUM (2) PER PANEL.

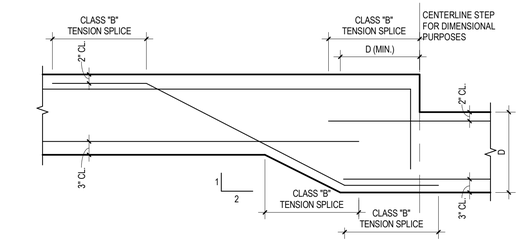
4 S2.1 SHEARWALL DOWEL DETAIL
1 1/2" = 1'-0"



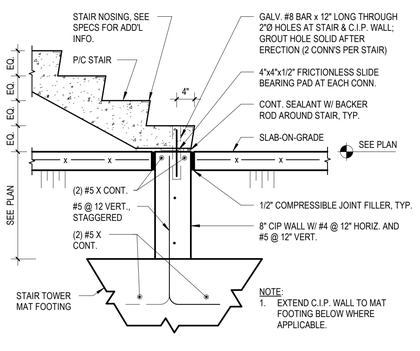
5 S2.1 SUMP PIT DETAIL
3/4" = 1'-0"



6 S2.1 PIPES AT CONCRETE FOOTING OR GRADE BEAM DETAIL
N.T.S.

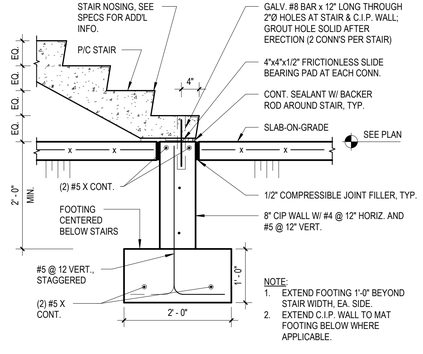


7 S2.1 C.I.P. FOUNDATION STEP SECTION
N.T.S.



NOTE:
1. EXTEND C.I.P. WALL TO MAT FOOTING BELOW WHERE APPLICABLE.

8 S2.1 C.I.P. WALL SECTION AT P/C STAIR
3/4" = 1'-0"



NOTE:
1. EXTEND FOOTING 1'-0" BEYOND STAIR WIDTH, EA. SIDE.
2. EXTEND C.I.P. WALL TO MAT FOOTING BELOW WHERE APPLICABLE.

9 S2.1 PUNCH-THRU STAIR SUPPORT
3/4" = 1'-0"

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PROJECT NO.
PCNY0323.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

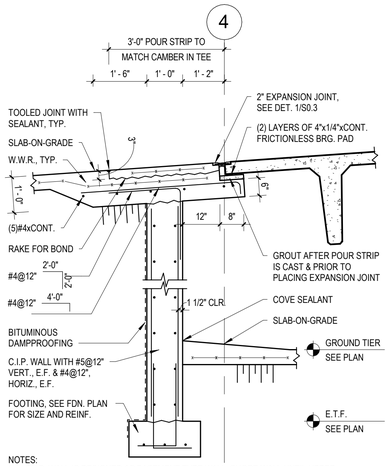
NO.	DESCRIPTION	DATE

NORTH

DRAWN: TCT
REVIEWED: JCR
DATE: 2.21.25

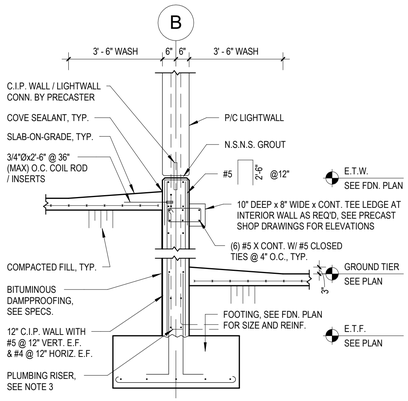
SHEET TITLE:
FOUNDATION DETAILS

SHEET NO.
S2.1



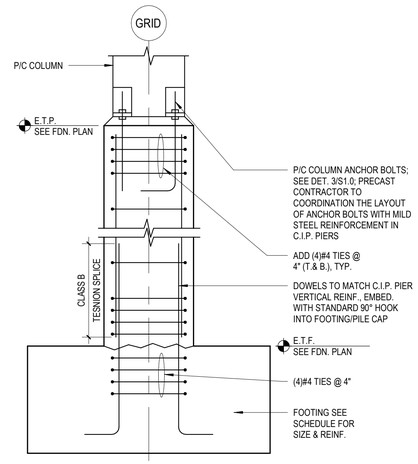
NOTES:
1. C.I.P. WALL IS DESIGNED AS BASEMENT TYPE WALL. SHORE WALL UNTIL UPPER AND LOWER SLABS ARE POURED AND CONCRETE REACHES 75% OF f'c (28-DAY STRENGTH).
2. REFER TO CORNER REINFORCEMENT, CONTROL JOINT, AND CONSTRUCTION JOINT DETAILS ON SHEET 0.2.
3. REFER TO SPEC. 033000 FOR CONTROL/CONSTRUCTION JOINTS ALONG WALL.

1 S2.2 C.I.P. TRANSITION WALL SECTION
1/2" = 1'-0"

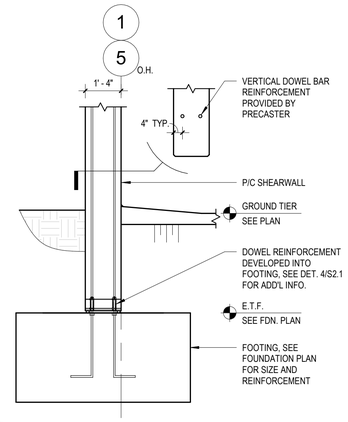


NOTES:
1. PROVIDE 1" GAP BETWEEN C.I.P. WALLS & P/C COLUMNS/WALLS FOR ERECTION. FASTEN 1/2"x 2'x WALL HEIGHT WATERPROOFING BOARD TO COLUMN TO CLOSE GAP. DRAINAGE BOARD SHALL NOT BE EXPOSED IN FINAL CONDITION.
2. C.I.P. WALL IS DESIGNED AS BASEMENT TYPE. SHORE WALL UNTIL UPPER AND LOWER SLABS ARE POURED AND CONCRETE REACHES 75% OF f'c (28-DAY STRENGTH).
3. CONTRACTOR TO PROVIDE A BLOCKOUT IN THE C.I.P. WALL FOR VERTICAL RISERS AS DEFINED IN THE PLUMBING DRAWINGS. COORDINATE WITH VERTICAL CHASE ON PRECAST SHOP DRAWINGS. FILL BLOCKOUT WITH CONCRETE AFTER PLUMBING RISER IS INSTALLED AND PRIOR TO FINAL BACKFILL.
4. REFER TO CORNER REINFORCING, CONTROL JOINT, AND CONSTRUCTION JOINT DETAILS ON SHEET S0.2.
5. REFER TO SPEC. 033000 FOR CONTROL/CONSTRUCTION JOINTS ALONG WALL.

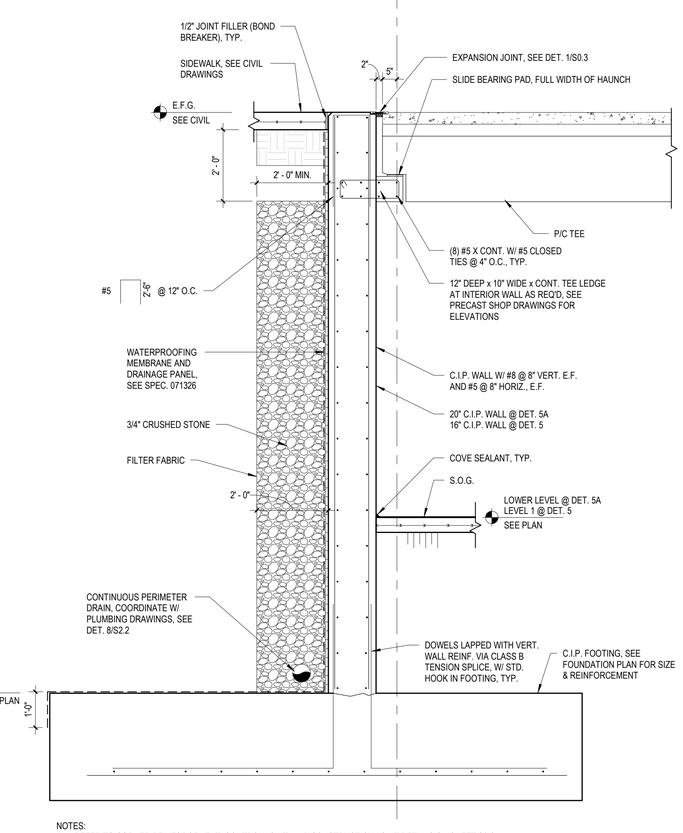
2 S2.2 LIGHTWALL FOUNDATION SECTION
3/8" = 1'-0"



3 S2.2 C.I.P. PIER SECTION
1/2" = 1'-0"

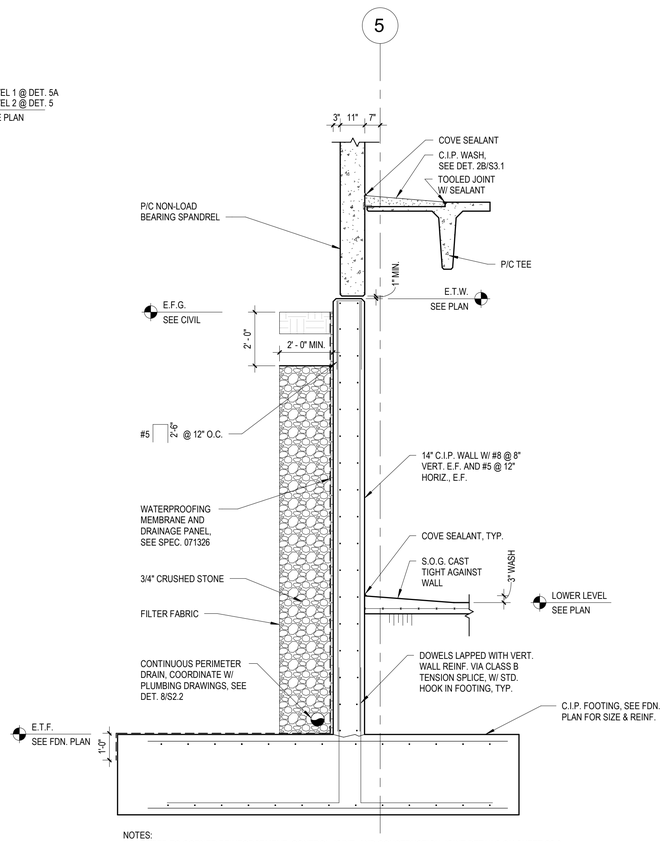


4 S2.2 SHEARWALL FOUNDATION SECTION
3/8" = 1'-0"



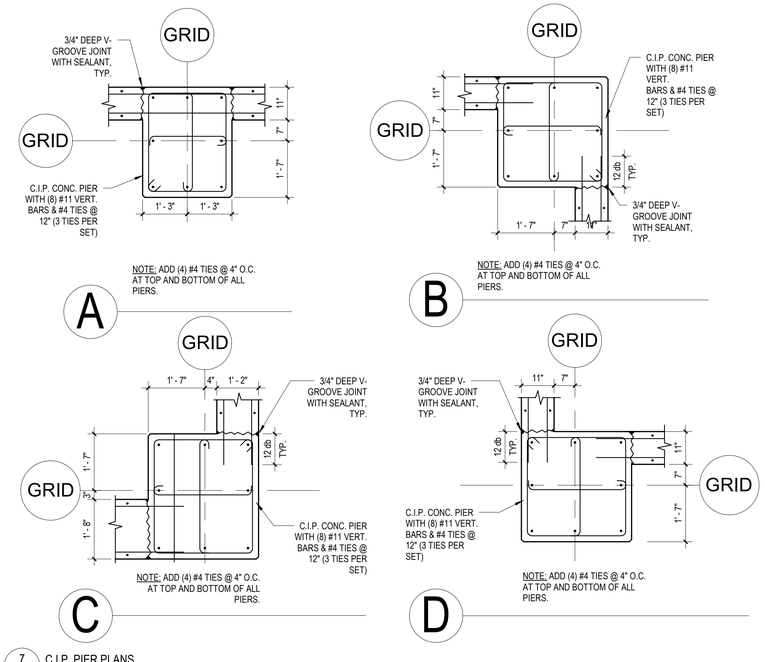
NOTES:
1. REFER TO CORNER REINFORCEMENT, CONTROL JOINT, AND CONSTRUCTION JOINT DETAILS ON SHEET S0.2.
2. REFER TO SPEC 033000 FOR CONTROL/CONSTRUCTION JOINTS ALONG WALL.

5A S2.2 5 S2.2 C.I.P. RETAINING WALL SECTION @ PEDESTRIAN ENTRY/EXIT
1/2" = 1'-0"

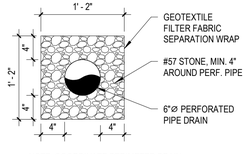


NOTES:
1. REFER TO CORNER REINFORCEMENT, CONTROL JOINT, AND CONSTRUCTION JOINT DETAILS ON SHEET S0.2.
2. REFER TO SPEC 033000 FOR CONTROL/CONSTRUCTION JOINTS ALONG WALL.

6 S2.2 C.I.P. RETAINING WALL/NON-LOAD BEARING SPANDREL SECTION
3/8" = 1'-0"



7 S2.2 C.I.P. PIER PLANS
1/2" = 1'-0"



NOTE: COORDINATE PERIMETER DRAIN WITH PLUMBING DRAWINGS.

8 S2.2 PERIMETER DRAIN DETAIL
1" = 1'-0"

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PCNY0323.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

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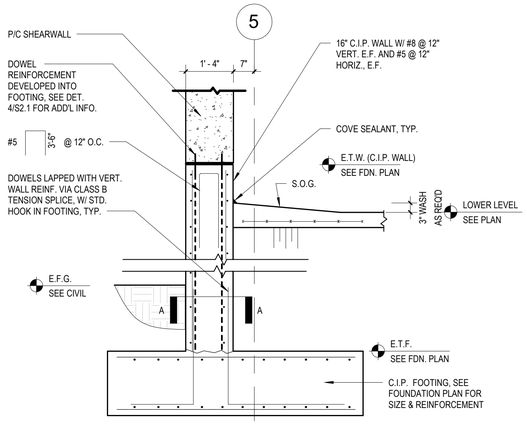
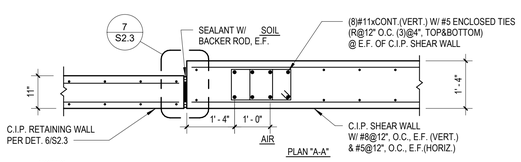
REVIEWED: JCR
DATE: 2.21.25

SHEET TITLE:
FOUNDATION SECTIONS

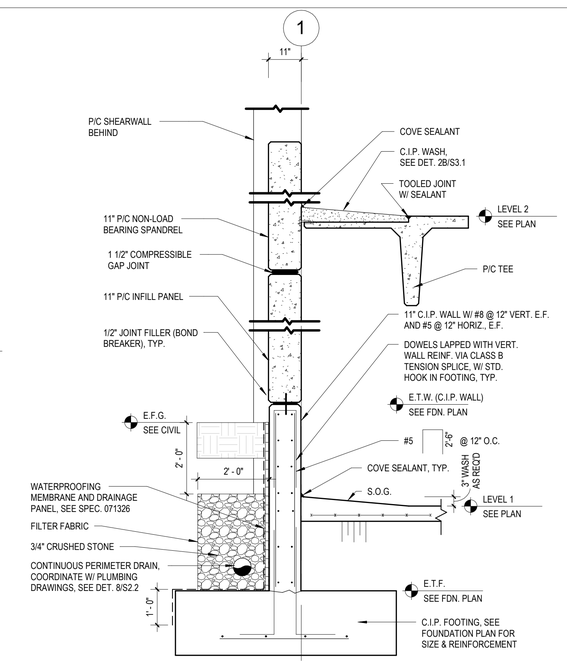
SHEET NO.
S2.2





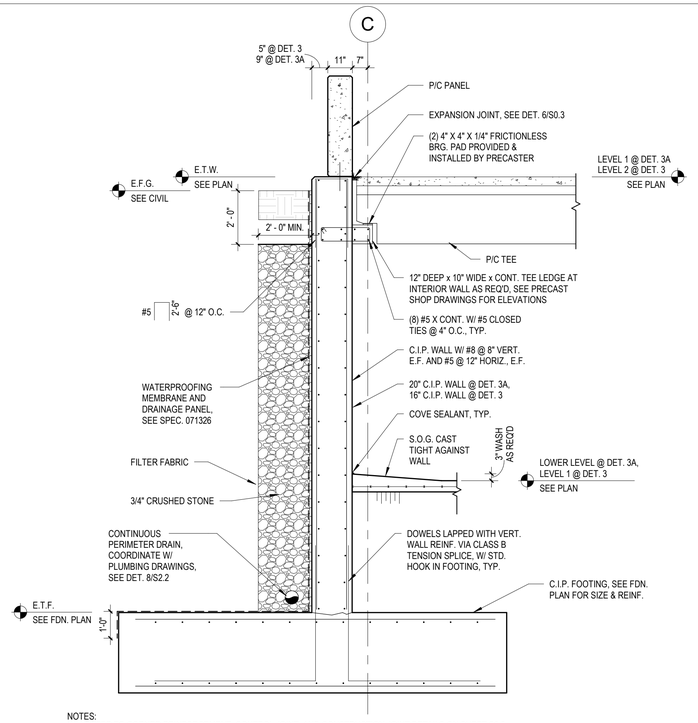
NOTES:
1. REFER TO CORNER REINFORCEMENT, CONTROL JOINT, AND CONSTRUCTION JOINT DETAILS ON SHEET S0.2.
2. REFER TO SPEC. 033000 FOR CONTROL/CONSTRUCTION JOINTS ALONG WALL.

1 S2.3 C.I.P. SHEARWALL RETAINING WALL SECTION
1/2" = 1'-0"



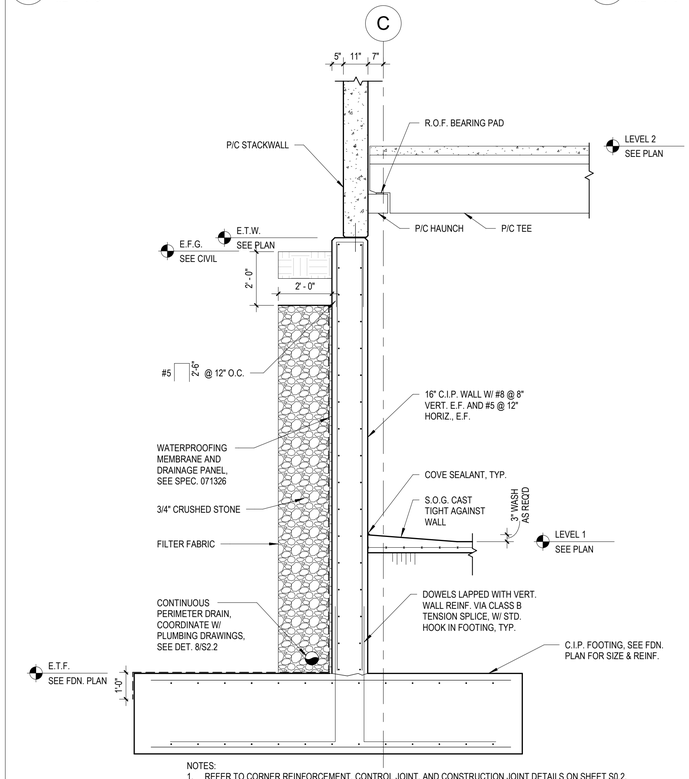
NOTES:
1. RETURN WATERPROOFING MEMBRANE 12" HORIZONTALLY ONTO TOP OF FOOTING.
2. INVERT ELEVATION OF THE PERFORATED DRAIN PIPE SHALL NOT BE HIGHER THAN THE BOTTOM OF THE ADJACENT S.O.G.
3. REFER TO CORNER REINFORCEMENT, CONTROL JOINT, AND CONSTRUCTION JOINT DETAILS ON SHEET S0.2.
4. REFER TO SPEC 033000 FOR CONTROL/CONSTRUCTION JOINTS ALONG WALL.

2 S2.3 C.I.P. RETAINING WALL/INFILL PANEL SECTION
1/2" = 1'-0"



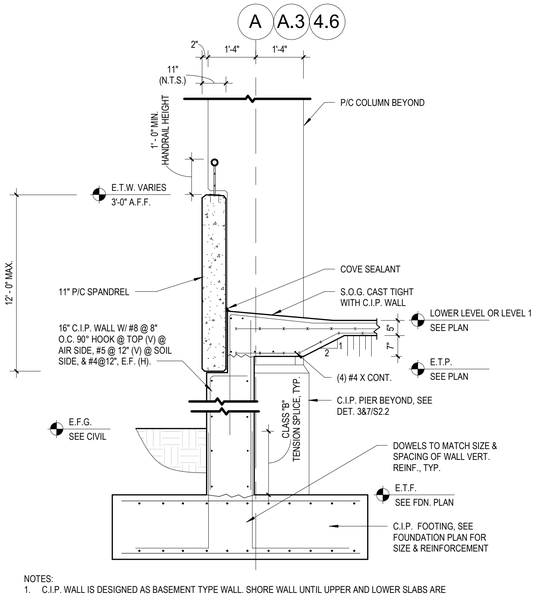
NOTES:
1. REFER TO CORNER REINFORCEMENT, CONTROL JOINT, AND CONSTRUCTION JOINT DETAILS ON SHEET S0.2.
2. REFER TO SPEC 033000 FOR CONTROL/CONSTRUCTION JOINTS ALONG WALL.

3A S2.3 3 S2.3 C.I.P. RETAINING WALL/PANEL SECTION
3/8" = 1'-0"



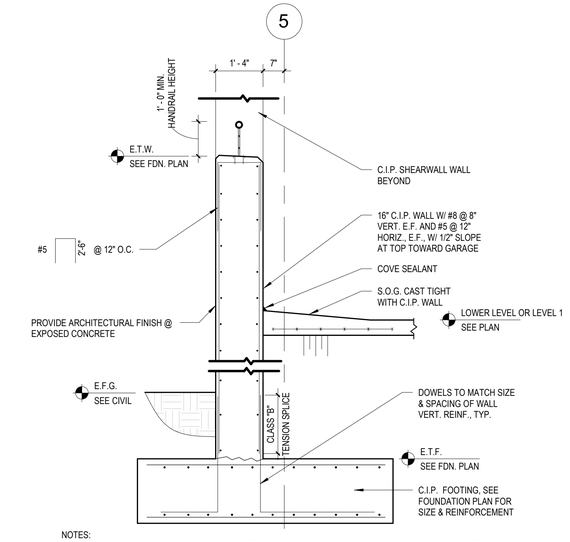
NOTES:
1. REFER TO CORNER REINFORCEMENT, CONTROL JOINT, AND CONSTRUCTION JOINT DETAILS ON SHEET S0.2.
2. REFER TO SPEC 033000 FOR CONTROL/CONSTRUCTION JOINTS ALONG WALL.

4 S2.3 C.I.P. RETAINING WALL/STACKWALL SECTION
3/8" = 1'-0"



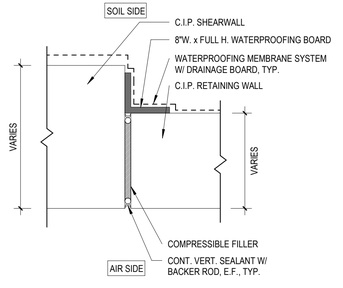
NOTES:
1. C.I.P. WALL IS DESIGNED AS BASEMENT TYPE WALL. SHORE WALL UNTIL UPPER AND LOWER SLABS ARE POURED AND CONCRETE REACHES 75% OF fc' (28-DAY STRENGTH).
2. REFER TO CORNER REINFORCEMENT, CONTROL JOINT, AND CONSTRUCTION JOINT DETAILS ON SHEET S0.2.
3. REFER TO SPEC 033000 FOR CONTROL/CONSTRUCTION JOINTS ALONG WALL.

5 S2.3 C.I.P. RETAINING WALL/PIER SECTION
1/2" = 1'-0"



NOTES:
1. REFER TO CORNER REINFORCEMENT, CONTROL JOINT, AND CONSTRUCTION JOINT DETAILS ON SHEET S0.2.
2. REFER TO SPEC 033000 FOR CONTROL/CONSTRUCTION JOINTS ALONG WALL.

6 S2.3 C.I.P. RETAINING WALL SECTION
1/2" = 1'-0"



7 S2.3 TYPICAL BELOW GRADE SHEARWALL/RETAINING JOINT DETAIL
1" = 1'-0"

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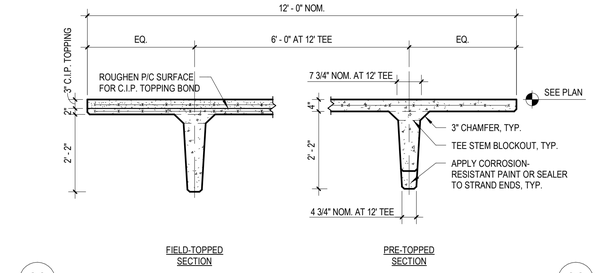
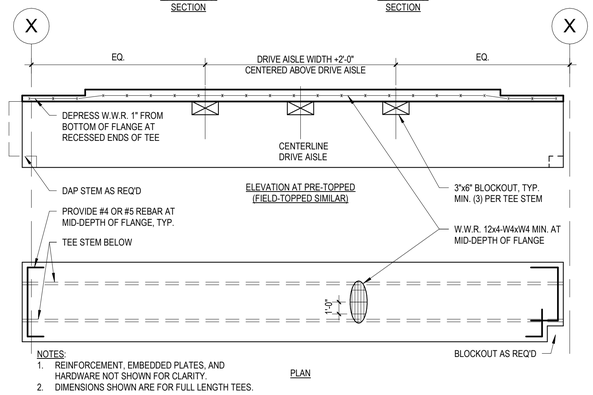
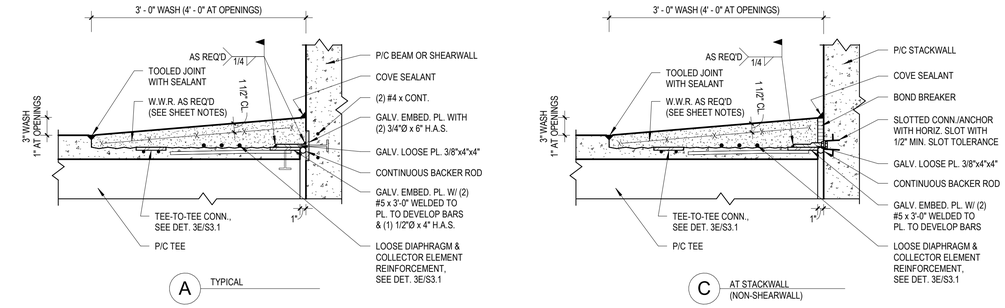
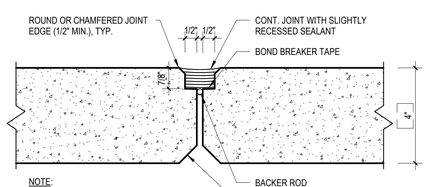




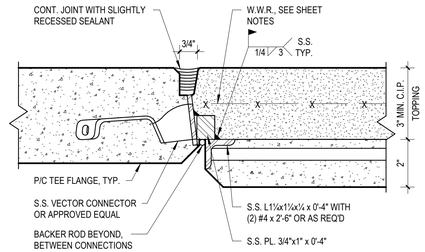
1 S3.1 PRECAST TEE DETAILS
N.T.S.



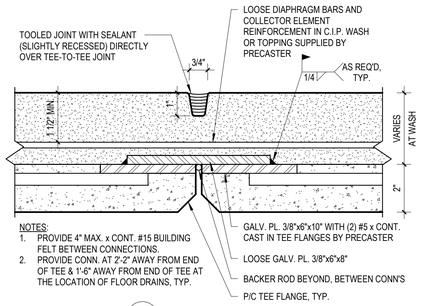
2 S3.1 TEE-TO-WALL & TEE-TO-BEAM CONNECTION DETAILS
1" = 1'-0"



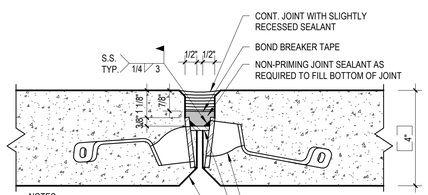
A PRE-TOPPED TO PRE-TOPPED



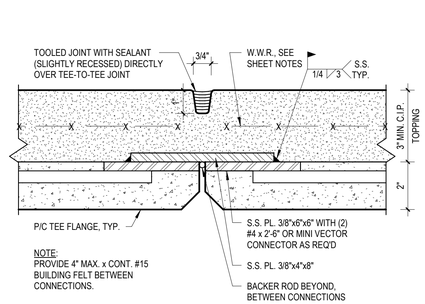
C PRE-TOPPED TO FIELD-TOPPED



E DIAPHRAGM CONNECTION



B PRE-TOPPED TO PRE-TOPPED



D FIELD-TOPPED TO FIELD-TOPPED

3 S3.1 TEE-TO-TEE CONNECTION DETAILS
4" = 1'-0"

PRECAST TEE SHEET NOTES:
1. PRECAST MEMBERS & CONNECTIONS SHALL BE PERFORMANCE DESIGNED BY PRECASTER IN ACCORDANCE WITH THE CRITERIA DEFINED IN SPECIFICATION 034000 AND DETAILS SHOWN ON DRAWINGS.
2. MINIMUM COMPRESSIVE CONCRETE STRENGTH SHALL BE PROVIDED AS FOLLOWS:
   A. f'ci = 3500 PSI MIN. AT RELEASE
   B. f'c = 5500 PSI MIN. AT 28 DAYS
3. INITIAL PULLING FORCE SHALL BE 31 KIPS PER ½"Ø x 270 KSI STRAND.
4. PROVIDE MINIMUM SHEAR REINFORCEMENT OF 0.090 IN²/FT FOR FIRST 5'-0" FROM EACH END OF TEE IF FULL SCALE LOAD TEST RESULTS ARE ACCEPTABLE TO ENGINEER. PROVIDE ADDITIONAL SHEAR REINFORCING AT TEE-TO-TEE CONNECTION AS REQUIRED BY PERFORMANCE DESIGN.
5. PROVIDE TEE-TO-BEAM OR TEE-TO-WALL CONNECTIONS PER DETAIL 2/S3.1 AS FOLLOWS:
   A. AT EACH TEE STEM FOR CONNECTIONS TO BEAMS, GIRDERS, AND WALLS
   B. AT MIDPOINT BETWEEN STEMS FOR CONNECTIONS POCKETED TO SPANDRELS
   C. AT 6'-0" O.C. MAX. OR AS REQUIRED PER PERFORMANCE DESIGN FOR CONNECTIONS TO NON-LOAD-BEARING SPANDRELS
   D. TEE-TO-SHEARWALL CONNECTIONS AS REQUIRED PER PERFORMANCE DESIGN
6. TYPICAL TEE-TO-TEE CONNECTIONS PER DETAILS 3/S3.1 SHALL BE SPACED AS FOLLOWS:
   A. (7) AT 4'-0" O.C. CENTERED AT DRIVE AISLES
   B. REMAINING AT 8'-0" O.C. AT PARKING STALLS
7. COORDINATE REQUIRED EXTENDED DAPS IN TEES FOR HORIZONTAL PIPE RUNS WITH M.E.P. DRAWINGS. MAINTAIN REQUIRED HEARDOOM CLEARANCE NOTED ON STRUCTURAL FLOOR PLANS. SEE DET. 9/S3.3 FOR ADDITIONAL INFO.
8. TEE-TO-TEE JOINT WIDTHS SHALL BE AS FOLLOWS:
   A. AT FLAT AREAS: ¼" (WITH +½"-0" TOLERANCE)
   B. AT RAMP AREAS: ¾" (WITH +½"-0" TOLERANCE)

C.I.P. WASH / TOPPING SHEET NOTES:
1. PROVIDE W.W.R. 6x6-W4xW4 IN C.I.P. WASHES & TOPPING UNLESS LARGER W.W.R. IS REQUIRED BY PRECASTER PERFORMANCE DESIGN.
2. MINIMUM DIAPHRAGM REINFORCEMENT TO BE CAST IN ENDS OF TEES SHALL BE (2)#5xCONT. LONGITUDINAL BARS. SEE DET. 3E/S3.1 FOR EMBEDDED DIAPHRAGM CONNECTION & ADDITIONAL LOOSE DIAPHRAGM AND COLLECTOR ELEMENT REINFORCING TO BE PROVIDED IN CONTINUOUS C.I.P. WASH. DIAPHRAGM AND COLLECTOR ELEMENT REINFORCEMENT BARS SHOWN ON THESE DRAWINGS ARE THE MINIMUM REQUIRED. PRECASTER SHALL BE RESPONSIBLE FOR THE FINAL DESIGN AND SHALL SUPPLY LOOSE DIAPHRAGM REINFORCEMENT FOR THE PROJECT AS REQUIRED BY THE PERFORMANCE DESIGN.
3. W.W.R. TO BE ELIMINATED AT C.I.P. WASH WHEN 2 OR MORE DIAPHRAGM BARS ARE PLACED.
4. DIAPHRAGM/COLLECTOR REINFORCEMENT PARALLEL TO THE TEE SPAN SHALL BE PROVIDED BY REINFORCEMENT INSIDE TEE FLANGES AND PROPER TEE-TO-GIRDER CONNECTION PER PRECASTER PERFORMANCE DESIGN.
5. PROVIDE TRANSVERSE TOOLED JOINT WITH SEALANT OVER EACH CONNECTION ALONG FULL LENGTH OF C.I.P. WASH. SEE SHEET S0.3 FOR ADDITIONAL INFORMATION.
6. APPLY BONDING AGENTS OVER RECESSED TEE FLANGE SURFACES PRIOR TO POURING C.I.P. POURSTRIPS, WASHES, & TOPPING.

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PROJECT NO.
PCNY0323.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

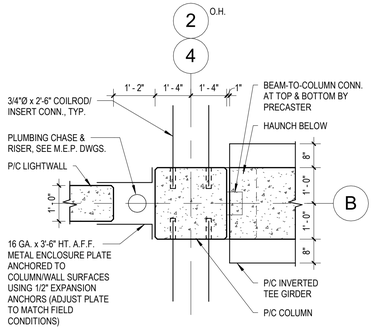
NO.	DESCRIPTION	DATE

NORTH

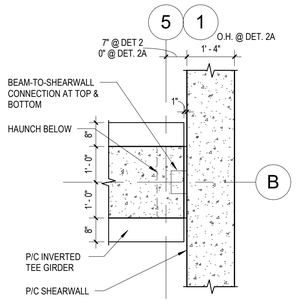
DRAWN: TCT
REVIEWED: JCR
DATE: 2.21.25

SHEET TITLE:
PRECAST TEE DETAILS

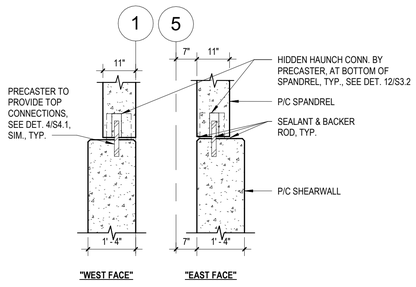
SHEET NO.
S3.1



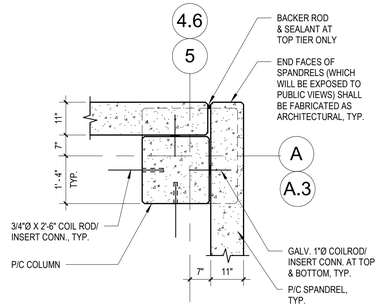
1 S3.2 INTERIOR COLUMN PLAN
1/2" = 1'-0"



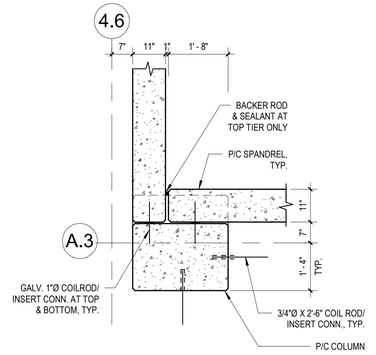
2A S3.2 / 2 S3.2 EXTERIOR SHEARWALL PLAN
1/2" = 1'-0"



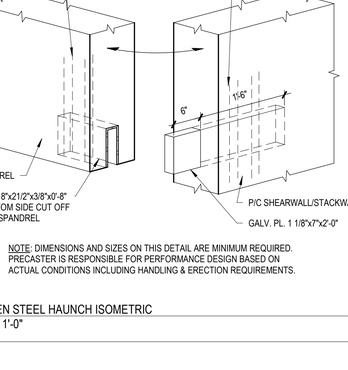
3 S3.2 EXTERIOR SHEARWALL PLAN
1/2" = 1'-0"



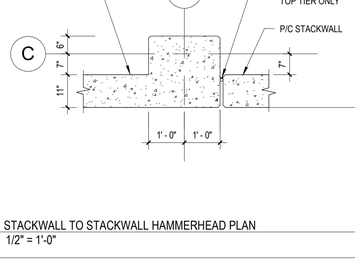
4 S3.2 EXTERIOR COLUMN PLAN
1/2" = 1'-0"



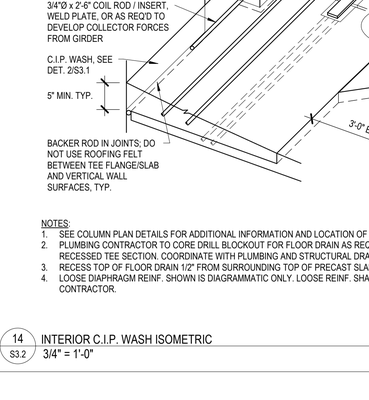
5 S3.2 EXTERIOR COLUMN PLAN
1/2" = 1'-0"



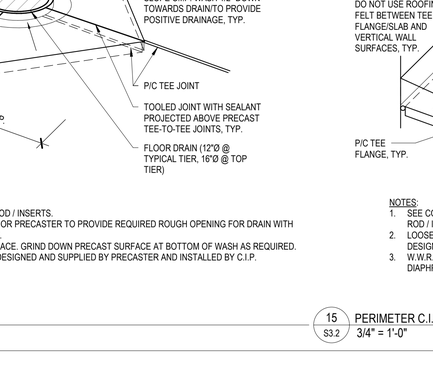
6 S3.2 EXTERIOR COLUMN PLAN
1/2" = 1'-0"



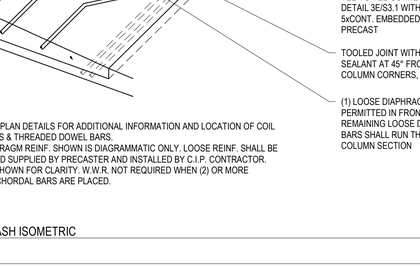
7 S3.2 EXTERIOR COLUMN PLAN
1/2" = 1'-0"



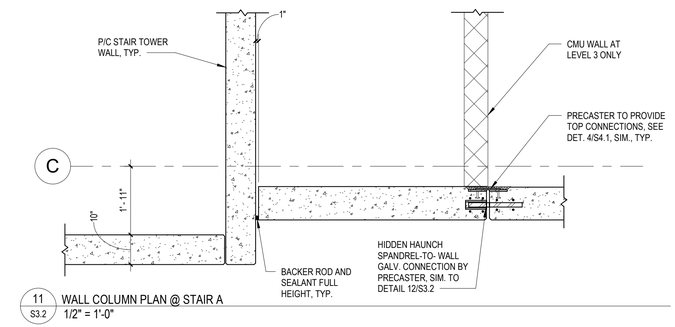
8 S3.2 STAIR TOWER WALL PLAN
1/2" = 1'-0"



9 S3.2 EXTERIOR COLUMN PLAN
1/2" = 1'-0"



10 S3.2 SPANDREL TO STACKWALL HAMMERHEAD PLAN
1/2" = 1'-0"

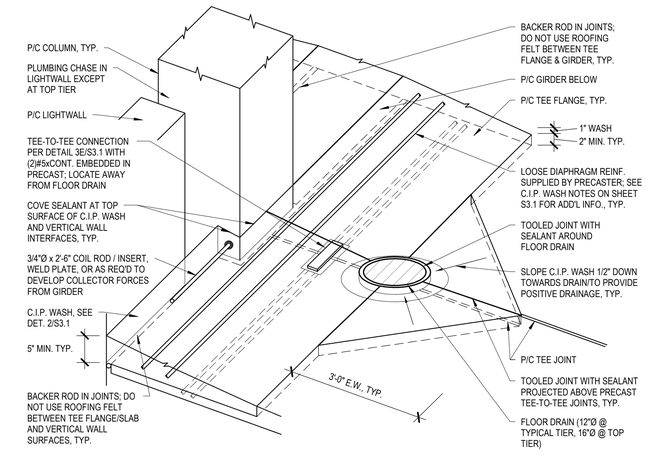


11 S3.2 WALL COLUMN PLAN @ STAIR A
1/2" = 1'-0"

NOTE: DIMENSIONS AND SIZES ON THIS DETAIL ARE MINIMUM REQUIRED.
PRECASTER IS RESPONSIBLE FOR PERFORMANCE DESIGN BASED ON
ACTUAL CONDITIONS INCLUDING HANDLING & ERECTION REQUIREMENTS.

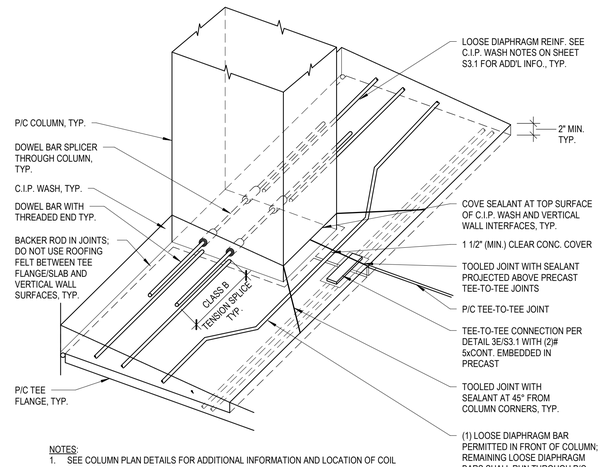
12 S3.2 HIDDEN STEEL HAUNCH ISOMETRIC
3/4" = 1'-0"

13 S3.2 STACKWALL TO STACKWALL HAMMERHEAD PLAN
1/2" = 1'-0"



NOTES:
1. SEE COLUMN PLAN DETAILS FOR ADDITIONAL INFORMATION AND LOCATION OF COIL ROD / INSERTS.
2. PLUMBING CONTRACTOR TO CORE DRILL BLOCKOUT FOR FLOOR DRAIN AS REQUIRED OR PRECASTER TO PROVIDE REQUIRED ROUGH OPENING FOR DRAIN WITH RECESSED TEE SECTION. COORDINATE WITH PLUMBING AND STRUCTURAL DRAWINGS.
3. RECESS TOP OF FLOOR DRAIN 1/2" FROM SURROUNDING TOP OF PRECAST SLAB SURFACE. GRIND DOWN PRECAST SURFACE AT BOTTOM OF WASH AS REQUIRED.
4. LOOSE DIAPHRAGM REINF. SHOWN IS DIAGRAMMATIC ONLY. LOOSE REINF. SHALL BE DESIGNED AND SUPPLIED BY PRECASTER AND INSTALLED BY C.I.P. CONTRACTOR.

14 S3.2 INTERIOR C.I.P. WASH ISOMETRIC
3/4" = 1'-0"



NOTES:
1. SEE COLUMN PLAN DETAILS FOR ADDITIONAL INFORMATION AND LOCATION OF COIL ROD / INSERTS & THREADED DOWEL BARS.
2. LOOSE DIAPHRAGM REINF. SHOWN IS DIAGRAMMATIC ONLY. LOOSE REINF. SHALL BE DESIGNED AND SUPPLIED BY PRECASTER AND INSTALLED BY C.I.P. CONTRACTOR.
3. W.W.R. NOT SHOWN FOR CLARITY. W.W.R. NOT REQUIRED WHEN (2) OR MORE DIAPHRAGM CHORDAL BARS ARE PLACED.

15 S3.2 PERIMETER C.I.P. WASH ISOMETRIC
3/4" = 1'-0"

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PROJECT NO.
PCNY0323.00

PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

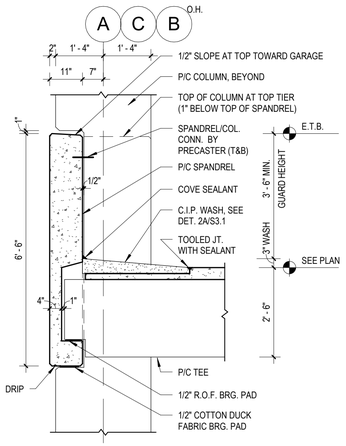
DRAWN: TCT
REVIEWED: JCR
DATE: 2.21.25

NORTH

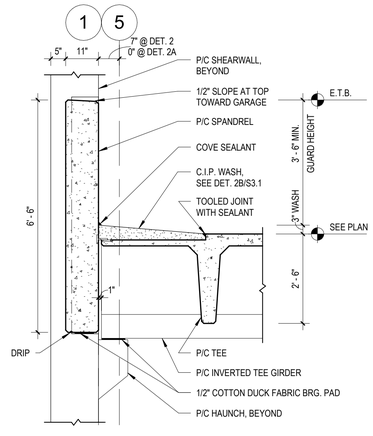
SHEET TITLE:
PRECAST COLUMN PLAN DETAILS

SHEET NO.

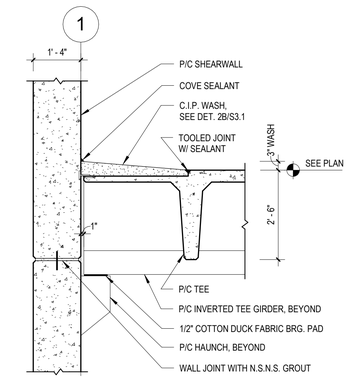
S3.2



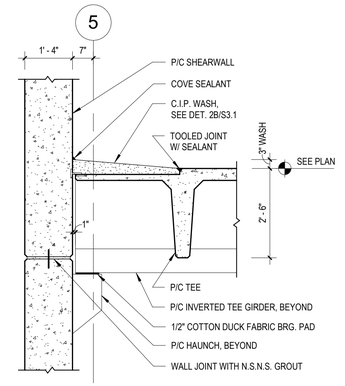
1 S3.3 LOAD-BEARING SPANDREL SECTION
1/2" = 1'-0"



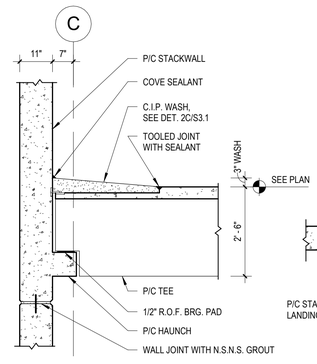
2A 2 S3.3 NON-LOAD-BEARING SPANDREL SECTION
1/2" = 1'-0"



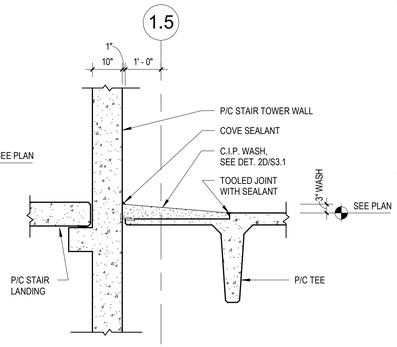
3 S3.3 EXTERIOR SHEARWALL SECTION
1/2" = 1'-0"



4 S3.3 EXTERIOR SHEARWALL SECTION
1/2" = 1'-0"



5 S3.3 LOAD-BEARING STACKWALL SECTION
1/2" = 1'-0"



6 S3.3 NON-LOAD-BEARING STACKWALL SECTION
1/2" = 1'-0"

7 S3.3 NON-LOAD-BEARING SPANDREL SECTION
1/2" = 1'-0"

8 S3.3 LOAD-BEARING STAIR TOWER WALL SECTION
1/2" = 1'-0"

NOTES:
1. TEE-TO-GIRDER CONNECTION BY PRECASTER. PROVIDE MIN. (1) CONNECTION PER TEE STEM.
2. COORDINATE REQ'D TEE STEM DAPS WITH M.E.P. AND FIRE PROTECTION DWGS TO MAINTAIN HEADROOM.
3. PROVIDE REQ'D HEADROOM CLEARANCES PER HEADROOM NOTES ON STRUCTURAL FLOOR PLANS.

9 S3.3 INVERTED TEE GIRDER SECTION
1/2" = 1'-0"

10 S3.3 LIGHTWALL SECTION (RAMP BAY/RAMP BAY)
1/2" = 1'-0"

11 S3.3 LOAD-BEARING STAIRTOWER WALL/STACKWALL SECTION
1/2" = 1'-0"

NOTE: COORDINATE WITH ELECTRICAL DRAWINGS.

12 S3.3 LIGHTPOLE SECTION AT COLUMN
3/4" = 1'-0"

NOTE: COORDINATE WITH ELECTRICAL DRAWINGS.

13 S3.3 LIGHTPOLE SECTION AT LIGHTWALL
1/2" = 1'-0"

NOTES:
1. THIS DETAIL IS FOR ILLUSTRATIVE PURPOSES ONLY. PRECASTER SHALL DETERMINE HEIGHT OF FENCING WHILE MAINTAINING REQUIRED GUARDRAIL HEIGHT.
2. DIMENSIONS OF LIGHTWALL OPENINGS SHOWN ON THIS DETAIL ARE MINIMUM REQUIRED. PRECASTER SHALL MAXIMIZE HEIGHT & WIDTH OF OPENINGS.

14 S3.3 LIGHTWALL ELEVATION (AT RAMP-RAMP)
3/16" = 1'-0"

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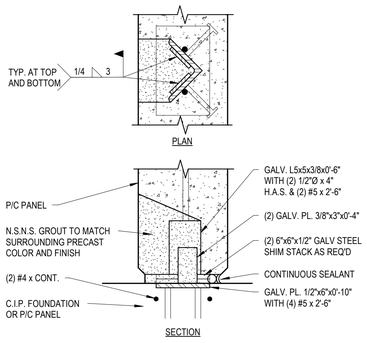
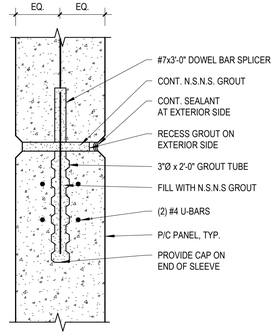
SHEET TITLE:
PRECAST SECTIONS

SHEET NO.
S3.3



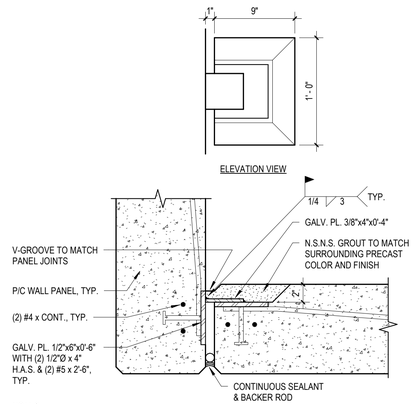
NOTES:
1. PROVIDE CONNECTIONS AT 4'-0" O.C. OR MINIMUM (2) PER PANEL.
2. PROVIDE CONTINUOUS WATERPROOFING BOARD PRIOR TO BACKFILL WHERE EXTERIOR FINISHED GRADE IS ABOVE THE JOINT.
3. THE CONNECTION SHOWN IS THE MINIMUM REQUIRED. PRECASTER TO PERFORMANCE DESIGN LARGER CONNECTION AS REQUIRED.
4. PLACE CONNECTION POCKET ON INTERIOR SIDE, U.N.O.

1 S4.1 P/C PANEL CONNECTION
N.T.S.



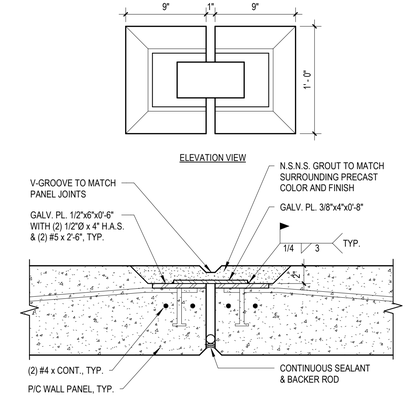
NOTES:
1. PROVIDE CONNECTIONS AT 4'-0" O.C. OR MINIMUM (2) PER PANEL.
2. THE CONNECTION SHOWN IS THE MINIMUM REQUIRED. PRECASTER TO PERFORMANCE DESIGN LARGER CONNECTION AS REQUIRED.

2 S4.1 P/C PANEL CONNECTION
N.T.S.



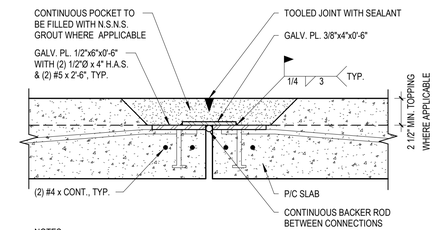
NOTES:
1. PROVIDE CONNECTIONS AT 4'-0" O.C. OR MINIMUM (2) PER PANEL.
2. PROVIDE FIRE-RATED BACKER ROD FOR ALL VERTICAL JOINTS AT ELEVATOR TOWERS AND OTHER FIRE-RATED ROOMS SHOWN ON ARCHITECTURAL PLANS.
3. THE CONNECTION SHOWN IS THE MINIMUM REQUIRED. PRECASTER TO PERFORMANCE DESIGN LARGER CONNECTION AS REQUIRED.
4. PLACE CONNECTION POCKET ON INTERIOR SIDE, U.N.O.

3 S4.1 P/C PANEL CONNECTION (AT CORNER JOINTS)
N.T.S.



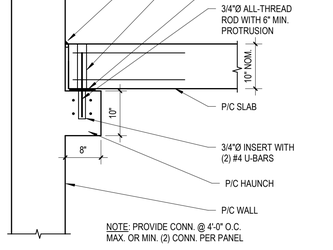
NOTES:
1. PROVIDE CONNECTIONS AT 4'-0" O.C. OR MINIMUM (2) PER PANEL.
2. PROVIDE FIRE-RATED BACKER ROD FOR ALL VERTICAL JOINTS AT ELEVATOR TOWERS AND OTHER FIRE-RATED ROOMS SHOWN ON ARCHITECTURAL PLANS.
3. THE CONNECTION SHOWN IS THE MINIMUM REQUIRED. PRECASTER TO PERFORMANCE DESIGN LARGER CONNECTION AS REQUIRED.
4. PLACE CONNECTION POCKET ON INTERIOR SIDE, U.N.O.

4 S4.1 P/C PANEL CONNECTION
N.T.S.



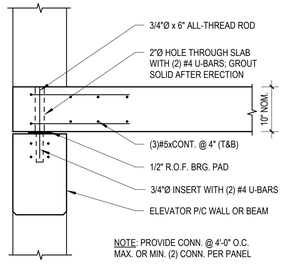
NOTES:
1. PROVIDE CONNECTIONS AT 4'-0" O.C. OR MINIMUM (2) PER PANEL.
2. THE CONNECTION SHOWN IS THE MINIMUM REQUIRED. PRECASTER TO PERFORMANCE DESIGN LARGER CONNECTION AS REQUIRED.

5 S4.1 P/C SLAB TO P/C SLAB CONNECTION
N.T.S.



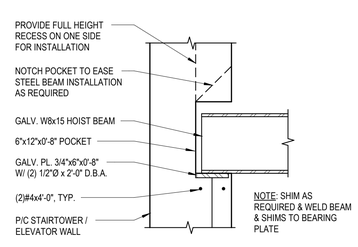
NOTE: PROVIDE CONN. @ 4'-0" O.C. MAX. OR MIN. (2) CONN. PER PANEL

6 S4.1 P/C SLAB TO HAUNCH CONNECTION
N.T.S.

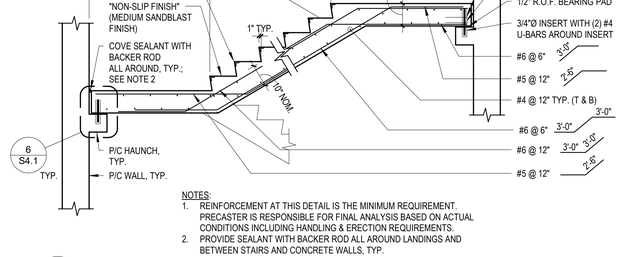


NOTE: PROVIDE CONN. @ 4'-0" O.C. MAX. OR MIN. (2) CONN. PER PANEL

7 S4.1 P/C SLAB TO ELEVATOR WALL CONNECTION
N.T.S.

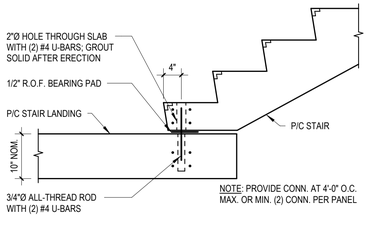


8 S4.1 HOIST BEAM CONNECTION
N.T.S.



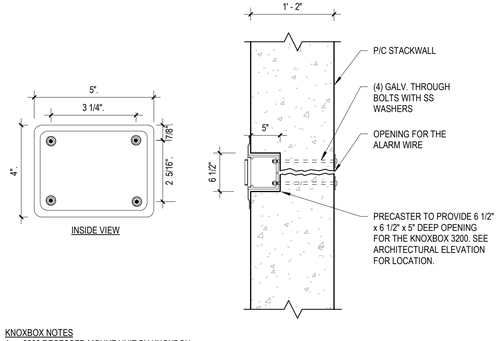
NOTES:
1. REINFORCEMENT AT THIS DETAIL IS THE MINIMUM REQUIREMENT. PRECASTER IS RESPONSIBLE FOR FINAL ANALYSIS BASED ON ACTUAL CONDITIONS INCLUDING HANDLING & ERECTION REQUIREMENTS.
2. PROVIDE SEALANT WITH BACKER ROD ALL AROUND LANDINGS AND BETWEEN STAIRS AND CONCRETE WALLS, TYP.

9 S4.1 P/C STAIR SECTION
N.T.S.



NOTE: PROVIDE CONN. AT 4'-0" O.C. MAX. OR MIN. (2) CONN. PER PANEL

10 S4.1 P/C STAIR TO P/C SLAB CONNECTION
N.T.S.



KNOXBOX NOTES
1. 3200 RECESSED MOUNT UNIT BY KNOXBOX
2. LOCATE VERTICALLY 6'-0" ABOVE FINISHED EXTERIOR GRADE PER MANUF. RECOMMENDATION. SEE ARCHITECTURAL ELEVATION FOR LOCATION.
3. SEE MANUFACTURER/MODEL SPECIFIC INSTRUCTIONS FOR MOUNTING AND ROUGH OPENING REQUIREMENTS
4. GC TO COORDINATE LOCATION WITH PRECASTER.

11 S4.1 KNOXBOX 3200 MOUNTING DETAIL
1" = 1'-0"

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PROFESSIONAL SEAL

LICENSE EXPIRATION DATE 11/30/2026

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PROJECT NO.
PCNY0323.00

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: TCT
REVIEWED: JCR
DATE: 2.21.25

SHEET TITLE:
PRECAST DETAILS

SHEET NO.
S4.1

VILLAGE OF OSSINING BIKE SHED FACILITY

OSSINING, NEW YORK 10562

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE 2018 INTERNATIONAL BUILDING CODE AS AMENDED BY THE 2020 NEW YORK STATE BUILDING CODE, AND OTHER APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
2. THESE DRAWINGS DO NOT DEFINE SCOPE OF CONTRACT. SEE CONTRACT DOCUMENTS.
3. GENERAL CONTRACTOR OR CONSTRUCTION MANAGER SHALL OBTAIN ALL PERMITS FROM THE BUILDING DEPARTMENT PRIOR TO THE START OF WORK.
4. IN CASE OF CONFLICT BETWEEN THE STRUCTURAL GENERAL NOTES, SPECIFICATIONS, AND DETAILS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN AND THE ENGINEER OF RECORD SHALL BE NOTIFIED.
5. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS, ARCHITECTURAL AND M/E/P/S DRAWINGS. IF THERE IS A DISCREPANCY BETWEEN DRAWINGS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ARCHITECT AND ENGINEER PRIOR TO PERFORMING WORK.
6. COORDINATE ALL WALL LOCATIONS, OPENINGS, WINDOWS AND DOOR LOCATIONS, SLAB DEPRESSIONS, CURB LOCATIONS AND RADIANT HEAT LOCATIONS WITH ARCH. DRAWINGS.
7. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ALL FIREPROOFING, WATER / DAMPPROOFING, FLASHING, DRAINS, PITCH POCKETS AND INSULATION DETAILS.
8. DO NOT SCALE DRAWINGS TO OBTAIN DIMENSIONAL INFORMATION. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO STARTING WORK, AND NOTIFY THE DESIGN PROFESSIONALS OF ANY DISCREPANCIES.
9. ANY ADDITIONAL STRUCTURAL WORK NOT SPECIFICALLY SHOWN OR CALLED FOR IN THE DRAWINGS AND SPECIFICATIONS, THAT IS REQUIRED TO COMPLETE THE INTENT OF THE WORK, SHALL BE FURNISHED BY THE CONTRACTOR AS IF INCLUDED IN THE DRAWINGS/SPECIFICATIONS. THE CONTRACTOR SHALL ADVISE THE ENGINEER OF SUCH OCCURRENCES. PROVIDE DETAILS OF A SIMILAR NATURE TO THOSE PROVIDED IN THE DRAWINGS, AND VERIFY APPLICABILITY BY SUBMITTING SHOP DRAWINGS FOR REVIEW.
10. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY SHORING AND BRACING REQUIRED FOR PLUMBNESS, STRUCTURAL STABILITY AND SAFETY WHENEVER REQUIRED TO SUPPORT LOADS AS MAY BE IMPOSED UPON THE STRUCTURE DURING CONSTRUCTION. BRACING AND SHORING AND SEQUENCES OF SUCH WORK SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND HIS/HER LICENSED ENGINEER REGISTERED IN THE STATE OF NEW YORK. ALL SUBMITTALS SHALL BEAR THIS ENGINEER'S SEAL AND SIGNATURE.
11. CONTRACTOR SHALL STAKE THE PROPERTY LINES AND SECURE ADJACENT PROPERTY OWNER'S WRITTEN CONSENT PRIOR TO COMMENCING WORK IF WORK EXTENDS BEYOND THE BUILDING'S PROPERTY LINE, OR IF ANY WORK AFFECTS THEIR PROPERTY.
12. CONTRACTOR SHALL, AT ALL TIMES, PROTECT AND MAINTAIN THE INTEGRITY OF ADJACENT STREETS, SIDEWALKS, BUILDINGS, STRUCTURES, UTILITY LINES OR ANY OTHER PUBLIC OR PRIVATE PROPERTIES. CONTRACTOR SHALL BE RESPONSIBLE TO PROPERLY REPAIR ANY DAMAGE WHICH OCCURS AS A RESULT OF THE EXECUTION OF HIS WORK AT NO COST TO THE OWNER OR ENGINEER.
13. AT ALL TIMES, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONDITIONS OF THE JOBSITE INCLUDING SAFETY OF PERSONS AND PROPERTY. THE ARCHITECT'S OR ENGINEER'S PRESENCE OR REVIEW OF WORK DOES NOT ENSURE THE ADEQUACY OF THE CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION.
14. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL WORK. DO NOT PROCEED WITH ANY FABRICATION UNTIL THE SHOP DRAWINGS ARE FAVORABLY REVIEWED. SHOP DRAWINGS SHALL BE BASED ON FIELD VERIFIED CONDITIONS.
15. REVIEW OF SHOP DRAWINGS AND SUBMITTALS BY STRUCTURAL ENGINEER OF RECORD SHALL BE TO REVIEW AND TAKE APPROPRIATE ACTION ON SHOP DRAWINGS FOR CONFORMANCE WITH THE STRUCTURAL CONSTRUCTION DOCUMENTS, BUT NOT FOR ACCURACY OF DIMENSIONS AND QUANTITIES REQUIRED FOR PROPER CONSTRUCTION, WHICH ARE THE CONTRACTOR'S RESPONSIBILITY.
16. THE GENERAL CONTRACTOR SHALL REVIEW ALL SUBCONTRACTOR SUBMITTALS PRIOR TO SUBMISSION TO THE DESIGN TEAM FOR REVIEW. THE GENERAL CONTRACTOR SHALL STAMP EACH SUBCONTRACTOR SUBMITTAL, INDICATING THEIR OWN REVIEW FOR CONFORMANCE WITH THE DESIGN INTENT AND/OR REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE GENERAL CONTRACTORS REVIEW STAMP SHALL CONTAIN THE SUBMITTAL NUMBER, THE DATE SUBMITTED TO THE DESIGN TEAM, THE RESULTS OF THE REVIEW, AND BY WHOM IT WAS REVIEWED.
    THE FOLLOWING SUBMITTALS WILL BE REJECTED BY THE STRUCTURAL ENGINEER AND RETURNED TO THE GENERAL CONTRACTOR WITHOUT REVIEW:
    A. SUBMITTALS THAT ARE SUBMITTED TO THE DESIGN TEAM DIRECTLY BY SUBCONTRACTORS.
    B. SUBMITTALS THAT ARE SUBMITTED TO THE DESIGN TEAM THAT HAVE NOT BEEN REVIEWED BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION.
    C. SUBMITTALS THAT THE CONTRACTOR DEEMS UNSATISFACTORY OR DOES NOT CONFORM WITH THE DESIGN INTENT AND/OR REQUIREMENTS OF THE CONTRACT DOCUMENTS.
17. REPRODUCTION OF ANY PORTION OF THE STRUCTURAL CONTRACT DRAWINGS FOR SUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. CONTRACTOR SHALL SUBMIT INDEPENDENT SHOP DRAWINGS, WITH ALL DIMENSIONS FIELD VERIFIED, PRIOR TO SUBMISSION. ANY SHOP DRAWING SUBMISSION GENERATED BY USING A DIRECT REPLICA OF THE DESIGN DRAWINGS WILL BE REJECTED AND RETURNED WITHOUT REVIEW.
18. SUBMIT PERIODIC INSPECTION REPORTS WITHIN ONE BUSINESS DAY AFTER RECEIPT BY THE CONTRACTOR TO ARCHITECT/ENGINEER DURING CONSTRUCTION. SUBMIT FINAL INSPECTION REPORT SUMMARY FOR EACH DIVISION OF WORK, CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER, THAT INSPECTIONS WERE PERFORMED AND THAT WORK WAS PERFORMED IN ACCORDANCE WITH CONTRACT DOCUMENTS.
19. ALL NON-LOAD BEARING PARTITIONS, PROVIDE SLIP CONNECTIONS THAT ALLOW VERTICAL MOVEMENT AT THE TOP OF ALL SUCH PARTITIONS. CONNECTIONS SHALL BE DESIGNED TO SUPPORT THE TOP OF THE WALLS LATERALLY FOR STABILITY AND THE CODE-REQUIRED LATERAL LOAD.

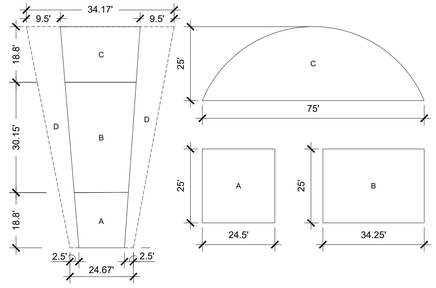
EXCAVATION & FOUNDATION NOTES:

1. THE FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT PREPARED BY LANGAN DATED 9/19/2024. THE CONTENTS OF THEIR REPORT ARE PART OF THE CONTRACT DOCUMENTS AND SHALL BE PART OF THE BID DOCUMENTS.
2. ALL MATERIAL, FABRICATION, INSTALLATION, AND INSPECTION REQUIREMENTS RELATING TO THE FOUNDATIONS SHALL CONFORM TO THE 2020 NEW YORK STATE BUILDING CODE.
3. EXCAVATION SHALL BE PERFORMED SO AS NOT TO DISTURB EXISTING ADJACENT BUILDINGS, STREETS, AND UTILITY LINES. VERIFY LOCATION OF ALL UTILITIES PRIOR TO COMMENCEMENT OF WORK. HAND EXCAVATE AROUND AND RESUPPORT UTILITIES AS REQUIRED.
4. THE GENERAL EXCAVATION SHALL CONSIST OF EXCAVATING AND REMOVING THE EXISTING SURFICIAL FILL MATERIALS TO REACH THE DESIRED SUBGRADE LEVEL. THE EXPOSED SUBGRADE SHOULD BE PROOF-ROLLED AND COMPACTED TO A FIRM AND UNYIELDING CONSISTENCY. EXCAVATIONS SHALL RESULT IN A TRIM, LEVEL SURFACE.
5. DEWATERING OF THE SITE DURING CONSTRUCTION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR NOT TO UNDERMINE EXISTING FOUNDATIONS. METHOD OF DEWATERING AND CALCULATIONS FOR THE APPROPRIATE SYSTEM ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE DEPTH OF EXCAVATION SHALL NOT BE CARRIED DEEPER THAN SPECIFIED IN THE CONTRACT DOCUMENTS WITHOUT THE ENGINEER OF RECORD'S WRITTEN CONSENT.
6. THE CONTRACTOR SHALL PROVIDE ALL MEASURES AND PRECAUTIONS NECESSARY TO PREVENT DAMAGE AND SETTLEMENT (HORIZONTAL AND VERTICAL) OF EXISTING OR NEW CONSTRUCTION, INSIDE OR OUTSIDE THE PROJECT LIMITS. ANY DAMAGE TO NEW OR EXISTING CONSTRUCTION, WHETHER INSIDE OR OUTSIDE THE PROJECT LIMITS, THAT IS CAUSED BY CONSTRUCTION TECHNIQUES OR MOVEMENTS OF THE SOIL/ROCK RETENTION SYSTEM, IS THE RESPONSIBILITY OF THE CONTRACTOR
7. EXCAVATIONS SHALL NOT UNDERMINE, NOR DISTURB, ANY EXISTING ADJACENT FOOTINGS. CONTRACTOR SHALL MAINTAIN AN EXCAVATION SLOPE OF ONE VERTICAL TO TWO HORIZONTAL BETWEEN THE BOTTOM OF FOOTING AND EXCAVATION, UNLESS OTHERWISE NOTED.
8. THE CONTRACTOR SHALL PROVIDE POSITIVE PROTECTION (MAT/SHEET COVERINGS) FOR ALL EXCAVATION SLOPES TO PROTECT SLOPES FROM INSTABILITY AND DETERIORATION DUE TO RAIN, WIND OR SNOW / ICE.
9. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO CONTROL ICE, FROST, SURFACE AND SUBSURFACE WATER SO THAT THE FOUNDATION WORK IS PERFORMED ON DRY SUBGRADE.
10. FOOTING SUBGRADES SHOULD BE THOROUGHLY CLEARED OF ALL MUD, DEBRIS AND LOOSE MATERIAL PRIOR TO THE PLACEMENT OF CONCRETE OR CRUSHED STONE.
11. THE CONCRETE FOR EACH FOOTING/MAT FOUNDATION SHALL BE PLACED IN (1) ONE CONTINUOUS PLACEMENT. WHERE CONTINUOUS PLACEMENT IS NOT POSSIBLE, CONTRACTOR SHALL SUBMIT LOCATIONS OF ALL PROPOSED CONSTRUCTION JOINTS FOR APPROVAL AND FOR ADDITIONAL REINFORCEMENT REQUIREMENTS AS A RESULT OF THE JOINT AND ITS LOCATION.
12. DO NOT PLACE CONCRETE WITHOUT FAVORABLY REVIEWED CONCRETE DESIGN MIXES AND CONCRETE REINFORCING SHOP DRAWINGS.
13. CONCRETE FOR FOUNDATIONS SHALL BE POURED ON THE SAME DAY THE SUBGRADE IS APPROVED BY THE SPECIAL INSPECTOR OR SPECIAL INSPECTION AGENCY.
14. REMOVE ALL UNSUITABLE SOIL (ORGANICS, FILL, ETC.) AND REPLACE WITH CONTROLLED FILL AS REQUIRED FOR SOUND PLACEMENT OF FOUNDATIONS. NOTIFY THE ENGINEER BEFORE PROCEEDING WITH STRUCTURAL BACKFILL TO CONFIRM SUITABILITY OF BEARING STRATUM.
15. ALL FILL REQUIRED BELOW ANY PORTION OF THE STRUCTURE SHALL BE COMPACTED IN 8" LIFTS TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY PER ASTM D698 AND D-1557. NEW CONTROLLED FILL SHALL BE CRUSHED STONE, RECYCLED CONCRETE AGGREGATE OR GRANULAR SAND AND GRAVEL WITH LESS THAN 35% PASSING THE #200 SIEVE AND NO LARGER THAN 1/2" DIAMETER.
16. FOUNDATION WALL BACKFILL MATERIAL IS TO BE CONTROLLED FILL MATERIAL; A UNIFORMLY GRADED MIXTURE OF SAND AND GRAVEL WEIGHING NO LESS THAN 120 PCF DRY DENSITY AFTER ON-SITE COMPACTION. THE MIXTURE IS TO HAVE NO STONE GREATER THAN 3" IN ANY ONE DIMENSION AND IS TO HAVE LESS THAN 10% FINES, BY WEIGHT, PASSING A #200 SIEVE.
17. PROVIDE CONTINUOUS WATERSTOPS IN ALL EXTERIOR WALL VERTICAL CONSTRUCTION JOINTS OR EXPANSION JOINTS. INSTALLATION AND SPLICING OF WATERSTOPS SHALL BE IN ACCORDANCE WITH MANUFACTURE'S INSTALLATION INSTRUCTIONS. SEE ARCHITECTURAL SPECIFICATIONS FOR WATERSTOP.
18. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ALL WATERPROOFING, DAMPPROOFING, PROTECTION BOARDS AND INSULATION DETAILS.
19. UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS, UNLESS OTHERWISE APPROVED BY THE ENGINEER OF RECORD.
20. BOTTOM OF THE FOOTING ELEVATIONS AND BEARING CAPACITIES AS SHOWN ON THE DRAWINGS ARE ESTIMATED AND WILL REQUIRE VERIFICATION. FINAL, EXACT ELEVATIONS AND BEARING CAPACITIES SHALL BE FIELD DETERMINED AND VERIFIED BY THE SPECIAL INSPECTOR OR SPECIAL INSPECTION AGENCY.
21. BOTTOM OF EXTERIOR FOOTINGS SHALL BE CONSTRUCTED AT A MINIMUM OF 42" BELOW PROPOSED GRADES.
22. ALL FOOTINGS, PIERS ARE TO BE CENTERED ON COLUMNS ABOVE, U.O.N.
23. PROVIDE DOWELS IN FOUNDATIONS FOR ALL CONCRETE WALLS, OF THE SAME NUMBER AND SIZE AS THE VERTICAL REINFORCEMENT ABOVE, U.O.N.
24. SEE CONCRETE NOTES FOR ADDITIONAL REQUIREMENTS AS THEY PERTAIN TO FOUNDATION WORK.

DESIGN CRITERIA

THE STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2018 INTERNATIONAL BUILDING CODE AS AMENDED BY THE 2020 NEW YORK STATE BUILDING CODE. DESIGN LOADS COMPLY WITH THE AMERICAN SOCIETY OF CIVIL ENGINEER'S "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" (ASCE 7-16).

1. FLOOR LIVE LOAD
   -FIRST FLOOR:
   PUBLIC ASSEMBLY — 100 PSF
2. ROOF LIVE LOAD — 20 PSF
3. ROOF SNOW LOAD
   3.1 GROUND SNOW LOAD, Pg — 30 PSF
   3.2 FLAT-ROOF SNOW LOAD: Pf = 0.7*Ce*Ct*I*Pg — 21 PSF
   3.3 SNOW EXPOSURE FACTOR, Ce — 1.0
   3.4 SNOW LOAD IMPORTANCE FACTOR, Is — 1.0
   3.5 THERMAL FACTOR, Ct — 1.0
   3.6 SLOPE FACTOR, Cs — 1.0
4. WIND DESIGN DATA
   4.1 BASIC DESIGN WIND SPEED (V) — 115 MPH
   4.2 ASD WIND SPEED (V_{asd}) — 89 MPH
   4.3 RISK CATEGORY — II
   4.4 WIND EXPOSURE — B
   4.5 INTERNAL PRESSURE COEFFICIENT — +/- 0.18
   4.6 COMPONENTS AND CLADDING WIND PRESSURE DIAGRAM: (ASD)



ROOF:

ZONE A = +11 PSF & -8 PSF
ZONE B = -5 PSF & -24 PSF
ZONE C = +3 PSF & -17 PSF

BUILDING FACES:

ZONE A = +4 PSF & +23 PSF
ZONE B = -17 PSF & +3 PSF
ZONE C = -20 PSF & -1 PSF

OVERHANG:

ZONE D (MIN. OVERHANG) = -45 PSF & +25 PSF
ZONE D (MAX. OVERHANG) = -56 PSF & +40 PSF

NOTE:
1. PLUS (+) AND MINUS (-) SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM SURFACES, RESPECTIVELY.
2. SERVICE WIND PRESSURE ON OVERHANGS IS 42 PSF

5. EARTHQUAKE DESIGN DATA
   5.1 RISK CATEGORY — II
   5.2 SEISMIC IMPORTANCE FACTOR, Ie — 1.0
   5.3 MAPPED SPECTRAL RESPONSE ACCELERATIONS
   -AT SHORT PERIODS, Ss — 0.293 g
   -AT A 1-SECOND PERIOD, S1 — 0.061 g
   5.4 SITE CLASS — C
   5.5 DESIGN SPECTRAL RESPONSE ACCELERATION COEFFICIENTS
   -AT SHORT PERIODS, Sds — 0.254 g
   -AT A 1-SECOND PERIOD, Sd1 — 0.061 g
   5.6 SEISMIC DESIGN CATEGORY — B
   5.7 BASIC SEISMIC-FORCE-RESISTING SYSTEM:
   5.8 DESIGN BASE SHEAR, V=Cs*W — 5 KIPS
   5.9 SEISMIC RESPONSE COEFFICIENT, Cs — 0.0726
   5.10 RESPONSE MODIFICATION FACTOR, R — 3.5
   5.11 ANALYSIS PROCEDURE: — EQUIVALENT LATERAL FORCE PROCEDURE
6. GEOTECHNICAL INFORMATION:
   REFER TO GEOTECHNICAL REPORT BY LANGAN DATED 9/19/2024.
   ALLOWABLE SOIL BEARING PRESSURE = 4,000 PSF (2 TSF).
7. ROOF RAIN LOAD DATA
   RAIN INTENSITY (i) — 5.99 in/hr

LIST OF ABBREVIATIONS

A =	AXIAL FORCE (KIPS)
V =	SHEAR FORCE (KIPS)
M =	MOMENT (KIP-FT)
ADD'L.	ADDITIONAL
ALT.	ALTERNATE
ARCH.	ARCHITECT, ARCHITECTURAL
B/	BOTTOM OF ...
T/	TOP OF ...
BF	BRACED FRAME
BLDG.	BUILDING
BLKG.	BLOCKING
BM	BEAM
BOT.	BOTTOM
BP	BEAM PENETRATION
CANT.	CANTILEVER
CFS	COLD-FORMED STEEL
C.I.P.	CAST-IN-PLACE
C.J.	CONSTRUCTION JOINT
CJP	COMPLETE JOINT PENETRATION WELD
CL	CENTERLINE
CLR.	CLEAR
COL(S).	COLUMN(S)
CONC.	CONCRETE
CONN(S).	CONNECTION(S)
CONT.	CONTINUOUS
CONST.	CONSTRUCTION
COORD.	COORDINATE
CTR.	CENTER
Db	BAR DIAMETER
DBL.	DOUBLE
DIA. or Ø	DIAMETER
DIAG.	DIAGONAL
DL	DEAD LOAD
DN	DOWN
DTL(S).	DETAIL(S)
DWL.	DOWEL
DWG(S).	DRAWING(S)
(E)	EXISTING
EA.	EACH
E.F.	EACH FACE
E.J.	EXPANSION JOINT
ELEV.	ELEVATION
EMBED.	EMBEDDED
ENGR.	ENGINEER
E.O.R.	ENGINEER OF RECORD
E.O.S.	EDGE OF SLAB
EQ	EQUAL
EQUIP.	EQUIPMENT
E.W.	EACH WAY
EXP.	EXPANSION
EXT.	EXTERIOR
FDN.	FOUNDATION
FLR.	FLOOR
FRT	FIRE-RETARDANT TREATED
F.S.	FAR SIDE
FT	FEET
FTG.	FOOTING
GA.	GAUGE
GALV.	GALVANIZED
G.C.	GENERAL CONTRACTOR
HDR.	HEADER
HGR.	HANGER
HORIZ.	HORIZONTAL
H.P.	HIGH POINT
H.S.	HIGH STRENGTH
HSS	HOLLOW STRUCTURAL SHAPE
HT.	HEIGHT
I.F.	INSIDE FACE
IN	INCH
INFO.	INFORMATION
INSTR.	INSTRUCTIONS
K	KIP
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH

L	ANGLE
LB	LATERAL BRACE
Ld	DEVELOPMENT LENGTH
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG.	LONGITUDINAL
L.P.	LOW POINT
MAX.	MAXIMUM
MEP	MECHANICAL/ELECTRICAL/PLUMBING
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MTL.	METAL
N.I.C.	NOT IN CONTRACT
N.S.	NEAR SIDE
N.W.	NORMAL WEIGHT
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
O.H.	OPPOSITE HAND
OPNG.	OPENING
OSB	ORIENTED STRAND BOARD
PAF	POWER ACTUATED FASTENER
PART.	PARTIAL
PCF	POUNDS PER CUBIC FOOT
PL	PLATE
PLF	POUNDS PER LINEAL FOOT
PLYWD	PLYWOOD
PRELIM.	PRELIMINARY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
P.T.	PRESSURE TREATED
QL	EARTHQUAKE LOAD
QTY.	QUANTITY
REBAR	DEFORMED REINFORCING STEEL BAR
REF.	REFERENCE / REFER TO
REINF.	REINFORCING (-ED), REINFORCEMENT
REQ'D.	REQUIRED
REV.	REVISION
R.D.	ROOF DRAIN
S.C.	SLIP CRITICAL
SIM.	SIMILAR
S.O.G.	SLAB ON GRADE
S.S.	STAINLESS STEEL
STAG.	STAGGERED
STD.	STANDARD
STIFF.	STIFFENER
STIR.	STIRRUP
STL.	STEEL
SL	SNOW LOAD
T&B	TOP AND BOTTOM
TEMP.	TEMPORARY
THRU	THROUGH
TL	TOTAL LOAD
TRANS.	TRANSVERSE
TSF	TONS PER SQUARE FOOT
TYP.	TYPICAL
UNEXC.	UNEXCAVATED
U.O.N.	UNLESS OTHERWISE NOTED
VERT.	VERTICAL
V.I.F.	VERIFY IN FIELD
W/	WITH
WF	WIDE FLANGE
W.W.R.	WELDED WIRE REINFORCING MESH
WL	WIND LOAD
XB	CROSS BRACE

DRAWING INDEX:

DELEGATED DESIGN SCHEDULE

THE DESIGNS OF THE FOLLOWING ITEMS ARE DELEGATED TO A SPECIALTY ENGINEER ENGAGED BY THE CONTRACTOR. STRUCTURAL DRAWINGS AND CALCULATIONS (WHERE APPLICABLE) SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NEW YORK AND SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD (E.O.R.) FOR REVIEW:

1.	TEMPORARY STABILITY, BRACING AND SHORING
2.	GLASS
3.	COLD-FORMED STEEL FRAMING

REQUIRED SUBMITTALS

IN ADDITION TO ALL DELEGATED DESIGN SUBMITTALS, CONTRACTOR SHALL SUBMIT THE FOLLOWING SHOP DRAWING / SUBMITTAL ITEMS FOR REVIEW AND APPROVAL BY THE DESIGN TEAM. A SUBMITTAL REVIEW SCHEDULE SHALL BE AGREED UPON IN ADVANCE. CONTRACTOR SHALL ALLOW TEN (10) BUSINESS DAYS FOR THE REVIEW AND RETURN OF ALL SUBMITTALS UNLESS OTHERWISE AGREED UPON. SEE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.

1.	CONCRETE MIX DESIGNS
2.	CONCRETE REINFORCING BARS / MECHANICAL COUPLERS
3.	STRUCTURAL STEEL
4.	MISCELLANEOUS STEEL
5.	COLD-FORMED STEEL
6.	GLASS SKYLIGHTS
7.	GLULAM BEAMS

SPECIAL INSPECTION NOTES:

1. ALL INSPECTIONS REQUIRED SHALL BE IN ACCORDANCE WITH CHAPTER 17 OF THE 2018 INTERNATIONAL BUILDING CODE, AS ADOPTED BY THE 2020 NEW YORK STATE BUILDING CODE.
2. ALL PARTIES SHALL REFER TO THE STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE E.O.R. FOR ADDITIONAL SPECIFIC INSPECTION REQUIREMENTS.
3. THE OWNER SHALL ENGAGE A LICENSED ENGINEER AND/OR SPECIAL INSPECTION AND TESTING AGENCY TO PERFORM SPECIAL INSPECTIONS. ALL INSPECTIONS SHALL BE PERFORMED AT THE SOLE COST AND EXPENSE OF THE OWNER.
4. THE LICENSED SPECIAL INSPECTOR SHALL DETERMINE THE FREQUENCY OF INSPECTIONS REQUIRED AND WHETHER HE/SHE SHOULD INSPECT THE SITE PERSONALLY OR SEND A PERSON UNDER HIS/HER DIRECT SUPERVISION.
5. THE LICENSED SPECIAL INSPECTOR RESPONSIBLE FOR THE SPECIAL INSPECTION SHALL REPORT ANY UNSAFE CONDITIONS TO THE BUILDING DEPARTMENT AND/OR ANY OTHER AFFECTED PARTIES OR AGENCIES.
6. THE CONTRACTOR SHALL NOTIFY THE SPECIAL INSPECTION AGENCY AT LEAST 72 HOURS BEFORE THE SPECIFIC WORK COMMENCES.
7. PERIODIC INSPECTION REPORTS SHALL BE SUBMITTED WITHIN ONE BUSINESS DAY AFTER RECEIPT BY THE CONTRACTOR TO ARCHITECT/ENGINEER DURING CONSTRUCTION. SUBMIT FINAL INSPECTION REPORT SUMMARY FOR EACH DIVISION OF WORK, CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER, THAT INSPECTIONS WERE DONE AND THAT WORK WAS PERFORMED IN ACCORDANCE WITH CONTRACT DOCUMENTS.

SPECIAL INSPECTIONS

TYPE	REFERENCE SECTION
STRUCTURAL STEEL	1705.2.1
CAST IN PLACE CONCRETE	1705.3
SOILS	1705.6
METAL FABRICATIONS	1704.2.5

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PROJECT NO.
24329

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

NO.	DESCRIPTION	DATE
1	ISSUED FOR BID	02/21/2025

NORTH

DRAWN: AC/KR/JR
REVIEWED: MF/CC
DATE: 1/31/2025

SHEET TITLE:
GENERAL NOTES AND DRAWING INDEX

SHEET NO.
SB0.1

ANY ALTERATION OF PLANS, SPECIFICATIONS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

STRUCTURAL CONCRETE NOTES:

1. ALL CONCRETE WORK SHALL COMPLY WITH THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318-14) AS AMENDED BY THE NEW YORK STATE BUILDING CODE, AND WITH THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE" (ACI 301-16).

2. CONCRETE SHALL CONFORM TO ACI SPECIFICATIONS 305.1 AND ACI 306.1, RESPECTIVELY, FOR HOT AND COLD WEATHER CONCRETING. CONTRACTOR SHALL REFER TO THE ACI GUIDES 305R-99 AND 306R-16, RESPECTIVELY, FOR HOT AND COLD WEATHER CONCRETING PRACTICES.

3. ALL REINFORCEMENT SHALL BE DETAILED, FABRICATED, PLACED AND SUPPORTED IN ACCORDANCE WITH CRSI'S "MANUAL OF STANDARD PRACTICE", UNLESS OTHERWISE NOTED.

4. CONCRETE MUST UTILIZE LOW EMBODIED CARBON CONCRETE AND SHALL CONTAIN PORTLAND CEMENT, SUPPLEMENTARY CEMENTITIOUS MATERIALS, SAND, GRAVEL OR CRUSHED STONE AGGREGATES, AND WATER.
   - 4.1. PORTLAND CEMENT SHALL CONFORM TO ASTM C150 TYPE I/II.
   - 4.2. NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C33, WITH A MAXIMUM SIZE OF 3/4".
   - 4.3. LIGHTWEIGHT AGGREGATES SHALL CONFORM TO ASTM C330, WITH A MAXIMUM SIZE OF 3/4". LIGHTWEIGHT CONCRETE SHALL HAVE A MAXIMUM DRY DENSITY OF 115 pcf.
   - 4.4. UNLESS OTHERWISE SHOWN ON THE CONTRACT DRAWINGS, THE TOTAL SUPPLEMENTAL CEMENTITIOUS MATERIAL PER TOTAL WEIGHT OF ONE OF THE FOLLOWING CEMENTITIOUS MATERIALS SHALL BE:

FLY ASH	15% - 25%
SLAG	35% - 45%

5. CONCRETE SHALL BE PER AN APPROVED MIX DESIGN PROPORTIONED TO ACHIEVE A STRENGTH AT 28 DAYS AS LISTED BELOW WITH A PLASTIC AND WORKABLE MIX:
   ALL CONCRETE 4.5 KSI N.W.

6. ALL REINFORCING STEEL SHALL BE NEW DEFORMED BILLET STEEL CONFORMING TO ASTM A615, GRADE 60.

7. ALL WELDED WIRE REINFORCEMENT (W.W.R.) SHALL CONFORM TO ASTM A1064, WITH A MINIMUM YIELD STRENGTH OF 65,000 PSI, U.O.N. EPOXY-COATED W.W.R. SHALL CONFORM TO ASTM A884, GRADE 65. MATS OF W.W.R. SHALL BE LAPPED A MINIMUM OF TWO (2) FULL MESH PANELS AND TIED SECURELY.

8. ALL W.W.R. TO BE TIED TO #4's AT 48" O.C. EACH WAY.

9. CONCRETE MIXTURES SHALL BE BASED ON THE BELOW SPECIFIED EXPOSURE CLASSES AND SHALL COMPLY WITH THE MOST RESTRICTIVE REQUIREMENTS ACCORDING TO ACI 318-14, TABLE 19.3.2.1
   EXPOSURE CLASSES: F2, S0, W0 & C0

10. CALCIUM CHLORIDES SHALL NOT BE UTILIZED IN THE CONCRETE MIX; OTHER ADMIXTURES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER.

11. DRY PACK SHALL BE 2 1/2 PARTS SAND, ONE PART CEMENT WITH ENOUGH WATER FOR PLACEMENT TO FILL HOLES OR MINOR CRACKS AS DIRECTED BY E.O.R.

12. CONCRETE DESIGN MIX SUBMITTALS SHALL INCLUDE EITHER TRIAL MIXTURES OR FIELD STRENGTH TEST DATA AS PER ACI 301, ARTICLE 4.2.3.4.

13. MIX SUBMITTALS SHALL BEAR THE NAME OF THE PROJECT, AND INDICATE MINIMUM 28-DAY COMPRESSIVE DESIGN STRENGTH, MAXIMUM WATER/CEMENT RATIO, UNIT WEIGHT FOR LIGHTWEIGHT CONCRETE, AIR CONTENT, NOMINAL MAXIMUM AGGREGATE SIZE, AND INTENDED PLACEMENT LOCATION AND METHODS. ALL MIX DESIGNS SHALL BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NEW YORK.

14. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR DESIGN OF CONCRETE MIXES AND FOR MAINTAINING STRENGTH AND PROPER SLUMP DURING CONSTRUCTION. NO CONCRETE SHALL BE PLACED UNTIL CONCRETE MIXES HAVE BEEN APPROVED BY THE ENGINEER.

15. PLACING OF CONCRETE SHALL NOT START UNTIL THE PLACEMENT OF REINFORCING IS APPROVED BY THE SPECIAL INSPECTOR, SPECIAL INSPECTION AGENCY, OR ENGINEER OF RECORD.

16. SUBMIT LAYOUT DRAWINGS SHOWING THE LOCATIONS OF ALL EDGE OF SLAB, CONSTRUCTION JOINTS, CURBS, SLAB DEPRESSION, SLEEVES, OPENINGS, ETC. PRIOR TO SUBMITTING CONCRETE REBAR DETAIL DRAWINGS.

17. SUBMIT SHOP DRAWINGS FOR ALL CONCRETE REINFORCING. SHOP DRAWINGS SHALL INCLUDE BAR SIZES, LENGTHS, GRADES, BAR SCHEDULES, STIRRUP AND TIE SPACING, BENT BAR DIAGRAM, BAR ARRANGEMENT AND COVER, LOCATION OF SPLICES, LENGTHS OF LAP SPLICES, AND DETAILS OF MECHANICAL COUPLERS.

18. DOWEL BAR SUBSTITUTIONS (FORM-SAVERS) SHALL BE PERMITTED PROVIDED THAT MANUFACTURER'S DATA SUPPORTS FULL TENSION SPLICES.

19. ALL REINFORCEMENT SHALL BE DELIVERED, STORED AND HANDLED TO PREVENT BENDING DAMAGE. STORE REINFORCEMENT TO AVOID CONTACT WITH EARTH.

20. INSTALL ALL EMBEDDED ITEMS REQUIRED FOR ADJOINING WORK THAT IS ATTACHED TO THE CAST-IN-PLACE CONCRETE. USE SETTING DRAWINGS, TEMPLATES, DIAGRAMS, INSTRUCTIONS, AND DIRECTIONS FURNISHED WITH ITEMS TO BE EMBEDDED. INSTALL ANCHOR RODS ACCURATELY AND COMPLY WITH TOLERANCES SPECIFIED IN AISC 303, SECTION 7.5.

21. ALL FORMWORK SHALL BE CONSTRUCTED SO CONCRETE MEMBERS AND STRUCTURES ARE OF SIZE, SHAPE, ALIGNMENT, ELEVATION, AND POSITION INDICATED WITHIN TOLERANCE LIMITS OF ACI 117.

22. CHAMFER ALL EXPOSED CONCRETE CORNERS UNLESS OTHERWISE NOTED ON ARCHITECTURAL DRAWINGS WITH WOOD, METAL, PVC, OR RUBBER STRIPS ¾" BY ¾" MINIMUM.

23. FORM-FACING MATERIAL SHALL PROVIDE CONTINUOUS, TRUE, AND SMOOTH CONCRETE SURFACE AND BE FURNISHED IN LARGEST PRACTICABLE SIZES TO MINIMIZE NUMBER OF JOINTS. FORM MATERIAL SHALL BE EXTERIOR GRADE PLYWOOD, METAL, OR OTHER APPROVED PANEL MATERIALS.

24. FORMWORK FOR SIDES OF WALLS MAY BE REMOVED AFTER CURING AT NOT LESS THAN AN AMBIENT TEMPERATURE OF 50 DEG F FOR 12 HOURS.

25. THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1½) HOURS. IF, FOR ANY REASON, THERE IS A LONGER DELAY THAN 1½ HOURS, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE. CONCRETE SHALL BE MEASURED, BATCHED, AND MIXED PER ASTM C94. DO NOT ADD WATER TO THE CONCRETE DURING DELIVERY.

26. PLACE ALL CONCRETE WITHOUT HORIZONTAL CONSTRUCTION JOINTS, EXCEPT WHERE SPECIFICALLY NOTED. ALL CONSTRUCTION JOINTS SHALL BE CLEANED AND MOISTENED IMMEDIATELY PRIOR TO PLACING NEW CONCRETE.

27. LOCATION OF ALL CONSTRUCTION JOINTS NOT SHOWN IN DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO DETAILING OF REINFORCING. ALL CONSTRUCTION JOINTS SHALL BE CLEARLY SHOWN IN REBAR DETAIL DRAWINGS. ENGINEER MAY REQUIRE ADDITIONAL REINFORCING AT CONSTRUCTION JOINTS.

28. CONTROL / CONTRACTION JOINTS IN WALLS SHALL NOT BE FURTHER APART THAN 30 FEET, U.O.N.

29. CONTROL JOINTS IN ALL SLABS-ON-GROUND SHALL BE SPACED AT 24 - 30 TIMES THE SLAB THICKNESS, U.O.N. SEE ARCH. FOR CONTROL JOINT LAYOUT.

30. BAR SUPPORTS IN CONTACT WITH EXPOSED SURFACES SHALL BE PLASTIC TIPPED. ALL REINFORCEMENT SHALL BE SECURELY HELD IN POSITION TO MAINTAIN PROPER COVER REQUIREMENTS WHILE PLACING CONCRETE.

31. ALL REINFORCING SHALL BE DETAILED AS CONTINUOUS, U.O.N. REINFORCING BARS MAY BE SPLICED ONLY AS SHOWN ON THE DRAWINGS EXCEPT THAT REINFORCING DESIGNATED AS "CONTINUOUS" MAY BE CONTACT LAP SPLICED.

32. REINFORCING BARS, WELDED WIRE REINFORCEMENT, TIE WIRES AND ACCESSORIES SHALL BE EPOXY COATED FOR CONCRETE WORKS THAT ARE EXPOSED TO WEATHER OR UNDER WATER IN ACCORDANCE WITH ASTM A775. DAMAGED EPOXY COATING ON REINFORCING MATERIALS SHALL BE TOUCHED UP TO THE ORIGINAL COATING STANDARDS.

33. DOWELS SHALL MATCH SIZE AND SPACING OF MAIN REINFORCING.

34. FIELD BENDING OF REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE IS NOT ALLOWED.

35. CONCRETE SLABS SHALL HAVE A MONOLITHIC FINISH AND SHALL BE SCREED, COMPACTED BY ROLLING OR TAMPING, FLOATED OFF AND GRADED AS REQUIRED.

36. SLABS SHALL BE CURED USING A DISSIPATING CURING COMPOUND MEETING ASTM STANDARD C309 TYPE 1-CLASS D AND SHALL HAVE A FUGITIVE DYE. THE COMPOUND SHALL BE PLACED AS SOON AS THE FINISHING IS COMPLETED OR AS SOON AS THE WATER HAS LEFT THE UNFINISHED CONCRETE. SCUFFED OR BROKEN AREAS IN THE CURING MEMBRANE SHALL BE RECOATED DAILY.

37. WHEN INSTALLING EXPANSION BOLTS OR ADHESIVE ANCHORS, THE CONTRACTOR SHALL TAKE MEASURES TO AVOID DRILLING OR CUTTING OF ANY EXISTING REINFORCING AND DESTRUCTION OF CONCRETE. HOLES SHALL BE BLOWN CLEAN PRIOR TO PLACING BOLTS OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS.

38. PATCH CONCRETE WHERE REQUIRED. PATCHING CONCRETE SHALL BE SIKA TOP 122 PLUS OR 123 PLUS WITH EPOXIED PINS WHERE REQUIRED BY MANUFACTURER.

39. MECHANICAL SPLICING IF REQUIRED, SHALL HAVE THE BARS CONNECTED TO DEVELOP AT LEAST 125 PERCENT OF THE SPECIFIED YIELD STRENGTH OF THE BAR. IF MECHANICAL SPLICING IS USED, SUBMIT PRODUCT LITERATURE AND METHOD OF INSTALLATION FOR REVIEW AND APPROVAL.

40. ALL SPLICES SHALL BE STAGGERED IN ACCORDANCE WITH ACI 318.

41. CLEAR COVER SHALL BE CLEARLY SHOWN ON ALL REBAR SHOP DRAWINGS.

42. REINFORCING STEEL SHALL HAVE A MINIMUM CLEAR COVER AS FOLLOWS, U.O.N.:
    CONCRETE POURED AGAINST EARTH - 3"
    CONCRETE EXPOSED TO EARTH OR WEATHER
    #5 OR SMALLER - 1½"
    #6 OR LARGER - 2"
    CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
    BEAMS, COLUMNS AND SHEAR WALLS - 1½"
    SLABS, WALLS, JOISTS - ¾"

43. DIMENSIONS "Ld" AND "Lst" AS NOTED ON DRAWINGS SHALL CORRESPOND TO THE LENGTHS, IN INCHES, AS SHOWN IN THE TABLES BELOW:
    TABLE NOTES:
    A. "Ld" DENOTES DEVELOPMENT LENGTH.
    B. "Lst" DENOTES TENSION LAP SPLICE.
    C. "Lsc" DENOTES COMPRESSION LAP SPLICE.
    D. FOR LIGHTWEIGHT CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.33.
    E. FOR EPOXY-COATED BARS, MULTIPLY THE TABULATED VALUES BY 1.5.
    F. FOR EPOXY-COATED BARS IN LIGHTWEIGHT CONCRETE, MULTIPLY THE TABULATED VALUES BY 2.

TABLE ASSUMPTIONS

1. TABLE VALUES ARE FOR f'c = 4 ksi
   FOR
   f'c= 3 ksi, Lst & Ld = 1.15 x TABLE VALUE
   f'c= 4.5 ksi, Lst & Ld = 0.94 x TABLE VALUE
   f'c= 5 ksi, Lst & Ld = 0.89 x TABLE VALUE
   f'c= 6 ksi, Lst & Ld = 0.82 x TABLE VALUE
2. Fy = 60 ksi
3. NORMAL WEIGHT CONCRETE
4. A MINIMUM CLEAR COVER PER PRECEDING CONCRETE NOTE.
5. A MINIMUM CLEAR SPACING OF 3" BETWEEN ANY BARS.
6. FOR WALLS:
   CASE 1 = CLEAR SPACING IS GREATER THAN OR EQUAL TO 2 x BAR DIAMETER AND CLEAR COVER IS GREATER THAN OR EQUAL TO THE BAR DIAMETER.
   CASE 2 = OTHER THAN CASE 1

WALLS

	CASE 1				CASE 2			
BAR SIZE	VERT. BARS (Ld)	VERT. BARS (Lst)	HORIZ. BARS (Ld)	HORIZ. BARS (Lst)	VERT. BARS (Ld)	VERT. BARS (Lst)	HORIZ. BARS (Ld)	HORIZ. BARS (Lst)
#3	14	18	18	24	14	18	18	24
#4	19	25	25	32	19	25	25	32
#5	24	31	31	40	24	31	31	40
#6	28	37	37	48	28	37	37	48
#7	42	54	54	70	42	54	54	70
#8	47	62	62	80	47	62	62	80
#9	54	70	70	90	54	70	70	90
#10	60	78	78	102	60	78	78	102
#11	67	87	87	113	67	87	87	113

POST-INSTALLED ANCHORS

1. POST-INSTALLED ANCHORS SHALL BE USED ONLY WHERE SPECIFIED ON THE STRUCTURAL DRAWINGS.

2. THE INSTALLATION OF POST-INSTALLED ANCHORS AS A REPAIR FOR MISSING OR MISPLACED CAST IN-PLACE ANCHORS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD (EOR).

3. EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES OR APPROVED EQUAL AND INSTALLED IN ACCORDANCE WITH THEIR RESPECTIVE ICC-ES REPORT AND MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS :

ANCHORS IN CONCRETE	HILTI HY 200 V3 ADHESIVE	ESR-4868
	HILTI KWIK BOLT TZ 2	ESR-4266
	DEWALT AC200+ ADHESIVE	ESR-4027
	DEWALT POWERSTUD+ SD2	ESR-2502
REBAR DOWELING	HILTI HY 200 ADHESIVE WITH SAFE SET INSTALLATION	ESR-3814
	DEWALT PURE220+ ADHESIVE WITH DUST X+ INSTALLATION	ESR-5144

SUBSTITUTIONS WITH EQUAL OR BETTER ANCHORS SHALL BE SUBMITTED FOR APPROVAL BY EOR. SUBMITTAL OF ALL PROPOSED PRODUCTS, WITH TECHNICAL DATA AND CURRENT ICC-ESR REPORTS IS REQUIRED FOR REVIEW AND APPROVAL BY EOR. ADDITIONAL CALCULATIONS FOR SPECIFIC APPLICATIONS MAY BE REQUIRED BY THE EOR.

4. ALL ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, TAKING CAREFUL NOTE OF DRILL BIT TYPE, CLEANING OF HOLE, TEMPERATURE OF ADHESIVE, AND HEATING OF ANCHOR HOLE, AND IN CONJUNCTION WITH EDGE DISTANCE, SPACING AND EMBEDMENT DEPTH AS INDICATED ON THE DRAWINGS.

5. THE CONTRACTOR SHALL EMPLOY AN ACI-CERTIFIED ADHESIVE ANCHOR INSTALLER OR ARRANGE FOR A MANUFACTURER'S FIELD REPRESENTATIVE TO PROVIDE ON-SITE ANCHOR INSTALLATION TRAINING FOR ALL PRODUCTS TO BE USED. ONLY TRAINED INSTALLERS SHALL PERFORM POST-INSTALLED ANCHOR INSTALLATION. CONTRACTOR SHALL SUBMIT DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL INSTALLING ANCHORS HAVE RECEIVED THE REQUIRED TRAINING PRIOR TO THE COMMENCEMENT OF WORK.

6. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.

7. CONTINUOUS OR PERIODIC SPECIAL INSPECTION FOR POST INSTALLED ANCHORS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 4.3/4.4 OF THE ICC-ES REPORT FOR THE INDIVIDUAL ANCHOR. SPECIAL INSPECTOR SHALL BE NOTIFIED PRIOR TO COMMENCEMENT OF WORK TO COORDINATE INSPECTION EFFORTS.

8. ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS (ACI 318).

9. BOLT HOLES SHALL BE ACCURATELY SET USING A TEMPLATE AND FIX DRILL GUIDE. USE SMALL PILOT HOLES AS REQUIRED TO ASSURE A PERFECT FIT AND TO ENSURE THAT NO EXISTING REINFORCING BARS ARE DAMAGED. LOCATION OF HOLES AND PLATE SIZES MAY HAVE TO BE ADJUSTED SO THAT REINFORCEMENT BARS ARE NOT DAMAGED.

10. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE SHALL NOT BE CUT DURING THE INSTALLATION OF POST-INSTALLED ANCHORS UNLESS APPROVED BY THE EOR.

11. IF FIELD TESTING IS REQUIRED, CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE TESTING AGENCY FOR INSPECTION AND APPROVAL, PRIOR TO ANCHOR SYSTEM INSTALLATION.

STRUCTURAL STEEL NOTES:

1. MATERIALS, DETAILING, FABRICATION AND ERECTION SHALL COMPLY WITH AISC "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS" (AISC 360-16) AND "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS" (AISC 341-16) AS AMENDED BY THE NEW YORK STATE BUILDING CODE, AND THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC 303-16).

2. BOLTS AND BOLTED CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", APPROVED BY THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS. CONNECTIONS SHALL BE BEARING TYPE UNLESS NOTED OTHERWISE IN DRAWINGS.

3. STRUCTURAL STEEL SHALL COMPLY WITH THE FOLLOWING ASTM DESIGNATIONS UNLESS OTHERWISE NOTED:

ALL W SHAPES	ASTM A992
ANGLES	ASTM A36
PLATES & BARS	A572 GRADE 50
HSS SECTIONS (SQUARE OR RECTANGULAR)	ASTM A500, GRADE C
ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS	ASTM F3125, GRADE A325
THREADED RODS	ASTM A36
HEAVY HEX NUTS	ASTM A563
HARDENED STEEL WASHERS	ASTM F436
ALL ANCHOR RODS	ASTM F1554, GRADE 55
HEADED STUD ANCHORS	ASTM A29, TYPE B
KNIFE PLATE DOWELS	ASTM A572 GRADE 50
GUSSET PIN GUSSET BOLT	ASTM A572 GRADE 50 ASTM A449 TYPE 1

4. GALVANIZING OF STEEL MEMBERS SHALL CONFORM TO ASTM A123/123M. ALL STEEL FRAMING EXPOSED TO EXTERIOR CONDITIONS (INCLUDING EXTERIOR LINTELS) OR THAT COMES IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE COATED TO A G90 THICKNESS AND ALL BOLTS, HEADED STUDS AND CONNECTORS SHALL BE COATED TO A G185 THICKNESS.

5. FAYING SURFACES FOR ALL SLIP-CRITICAL CONNECTIONS SHALL BE CLASS A OR BETTER INCLUDING PAINTED SURFACES.

6. FILLER BEAMS SHALL BE EQUALLY SPACED BETWEEN ESTABLISHED DIMENSIONS, UNLESS NOTED OTHERWISE.

7. ALL ANCHOR RODS NUTS AND BOLTS TO BE INSTALLED SNUG TIGHT.

8. ALL GROUT FOR LEVELING UNDER COLUMN OR BEAM BEARING PLATES SHALL BE NON-SHRINK, NON-METALLIC WITH A MIN. COMPRESSIVE STRENGTH OF 5,000 PSI.

9. SUBMIT SHOP DRAWINGS FOR ALL WORK. DO NOT PROCEED WITH ANY FABRICATION UNTIL THE SHOP DRAWINGS ARE FAVORABLY REVIEWED. SHOP DRAWINGS SHALL BE BASED ON FIELD VERIFIED CONDITIONS.

10. CONTRACTOR SHALL PROVIDE ANY MEASURES REQUIRED FOR STABILITY OF STRUCTURE DURING ERECTION.

11. ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS AND SHALL CONFORM TO "AWS D1.1 STRUCTURAL WELDING CODE - STEEL". WELDERS SHALL BE LICENSED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE BUILDING CODE.

12. WELDING ELECTRODES SHALL BE E70XX AND/OR COMPLY WITH AWS REQUIREMENTS.

13. WELDING SHALL BE PERFORMED IN A MANNER THAT WOULD AVOID ANY DETRIMENTAL OVERHEATING OF EXISTING LOAD BEARING STEEL.

14. ALL LIVE LOADS SHALL BE REMOVED FROM AREAS BEING WELDED DURING CONSTRUCTION.

15. MINIMUM FILLET WELDS SHALL COMPLY WITH AISC, BUT SHALL NOT BE LESS THAN 1/4 INCH, UNLESS OTHERWISE NOTED.

16. PROVIDE FIREPROOF BLANKETS AND OTHER FIRE PROTECTION MEASURES AS REQUIRED FOR FIRE SAFETY DURING WELDING.

17. SURFACES OF ALL STEEL THAT IS TO RECEIVE WELDS SHALL BE POWER BRUSHED AND CLEANED THOROUGHLY OF ALL FOREIGN MATTER INCLUDING PAINT FOR A DISTANCE OF 2 INCHES FROM EACH SIDE OF THE OUTSIDE LINES OF WELD.

18. ALL FIELD WELDING AREAS SHALL BE TOUCHED UP ON SITE WHERE PAINT IS REQUIRED.

19. ALL ARCHITECTURALLY EXPOSED WELDS SHALL BE GROUND SMOOTH, U.O.N.

20. ALL NEW INTERIOR STEEL SHALL BE PAINTED WITH THE FOLLOWING SYSTEM BY SHERWIN WILLIAMS OR EQUAL: (PAINT SYSTEMS TO BE COORDINATED WITH ARCH. DWG'S PRIOR TO ANY WORK AND VERIFIED WITH SHERWIN WILLIAMS FOR APPLICABILITY OF INTENDED USE)

Surface Prep:	SSPC-SP2 Hand Tool Clean
Prime:	Sherwin Williams Dura-Plate 235 Multi-Purpose Epoxy
Intermediate:	Sherwin Williams Tile-Clad HS Epoxy
Finish:	Sherwin Williams Tile-Clad HS Epoxy

21. FOR ALL FIREPROOFING AND PAINTING REQUIREMENTS, SEE ARCH. DRAWINGS.

22. PRIOR TO APPLICATION OF SPRAYED ON FIREPROOFING, THE CONTRACTOR SHALL REMOVE, IN THE FIELD, ALL LOOSE MILL SCALE OR RUST. DO NOT PAINT STEEL IF SPRAY FIREPROOFING IS USED.

23. ALL EXTERIOR EXPOSURE FIELD WELDING AREAS SHALL BE TOUCHED UP WITH ZINC-RICH PAINT AND A FINAL COAT PER ARCH. SPECIFICATIONS.

24. ALL EXTERIOR EXPOSURE BOLTS, SHIMS, AND OTHER HARDWARE SHALL BE TOUCHED UP WITH ZINC RICH PAINT.

25. FABRICATE BEAMS WITH THE NATURAL CAMBER UP. PROVIDE CAMBERS AS INDICATED ON THE DRAWINGS.

26. WHERE STEEL MEMBERS ARE REQUIRED TO BE SPLICED, THE SPLICE SHALL BE MADE TO DEVELOP THE FULL STRENGTH OF THE SECTION. SUCH SPLICES SHALL NOT INTERFERE WITH ANY ARCHITECTURAL OR MECHANICAL DESIGN AND CLEARANCES. SUBMIT SHOP DRAWING OF SPLICE DETAIL, LOCATION AND CALCULATION SIGNED AND SEALED BY THE CONTRACTOR'S PROFESSIONAL ENGINEER.

27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL ERECTION PROCEDURES AND SEQUENCES WITH RELATION TO TEMPERATURE DIFFERENTIALS.

28. GAS CUTTING (TORCH CUTTING) OF MAIN STRUCTURAL MEMBERS IN THE FIELD WILL NOT BE PERMITTED.

29. FIELD TESTING OF BOLTED CONNECTIONS SHALL BE CHECKED BY A CALIBRATED TORQUE WRENCH PER ASTM STANDARDS FOR AT LEAST 25 PERCENT OF THE BOLTS.

30. SHOP AND FIELD TESTING OF WELDS SHALL BE AS FOLLOWS:
    A. 100% OF ALL WELDS SHALL BE VISUALLY INSPECTED.
    B. 15% OF ALL FILLET WELDS AT RANDOM SHALL BE MEASURED.
    C. FILLET WELDS FOR BEAMS AND GIRDER SHEAR CONNECTION PLATES SHALL BE TESTED 30% AT RANDOM BY MAGNETIC PARTICLE FOR FINAL PASS ONLY, EXCEPT THAT 100% OF THE FILLET WELDS AT CONTINUITY PLATES SHALL BE TESTED.
    D. PARTIAL PENETRATION WELD TESTING BY MAGNETIC PARTICLE SHALL OCCUR IN AT LEAST ONE SPOT PER CONNECTION.
    E. 100% OF ALL FULL PENETRATIONS WELDS SHALL BE ULTRASONICALLY TESTED.
    F. THE OWNER'S TESTING AGENCY SHALL PERFORM ALL SHOP AND FIELD INSPECTION AND TESTING AS OUTLINED ABOVE AND PROVIDE ALL TEST REPORTS TO THE ENGINEER OF RECORD.
    G. ADDITIONAL WELD TESTING WILL BE REQUIRED IF MORE THAN 10% OF THE TESTED WELDS ARE REJECTED. IN SUCH CASES, AN ADDITIONAL 10% OF ALL SUCH WELDS SHALL BE TESTED USING THE SAME METHOD. THIS 10% ADDITIONAL TESTING PROCESS SHALL BE REPEATED UNTIL THE REJECTION RATE DROPS BELOW 10%.
    ALL COSTS OF ANY REQUIRED ADDITIONAL INSPECTIONS WILL BE DONE AT THE CONTRACTOR'S EXPENSE.

31. TEMPORARY SUPPORTS, SUCH AS TEMPORARY GUYS, BRACES, FAALSEWORK, CRIBBING OR OTHER ELEMENTS REQUIRED FOR THE ERECTION OPERATION WILL BE DETERMINED, FURNISHED AND INSTALLED BY THE ERECTOR. THESE TEMPORARY SUPPORTS SHALL BE CAPABLE OF SECURING THE STEEL FRAMING, OR ANY PARTLY ASSEMBLED STEEL FRAMING, AGAINST LOADS COMPARABLE IN INTENSITY TO THOSE FOR WHICH THE STRUCTURE WAS DESIGNED, RESULTING FROM WIND, SEISMIC FORCES AND ERECTION OPERATIONS.

32. THE CONTRACTOR SHALL COMPLY WITH OSHA REQUIREMENTS FOR STEEL ERECTION.

LIGHT GAUGE STEEL NOTES:

1. ALL LIGHT GAUGE STEEL WORK SHALL COMPLY WITH THE AMERICAN IRON AND STEEL INSTITUTE'S NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS (AISI S100-16) AND THE CODE OF STANDARD PRACTICE FOR COLD-FORMED STEEL FRAMING (AISI S202-15) AS AMENDED BY THE NEW YORK STATE BUILDING CODE.

2. ALL COLD-FORMED STEEL PRODUCTS SHALL COMPLY WITH ASTM A1003 "STANDARD SPECIFICATION FOR STEEL SHEET, CARBON, COLD-FORMED FRAMING MEMBERS" AND SHALL BE MANUFACTURED BY MARINO-WARE INDUSTRIES, CLARK DIETRICH, OR APPROVED EQUIVALENT.

3. ALL COLD-FORMED STEEL MEMBERS SHOWN ON STRUCTURAL DRAWINGS IS FOR CONCEPT ONLY. SUBMIT SHOP DRAWINGS, CALCULATIONS, AND ALL PROPOSED PRODUCT DATA FOR REVIEW INCLUDING STUD AND TRACK SIZES AND GAUGE, MANUFACTURER, AND ALL ACCESSORIES, FRAMING CONNECTIONS, FASTENERS, AND COATINGS. SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED, SEALED AND PREPARED BY A REGISTERED ENGINEER IN THE STATE OF NEW YORK.

4. ALL STUDS, JOISTS AND ACCESSORIES SHALL HAVE THE FOLLOWING MINIMUM YIELD STRENGTH: 16 GA. OR HEAVIER - 50 KSI 20 AND 18 GA. - 33 KSI

5. ALL JOIST CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR TO SUSTAIN THE FULL ALLOWABLE UNIFORM LOAD OF THE JOIST. AT C-JOIST TO STEEL CONNECTIONS, PROVIDE TOP FLANGE JOIST HANGERS SECURED TO FLANGE WITH P.A.F.'S.

6. FASTENING OF COMPONENTS SHALL BE WITH WITH SELF-TAPPING #10-12 SCREWS MIN. OR WELDED. WIRE TYING OF COMPONENTS IS NOT PERMITTED. SCREW PENETRATION THROUGH JOINED MATERIALS SHALL HAVE A MINIMUM OF 3 EXPOSED THREADS. ALL WELDS SHALL BE TOUCHED UP WITH A ZINC-RICH PAINT.

7. PROVIDE MECHANICAL BRIDGING SPACED AT INTERVALS NOT TO EXCEED 4'-0" O.C. FOR VERTICAL MEMBERS, AND NOT TO EXCEED 8'-0" ON CENTER FOR JOISTS U.O.N. IN DRAWINGS. SEE TYPICAL BRIDGING DETAIL FOR REFERENCE.

8. COMPRESSION (TOP) FLANGE OF THE SIMPLY SUPPORTED JOISTS SHALL BE BRACED BY THE ATTACHMENT OF CONTINUOUS DIAPHRAGM-RATED SHEATHING. USE SCREWS TO CONNECT DECK TO THE COLD-FORMED STEEL JOISTS.

9. BOTTOM FLANGES OF CANTILEVERED JOISTS SHALL HAVE DIAGONAL STABILIZING MEMBERS FOR BRACING.

10. ALL STUDS AND JOISTS SHALL ALIGN VERTICALLY AND SHALL BE INSTALLED PLUMB, SQUARE AND LEVEL. DOUBLE THE STUDS AT EACH SIDE OF WALL OPENINGS AND AT ALL CORNERS.

11. ALL SPLICING OF FRAMING MEMBERS SHALL OCCUR AT SUPPORT POINTS ONLY.

12. DRILL, PUNCH OR SAW CUT MEMBERS AS ALLOWED FOR CONNECTIONS. TORCH CUTTING SHALL NOT BE PERMITTED.

13. CONTRACTOR SHALL COORDINATE ALL MEP/ARCH OPENINGS NOT SHOWN ON STRUCTURAL PLAN AND ALLOW FOR ADDITIONAL JOISTS TO FRAME OUT OPENINGS. OPENING FRAMING SHALL BE INCLUDED ON SHOP DRAWINGS.

14. PROVIDE WEB STIFFENERS AND ALL ADDITIONAL CLIPS, STRAPS, STUDS, AND JOISTS REQUIRED TO CONFORM TO MANUFACTURER'S TYPICAL DETAILS OUTLINED IN THEIR LATEST CATALOG.

STEEL STUD MANUFACTURES ASSOCIATION (SSMA) COLD-FORMED STEEL MEMBER DESIGNATIONS

600S162-54 (50)

MINIMUM YIELD STRENGTH OF STEEL IN KSI

MATERIAL THICKNESS IN MILS (1/1000"):
18 MILS = 25 GAGE
33 MILS = 20 GAGE
43 MILS = 18 GAGE
54 MILS = 16 GAGE

FLANGE WIDTH IN 1/100"

TYPE:
S = STUD OR JOIST
T = TRACK

MEMBER DEPTH IN 1/100"

WOOD NOTES:

1. DESIGN, FABRICATION, AND CONSTRUCTION OF WOOD FRAMING SHALL COMPLY WITH THE AMERICAN WOOD COUNCIL'S "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION" (NDS-2018).

2. DESIGN, FABRICATION, AND CONSTRUCTION OF GLUED LAMINATED TIMBER FRAMING SHALL COMPLY WITH THE "TIMBER CONSTRUCTION MANUAL", LATEST EDITION, AS PUBLISHED BY THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION, AND THE STANDARD SPECIFICATION FOR STRUCTURAL GLUED LAMINATED TIMBER OF SOFTWOOD SPECIES (ANSI 117:2020).

3. LUMBER SHALL BE IN COMPLIANCE WITH THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY'S "VOLUNTARY PRODUCT STANDARD, PS 20-20, AMERICAN SOFTWOOD LUMBER STANDARD". PROVIDE LUMBER COMPLYING WITH GRADING RULES AND MARKINGS OF SECTIONS 6 & 7 OF PS 20-20.

4. WOOD STRUCTURAL PANELS SHALL BE IN COMPLIANCE WITH THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY'S "VOLUNTARY PRODUCT STANDARD, PS 1-19, STRUCTURAL PLYWOOD".

5. GLULAM FOR ARCHED BEAMS SHALL BE 24F-V4 DOUGLAS FIR-LARCH WITH A MIN. Fv_x = 265 PSI, $Fc_{||}$ = 1,650 PSI, Fb_x^+ = 2,400 PSI, Fb_x^- = 1,850 PSI AND E = 1.8 KSI.

   GLULAM FOR ROOF BEAMS SHALL BE 24F-V8 DOUGLAS FIR-LARCH WITH A MINIMUM Fv_x = 265 PSI, $Fc_{||}$ = 1,600 PSI, $Fb_x^{+/-}$ = 2,400 PSI AND E = 1.8 KSI.

6. ALL FRAMING LUMBER SHALL BE STAMPED AND GRADED AS FOLLOWS, U.O.N.:
   RAFTERS: DOUGLAS FIR-LARCH (OR DF-L NORTH) NO. 1 & BETTER
   F_b MIN.= 1,150 PSI; $Fc_{||}$ MIN.= 1800 PSI; E= 1,800 KSI

7. ALL WOOD AND TIMBER FRAMING USED IN AN EXTERIOR EXPOSURE SHALL BE PRESSURE TREATED FOR ROT RESISTANCE AND TERMITE OR FUNGAL DECAY. ALL EXTERIOR EXPOSED ENGINEERED WOOD SHALL BE "PARALLAM PLUS PSL" BY WEYERHAEUSER, OR APPROVED EQUAL.

8. DIMENSIONAL LUMBER TO BE MARKED "S-DRY" WITH A MAXIMUM MOISTURE CONTENT OF 19% AT TIME OF INSTALLATION. COMPLY WITH DRY SIZE REQUIREMENTS OF PS 20.

9. AT A MINIMUM, THE NUMBER, TYPE AND SIZE OF FASTENERS SHALL COMPLY WITH TABLE 2304.10.1 OF THE NEW YORK STATE BUILDING CODE, U.O.N.

10. APA RATED FLOOR / CEILING JOIST SHEATHING SHALL BE 3/4" THICK MIN., TONGUE & GROOVE, STRUCTURAL I INSTALLED WITH FACE GRAIN PERPENDICULAR TO SUPPORTS AND INSTALLED CONTINUOUS OVER THREE SUPPORTS MINIMUM. FLOOR / CEILING JOIST SHEATHING SHALL BE GLUED CONTINUOUSLY AND FASTENED WITH 10d COMMON NAILS AT 12" O.C. TYP. AND AT 6" O.C. AROUND BUILDING EDGES AND OPENINGS, U.O.N.

11. GLUE SHALL BE ELASTOMERIC CONSTRUCTION ADHESIVE (OSI GREEN SERIES SUB-FLOOR & DECK HIGH PERFORMANCE ADHESIVE OR APPROVED EQUAL).

12. APA RATED EXTERIOR WALL SHEATHING SHALL BE 5/8" THICK MIN., "CDX" PLYWOOD AND INSTALLED WITH FACE GRAIN PERPENDICULAR TO SUPPORTS OVER THREE SUPPORTS MINIMUM. WALL SHEATHING SHALL BE CONNECTED TO FRAMING WITH NO. 12-14 SCREWS IF ATTACHED TO LIGHT-GAGE STEEL AT 8" O.C. AT INTERMEDIATE SUPPORTS, UNLESS OTHERWISE NOTED.

13. APA RATED EXTERIOR "CDX" ROOF SHEATHING SHALL BE 3/4" THICK MIN., TONGUE & GROOVE, STRUCTURAL I INSTALLED WITH FACE GRAIN PERPENDICULAR TO SUPPORTS AND INSTALLED CONTINUOUS OVER THREE SUPPORTS MINIMUM. ROOF SHEATHING SHALL BE FASTENED WITH 10d COMMON NAILS AT 6" O.C. TYP. AND AT 4" O.C. AROUND BUILDING EDGES AND OPENINGS, U.O.N.

14. ALLOW 1/8" SPACING AT PANEL ENDS AND EDGES UNLESS OTHERWISE RECOMMENDED BY THE SHEATHING MANUFACTURER. STAGGER PLYWOOD SHEATHING PANEL END JOINTS.

15. CONTRACTOR SHALL COORDINATE LOCATIONS OF ALL PLUMBING PIPES, HVAC DUCTS, RECESSED LIGHTING FIXTURES, ETC. PRIOR TO LAYOUT OF FRAMING TO MINIMIZE INTERFERENCE THAT MAY REQUIRE ALTERING OR STRENGTHENING OF THE INSTALLED FRAMING.

16. PROVIDE MISCELLANEOUS FRAMING AS REQUIRED FOR APPROVED OPENINGS, PIPE HANGING, AND OTHER ARCHITECTURAL WORK. MINIMUM SIZE TO MATCH PREVALENT FRAMING.

17. ALL ROOF OPENINGS SHALL BE COORDINATED WITH ARCH./ MEP. PROVIDE DOUBLE HEADERS AND DOUBLE TRIMMERS OF MINIMUM SIZE TO MATCH PREVALENT FRAMING. WHERE FLOOR OPENINGS CAN BE FIT BETWEEN TWO JOISTS, PROVIDE DOUBLE HEADERS ONLY.

18. ROOFS SHALL BE INSTALLED AT THE PITCHES INDICATED ON THE ARCHITECTURAL DRAWINGS.

19. JOISTS OR RAFTERS SHALL BE SET WITH "CROWN" UP (i.e. POSITIVE CAMBER) AND WITHIN 1/2 INCH OF STRAIGHT, END-TO-END ALIGNMENT.

20. UNLESS OTHERWISE NOTED IN DRAWINGS, BUILT-UP MEMBERS OF TWO PLIES SHALL BE ASSEMBLED WITH 1/2" DIA. BOLTS AT 16" O.C. STAGGERED UP AND DOWN WITH 2 INCH CLEARANCE AT TOP AND BOTTOM EDGES. BUILT-UP MEMBERS OF MORE THAN 2 PLIES SHALL BE ASSEMBLED IN THE SAME MANNER BUT WITH (2) TWO ROWS OF BOLTS.

21. SEVERELY DISTORTED (TWISTED, BOWED, CUPPED, CHECKED, ETC.), INSECT DAMAGED, OR FUNGAL DAMAGED LUMBER SHALL NOT BE USED.

22. NOTCHES IN EXISTING OR NEW FRAMING SHALL NOT BE ALLOWED WITHOUT THE PERMISSION OF THE ENGINEER.

23. ALL FLUSH FRAMED CONNECTIONS SHALL USE PREFABRICATED GALVANIZED STEEL HANGERS MADE BY SIMPSON STRONG-TIE, OR APPROVED EQUAL, OF WIDTH AND DEPTH APPROPRIATE FOR THE SUPPORTED MEMBER, U.O.N. ON PLAN. INSTALL WITH THE TYPE AND MAXIMUM QUANTITY OF FASTENERS RECOMMENDED BY THE MANUFACTURER.

24. ALL CONNECTION HARDWARE EXPOSED TO THE WEATHER SHALL BE STAINLESS STEEL OR HOT DIP GALVANIZED AND PAINTED WITH AN EPOXY PAINT.

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PROFESSIONAL SEAL

CIRO CUONO
No. 080959

DATE OF EXPIRATION: 11/30/2026

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PROJECT NO.
24329

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

NO.	DESCRIPTION	DATE
1	ISSUED FOR BID	02/21/2025

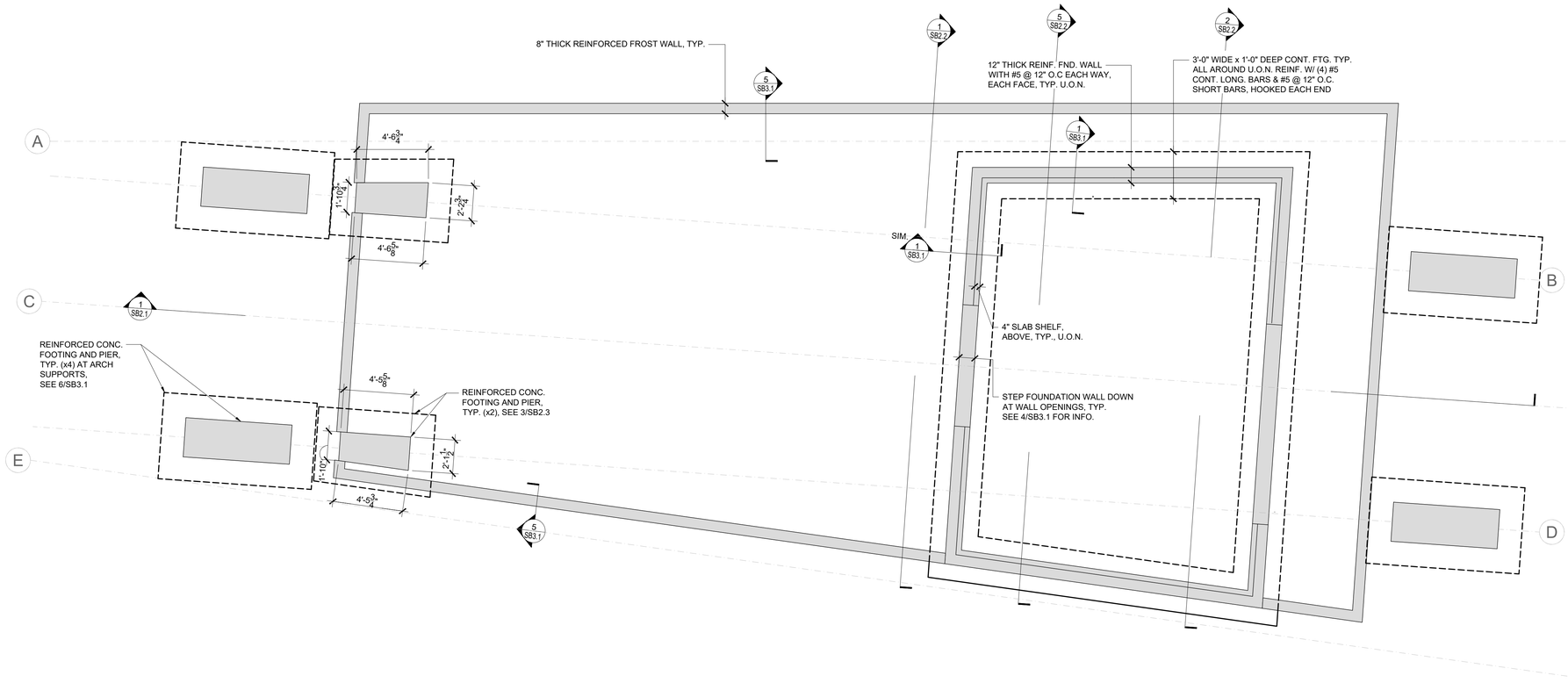
DRAWN: AC/KR/JR
REVIEWED: MF/CC
DATE: 1/31/2025

NORTH

SHEET TITLE:
GENERAL NOTES

SHEET NO.
SB0.2

LEGEND:	
	REINF. CONCRETE WALL, F'c= 4,500 PSI, Fy=60,000 PSI



A SB1.0 *FOUNDATION PLAN*
SCALE: ¼"=1'-0"

DRAWING NOTES

1. SEE ARCH. DWGS. FOR ALL DIMENSIONS, TOP OF SLAB ELEVATIONS, TOP OF FOUNDATION WALL ELEVATIONS, CLEARANCES, WATERPROOFING, FLASHING, INSULATION, FINISHES, AND DRAINAGE SYSTEM.
2. COORDINATE ALL WALL LOCATIONS, OPENINGS, WINDOWS AND DOOR LOCATIONS WITH ARCH. DWGS.
3. SET BOTTOM OF THE FOOTING ELEVATION BELOW THE FROST LINE AS REQUIRED BY THE LOCAL BUILDING CODES OR DEEPER IF NEEDED FOR BEARING ON VIRGIN MATERIAL. PROVIDE STEPPED FOOTING AS REQUIRED.
4. ALL FOUNDATION SYSTEMS/ELEMENTS SHOWN ARE BASED ON ASSUMED MINIMUM BEARING CAPACITY OF 2.0 TSF FOR STRUCTURAL FILL OR GLACIAL TILL, AS NOTED IN THE GEOTHECHINCAL REPORT.
5. NEW FOOTINGS TO BE CENTERED ON NEW COLUMNS AND WALLS.
6. DO NOT SCALE DRAWINGS.

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DATE: 1/31/2025

SHEET TITLE:
FOUNDATION PLAN

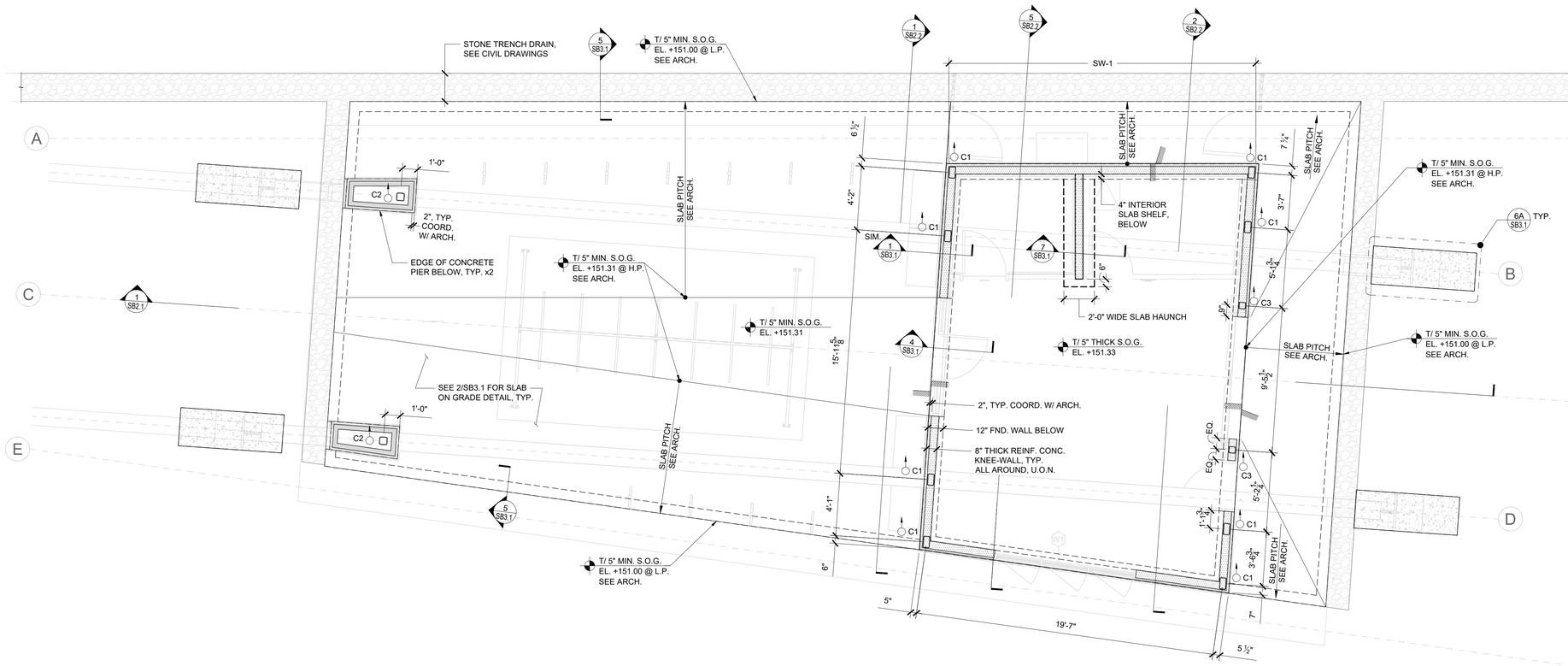
SHEET NO.
SB1.0

SHEAR WALL SCHEDULE AT FIRST FLOOR								
MARK	CFS	SHEATHING THICKNESS (NOMINAL)	SHEATHING	FASTENER TYPE	PANEL EDGE BLOCKING	PANEL EDGE FASTENING	PANEL FIELD FASTENING	MIN. SILL PLATE ANCHORING
SW-1	16" O.C.	⅝"	ONE SIDE	#10 SCREWS	YES	6"	12"	0.157" P.A.F@ 6" O.C.

SHEAR WALL SCHEDULE NOTES:

1. SHEATHING SHALL BE STRUCT. 1, EXTERIOR GRADE PLYWOOD WTH FACE GRAIN PERPENDICULAR TO SUPPORT OR APPROVED EQUAL. PANELS SHALL BE CONTINUOUS OVER TWO SUPPORTS MINIMUM.
2. WOOD STRUCTURAL PANELS SHALL BE ATTACHED TO STEEL FRAMING WITH FLAT HEAD SELF TAPPING SCREWS.
3. ALL SHEAR WALL PANELS SHALL EXTEND UP TO UNDERSIDE OF THE ROOF DIAPHRAGM SHEATHING AND SHALL BE SPIKED TO ROOF MEMBERS.
4. P.A.F's SHALL BE HILTI POWDER-DRIVEN FASTENER X-U FASTENER (MIN. 1½" LENGTH) OR APPROVED EQUAL.
5. SHEAR WALLS LOCATED AT PLUMBING WALL SHALL BE SHEATHED AND FASTENED PRIOR TO INSTALLATION OF ANY PLUMBING FIXTURES THAT WOULD REDUCE SHEATHING LIMITS OR INTERFERE WITH SHEATHING INSTALLATION.

LEGEND:	
○	DENOTES COLUMN ABOVE
	DENOTES 600S162-33 (33 KSI) @ 16" O.C. LIGHT GAGE STUD WALLS, U.O.N.
	DENOTES 362S162-43 (33 KSI) @ 12" O.C. LIGHT GAGE STUD WALLS, U.O.N.
C1	DENOTES HSS 9x5x1/2" COLUMN
C2	DENOTES HSS 6x6x3/8" COLUMN
C3	DENOTES HSS 5x5x5/16" COLUMN



A SB1.1 *GROUND FLOOR PLAN*
SCALE: ¼"=1'-0"

DRAWING NOTES
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2. COORDINATE ALL WALL LOCATIONS, OPENINGS, WINDOWS AND DOOR LOCATIONS WITH ARCH. DWGS.
3. SET BOTTOM OF THE FOOTING ELEVATION BELOW THE FROST LINE AS REQUIRED BY THE LOCAL BUILDING CODES OR DEEPER IF NEEDED FOR BEARING ON VIRGIN MATERIAL. PROVIDE STEPPED FOOTING AS REQUIRED.
4. ALL FOUNDATION SYSTEMS/ELEMENTS SHOWN ARE BASED ON ASSUMED MINIMUM BEARING CAPACITY OF 2.0 TSF TO BE FIELD VERIFIED BY A LICENSED GEOTECHNICAL ENGINEER. MODIFICATIONS MAY BE REQUIRED AFTER EXISTING CONDITIONS ARE VERIFIED.
5. NEW FOOTINGS TO BE CENTERED ON NEW COLUMNS AND WALLS.
6. DO NOT SCALE DRAWINGS.

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DATE: 1/31/2025

SHEET TITLE:
GROUND FLOOR PLAN

SHEET NO.
SB1.1

SHEAR WALL SCHEDULE AT FIRST FLOOR

MARK	CFS	SHEATHING THICKNESS (NOMINAL)	SHEATHING	FASTENER TYPE	PANEL EDGE BLOCKING	PANEL EDGE FASTENING	PANEL FIELD FASTENING	MIN. SILL PLATE ANCHORING
SW-1	16" O.C.	⅝"	ONE SIDE	#10 SCREWS	YES	6"	12"	0.157" P.A.F@ 6" O.C.

SHEAR WALL SCHEDULE NOTES:

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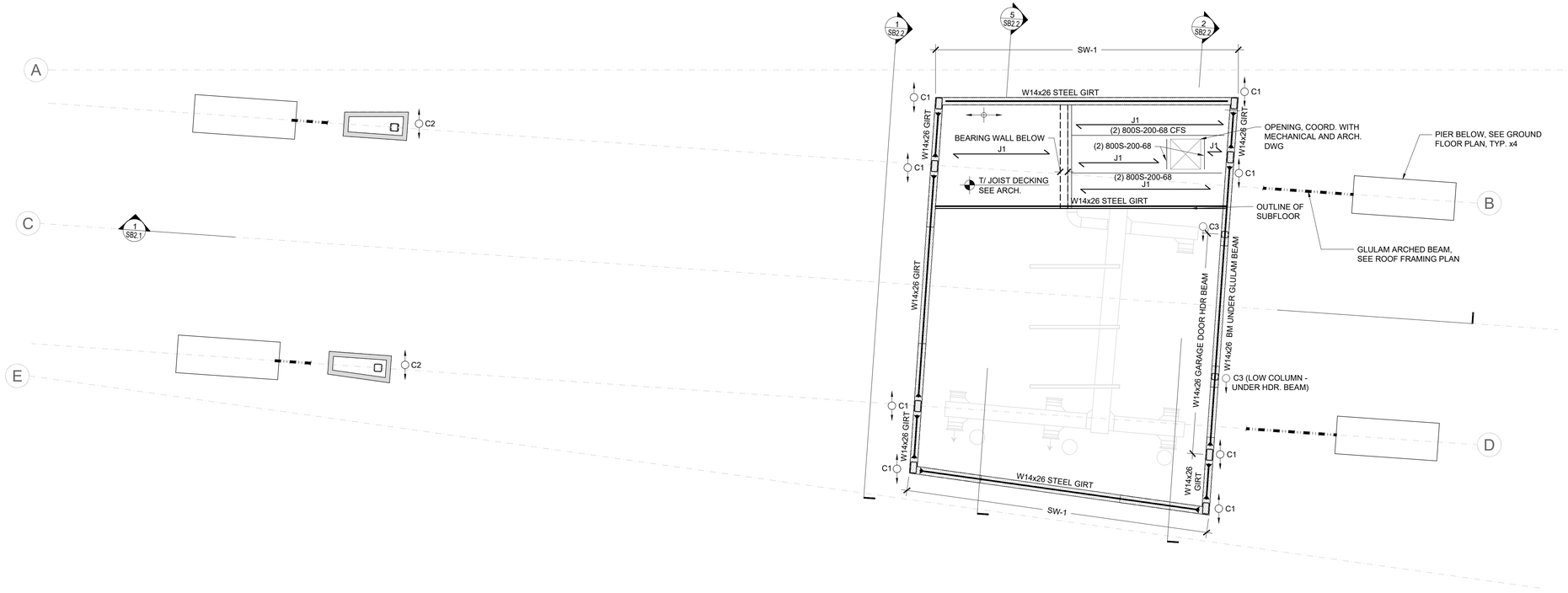
2. WOOD STRUCTURAL PANELS SHALL BE ATTACHED TO STEEL FRAMING WITH FLAT HEAD SELF TAPPING SCREWS.
3. ALL SHEAR WALL PANELS SHALL EXTEND UP TO UNDERSIDE OF THE ROOF DIAPHRAGM SHEATHING AND SHALL BE SPIKED TO ROOF MEMBERS.
4. P.A.F's SHALL BE HILTI POWDER-DRIVEN FASTENER X-U FASTENER (MIN. 1½" LENGTH) OR APPROVED EQUAL.
5. SHEAR WALLS LOCATED AT PLUMBING WALL SHALL BE SHEATHED AND FASTENED PRIOR TO INSTALLATION OF ANY PLUMBING FIXTURES THAT WOULD REDUCE SHEATHING LIMITS OR INTERFERE WITH SHEATHING INSTALLATION.

LEGEND:

	DENOTES COLUMN ORIENTATION ABOVE AND/OR BELOW, RESPECTIVELY
	DENOTES 600S162-33 (33 KSI) @ 16" O.C. LIGHT GAGE STUD BEARING WALLS, U.O.N.
	DENOTES 362S162-43 (33 KSI) @ 12" O.C. LIGHT GAGE STUD WALLS, U.O.N.
	DENOTES BEARING WALLS BELOW
J1	DENOTES 800J-200-68 (50 KSI) LIGHT GAGE CEILING JOISTS @ 16" O.C., U.O.N.
	DENOTES A SINGLE ROW OF FULL DEPTH LIGHT GAGE BLOCKING @ 16" O.C. IN FIRST BAYS WHERE FRAMING RUNS PARALLEL TO WALL AND BEAM.
C1	DENOTES HSS 9x5x1/2" COLUMN
C2	DENOTES HSS 6x6x3/8" COLUMN
C3	DENOTES HSS 5x5x5/16" COLUMN
	DENOTES MOMENT CONNECTION (FIX FRAME)



A SB1.2 *GIRT / CEILING FRAMING PLAN*
SCALE: ¼"=1'-0"

DRAWING NOTES

1. REF. ARCH'L FOR ALL DIMENSIONS AND FLOOR DECK ELEVATIONS.
2. DO NOT SCALE DRAWINGS.

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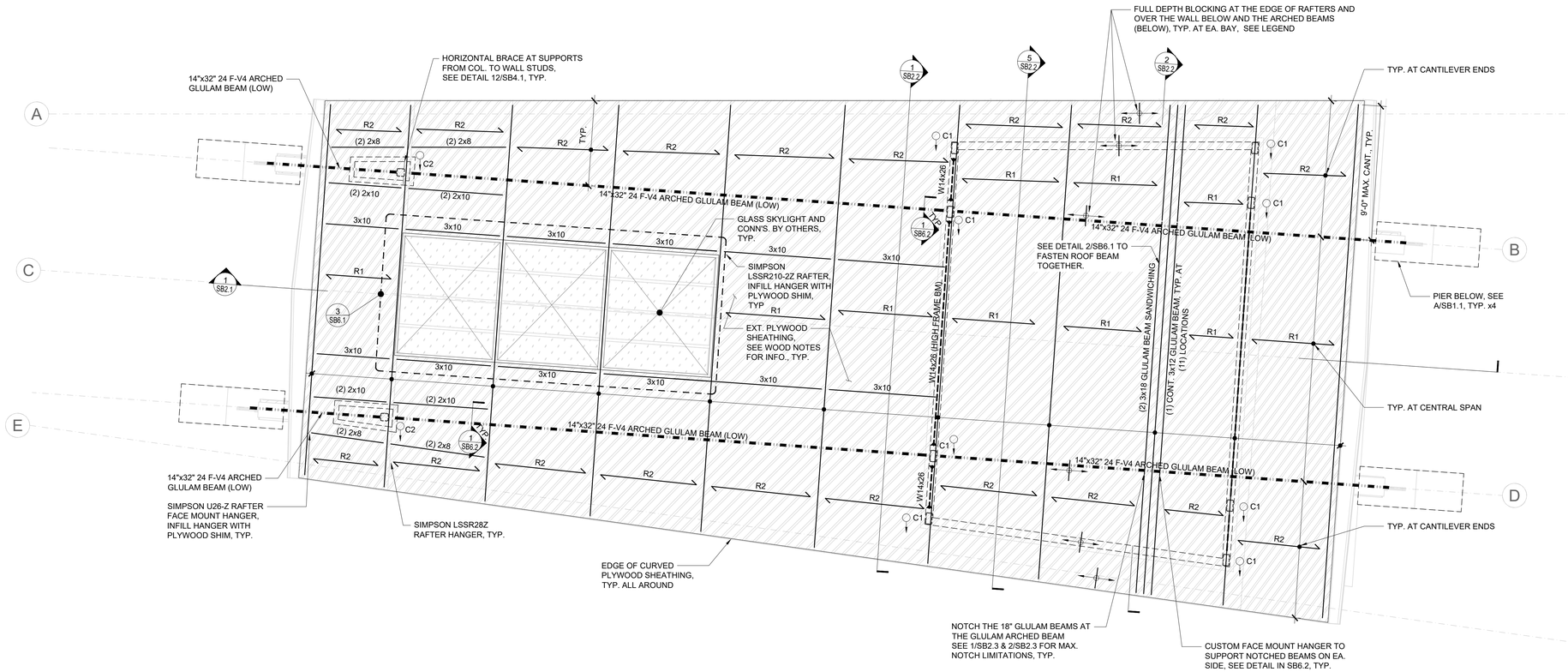
REVIEWED: MF/CC
DATE: 1/31/2025

NORTH

SHEET TITLE:
GIRT / CEILING FRAMING PLAN

SHEET NO.
SB1.2

LEGEND:	
	DENOTES COLUMN BELOW
	DENOTES LIGHT GAGE SHEAR WALLS BELOW, U.O.N.
R1	DENOTES 2x10 RAFTERS @ 16" O.C., U.O.N.
R2	DENOTES 2x8 RAFTERS @ 16" O.C., U.O.N.
	DENOTES A SINGLE ROW OF FULL DEPTH 2x10 BLOCKING @ 16" O.C.
C1	DENOTES HSS 9x5x1/2" COLUMN
C2	DENOTES HSS 6x6x3/8" COLUMN
	DENOTES MOMENT CONNECTION (FIX FRAME)



NOTES:
1. DO NOT SCALE DRAWINGS.
2. REFER TO ARCH. DWG FOR LOCATIONS OF ROOF BEAMS

A / SB1.3 — *ROOF FRAMING PLAN*
SCALE: ¼"=1'-0"

DRAWING NOTES
1. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, ELEVATIONS, CLEARANCES, WATERPROOFING, INSULATION, FLASHING, FINISHES, DRAINAGE, ETC., U.O.N.
2. ALL GLULAM BEAMS AND CONNECTION SHOP DRAWINGS SHALL BE SUBMITTED TO THE E.O.R. FOR REVIEW AND APPROVAL.
3. DO NOT SCALE DRAWINGS.

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PROJECT NO.
24329

PROJECT
Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

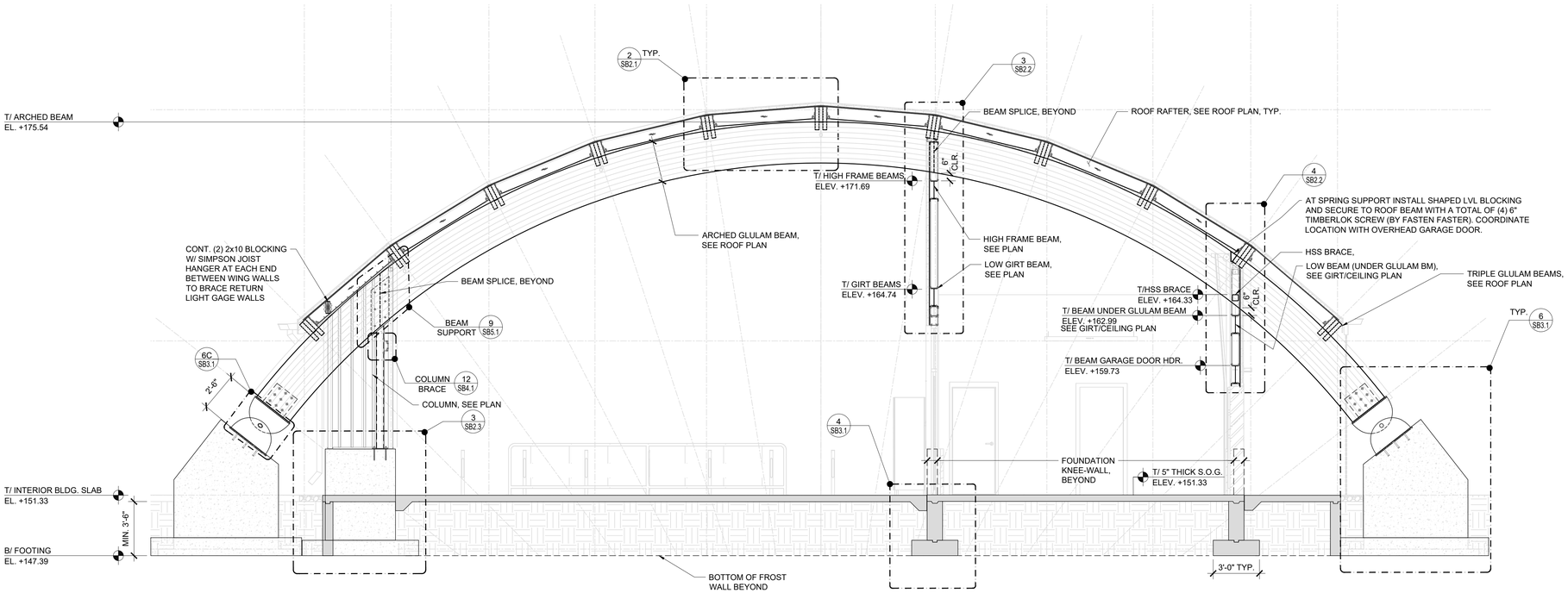
NO.	DESCRIPTION	DATE
1	ISSUED FOR BID	02/21/2025

DRAWN: AC/KR/JR
REVIEWED: MF/CC
DATE: 1/31/2025

NORTH

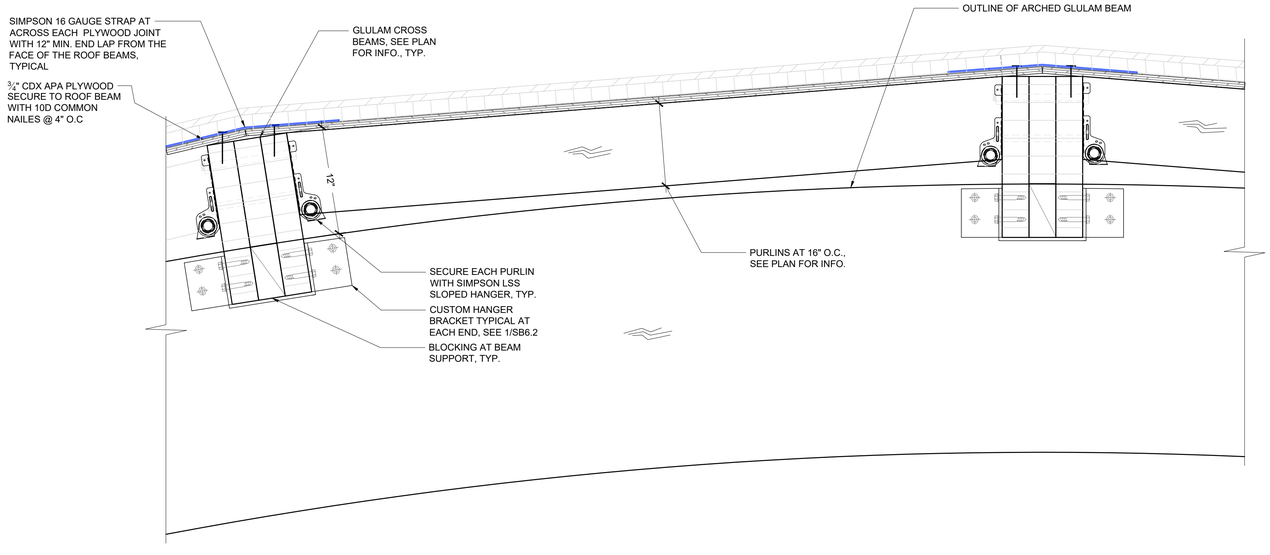
SHEET TITLE:
ROOF FRAMING PLAN

SHEET NO.
SB1.3



NOTE:
THE ELEVATIONS SHOWN USES THE INTERIOR BLDG SLAB ELEV. (+151.33) AS DATUM REFERENCE COORDINATE WITH ARCH.

1 SB2.1 *ARCH SECTION*
SCALE: ¼"=1'-0"



2 SB2.1 *PURLIN SUPPORT SECTION*
SCALE: 1½"=1'-0"

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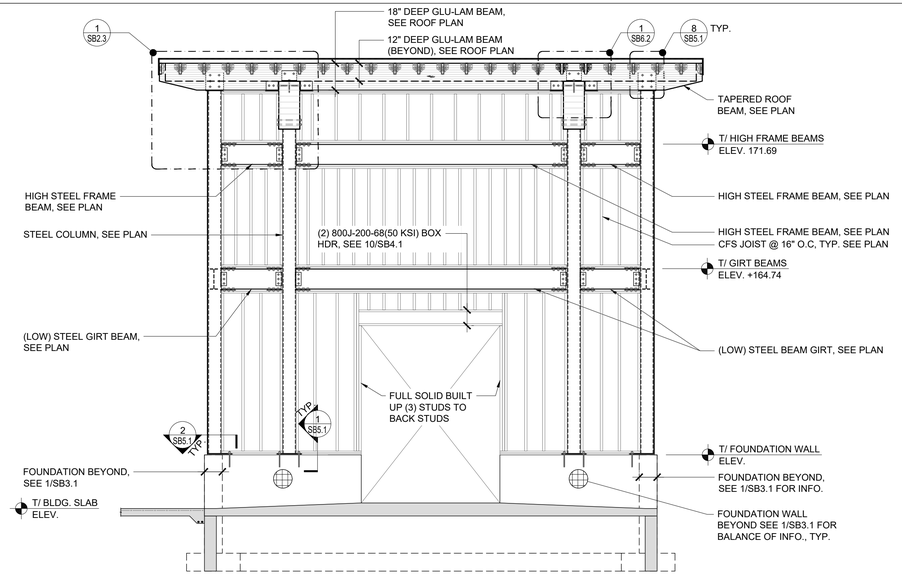
DATE: 1/31/2025

NORTH

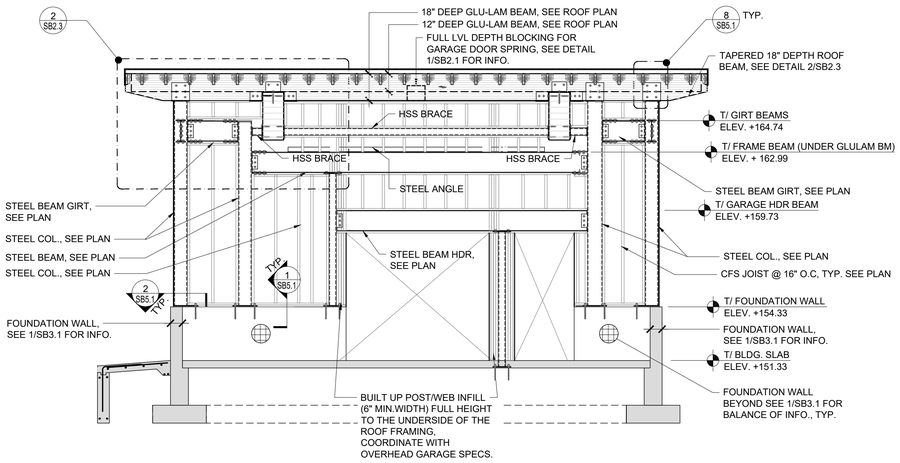
SHEET TITLE:
BUILDING SECTIONS

SHEET NO.
SB2.1



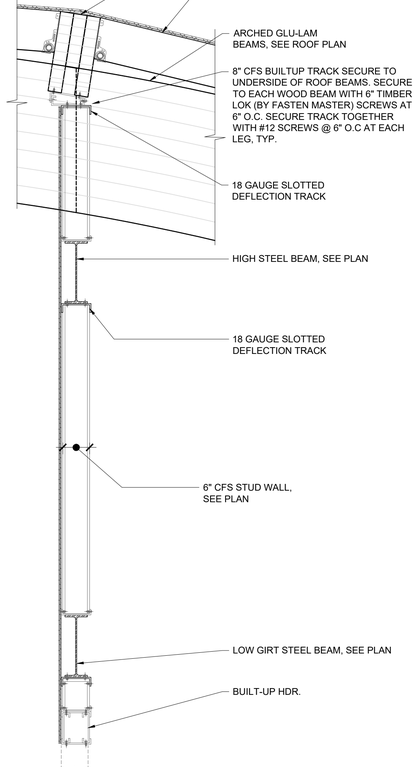
NOTE:
THE ELEVATIONS SHOWN USES THE INTERIOR BLDG SLAB ELEV. (+151.33) AS DATUM REFERENCE COORDINATE WITH ARCH.

1 SB2.2 — *SOUTH ELEVATION*
SCALE: ¼"=1'-0"

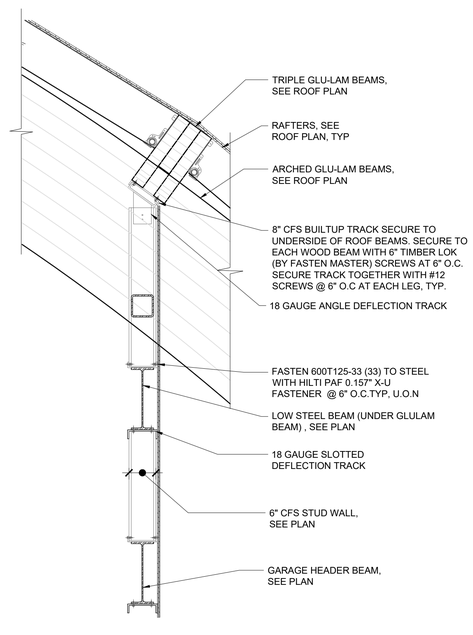


NOTE:
THE ELEVATIONS SHOWN USES THE INTERIOR BLDG SLAB ELEV. (+151.33) AS DATUM REFERENCE COORDINATE WITH ARCH.

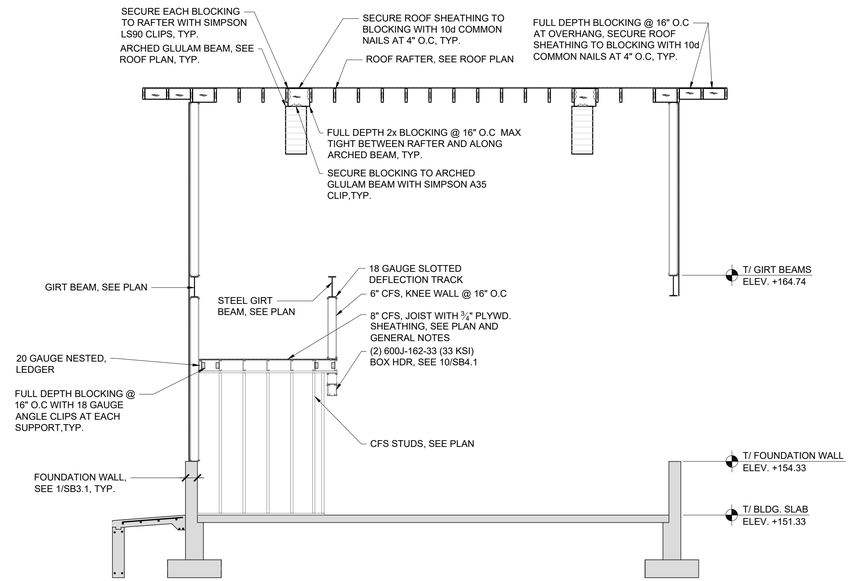
2 SB2.2 — *NORTH ELEVATION*
SCALE: ¼"=1'-0"



3 SB2.2 — *STORE FRONT WALL SECTION*
SCALE: 1"=1'-0"



4 SB2.2 — *GARAGE WALL SECTION*
SCALE: 1"=1'-0"



NOTE:
THE ELEVATIONS SHOWN USES THE INTERIOR BLDG SLAB ELEV. (+151.33) AS DATUM REFERENCE COORDINATE WITH ARCH.

5 SB2.2 — *BUILDING SECTION*
SCALE: ¼"=1'-0"

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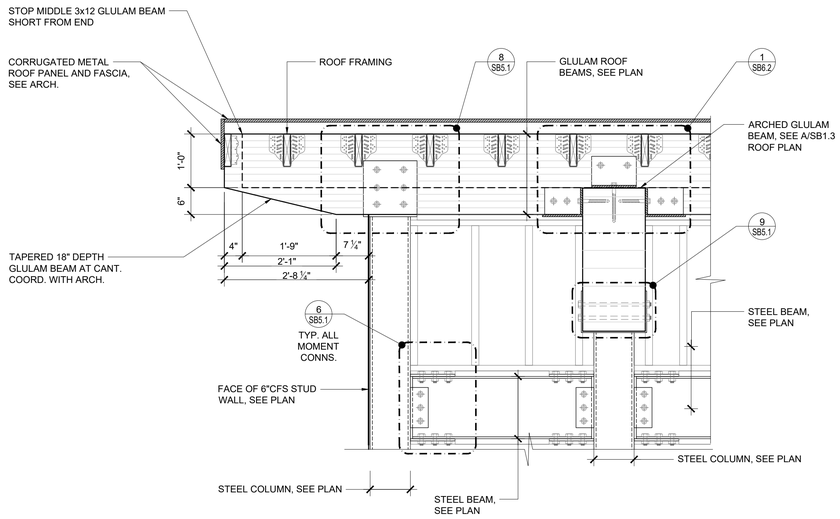
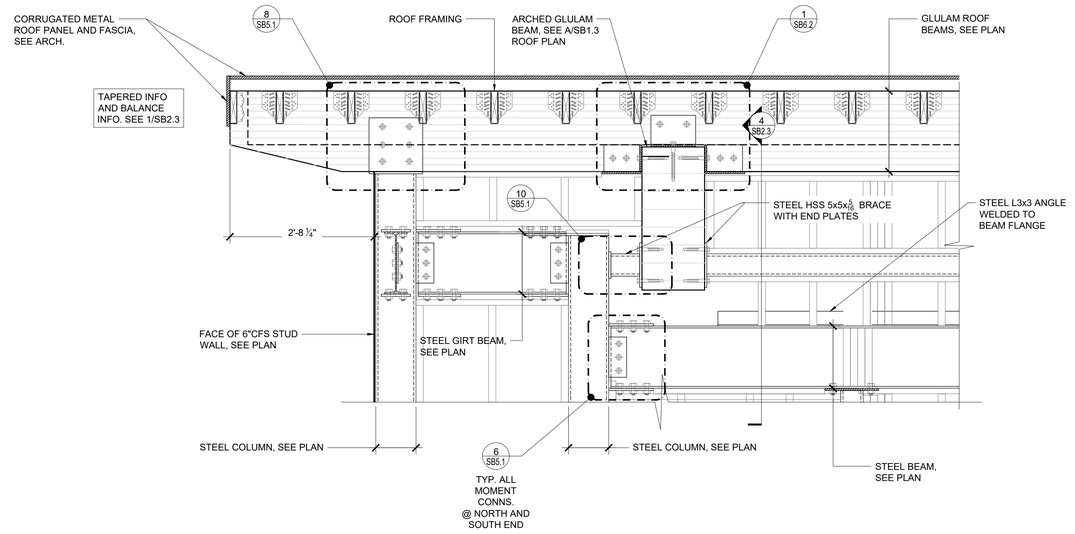
SHEET TITLE:
BUILDING FRAME SECTIONS AND ELEVATIONS

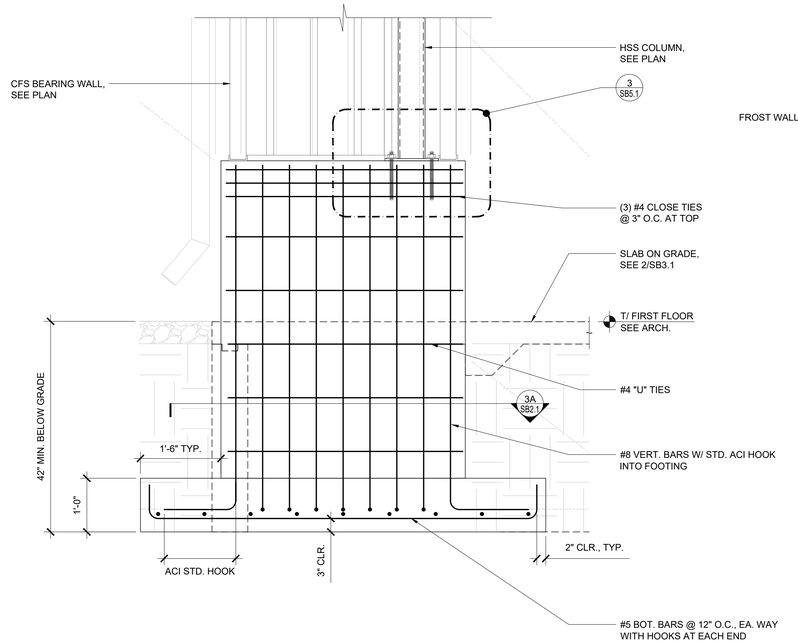
SHEET NO.
SB2.2



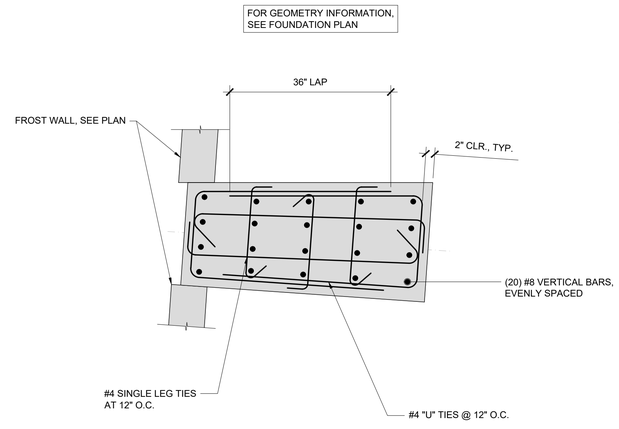
1 SB2.3 *TOP OF FRAME ELEVATION AT SOUTH END*
SCALE: ¾"=1'-0"



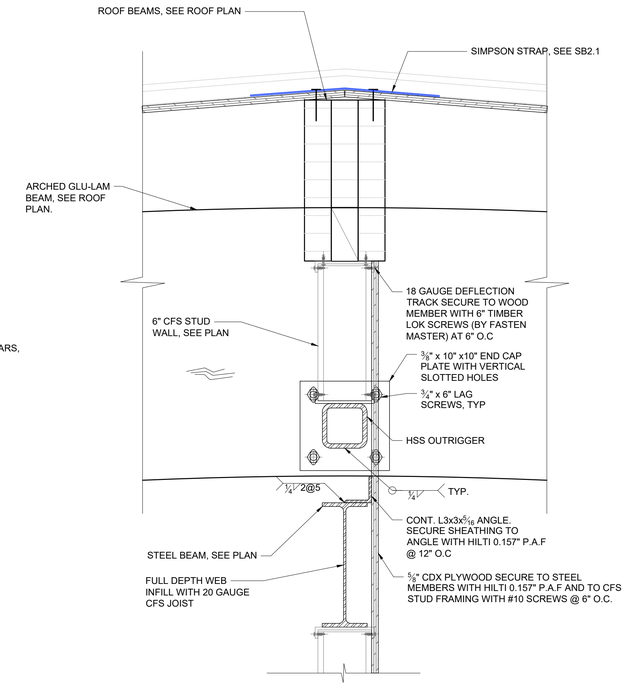
2 SB2.3 *TOP OF FRAME ELEVATION AT NORTH END*
SCALE: ¾"=1'-0"



3 SB2.3 *SECTION AT INTERMEDIATE PIERS*
SCALE: ¾"=1'-0"



3A SB2.3 *PIER ANCHORAGE PLAN*
SCALE: ¾"=1'-0"



4 SB2.3 *BRACE & WALL CONNECTION*
SCALE: 1½"=1'-0"

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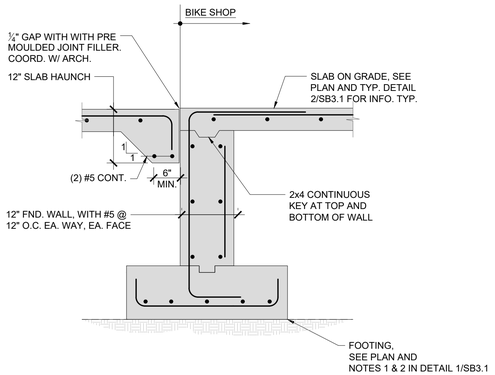
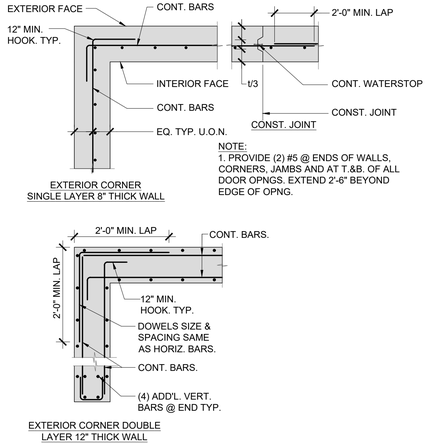
SHEET TITLE:
FRAME SECTIONS

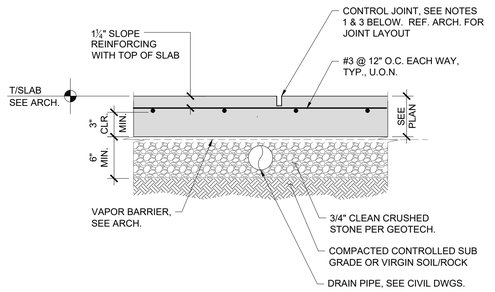
SHEET NO.
SB2.3



4 SLAB CONSTRUCTION AT TRANSITION
SB3.1 SCALE: ¾"=1'-0"

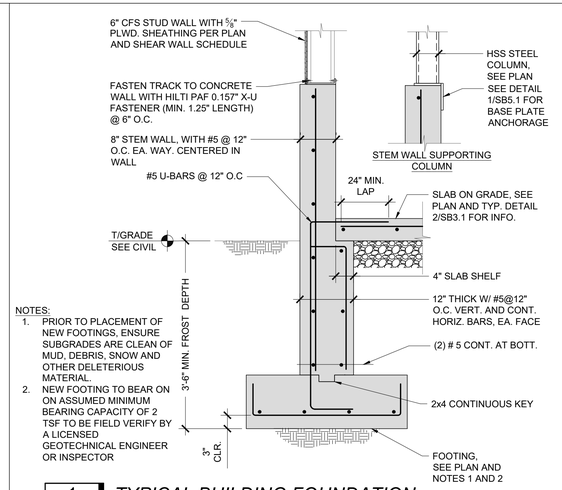


3 TYP. CONC. WALL REINF. PLAN DETAIL
SB3.1 SCALE: NTS



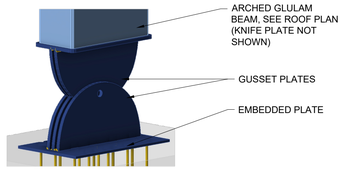
NOTES:
1. PROVIDE CONTROL JOINTS PER ARCHITECTURAL LAYOUT, SPACE 15'-0" O.C. MAX.
2. SEE OTHERS FOR ALL SUBSURFACE WORK INCLUDING VAPOR BARRIER, WATERPROOFING, DRAINAGE, ETC.
3. CONTROL JOINTS MAY BE INSTALLED AFTER INITIAL FLOAT BY GROOVING ONE-FOURTH THE SLAB DEPTH. TOOL SLAB EDGES TO A RADIUS OF 1/8" ON EACH SIDE OF GROOVE AND CLEAN GROOVE OF LOOSE DEBRIS.

2 TYPICAL CONCRETE SLAB ON GRADE
SB3.1 SCALE: NTS

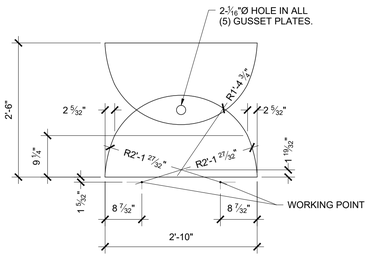


NOTES:
1. PRIOR TO PLACEMENT OF NEW FOOTINGS, ENSURE SUBGRADES ARE CLEAN OF MUD, DEBRIS, SNOW AND OTHER DELETERIOUS MATERIAL.
2. NEW FOOTING TO BEAR ON ON ASSUMED MINIMUM BEARING CAPACITY OF 2 TSF TO BE FIELD VERIFY BY A LICENSED GEOTECHNICAL ENGINEER OR INSPECTOR

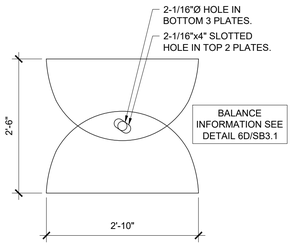
1 TYPICAL BUILDING FOUNDATION
SB3.1 SCALE: NTS



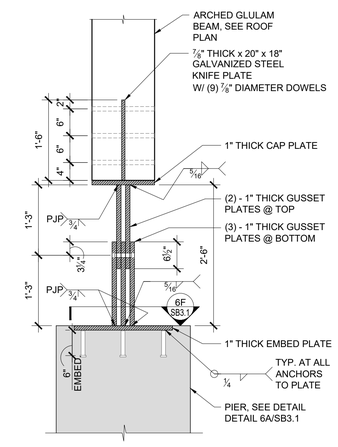
6E ISOMETRIC VIEW OF GUSSET PLATE
SB3.1 SCALE: ¾"=1'-0"



6D GALVANIZED GUSSET PLATE DETAIL
SB3.1 SCALE: ¾"=1'-0" *(NORTH END)*

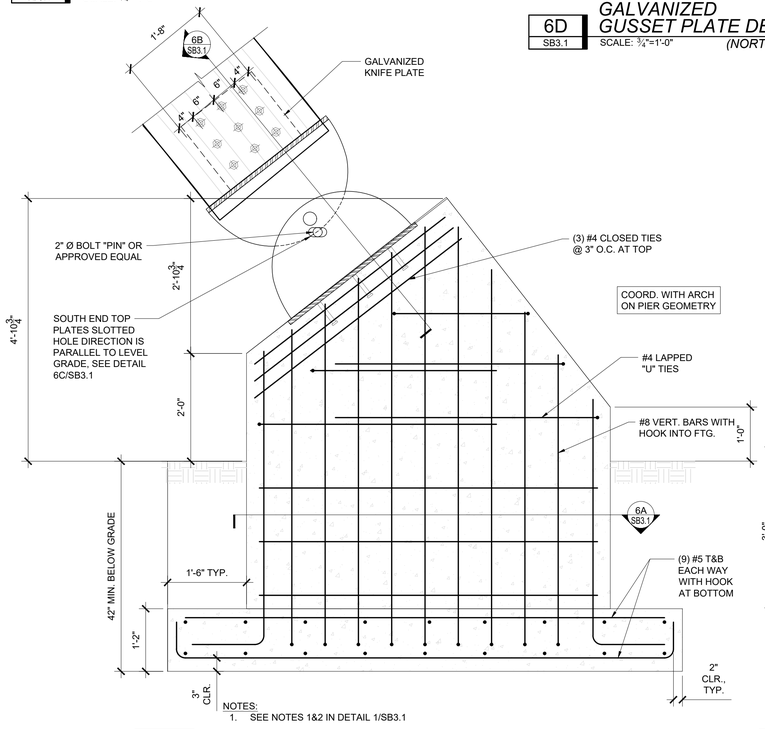


6C GALVANIZED GUSSET PLATE DETAIL
SB3.1 SCALE: ¾"=1'-0" *(SOUTH END)*



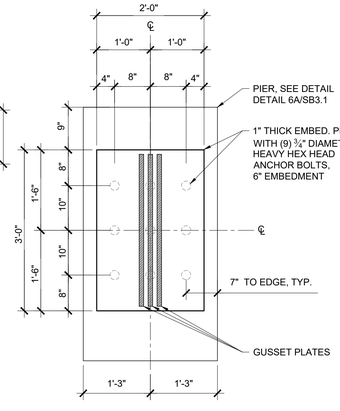
NOTES:
1. ALL EXTERIOR STEEL TO BE HOT DIPPED GALVANIZED.

6B GUSSET PLATE ELEVATION
SB3.1 SCALE: ¾"=1'-0"

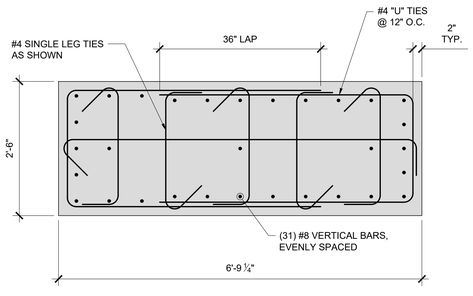


NOTES:
1. SEE NOTES 1&2 IN DETAIL 1/SB3.1

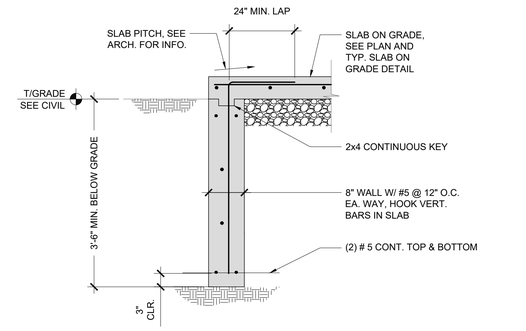
6 PIER ANCHORAGE SECTION
SB3.1 SCALE: ¾"=1'-0"



6F EMBEDED PLATE
SB3.1 SCALE: ¾"=1'-0"

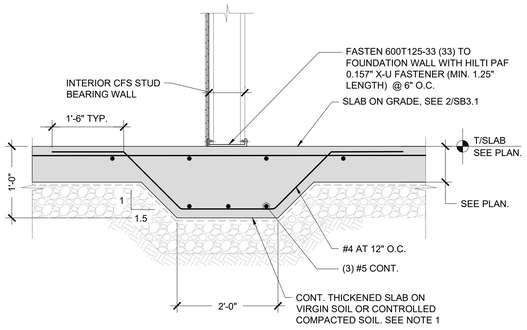


6A PIER ANCHORAGE PLAN
SB3.1 SCALE: ¾"=1'-0"



NOTES:
1. PRIOR TO PLACEMENT OF FROST WALL, ENSURE SUBGRADES ARE CLEAN OF MUD, DEBRIS, SNOW AND OTHER DELETERIOUS MATERIAL.
2. FROST WALL TO BEAR ON ON ASSUMED MINIMUM BEARING CAPACITY OF 2 TSF TO BE FIELD VERIFY BY A LICENSED GEOTECHNICAL ENGINEER OR INSPECTOR

5 TYPICAL FROST WALL
SB3.1 SCALE: ¾"=1'-0"



NOTE:
1. ALL EXIST. SUBSURFACE CONDITIONS TO BE FIELD VERIFIED BY CONTRACTOR'S GEOTECHNICAL ENG. OR SOIL TESTING AGENCY

7 THICKENED S.O.G. AT BEARING WALL
SB3.1 SCALE: NTS

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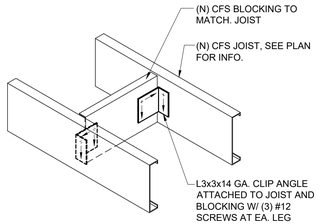
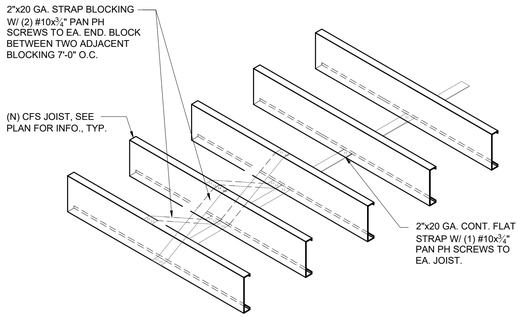
SHEET TITLE:
FOUNDATION SECTIONS AND DETAILS

SHEET NO.
SB3.1



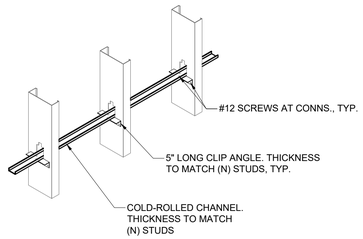
NOTE:
1. PROVIDE BRIDGING AT 7'-0" O.C. MAX, TYP.

4 SB4.1 TYPICAL JOIST BLOCKING DETAIL
SCALE: NTS

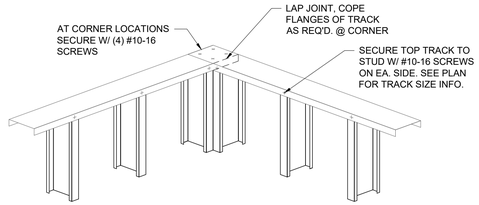


NOTE:
1. PROVIDE BRIDGING AT 7'-0" O.C. MAX, TYP.

3 SB4.1 TYPICAL DETAIL AT THE JOIST BRIDGING
SCALE: ¼"=1'-0" *(JOIST BRACING OPTION 1)*



2 SB4.1 TYPICAL COLD-ROLLED BRIDGING DETAIL
SCALE: ¾"=1'-0"



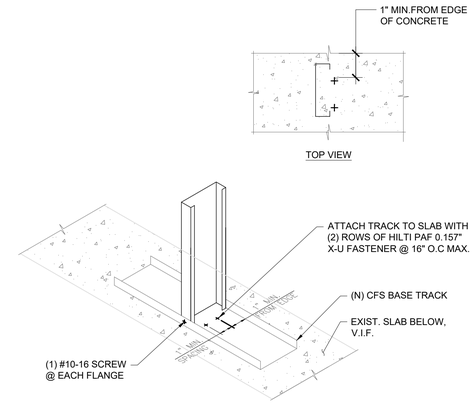
1 SB4.1 EXTERIOR CORNER TIE
SCALE: ¾"=1'-0"

NOTE:
1. ALL DOUBLE JOISTS, HEADERS, TRIMMERS SHALL BE BUILT-UP BEAMS PER DETAILS SHOWN.

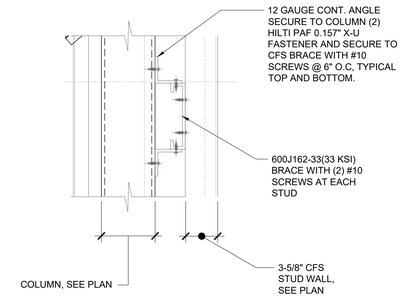
8 SB4.1 TYPICAL BUILT-UP BEAM
SCALE: NTS

7 SB4.1 TYP. JOIST LAP DET. OVER BEARING WALL
SCALE: ¼"=1'-0"

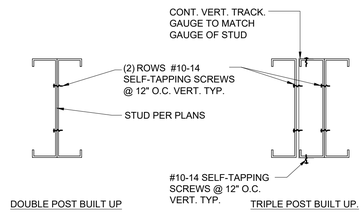
6 SB4.1 TYP, DET. AT THE JOIST TO ENDWALL CONN.
SCALE: ¼"=1'-0"



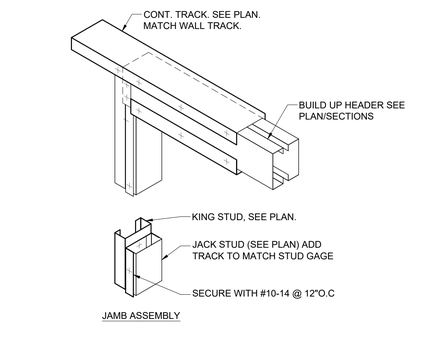
5 SB4.1 STUD TO TRACK DETAIL
SCALE: ¾"=1'-0" *(@ FOUNDATION LEVEL)*



12 SB4.1 COLUMN BRACE AT CFS WALL DETAIL
SCALE: 1½"=1'-0"

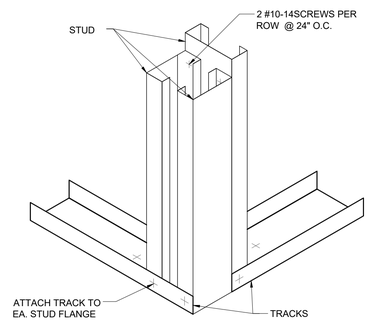


11 SB4.1 BUILT UP POST
SCALE: NTS



NOTE:
1. FASTEN BUILT UP MEMBER TOGETHER @ 12" O.C. MAX.

10 SB4.1 OPENING HEADER & JAMB BUILT UP DETAIL
SCALE: ½"=1'-0"



9 SB4.1 THREE STUD CORNER
SCALE: ¾"=1'-0" *(@ LOAD BEARING WALL)*

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PROJECT

Village of Ossining Multi-Modal Transportation Hub

Ossining, NY 10562

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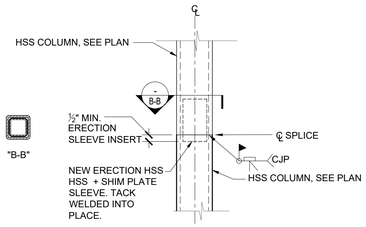
NO.	DESCRIPTION	DATE
1	ISSUED FOR BID	02/21/2025

DRAWN: AC/KR/JR
REVIEWED: MF/CC
DATE: 1/31/2025

NORTH

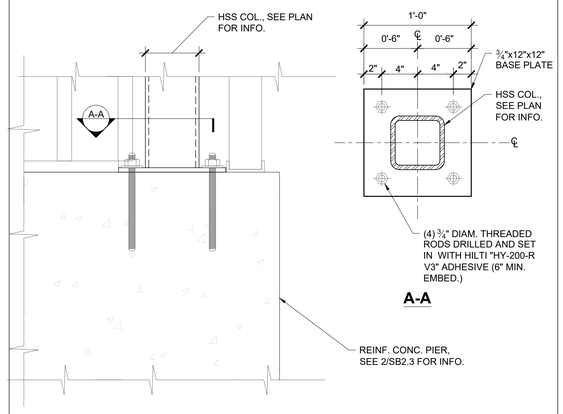
SHEET TITLE:
LIGHT-GAGE FRAMING DETAILS

SHEET NO.
SB4.1

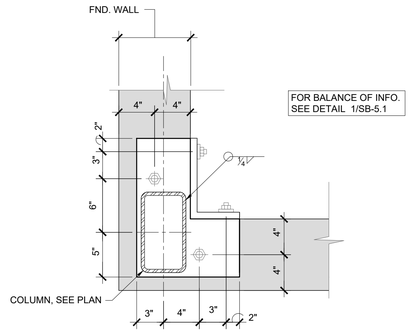


NOTES:
1. PROVIDE INSPECTIONS FOR ALL COLUMN SPLICE WELDS.
2. DO NOT SCALE DRAWING.

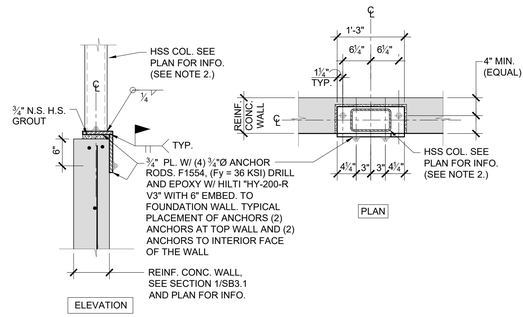
4 TYPICAL COLUMN SPLICE
SB5.1 SCALE: NTS



3 TYPICAL BASE PLATE
SB5.1 SCALE: 1½"=1'-0" *(AT SOUTHERN COLUMNS)*

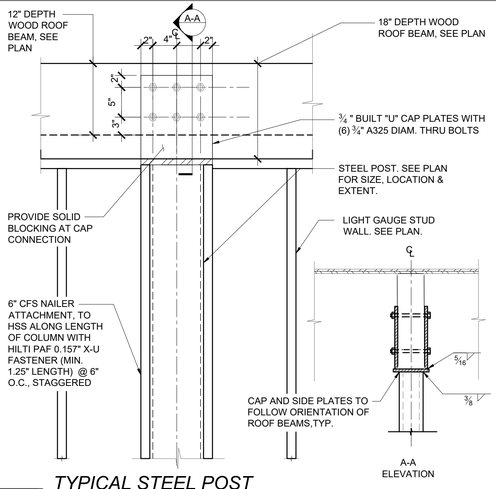


2 CORNER BASE PLATE
SB5.1 SCALE: 1½"=1'-0"

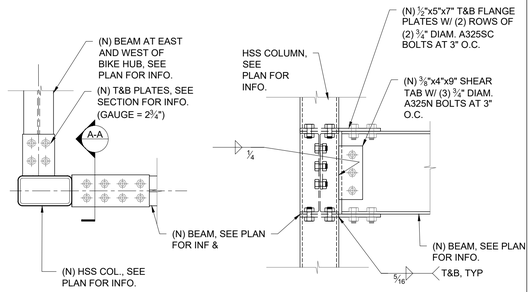


NOTES:
1. FRAMING NOT SHOWN FOR CLARITY.
2. LOCATION OF COLUMN TO BE COORDINATED WITH ARCH.

1 TYPICAL BASE PLATE
SB5.1 SCALE: NTS *(@ MOMENT FRAME COLUMNS)*

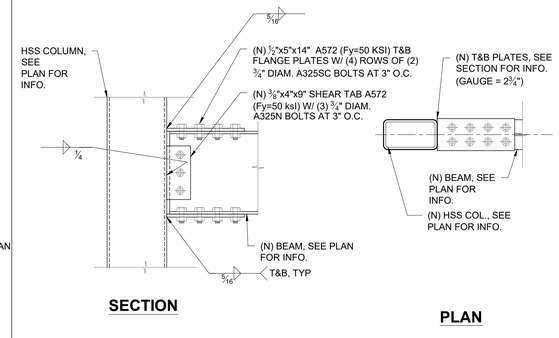


8 TYPICAL STEEL POST AT ROOF BEAM CONNECTION
SB5.1 SCALE: NTS



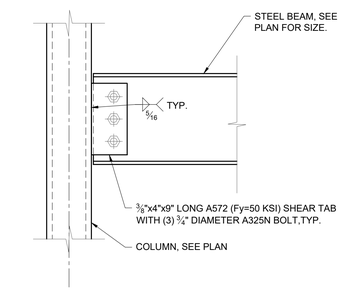
NOTE:
1. STEEL FABRICATOR (WELDER) TO PROVIDE WELDING BLANKETS AND OTHER PRECAUTIONS DURING AND AFTER WELDING.

7 CORNER MOMENT DETAIL CONNECTION
SB5.1 SCALE: 1"=1'-0" *(@ EAST AND WEST END)*

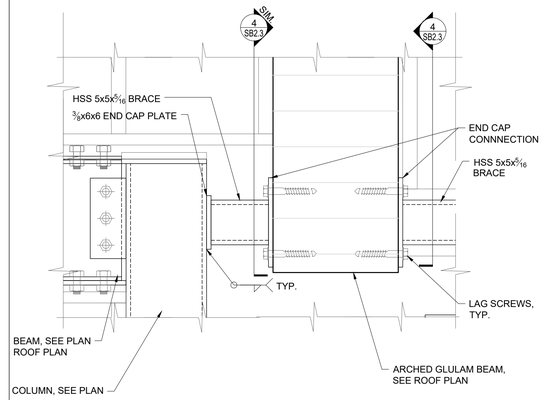


NOTE:
1. STEEL FABRICATOR (WELDER) TO PROVIDE WELDING BLANKETS AND OTHER PRECAUTIONS DURING AND AFTER WELDING.

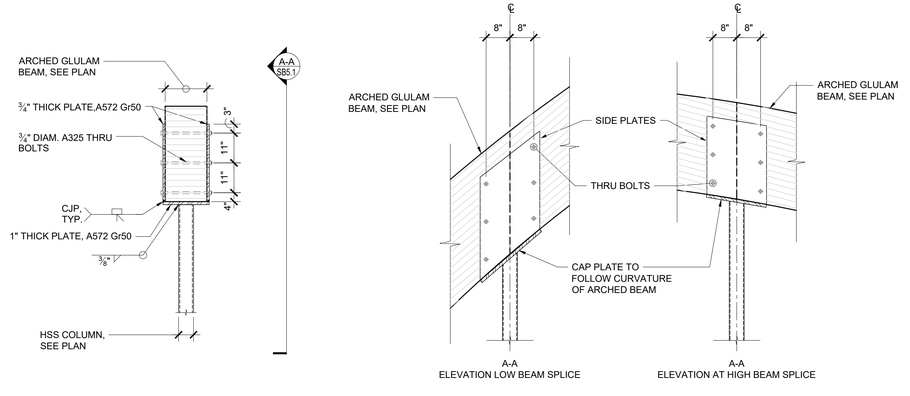
6 TYPICAL MOMENT DETAIL CONNECTION
SB5.1 SCALE: 1"=1'-0" *(@ NORTH AND SOUTH)*



5 TYPICAL COLUMN AND SHEAR CONNECTION
SB5.1 SCALE: NTS



10 BRACE CONNECTION
SB5.1 SCALE: NTS



9 COLUMN CAP PLATE DETAIL FOR ARCHED BEAM SPLICE
SB5.1 SCALE: ½"=1'-0"

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Ossining, NY 10562

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1	ISSUED FOR BID	02/21/2025

NORTH

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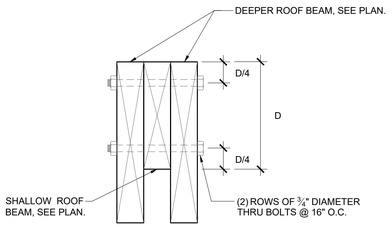
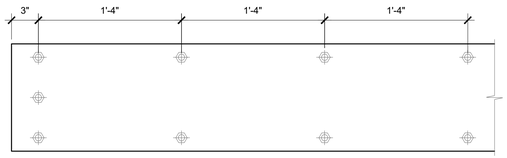
SHEET TITLE:
STEEL SECTIONS AND DETAILS

SHEET NO.
SB5.1



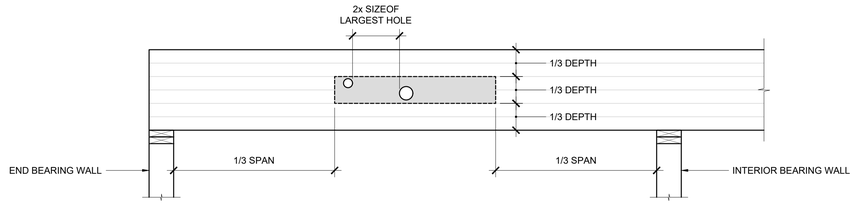
SECTION



ELEVATION

NOTES:
1. PROVIDE (3) 3/4" DIA. THRU BOLTS ALIGNED VERTICAL AT BEAM ENDS.
2. PROVIDE WASHERS FOR BOLT HEADS AND NUTS. BOLTS SHALL EXTEND (3) THREADS MINIMUM BEYOND END OF NUT. DO NOT COUNTERSINK BOLT HEADS OR NUTS.

2 TYPICAL ROOF BEAM FASTENING DETAIL
SB6.1 SCALE: NTS



NOTES:

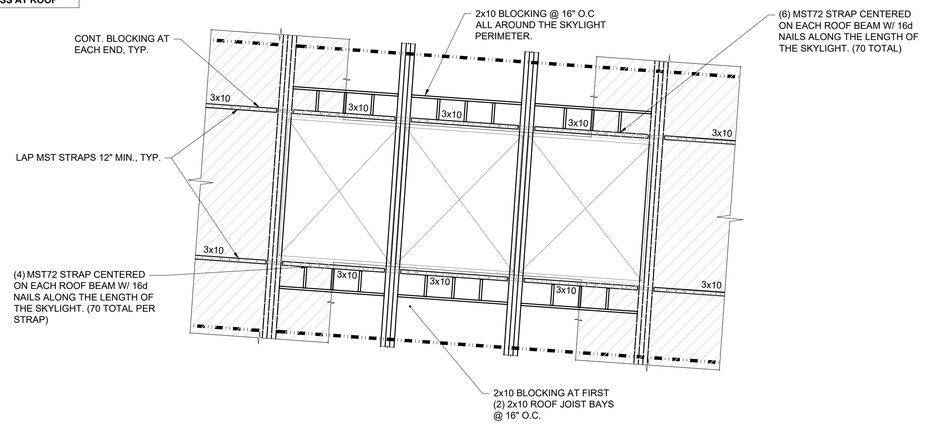
1. THE HORIZONTAL DISTANCE BETWEEN ADJACENT HOLES MUST BE AT LEAST TWO TIMES THE DIAMETER OF THE LARGER HOLE. THIS RESTRICTION ALSO APPLIES TO THE LOCATION OF HOLES RELATIVE TO BOLT HOLES IN MULTIPLE PLY BEAMS. HOLES SHALL NOT BE STACKED VERTICALLY.
2. ROUND HOLES MAY BE DRILLED OR CUT WITH A HOLE SAW ANYWHERE WITHIN THE SHADED AREA OF THE BEAM.
3. DO NOT DRILL MORE THAN THREE ACCESS HOLES IN ANY 4'-0" LONG SECTION OF BEAM.
4. THE MAXIMUM ROUND HOLE DIAMETER PERMITTED IS:

BEAM DEPTH	MAX. HOLE DIAMETER
6" TO LESS THAN 9"	1"
9" TO LESS THAN 18"	2"
18" TO LESS THAN 24"	3"
24" AND GREATER	4"

5. SQUARE AND RECTANGULAR HOLES ARE NOT PERMITTED.
6. THESE LIMITATIONS APPLY TO HOLES DRILLED FOR PLUMBING OR WIRING ACCESS ONLY. THE SIZE AND LOCATION OF HOLES DRILLED FOR FASTENERS ARE GOVERNED BY THE PROVISIONS OF THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION.
7. BEAMS DEFLECT UNDER LOAD. SIZE HOLES TO PROVIDE CLEARANCE WHERE REQUIRED.
8. THIS PRESCRIPTIVE HOLE CHART IS VALID FOR ALL BOISE GLULAM BEAMS. FOR BEAMS WITH LARGER HOLES, USE BC CALC SIZING SOFTWARE (www.BCCalc.com) OR CONTACT BOISE CASCADE EWP ENGINEERING.
9. FOR VERTICAL HOLES, SEE PAGE 32 FOR PROVISIONS WITH RIDGE BEAMS OR CONTACT BOISE CASCADE EWP ENGINEERING.

1 ALLOWABLE HOLES IN GLULAM ROOF BEAMS
SB6.1 SCALE: NTS

SEE WOOD GENERAL NOTES FOR MIN. PLYWOOD THICKNESS AT ROOF



3 DIAPHRAGM DETAIL AT THE SKYLIGHTS
SB6.1 SCALE: ¾"=1'-0"

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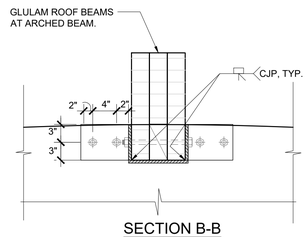
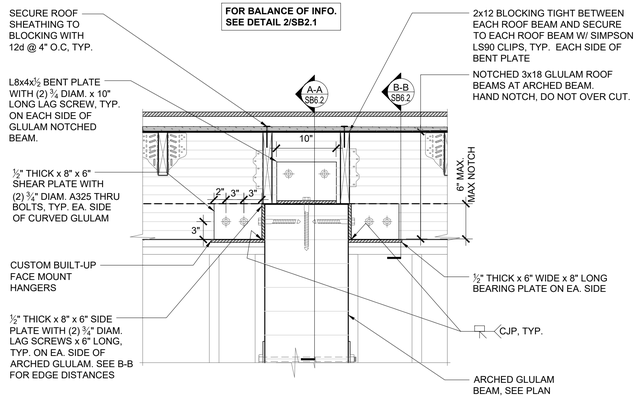
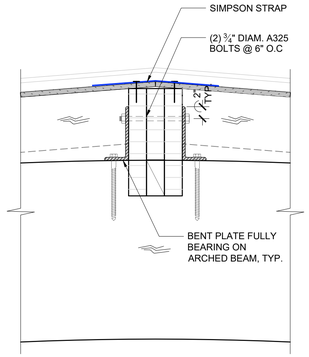
SHEET TITLE:
WOOD SECTIONS AND DETAILS

SHEET NO.
SB6.1



SECTION B-B





SECTION A-A

1 SB6.2 *TYPICAL ROOF BEAM TO ARCHED BEAM CONNECTION*

SCALE: 1"=1'-0"

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DATE: 1/31/2025

NORTH

SHEET TITLE:
CUSTOM WOOD HANGER DETAILS

SHEET NO.
SB6.2

GENERAL NOTES

1. THE WORK SHALL COMPLY WITH ALL OF THE LATEST APPLICABLE ORDINANCES, REGULATIONS AND CODES OF ALL AGENCIES, INCLUDING STATE MECHANICAL CODE AND ALL OTHER AUTHORITIES HAVING JURISDICTION.
   1.a. NOTHING IN THESE DRAWINGS AND SPECIFICATIONS ARE TO BE CONSTRUED TO PERMIT WORK IN VIOLATIONS THEREOF.
   1.b. NO EXTRAS WILL BE PAID FOR FURNISHING ITEMS REQUIRED BY THE CODES BUT NOT MENTIONED OR INDICATED IN THE DRAWINGS.
   1.c. RULING AND INTERPRETATIONS OF THE ENFORCING AGENCIES SHALL BE CONSIDERED AS PART OF THE CODE.

2. THE PERSON WITH OVERALL RESPONSIBILITY FOR CONSTRUCTION OR THE PERSON RESPONSIBLE FOR THE INSTALLATION OF REGULATED FEATURES, MATERIALS, COMPONENTS, OR MANUFACTURED DEVICES SHALL POST, OR MAKE AVAILABLE WITH THE BUILDING PERMIT(S) ISSUED FOR THE BUILDING, THE REQUIRED INSTALLATION CERTIFICATE(S) FOR FEATURES, MATERIALS, COMPONENTS, OR MANUFACTURED DEVICES REGULATED BY THE APPLIANCE EFFICIENCY REGULATIONS OR TITLE 24, PART 6. SUCH INSTALLATION CERTIFICATE(S) SHALL BE MADE AVAILABLE TO THE ENFORCEMENT AGENCY FOR ALL APPROPRIATE INSPECTIONS. THESE CERTIFICATES SHALL:
   2.a. IDENTIFY FEATURES, MATERIALS, COMPONENTS, OR MANUFACTURED DEVICES REQUIRED TO VERIFY COMPLIANCE WITH THE APPLIANCE EFFICIENCY REGULATIONS AND PART 6.
   2.b. INCLUDE A STATEMENT INDICATING THAT THE FEATURES, MATERIALS, COMPONENTS, OR MANUFACTURED DEVISE CONFORM TO THE APPLIANCE EFFICIENCY REGULATIONS AND PART 6 AND THE REQUIREMENTS FOR SUCH FEATURES, MATERIALS, COMPONENTS, OR MANUFACTURED DEVICES GIVEN IN THE PLANS AND SPECIFICATIONS APPROVED BY THE LOCAL ENFORCEMENT AGENCY.
   2.c. STATE THE NUMBER OF THE BUILDING PERMIT UNDER WHICH THE CONSTRUCTION OR INSTALLATION WAS PERFORMED.

3. WITHIN 90 DAYS AFTER ISSUANCE OF CERTIFICATE OF OCCUPANCY RECORD DRAWINGS SHALL BE PROVIDED TO THE OWNER. IF A BUILDING DESIGN FEATURE, MATERIAL, COMPONENT OR MANUFACTURED DEVICE IS CHANGED BEFORE FINAL CONSTRUCTION AND INSTALLATION, SUCH THAT THE BUILDING MAY NO LONGER COMPLY WITH TITLE 24, PART 6, THE BUILDING MUST BE BROUGHT INTO COMPLIANCE, AND SO INDICATED ON AMENDED PLANS AND CERTIFICATE OF COMPLIANCE(S) THAT SHALL BE SUBMITTED FOR APPROVAL.

4. THE BUILDER SHALL PROVIDE THE BUILDING OWNER OR THE PERSON(S) RESPONSIBLE FOR BUILDING MAINTENANCE (IN CASE OF MULTI-TENANT OR CENTRALLY OPERATED BUILDINGS) AT OCCUPANCY THE FOLLOWING:
   4.a. OPERATING INFORMATION: THE APPROPRIATE CERTIFICATE(S) OF COMPLIANCE AND A LIST OF THE FEATURES, MATERIALS, COMPONENTS, AND MECHANICAL DEVICES INSTALLED IN THE BUILDING AND INSTRUCTIONS ON HOW TO OPERATE THEM EFFICIENTLY.
   4.b. MAINTENANCE INFORMATION: REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY STATED AND INCORPORATED ON A READILY ACCESSIBLE LABEL. THE LABEL MAY BE LIMITED TO IDENTIFYING THE OPERATION AND MAINTENANCE MANUAL.
   4.c. VENTILATION INFORMATION: A DESCRIPTION OF THE QUANTITIES OF OUTDOOR AND RE-CIRCULATED AIR THAT THE VENTILATION SYSTEMS ARE DESIGNED TO PROVIDE TO EACH AREA.

5. ALL WORK SHALL CONFORM TO THE LATEST BUILDING STANDARDS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN A COPY OF THE BUILDING STANDARDS AND MEET WITH BUILDING MANAGEMENT IN ORDER TO BECOME TOTALLY FAMILIAR WITH BUILDING CONSTRUCTION RULES. THERE SHALL BE NO DEVIATION FROM THE BUILDING STANDARDS WITHOUT PRIOR WRITTEN APPROVAL FROM THE BUILDING MANAGEMENT.

6. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO THE ONSET OF CONSTRUCTION. ANY INCONSISTENCIES WITH THE DESIGN DOCUMENTS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.

7. AT THE TIME OF ROUGH INSTALLATION, OR DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCTS AND OTHER RELATED AIR DISTRIBUTION OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL, OR OTHER ACCEPTABLE METHODS TO REDUCE THE AMOUNT OF DUST, WATER, AND DEBRIS WHICH MAY ENTER THE SYSTEM AS PER CGC §5.504.3.

8. PRIOR TO START OF CONSTRUCTION, PROVIDE TEMPORARY FILTERS ON BASE BUILDING RETURN DUCTS TO PREVENT DUST FROM ENTERING THE BASE BUILDING SYSTEM.

9. ENTIRE SCOPE OF WORK AREA SHALL BE BALANCED TO THE AIR AND WATER QUANTITIES INDICATED UPON PROJECT COMPLETION. BALANCING TO BE PERFORMED BY BASE BUILDING APPROVED CONTRACTOR.

10. ALL NEW BUILDING SYSTEMS AND COMPONENTS COVERED BY SECTIONS 110.0, 120.0, 130.0, AND 140.0 SHALL BE INCLUDED IN THE SCOPE OF THE COMMISSIONING REQUIREMENTS IN SECTION 120.8, EXCLUDING COVERED PROCESSES NOT IN SCOPE OF WORK.

11. ANY DX OR VRF SYSTEMS SHALL BE BALANCED BY THE CONTRACTOR IN LINE WITH THE MANUFACTURER'S RECOMMENDATIONS.

12. THE MINIMUM RATE OF OUTDOOR AIR REQUIRED PER SECTION 120.1 (B) 2 SHALL BE SUPPLIED TO EACH SPACE AT ALL TIME THE SPACE IS USUALLY OCCUPIED.

13. THE LESSER OF THE MINIMUM RATE OF OUTDOOR AIR REQUIRED BY SEC. 120.1 (B) 2, OR THREE COMPLETE AIR CHANGES SHALL BE SUPPLIED TO THE ENTIRE BUILDING DURING THE ONE-HOUR PERIOD IMMEDIATELY BEFORE THE BUILDING IS NORMALLY OCCUPIED.

14. ALL AIR DISTRIBUTION SYSTEM DUCTS AND PLENUMS, INCLUDING, BUT NOT LIMITED TO, `BUILDING CAVITIES, MECHANICAL CLOSETS, AIR-HANDLER BOXES AND SUPPORT PLATFORMS USED AS DUCTS OR PLENUMS, SHALL BE INSTALLED, SEALED AND INSULATED TO MEET THE REQUIREMENTS OF THE 2019 MECHANICAL CODE AND SMACNA HVAC DUCT CONSTRUCTION STANDARDS. SUPPLY-AIR AND RETURN-AIR DUCTS CONVEYING HEATED OR COOLED AIR SHALL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R-4.2 (R-8 IN UNCONDITIONED SPACE), UNLESS DUCTS ARE IN CONDITIONED SPACE.

15. EXACT LOCATIONS OF ALL SENSORS/THERMOSTATS SHALL BE AS PER ARCHITECT. MECHANICAL CONTRACTOR SHALL SUBMIT LOCATIONS FOR REVIEW BY ENGINEER/ARCHITECT PRIOR TO INSTALLATION.

16. THE THERMOSTATIC CONTROLS FOR HVAC SYSTEMS SHALL MEET THE FOLLOWING REQUIREMENTS AS APPLICABLE:
   16.a. EACH SPACE CONDITIONING ZONE SHALL BE CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL THAT RESPONDS TO TEMPERATURE WITHIN THE ZONE AND MEETS THE APPLICABLE REQUIREMENTS OF CURRENT ENERGY CODE.
   16.b. EACH THERMOSTATIC CONTROL REQUIRED BY SECTION (A) SHALL BE CAPABLE OF BEING SET LOCALLY OR REMOTELY BY ADJUSTMENT OR SELECTION OF SENSORS TO CONTROL:
      16.b.1. COMFORT HEATING DOWN TO 55F OR LOWER.
      16.b.2. COMFORT COOLING UP TO 85F OR HIGHER.
      16.b.3. BOTH HEATING AND COOLING, THE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING A TEMPERATURE RANGE OR DEAD BAND OF AT LEAST 5 °F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.

17. N/A:

18. EACH SPACE-CONDITIONING SYSTEM SHALL BE INSTALLED WITH CONTROLS THAT COMPLY WITH THE FOLLOWING:
   18.a. CAPABLE OF AUTOMATICALLY SHUTTING OFF THE SYSTEM DURING PERIODS OF NON-USE AND SHALL HAVE:
      18.a.1. AN AUTOMATIC TIME SWITCH CONTROL DEVICE COMPLYING WITH SEC. 110.9, WITH AN ACCESSIBLE MANUAL OVERRIDE THAT ALLOWS OPERATION OF THE SYSTEM FOR UP TO 4 HOURS; OR
      18.a.2. AN OCCUPANCY SENSOR; OR
      18.a.3. A FOUR-HOUR TIMER THAT CAN BE MANUALLY OPERATED.
      18.a.4. EXCEPTION: MECHANICAL SYSTEMS SERVING RETAIL STORES AND ASSOCIATED MALLS, RESTAURANTS, GROCERY STORES, CHURCHES, AND THEATERS EQUIPPED WITH 7-DAY PROGRAMMABLE TIMERS.
   18.b. AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN:
      18.b.1. A SETBACK HEATING THERMOSTAT SETPOINT, IF THE SYSTEM PROVIDES MECHANICAL HEATING;
      EXCEPTION: AREA WITH THE DESIGN WINTER OUTDOOR TEMPERATURE OF GREATER THAN 32° F.
      18.b.2. A SETUP COOLING THERMOSTAT SETPOINT, IF THE SYSTEM PROVIDES MECHANICAL COOLING.
      EXCEPTION: AREA WITH THE DESIGN SUMMER OUTDOOR TEMPERATURE OF LESS THAN 100°F.
   18.c. MULTIPURPOSE ROOM LESS THAN 1000 FT^2, CLASSROOMS GREATER THAN 750 FT^2 AND CONFERENCE, CONVENTION, AUDITORIUM AND MEETING CENTER ROOMS GREATER THAN 750 FT^2 THAT DO NOT HAVE PROCESSES OR OPERATIONS THAT GENERATE DUSTS, FUMES, VAPORS OR GASSES SHALL BE EQUIPPED WITH OCCUPANT SENSORS) TO ACCOMPLISH THE FOLLOWING DURING UNOCCUPIED PERIODS:
      18.c.1. AUTOMATICALLY SETUP THE OPERATING COOLING TEMPERATURE SET POINT BY 2°F OR MORE AND SETBACK THE OPERATING HEATING TEMPERATURE SET POINT BY 2°F OR MORE; AND AUTOMATICALLY RESET THE MINIMUM REQUIRED VENTILATION RATE WITH AN OCCUPANCY SENSOR VENTILATION CONTROL DEVICE ACCORDING TO SECTION 120.1(C)5.
      18.c.2. EXCEPTION TO SECTIONS 120.2(E)3: IF DEMAND CONTROL VENTILATION IS IMPLEMENTED AS REQUIRED BY SECTION 120.1(C)3 AND 120.1(4).

19. OUTDOOR AIR SUPPLY AND EXHAUST EQUIPMENT SHALL BE INSTALLED WITH DAMPERS THAT AUTOMATICALLY CLOSE UPON FAN SHUTDOWN.

20. DEMAND CONTROL VENTILATION DEVICES (CO2 SENSORS) SHALL BE INSTALLED IN ACCORDANCE WITH SEC. 120.1 (C) 4.

21. THE PIPING FOR ALL SPACE CONDITIONING AND SERVICE WATER HEATING SYSTEMS SHALL BE INSULATED IN ACCORDANCE WITH TABLE 120.3 -A.

22. DUCT SYSTEMS USED WITH BLOWER TYPE EQUIPMENT WHICH ARE PORTIONS OF A HEATING, COOLING, ABSORPTION, EVAPORATIVE COOLING OR OUTDOOR AIR VENTILATION SYSTEM SHALL BE SIZED IN ACCORDANCE WITH CHAPTER 17 OF THE MECHANICAL CODE.

23. AIR CONDITIONING EQUIPMENT AND AIR HANDLING UNITS WITH MECHANICAL COOLING CAPACITY GREATER THAN OR EQUAL TO 65,000 BTU/HR THAT SERVE SINGLE ZONES SHALL BE DESIGNED FOR VARIABLE SUPPLY AIR VOLUME WITH THEIR SUPPLY INDOOR FANS CONTROLLED BY TWO SPEED MOTORS OR VARIABLE SPEED DRIVES. THE SUPPLY FAN CONTROLS SHALL MODULATE DOWN TO A MINIMUM OF 2/3 OF THE FULL FAN SPEED OR LOWER AT LOW COOLING DEMAND. SYSTEMS THAT INCLUDE AN AIR SIDE ECONOMIZER TO MEET 140.4 (E) 1 SHALL HAVE A MINIMUM OF TWO SPEEDS OF FAN CONTROL DURING ECONOMIZER OPERATION.

24. ALL APPLIANCES DESIGNED TO BE FIXED IN POSITION SHALL BE SECURELY FASTENED IN PLACE IN ACCORDANCE WITH MANUFACTURER INSTALLATION REQUIREMENTS AND THE BUILDING CODE.

25. PROVIDE SHUTDOWN OF HVAC SYSTEM SERVING FIRE/SMOKE DAMPERS WHEN AUTOMATIC ACTIVATION OF DAMPER OCCURS.

26. DUCTS PENETRATING FIRE-RESISTIVE ASSEMBLIES SHALL BE PROTECTED BY A FIRE, FIRE AND SMOKE OR SMOKE DAMPER AT THE OPENING OF THE FIRE-RESISTIVE ASSEMBLIES IN ACCORDANCE WITH SECTION 717 OF THE BUILDING CODE.

27. CONTRACTOR SHALL VERIFY ALL WALL PARTITIONS TYPES/CEILING TYPES AND RATING IN ORDER TO PROVIDE COMBINATION SMOKE FIRE DAMPERS / FIRE STOPPING AT PENETRATIONS TO FIRE RATED AREAS.

28. CONTRACTOR SHALL PROVIDE ACCESS PANELS AND DUCT MOUNTED ACCESS DOORS AS REQUIRED TO ALLOW FOR FIRE DAMPER AND FIRE/SMOKE DAMPER MAINTENANCE.

29. SMOKE DETECTORS SHALL BE PROVIDED IN MAIN SUPPLY AIR DUCTS OF AIR MOVING SYSTEMS EXCEEDING 2000 CFM PER SECTION 608.0 MECHANICAL CODE.

30. ALL SMOKE DETECTORS SHALL BE INTERLOCKED WITH BUILDING'S FIRE/LIFE SAFETY AND UPON DETECTION OF SMOKE BY ANY SMOKE DETECTOR ALL EQUIPMENT SHALL SHUT DOWN.

NYS 2020 MECHANICAL CODE - COMMON VENTILATION SYSTEM REQUIREMENTS

SYSTEM NAME / DESCRIPTION: AIR HANDLER AHU-11A

RM #	RM NAME	ZONE POP. (Pz)	ZONE AREA (Az)	ZONE HEIGHT (Hz)	TYPE	CFM PER PERSON (Rp)	CFM PER SQ FT (Ra)	UNCORRECTED ZONE OA (Vbz)	VOLUME (V)	CORRECTED POPULATION (Pzt)	AIR DISTIBUTION CONFIG.	ZONE EFFECT. (Ez)	CORRECTED ZONE OA (Voz)	ZONE SUPPLY AIR (Zpz)	ZONE % OA (Zp)
101	REPAIR AREA	3	510	8.5	LIGHT ASSEMBLY AREA	7.5	0.12	83.7	8,335	3	CS-CR-W	0.8	105	1,050	0.15
102	STORAGE	1	150	8.5	STORAGE SPACE	0	0.12	18.0	1,275	0	CS-CR-W	0.8	22.5	150	0.15
103	BATHROOM (M)	0	120	8.5	TOILET	-	-	-	1,020	0	MU--EX	0.8	-	70	0.15
												TOTAL REQUIRED OUTDOOR AIR:	128		

NOTES:
1. ALL CALCULATIONS AND REQUIRED RATES ARE PER NYS MECHANICAL CODE 2020.
2. Rp AND Ra ARE FROM TABLE 403.3, MINIMUM VENTILATION RATES, BASED ON ROOM TYPES.
3. Pzt IS THE AVERAGE NUMBER OF PEOPLE IN A GIVEN ZONE, DURING THE TIME PERIOD, "T".
4. Ez IS FROM TABLE 403.3.1.2, ZONE AIR DISTRIBUTION EFFECTIVENESS, BASED ON AIR DISTRIBUTION CONFIGURATION:
   a. CEILING OR FLOOR SUPPLY OF COOL AIR: 1.0
   b. CEILING OR FLOOR SUPPLY OF WARM AIR AND FLOOR RETURN: 1.0
   c. CEILING SUPPLY OF WARM AIR AND CEILING RETURN: 0.8
   d. FLOOR SUPPLY OF WARM AIR AND CEILING RETURN: 0.7
   (LISTED AS [C/F]S-[C/F]R-[W/C], WHERE C=CEILING, F=FLOOR, W=WARM, C=COOL).
5. Ev IS FROM A FORMULA BASED ON TABLE 403.3.2.3.2, SYSTEM VENTILATION EFFICIENCY, WHICH ALLOWS FOR INTERPOLATING BETWEEN POINTS. SELECT MIN Ev, OR A MAX OF 1.0.

NEW YORK STATE BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF THE BUILDING CODE, STATE OF NEW YORK, EFFECTIVE JANUARY 1, 2022 AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.

1. A TEST WILL BE CONDUCTED UNDER DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF THE MECHANICAL SYSTEM. THE TEST WILL SHOW COMPLIANCE WITH 2022 BUILDING CODE REQUIREMENTS AS OUTLINED IN SECTION [BC 1704].

2. THE LICENSED PROFESSIONAL ENGINEER OR ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF MECHANICAL SYSTEMS AND CONDUCTING SUCH TESTS WILL FILE DOCUMENTATION AND REPORT OF TEST THAT THE SYSTEM COMPLIES WITH THE CONSTRUCTION DOCUMENTS AND APPLICABLE LAWS.

3. SPECIAL INSPECTIONS:
   a. SMOKE CONTROL SYSTEMS INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE CURRENT NYS BUILDING CODE.
   b. ALL MECHANICAL SYSTEMS, EQUIPMENT AND MATERIALS INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE CURRENT NYS BUILDING CODE.
   c. FUEL OIL STORAGE EQUIPMENT AND ASSOCIATED FUEL-PIPING SYSTEMS AND EQUIPMENT INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE CURRENT NYS BUILDING CODE.
   d. HIGH PRESSURE-STEAM AND HIGH TEMPERATURE HOT WATER PIPING AND ASSOCIATED EQUIPMENT INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE CURRENT NYS BUILDING CODE.

4. SMOKE DETECTION SYSTEMS SHALL BE INSTALLED AND SEQUENCED TO FOLLOW CONTROLS OPERATIONS IN ACCORDANCE WITH THE REQUIREMENTS OF APPLICABLE SECTIONS OF THE CURRENT NYS MECHANICAL CODE.

5. FIRE DAMPERS, SMOKE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS AND CEILING DAMPERS LOCATED WITHIN AIR DISTRIBUTION AND SMOKE CONTROL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF APPLICABLE SECTIONS OF THE CURRENT NYS MECHANICAL CODE.

6. ALL FIRE DAMPERS SHALL BE ACCEPTED FOR USE BY THE NEW YORK STATE DEPARTMENT OF BUILDINGS AND SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF UL 555.

7. SMOKE DAMPERS SHALL BE ACCEPTED FOR USE BY THE NEW YORK STATE DEPARTMENT OF BUILDINGS AND SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF UL 555S.

8. COMBINATION FIRE/SMOKE DAMPERS SHALL BE ACCEPTED FOR USE BY THE NEW YORK STATE DEPARTMENT OF BUILDINGS AND SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF BOTH UL 555 AND UL 555S.

9. CEILING RADIATION DAMPERS SHALL BE ACCEPTED FOR USE BY THE NEW YORK STATE DEPARTMENT OF BUILDINGS AND SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF UL 555C.

10. THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

11. TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE NEW YORK STATE ENERGY CONSERVATION CODE.

GREEN BUILDING CODE NOTES

1. CONTRACTOR SHALL PERFORM TESTING AND BALANCING PROCEDURES ON THE HVAC SYSTEM AND CONTROLS ACCORDING TO THE PROCEDURES CONTAINED IN AABC'S "NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE".
   1.a. AIR AND WATER SYSTEM BALANCING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT CERTIFIED TESTING AND BALANCING FIRM WITH A MINIMUM 5 YEARS EXPERIENCE AND AABC CERTIFIED.
   1.b. MAKE ALL REQUIRED ADJUSTMENTS OF NEW AND EXISTING AIR AND WATER SYSTEM DEVICES UNTIL SPECIFIED PERFORMANCES ARE MET.
   1.c. SUBMIT REPORTS FOR REVIEW CONSISTING OF DESIGN AND ACTUAL READINGS OF ALL EQUIPMENT/DEVICES, LOCATION PLANS OF ALL EQUIPMENT/DEVICES, BALANCING EQUIPMENT USED AND METHODS OF BALANCING.
   1.d. CONTRACTOR SHALL SUBMIT AIR BALANCE DATA SHEETS AND REPORTS WHICH TABULATE TEST DATA FROM FINAL ADJUSTED SYSTEM CONDITIONS WITHIN 5% OF DESIGN QUANTITIES:
      1.d.1. AIR OUTLETS, RETURNS, TERMINAL UNITS INDICATING CFM AND PRESSURE DUCT DROP AT DUCT RISERS AND MAINS.
      1.d.2. PERFORMANCE CHARACTERISTICS FOR ALL FANS AND AIR CONDITIONING EQUIPMENT INDICATING RPM, CFM, DISCHARGE STATIC PRESSURE, OUTSIDE AIR CFM.
      1.d.3. AIR OUTLET DISCHARGE TEMPERATURE AND CFM
      1.d.4. TERMINAL BOX INLET STATIC PRESSURE
      1.d.5. MINIMUM AND MAXIMUM AIR SETTINGS
      1.d.6. PERFORMANCE CHARACTERISTICS FOR ALL WATER SIDE EQUIPMENT INCLUDING PUMPS AND COILS INDICATING GPM, PRESSURE DROP, WATER TEMPERATURE, FLOW COEFFICIENTS, ETC. vii. SEQUENCE OF OPERATION FOR AUTOMATED SYSTEM (NORMAL AND ECONOMIZER MODES)
   1.e. THE FINAL REPORT AFTER COMFORT BALANCING IS PERFORMED SHALL BE PROVIDED TO THE BUILDING MANAGER.

2. A FINAL REPORT FOR THE TESTING AND ADJUSTING OF ALL NEW SYSTEMS SHALL BE COMPLETED AND PROVIDED TO THE FIELD INSPECTOR PRIOR TO FINAL APPROVAL. THIS REPORT SHALL BE SIGNED BY THE INDIVIDUAL RESPONSIBLE FOR PERFORMING THESE SERVICES.

3. AN OPERATION AND SYSTEMS MANUAL SHALL BE PROVIDED TO THE FIELD INSPECTOR AT THE TIME OF FINAL INSPECTION AND TURNED OVER TO THE USER UPON COMPLETION.

4. IF THE NEW HVAC SYSTEM IS USED DURING CONSTRUCTION, USE RETURN AIR FILTERS WITH MERV RATING OF 8. REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY.

5. ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC OR SHEET METAL UNTIL THE FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT.

6. THE HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT SHALL NOT CONTAIN CFC OR HALONS.

ENERGY CODE PROGRESS INSPECTIONS

A LICENSED PROFESSIONAL ENGINEER OR ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF MECHANICAL/PLUMBING SYSTEMS AND CONDUCTING SUCH TESTS WILL FILE DOCUMENTATION AND REPORT OF TEST THAT THE SYSTEM COMPLIES WITH THE CONSTRUCTION DOCUMENTS AND APPLICABLE LAWS.

PROGRESS INSPECTIONS:

1. DUCT LEAKAGE TESTING INSULATION AND DESIGN
2. ELECTRIC MOTORS AND ELEVATORS
3. ELECTRIC VEHICLES SERVICE AND CHARGING EQUIPMENT

MECHANICAL LEGEND

- CEILING SUPPLY DIFFUSER
- CEILING RETURN REGISTER
- CEILING EXHAUST REGISTER
- LINEAR SUPPLY/RETURN DIFFUSER
- SIDEWALL DIFFUSER
- DIFFUSER TYPE AND CFM (CUBIC FEET PER MINUTE). REFER TO SCHEDULE.
- DOUBLE LINE DUCT
- DOUBLE LINE PIPE
- ACOUSTIC LINING IN DUCT
- FLEXIBLE DUCT
- WIRE MESH SCREEN
- VOLUME DAMPER
- FIRE DAMPER WITH DUCT ACCESS DOOR
- BACKDRAFT DAMPER
- MOTORIZED DAMPER WITH DUCT ACCESS DOOR
- SMOKE DAMPER WITH DUCT ACCESS DOOR
- COMBINATION FIRE/SMOKE DAMPER WITH DUCT ACCESS DOOR
- SLOPING RISE IN DUCT IN DIRECTION OF ARROW
- SLOPING DROP IN DUCT IN DIRECTION OF ARROW
- UNDERCUT DOOR
- DOOR LOUVER
- FAN
- CEILING MOUNTED INLINE EXHAUST FAN
- TERMINAL BOX (VAV, CV). DESIGNATION INDICATES TYPE, BOX SIZE, AND CFM. REFER TO SCHEDULES FOR QUANTITY
- TERMINAL BOX WITH ELECTRIC REHEAT COIL. DESIGNATION INDICATES TYPE, BOX SIZE AND CFM. REFER TO SCHEDULES FOR QUANTITY
- TERMINAL BOX WITH HOT WATER REHEAT COIL. DESIGNATION INDICATES TYPE, BOX SIZE AND CFM. REFER TO SCHEDULES FOR QUANTITY
- FAN POWERED TERMINAL BOX SERIES TYPE. DESIGNATION INDICATES TYPE, BOX SIZE AND CFM. REFER TO SCHEDULES FOR QUANTITY
- FAN POWERED TERMINAL BOX WITH ELECTRIC REHEAT COIL SERIES TYPE. DESIGNATION INDICATES TYPE, BOX SIZE AND CFM. REFER TO SCHEDULES FOR QUANTITY
- FAN POWERED TERMINAL BOX WITH HOT WATER REHEAT COIL SERIES TYPE. DESIGNATION INDICATES TYPE, BOX SIZE AND CFM. REFER TO SCHEDULES FOR QUANTITY
- THERMOSTAT/TEMPERATURE SENSOR. REFER TO PLANS FOR LOCATION.
- HUMIDISTAT/HUMIDITY SENSOR. REFER TO PLANS FOR LOCATION.
- ELECTRIC ON/OFF THERMALLY PROTECTED SWITCH WITH PILOT LIGHT
- DUCT MOUNTED SMOKE DETECTOR
- SPOT TYPE LIQUID DETECTOR
- TIME CLOCK
- STATIC PRESSURE SENSOR
- STARTER/DISCONNECT SWITCH
- STARTER
- CAPPED PIPE
- CAPPED AND VALVE CONNECTION (BALL VALVE UNLESS OTHERWISE NOTED)
- STRAINER WITH BLOW DOWN VALVE
- ELBOW TURNED UP
- ELBOW TURNED DOWN
- BOTTOM PIPE CONNECTION
- TOP PIPE CONNECTION
- GATE VALVE
- BALL VALVE
- CHECK VALVE
- AUTOMATIC THREE WAY VALVE
- AUTOMATIC TWO WAY CONTROL VALVE
- PRESSURE REDUCING VALVE
- PLUG VALVE
- SOLENOID VALVE
- BUTTERFLY VALVE (MANUAL)
- BUTTERFLY VALVE (MOTORIZED)
- COMBINATION BALANCING VALVE AND METER STATION
- PRESSURE GAUGE WITH GATE VALVE
- MANUAL AIR VENT WITH GATE VALVE
- AUTOMATIC AIR VENT WITH GATE VALVE
- THERMOMETER
- FLOW SWITCH
- PRESSURETROL
- CONDENSATE PUMP (SEE SCHEDULES FOR TYPE)
- INLINE PUMP

LINE REPRESENTATION

- NEW PIPING, DUCTWORK OR EQUIPMENT
- EXISTING DUCTWORK
- EXISTING PIPING
- EXISTING PIPING, DUCTWORK OR EQUIPMENT TO BE REMOVED
- THERMOSTAT/SENSOR WIRING FROM SENSING DEVICE TO CONTROLLED DEVICE
- NEW EQUIPMENT
- EXISTING EQUIPMENT TO REMAIN
- EXISTING EQUIPMENT TO BE RELOCATED
- RELOCATED POSITION OF EXISTING EQUIPMENT
- EXISTING EQUIPMENT TO BE REMOVED

DRAWING NOTATIONS

- DRAWING NOTE TAG
- SECTION DESIGNATION ON DRAWING WHERE SECTION IS CUT
  A-SECTION DESIGNATION
  B-DRAWING NO.
- POINT OF NEW CONNECTION TO EXISTING WORK
- POINT OF DEMOLITION
- REMOVE AND PATCH EXISTING WORK
- REVISION SYMBOL

ABBREVIATION

AC	AIR CONDITIONING UNIT
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
AF	AIR FILTER
AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLING UNIT
AL	ACOUSTIC LINING
ATC	AUTOMATIC TEMPERATURE CONTROL
AHC	ABOVE HUNG CEILING
BD	BACK DRAFT DAMPER
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CWS&R	CONDENSER WATER SUPPLY AND RETURN
CHWS&R	CHILLED WATER SUPPLY AND RETURN
CR	CEILING REGISTER
CAC	COMPUTER ROOM AIR CONDITIONING UNIT
CW	COLD WATER
D	DRAIN
DN	DOWN
ECM	ELECTRICALLY COMMUTATED MOTOR
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
FAI	FRESH AIR INTAKE
FC	FLEXIBLE CONNECTION
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FP-VAV	FAN POWERED VARIABLE AIR VOLUME
FSD	FIRE SMOKE DAMPER
GC	GENERAL CONTRACTOR
HWS&R	HOT WATER SUPPLY AND RETURN
KX	KITCHEN EXHAUST
LD	LINEAR DIFFUSER
LPR	LOW PRESSURE RETURN
LPS	LOW PRESSURE STEAM
MD	MOTORIZED DAMPER
MB	MIXING BOX
MOD	MOTORIZED OUTSIDE AIR DAMPER
MS	MOTOR STARTER
NK	NECK SIZE
OA	OUTSIDE AIR
OED	OPEN ENDED DUCT
RG	RETURN GRILLE
RA	RETURN AIR
REF	REFRIGERANT
RTU	ROOFTOP AIR CONDITIONING UNIT
SP	STAIR PRESSURIZATION FAN
TD/TRD	TRANSFER DUCT
TF	TRANSFER FAN
TR	TOP REGISTER
TG	TRANSFER GRILLE
TX	TOILET EXHAUST FAN
UH	UNIT HEATER
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER (OPPOSED BLADE DAMPER)
VFD	VARIABLE FREQUENCY DRIVE
WAC	WINDOW AIR CONDITIONING UNIT
WMS	WIRE MESH SCREEN

MECHANICAL DRAWING LIST

M-0.1	MECHANICAL LEGEND & GENERAL NOTES
M-0.2	MECHANICAL COMCHECK I
M-0.3	MECHANICAL COMCHECK II
M-1.1	MECHANICAL SPECIFICATIONS I
M-1.2	MECHANICAL SPECIFICATIONS II
M-3.1	MECHANICAL RISER DIAGRAM
M-4.1	MECHANICAL SCHEDULES
M-5.0	MECHANICAL DUCTWORK PLAN - LOWER LEVEL
M-5.1	MECHANICAL DUCTWORK PLAN - LEVEL1
M-5.4	MECHANICAL DUCTWORK PLAN - LEVEL 4
M-5.5	MECHANICAL DUCTWORK PLAN - LEVEL 5/ROOF
M-6.0	MECHANICAL PIPING PLAN - LOWER LEVEL
M-6.1	MECHANICAL PIPING PLAN - LEVEL 1
M-6.3	MECHANICAL PIPING PLAN - LEVEL 3
M-6.4	MECHANICAL PIPING PLAN - LEVEL 4
M-6.5	MECHANICAL PIPING PLAN - LEVEL 5/ROOF
M-9.1	MECHANICAL DETAILS I
M-9.2	MECHANICAL DETAILS II
M-9.3	MECHANICAL DETAILS III
MB-5.2	MECHANICAL DUCT - LEVEL 2 (BIKE SHOP)
MB-6.2	MECHANICAL PIPING - LEVEL 2 (BIKE SHOP)

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 NEW YORK STATE ENERGY CONSERVATION CODE.

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PROJECT NO.
T077-02-001

PROJECT
Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
MECHANICAL LEGENDS AND NOTES

SHEET NO.
M0.1

COMcheck Software Version COMcheckWeb

Mechanical Compliance Certificate

Project Information

Energy Code: 2020 New York State Energy Conservation Construction Code
Project Title:
Location: Ossining, New York
Climate Zone: 4a
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:

Additional Efficiency Package(s)

Credits: 1.0 Required 0.0 Proposed

Mechanical Systems List

Quantity System Type & Description

1 HVAC System (Single Zone):
Split System Heat Pump
Heating Mode: Capacity = 37 kBtu/h,
Proposed Efficiency = 9.80 HSPF, Required Efficiency = 8.20 HSPF
Cooling Mode: Capacity = 25 kBtu/h,
Proposed Efficiency = 15.00 SEER, Required Efficiency = 14.00 SEER
Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00
Fan System: FAN SYSTEM 1 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes

Fans:
FAN 3 Supply, Constant Volume, 1200 CFM, 0.3 motor nameplate hp, 0.0 fan efficiency grade, 0.0 total fan efficiency, 0.0 design fan efficiency , fan exception: Fan array <= 5 total HP

1 HVAC System (Single Zone):
Cooling: 1 each - Split System, Capacity = 18 kBtu/h, Air-Cooled Condenser, Unknown Economizer
Proposed Efficiency = 19.50 SEER, Required Efficiency = 13.00 SEER
Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00
Fan System: FAN SYSTEM 2 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes

Fans:
FAN 4 Supply, Constant Volume, 375 CFM, 0.3 motor nameplate hp, 0.0 fan efficiency grade, 0.0 total fan efficiency, 0.0 design fan efficiency , fan exception: Fan array <= 5 total HP

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2020 New York State Energy Conservation Construction Code requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Arthur Metzler- Founder & Chief Executive Officer — Name - Title
Signature
02/21/25 — Date

COMcheck Software Version COMcheckWeb

Inspection Checklist

Energy Code: 2020 New York State Energy Conservation Construction Code

Requirements: 0.0% were addressed directly in the COMcheck software
Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR2][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C403.12.2, C403.12.3 [FO3][3]	Snow/ice melting system and freeze protection systems have sensors and controls configured to limit service for pavement temperature and outdoor temperature. future connection to controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5, C404.5.1, C404.5.2 [PL6][3]	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C404.6.3 [PL7][3]	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C404.7 [PL8][3]	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.2.6 [ME41][3]	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.11.3 [ME61][3]	HVAC piping insulation insulated in accordance with Table C403.11.3. Insulation exposed to weather is protected from damage and is provided with shielding from solar radiation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.8.4 [ME142][3]	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.8.5 [ME143][3]	Each DX cooling system > 65 kBtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.12.1 [ME71][3]	Systems that heat outside the building envelope are radiant heat systems controlled by an occupancy sensing device or timer switch.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.2 [ME59][3]	Natural or mechanical ventilation is provided in accordance with International Mechanical Code Chapter 4. Mechanical ventilation has capability to reduce outdoor air supply to minimum per IMC Chapter 4.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.7.1 [ME59][1]	Demand control ventilation provided for spaces >500 ft2 and >25 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.7.2 [ME115][3]	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.7.6 [ME141][3]	HVAC systems serving guestrooms in Group R-1 buildings with > 50 guestrooms: Each guestroom is provided with controls that automatically manage temperature setpoint and ventilation (see sections C403.7.6.1 and C403.7.6.2).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.7.4 [ME57][1]	Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.7.5 [ME116][3]	Kitchen exhaust systems comply with replacement air and conditioned supply air limitations, and satisfy hood rating requirements and maximum exhaust rate criteria.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.11.1, C403.11.2 [ME60][3]	HVAC ducts and plenums insulated in accordance with C403.11.1 and constructed in accordance with C403.11.2, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.2 [ME121][3]	Closed-circuit cooling tower within heat pump loop have either automatic bypass valve or lower leakage positive closure dampers. Open-circuit tower within heat pump loop have automatic valve to bypass all heat pump water flow around the tower. Open- or closed-circuit cooling towers used in conjunction with a separate heat exchanger have heat loss by shutting down the circulation pump on the cooling tower loop. Open- or closed circuit cooling towers have a separate heat exchanger to isolate the cooling tower from the heat pump loop, and heat loss is controlled by shutting down the circulation pump on the cooling tower loop.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.1.4 [ME63][3]	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint <= 60F and cooling setpoint >= 80F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.3.3 [ME35][1]	Hot gas bypass limited to: <=240 kBtu/h – 50% >240 kBtu/h – 25%	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.1 [ME53][3]	Air outlets and zone terminal devices have means for air balancing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.5, C403.5.1, C403.5.2 [ME123][3]	Refrigerated display cases, walk-in coolers or walk-in freezers served by remote compressors and remote condensers not located in a condensing unit, have fan-powered condensers that comply with Sections C403.5.1 and refrigeration compressor systems that comply with C403.5.2..	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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PROJECT NO.
T077-02-001

PROJECT
Village of Ossining Multi-Model Transportation Hub
Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
MECHANICAL COMCHECK I

SHEET NO.
M0.2

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.3 [FI8][3]	Furnished O&M manuals for HVAC systems within 30 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.2 [FI27][3]	HVAC systems and equipment capacity does not exceed calculated loads.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1.1 [FI42][3]	Heat pump controls prevent supplemental electric resistance heat from coming on when not needed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.1.2 [FI38][3]	Thermostatic controls have a 5 °F deadband.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1.3 [FI20][3]	Temperature controls have setpoint overlap restrictions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.2 [FI39][3]	Each zone equipped with setback controls using automatic time clock or programmable control system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.2.1, C403.2.4.2.2 [FI40][3]	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.2.3 [FI41][3]	Systems include optimum start controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.1 [FI28][3]	Commissioning plan developed by registered design professional or approved agency.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.3.1 [FI31][3]	HVAC equipment has been tested to ensure proper operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.3.2 [FI10][3]	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

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Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C408.2.4 [FI29][3]	Preliminary commissioning report completed and certified by registered design professional or approved agency.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.5.1 [FI7][3]	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.5.3 [FI43][3]	An air and/or hydronic system balancing report is provided for HVAC systems.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.5.4 [FI30][3]	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

Project Title: Report date: 02/20/25
Data filename: Page 8 of 8

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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
MECHANICAL COMCHECK II

SHEET NO.
M0.3

MECHANICAL SPECIFICATIONS

PART 1- GENERAL

1.01 GENERAL

A. THE LATEST EDITION OF AIA DOCUMENTS A201 GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, OR AS REQUIRED BY THE ARCHITECTURAL DOCUMENTS AND/OR THE STRUCTURAL ENGINEERS DOCUMENTS ARE PART OF THE CONTRACT.

B. BIDDERS SHALL VISIT AND CAREFULLY EXAMINE THE AREA AFFECTED BY THIS WORK TO FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND THE DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF THIS WORK BEFORE SUBMITTING PROPOSALS. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT, OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BID. IF DISCREPANCIES ARE NOT RESOLVED TO CONTRACTORS SATISFACTION THEY SHALL BE QUALIFIED IN THEIR BID SUBMISSION.

C. THIS CONTRACTOR SHALL REVIEW ALL CONSTRUCTION DOCUMENTS ASSOCIATED WITH THIS PROJECT INCLUDING GENERAL CONSTRUCTION, DEMOLITION, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND SPRINKLER PLANS AND SPECIFICATIONS. ALL WORK REQUIRED IN THE BID WHICH IS INDICATED OR IMPLIED TO BE PERFORMED BY THIS TRADE IN OTHER SECTIONS OF THE WORK SHALL BE INCLUDED IN THEIR BID. IF A CONFLICT OCCURS IN THE BID SPECIFICATIONS AND/OR ON THE DRAWINGS, THE MORE STRINGENT SITUATION SHALL APPLY.

D. COORDINATE ALL WORK OF THE SECTION WITH EXISTING CONDITIONS AND THE WORK OF OTHER TRADES. THE CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE WORK INVOLVED AND SHALL VERIFY AT THE BUILDING ALL MEASUREMENTS NECESSARY FOR THE PROPER INSTALLATION OF THE WORK, OBTAINING THE SAME WHEN NECESSARY FROM THE OTHER CONTRACTORS AND SECTIONS. CONTRACTOR SHALL ALSO BE PREPARED TO PROMPTLY FURNISH TO OTHER CONTRACTORS ANY INFORMATION RELATING TO THE WORK OF THIS SECTION NECESSARY FOR THE PROPER INSTALLATION OF OTHER CONTRACTS AND SHALL COOPERATE TO SECURE THE BEST PROGRESS OF, AND HARMONY BETWEEN, THE WORK OF THE DIFFERENT CONTRACTS AND SECTIONS IN THE INTERESTS OF THE INSTALLATION AS A WHOLE. CONFER WITH OTHER CONTRACTORS AND ENGINEER FOR ADJACENT WORK TO THIS SECTION AND ARRANGE TO HAVE VISIBLE PORTIONS OF WORK FIT AND HARMONIZE IN A MANNER SATISFACTORY TO THE OWNER'S REPRESENTATIVE.

E. THE SPECIFICATIONS ARE ACCOMPANIED BY DRAWINGS INDICATING THE GENERAL LOCATION OF EQUIPMENT AND CONNECTIONS THERETO. UNLESS SPECIFICALLY DIMENSIONED, LOCATIONS OF EQUIPMENT AND ROUTINGS ARE APPROXIMATE. SCALES ON DRAWINGS ARE INDICATED FOR BIDDING PURPOSES ONLY. DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION AND MANUFACTURING DETAILS. CERTAIN SYSTEMS ARE DIAGRAMMATIC AND GIVE THE GENERAL ARRANGEMENT ONLY. NO ADDED COMPENSATION WILL BE PERMITTED FOR VARIATIONS DUE TO FIELD CONDITIONS. EXACT LOCATIONS AND ARRANGEMENTS SHALL BE DETERMINED IN THE FIELD ON THE BASIS OF DETAILS INDICATED ON APPROVED SHOP DRAWINGS, AND SUPPLEMENTARY INFORMATION ISSUED BY THE ENGINEER, AND SHALL PROVIDE FOR OPERATING EFFICIENCY, NEATNESS OF APPEARANCE, AND EASE OF MAINTENANCE.

F. GUARANTEE: THE CONTRACTOR SHALL GUARANTEE AND SERVICE THE ENTIRE INSTALLATION FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE FINAL ACCEPTANCE OF THE INSTALLATION. THE CONTRACTOR SHALL, DURING THE PERIOD OF THE GUARANTEE, REPLACE OR REPAIR AT HIS OWN EXPENSE ANY PIECE OF EQUIPMENT AND/OR MATERIAL WHICH IS FOUND TO BE DEFECTIVE. THE REPLACEMENT OR REPAIR SHALL BE PERFORMED THE SAME DAY OF NOTIFICATION IN AN EMERGENCY FASHION WHEN NOTIFIED BY THE OWNER OR AUTHORIZED REPRESENTATIVE. THE CONTRACTOR SHALL ALSO REPAIR ALL DAMAGE TO SURROUNDING WORK CAUSED BY THE FAILURE, REPAIR OR REPLACEMENT OF DEFECTIVE EQUIPMENT. ALL REFRIGERATION COMPRESSORS SHALL HAVE A FACTORY GUARANTEE INCLUDING PARTS AND LABOR FOR FIVE YEARS TOTAL. THE FINAL ACCEPTANCE WILL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, BALANCED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATION, AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVALS.

G. EQUIPMENT AND MATERIALS: MOST ITEMS OF MECHANICAL AND ELECTRICAL EQUIPMENT AND MATERIAL ARE NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS WITH A MANUFACTURER'S NAME AND CATALOG NUMBER. THIS DESIGNATION IS USED TO SET THE STANDARD FOR CONSTRUCTION, PERFORMANCE, OPERATION AND APPEARANCE. PRODUCTS OF OTHER MANUFACTURERS WILL BE CONSIDERED AND RULED UPON BY THE ENGINEER. THE SUBMISSION OF A SUBSTITUTION IMPLIES THAT THE ITEM HAS ALL NECESSARY UNDERWRITERS' LABORATORIES, BOARD OF STANDARDS AND APPEALS, NEW YORK STATE MEA, NATIONAL ELECTRICAL CODE, NEW YORK STATE ELECTRICAL CODE AND NEW YORK STATE ELECTRICAL ADVISORY BOARD, ETC. APPROVALS. SHOULD THE ITEM BE FOUND NOT TO HAVE SUCH APPROVAL, IT SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER

H. SUBSTITUTIONS: DEVIATIONS FROM CONTRACT DOCUMENTS AND SUBSTITUTION OF MATERIALS OR EQUIPMENT FOR THOSE SPECIFIED SHALL BE REQUESTED INDIVIDUALLY IN WRITING. FURNISH INFORMATION AS REQUIRED TO DEMONSTRATE THAT THE ARTICLE, MATERIAL, APPARATUS, PRODUCT OR PROCESS TO BE USED IS ADEQUATELY COMPARABLE TO THAT SPECIFIED IN QUALITY, FINISH, DESIGN, EFFICIENCY, DURABILITY AND GENERAL APPEARANCE, AND HAS BEEN ELSEWHERE DEMONSTRATED TO BE SERVICEABLE FOR THE PURPOSES FOR WHICH IT IS INTENDED. IF TESTS OR DEMONSTRATIONS ARE REQUIRED BY THE OWNER'S REPRESENTATIVES, THE COST OF SUCH TESTS OR DEMONSTRATIONS SHALL BE BORNE BY THE CONTRACTOR. DESCRIBE REASON FOR CHANGE, CONNECTIONS TO ADJACENT MATERIALS, ELECTRICAL SERVICES, SERVICE ACCESS REQUIREMENTS, DIFFERENCES IN OPERATING CHARACTERISTICS OR CYCLES AND ALL OTHER POINTS OF DEVIATION. CONTRACTOR TO ASSUME FULL RESPONSIBILITY FOR SAFETY, COORDINATION WITH OTHER TRADES, OPERATION AND PERFORMANCE OF ALTERED SYSTEM.

I. THIS CONTRACTOR IS TO OBTAIN A COPY OF THE BUILDING RULES AND REGULATIONS PRIOR TO BID SUBMISSION. ALL WORK MUST BE INSTALLED IN ACCORDANCE WITH THE BUILDING RULES AND REGULATIONS. DETERMINE REQUIREMENTS AND THE EXTENT OF PREMIUM TIME WORK REQUIRED BY BUILDING, FOR THE PURPOSE OF THE BID ASSUME ANY NOISY WORK (E.G., CHOPPING, CORE DRILLING, WELDING, BRAZING, SOLDERING, ETC.) AND BASE BUILDING SYSTEMS INTERRUPTIONS ARE TO BE PERFORMED OUTSIDE NORMAL BUSINESS HOURS.

J. REMOVAL, TEMPORARY CONNECTIONS AND RELOCATION OF CERTAIN EXISTING WORK WILL BE NECESSARY FOR THE INSTALLATION OF THE NEW SYSTEMS. ALL EXISTING CONDITIONS ARE NOT COMPLETELY DETAILED ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE SITE AND MAKE ALL NECESSARY CHANGES REQUIRED BASED ON EXISTING CONDITIONS FOR PROPER INSTALLATION OF NEW WORK.

K. ALL NECESSARY CUTTING AND PATCHING IN FLOOR SLABS, ROOF SLABS, WALLS, AND CEILINGS FOR THE HVAC WORK SHALL BE PERFORMED BY THIS CONTRACTOR. RESTORE TO MATCH EXISTING CONDITIONS.

L. WHERE PIPE AND/OR DUCTWORK PENETRATE RATED WALLS, THE SPACE BETWEEN THE INSULATION AND THE WALL SHALL BE CAULKED WITH NON-COMBUSTIBLE MATERIAL IN AN APPROVED MANNER. ALL PIPING AND/OR DUCTWORK TO BE INSTALLED ABOVE HUNG CEILING UNLESS OTHERWISE NOTED ON DRAWINGS. THE CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL CEILING ELEVATIONS.

M. ACCESS DOORS IN FINISHED CONSTRUCTION: THE CONTRACTOR SHALL PREPARE A LIST OF ALL ACCESS DOORS (MINIMUM 18"X18") REQUIRED FOR OPERATION AND MAINTENANCE OF ALL CONCEALED EQUIPMENT AND OTHER DEVICES, WHICH SHALL BE SUPPLIED TO THE GENERAL CONTRACTOR FOR INSTALLATION. THE COST TO FURNISH AND INSTALL ACCESS DOORS SHALL BE INCLUDED IN THIS CONTRACTORS BID. THIS CONTRACTOR IN ADVANCE OF CEILING INSTALLATIONS SHALL SUITABLY FIELD TAG AND IDENTIFY ALL CONCEALED EQUIPMENT, VALVES, DAMPERS, ETC., WHICH REQUIRE ACCESS DOOR PROVISIONS.

N. NEW DUCTWORK SHALL ARRIVE ON THE CONSTRUCTION SITE SEALED AND REMAIN PROTECTED FROM DEBRIS THROUGHOUT CONSTRUCTION PRIOR TO FINAL INSTALLATION. AIR DISTRIBUTION ACCESSORIES AND INTERNAL COMPONENTS OF ALL HVAC EQUIPMENT SHALL BE SEALED AND PROTECTED FROM DEBRIS WHILE ON THE CONSTRUCTION SITE PRIOR TO FINAL CONNECTION AND START-UP.

O. ALL VOLATILE ORGANIC COMPOUND (VOC) LIMITS OF ADHESIVES, SEALANTS AND SEALANT PRIMERS MUST COMPLY WITH SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULE #1168, AMENDMENT DATE OF JANUARY 7, 2005.

1.02 SCOPE OF WORK

A. THE CONTRACTOR SHALL FURNISH AND INSTALL AN HVAC SYSTEM COMPLETE WITH ALL EQUIPMENT, DUCTWORK, PIPING, INSULATION, CONTROLS, ACCESSORIES AND ASSOCIATED WORK IN ACCORDANCE WITH THE NEW YORK STATE BUILDING CODE, ALL NATIONAL, STATE AND LOCAL AUTHORITIES HAVING JURISDICTION, BUILDING MANAGEMENT, DESIGN DRAWINGS AND THIS SPECIFICATION.

B. THE WORK SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, HOISTING AND RIGGING, BREAKDOWN AND SETUP OF EQUIPMENT FOR INSTALLATION, SCAFFOLDING, AND SERVICES TO COMPLETE THE SYSTEM AND PROVIDE THE OWNER WITH A FULLY OPERATIONAL SYSTEM. ANY EQUIPMENT, PARTS, MATERIALS, ACCESSORIES, OR LABOR THAT IS NECESSARY FOR PROPER PERFORMANCE OF THE MECHANICAL WORK ALTHOUGH NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON THE DRAWINGS, SHALL BE FURNISHED AND INSTALLED WITHOUT ADDITIONAL COSTS. WHEN INSTALLATION OF A PART OF ANY SYSTEM (PLUMBING, HEATING, AIR CONDITIONING, ELECTRICAL OR OTHERWISE) REQUIRES A SHUTDOWN OF ANY OPERATING SYSTEM, CONNECT THE PARTIAL SYSTEM ONLY AFTER NOTIFICATION TO AND WITH APPROVAL OF THE OWNER. COORDINATE ACTIVITIES CLOSELY WITH THOSE OF SUBCONTRACTOR'S SO THE OPERATION IS RESTRICTED TO AS SHORT AN INTERVAL AS POSSIBLE AND "OUT OF SERVICE" TIME OF THESE FACILITIES IS KEPT TO A MINIMUM. ANY SHUTDOWN OF THE ELECTRICAL SYSTEM WILL BE DONE OUT OF HOURS AS APPROVED BY OWNER.

C. IT IS IMPERATIVE THAT EXISTING SYSTEMS BE MAINTAINED IN CONTINUOUS OPERATION DURING THE COURSE OF CONSTRUCTION; IF SHUTDOWNS ARE REQUIRED TO PERMIT THE DISCONNECTION AND REMOVAL OR RECONNECTION OF EXISTING WORK, OR FINAL CONNECTION TO BE MADE TO AN EXISTING SYSTEM, THEY SHALL OCCUR ONLY DURING OFF-HOURS AND ONLY AFTER PROPER PERMISSION HAS BEEN OBTAINED FROM BUILDING MANAGEMENT.

D. THE BUILDING MANAGEMENT REQUIRES NOT LESS THAN SEVEN DAYS NOTICE FOR SHUTDOWN OF ANY BUILDING SYSTEM.

E. MAKE AN ACCURATE TAKE-OFF ALL EXISTING EQUIPMENT, DUCTWORK, PIPING, CONDUIT, PANELBOARDS, WIRING DEVICES, AND OTHER ACCESSORIES BEING REMOVED DURING DEMOLITION AND INCLUDE THE COST FOR DISCONNECTING AND REMOVAL OF STATED EQUIPMENT, ETC. INTO THE BASE BID. REMOVALS SHALL BE AS SPECIFIED AND/OR AS INDICATED ON THE DRAWINGS. IN CERTAIN CASES, EQUIPMENT OR MATERIALS DESIGNATED FOR REMOVAL SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE TURNED OVER AT LOCATIONS IN THE BUILDING AS DIRECTED BY THE OWNER.

F. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO INSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES. ALL SYSTEM SHUTDOWNS AFFECTING OTHER AREAS SHALL BE COORDINATED WITH BUILDING MANAGEMENT.

G. THIS TENANT/OWNER SHALL PROCURE THE SERVICES OF A THIRD PARTY INSPECTION COMPANY TO PERFORM ALL SPECIAL INSPECTIONS IN ACCORDANCE WITH THE NEW YORK STATE BUILDING CODE. SECURE ALL REQUIRED PERMITS AND APPROVALS AND TRANSMIT SAME TO THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES.

1.03 SHOP DRAWINGS, EQUIPMENT SUBMISSION, MAINTENANCE MANUALS

A. SUBMIT ONE (1) REPRODUCIBLE AND ONE (1) PRINT OF THE SHEET METAL AND PIPING SHOP DRAWINGS, 3/8" SCALE, CERTIFIED BY ALL TRADES THAT COORDINATION HAS BEEN ESTABLISHED.

B. SUBMIT THREE (3) COPIES OF ALL SHEET METAL AND PIPING SHOP STANDARDS LEAKAGE TEST CERTIFICATION, AIR AND WATER BALANCING REPORTS, AND CERTIFIED EQUIPMENT CUTS WITH CONSTRUCTION WIRING DIAGRAMS, AND AUTOMATIC TEMPERATURE CONTROL SHOP DRAWINGS INCLUDING CONTROL AND POWER WIRING DIAGRAMS, SEQUENCE OF OPERATIONS AND ALL CUTS OF EQUIPMENT AND DEVICES.

C. SUBMIT FOUR (4) BOOK BOUND OPERATING AND SERVICE MANUALS WHICH SHALL INCLUDE COPIES OF ALL AS-BUILT SHOP DRAWINGS FOLDED AND PLACED INTO BINDER POCKETS, AS-BUILT DRAWINGS IN ELECTRONIC FORMAT, COPIES OF REVIEWED EQUIPMENT CUTS FOR INSTALLED EQUIPMENT, COPIES OF EQUIPMENT START UP CHECKLISTS, AIR AND WATER BALANCING REPORTS, LEAK TESTS, HYDROSTATIC TESTS, WATER TREATMENT AND CHEMICAL CLEANING CERTIFICATION. CONTRACTOR SHALL INSTRUCT OWNERS PERSONNEL ON THE OPERATION OF ALL HVAC SYSTEMS.

D. CONFLICTS NOT SPECIFICALLY FLAGGED ON SHOP DRAWINGS FOR COORDINATION BETWEEN TRADES OR FROM PRE-EXISTING CONDITIONS UNCOVERED DURING DEMOLITION ARE ASSUMED TO BE COORDINATED TO ALLOW FOR THE INSTALLATION OF THE DESIGN INTENT ON THE MEP/ARCHITECTURAL DRAWINGS. ALL ITEMS UNFLAGGED AND FOUND IN THE FIELD SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE TO MAINTAIN THE DESIGN INTENT. ALL CHANGES SHALL BE DOCUMENTED IN THE AS-BUILT CONDITIONS.

E. AS WORK PROGRESSES AND FOR DURATION OF CONTRACTOR, MAINTAIN COMPLETE AND SEPARATE SET OF PRINTS OF CONTRACT DRAWINGS AT THE JOB SITE. RECORD WORK COMPLETED AND ALL CHANGES FROM ORIGINAL CONTRACT DRAWINGS CLEARLY AND ACCURATELY INCLUDING WORK INSTALLED AS A MODIFICATION OR ADDITION TO THE ORIGINAL DESIGN. RECORD VALVE TAGS AS THEY ARE INSTALLED. FINAL SUBMISSION OF REPRODUCIBLE AS-BUILT DRAWINGS ARE TO BE SIGNED AND CERTIFIED BY INSTALLING CONTRACTOR THAT THIS IS THE AS-BUILT CONDITION OF THE WORK. AS-BUILT SHOP DRAWINGS SHALL BE SUBMITTED IN DRAWING AND ELECTRONIC FORMAT (AUTOCAD 2007 MINIMUM).

PART 2- PRODUCT/APPLICATION

2.01 DUCTWORK

A. PROVIDE ALL SUPPLY, RETURN, EXHAUST, AND OUTSIDE AIR SHEET METAL DUCTWORK, FITTINGS, DAMPERS, TURNING VANES, ACCESS DOORS, PLENUMS, FLEXIBLE CONNECTIONS, AND SUPPORTS AND PERFORM LEAK TEST PER LATEST SMACNA STANDARDS AND NFPA90A AS MODIFIED BY N.Y.C. BUILDING CODE. ALL DUCTWORK JOINTS SHALL BE SEALED AIR TIGHT WITH APPROVED DUCT SEALANT, SIMILAR TO 3M-540.

B. ALL LOW PRESSURE DUCTS EXPOSED IN OCCUPIED AREAS, OTHER THAN MECHANICAL AND FAN ROOMS FABRICATED WITH HEMMED "S" SLIPS. REINFORCE JOINTS OF DUCTS OVER 30" WIDE WITH FLAT BARS OR FLAT BARS AND 3/8" RODS FOR DUCTS OVER 54" WIDE. TOP JOINT WITH BAR SKIP UNDER 31" WIDTH AND REINFORCED BAR SKIP FOR 31" AND LARGER IN WIDTH.

C. ROUND DUCTS SPIRAL LOCK. G.I. COMPANY, SHEET METAL PRODUCTS, UNITED SHEET METAL, PACIFIC AIR PRODUCTS, OR AS APPROVED. ROUND DUCTS OVER 60" WITH BUTT WELDED, LONGITUDINAL SEAMS, AND FLANGE JOINTS.

D. FITTINGS IN ROUND DUCTS SHALL BE NO LIGHTER THAN 20 GAUGE, AND WELDED. G. 1. COMPANY, SHEET METAL PRODUCTS, UNITS SHEET METAL, PACIFIC AIR PRODUCTS, OR AS APPROVED. BRANCH TEE TAKE-OFFS MADE WITH "CON-T" TYPE CONICAL TEE FITTINGS. WHERE MAIN DUCT REDUCES IN SIZE AFTER TAKE-OFF, USE "CON-T" OR TURNS, AND 3-PIECE FOR 45 DEGREE TURNS.

E. CONTRACTOR SHALL ADHERE TO THE FULL INSIDE CROSS SECTIONAL DUCTWORK AREAS SHOWN ON THE DRAWINGS AND PROVIDE ALL TRANSITIONS AND OFFSETS AS REQUIRED TO MEET FIELD CONDITIONS, ACCOMMODATE EQUIPMENT MAINTENANCE REQUIREMENTS AND COORDINATE WITH ALL TRADES. ALL FIELD CONDITIONS WHICH REQUIRE MODIFIED TRANSITIONS WILL NOT BE APPROVED WITHOUT PRIOR ENGINEER APPROVAL THROUGH SHOP DRAWING OR RFI.

F. FOR DUCTS WITH ACOUSTICAL LINING THE SIZES SHOWN ON THE PLAN SHALL BE THE CLEAR INSIDE DIMENSIONS.

G. ALL OPEN-ENDED RETURN, TRANSFER OR EXHAUST DUCTS SHALL BE PROVIDED WITH WIRE MESH SCREENS.

H. ANY OPEN-ENDED DUCT ON EQUIPMENT OR THROUGH A RATED PARTITION THAT REQUIRES SMOKE DETECTION AS PER THE MECHANICAL CODE SHALL INCLUDE AN EXTENSION OF A MINIMUM THREE (3) FEET STRAIGHT SECTION TO ALLOW FOR INSTALLATION OF DUCT-MOUNTED SMOKE DETECTOR.

I. DUCTWORK TO BE INSTALLED AT THE HIGHEST LOCATION POSSIBLE UNLESS A CONFLICT PREVENTS THIS OR THE INSTLLATION HIGH WOULD IMPEDE ACCESS TO EQUIPMENT CONNECTED TO THE DUCTWORK.

J. EXISTING DUCTWORK TO BE REUSED: CONTRACTOR SHALL INSPECT, SEAL AS PER PRESSURE CLASSIFICATION, LEAK TEST, AND INSULATE ALL EXISTING DUCTWORK TO BE REUSED. ALL REQUIRED WORK SHALL BE PART OF BID.

K. NEW AND EXISTING DUCTWORK TO BE REUSED SHALL HAVE PRESSURE CLASSIFICATION, SEALING REQUIREMENTS AND LEAKAGE TESTING AS LISTED BELOW UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS:

1. 4" CLASS: ALL SUPPLY DUCTWORK FROM DISCHARGE OF AIR UNITS TO INLETS OR TERMINAL BOXES. SEAL CLASS A, LEAKAGE CLASS 4 (RECTANGULAR) OR CLASS 3 (ROUND). PROVIDE TDF FLANGE CONNECTIONS FOR ALL SYSTEM 4” PRESSURE CLASS AND ABOVE.
2. 2" CLASS: ALL OTHER LOW PRESSURE DUCTWORK. SEAL CLASS B, LEAKAGE CLASS 16 (RECTANGULAR) OR CLASS 8 (ROUND).
3. LEAKAGE TESTING:
    - A) FOR DUCT SYSTEMS DESIGNED TO OPERATE AT STATIC PRESSURES IN EXCESS OF 3 INCHES W.G. (746 PA) (3” CLASS AND ABOVE), REPRESENTATIVE SECTIONS (AS DETERMINED BY THE INSPECTOR WHEN APPLICABLE), TOTALING AT LEAST 50% OF THE DUCT AREA SHALL BE TESTED TO VERIFY THAT ACTUAL AIR LEAKAGE IS BELOW ALLOWABLE AMOUNTS AS DEFINED BY ASHRAE 90.1 OR THE ENERGY CODE AS INDICATED ON THE PROJECT'S COMCHECK COMPLIANCE CERTIFICATE, WHICHEVER IS MORE STRINGENT.
    - B) ALL EXISTING LOW PRESSURE DUCTWORK SHALL BE LEAK TESTED PRIOR TO REUSE TO VERIFY ITS INTEGRITY.
    - C) ALL NEW LOW PRESSURE DUCTWORK (2" CLASS) SHALL BE TESTED ON AN AS-NEEDED BASIS AT THE ENGINEERS DISCRETION OR IF BALANCING AIR QUANTITIES CAN NOT BE MET. IF SPECIMEN FAILS TO MEET ALLOTTED LEAKAGE LEVEL, THE CONTRACTOR SHALL MODIFY TO BRING IT INTO COMPLIANCE AND SHALL RETEST IT UNTIL ACCEPTABLE LEAKAGE IS DEMONSTRATED. TESTS AND NECESSARY REPAIRS SHALL BE COMPLETED PRIOR TO CONCEALMENT OF DUCTS.
    - D) CONTRACTOR SHALL PROVIDE A GREASE DUCT SMOKE TEST IN ACCORDANCE WITH APPLICABLE SECTIONS CODE SECTION 506.3.2.5. THE TEST SHALL BE PERFORMED IN THE PRESENCE OF THE SPECIAL INSPECTOR. A STATIC PRESSURE TEST EQUAL TO MINIMUM OF 2 INCHES OF WATER GAUGE THAT SHALL BE MAINTAINED. THE TEST SHALL BE APPLIED FOR A LENGTH OF TIME SUFFICIENT TO PERMIT INSPECTION OF THE GREASE DUCT.

L. MATERIALS:

1. SHEETMETAL: HOT-DIPPED GALVANIZED SHEETMETAL WITH G90 COMMERCIAL COATING ACCORDING TO ASTM A653 & A924 FOR ALL DUCTWORK UNLESS OTHERWISE SPECIFIED.
2. FLEXIBLE CONNECTIONS AT FANS SHALL BE NEOPRENE COATED, FLAME RETARDANT GLASS FABRIC (COMPLYING WITH NFPA 90), 30 OZ./SQ, YD. WITH SEWED AND CEMENTED SEAMS.
3. FLEXIBLE DUCTWORK: CONSTRUCTED OF A SUPPORTING HELIX OF COATED SPRING STEEL OR FORMED ALUMINUM; BONDED OR MECHANICALLY LOCKED TO A CORE LINER OF IMPREGNATED/COATED FIBERGLASS FABRIC OR LAMINATED FIBERGLASS-REINFORCED AND ALUMINIZED POLYESTER FILM. INSULATED FLEXIBLE DUCTWORK TO HAVE A MINIMUM INSULATIVE PROPERTY MATCHING THAT INDICATED IN THE INSULATION SPECIFICATION SECTION HEREIN. OUTER JACKET/VAPOR BARRIER TO BE AS A MINIMUM, FIBERGLASS-REINFORCED, ALUMINIZED POLYESTER FILM, WITH A MAXIMUM ASTM E96 PERMEANCE RATING OF 0.1 INCH PERM (GRAIN/H/FT2/IN. HG). DUCT TO HAVE A POSITIVE PRESSURE RATING OF 10 IN. W.G.

M. PROVIDE MANUAL BALANCING DAMPERS AS REQUIRED TO PROPERLY BALANCE THE AIR DISTRIBUTION SYSTEM AS SHOWN ON DRAWINGS AND AS LISTED BELOW:

1. ALL SUPPLY AIR MAIN BRANCHES FROM TRUNK, EACH SPLIT, AND ALL SUB-BRANCHES FROM MAINS SHALL HAVE BALANCING DAMPERS.
2. EXHAUST AND RETURN MAIN BRANCHES FROM TRUNK, EACH SPLIT AND ALL SUB-BRANCHES FROM MAINS SHALL HAVE BALANCING DAMPERS.
3. IF DAMPER IS NOT ACCESSIBLE, OR IS LOCATED ABOVE A PLASTER OR DRYWALL CEILING, PROVIDE A REMOTE DAMPER ACTUATOR AND DAMPER AS MANUFACTURED BY YOUNG REGULATOR MODEL 896-C WITH NO. 1200A RIGHT ANGLE WORM GEAR AND DAMPER MODEL 820 OR APPROVED EQUAL.

H. MOTORIZED DAMPERS LOCATED IN OUTDOOR AIR INTAKES OR EXPOSED TO MOISTURE SHALL BE TAMCO SERIES 1000 CONTROL DAMPER OR SIMILAR. THE DAMPER SHALL BE:

1. EXTRUDED ALUMINUM DAMPER FRAME SHALL NOT BE LESS THAN 0.080” (2.03 MM) IN THICKNESS. DAMPER FRAME SHALL BE 4”, WITH DUCT MOUNTING FLANGES ON BOTH SIDES OF FRAME. DAMPER FRAME SHALL HAVE A 2" (50.8 MM) MOUNTING FLANGE ON THE REAR OF THE DAMPER, WHEN INSTALLED AS EXTENDED REAR FLANGE INSTALL TYPE. FRAME TO BE ASSEMBLED USING ZINC-PLATED STEEL MOUNTING FASTENERS. WELDED FRAMES SHALL NOT BE ACCEPTABLE.
2. BLADES SHALL BE MAXIMUM 6.4" DEEP EXTRUDED ALUMINUM AIR-FOIL PROFILES WITH A MINIMUM WALL THICKNESS OF 0.06”. ALL BLADES SHALL BE SYMMETRICALLY PIVOTED.
3. BLADE SEALS SHALL BE EXTRUDED EPDM, SECURED IN AN INTEGRAL SLOT WITHIN THE ALUMINUM BLADE EXTRUSIONS AND SHALL BE MECHANICALLY FASTENED TO PREVENT SHRINKAGE AND MOVEMENT OVER THE LIFE OF THE DAMPER. ADHESIVE OR CLIP-ON TYPE BLADE SEALS WILL NOT BE APPROVED.
4. FRAME SEALS SHALL BE EXTRUDED SILICONE, SECURED IN AN INTEGRAL SLOT WITHIN THE ALUMINUM FRAME EXTRUSIONS AND SHALL BE MECHANICALLY FASTENED TO PREVENT SHRINKAGE AND MOVEMENT OVER THE LIFE OF THE DAMPER. METALLIC COMPRESSION TYPE JAMB SEALS WILL NOT BE APPROVED.
5. LINKAGE HARDWARE SHALL BE ALUMINUM AND CORROSION-RESISTANT ZINC-PLATED STEEL, INSTALLED IN THE FRAME SIDE, OUT OF THE AIRSTREAM, AND ACCESSIBLE AFTER INSTALLATION.
6. DAMPERS SHALL BE AMCA RATED FOR LEAKAGE CLASS 1A AT 1 IN. W.G. (0.25 KPA) STATIC PRESSURE DIFFERENTIAL.
7. DAMPERS SHALL BE INSTALLED IN AS FLANGED TO DUCT.
8. CONTRACTOR TO PROVIDE A 12”X12” ACCESS DOOR IN THE DUCTWORK FOR ACCESS TO INTERNAL COMPONENTS OF THE DAMPER.

I. FIRE DAMPERS AND FIRE/SMOKE DAMPERS:

1. PROVIDE ALL FIRE DAMPERS, SMOKE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS, SMOKE DETECTORS, AND ASSOCIATED CONTROLS AND ALARMS AS REQUIRED BY CODE.
2. DAMPERS SHALL BE DYNAMIC TYPE, U.L. LISTED AND LABELED, AND IN CONFORMANCE WITH NFPA.
3. FIRE DAMPER SHALL BE FUSIBLE LINK TYPE (165 DEGREE F.), TYPE B SHUTTER OUT OF THE AIR STREAM AS MANUFACTURED BY POTTORFF MODEL VFD-10 (1-1/2 HR RATED) OR MODEL VFD-30 (3HR RATED) AS REQUIRED OR APPROVED EQUAL.
4. COMBINATION FIRE/SMOKE DAMPERS SHALL BE CLASS II, REMOTE RESETTABLE, MULTI-BLADE TYPE WITH FIRESTAT OR HEAT SENSOR DEVICE AND 120-VOLT ACTUATOR MOUNTED OUT OF THE AIR STREAM, WITH DAMPER OPERATOR AND BLADE POSITION INDICATOR SWITCHES. PROVIDE MOTOR MOUNT BRACKET STRENGTHENER FOR DAMPERS OVER 10" IN HEIGHT. PROVIDE A 10 GAUGE WELDED VERTICAL STIFFENER AT EACH CORNER TO PREVENT DAMPER MISALIGNMENT.
5. COMBINATION FIRE/SMOKE DAMPERS SHALL BE MANUFACTURED BY POTTORFF MODEL FSD-142 (1-1/2 HR RATED) OR MODEL FSD-342 (3HR RATED) AS REQUIRED OR APPROVED EQUAL.
6. THE HVAC CONTRACTOR SHALL PROVIDE ALL DEVICES, RELAYS, END SWITCHES, E/P SWITCHES, CONTROL COMPONENTS, AIR PIPING, POWER WIRING, CONTROL WIRING AND INTERLOCK WIRING AS REQUIRED TO ACCOMPLISH THE SEQUENCE OF OPERATION FOR THESE DAMPERS.
7. DUCTWORK SHALL BE TRANSITIONED LARGER AT ALL FIRE AND FIRE/SMOKE DAMPERS SUCH THAT THE NET FREE AREA OF THE DUCTWORK IS NOT COMPROMISED.
8. CONTRACTOR TO PROVIDE A 12”X12” ACCESS DOOR IN THE DUCTWORK FOR ACCESS TO INTERNAL COMPONENTS OF THE DAMPER.

J. PROTECTION PANS AND DRIP PANS:

1. PROVIDE PROTECTION PANS UNDER NEW CEILING MOUNTED AIR CONDITIONING UNITS, PIPES PASSING THROUGH SWITCHGEAR ROOMS OR OVER ELECTRIC EQUIPMENT. THE PANS SHALL BE CONSTRUCTED OF GALVANIZED STEEL, SUITABLE REINFORCEMENT TO PREVENT SAGGING.
2. EDGES OF THE PANS SHALL TURN UP 2" ON ALL SIDES WITH CORNERS SEALED TO MAKE PAN WATERTIGHT.
3. PAN SHALL BE SUPPORTED BY PIPE HANGERS AND SHALL DRAIN CLEAR OF ELECTRICAL EQUIPMENT.
4. PROVIDE A 3/4" DRAIN PIPE FOR EACH PAN TERMINATING ABOVE NEAREST CONVENIENT SINK OF FLOOR DRAIN.

K. AUTOMATIC CONTROL DAMPERS: PROVIDE DAMPERS WITH PARALLEL BLADES FOR 2-POSITION OR MIXING CONTROL, OR OPPOSED BLADES FOR MODULATING CONTROL OF VARIABLE VOLUME SYSTEM. AUTOMATIC DAMPERS ARE TO BE VERY LOW LEAKING TYPE WITH A MAXIMUM LEAKAGE RATE OF 6 CFM PER SQUARE FOOT AT 4" W.G. DAMPER MATERIAL SHALL BE THE SAME AS DUCT. PROVIDE WEATHERPROOF COMPONENTS FOR DAMPERS IN A MOISTURE ENVIRONMENT.

2.02 GRILLES, REGISTERS AND DIFFUSERS

A. PROVIDE ALL AIR OUTLETS AND RETURNS OF THE TYPE AND SIZES, AS SELECTED AND INDICATED ON DRAWING. ALL DUCTED RETURN AND EXHAUST OUTLETS SHALL HAVE OPPOSED BLADE DAMPERS (ADJUSTABLE THROUGH THE FACE). PROVIDE FRAMES AND MOUNTING TYPES AS REQUIRED TO MATCH SURROUNDING CEILING CONSTRUCTION. FINISHES TO BE SELECTED BY THE ARCHITECT.

B. ALL CEILING TYPE AIR DIFFUSERS SHALL BE PROVIDED WITH EQUALIZING DEFLECTOR.

C. A SCHEDULE OF DIFFUSERS, GRILLES AND REGISTERS WITH MANUFACTURERS MODELS, SIZES, ACCESSORIES, FINISHES, ETC., SHALL BE SUBMITTED FOR APPROVAL PRIOR TO RELEASE FOR FABRICATION AND DELIVERY

D. DIFFUSERS SHOWN ON DIFFUSER SCHEDULE SHALL BE CHANGED TO MATCH EXISTING DIFFUSER TYPE WHERE EXISTING DIFFUSERS ARE REMAINING.

E. ALL LINEAR DIFFUSERS SHALL BE PROVIDED WITH PATTERN CONTROL VANES. ALL ADJUSTABLE PATTERN DEFLECTORS SHALL BE FIELD ADJUSTED TO OPTIMIZE AIR DISTRIBUTION PREVENTING DRAFT CONDITIONS. CONTRACTOR SHALL PLAN FOR A SECOND COMFORT FIELD ADJUSTMENT PER OWNER/ENGINEER DISCRETION.

F. ALL UNUSED PORTIONS OF SUPPLY LINEAR DIFFUSERS SHALL BE USED AS RETURN GRILLE AND SHOULD BE PROVIDED WITH LIGHT SHIELDS.

G. ALL LINEAR DIFFUSERS AND DIFFUSERS IN INACCESSIBLE CEILINGS SHALL BE PROVIDED WITH A REMOTE OPERATED OPPOSED BLADE DAMPER AND A 3-FOOT (MINIMUM) FLEXIBLE ADJUSTMENT CABLE WITH 1/8-INCH KEY OPERATOR.

2.03 PIPING

A. PROVIDE PIPING WHICH IS SCHEMATICALLY INDICATED AND SIZED ON DRAWINGS. PIPING TO BE INSTALLED TO MEET SPECIFIED HEADROOM OR FIELD CONDITIONS AND SHALL CONFORM TO LATEST ASME CODES FOR PRESSURE PIPING. PIPE MATERIALS AND FITTING MATERIALS SHALL BE AS PER THE PIPE AND FITTING SCHEDULES SHOWN ON DRAWINGS.

B. PIPING, FITTINGS, AND ALL PIPE APPURTENANCES SHALL BE SUITABLE FOR THE PRESSURE AND TEMPERATURE OF SERVICE.

C. PROVIDE DIELECTRIC FITTINGS TO CONNECT DIFFERENT PIPING MATERIALS.

D. PROVIDE AIR VENTS AT EACH HIGH POINT AND DRAIN VALVES WITH HOSE BIB AT EACH LOW POINT.

E. PIPING SHALL BE INSTALLED WITH PROPER ANCHORS AND EXPANSION/CONTRACTION DEVICES SUCH AS LOOPS OR APPROVED EXPANSION JOINTS TO PREVENT UNDUE STRAINS ON PIPING OR APPARATUS CONNECTED TO THE PIPING, AS REQUIRED.

F. SUPPORT PIPING WITH HANGERS EQUIPPED WITH INSULATION SADDLES FROM APPROVED CONCRETE INSERTS, EXPANSION SHIELDS, BEAM CLAMPS, AND/OR SUPPLEMENTARY STEEL ANGLES, PLATES, AND CHANNELS. CONTRACTOR SHALL SUBMIT METHOD OF PIPING SUPPORT SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER FOR REVIEW.

G. UNIONS WITH REMOVABLE SECTIONS OF PIPING SHALL BE INSTALLED AT ALL EQUIPMENT TO PERMIT EASE OF DISCONNECTION FOR EQUIPMENT SERVICE/REMOVALS WITHOUT DISMANTLING OF MAJOR PORTIONS OF CONNECTED PIPING.

H. PROVIDE TEES IN PIPING SYSTEM FOR TESTING AND BALANCING, AND INSTALLATIONS OF FLOW OR FLOAT SWITCHES, GAUGED, THERMOMETERS AND OTHER BALANCING AND CONTROL DEVICES, COORDINATE WITH THE CONTROL CONTRACTOR AND BALANCER.

I. PROVIDE AUTOMATIC PRESSURE RELIEF VALVES AND VACUUM BREAKERS TO PREVENT AGAINST PIPE RUPTURE OR SYPHONING ACTIONS. EXTEND DRAINS FROM RELIEF VALVES TO SPILL OVER FLOOR DRAINS.

J. ALL PIPE SLEEVES SHALL BE SCHEDULE 40 GALVANIZED STEEL. ANNULUS BETWEEN PIPE OR PIPE INSULATION AND SLEEVE SHALL BE CAULKED WITH A NON-COMBUSTIBLE MATERIAL TO WITHIN 1/4" OF WALL FACES AND FILLED WITH CAULKING COMPOUND FOR INTERIOR SLEEVES. EXTERIOR SLEEVES OR WATERPROOF SLEEVES SHALL UTILIZE LINK SEAL (LS) TYPE TO FILL THE ANNULUS. PROVIDE ESCUTCHEONS ON ALL EXPOSED PIPING THROUGH WALLS OR FLOORS HELD IN PLACE WITH SCREWS.

K. PIPING TO BE INSTALLED AT THE HIGHEST LOCATION POSSIBLE UNLESS A CONFLICT PREVENTS THIS OR THE INSTLLATION HIGH WOULD IMPEDE ACCESS TO EQUIPMENT OR VALVES CONNECTED TO THE PIPING.

L. PROVIDE SECURELY FASTENED LABELING OF ALL PIPING (BOTH EXPOSED AND CONCEALED) IN ACCORDANCE WITH ANSI STANDARDS AND COLOR CODED AS PER BUILDING MANAGEMENT STANDARDS. LABELING SHOULD BE PROVIDED 20 FEET ON CENTERS AND/OR AT LEAST ONCE IN EACH ENCLOSED SPACE OR ROOM WHERE THE WALLS EXTEND ABOVE THE CEILING.

M. PROVIDE VALVE TAGS AND CHARTS:

1. EACH VALVE SHALL HAVE A 2 INCH DIAMETER BRASS TAG WITH 1 INCH HIGH NUMERAL STAMPED THEREON, SECURED TO THE VALVE BY MEANS OF BRASS S HOOK OR BRASS CHAIN. EACH SYSTEM TO HAVE A LETTER DESIGNATION INDICATING SERVICE.
2. THE CONTRACTOR SHALL FURNISH AN APPROVED NEATLY DRAWN VALVE CHART, PROPERLY FRAMED, SHOWING THE USE AND LOCATION OF EACH VALVE THAT IS TAGGED.

N. VALVES AND STRAINERS:

1. VALVES, STRAINERS, STEAM TRAPS, ETC., SHALL NOT CONTAIN ASBESTOS AND HAVE THE NAME OF THE MANUFACTURER AND GUARANTEED WORKING PRESSURE CAST OR STAMPED ON BODIES. VALVES OF SIMILAR TYPE SHALL BE BY A SINGLE MANUFACTURER.
2. VALVES USED FOR THROTTLING OR CONTROLLING FLOW SHALL BE BALL (3" OR SMALLER) OR PLUG TYPE VALVES (ALL SIZES). VALVES FOR ISOLATION SHALL BE BALL FOR LIQUID SYSTEMS AND GATE FOR STEAM SYSTEMS UNLESS OTHERWISE SPECIFIED. BUTTERFLY VALVE SHALL BE LUG TYPE AND MAY BE SUBSTITUTED FOR BALL VALVES FOR SIZES 4" AND LARGER. BUTTERFLY VALVES SHALL NOT BE USED FOR MODULATING SERVICE OR STEAM SERVICE, USE ONLY FOR 2 POSITION ISOLATION ON WATER SYSTEMS. REFER TO AUTOMATIC TEMPERATURE CONTROL SECTION FOR CONTROL VALVES.
3. VALVES SHALL HAVE WORKING PRESSURE AND TEMPERATURE RATINGS SAME AS PIPE FITTINGS SPECIFIED FOR THE SERVICE. REGARDLESS OF SERVICE, VALVES SHALL NOT BE DESIGNED FOR LESS THAN 125 PSI STEAM WORKING PRESSURE.
4. CHECK VALVES SIZED 2-1/2" AND LARGER SHALL BE IRON BODY, FLANGED ENDS, BRONZE MOUNTED, SWING PATTERN, WITH REMOVABLE CAP, RE-GRINDABLE DISC AND SEAT RING. CHECK VALVES SIZED 2" AND SMALLER SHALL BE BRONZE BODY, SCREWED ENDS, SWING PATTERN. PROVIDE SPRING LOADED, SILENT ACTION, NON-SLAM TYPE CHECK VALVE WITH REMOVABLE CAP, RE-GRINDING DISC AND SEAT RING IN ALL VERTICAL INSTALLATIONS AND DISCHARGE PIPING FROM PUMPS AS MANUFACTURED BY SMOLENKSY, MEULLER, WILLIAMS-HAGER OR MILLER.
5. BALL VALVES SHALL BE PROVIDED WITH STAINLESS STEEL BALL, STEM AND SEAT RING, TFE BUSHING AND SEAT RING GASKET. BALL VALVES INSTALLED IN COPPER SYSTEMS SHALL HAVE BRONZE BODIES. BALL VALVES SHALL BE RATED FOR A MINIMUM OF 275 PSI @ 100 DEGREE F.

Q. THERMOMETERS AND PRESSURE GAUGES:

1. PROVIDE PIPE THERMOMETERS. THERMOMETERS SHALL BE WEISS, WEKSLER, THERICE OR OTHER APPROVED MANUFACTURER AND SHALL BE MINIMUM OF 4-1/2" DIAL TYPE, ALUMINUM FLANGELESS CASE FURNISHED WITH MICROMETER ADJUSTABLE POINTER. THERMOMETER SHALL HAVE A 1% ACCURACY AND MIDPOINT AS SYSTEM OPERATING TEMPERATURE.
2. PROVIDE LIQUID FILLED PRESSURE GAUGES. EACH PRESSURE GAUGE INSTALLATION SHALL INCLUDE A 1/4" BALL VALVE FOR ITS CONNECTION TO PIPING. PRESSURE GAUGES SHALL BE WEISS, WEKSLER, THERICE OR OTHER APPROVED MANUFACTURER AND SHALL BE MINIMUM OF 4-1/2" DIAL TYPE, CAST ALUMINUM CASE, STEEL MOVEMENT, MICROMETER ADJUSTABLE POINTER, 1% ACCURACY AND MIDPOINT AT SYSTEM OPERATING PRESSURE.

R. REFRIGERANT PIPE INSTALLATION:

1. REFRIGERANT PIPING SHALL BE TESTED IN ACCORDANCE WITH ASHRAE 15-2019 AND ASHRAE 2018 REFRIGERATION HANDBOOK (OR LATEST VERSIONS OF EACH). CONTRACTOR SHALL USE MINIMUM TEST PRESSURES ON THE GAS SIDE AND LIQUID SIDE IN ACCORDANCE WITH REFRIGERANT TYPE OPERATING PRESSURES AS DICTATED BY ASHRAE. AN ELECTRONIC REFRIGERANT DETECTOR SHALL BE UTILIZED FOR LEAK DETECTION.
2. ALL REFRIGERATION AND OIL LOST DURING GUARANTEE PERIOD SHALL BE REPLACED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.

S. REFRIGERANT SYSTEMS:

1. PROVIDE ALL REFRIGERANT PIPING REQUIRED FOR A COMPLETE REFRIGERATION SYSTEM, WITH ALL VALVES, FITTINGS AND SPECIALTIES NECESSARY FOR SATISFACTORY OPERATION IN ACCORDANCE WITH ASHRAE STANDARD 15-2019 OR LATEST EDITION AND ALL AUTHORITIES HAVING JURISDICTION. REFRIGERATION SYSTEM SHALL INCLUDE ALL REQUIRED ITEMS FOR CHARGING, DRAINING AND PURGING THE SYSTEM.
2. JOINTS IN REFRIGERATION PIPING SHALL BE BRAZED. REFRIGERANT PIPING SHALL BE OF THE SIZE RECOMMENDED BY THE MANUFACTURER AND AS APPROVED BY THE ENGINEER.
3. HORIZONTAL PIPING OF THE COMPRESSOR SUCTION AND DISCHARGE LINES AND THE CONDENSER DISCHARGE LINES SHALL BE PITCHED A MINIMUM OF 1/2" IN 10', IN THE DIRECTION OF REFRIGERANT FLOW. EACH SUCTION GAS VERTICAL RISER SHALL BE TRAPPED AT ITS EVAPORATOR WITH A TRAP AS RECOMMENDED BY THE COMPRESSOR MANUFACTURER.
4. INSTALL REFRIGERANT PIPING TO PREVENT EXCESSIVE OIL FROM BEING TRAPPED IN THE SYSTEM. ANY ADDITIONAL RISERS OR EQUALIZER LINES REQUIRED BY THE MANUFACTURER OF EQUIPMENT FOR THE PROPER SYSTEM OPERATION SHALL BE INSTALLED AS PART OF THIS CONTRACT. PROVIDE A FULLY PIPED OIL SEPARATOR FOR EACH REFRIGERANT SYSTEM AS PER MANUFACTURERS RECOMMENDATIONS.
5. VALVES SHALL BE DESIGNED FOR REFRIGERANT SERVICE. SHUTOFF VALVES SHALL BE BRASS PACKLESS TYPE. UNIONS, FLANGED VALVES OR FITTINGS SHALL BE PROVIDED FOR DISCONNECTING EQUIPMENT, CONTROLS, ETC., FOR MAKING REPAIRS. PIPING SHALL BE RUN IN A SINGLE LAYER, WITH EACH LINE ISOLATED FROM ANOTHER TO PREVENT RUBBING. PROVISION SHALL BE MADE FOR EXPANSION AND CONTRACTION OF PIPING. ALL PIPING PASSING THROUGH WALLS, PARTITIONS, ETC. SHALL BE FURNISHED WITH SLEEVES AS REQUIRED.
6. REFRIGERANT PIPING PASSING THROUGH RATED FLOORS OR DEMISING WALLS SHALL BE ENCLOSED IN A RIGID AND GAS-TIGHT CONTINUOUS FIRE-RESISTING PIPE DUCT OR SHAFT VENTED TO THE OUTSIDE, IN ACCORDANCE WITH ASHRAE STANDARD 15-2019 OR LATEST EDITION. PIPE CONDUIT SHALL BE SCHEDULE 40 BLACK STEEL FILE STOPPED AT BOTH ENDS.
7. REFRIGERANT PIPING TESTING:
    - A) THE REFRIGERANT PIPING FOR TIGHTNESS AND LEAKS UNDER PRESSURE OR VACUUM. THE DURATION OF EACH TEST SHALL BE TWENTY-FOUR (24) HOURS.
    - B) TEST JOINTS IN ACCORDANCE WITH ASHRAE 15-2019. THERE SHALL BE NO OBSERVABLE LEAKS OR CHANGES IN PRESSURE. IF EITHER IS OBSERVED, SEAL LEAKS, AND REPEAT TEST PROCEDURES.

T. FUEL OIL SYSTEMS: N/A

U. VICTAULIC METHOD OF PIPING: N/A

2.04 INSULATION REQUIREMENTS

A. INSULATION SHALL BE APPLIED TO DUCTWORK OF MATERIALS AS SPECIFIED HEREIN AND FOR APPLICABLE SYSTEMS OF THIS PROJECT. INSULATION SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED INDEX OF 50 OR LESS AND SHALL MEET THE REQUIREMENTS OF ASTM, NFPA.

B. INSULATION SHALL BE CONTINUOUS THROUGH WALL AND SLAB SLEEVE OPENINGS EXCEPT FOR RATED WALLS OR SLABS WHERE AN APPROVED FIRESTOP IS REQUIRED AS PER NFPA.

C. INSULATION OF COLD SURFACES WHERE VAPOR BARRIER JACKETS ARE SPECIFIED SHALL BE APPLIED WITH AN UNBROKEN VAPOR SEAL. HANGERS AND SUPPORTS THAT ARE SECURED TO COLD SURFACES SHALL BE ADEQUATELY INSULATED TO PREVENT CONDENSATION.

D. WHERE INSULATION IS SPECIFIED FOR PIPING, INSULATE SIMILARLY ALL CONNECTIONS, FLANGES, FITTINGS, VALVES AND OTHER PARTS OF THE SYSTEM SUBJECT TO HEAT GAIN OR LOSS AND TO PREVENT CONDENSATION.

E. ALL EQUIPMENT, FITTINGS, DEVICES, ETC REQUIRING SERVICING OR INSPECTION SHALL HAVE REMOVABLE INSULATION WHICH CAN BE REPLACED WITHOUT DAMAGE.

F. ALL LEAK AND PRESSURE TESTS SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF ANY INSULATION.

G. DUCTWORK INSULATION:

1. ALL NEW AND EXISTING SHEET METAL DUCTWORK SHALL BE INSULATED WITH FLEXIBLE DUCT WRAP INSULATION, OF REQUIRED THICKNESS AND DENSITY TO ACHIEVE A MINIMUM INSTALLED R-6 INSULATIVE VALUE AT 75 DEGREES F MEAN TEMPERATURE WHEN LOCATED WITHIN A CONDITIONED OR UNCONDITIONED SPACE. INSULATION TO BE PROVIDED WITH REINFORCED FOIL FACED, FLAME RESISTANT, ALUMINUM FOIL VAPOR BARRIER. ALL INSULATION SHALL BE SECURED WITH DUCT ADHESIVE AND SEAMS SEALED BY TWO-INCH SEALING LIP WITH ADHESIVE AND FASTENED WITH 16 GAUGE RUST RESISTANT WIRE OR FIBERGLASS CORD ON 12" CENTERS. ON DUCTS OVER 24" WIDE, WELDED PINS AND CLIPS SHALL BE USED ON THE UNDERSIDE FOR FASTENING INSULATION.
2. FRESH AIR INTAKE, MIXED AIR DUCTWORK AND LOUVER BLANK-OFF PANELS SHALL BE INSULATED WITH RIGID DUCT INSULATION OF REQUIRED THICKNESS AND DENSITY TO ACHIEVE MINIMUM INSTALLED R-8 INSULATIVE VALUE AT 75 DEGREES MEAN TEMPERATURE. INSULATION TO BE PROVIDED WITH WHITE VINYL FOIL BARRIER FACING. INSULATION SHALL BE IMPALED OVER WELDED PINS WITH CLIPS FIRMLY EMBEDDED INTO INSULATION. ALL JOINTS AND CLIPS SHALL BE SEALED WITH MATCHING STRIPS OF VINYL COATED VAPOR BARRIER LAMINATE SIMILAR TO OWENS CORNING 24 ASJ FOR DUCTS.

H. PIPING INSULATION:

1. CONDENSATE DRAIN AND DOMESTIC WATER MAKE-UP PIPING SHALL BE INSULATED WITH 1" THICK MOLDED GLASS FIBER WITH A MAXIMUM K FACTOR OF 0.27 AT 75 DECREE F MEAN TEMPERATURE AND FACTORY APPLIED VAPOR BARRIER JACKET.
2. REFRIGERANT LIQUID AND SUCTION PIPING SHALL BE INSULATED WITH 1-1/2" THICK MOLDED GLASS FIBER FOR PIPE SIZES UP TO 1-1/2" INCHES IN DIAMETER AND 1-1/2" THICK FOR PIPE SIZES LARGER THAN 1-1/2" INCHES IN DIAMETER. INSULATION SHALL HAVE A MAXIMUM K FACTOR OF 0.27 AT 75 DEGREE F MEAN TEMPERATURE AND FACTORY APPLIED VAPOR BARRIER JACKET.
3. OUTDOOR PIPING:
    - A) INSULATION ON OUTDOOR PIPING SHALL BE TWICE THE THICKNESS LISTED FOR INDOOR PIPE BUT NOT LESS THAN 4". HEAT TRACE IF USED IN WINTER OR NOT DRAINED.
    - B) PROVIDE JACKETS MADE OF 0.016" ALUMINUM HELD WITH A FRICTION TYPE, Z-LOCK AND ALUMINUM BANDS. PROVIDE A MOISTURE BARRIER LINING.
    - C) IF PIPING IS TO BE ACTIVE DURING THE WINTER MONTHS, PIPING IS BE PROVIDED WITH HEAT TRACING. HEAT TRACING SHALL BE RAYCHEM MODEL XL-TRACE HEAT TRACE SELF REGULATING SYSTEM OR APPROVED EQUAL. THE SYSTEM SHALL BE UL LISTED, CSA CERTIFIED OR FM APPROVED FOR THE INTENDED USE.
    - D) COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL HEAT TRACING REQUIREMENTS AND PIPING LENGTH REQUIREMENTS. ELECTRICAL TO PROVIDE CABLING AND THERMOSTAT.
4. ALL PIPING INSULATION TO BE INSTALLED WITH LONGITUDINAL LAP AND VAPOR BARRIER JOINT SEAL STRIPS WITH ADHESIVE OR SELF-SEALING LAPS. FITTINGS, FLANGES, AND VALVES SHALL BE INSULATED WITH PRE-MOLDED AND PRE-CUT FITTINGS WITH METERED SEGMENTS.
5. PROVIDE METAL SHIELDS ON ALL HANGERS SUPPORTING INSULATED PIPING WITH HALF SECTIONS OF HYDROUS CALCIUM SILICATE OR RIGID INSULATION TO PREVENT COMPRESSION OF PIPE INSULATION.
6. ALL EXISTING PIPING EXPOSED DURING DEMOLITION SHALL BE INSULATED AS PER THE CURRENT INSULATION REQUIREMENTS AS NOTED BY THE ENERGY CODE. IF INSULATION THICKNESSES CANNOT BE INSTALLED THE MAXIMUM THICKNESS AVAILABLE SHALL BE INSTALLED.

2.05 ACOUSTICAL TREATMENT

A. ACOUSTICAL LINING SHALL MEET THE MINIMUM THERMAL INSULATION VALUE OF R-6 OR A MAXIMUM K FACTOR OF 0.24 AT 1.5” THICKNESS WITH A MEAN TEMPERATURE OF 75 DEGREE F.

B. INSTALL LINER IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. COMPLETELY COVER ALL PORTIONS OF DUCTWORK PLENUMS AND CASINGS WITH APPROVED ADHESIVE. INSTALL LINER WITH ALL TRAVERSE JOINTS NEATLY BUTTED WITH NO INTERRUPTIONS OR GAPS. COVER ALL EXPOSED EDGES, JOINTS, MECHANICAL FASTENERS AND ANY DAMAGED AREAS WITH ADHESIVE. PROVIDE METAL NOSING AT EQUIPMENT DISCHARGES AND AT END EDGES OF LINING. SECURE LINER WITH APPROVED MECHANICAL FASTENERS INSTALLED IN ACCORDANCE WITH SMACNA DUCT LINER APPLICATION STANDARD.

C. DO NOT EXTERNALLY INSULATE ACOUSTICALLY LINED DUCTS.

D. DO NOT INTERNALLY LINE DUCTWORK WHICH IS A PART OF AN OUTSIDE AIR SYSTEM WHICH DISTRIBUTES UNCONDITIONED AIR.

E. FURNISH AND INSTALL ACOUSTICAL LINING IN DUCTWORK, PLENUMS AND CASINGS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED BELOW:

7. ALL DUCTS WITH DUCT VELOCITIES GREATER THAN 2,000 FPM SHALL HAVE ACOUSTICAL LINING FACED WITH 24 GAUGE PERFORATED ALUMINUM OR GALVANIZED STEEL SUPPORTED 12" ON CENTER.
8. A MINIMUM DISTANCE OF 20 FEET FROM ALL AIR CONDITIONING UNIT INLETS AND DISCHARGES.
9. ALL TERMINAL BOXES SUPPLY DUCTWORK SHALL BE LINED FOR A MINIMUM DISTANCE OF 15 FEET DOWNSTREAM OF BOX DISCHARGE.
10. ALL RETURN/EXHAUST FANS SHALL BE ACOUSTICALLY LINED FOR A MINIMUM DISTANCE OF 20 FEET OF THE FAN INTAKE AND DISCHARGE OPENING.
11. ALL TRANSFER DUCTS SHALL BE PROVIDED WITH 1” THICK ACOUSTICAL LINING FOR ACOUSTICAL PURPOSES ONLY.
12. ALL DUCTWORK PASSING THROUGH OR SERVING CONFERENCE AND MEETING ROOMS SHALL BE PROVIDED WITH ACOUSTICAL LINING.
13. ALL EXPOSED DUCTWORK SHALL BE LINED.

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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE
1	ISSUE FOR SD	09/13/24

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MECHANICAL SPECIFICATIONS I

SHEET NO.
M1.1

2.06 VIBRATION ISOLATION SYSTEMS

A. ALL ROTATING, REVOLVING OR RECIPROCATING EQUIPMENT, INCLUDING PIPING CONNECTIONS TO THIS EQUIPMENT SHALL BE ACOUSTICALLY ISOLATED TO PREVENT THE TRANSMISSION OF OBJECTIONABLE NOISES, SOUND OR VIBRATIONS TO THE OCCUPIED SPACES AND TO THE BUILDING STRUCTURES. ALL VIBRATION ISOLATION PRODUCTS SHALL BE SPECIFICALLY DESIGNED FOR THEIR INTENDED USE.

B. STATIC DEFLECTION OF ISOLATORS SHALL BE A MINIMUM OF 90% EFFICIENT.

C. MANUFACTURER OF VIBRATION ISOLATION EQUIPMENT SHALL DETERMINE VIBRATION ISOLATOR SIZES AND LOCATIONS, PROVIDE SUITABLE PIPING AND EQUIPMENT VIBRATION ISOLATION SYSTEMS, GUARANTEE SPECIFIED ISOLATION SYSTEM ATTENUATION AND DEFLECTION, AND PROVIDE INSTALLATION INSTRUCTIONS, DRAWINGS AND FIELD SUPERVISION TO ASSURE PROPER INSTALLATION AND PERFORMANCE.

D. MOUNTING TYPES:

1. PROVIDE SPRING ISOLATORS (TYPE SLF) FOR FLOOR MOUNTING OF CENTRIFUGAL FANS. PROVIDE 1” MINIMUM STATIC DEFLECTION FOR EQUIPMENT RATED LESS THAN 7,500CFM: 1.5” FOR UNITS RATED BETWEEN 7,500CFM AND 12,000CFM: AND 2” FOR UNITS GREATER THAN 12,000CFM.
2. PROVIDE TYPE SLR SPRING ISOLATORS FOR ROOF MOUNTED EQUIPMENT AND TYPE SLF SPRING ISOLATORS FOR INDOOR EQUIPMENT SUCH AS FLOOR AND ROOF MOUNTING OF FACTORY ASSEMBLED AIR HANDLING UNITS, AIR CONDITIONING UNITS, PUMPS AND CONDENSING UNITS.
3. PROVIDE TYPE KSL SPRING ISOLATOR WITH INERTIA BASE FOR FLOOR MOUNTED CENTRIFUGAL FANS OR PUMPS 5 HP AND ABOVE HAVING THE FOLLOWING MINIMUM DEFLECTIONS:

MINIMUM ISOLATION DEFLECTION	MOTOR HP	REQUIRED THICKNESS MINIMUM CONCRETE INERTIA BASE
1"	UP TO 30 HP	6"
2"	40 TO 75 HP	8"
2"	100 HP AND GREATER	12"

4. PROVIDE SPRING ISOLATORS TYPE 30N FOR CEILING-SUPPORTED FANS, CEILING-SUPPORTED AC UNITS AND HEAT PUMPS, IN-LINE PUMPS, HEAT EXCHANGERS, AND AIR HANDLING UNITS. PROVIDE 1” MINIMUM STATIC DEFLECTION.
5. PROVIDE NEOPRENE-IN-SHEAR ISOLATORS TYPE RND FOR FLOOR-MOUNTED PACKAGED AIR CONDITIONING UNITS WITH INTERNAL SPRING ISOLATION OF COMPRESSORS OR FANS, PROVIDE NEOPRENE-IN-SHEAR ISOLATORS TYPE RND EXTERNAL.
6. PROVIDE SPRING ISOLATORS TYPE SLR WITH VERTICAL LIMIT STOPS. PROVIDE THE FOLLOWING MAXIMUM STATIC DEFLECTIONS:
   - AIR-COOLED CONDENSERS - 1”
7. PROVIDE SPRING ROOF CURB TYPE RSC FOR ROOF-MOUNTED AC UNITS. ROOF CURBS SHALL BE PRE-MANUFACTURERED OF NON-COMBUSTABLE CONSTRUCTION AND APPROVED BY LOCAL AUTHORITIES. PROVIDE 1” MINIMUM STATIC DEFLECTION FOR LESS THAN 7,500CFM AND 2” FOR GREATER THAN 7,500CFM
8. SUPPORT OF PIPING EXPOSED ON ROOF AND IN EQUIPMENT ROOMS:
   A) FLOOR SUPPORTED PIPING ISOLATORS (TYPE SLR).
   B) CEILING SUPPORTED PIPING ISOLATORS (TYPE 30N).
10. PROVIDE FLEXIBLE CONNECTIONS BETWEEN ALL AC UNITS AND DUCTWORK AS PER DUCTWORK SPECIFICATION SECTION.

E. SPRING TYPE 30N HANGERS SHALL BE PROVIDED FOR PIPING FOR A DISTANCE OF 50 FEET OR 50 PIPE DIAMETERS, WHICHEVER IS GREATER, UP AND DOWNSTREAM OF ALL POWER DRIVEN EQUIPMENT. THE HANGER SHALL PROVIDE 1” OF STATIC DEFLECTION FOR PIPES 4” OF OUTSIDE DIAMETER AND LARGER AND 1/2” STATIC DEFLECTION FOR PIPES SMALLER THEN 4” OUTSIDE DIAMETER.

F. VIBRATION ISOLATORS FOR ROOF - OR CEILING - SUPPORTED EQUIPMENT SHALL HAVE A MAXIMUM LATERAL MOTION UNDER EQUIPMENT START-UP OR SHUT-DOWN CONDITIONS OF 1/4" AND MOTIONS IN EXCESS SHALL BE RESTRAINED BY SPRING TYPE MOUNTINGS.

G. ALL ISOLATORS INSTALLED OUTDOORS SHALL BE PROVIDED WITH CORROSION PROTECTION.

H. VIBRATION ISOLATOR SHALL BE PROVIDED BY MASON INDUSTRIES, VIBREX, VIBRATION ELIMINATOR CO., CONSOLIDATED KINETICS CO., OR APPROVED EQUAL.

2.07 EQUIPMENT

A. PRE-PURCHASE OF EQUIPMENT: ALL EQUIPMENT PRE-PURCHASED BY THE OWNER SHALL BE ASSIGNED TO THE MECHANICAL CONTRACTOR TO BE PART OF THEIR BID. THE MECHANICAL CONTRACTOR WILL BE RESPONSIBLE FOR TRANSPORTING EQUIPMENT TO JOB SITE, RIGGING, BREAKDOWN AND SET-UP OF EQUIPMENT AS REQUIRED FOR LOCATION OF EQUIPMENT, INSTALLATION AND ALL GUARANTEES AND WARRANTIES OF EQUIPMENT AND WORKMANSHIP. DELIVERY OF EQUIPMENT SHOULD BE COORDINATED WITH OWNER, MANUFACTURER AND BUILDING MANAGEMENT.

2.08 MOTOR STARTERS, CONTROL DEVICES AND MOTORS

A. MECHANICAL CONTRACTOR TO FURNISH AND INSTALL STARTERS FOR POWER WIRING BY THE ELECTRICAL CONTRACTOR.

B. MOTOR STARTERS SHALL BE CUTLER HAMMER, WESTINGHOUSE OR ALLEN-BRADLEY MANUFACTURER, SUITABLE FOR WALL OR ANGLE IRON FRAME MOUNTING.

C. ALL STARTERS FOR MOTORS LESS THAN 1/2 HP SHALL BE 120 VOLT, SINGLE PHASE, 60 CYCLE, A.C. SERVICE. MANUAL STARTERS WITH OVERLOAD PROTECTION AND LOCKOUT TYPE DISCONNECT SWITCH OR BREAKER MAY BE USED TO CONTROL SUCH MOTORS, EXCEPT WHERE INTERLOCKS OR AUTOMATIC CONTROLS ARE REQUIRED. IN SUCH CASES, MAGNETIC ACROSS-THE-LINE STARTERS SHALL BE FURNISHED.

D. ALL STARTERS FOR MOTORS 1/2 HP TO 75 HP SHALL BE COMBINATION FUSED DISCONNECT, MAGNETIC ACROSS-THE-LINE TYPE WITH FUSIBLE SWITCH. STARTERS 75 HP AND GREATER SHALL BE SOLID STATE ELECTRONIC SOFT START TYPE STARTERS.

E. CONTROLLERS FOR CONDENSATE PUMPS, DUPLEX AIR COMPRESSOR, SUMP AND EJECTOR PUMPS, ETC., SHALL BE FACTORY MOUNTED AND WIRED AS PART OF THE WORK OF THE HEATING, VENTILATING AND AIR CONDITIONING SECTION.

F. ALL MAGNETIC STARTERS SUBJECT TO MANUAL START AND IN DIRECT VIEW OF THE MOTORS THEY CONTROL SHALL HAVE MOMENTARY CONTACT START AND STOP BUTTONS AND PILOT LIGHT BUILT IN TO COVER. ALL MAGNETIC STARTERS SUBJECT TO ELECTRICAL INTERLOCK OR AUTOMATIC CONTROL SHALL HAVE HAND-OFF-AUTOMATIC SWITCHES AND PILOT LIGHT BUILT INTO COVER.

G. WHERE STARTERS ARE NOT IN SIGHT OF MOTORS THEY CONTROL, A LOCAL DISCONNECT SWITCH WILL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

H. PROVIDE ALL STARTERS WITH TRANSFORMERS BUILT INTO EACH STARTER CASING FOR CONTROL CIRCUIT. TRANSFORMERS SHALL SERVE ALL CONTROL CIRCUITS. EACH STARTER SUBJECT TO ELECTRICAL INTERLOCK AND/OR AUTOMATIC CONTROL SHALL HAVE THE NECESSARY AUXILIARY CONTACTS. ONE SET OF TERMINALS SHALL BE PROVIDED FOR EACH CONTROL CIRCUIT. CONTROL CENTERS SHALL BE PROVIDED WITH CONTROL TERMINAL BLOCKS. PROVIDE THREE SETS OF NORMALLY CLOSED OR NORMALLY OPEN CONTACTS.

I. ALL MAGNETIC STARTERS SHALL HAVE THERMAL OVERLOAD IN EACH PHASE LEG AND LOW VOLTAGE PROTECTION.

J. ALL PARTS SUBJECT TO WEAR, ARCING, ETC., SHALL BE REPLACEABLE.

K. ALL WIRING, STARTERS, SWITCHES, ETC., SHALL BE IN FULL ACCORDANCE WITH ALL LOCAL INSURANCE UNDERWRITERS CODE REQUIREMENTS.

L. FURNISH DETAILED COMPOSITE WIRING DIAGRAMS FOR THOSE INSTALLING ELECTRICAL WORK, AND FURNISH SUCH OTHER INFORMATION NECESSARY TO ASSURE THE PROPER CONNECTION, OPERATION AND CONTROL OF MOTORIZED EQUIPMENT, INCLUDING INTERLOCKS, AUTOMATIC OR SAFETY CONTROLS AND AUXILIARY CIRCUITS.

M. FURNISH THE PERTINENT INFORMATION SUCH AS STARTING TORQUE REQUIREMENTS OF HIGH INERTIA EQUIPMENT, SO THAT THE PROPER TYPE STARTER MAY BE PROVIDED BY THE STARTER MANUFACTURER. ALL INFORMATION IS SUBJECTED TO THE REVIEW OF THE ENGINEER.

N. PROVIDE LAMINATED NAME PLATE ATTACHED TO EACH STARTER AND VFD IDENTIFYING THE SYSTEM IT SERVES.

O. STARTERS AND VFD'S SHALL BE PROVIDED WITH ENCLOSURES RATED NEMA 1 FOR INDOOR APPLICATIONS, NEMA 3R WITH ADDITIONAL GASKETING FOR WEATHERPROOF RAINTIGHT OUTDOOR ENCLOSURE OR INDOOR ENVIRONMENTS SUBJECT TO MOISTURE.

P. MOTORS SHALL BE HIGH EFFICIENCY, COMPLY WITH NEMA MG-1 STANDARD AND MEET THE 1992 EPA ENERGY EFFICIENCY ACT AND UTILITY COMPANY REBATE REQUIREMENTS.

2.09 AUTOMATIC TEMPERATURE CONTROL

A. GENERAL

1. PROVIDE ALL CONTROL, POWER, AND INTERLOCK WIRING INCLUDING CONDUITS AND INSTALL PER THE NEW YORK STATE, AND NATIONAL ELECTRIC CODE. SUBMIT TERMINAL TO TERMINAL WIRING DIAGRAM, SEQUENCE OF OPERATION AND CUTS OF ALL COMPONENTS FOR APPROVAL. PROVIDE ALL RELAYS, SWITCHES, DAMPERS AND ACTUATORS, PNEUMATIC EQUIPMENT, PILOT POSITIONERS THERMOSTATS, PANELS, LIMIT SAFETIES, TRANSFORMERS, TIME CLOCKS, CONTROL VALVES AND OTHER DEVICES TO ACCOMPLISH THE DESIRED SEQUENCE OF OPERATION.
2. FURNISH AND INSTALL AS HEREIN SPECIFIED, A COMPLETE AUTOMATIC TEMPERATURE CONTROL SYSTEM OF THE {DDC TYPE WITH NATIVE BACNET DEVICES, PNEUMATIC, ELECTRIC TYPE AS REQUIRED, MANUFACTURED BY IBM, AUTOMATED LOGIC, SCHNEIDER ELECTRIC, HONEYWELL OR APPROVED EQUAL BY THE ENGINEER. MANUFACTURER SHALL BE APPROVED BY ENGINEER BEFORE BID AWARD. THE ATC CONTRACTOR SHALL BE AN INDEPENDENT CONTRACTOR NOT AFFILIATED WITH THE MECHANICAL CONTRACTOR.
3. ALL TEMPERATURE CONTROL SYSTEMS AND COMPONENTS ARE TO BE FULLY MODULATING TYPE, EXCEPT WHERE NOTED OTHERWISE.
4. IF NEW WORK IS TO CONNECT TO AN EXISTING SYSTEM, THE PROPOSED NEW SYSTEM TO BE INSTALLED SHALL BE FULLY COMPATIBLE WITH THE EXISTING SYSTEM. THE MANUFACTURER OF THE PROPOSED NEW SYSTEM SHALL PROVIDE ALL REQUIRED INTERFACES OR GATEWAYS TO ENSURE THAT THEIR SYSTEM IS FULLY COMPATIBLE.
5. WHEN CONNECTING TO AN EXISTING BMS WORKSTATION THE CONTRACTOR SHALL UPDATE THE EXISTING BMS WORKSTATION AND GRAPHICS WITH THE NEW SYSTEMS INSTALLED/MONITORED AS PART OF THIS PROJECT.
6. ALL CONTROLS MUST BE THE PRODUCT OF ONE MANUFACTURER. ALL AUTOMATIC CONTROL VALVES AND DAMPER OPERATORS SHALL BE MANUFACTURED BY THE TEMPERATURE CONTROL MANUFACTURER.
7. THE MANUFACTURER OF THE AUTOMATIC CONTROL EQUIPMENT SHALL SUBMIT THE FOLLOWING FOR APPROVAL: A SCHEMATIC DIAGRAM OF EACH CONTROL SYSTEM WHICH SHALL INDICATE THE PROPER SEQUENCE OF OPERATION AND RANGE OF THE CONTROLS FOR ALL CYCLES, PROVIDE TERMINAL POINT TO TERMINAL POINT ELECTRICAL WIRING DIAGRAMS FOR APPROVAL, A COMPLETE DESCRIPTION OF THE AUTOMATIC OPERATION OF EACH SYSTEM WHERE THE DESCRIPTION INCLUDES THE DUTY OF EACH THERMOSTAT, VALVE, SWITCH, ETC., INCORPORATED IN THE CONTROL SYSTEM WITH A SCHEDULE AND ILLUSTRATION OF ALL CONTROL INSTRUMENTS AND EQUIPMENT INCLUDING CONTROL PANELS AND DEVICES FOR EACH SYSTEM.
8. INDIVIDUAL SMOKE DETECTORS SHALL BE INSTALLED (PROVIDED BY ELECTRICAL CONTRACTOR) IN THE RETURN DUCT OF ALL AIR HANDLING SYSTEMS SHARING A COMMON CEILING OR DUCT PLENUM AS REQUIRED BY CODE.
9. FOR AIR DISTRIBUTION SYSTEMS 2,000 CFM OR LARGER, INSTALL SMOKE DETECTORS (PROVIDED BY ELECTRICAL CONTRACTOR) IN MAIN SUPPLY DUCT (DOWNSTREAM OF AIR FILTERS AND AHEAD OF ANY BRANCH CONNECTIONS) AND MAIN RETURN DUCT (UPSTREAM OF ANY FILTERS AND BEFORE RETURN AIR IS DILUTED WITH OUTDOOR AIR).
10. PROVIDE SMOKE DAMPERS (N.C.) IN THE SUPPLY (AHEAD OF ANY BRANCH CONNECTIONS) AND RETURN DUCTS FOR SUPPLY AIR SYSTEMS 15,000 CFM OR LARGER AND SERVING MORE THAN THE FLOOR ON WHICH THE SYSTEM IS LOCATED. PROVIDE END SWITCHES IN SMOKE DAMPERS FOR CONNECTION TO FIRE ALARM SYSTEM AND HVAC CONTROLS.
11. ALL SMOKE DETECTORS SHALL BE TIED TO THE BUILDING FIRE ALARM SYSTEM. A SIGNAL FROM THE BUILDING FIRE ALARM SYSTEM SHALL AUTOMATICALLY SHUT DOWN SYSTEM FANS AND CLOSE ALL ASSOCIATED SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. SIGNAL, INTERLOCK WIRING, POWER WIRING AND FINAL CONNECTIONS WILL BE PROVIDED BY ELECTRICAL CONTRACTOR.
12. FIRE/SMOKE DAMPERS SHALL REMAIN OPEN AT ALL TIMES DURING NORMAL OPERATION AND SHALL BE CONTROLLED BY THE AUTOMATIC TEMPERATURE CONTROL SYSTEM FOR THE HVAC SYSTEM CONTROL. FIRE/SMOKE DAMPERS SHALL BE UNDER THE FULL CONTROL OF THE FIRE ALARM SYSTEM. CONTROL CONTRACTOR SHALL COORDINATE WITH THE ELECTRIC CONTRACTOR FOR ALL CONTROL WIRING, DEVICES, AND INTERLOCK WIRING TO OPEN, CLOSE AND PROVE FIRE SMOKE DAMPER POSITIONS.
13. ALL AUTOMATIC TEMPERATURE CONTROL SYSTEM SHALL COMPLY WITH THE NEW YORK STATE ENERGY CONSERVATION CODE REQUIREMENTS. ALL HVAC SYSTEM CONTROLS SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
   A) HEATING AND COOLING TO EACH ZONE SHALL BE CONTROLLED BY A THERMOSTAT. A MINIMUM OF ONE HUMIDITY CONTROL DEVICE SHALL BE INSTALLED PER HUMIDIFICATION OR DEHUMIDIFICATION SYSTEM.
   B) ALL ZONE THERMOSTAT SHALL OPERATE WITH A MINIMUM OF 5°F DEADBAND BETWEEN HEATING AND COOLING WITH SETPOINT OVERLAP CAPABILITY.
   C) ALL ZONE THERMOSTATS SHALL BE OPERATED VIA THERMOSTATIC SETBACKS CONTROLS OPERATED VIA AN AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROL SYSTEM.
   D) ALL CONTROLS SHALL HAVE THE ABILITY TO SETBACK TEMPERATURE DOWN TO 55°F OR UP TO 85°F.
   E) CONTROLS SHALL BE CAPABLE OF AUTOMATICALLY STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK, CAPABLE OF HAVING SETTING SAVED IN MEMORY FOR 10 HOURS DURING A LOSS OF POWER AND A MANUAL SYSTEM “ON” OVERRIDE FOR UP TO TWO (2) HOURS OR AN OCCUPANCY SENSOR.
   F) CONTROL SYSTEM SHALL AUTOMATICALLY RESET SUPPLY AIR TEMPERATURE IN RESPONSE TO BUILDING LOAD OR OUTSIDE AIR TEMPERATURE.
   G) THE CONTRACTOR SHALL PROVIDE TESTING TO ENSURE PER OPERATION, CALIBRATION AND ADJUSTMENT OF CONTROLS.
   H) OFF-HOURS CONTROLS WITH SETBACK AND/OR SHUTDOWN CAPABILITIES. FOR SPECIFIC OCCUPANCIES AND CONDITIONS, EACH SPACE-CONDITIONING SYSTEM MUST BE PROVIDED WITH CONTROLS THAT CAN AUTOMATICALLY SHUT-OFF THE EQUIPMENT DURING UNOCCUPIED HOURS. THE CONTROL DEVICE SHALL BE AN AUTOMATIC WITH SWITCH DEVICE. THIS CAN BE ACCOMPLISHED WITH A 7-DAY PROGRAMMABLE THERMOSTAT WITH BACKUP CAPABILITIES THAT STORES THE DEVICE'S SCHEDULE FOR AT LEAST 7 DAYS AND THE TIME AND DATE FOR AT LEAST 72 HOURS IF POWER IS LOST.
   I) ALL CONTROLLERS SERVING AIR COOLED AC UNITS WITH AIRSIDE ECONOMIZER CONTROLS SHALL BE EQUIPMENT WITH A FAULT DETECTION AND DIAGNOSTIC SYSTEM COMPLY WITH THE REQUIREMENTS OF NYECC 2016 SECTION C403.2.4.7. THE UNIT CONTROLLER SHALL BE CAPABLE OF MANUALLY INITIATING EACH OPERATING MODE SO THAT THE OPERATION OF COMPRESSORS, ECONOMIZERS, FANS AND THE HEATING SYSTEM CAN BE INDEPENDENTLY TESTED AND VERIFIED. THE UNIT SHALL BE CAPABLE OF REPORTING FAULTS TO A FAULT MANAGEMENT APPLICATION ACCESSIBLE BY DAY-TO-DAY OPERATING OR SERVICE PERSONNEL, OR ANNUNCIATED LOCALLY ON ZONE THERMOSTATS.

B. ELECTRIC WIRING:

1. ALL ELECTRIC WORK (EXCEPT FOR MOTOR FEEDERS, WIRING BETWEEN MOTORS, MOTOR CONTROLLERS, FEEDER PANELS, FUSES, CIRCUIT BREAKERS AND BUS BARS) REQUIRED FOR THE AUTOMATIC TEMPERATURE CONTROL SYSTEM SHALL BE PROVIDED BY THIS CONTRACTOR. WORK SHALL INCLUDE BUT NOT BE LIMITED TO TIME SWITCHES, DAMPER MOTORS, DAMPER SWITCHES, ELECTRIC THERMOSTAT, ELECTRIC RELAYS, E/P SWITCHES, INTERLOCKING WIRING, WIRE, CONDUIT, ETC.
1. ALL CONTROL POWER, WIRING AND TRANSFORMERS FOR DAMPERS, ACUATORS, VAV BOXES, CONTROL PANLES, ETC. TO BE PROVIDED BY THE CONTROLS CONTRACTOR FROM A SOURCE DESIGNATED BY THE ELECTRICAL CONTRACTOR. CIRCUITS FOR CONTROL DEVICES HAVE BEEN DESIGNATED IN THE ELECTRICAL PANEL SCHEDULES.
2. THE CONTROL MANUFACTURER SHALL INCLUDE WIRING DIAGRAMS IN HIS SHOP DRAWINGS SUBMITTALS FULLY COORDINATED WITH THE ELECTRICAL CONTRACTORS WORK. IT SHALL BE THE AUTOMATIC TEMPERATURE CONTROL CONTRACTORS RESPONSIBILITY TO PROVIDE ALL WIRING AND CONDUIT AS REQUIRED TO ACHIEVE THE FUNCTION CALLED FOR IN THESE SPECIFICATIONS, CONFORMING WITH LOCAL CODES FOR MATERIAL AND INSTALLATION. THE ELECTRICAL SPECIFICATION FOR THE PROJECT ELECTRICAL WORK IS TO BE FOLLOWED.

C. CONTROL PANELS SHALL BE NEMA 1 FOR INDOOR APPLICATIONS, NEMA 3R WITH ADDITIONAL GASKETING FOR WEATHERPROOF RAINTIGHT OUTDOOR ENCLOSURE OR INDOOR ENVIRONMENTS SUBJECT TO MOISTURE. THEY SHALL BE PROVIDED WITH WELDED ANGLE BRACKETS AND A BAKED PRIME COAT ENAMEL FINISH. THE PANEL DOORS SHALL BE HINGED LOCKING TYPE. CONTROL PANELS SHALL CONTAIN ALL CENTRAL CONTROL DEVICES, SUCH AS CONTROLLERS, RELAYS, SWITCHES, PILOT LIGHTS, TERMINAL BLOCKS, AND ALL OTHER ACCESSORIES AS REQUIRED FOR A WORKABLE ENVIRONMENTAL CONTROL SYSTEM. ALL COMPONENTS WITHIN THE CONTROL PANELS SHALL BE PRE-WIRED TO NUMBERED TERMINAL TRIPS, READY FOR FIELD CONNECTION FOR FIELD MOUNTED CONTROL COMPONENTS. PROVIDE ENGRAVED NAMEPLATES TO LABEL THE CONTROLLED EQUIPMENT. PROVIDE A PLASTIC LAMINATED CONTROL SCHEMATIC DRAWING HUNG NEXT TO EACH CONTROL PANEL.

D. ALL CONTROL PANELS SHALL BE PROVIDED WITH INTERNAL BATTERY FOR CONTINUOUS OPERATION DURING TEMPORARY POWER LOSS. ALTERNATIVELY, IF UPS POWER IS AVAILABLE, PROVIDE CONTROL PANEL POWER FROM THE UPS SOURCE.

E. THE SYSTEM INSTALLATIONS SHALL BE SUPERVISED BY THE AUTOMATIC CONTROL MANUFACTURER, WHO SHALL COORDINATE WITH AND INSTRUCT PIPING OR SHEET METAL TRADES AS TO TEES OR TAPPINGS TO BE INSTALLED IN PIPING OR EQUIPMENT AND OPENINGS THAT ARE REQUIRED IN SHEET METAL FOR THE SETTING AND INSTALLATIONS OF CONTROL DEVICES THEREIN BY THESE TRADES.

F. THE CONTROL CONTRACTOR SHALL FURNISH AND INSTALL THE NECESSARY AIR PIPING FOR ALL INDICATING, CONTROLLING AND CONTROLLED DEVICES. AIR PIPING THROUGHOUT THE SYSTEM SHALL BE FR (FIRE RETARDANT) MULTIPLE VIRGIN POLYETHYLENE TUBING WITH INTEGRAL ANTI-OXIDANT, VERMIN-PROOF INHIBITOR UNLESS OTHERWISE SPECIFIED HEREIN.

1. THE AIR PIPING SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER AND SHALL BE PROPERLY SUPPORTED USING STRAPS, CLIPS OR HANGERS, AS APPROVED. AIR PIPING SHALL BE SUPPORTED ON NOT OVER 6 FT. CENTERS ON VERTICAL RUNS, AND 4FT. CENTERS ON HORIZONTAL RUNS. PIPES SHALL NOT BE HIDDEN WITHIN DUCT INSTALLATION, RUN OVER ACCESS PANELS, OR SUPPORTED FROM PIPES OR CONDUITS.
2. ALL-LOW PRESSURE CONNECTIONS (25 PSI OR LESS) SHALL BE BARBED, PUSH-ON TYPE, WHEREAS, HIGH-PRESSURE TUBING SHALL BE MADE WITH COMPRESSION FITTINGS AND SHALL BE SEAMLESS, HARD COPPER TUBING.
3. SUPPLY AIR RISERS SHALL BE SEAMLESS, HARD COPPER TUBING.

G. ALL ROOM THERMOSTATS/SENSORS AND SWITCH LOCATIONS SHALL BE SUBMITTED FOR REVIEW BY THE ARCHITECT AND ENGINEER PRIOR TO INSTALLATION WHETHER THE DEVICES ARE SHOWN ON PLANS OR NOT.

H. FOR BMS APPLICATION: ALL ROOM THERMOSTATS/SENSORS SHALL HAVE OVERRIDE SWITCH, LOCAL READOUT AND LOCAL ADJUSTMENT. READOUT AND ADJUSTMENT SHALL BE CAPABLE OF BEING LOCKED OUT AT THE BMS.

I. AUTOMATIC VALVES:

1. ALL AUTOMATIC CONTROL AND ISOLATION VALVES SHALL BE OF THE ELECTRONIC TYPE, UNLESS OTHERWISE SPECIFIED, QUIET IN OPERATION, AND SHALL BE ARRANGED TO SPRING RETURN FAIL SAFE, IN A NORMALLY CLOSED POSITION. CONTROL VALVES SHALL BE FULLY PROPORTIONING AND ISOLATION VALVES SHALL BE 2-POSITION. VALVES TO HAVE ADJUSTABLE OPERATING RANGES AND STARTING POINTS TO PROVIDE FLEXIBILITY OF ADJUSTMENT IN SEQUENCING AND THROTTLING. MODULATING VALVES SHALL BE PROVIDED WITH PILOT POSITIONERS.
2. VALVES SHALL BE SIZED BY THE TEMPERATURE CONTROL MANUFACTURER AND GUARANTEED TO MEET THE HEATING OR COOLING REQUIREMENTS AS SPECIFIED. CONTROL VALVES SHALL BE SUITABLE FOR PRESSURE CONDITIONS AND CLOSE AGAINST 110% OF PUMP DIFFERENTIAL PRESSURE.
3. ALL VALVE BODIES SHALL HAVE THE SAME PRESSURE CHARACTERISTICS AS THE PIPE IN WHICH IT IS INSTALLED.
4. VALVES 2 INCHES AND SMALLER UNLESS OTHERWISE SPECIFIED SHALL HAVE BRONZE BODIES WITH SCREWED CONNECTIONS. VALVES SHALL BE FISHER TYPE ED, WARREN TYPE 20/70, K&M SERIES GCG, OR AS APPROVED.

I. AUTOMATIC DAMPERS:

1. PROVIDE CONTROLS FOR ALL THE AUTOMATIC DAMPERS, AS SPECIFIED IN THE DUCTWORK SECTION, AND SHOWN ON THE DRAWINGS.
2. CONTROL MOTORS OR ACTUATORS SHALL BE OF THE ELECTRONIC TYPE, UNLESS OTHERWISE NOTED, OF APPROPRIATE SIZE AND QUANTITIES TO PROVIDE TWO-POSITION OR PROPORTIONING CONTROL ACTION AS SPECIFIED. PROPORTIONING TYPE SHALL BE EQUIPPED WITH PILOT TYPE POSITIONERS. PILOT POSITIONERS SHALL BE SELECTED FOR VARIED SPRING RANGES AND ADJUSTABLE WITHOUT DISMANTLING POSITIONER AND CONTROL MOTOR.
3. AUTOMATIC DAMPERS EXPOSED TO THE ELEMENTS SHALL HAVE ELECTRIC ACTUATORS WITH ALL REQUIRED ACCESSORIES.

J. SEQUENCES OF OPERATION - FURNISH AND MOUNT ALL DEVICES AS REQUIRED TO PERFORM THE FOLLOWING SEQUENCES OF OPERATION:

1. <u>AIR-COOLED SPLIT SYSTEM HEAT PUMP UNIT (HP) AN AIR CONDITIONING (AC) UNITS</u>

HEAT PUMP UNIT SHALL BE AUTOMATICALLY STARTED AND STOPPED VIA A DEDICATED DIGITALLY PROGRAMMABLE COOLING THERMOSTAT WITH SEVEN-DAY TIME CLOCK CONTROL AND LOCKING COVER OR TOTAL KEYPAD LOCKOUT AND PARTIAL KEYPAD LOCKOUT WITH PASSWORD OVERRIDE LOCATED WITHIN THE SERVED SPACE. THE TIME SCHEDULE TO BE DETERMINED BY OWNER (E.G. 8:00 AM TO 6:00 PM; ADJUSTABLE). THERMOSTAT SHALL INCLUDE TIMED OVERRIDE CAPABILITY TO OVERRIDE THE CLOCK SETTING IN THREE (3) HOUR INCREMENTS (ADJUSTABLE). THERMOSTAT SHALL BE SIMILAR TO HONEYWELL TB8220 PREMIUM THERMOSTAT. OPERATION MODE:

- THE THERMOSTAT SHALL ALLOW THE UNIT FAN(S) TO RUN CONTINUOUSLY WHILE IN OCCUPIED MODE.

- UPON CALL FOR HEATING OR COOLING, THERMOSTAT SHALL COMMAND OUTDOOR AIR (O.A.) ISOLATION DAMPER TO OPEN.

- THERMOSTAT SHALL INCLUDE STAGES OF COOLING AND HEATING AS REQUIRED BY CONTROLLED EQUIPMENT (HEAT PUMP). UPON CALL FOR HEATING OR COOLING, THE THERMOSTAT SHALL CONTROL SPACE TEMPERATURE BY ACTIVATING AND CONTROLLING REFRIGERATION CYCLE DURATION AND BY SWITCHING CONTROL VALVE BETWEEN HEATING AND COOLING OPERATION. THERMOSTAT SHALL HAVE A SETPOINT OF 75°dF (ADJUSTABLE) FOR SUMMER OPERATION AND A SETPOINT OF 68°dF (ADJUSTABLE) FOR WINTER OPERATION.

- THE CONDENSATE PUMP SERVING AIR CONDITIONING UNIT SHALL BE ENERGIZED AT ALL TIMES REGARDLESS OF THE HEAT PUMP UNIT'S OPERATION. THE CONDENSATE PUMP SAFETY FLOAT SWITCH SHALL BE WIRED TO SHUT DOWN THE HEAT PUMP UNIT, CLOSE THE MOTORIZED ISOLATION O.A. DAMPER AND SEND AN ALARM TO A COMMON AUDIO/VISUAL ALARM PANEL.

- AN AUDIO/VISUAL ALARM PANEL WITH SILENCING BUTTON SHALL BE MOUNTED ON WALL AT A CONSPICOUS LOCATION, TO ALERT THE OCCUPANTS ABOUT HEAT PUMP UNIT ALARMS.

- PROVIDE NORMALLY CLOSED MOTORIZED ISOLATION DAMPER ON THE OUTDOOR AIR INTAKE DUCT.

- LEAK DETECTION SHALL BE PROVIDED IN THE AUXILIARY DRAIN PAN SUPPLIED BY INSTALLING CONTRACTOR FOR HEAT PUMP UNIT. WHEN THE LOCAL LEAK DETECTOR SENSES MOISTURE IN THE AUXILIARY DRAIN PAN, THE UNIT SHALL SHUT DOWN, THE MOTORIZED ISOLATION O.A. DAMPER SHALL CLOSE AND AN ALARM SIGNAL SHALL SOUND AT THE AUDIO/VISUAL ALARM PANEL.

- PROVIDE A DUCT-MOUNTED DIFFERENTIAL PRESSURE SENSOR FOR HEAT PUMP UNIT. THE DP SENSOR SHALL SENSE THE MINIMUM AIR PRESSURE NECESSARY TO OPERATE THE UNIT. UPON REACHING THE MINIMUM PRESSURE SETPOINT, THE DP SENSOR SHALL ENGAGE A CONTACT AND ALLOW THE UNIT'S REFRIGERANT CYCLE TO OPERATE. IF THE PRESSURE IS BELOW THE MINIMUM SETPOINT, THE CONTACT SHALL OPEN AND PREVENT THE UNIT FROM OPERATING ITS REFRIGERANT CYCLE.

- THE HEATING SPACE TEMPERATURE SETPOINT SHALL BE REDUCED AND THE COOLING SPACE TEMPERATURE SETPOINT SHALL BE INCREASED DURING UNOCCUPIED HOURS. THE INTEGRAL LOGIC SOFTWARE SHALL LIMIT THE AMOUNT OF SETBACK DURING PERIODS OF COLD WEATHER. SETBACK SHALL INITIALLY BE SET WITH THE SCALE OF 60°F (ADJ.) INDOORS AT OUTDOOR AIR TEMPERATURES OF 45°F (ADJ.) OR COLDER OUTDOOR AIR TEMPERATURES. SETBACK TEMPERATURE FOR COOLING MODE SHALL BE 85°F (ADJ.).

2. <u>TOILET EXHAUST FAN (TEF)</u>

TOILET EXHAUST UNIT SHALL BE STARTED AND STOPPED MANUALLY VIA A LOCAL LIGHT/FAN COMBINATION SWITCH WITH TIME DELAY, SIMILAR TO GREENHECK PART 874214. OPERATION MODE:

- WHEN LIGHT SWITCH IS TURNED "ON", THE EXHAUST ISOLATION DAMPER SHALL OPEN AND THE EXHAUST FAN SHALL ACTIVATE AND RUN.

- WHEN THE LIGHT SWITCH IS TURNED "OFF", THE EXHAUST FAN SHALL CONTINUE TO OPERATE FOR ADDITIONAL 5 MINUTES (ADJUSTABLE), THEN STOP AND DE-ENERGIZE. THE EXHAUST ISOLATION DAMPER SHALL CLOSE WHEN EXHAUST FAN OPERATION STOPS.

- PROVIDE NORMALLY CLOSED MOTORIZED ISOLATION DAMPER ON THE OUTDOOR AIR INTAKE DUCT.

3. <u>STORAGE ROOMS EXHAUST FAN (EF)</u>

STORAGE ROOM(S) FAN SHALL BE STARTED AND STOPPED VIA MECHANICAL TIMER OR MANUALLY VIA A LOCAL WALL-MOUNTED SWITCH WITH A LIGHT INDICATOR, SIMILAR TO GREENHECK PART 872242. OPERATION MODE:

- WHEN MANUAL SWITCH IS TURNED "ON", THE LIGHT INDICATOR SHALL LIT-UP AND THE EXHAUST FAN SHALL ACTIVATE AND RUN.

- WHEN THE MANUAL SWITCH IS TURNED "OFF", THE LIGHT INDICATOR SHALL BECOME DARK AND THE EXHAUST FAN SHALL STOP AND DE-ENERGIZE.

4. <u>BATHROOM, ELEVATOR MER AND STORAGE ROOMS ELECTRIC HEATER (EH)</u>

ELEVATOR SPACE HEATER SHALL BE STARTED AND STOPPED VIA A WALL-MOUNTED DEDICATED THERMOSTAT. THE SPACE HEATER SHALL BE ENRGIZED AND READY TO RUN AT ALL TIMES.

- WHEN THERE IS CALL FOR HEATING, THE LOCAL THERMOSTAT SHALL ACTIVATE SPACE HEATER'S FAN AND AND HEATING ELEMENT TO RISE SPACE TEMPERATURE TO 55 DEG F (ADJ.) SETPOINT.

- WHEN THE CALL FOR HEAT IS SATISFIED, THE HEATING ELEMENT SHALL DE-ENERGIZE,THE FAN SHALL STOP (AFTER FACTORY PRE-SET DELAY).

5. <u>COOLING EXHAUST FAN (CEF)</u>

COOLING EXHAUST FAN SHALL BE ENERGIZED AND READY TO RUN AT ALL TIMES. THE FAN SHALL BE STARTED AND STOPPED VIA A LOCAL COOLING-ONLY LINE VOLTAGE THERMOSTAT (120 VAC). THE COOLING THERMOSTAT SHALL BE SET TO START OPERATE AT 85°F (ADJ.) AND SHALL STOP OPERATION AT 78°F (ADJ.) OPERATION MODE:

- WHEN THERMOSTAT GENERATES CALL FOR COOLING, THE FAN SHALL OPERATE UNTIL CONDITION IS SATISFIED.

- WHEN CALL FOR COOLING IS SATISFIED, THE FAN SHALL STOP OPERATING BUT SHALL REMAIN ENERGIZED AND READY TO RUN AT ANY TIME.

PART 3- EXECUTION

3.01 A. PROVIDE AND INSTALL ALL EQUIPMENT AND ACCESSORIES OF THE SIZES AND CAPACITIES AS SCHEDULED AND AS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH APPROVED SHOP DRAWINGS AND MANUFACTURERS RECOMMENDATIONS. PROVIDE ALL MOTOR STARTERS AS REQUIRED; MOTOR STARTERS WILL BE INSTALLED BY THIS CONTRACTOR AND WIRED BY ELECTRICAL TRADE.

K. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL REQUIRED CLEARANCES FOR SERVICING AND MAINTENANCE. COORDINATE REQUIREMENTS WITH ALL TRADES.

L. IDENTIFICATION OF EQUIPMENT AND CONTROLS:

1. ALL EQUIPMENT SHALL BE STENCILED OR LABELED WITH LAMACOID PLATES SCREWED THEREON WHICH SHALL INDICATE SYSTEMS SERVICE.
2. MOTOR STARTERS SHALL BE PROVIDED WITH LAMACOID PLATES WHICH INDICATE SYSTEM SERVED.
3. CONTRACTOR TO SUBMIT LIST OF EQUIPMENT TO RECEIVE LABELS AND THE COORDINATED DESIGNATIONS, SIZE OF LABEL LETTERING, PLATE SIZE AND COLOR FOR REVIEW PRIOR TO INSTALLATION.

M. FOR ALL FLOOR MOUNTED EQUIPMENT PROVIDE A 4" HIGH CONCRETE HOUSE-KEEPING PAD; WHERE FLOOR STANDS ARE INDICATED PROVIDE FLOOR STAND OF STRUCTURAL STEEL OR STEEL PIPES AND FITTINGS AND BOLT TO PAD; FOR ROOF MOUNTED EQUIPMENT PROVIDE SUPPORTS WITH APPROVED ANCHORS DIRECTLY FROM BUILDING STEEL STRUCTURE. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED TO ADEQUATELY SUPPORT THE LOAD.

3.02 CHEMICAL CLEANING AND PRETREATMENT - N/A

3.03 WATER TREATMENT - N/A

3.04 EQUIPMENT START-UP AND TESTING

A. UPON COMPLETION OF THE INSTALLATION, THIS CONTRACTOR SHALL ENSURE THAT ALL EQUIPMENT AND SYSTEMS ARE TESTED AND BALANCED UNDER FIELD OPERATING CONDITIONS TO DEMONSTRATE ITS COMPLIANCE WITH SPECIFICATION REQUIREMENTS.

B. SHOULD ANY PART OF THE EQUIPMENT OR SYSTEM FAIL TO MEET THE CONTRACT REQUIREMENTS, THIS CONTRACTOR SHALL ADJUST, REPAIR OR REPLACE ALL DEFECTIVE OR INOPERATIVE PARTS AND AGAIN CONDUCT THE COMPLETE START-UP TEST.

C. SUBMIT SYSTEM START UP SHEETS AND TEST RESULTS TO THE OWNER AND ENGINEER.

3.05 PERFORMANCE TESTS AND COMMISSIONING

A. COMMISSIONING IS REQUIRED FOR ALL PROJECTS WITH 480,000 BTU/H OR MORE OF CONNECTED COOLING CAPACITY OR 600,000 BTU/H OR MORE OF COMBINED WERVICE WATER-HEATING AND SPACE HEATING CAPACITY.

B. COMMISSIONING IS MORE DETAILED THAN EQUIPMENT START-UP TESTING AND SHALL BE PERFORMED ON THIS PROJECT TO DEMONSTRATE TO THE COMMISSIONING AUTHORITY (CXA) A COMPLETE AND SUCCESSFUL WORKING INSTALLATION IN ALL OPERATIONAL MODES AS OUTLINED IN THE SEQUENCE OF OPERATIONS. THIS CONTRACTOR SHALL:

1. ATTEND ALL PRE-COMMISSIONING AND ANY SUBSEQUENT COMMISSIONING MEETINGS WITH ASSOCIATED SUB-CONTRACTORS AND MANUFACTURERS REPRESENTATIVES THAT ARE REQUIRED TO COMPLETE THE COMMISSIONING OF THE EQUIPMENT AND SYSTEMS PROVIDED.
2. REVIEW THE COMMISSIONING PLAN TYPICALLY PREPARED AND ISSUED BY THE CXA.
3. COMPLETE PRE-STARTUP AND STARTUP ON ALL INSTALLED EQUIPMENT PRIOR TO ALL COMMISSIONING ACTIVITIES.
4. COMPLETE AND SUBMIT A PRE-FUNCTIONAL CHECKLIST DISTRIBUTED BY THE CXA FOR EACH PIECE OF EQUIPMENT AND SYSTEM TO BE COMMISSIONED. ANY ISSUES ENCOUNTERED DURING START-UP SHOULD BE LISTED IN THE COMMENT SECTION.
5. PERFORM FUNCTIONAL PERFORMANCE TESTING OUTLINED IN THE COMMISSIONING PLAN.
6. WORK CLOSELY WITH THE CXA IN IDENTIFYING ALL OPERATING, MAINTENANCE, FAILURE MODES THAT MUST BE DEMONSTRATED AS PART OF THE COMMISSIONING PROCESS.
7. COORDINATE, SCHEDULE AND COMPLETE COMMISSIONING TASKS WITH THE CXA.
8. BE RESPONSIBLE FOR ALL COSTS FOR TESTING, INCLUDING RE-TESTING DUE TO DEFICIENCIES/NON-COMPLIANCE WITH THE SPECIFICATIONS. RE-TESTING COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL NOT CONSTITUTE JUSTIFICATION FOR ADDITIONAL COSTS TO THE OWNER.
9. INCLUDE OVERTIME LABOR AS NEEDED FOR TESTING.
10. RESPONSIBLE TO SUPPLY AND CONNECT ALL TESTING EQUIPMENT REQUIRED FOR ANY PART OF THE COMMISSIONING PROCESS (I.E. LOAD BANKS, CABLES, INFRARED SCANNING, TEMPORARY COOLING MEANS, TESTING MATERIALS AND CHEMICALS, ETC.)
11. SUBMIT MANUFACTURER ACCEPTANCE TESTING DOCUMENTATIONS (STARTUP AND MANUAL DOCUMENTS) TO THE COMMISSIONING AUTHORITY.

C. FUNCTIONAL PERFORMANCE TESTING:

1. START UP OF SYSTEMS AND COMPONENTS SHALL BE PERFORMED BY CONTRACTORS AND MANUFACTURER TECHNICIANS AS APPLICABLE PRIOR TO FUNCTIONAL PERFORMANCE TESTING (FPT) IN THE PRESENCE OF THE CXA. ALL POWER, SAFETIES AND CONTROL INTERLOCKS SHALL BE MADE OPERATIONAL. PRE-TEST VERIFICATION BY THE CONTRACTOR OF COMPONENTS AND SYSTEMS IS MANDATORY TO VERIFY OPERATION BEFOREHAND AND AVOID LAST MINUTE CORRECTIVE WORK OR REPEAT TESTING. SUBMISSION OF PRE-FUNCTION CHECKLISTS SHALL COMMUNICATE THAT SUCH PROCESS HAS OCCURRED.
2. ONCE PRE-FUNCTION CHECKLISTS HAVE BEEN SUBMITTED TO AND REVIEWED BY THE CXA, FUNCTIONAL TESTING CAN BE SCHEDULED BY THE CXA.
3. THE CXA MUST BE KEPT INFORMED OF THE CONSTRUCTION SCHEDULE AND GIVEN TWO (2) WEEKS NOTICE OF THE ANTICIPATED FUNCTIONAL TESTING TIMEFRAME WINDOW.
4. FUNCTIONAL TESTING SHOULD FOLLOW THE SYSTEMS TESTING AND BALANCING PROCESS.
5. PERFORMANCE TEST PROCEDURES ARE INTENDED TO DEMONSTRATE AND RECORD THE PERFORMANCE OF EQUIPMENT AND SYSTEMS UNDER SAFETY AND OPERATIONAL SCENARIOS AS APPLICABLE INCLUDING:
   A) RESPONSE TO SAFETIES IN MANUAL AND AUTOMATIC MODE
   B) SIGNALS TO FIRE ALARM, SECURITY AND TENANT ALARM PANELS
   C) SEQUENCE OF OPERATION, STEP BY STEP
   D) INTERLOCK WITH OTHER PIECES OF EQUIPMENT (E.G., VALVES, LEAK DETECTORS, ETC.)
   E) CONTROL SYSTEM RESPONSE AND ANNUNCIATION OF SENSOR/MONITOR POINTS
6. THE FUNCTIONAL TESTING PROCEDURES ARE EXECUTED BY THE CONTRACTORS, UNDER THE DIRECTION OF, AND RECORDED BY THE CXA. THE CONTRACTOR SHALL PROVIDE A FIELD TECHNICIAN AND A REPRESENTATIVE FROM THE AUTOMATIC TEMPERATURE CONTROLS CONTRACTOR TO OPERATE EQUIPMENT AND CONFIRM RESPONSES IN THE PRESENCE OF THE CXA AND OWNER'S APPOINTED REPRESENTATIVE.
7. ANY NON-COMPLIANCE ITEMS FOUND SHALL BE LISTED IN A COMMISSIONING ISSUES LOG PREPARED BY THE CXA. CONTRACTORS SHALL ENSURE THAT CORRECTIVE ACTION OF LISTED DEFICIENCIES IS IMPLEMENTED AND SHALL RESPOND UPON COMPLETION OF SUCH TO THE CXA VIA THE PROVIDED AREAS IN THE COMMISSIONING ISSUES LOG.
8. ITEMS OF NON-COMPLIANCE IN MATERIAL, INSTALLATION OR SETUP ARE CORRECTED AT THE CONTRACTOR'S EXPENSE.
9. ONCE THE CONTRACTOR INDICATES THAT ALL DEFICIENCIES HAVE BEEN ADDRESSED, THE SYSTEMS SHALL BE RETESTED.

D. SYSTEMS TO BE COMMISSIONED:

1. AIR- COOLED AIR CONDENSING UNITS
2. FAN COIL UNITS

3.06 AIR BALANCING

A. AIR SYSTEM BALANCING SHALL BE PERFORMED BY ADVANCED TESTING & BALANCING (CONTACT KEVIN WILTON 718-486-6764) OR AN APPROVED INDEPENDENT CERTIFIED TESTING AND BALANCING FIRM. THE TESTING AND BALANCING FIRM SHALL BE AABC, NEBB, TABB CERTIFIED OR DIRECTLY SUPERVISED BY A STAFFED LICENCED PROFESSIONAL ENGINEER WITH A MINIMUM OF FIVE YEARS EXPERIENCE. AIR AND WATER SYSTEM BALANCING SHALL BE PERFORMED IN THE PRESENCE OF A BUILDING REPRESENTATIVE.

B. MAKE ALL REQUIRED ADJUSTMENTS OF ALL NEW AND EXISTING AIR SYSTEM DEVICES UNTIL ALL SPECIFIED PERFORMANCES ARE MET. PROVIDE VOLUME DAMPERS AS REQUIRED FOR FINAL BALANCING OF AIR SYSTEMS. PROVIDE A CLEAN SET OF AIR FILTERS AT ALL AIR CONDITIONING UNITS PRIOR TO ANY BALANCING.

C. SUBMIT AIR BALANCING REPORTS FOR REVIEW CONSISTING OF DESIGN AND ACTUAL READINGS OF ALL EQUIPMENT/DEVICES, LOCATION PLANS OF ALL EQUIPMENT/DEVICES BALANCED, BALANCING EQUIPMENT USED AND METHODS OF BALANCING.

D. ALL REPORTS SHALL INDICATE PRELIMINARY READINGS PRIOR TO BALANCING AND FINAL READINGS AFTER BALANCING HAS BEEN COMPLETED. IF IT IS DETERMINED THAT DRIVE CHANGES ARE REQUIRED, CONTRACTOR SHALL PROVIDE ALL NECESSARY NEW COMPONENTS.

E. CONTRACTOR SHALL INCLUDE IN THEIR BID TWO (2) JOB SITE COMFORT BALANCES UPON ACCEPTANCE OF THE FINAL BALANCING REPORT.

F. CONTRACTOR SHALL SUBMIT AIR BALANCE DATA SHEETS AND REPORTS WHICH TABULATE TEST DATA FROM FINAL ADJUSTED SYSTEM CONDITIONS WITHIN 10% OF DESIGN QUANTITIES FOR SYSTEM COMPONENTS AIR OUTLETS, RETURNS AND TERMINAL UNITS INDICATING CFM AND PRESSURE DROP AT DUCT RISERS AND MAINS; PERFORMANCE CHARACTERISTICS FOR ALL FANS AND AIR CONDITIONING EQUIPMENT INDICATING RPM, CFM, PRESSURE DROP ACROSS EACH COMPONENT (FILTERS, COILS, DAMPERS, ETC), AMPS, SUCTION AND DISCHARGE STATIC PRESSURE, OUTSIDE AIR CFM, BHP AND HP AT DESIGN CONDITIONS; AIR OUTLET DISCHARGE TEMPERATURE AND CFM; TERMINAL BOX INLET SP, MINIMUM AND MAXIMUM AIR SETTINGS.

G. BALANCING CONTRACTOR SHALL BALANCE THE SYSTEM AND ALL ITS COMPONENTS IN SUCH A WAY AS TO ENSURE THE COMPONENTS ARE TESTED AS PER ALL THE ANTICIPATED OPERATING CONDITIONS.

H. BALANCING OF INDIVIDUAL COMPONENTS WITHOUT THE ENTIRE SYSTEM OPERATING AS INTENDED PER THE SEQUENCE OF OPERATIONS SHALL BE DEEMED UNACCEPTABLE AND ANY ISSUES WITH ACHIEVING AIR OR WATER FLOWS RESULTING FROM BALANCING IN THIS MANNER SHALL BE CORRECTED BY THE INSTALLING CONTRACTOR AS NECESSARY AT NO COST TO THE CLIENT.

I. CONTRACTOR TO PROVIDE TRAVERSE READING AT BASE BUILDING MAIN SUPPLY AND RETURN SHAFTS AND PROVIDE STATIC PRESSURE READINGS DOWNSTREAM AND UPSTREAM OF ALL REHEAT/HEAT COILS AND PRV.

J. THE FINAL REPORT AFTER COMFORT BALANCE IS PERFORMED SHALL BE PROVIDED TO THE BUILDING MANAGER.

K. PRE-CONSTRUCTION AIR TESTING:

1. MEASURE PRESSURE, TEMPERATURE, AND VOLUME OF AIR FROM EXISTING BASE BUILDING RETURN AND SUPPLY AIR SYSTEMS SERVING THE SCOPE OF WORK AREA BEFORE STARTING WORK. SUBMIT REPORT TO ENGINEER IMMEDIATELY AFTER COMPLETION OF TEST.

3.07 ELECTRICAL WORK

A. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR POWER WIRING UNDER A SEPARATE DIVISION OF CONTRACT WORK. AUTOMATIC TEMPERATURE, SAFETY AND INTERLOCKING CONTROLS FOR MOTORS, MOTOR STARTERS AND OTHER ELECTRICAL APPARATUS AND DEVICES SHALL BE PROVIDED BY THE HVAC CONTRACTOR. CONTROL WIRING SHALL INCLUDE BUT NOT LIMITED TO ALL 12, 24, AND 120 VOLT WIRING.

B. THE MECHANICAL CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL TERMINAL POINT TO TERMINAL POINT, COMPLETELY COORDINATED AND INTEGRATED WIRING DIAGRAMS FOR ALL WIRING REQUIRING FIELD INSTALLATION BY THE ELECTRICAL CONTRACTOR.

C. SPECIFIC WIRING DIAGRAMS OF FACTORY INSTALLED EQUIPMENT WIRING SHALL ALSO BE SUBMITTED FOR APPROVAL AND FURNISHED TO THE ELECTRICAL CONTRACTOR FOR HIS INSTALLATION REQUIREMENTS AND OTHER USES.

D. HVAC CONTRACTOR SHALL MAINTAIN ALL EXISTING CONTROL CONNECTIONS FOR STARTERS TO BE REUSED. CONTRACTOR SHALL COORDINATE EXISTING CONDITIONS AND PROVIDE ALL CONTACTS AND RELAYS REQUIRED FOR EXISTING STARTERS TO BE REPLACED WITH NEW.

E. HVAC CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR THE INSTALLATION OF DUCT DETECTORS. DUCT DETECTOR SHALL BE FURNISHED AND WIRED BY THE ELECTRICAL CONTRACTOR AND MOUNTED BY THE HVAC CONTRACTOR.

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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

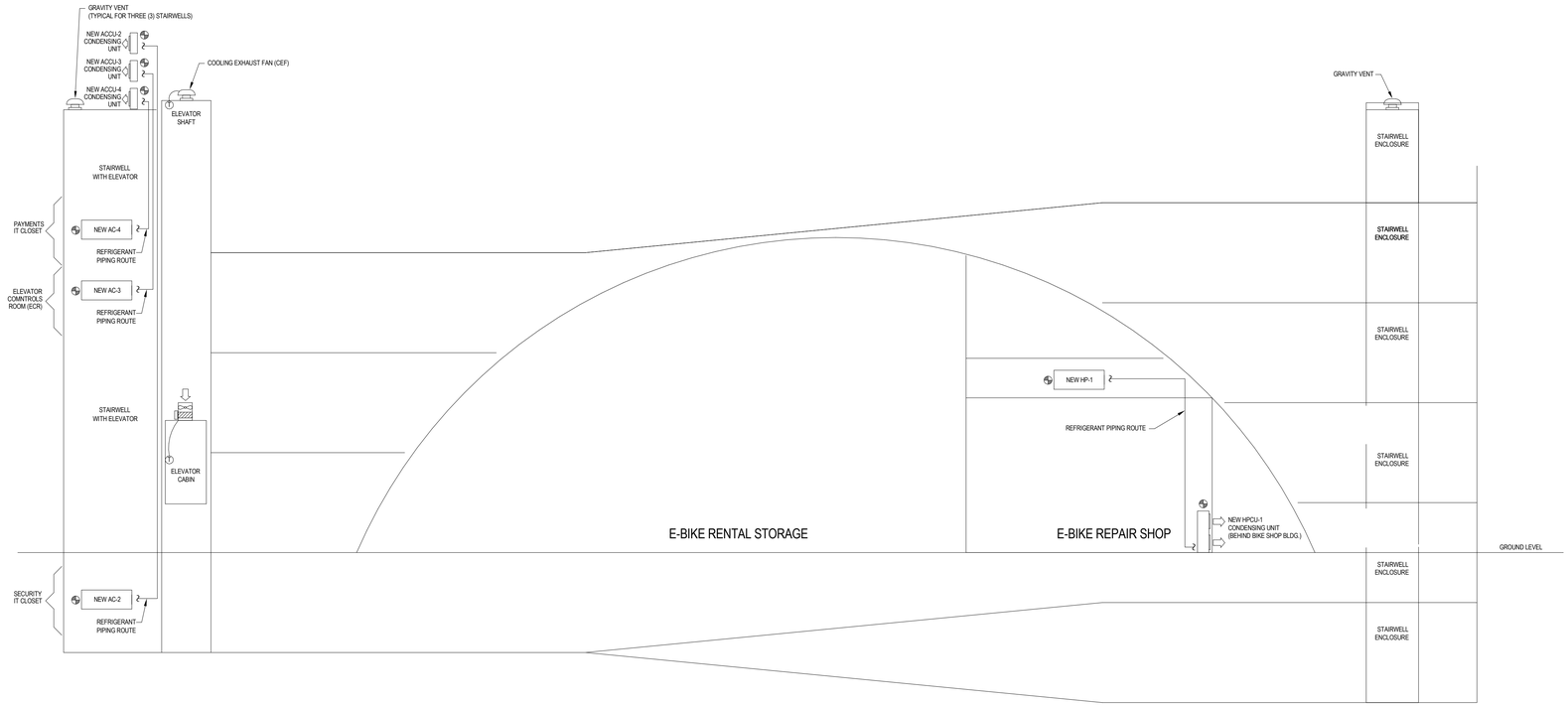
NO.	DESCRIPTION	DATE

NORTH

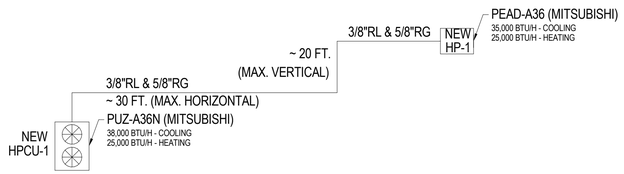
DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
MECHANICAL SPECIFICATIONS II

SHEET NO.
M1.2

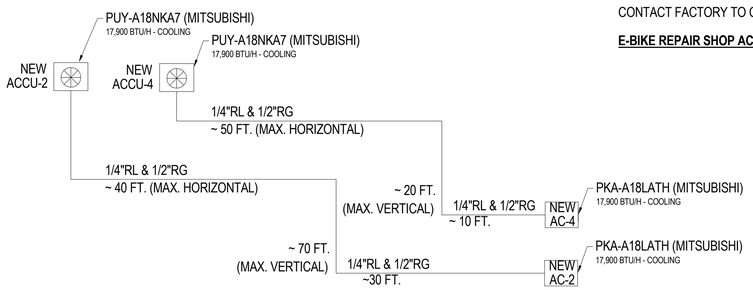


E-BIKE SHOP ANF ELEVATOR ROOM HEAT PUMP - CONDENSING UNITS' LOCATIONS SCHEMATIC



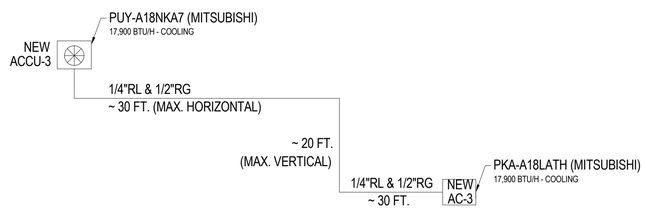
NOTE: FOR REFRIGERANT LINE RUNS EXCEEDING STANDARD VALUES CONTACT FACTORY TO CONFIRM REFRIGERANT PIPING SIZING.

E-BIKE REPAIR SHOP AC UNIT REFRIGERANT PIPING DIAGRAM



NOTE: FOR REFRIGERANT LINE RUNS EXCEEDING STANDARD VALUES CONTACT FACTORY TO CONFIRM REFRIGERANT PIPING SIZING.

PAYMENT IT CLOSET AND SECURITY IT CLOSET AC UNIT REFRIGERANT PIPING DIAGRAM



NOTE: FOR REFRIGERANT LINE RUNS EXCEEDING STANDARD VALUES CONTACT FACTORY TO CONFIRM REFRIGERANT PIPING SIZING.

ELEVATOR CONTROL ROOM (ECR) AC UNIT REFRIGERANT PIPING DIAGRAM

REFRIGERANT DISTRIBUTION DIAGRAMS

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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
MECHANICAL RISER DIAGRAM

SHEET NO.
M3.1

PIPING MATERIAL SCHEDULE

SERVICE	SIZE	MATERIAL	WEIGHT	STANDARD	JOINT TYPE
COLD CONDENSATE DRAINS, MISCELLANEOUS DRAINS AND OVERFLOWS	2" & BELOW	HARD COPPER	TYPE 'L'	ASTM A88	BRAZE OR SILVER SOLDER
	2½" & ABOVE	GALVANIZED STEEL	SCHEDULE 40	ASTM A53 SEAMLESS GRADE B	WELDED
REFRIGERANT (AIR COOLED AND COMMERCIAL REFRIGERATION)	ALL	HARD COPPER	TYPE ACR REFRIGERANT OR TYPE 'L'	ASTM B280 OR ASTM B-88	BRAZE OR SOLDER
COLD WATER MAKEUP AND FILL	4" & BELOW	HARD COPPER	TYPE 'L'	ASTM B88	BRAZE OR SILVER SOLDER
PIPING TO MISC. GAUGES	ALL	RED BRASS	STANDARD	ASTM B43	THREADED

PIPING MATERIAL NOTES:
1. REFER TO SPECIFICATIONS FOR MORE INFORMATION.

PIPING FITTING SCHEDULE

PIPE MATERIAL	PIPE SIZE	JOINT TYPE	FITTING MATERIAL	FITTING CLASS
COPPER TUBING HARD DRAWN	4" & SMALLER	SOLDER 95-5 TINANTIMONY ASTM B32 GR 95 TA SILVER SOLDER ASTM B32 GR 95 TS	WROUGHT COPPER OR CAST COPPER	300 PSIG AT 100°F, 150 PSIG AT 250°F
		BRAZING	WROUGHT COPPER	450 PSIG AT 100°F TO 200°F, 150 PSIG AT 250°F
COPPER TUBING HARD DRAWN REFRIGERANT SYSTEMS TYPE ACR	4" & SMALLER	SOLDER 15-5 -80 SILVER PHOSPHOROUS COPPER AWS A5.8 OR BRAZING	WROUGHT COPPER	STANDARD
RED BRASS	ALL SIZES	THREADED	CAST BRONZE	125 AND 250 PSIG

PIPING FITTING NOTES:
1. REFER TO SPECIFICATIONS FOR MORE INFORMATION.

BRANCH DUCT SIZING SCHEDULE

DUCT SIZE (INSIDE CLEAR DIMMENSIONS)	CFM RANGE
12x6, 15x5, 6"DIA	UP TO 175
14x6, 18x5, 8"DIA	180-245
12x8, 16x6, 20x5, 10"DIA	250-285
18x6, 24x5, 10"DIA	290-335
14x8, 20x6, 26x5, 12"DIA	340-375
16x8, 24x6, 12"DIA	380-435
14x10, 18x8, 12"DIA	440-515
16x10, 20x8, 14"DIA	520-585
22x8, 14"DIA	590-645
18x10, 24x8	650-715
20x10, 26x8	720-825
22x10, 28x8	830-895
20x12, 24x10, 32x8	900-1,005

BRANCH DUCT SCHEDULE NOTE: THIS SCHEDULE APPLIES TO BRANCH DUCTS THAT ARE NOT SIZED ON PLANS.

AIR OUTLET SCHEDULE

DESIGNATION		DESCRIPTION	NECK SIZE	FRAME SIZE	CFM RANGE	MAX NC	MANUFACTURER/ MODEL (OR APPROVED EQUAL)	COMMENTS
A	SD	PLAQUE SUPPLY DIFFUSER *ALL PATTERNS	6"DIA	12"x12" 24"x24"	0-140	<20	PRICE/ SPD	LIE-IN OR FACE-MOUNTED. COORD. W/ CLG. TYPE. SEE NOTES
	SD	PLAQUE SUPPLY DIFFUSER *ALL PATTERNS	8"DIA	24"x24"	141-240	<20	PRICE/ SPD	LIE-IN OR FACE-MOUNTED. COORD. W/ CLG. TYPE. SEE NOTES
	SD	PLAQUE SUPPLY DIFFUSER *ALL PATTERNS	10"DIA	24"x24"	241-350	<20	PRICE/ SPD	LIE-IN OR FACE-MOUNTED. COORD. W/ CLG. TYPE. SEE NOTES
	SD	PLAQUE SUPPLY DIFFUSER *ALL PATTERNS	12"DIA	24"x24"	351-450	<20	PRICE/ SPD	LIE-IN OR FACE-MOUNTED. COORD. W/ CLG. TYPE. SEE NOTES
B	SR	DOUBLE DEFLECTION SUPPLY REGISTER (*ALL PATTERNS)	10"x8"	12"x10"	0-150	<20	PRICE / 520	3/4" BLADE SPACING SEE NOTES
	SR	DOUBLE DEFLECTION SUPPLY REGISTER (*ALL PATTERNS)	12"x8"	14"x10"	151-195	<20	PRICE / 520	3/4" BLADE SPACING SEE NOTES
	SR	DOUBLE DEFLECTION SUPPLY REGISTER (*ALL PATTERNS)	16"x8"	14"x10"	196-260	<20	PRICE / 520	3/4" BLADE SPACING SEE NOTES
	SR	DOUBLE DEFLECTION SUPPLY REGISTER (*ALL PATTERNS)	20"x8"	22"x10"	261-315	<20	PRICE / 520	3/4" BLADE SPACING SEE NOTES
C	SLD	AIR SUPPLY LINEAR DIFFUSER	8"DIA	24"x6"	75-130	26	RAYMON-DONCO / J-22	CONTINUOUS LINEAR 2-SLOTS. SEE NOTES
	SLD	AIR SUPPLY LINEAR DIFFUSER	10"DIA	48"x6"	131-250	26	RAYMON-DONCO / J-22	CONTINUOUS LINEAR 2-SLOTS. SEE NOTES
	SLD	AIR SUPPLY LINEAR DIFFUSER	12"DIA	48"x8"	251-400	34	RAYMON-DONCO / J-22	CONTINUOUS LINEAR 2-SLOTS. SEE NOTES
D	SLD	LOBBY SUPPLY LINEAR DIFFUSER	8"DIA	24"x5.5"	100-155	<20	RAYMON-DONCO / DCD	CONTINUOUS LINEAR 2-SLOTS. SEE NOTES
	SLD	LOBBY SUPPLY LINEAR DIFFUSER	10"DIA	48"x5.5"	160-345	<20	RAYMON-DONCO / DCD	CONTINUOUS LINEAR 2-SLOTS. SEE NOTES
	SLD	LOBBY SUPPLY LINEAR DIFFUSER	12"DIA	60"x5.5"	350-500	28	RAYMON-DONCO / DCD	CONTINUOUS LINEAR 2-SLOTS. SEE NOTES
E	RLD	RETURN LINEAR DIFFUSER	N/A	48"x5.5"	100-500	25	RAYMON-DONCO / JR	CONTINUOUS LINEAR. ACOUSTIC BAFFLE. 2-SLOTS. SEE NOTES
EL	RLD	LOBBY RETURN LINEAR DIFFUSER	N/A	48"x5.5"	100-500	25	RAYMON-DONCO / DCDR	CONTINUOUS LINEAR. ACOUSTIC BAFFLE. 2-SLOTS. SEE NOTES
F	RG	RETURN GRILLE - CEILING (*ALL PATTERNS)	N/A	12"x12"	0-250	21	PRICE / 60D	LIE-IN OR FACE-MOUNTED. COORD. W/ CLG. TYPE. SEE NOTES
	RG	RETURN GRILLE - CEILING (*ALL PATTERNS)	N/A	24"x12"	251-500	21	PRICE / 60D	LIE-IN OR FACE-MOUNTED. COORD. W/ CLG. TYPE. SEE NOTES
	RG	RETURN GRILLE - CEILING (*ALL PATTERNS)	N/A	24"x24"	501-1,000	24	PRICE / 60D	LIE-IN OR FACE-MOUNTED. COORD. W/ CLG. TYPE. SEE NOTES
G	RG	RETURN GRILLE - WALL (*ALL PATTERNS)	N/A	16"x6"	50-180	<20	PRICE / STG	1/2" BLADE SPACING SEE NOTES
	RG	RETURN GRILLE - WALL (*ALL PATTERNS)	N/A	20"x8"	181-270	<20	PRICE / STG	1/2" BLADE SPACING SEE NOTES
	RG	RETURN GRILLE - WALL (*ALL PATTERNS)	N/A	22"x10"	271-400	<20	PRICE / STG	1/2" BLADE SPACING SEE NOTES
	RG	RETURN GRILLE - WALL (*ALL PATTERNS)	N/A	30"x12"	401-580	<20	PRICE / STG	1/2" BLADE SPACING SEE NOTES
H	JET DIFF	DIRECTIONAL TYPE SPOT DIFFUSER	6"DIA	10"DIA	40-150	26	AIR CONCEPTS / APL-A	JET DIFFUSER. PROVIDE WITH DAMPER AND OPTIONAL FINISH. SEE NOTE 10
	JET DIFF	DIRECTIONAL TYPE SPOT DIFFUSER	8"DIA	12"DIA	151-250	23	AIR CONCEPTS / APL-A	JET DIFFUSER. PROVIDE WITH DAMPER AND OPTIONAL FINISH. SEE NOTE 10
	JET DIFF	DIRECTIONAL TYPE SPOT DIFFUSER	10"DIA	16"DIA	251-360	21	AIR CONCEPTS / APL-A	JET DIFFUSER. PROVIDE WITH DAMPER AND OPTIONAL FINISH. SEE NOTE 10
	JET DIFF	DIRECTIONAL TYPE SPOT DIFFUSER	12"DIA	20"DIA	351-450	23	AIR CONCEPTS / APL-A	JET DIFFUSER. PROVIDE WITH DAMPER AND OPTIONAL FINISH. SEE NOTE 10
RG	RG	RETURN GRILLE (CEILING EGGCRATE)	N/A	24"x24"	150-600	<35	PRICE / 80	1/2" SPACING PROVIDE WITH LIGHT SHIELD

AIR OUTLET SCHEDULE NOTES (TYPICAL FOR EACH UNIT):

1. INSTALL FOUR (4) WAY DIFFUSER UNLESS OTHERWISE NOTED. PROVIDE BLANK OFF BAFFLES FOR DIFFUSERS SHOWN TO HAVE 2-WAY AND 3-WAY PATTERNS. INCREASE NECK SIZES AS REQUIRED TO COMPENSATE FOR BLANKED-OFF AREA. * FOR NON 4-WAY DIFFUSERS, THE CFM RANGE SHALL BE READJUSTED ACCORDINGLY. FOR EXAMPLE, A 3-WAY 8" DIFFUSER SHALL HAVE A MAXIMUM CFM OF 150, A 2-WAY 12" DIFFUSER SHALL HAVE A MAXIMUM CFM OF 200, ECT.
2. DIFFUSERS SHALL BE SUITABLE FOR THE TYPE OF CEILING CONSTRUCTION BEING INSTALLED IN. DIFFUSERS BASED ON MODEL J-22 (DONCO) SHALL BE USED IN ALL AREAS WITH CEILINGS. CONTACT FACTORY FOR DIFFUSERS TO BE INSTALLED IN OPEN AREAS.
3. DIFFUSERS THAT SERVE AREAS WITHOUT HUNG CEILINGS SHALL BE SUITABLE FOR DUCTWORK MOUNTING OR MOUNTING WITH INDEPENDENT SUPPORTS.
4. ALL ADJUSTABLE AIR OUTLET PATTERN DEFLECTORS SHALL BE FIELD ADJUSTED TO OPTIMIZE AIR DISTRIBUTION PREVENTING DRAFT CONDITIONS. CONTRACTOR SHALL PLAN FOR A SECOND COMFORT FIELD ADJUSTMENT PER OWNER/ENGINEER DIRECTION.
5. PROVIDE CABLE OPERATED DAMPERS FOR LINEAR DIFFUSERS AND DIFFUSERS IN INACCESSIBLE CEILINGS.
6. NON-ACTIVE LENGTHS OF LINEAR DIFFUSERS TO BE USED AS RETURN. PROVIDE LIGHT SHIELDS.
7. FINISHES SHALL BE AS SPECIFIED BY THE ARCHITECT.
8. PROVIDE SUPPLY LINEAR DIFFUSERS WITH AN ATTENUATED AIR SUPPLY PLENUM MANUFACTURED BY THE SHEET-METAL CONTRACTOR. EACH PLENUM SHALL BE SERVED BY DUCT CONNECTIONS NOT GREATER THAN 14"x9" (MAX. 650 CFM). WHEN GREATER AIR FLOW RATES ARE REQUIRED, MULTIPLE NECKS SHALL BE USED.
9. PROVIDE RETURN LINEAR DIFFUSERS WITH AN ATTENUATED AIR RETURN PLENUM. MANUFACTURED BY THE SHEET-METAL CONTRACTOR, WITH SIDE OPENING TO SPACE ABOVE CEILING LEVEL.
10. PROVIDE "D" TYPE JET DIFFUSERS WITH ADJUSTABLE DAMPER. SELECT DIFFUSER SIZES TO MACH EXISTING DIFFUSERS IN FIELD FOR DIRECT REPLACEMENT. PROVIDE SELECTED DIFFUSERS WITH #43 FINISH - FLAT BLACK POWDER COAT. CONFIRM FINISH SELECTION WITH ARCHITECT PRIOR TO PURCHASE.

TOILET EXHAUST FAN SCHEDULE

DESIGNATION	SERVICE	CFM	STATIC PRESSURE (IN W.G.)	ELECTRICAL V/./Hz	MOTOR (WATTS OR HP)	DRIVE (BELT OR DIRECT)	CONTROL (SWITCH OR THERMOSTAT)	WEIGHT	MANUFACTURER/ MODEL (OR APPROVED EQUAL)	COMMENTS
TEF-1	BATHROOM	70	0.1-0.75	120/1/60	23.3W	ECM DIRECT	SWITCH	12	GREENHECK SP-A50-90-VG	SEE NOTES

EXHAUST FAN SCHEDULE NOTES (TYPICAL FOR EACH FAN):
1. PROVIDE W/ FACTORY-MOUNTED SPEED CONTROLLER (GREENHECK PART 385031), INSTALLED ON FAN CASING.
2. PROVIDE W/ WALL-MOUNTED DISCONNECT SWITCH WITH TIME DELAY (GREENHECK PN: 874214).
3. PROVIDE W/ CEILING RADIATION DAMPER
4. PROVIDE W/ HANGING VIBRATION ISOLATORS.
5. SEE EQUIPMENT SPECIFICATIONS MORE INFO.

ELEVATOR PIT AND WATER ROOM EXHAUST FAN SCHEDULE

DESIGNATION	SERVICE	CFM	STATIC PRESSURE (IN W.G.)	ELECTRICAL V/./Hz	MOTOR (WATTS OR HP)	DRIVE (BELT OR DIRECT)	CONTROL (SWITCH OR THERMOSTAT)	WEIGHT	MANUFACTURER/ MODEL	COMMENTS
EF-1	PARKING DECK STORAGE ROOMS	250	0.5	115/1/60	1/4	BELT	MANUAL SWITCH	80	GREENHECK BSQ-80	SEE NOTES
EF-2	ELEVATOR PIT	1,200	0.5	115/1/60	3/4	BELT	MANUAL SWITCH	108	GREENHECK BSQ-100-10X-3-QD-OR2	SEE NOTES

EXHAUST FAN SCHEDULE NOTES (TYPICAL FOR EACH FAN):
1. PROVIDE FACTORY MOUNTED AND WIRED SWITCH (NEMA-1), INSTALLED ON UNIT ENCLOSURE.
2. PROVIDE (4x) HANGERS WITH 1" ISOLATORS (P/N: 850343).
3. PROVIDE WITH GRAVITY BACK-DRAFT DAMPER.
4. PROVIDE WITH A WALL-MOUNTED MANUAL POWER SWITCH WITH PILOT LIGHT (P/N:872242)

AIR RELIEF PENTHOUSE SCHEDULE

UNIT NO.	NOMINAL SIZE (IN x IN)	REQUIRED OPENING FREE AREA (SQ. FT.)	TYPE	SP (IN WG)	MANUFACTURER & MODEL NO.	REMARKS
WRH - 1,2	24 x 24	4.00	DRAINABLE	0.03	GREENHECK WRH-24x24	PROVIDE W/: WIRE MESH BIRD SCREEN, ROOF CURB, FACTORY-ASSEBLY; FINISH: BAKED ENAMEL; SEE NOTES
WRH - 3	12 x 12	1.00	DRAINABLE	0.03	GREENHECK WRH-12x12	PROVIDE W/: WIRE MESH BIRD SCREEN, ROOF CURB, FACTORY-ASSEBLY; FINISH: BAKED ENAMEL; SEE NOTES

NOTES: PROVIDE WITH ROOF CURB AND HIGH WIND INSTALLATION KIT.

DUCT INSULATION REQUIREMENTS

(PER 2019 BUILDING ENERGY EFFICIENCY STANDARDS)

DUCT LOCATION	INSULATION R-VALUE	INSTALLED INSULATION THICKNESS
OUTDOORS	R-8	2"
SPACE BETWEEN ROOF & INSULATED CEILING		
IN VENTED ATTIC SPACES		
IN UNCONDITIONED SPACES		
IN RETURN AIR PLENUM	R-6	1"
ALL OTHER SPACES		
ENCLOSED IN DIRECTLY CONDITIONED SPACE	R-1.9	1"

DUCT INSULATION REQUIREMENTS NOTES:
1. INSULATION THICKNESS VALUES BASED ON JOHNS MANVILLE INSULATION.
2. THE INSTALLED INSULATION THICKNESS OF DUCT LINING FOR PURPOSE OF COMPLIANCE IS EQUIVALENT TO ITS NOMINAL THICKNESS.
3. THE INSTALLED INSULATION THICKNESS OF DUCT WRAP FOR PURPOSE OF COMPLIANCE IS 75% OF ITS NOMINAL THICKNESS.
4. ALL NEW DUCTWORK SHALL BE PROVIDED WITH 1" ACOUSTICAL LINING IN EXPOSED CEILING AREAS.

PIPE INSULATION REQUIREMENTS

(PER 2019 BUILDING ENERGY EFFICIENCY STANDARDS)

FLUID OPERATING TEMPERATURE RANGE (°F) AND USAGE	INSULATION THERMAL CONDUCTIVITY: CONDUCTIVITY BTU *IN/HºFTº²F	INSULATION THERMAL CONDUCTIVITY: MEAN RATING TEMPERATURE (°F)	NOMINAL PIPE OR TUBE SIZE, IN.				
			<1	1 TO <1-1/2	1-1/2 TO <4	4 TO ≤8	>8
			INSULATION THICKNESS, IN.				
>350	0.32 TO 0.34	250	4.5	5.0	5.0	5.0	5.0
251 TO 350	0.29 TO 0.32	200	3.0	4.0	4.5	4.5	4.5
201 TO 250	0.27 TO 0.30	150	2.5	2.5	2.5	3.0	3.0
141 TO 200	0.25 TO 0.29	125	1.5	1.5	2.0	2.0	2.0
105 TO 140	0.22 TO 0.28	100	1.0	1.0	1.5	1.5	1.5

PIPING INSULATION REQUIREMENTS NOTES:
1. INSULATION THICKNESS VALUES BASED ON ENERGY EFFICIENCY CONSIDERATIONS ONLY.
2. FOR PIPING <1-1/2" AND LOCATED IN COND. SPACE, INSUL. THICKNESS REDUCTION BY 1" IS PERMITTABLE (1" MINIMUM).
3. FUR DIRECT-BURIED HEATING AND HOT WATER PIPING, INSUL; THISCNESS REDUCTION BY 1-1/2" IS PERMITTABLE (1" MINIMUM)
4. SERVICE WATER HEATING PIPIONG SHALL COMPLY WITH SECTION 7.4 OF THE ENERGY CODE.

DOOR TRANSFER GRILLE SCHEDULE

UNIT NO.	CFM RANGE	SERVICE	FACE SIZE (INxIN)	FREE AREA (SQ.FT.)	TYPE	MOUNTING	SP (IN WG)	NC (MAX)	EQUAL TO MANUFACTURER & MODEL NO.	REMARKS
DTG-1	180-1450	IT ROOM	24x24	3.55	HORIZONTAL LOUVERS	CHANNEL FRAME	0.01-0.35	26-41	ANEMOSTAT FLDL-UL	FINISH TEXTURE AND COLOR TO BE COORDINATED WITH PROJECT ARCHITECT PRIOR TO PURCHASE.

ELECTRIC CABINET HEATER SCHEDULE

DESIGNATION	LOCATION	SERVICE	NO. OF STAGES	CFM	KW	POWER (AMPS)	ELECTRICAL V/./Hz	WT (LBS)	MANUFACTURER/ MODEL (OR APPROVED EQUAL)	COMMENTS
EH-1,2,3,4,5,6	WALL (KIT-MOUNT)	FREEZE PROTECTION	2	65	1.5/0.75	7.3/3.6	208/1/60	32	Q-MARK CWH1202DSF	SEE NOTES

ELECTRIC WALL HEATER SCHEDULE NOTES (TYPICAL FOR EACH UNIT):
1. WALL-MOUNTED UNIT.
2. THERMOSTAT MOUNTED ON UNIT.
3. DRY CONTACT OR BMS INTERFACE FOR STATUS SIGNAL (FOR FUTURE).
4. PROVIDE WITH WALL-MOUNTING BRACKETS (WALL-MOUNTING KIT).

IN-LINE EXHAUST FAN SCHEDULE

UNIT NO.	SERVICE	LOCATION	CFM	SP (IN WG)	RPM	BHP (W)	DRIVE	MOTOR DATA: MHP	MOTOR DATA: V/PH/HZ	MOTOR DATA: RPM	WEIGHT (LBS)	MANUFACTURER & MODEL NO.	REMARKS
EF-1	STORAGE AREAS	PLENUM	600	0.375	1,450	236	DIRECT	0.25	115/1/60	1,450	36	GREENHECK CSP-A710-VG	W/ WIRED REMOTE ECM SPEED CONTROLLER, VIBRATION ISOLATION KIT, SEE NOTES.

EXHAUST FAN SCHEDULE NOTES (TYPICAL FOR EACH FAN):
1. PROVIDE W/ FACTORY-MOUNTED SPEED CONTROLLER (GREENHECK PART 385031), INSTALLED ON FAN CASING.
2. PROVIDE W/ WALL-MOUNTED DISCONNECT SWITCH WITH PILOT LIGHT (GREENHECK PN: 872242).
3. PROVIDE W/ HANGING VIBRATION ISOLATORS.
4. PROVIDE FAN W/ DEDICATED DISCONNECT SWITCH.
5. PROVIDE FAN W/ BMS INTERFACE (FOR FUTURE USE).
6. PROVIDE FAN RATED FOR OUTDOOR DUTY.
7. PROVIDE FAN W/ EXTENDED LUBRICATION LINES.
8. SEE EQUIPMENT SPECIFICATIONS MORE INFO.

ROOF EXHAUST FAN SCHEDULE

DESIGNATION	LOCATION	SERVICE	CFM	FAN TYPE	EXTERNAL STATIC PRESSURE (IN. W.G.)	FAN: FAN TYPE	FAN: DRIVE TYPE	FAN: MOTOR HP/W	FAN: RPM	FAN: VFD	ELECTRICAL V/ph/Hz	DIMENSIONS (LxDxH)	OPERATING WEIGHT (LBS)	MANUFACTURER/ MODEL	COMMENTS
EF-2	ROOF	ELEVATOR SHAFT	473	DOWN-BLAST	0.5	FORWARD CURVED	DIRECT-ECM	VG-1/10	1550	ECM	115/1/60	22"x17"x17"	22	GREENHECK/ G-090-VG	PROVIDE WITH REMOTE SPEED CONTROLS AND SWITCH. SEE NOTES.

EXHAUST FAN SCHEDULE NOTES:
1. PROVIDE FAN WITH ISOLATED HINGED ROOF CURB WITH RESTRAINT CABLES. PROVIDE WITH ROOF CURB SEAL FOR ROOF OPENING PROTECTION.
2. PROVIDE WITH FACTORY-SUPPLIED REMOTE SPEED SWITCH WITH "ON/OFF" CAPABILITY.
3. PROVIDE FAN WITH A DEDICATED DISCONNECT SWITCH.
4. PROVIDE FAN WITH AIR-PROVING AIR FLOW SWITCH FOR BMS MONITORING.
5. PROVIDE FAN WITH BMS COMMUNICATIONS SIGNAL INTERFACE.
6. PROVIDE FAN WITH EXTENDED LUBRICATION LINES.
7. THE FAN SHALL BE RATED FOR OUTDOOR DUTY.
8. COORDINATE FAN POWER CONTROL WITH ELECTRICAL TRADE PRIOR TO BID.

SPLIT AIR COOLED HEAT PUMP UNIT SCHEDULE

DESIGNATION	AREA SERVED	NOMINAL TONS	EVAPORATOR UNIT: COOLING CAPACITY: TOTAL (MBH)	EVAPORATOR UNIT: COOLING CAPACITY: SENSIBLE (MBH)	EVAPORATOR UNIT: HEATING CAPACITY: TOTAL (MBH)	EVAPORATOR UNIT: HEATING CAPACITY: SENSIBLE (MBH)	EVAPORATOR UNIT: CFM	EVAPORATOR UNIT: ENT. AIR (°F)	EVAPORATOR UNIT: LVG. AIR (°F)	EVAPORATOR UNIT: SUPPLY FAN: EXT. SP	EVAPORATOR UNIT: SUPPLY FAN: MOTOR W	EVAPORATOR UNIT: SUPPLY FAN: VFD	EVAPORATOR UNIT: ELECTRICAL: V/./HZ	EVAPORATOR UNIT: ELECTRICAL: EVAP. MCA	EVAPORATOR UNIT: ELECTRICAL: EVAP MOP	EVAPORATOR UNIT: WEIGHT (LBS)	EVAPORATOR UNIT: DIMENSIONS (WxDxH)	EVAPORATOR UNIT: MANUFACTURER/ MODEL
HP-1	E-BIKE REPAIR SHOP	3.0	35,000	-	37,000	-	847 1,024 1,201	-	-	-	244	-	208/1/60	3.3	-	91	56x29x10	MITSUBISHI PEADA36AA5
AC-2 AC-3 AC-4	SECURITY IT CLOSET ELEV. CNTRL RM PAYMENT IT CLOSET	1.5	18,000	-	-	-	215 255 320 375	-	-	-	30	-	208/1/60	14	-	32	36x10x12	MITSUBISHI PKA-AL18NL

DESIGNATION	CONDENSING UNIT: TOTAL MBH	CONDENSING UNIT: SENS. MBH	CONDENSING UNIT: COMPRESSOR: QTY/TYPE	CONDENSING UNIT: COMPRESSOR: KW (EACH)	CONDENSING UNIT: FAN TYPE	CONDENSING UNIT: MEDIUM FLOW	CONDENSING UNIT: EXT. SP	CONDENSING UNIT: VFD	CONDENSING UNIT: AMB. °F	CONDENSING UNIT: WEIGHT (LBS)	CONDENSING UNIT: DIMENSIONS (LxWxH)	CONDENSING UNIT: MANUFACTURER/ MODEL	ELECTRICAL V/ph/Hz	MCA	MOP	SEER	COMMENTS
HPCU-1	38,000	-	1/INVERTER SCROLL	-	-	1,940 CFM	-	-	17-95	165	38x14x37	MITSUBISHI PUZ-A36NHA6	208/1/60	25.0	40	15.0	AIR-SOURCE HEAT PUMP SYSTEM WITH SINGLE EVAPORATOR, ADJUST EVAPORATOR FAN(S) TO RUN AT HIGHEST SPEED.
ACCU-2 ACCU-3 ACCU-4	18,000	-	1/INVERTER SCROLL	-	-	1,5900 CFM	-	-	17-95	112	35x12x25	MITSUBISHI PUY-AK18LN	208/1/60	16.0	20	19.5	AIR-SOURCE AIR CONDITIONING SYSTEM WITH SINGLE CONDENSING UNIT ON ROOF AND NON-DUCTED WALL-MOUNTED EVAPORATOR INDOOR UNIT (FINAL LOCATIONS AS PER FIELD CONDITIONS).

SPLIT SYSTEM AIR-COOLED AIR-CONDITIONING UNIT SCHEDULE NOTES
1. PROVIDE EVAPORATOR UNIT(S) AND CONDENSING UNIT(S) WITH A SINGLE POWER CONNECTION POINT
2. PROVIDE SPRING TYPE VIBRATION ISOLATORS FOR EVAPORATOR AND CONDENSING UNIT, AS APPLICABLE. ENSURE THAT INSTALLATION IS RATED FOR HIGH WIND FORCE AND IS VANDAL-PROOF.
3. PROVIDE CONDENSER UNIT WITH A WALL-MOUNTING BRACKET OR ROOF-MOUNTING EQUIPMENT RAILS, AS APPLICABLE.
4. PROVIDE EVAPORATOR UNIT(S) AND CONDENSING UNIT(S) WITH DEDICATED DISCONNECTS AND COMBINATION STARTERS AS REQUIRED.
5. PROVIDE EVAPORATOR UNIT WITH A DEDICATED WIRED REMOTE CONTROLLER, SIMILAR TO TAR-40MAAU BY MITSUBISHI ELECTRIC.
6. EVAPORATOR UNIT(S) AND CONDENSING UNIT(S) ARE TO BE UL CERTIFIED.
7. COORDINATE POWER SUPPLY WITH ELECTRICAL TRADE PRIOR TO BID.
8. CONTRACTOR TO PROVIDE INTERCONNECTING PIPING AND WIRING FOR INDOOR AND OUTDOOR UNITS AS REQUIRED TO MAKE THE SYSTEM(S) FUNCTIONAL.
9. WHERE APPLICABLE, PROVIDE COMBINED CONDENSATE REMOVAL DRAIN (INSULATED). COORDINATE WORK IN FIELD AS REQUIRED.
10. WHERE AVAILABLE, PROVIDE EQUIPMENT OPERATING WITH MODERN REFRIGERANTS.
11. WHERE APPLICABLE, PROVIDE CONDENSING UNIT WITH ADVANCED WIND BAFFLE FOR LOW AMBIENT OPERATION.

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PROJECT NO.
T077-02-001

PROJECT
Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

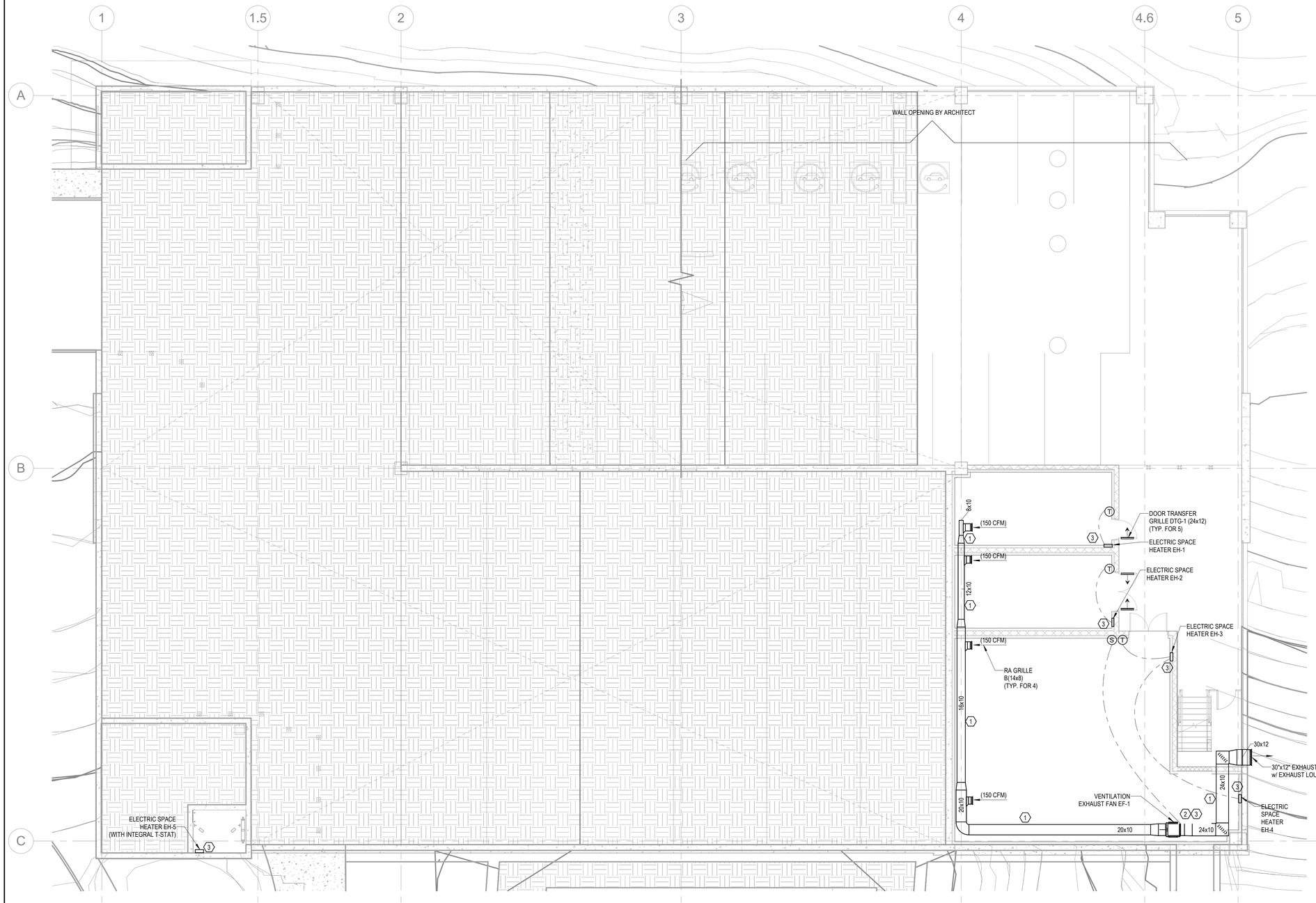
NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
MECHANICAL SCHEDULES

SHEET NO.
M4.1



NEW WORK NOTES:

1. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF ALL NEW AND EXISTING EQUIPMENT (AC UNITS, FANS, TERMINAL DEVICES, ETC.) TO ALLOW FOR PROPER MAINTENANCE ACCESS. PROVIDE ACCESS DOORS AS REQUIRED. ALL ACCESS PANELS TO BE REVIEWED BY ENGINEER AND CONFIRMED BY ARCHITECT.
2. EXISTING FIRE DAMPERS AND FIRE ALARM DEVICES AT BASE BUILDING SUPPLY MAINS ARE EXISTING TO REMAIN. MAINTAIN ACCESS AS REQUIRED.
3. ALL NEW DUCTWORK SHALL BE CONSTRUCTED OF METAL AS SET FORTH IN THE ANSI/SMACNA 006 HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE.
4. PROVIDE STRUCTURAL SUPPORT AND VIBRATION ISOLATORS FOR ALL NEW EQUIPMENT. NEW EQUIPMENT EXCEEDING 400 LBS. SHALL BE PROVIDED WITH SEISMIC BRACING.
5. ALL OPEN ENDED-DUCTWORK SHALL HAVE WIRE MESH SCREEN OR RA GRILLE WHEN EXPOSED TO VIEW. COORDINATE WORK IN FIELD AS REQUIRED.
6. ALL ACOUSTICAL FLEXIBLE DUCT SHALL BE CASCO ACOUSTICAL FLEX DUCT SM-181M. CONTRACTOR SHALL PROVIDE A MINIMUM 3FT AND A MAXIMUM 5 FT OF ACOUSTICAL FLEXIBLE DUCT CONNECTION BETWEEN DIFFUSERS AND VOLUME DAMPERS.
7. PROVIDE MANUAL BALANCING DAMPERS TO PROPERLY BALANCE THE AIR DISTRIBUTION SYSTEM AS SHOWN ON PLANS AND LISTED BELOW:
   A. ALL SUPPLY AIR MAIN BRANCHES FROM TRUNK, EACH SPLIT, AND ALL SUB-BRANCHES FROM MAINS SHALL HAVE BALANCING DAMPERS.
   B. EXHAUST AND RETURN MAIN BRANCHES FROM TRUNK, EACH SPLIT AND ALL SUB-BRANCHES FROM MAINS SHALL HAVE BALANCING DAMPERS.
   C. IF DAMPER IS NOT ACCESSIBLE, OR IS LOCATED ABOVE A DRYWALL CEILING, PROVIDE CABLE OPERATED DAMPER OR APPROVED EQUAL.
   D. -
8. ALL SINGLE AND DOUBLE ELBOW TRANSFER DUCTS SHALL HAVE 1" INTERNAL ACOUSTIC LINING UNLESS NOTED OTHERWISE.
9. DUCTWORK PENETRATING FULL HEIGHT WALLS SHALL BE ACOUSTICALLY SEALED.
10. CONTRACTOR SHALL PROVIDE AND INSTALL LINED RETURN AIR TRANSFER DUCTS (TRD) WIT WIRE MESH SCREEN (WMS) ON ALL FULL HEIGHT WALLS AS REQUIRED FOR PROPER RETURN AIR FLOW PATH BACK TO THE MAIN RETURN SYSTEM. REFER TO MECHANICAL DETAILS FOR MORE INFORMATION. ON FULL HEIGHT WALLS EXPOSED TO VIEW INSTALL RA GRILLES (SIMILAR TO TYPE F IN SCHEDULES) IN PLACE OF WMS. COORDINATE RA GRILLES SELECTIONS WITH ARCHITECT FOR AESTHETICS PRIOR TO PURCHASE.
11. ALL EXPOSED MECHANICAL DUCTWORK TO BE PAINTED, EXACT COLOR TO BE VERIFIED WITH ARCHITECT. PRIOR TO PAINTING, ALL LABELS AND STICKERS SHALL BE REMOVED FROM DUCTWORK, MECHANICAL EQUIPMENT NAMEPLATES, TAGS, AND OTHER TECHNICAL LABELS SHALL NOT BE PAINTED OVER.
12. PATCH ALL UNUSED DUCT OPENINGS AIR-TIGHT TO ACHIEVE PROPER SEAL CLASS.
13. REFER TO BRANCH DUCT SIZING SCHEDULE FOR DUCTWORK NOT SIZED ON PLANS.
14. ALL DUCT DIMENSIONS INDICATE CLEAR INTERNAL OPEN AREA UNLESS OTHERWISE NOTED.
15. COORDINATE ALL DUCTING WITH LIGHT FIXTURES AND EXISTING INSTALLATIONS NOT AFFECTED BY THIS SCOPE OF WORK.
16. CONTRACTOR TO PROVIDE AND COORDINATE ALL JOGGED WALL FRAMING AT ALL EXISTING AND NEW DUCTWORK, WHERE SLAB TO SLAB FRAMING IS REQUIRED. WHERE APPLICABLE, CONTRACTOR TO COORDINATE WITH ALL OTHER TRADES AND INCLUDE RELOCATION OF ANY PIPES, VALVES, SERVICES, ETC. THE INSTALLING CONTRACTOR SHALL ENSURE SERVICE ACCESS TO EXISTING AND RE-USED HVAC EQUIPMENT. ADD SERVICE ACCESS DOORS AND SERVICE ACCESS HATCHES AS REQUIRED.

DRAWING NOTES (NEW WORK)

(1) INSTALL NEW DUCTWORK IN THE INDICATED AREAS. ALL NEW DUCTWORK IN AREAS EXPOSED TO VIEW SHALL BE LINED. COORDINATE WORK WITH EXISTING STRUCTURE, INCLUDING BEAMS, COLUMNS AND BUILDING CORE WALLS.

(2) FURNISH AND INSTALL NEW SERVICE ACCESS PANELS OR ACCESS DOORS TO SERVE NEW MECHANICAL EQUIPMENT LOCATED ABOVE INACCESSIBLE CEILINGS OR WITHIN AREAS SEPARATED BY WALLS.

(3) ALL NEW EXHAUST FANS AND SPACE HEATERS SERVING SPECIAL PURPOSE AREAS (STORAGE ROOMS, WATER ROOMS, MER's, ETC.) SHALL BE EQUIPPED WITH DEDICATED LOCAL CONTROLS. NEW CONTROLS SHALL BE COMPATIBLE WITH NEW EQUIPMENT AND SHALL HAVE CAPABILITY TO OPERATE WITHOUT BMS MONITORING.

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PROJECT NO.
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PROJECT
Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

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BID SET
02.21.25

NO.	DESCRIPTION	DATE

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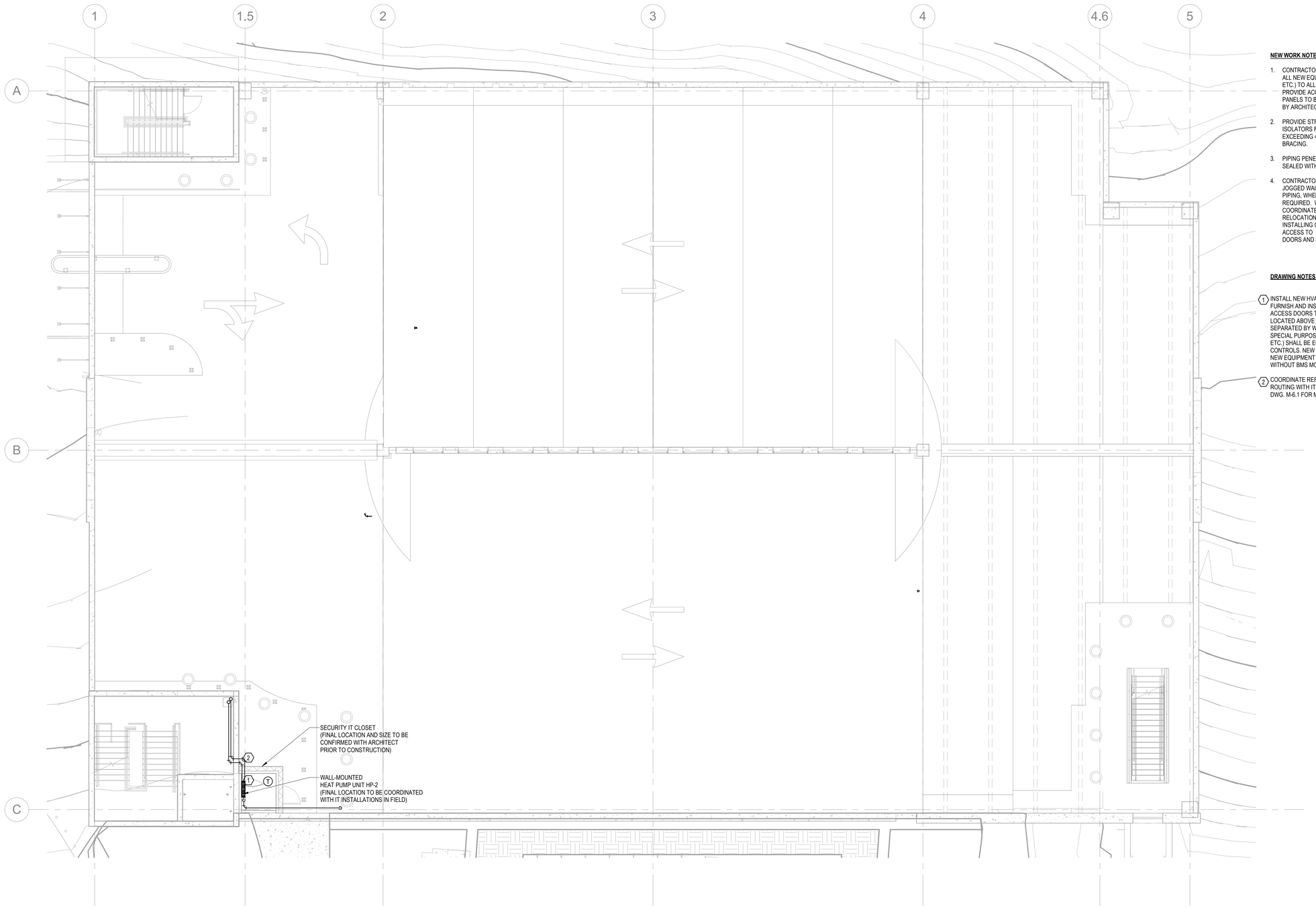
REVIEWED: Checker
DATE: 06/18/24

SHEET TITLE:
MECHANICAL LOWER LEVEL DUCTWORK PLAN

SHEET NO.
M5.0



NEW WORK NOTES:

1. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF ALL NEW EQUIPMENT (AC UNITS, TERMINAL DEVICES, ETC.) TO ALLOW FOR PROPER MAINTENANCE ACCESS. PROVIDE ACCESS DOORS AS REQUIRED. ALL ACCESS PANELS TO BE REVIEWED BY ENGINEER AND CONFIRMED BY ARCHITECT.
2. PROVIDE STRUCTURAL SUPPORT AND VIBRATION ISOLATORS FOR ALL NEW EQUIPMENT. NEW EQUIPMENT EXCEEDING 400 LBS. SHALL BE PROVIDED WITH SEISMIC BRACING.
3. PIPING PENETRATING FIRE RATED WALLS SHALL BE SEALED WITH APPROVED MATERIALS.
4. CONTRACTOR TO PROVIDE AND COORDINATE ALL JOGGED WALL FRAMING AT ALL EXISTING AND NEW PIPING, WHERE SLAB TO SLAB FRAMING IS REQUIRED. WHERE APPLICABLE, CONTRACTOR TO COORDINATE WITH ALL OTHER TRADES AND INCLUDE RELOCATION OF ANY PIPES, VALVES, SERVICES, ETC. THE INSTALLING CONTRACTOR SHALL ENSURE SERVICE ACCESS TO HVAC EQUIPMENT. ADD SERVICE ACCESS DOORS AND SERVICE ACCESS HATCHES AS REQUIRED.

DRAWING NOTES (NEW WORK)

(1) INSTALL NEW HVAC EQUIPMENT IN THE INDICATED AREAS. FURNISH AND INSTALL NEW SERVICE ACCESS PANELS OR ACCESS DOORS TO SERVE NEW MECHANICAL EQUIPMENT LOCATED ABOVE INACCESSIBLE CEILINGS OR WITHIN AREAS SEPARATED BY WALLS. ALL NEW HVAC EQUIPMENT SERVING SPECIAL PURPOSE AREAS (IT CLOSETS, CONTROLS CLOSETS, ETC.) SHALL BE EQUIPPED WITH DEDICATED LOCAL CONTROLS. NEW CONTROLS SHALL BE COMPATIBLE WITH NEW EQUIPMENT AND SHALL HAVE CAPABILITY TO OPERATE WITHOUT BMS MONITORING.

(2) COORDINATE REFRIGERANT PIPING AND CONDENSATE DRAIN ROUTING WITH IT EQUIPMENT LAYOUT IN SPACE. REFER TO DWG. M-6.1 FOR MORE INFORMATION.

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DATE: 06/18/24

SHEET TITLE:
MECHANICAL LEVEL 1 FLOOR DUCTWORK PLAN

SHEET NO.
M5.1

NEW WORK NOTES:

1. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF ALL NEW EQUIPMENT (AC UNITS, TERMINAL DEVICES, ETC.) TO ALLOW FOR PROPER MAINTENANCE ACCESS. PROVIDE ACCESS DOORS AS REQUIRED. ALL ACCESS PANELS TO BE REVIEWED BY ENGINEER AND CONFIRMED BY ARCHITECT.
2. PROVIDE STRUCTURAL SUPPORT AND VIBRATION ISOLATORS FOR ALL NEW EQUIPMENT. NEW EQUIPMENT EXCEEDING 400 LBS. SHALL BE PROVIDED WITH SEISMIC BRACING.
3. PIPING PENETRATING FIRE RATED WALLS SHALL BE SEALED WITH APPROVED MATERIALS.
4. CONTRACTOR TO PROVIDE AND COORDINATE ALL JOGGED WALL FRAMING AT ALL EXISTING AND NEW PIPING. WHERE SLAB TO SLAB FRAMING IS REQUIRED. WHERE APPLICABLE, CONTRACTOR TO COORDINATE WITH ALL OTHER TRADES AND INCLUDE RELOCATION OF ANY PIPES, VALVES, SERVICES, ETC. THE INSTALLING CONTRACTOR SHALL ENSURE SERVICE ACCESS TO HVAC EQUIPMENT. ADD SERVICE ACCESS DOORS AND SERVICE ACCESS HATCHES AS REQUIRED.

DRAWING NOTES (NEW WORK)

(1) INSTALL NEW HVAC EQUIPMENT IN THE INDICATED AREAS. FURNISH AND INSTALL NEW SERVICE ACCESS PANELS OR ACCESS DOORS TO SERVE NEW MECHANICAL EQUIPMENT LOCATED ABOVE INACCESSIBLE CEILINGS OR WITHIN AREAS SEPARATED BY WALLS. ALL NEW HVAC EQUIPMENT SERVING SPECIAL PURPOSE AREAS (IT CLOSETS, CONTROLS CLOSETS, ETC.) SHALL BE EQUIPPED WITH DEDICATED LOCAL CONTROLS. NEW CONTROLS SHALL BE COMPATIBLE WITH NEW EQUIPMENT AND SHALL HAVE CAPABILITY TO OPERATE WITHOUT BMS MONITORING.

(2) COORDINATE REFRIGERANT PIPING AND CONDENSATE DRAIN ROUTING WITH IT EQUIPMENT LAYOUT IN SPACE. REFER TO DWG. M-6.4 FOR MORE INFORMATION.

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Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

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02.21.25

NO.	DESCRIPTION	DATE

NORTH

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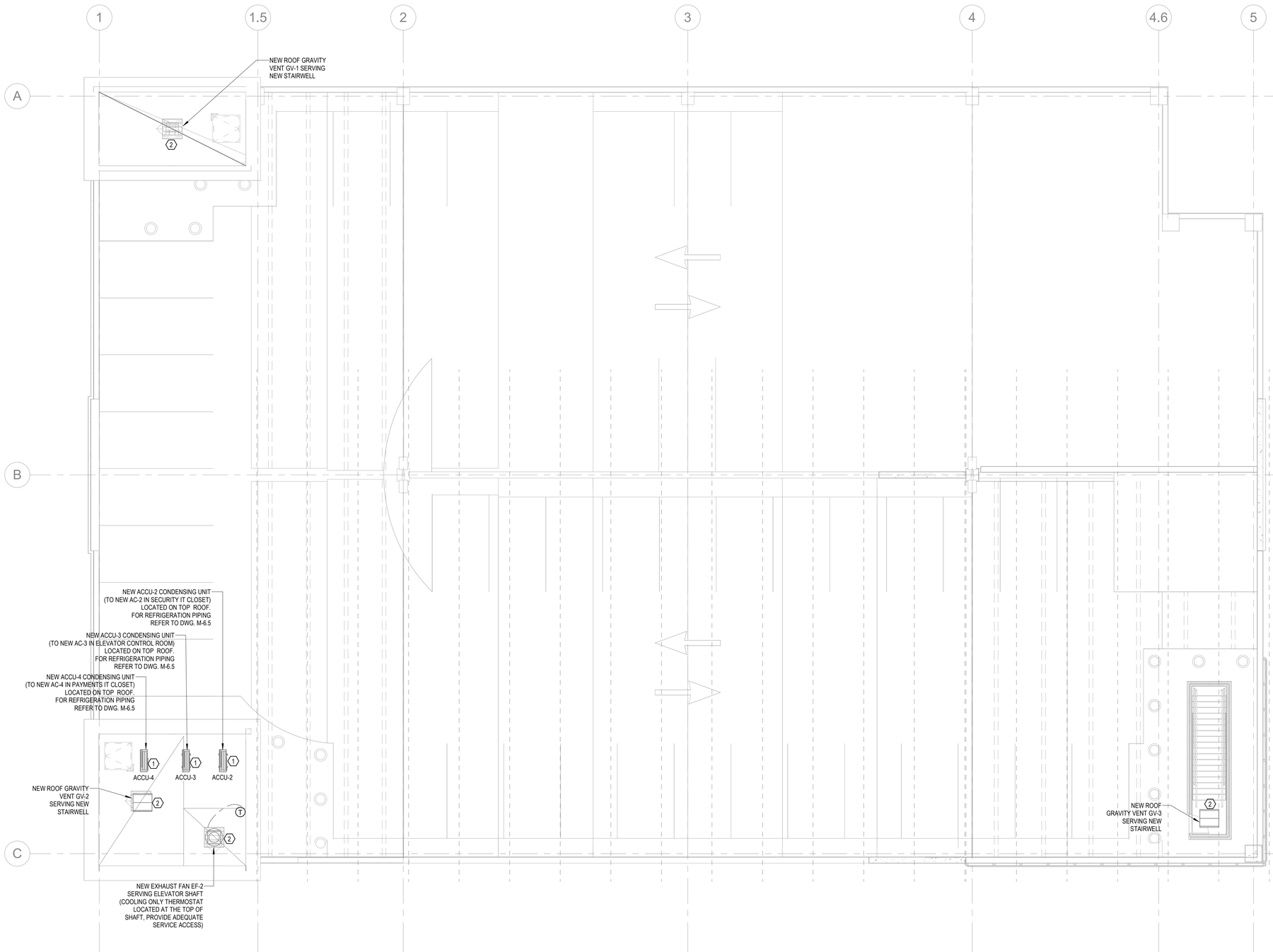
REVIEWED: Checker
DATE: 06/18/24

SHEET TITLE:
MECHANICAL LEVEL 4 FLOOR DUCTWORK PLAN

SHEET NO.
M5.4



NEW WORK NOTES:

1. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF ALL NEW AND EXISTING EQUIPMENT (AC UNITS, FANS, TERMINAL DEVICES, ETC.) TO ALLOW FOR PROPER MAINTENANCE ACCESS. PROVIDE ACCESS DOORS AS REQUIRED. ALL ACCESS PANELS TO BE REVIEWED BY ENGINEER AND CONFIRMED BY ARCHITECT.
2. EXISTING FIRE DAMPERS AND FIRE ALARM DEVICES AT BASE BUILDING SUPPLY MAINS ARE EXISTING TO REMAIN. MAINTAIN ACCESS AS REQUIRED.
3. ALL NEW DUCTWORK SHALL BE CONSTRUCTED OF METAL AS SET FORTH IN THE ANSI/SMACNA 006 HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE.
4. PROVIDE STRUCTURAL SUPPORT AND VIBRATION ISOLATORS FOR ALL NEW EQUIPMENT. NEW EQUIPMENT EXCEEDING 400 LBS. SHALL BE PROVIDED WITH SEISMIC BRACING.
5. ALL OPEN ENDED-DUCTWORK SHALL HAVE WIRE MESH SCREEN OR RA GRILLE WHEN EXPOSED TO VIEW. COORDINATE WORK IN FIELD AS REQUIRED.
6. ALL ACOUSTICAL FLEXIBLE DUCT SHALL BE CASCO ACOUSTICAL FLEX DUCT SM-181M. CONTRACTOR SHALL PROVIDE A MINIMUM 3FT AND A MAXIMUM 5 FT OF ACOUSTICAL FLEXIBLE DUCT CONNECTION BETWEEN DIFFUSERS AND VOLUME DAMPERS.
7. PROVIDE MANUAL BALANCING DAMPERS TO PROPERLY BALANCE THE AIR DISTRIBUTION SYSTEM AS SHOWN ON PLANS AND LISTED BELOW:
   A. ALL SUPPLY AIR MAIN BRANCHES FROM TRUNK, EACH SPLIT, AND ALL SUB-BRANCHES FROM MAINS SHALL HAVE BALANCING DAMPERS.
   B. EXHAUST AND RETURN MAIN BRANCHES FROM TRUNK, EACH SPLIT AND ALL SUB-BRANCHES FROM MAINS SHALL HAVE BALANCING DAMPERS.
   C. IF DAMPER IS NOT ACCESSIBLE, OR IS LOCATED ABOVE A DRYWALL CEILING, PROVIDE CABLE OPERATED DAMPER OR APPROVED EQUAL.
   D. -
8. ALL SINGLE AND DOUBLE ELBOW TRANSFER DUCTS SHALL HAVE 1" INTERNAL ACOUSTIC LINING UNLESS NOTED OTHERWISE.
9. DUCTWORK PENETRATING FULL HEIGHT WALLS SHALL BE ACOUSTICALLY SEALED.
10. CONTRACTOR SHALL PROVIDE AND INSTALL LINED RETURN AIR TRANSFER DUCTS (TRD) WIT WIRE MESH SCREEN (WMS) ON ALL FULL HEIGHT WALLS AS REQUIRED FOR PROPER RETURN AIR FLOW PATH BACK TO THE MAIN RETURN SYSTEM. REFER TO MECHANICAL DETAILS FOR MORE INFORMATION. ON FULL HEIGHT WALLS EXPOSED TO VIEW INSTALL RA GRILLES (SIMILAR TO TYPE F IN SCHEDULES) IN PLACE OF WMS. COORDINATE RA GRILLES SELECTIONS WITH ARCHITECT FOR AESTHETICS PRIOR TO PURCHASE.
11. ALL NEW DUCTWORK SHALL BE PROVIDED WITH 1" ACOUSTICAL LINING IN EXPOSED CEILING AREAS AND EXTERNAL WRAP INSULATION WHEN LOCATED ABOVE HUNG CEILING. INSULATION SHALL MEET THE MINIMUM SECTION 6 ENERGY CODE REQUIREMENTS FOR INDOOR/OUTDOOR DUCTWORK INSTALLATION (R-6 AND R-8, RESPECTIVELY).
12. ALL EXPOSED MECHANICAL DUCTWORK TO BE PAINTED, EXACT COLOR TO BE VERIFIED WITH ARCHITECT. PRIOR TO PAINTING, ALL LABELS AND STICKERS SHALL BE REMOVED FROM DUCTWORK. MECHANICAL EQUIPMENT NAMEPLATES, TAGS, AND OTHER TECHNICAL LABELS SHALL NOT BE PAINTED OVER. WHERE EXISTING INSULATED DUCTWORK IS EXPOSED TO VIEW, A THIN SHEET METAL COVER SHALL BE INSTALLED OVER THE INSULATION AND PAINTED FOR AESTHETICS. COORDINATE PROPOSED MODIFICATIONS AND COVERS WITH ARCHITECT PRIOR TO START OF WORK.
13. PATCH ALL UNUSED DUCT OPENINGS AIR-TIGHT TO ACHIEVE PROPER SEAL CLASS.
14. REFER TO BRANCH DUCT SIZING SCHEDULE FOR DUCTWORK NOT SIZED ON PLANS.
15. ALL DUCT DIMENSIONS INDICATE CLEAR INTERNAL OPEN AREA UNLESS OTHERWISE NOTED.
16. COORDINATE ALL DUCTING WITH LIGHT FIXTURES AND EXISTING INSTALLATIONS NOT AFFECTED BY THIS SCOPE OF WORK.
17. CONTRACTOR TO PROVIDE AND COORDINATE ALL JOGGED WALL FRAMING AT ALL EXISTING AND NEW DUCTWORK, WHERE SLAB TO SLAB FRAMING IS REQUIRED. WHERE APPLICABLE, CONTRACTOR TO COORDINATE WITH ALL OTHER TRADES AND INCLUDE RELOCATION OF ANY PIPES, VALVES, SERVICES, ETC. THE INSTALLING CONTRACTOR SHALL ENSURE SERVICE ACCESS TO EXISTING AND RE-USED HVAC EQUIPMENT. ADD SERVICE ACCESS DOORS AND SERVICE ACCESS HATCHES AS REQUIRED.

DRAWING NOTES (NEW WORK)

1. THE NEW HEAT PUMP (AC) UNIT SHALL BE CONNECTED VIA REFRIGERANT PIPING TO DEDICATED AIR-COOLED CONDENSING UNIT. PROVIDE ADEQUATE SERVICE ACCESS TO NEW EQUIPMENT. REFER TO MECHANICAL DETAILS AND EQUIPMENT SCHEDULES FOR MORE INFORMATION.
2. FURNISH AND INSTALL NEW ROOF VENTS TO SERVE STAIRWELLS AND A NEW EXHAUST FAN EF-2 TO SERVE ELEVATOR SHAFT. COORDINATE WORK IN FIELD AS REQUIRED.

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SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

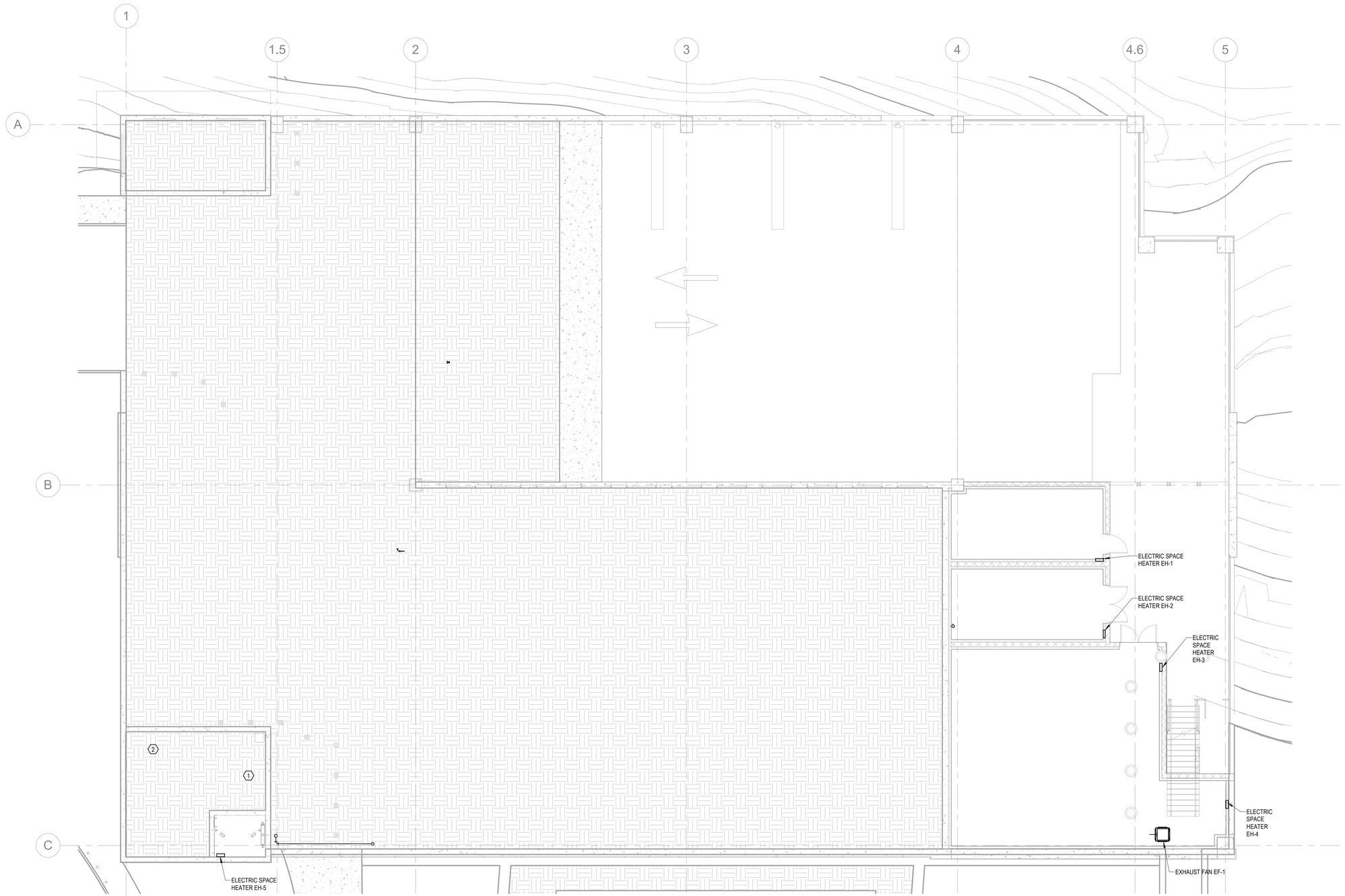
NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 06/18/24

SHEET TITLE:
MECHANICAL LEVEL 5 FLOOR DUCTWORK PLAN

SHEET NO.

M5.5



NEW WORK NOTES

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE PIPING SYSTEM(S) INDICATED ON THE DRAWINGS. REFER TO SPECIFICATIONS FOR MORE INFORMATION. ALL NEW PIPING INSTALLATIONS SHALL CONFORM TO CURRENT APPLICABLE CODE(S).
2. UNLESS OTHERWISE NOTED, ALL PIPING SHALL BE OVERHEAD, TIGHT TO UNDERSIDE OF STRUCTURE OF SLAB, WITH SPACE FOR INSULATION AS REQUIRED.
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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

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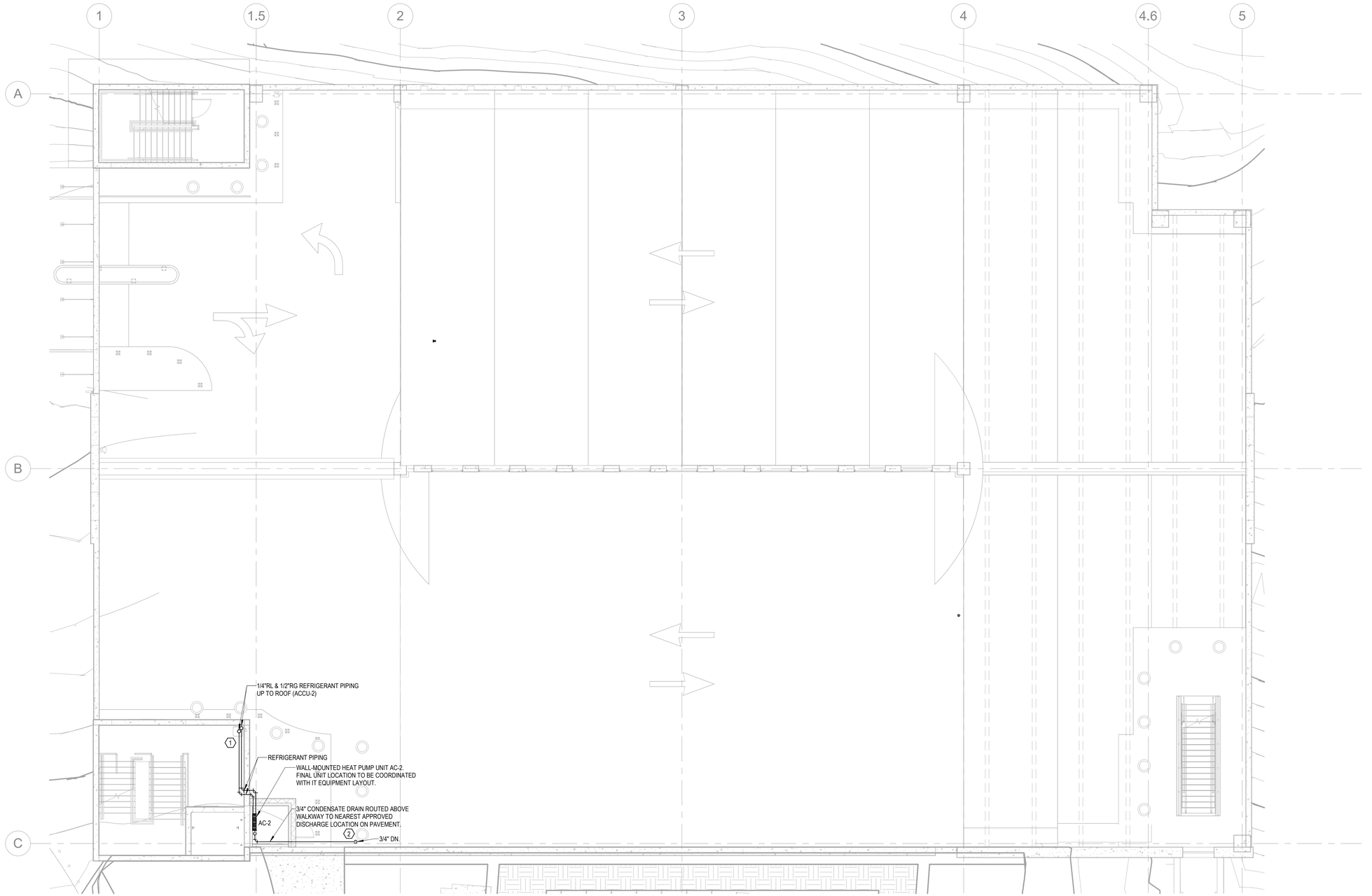
SHEET TITLE:
MECHANICAL PIPING LOWER LEVEL PLAN

SHEET NO.
M6.0



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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

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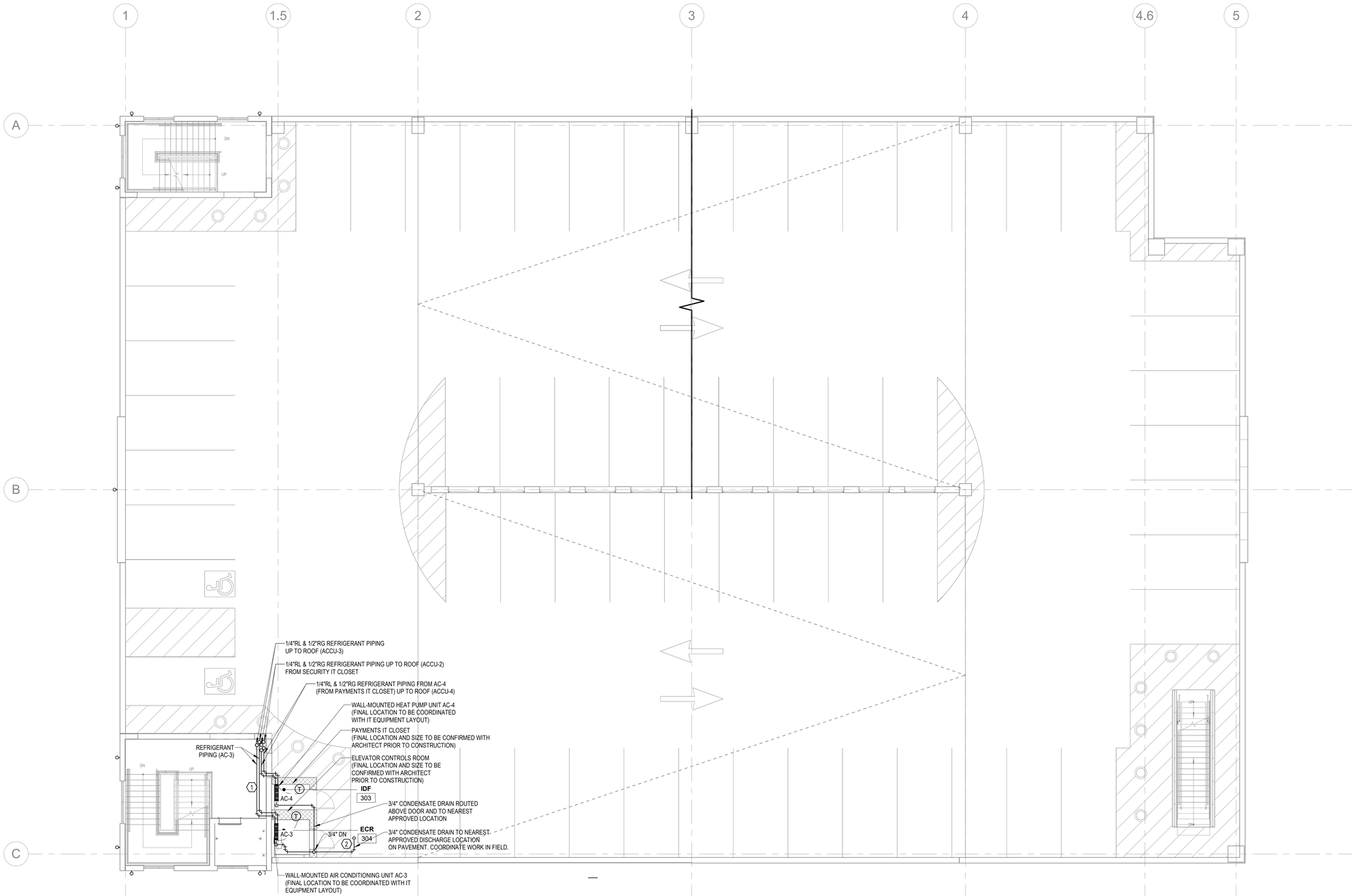
DATE: 06/18/24

SHEET TITLE:
MECHANICAL LEVEL 1 FLOOR PIPING PLAN

SHEET NO.
M6.1



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PROJECT NO.
T077-02-001

PROJECT
Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

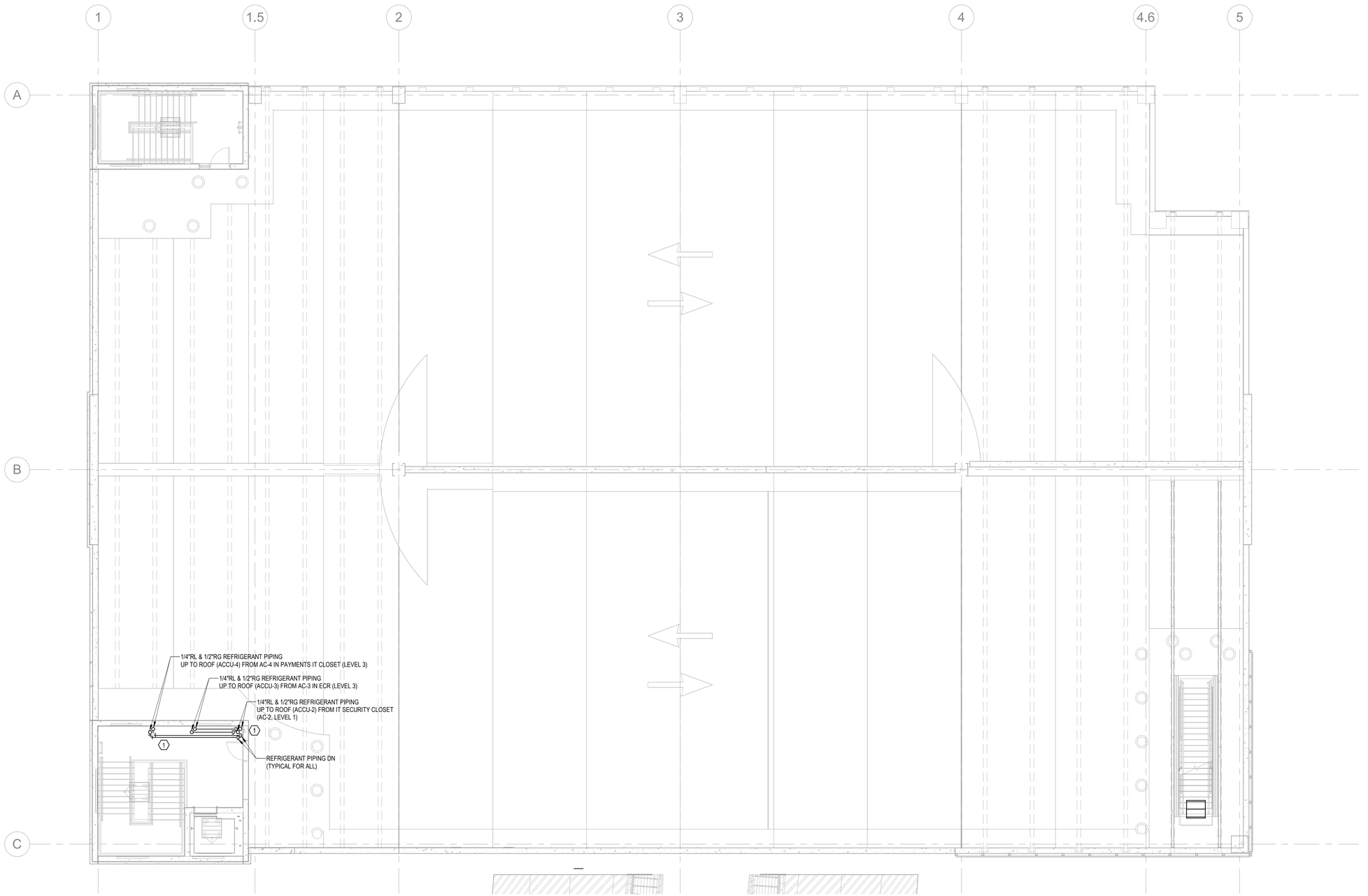
NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 06/18/24

SHEET TITLE:
MECHANICAL LEVEL 3 FLOOR PIPING PLAN

SHEET NO.
M6.3



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Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

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02.21.25

NO.	DESCRIPTION	DATE

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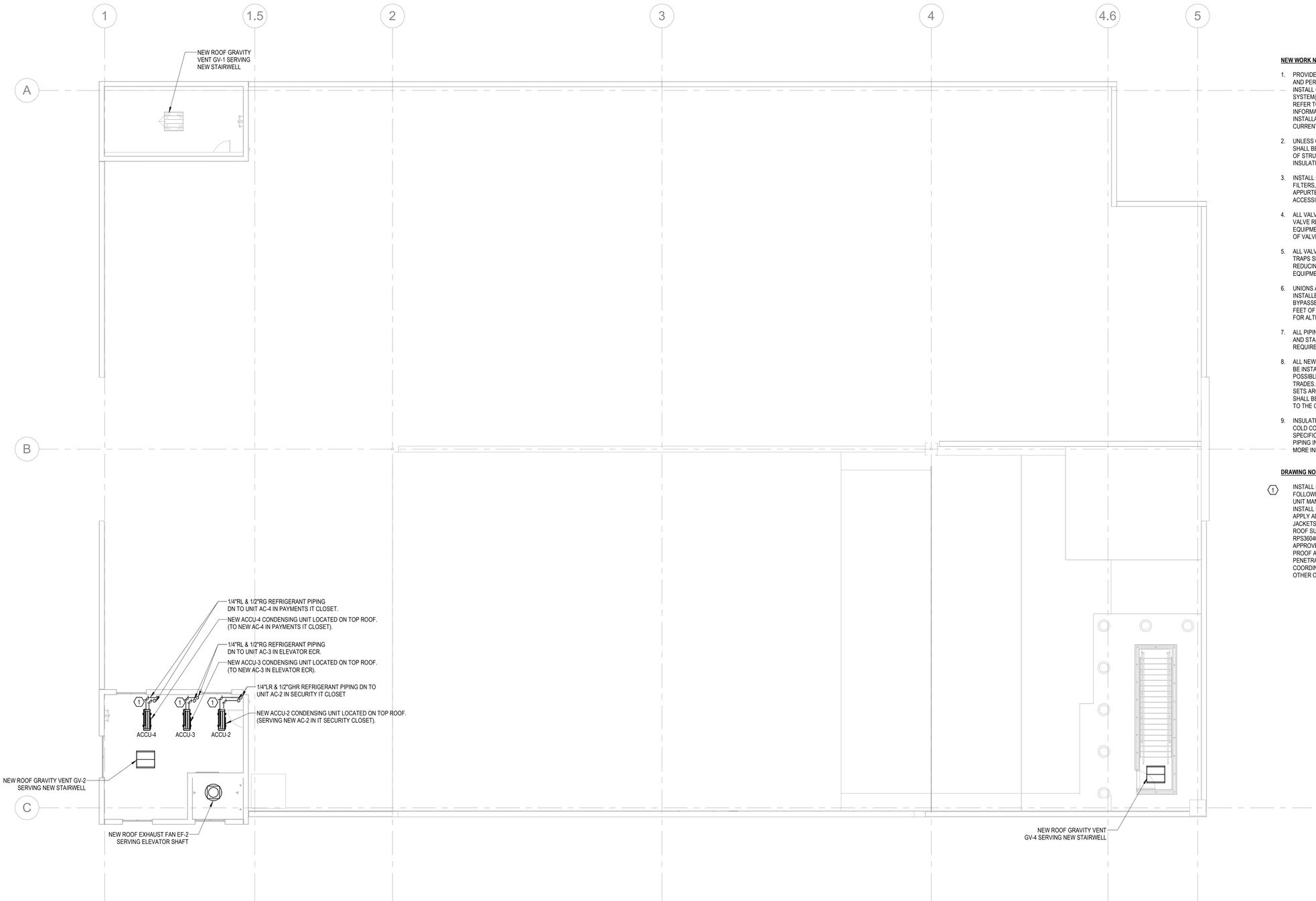
SHEET TITLE:
MECHANICAL LEVEL 4 FLOOR PIPING PLAN

SHEET NO.
M6.4



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Ossining, NY 10562

SUBMISSIONS / REVISIONS

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NO.	DESCRIPTION	DATE

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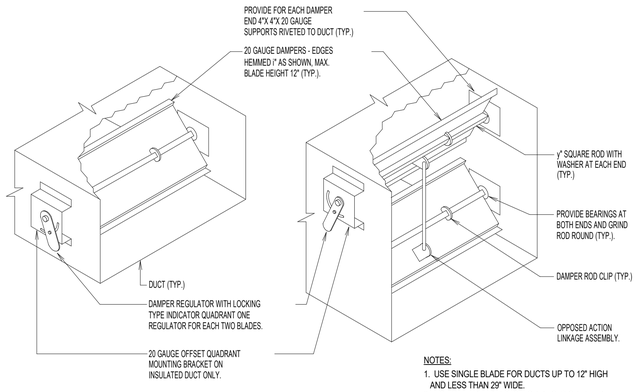
SHEET TITLE:
MECHANICAL LEVEL 5 FLOOR PIPING PLAN

SHEET NO.

M6.5



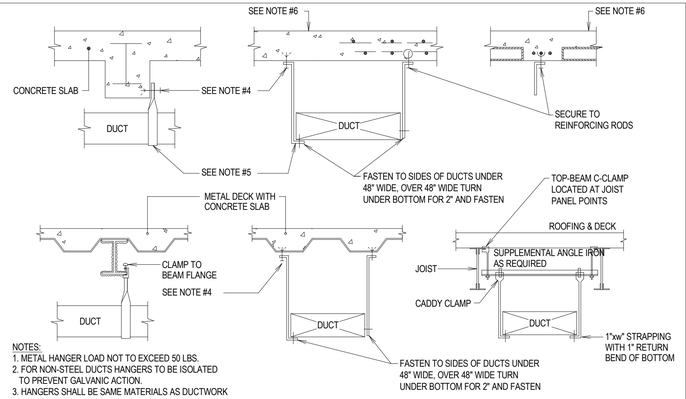
NOTES:

1. USE SINGLE BLADE FOR DUCTS UP TO 12" HIGH AND LESS THAN 29" WIDE.
2. USE MULTIPLE BLADES FOR DUCTS GREATER THAN OR EQUAL TO 29" AND/OR OVER 12" HIGH.
3. PROVIDE DAMPERS FOR ALL BRANCH DUCT SERVING AIR DEVICES.

LOW PRESSURE BALANCING DAMPER

NOT TO SCALE

HD-001



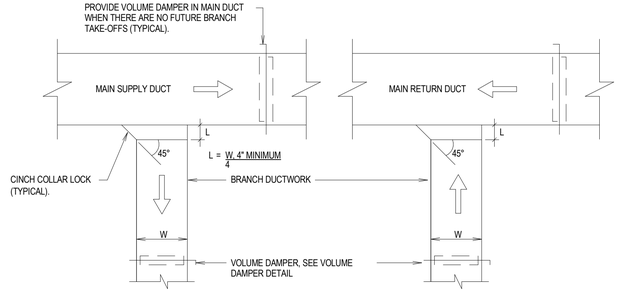
NOTES:

1. METAL HANGER LOAD NOT TO EXCEED 50 LBS.
2. FOR NON-STEEL DUCTS HANGERS TO BE ISOLATED TO PREVENT GALVANIC ACTION.
3. HANGERS SHALL BE SAME MATERIALS AS DUCTWORK BEING SUPPORT.
4. EXPANSION BOLT MINIMUM SIZE ¼" (B.S.&A. FILE #390-SS-SM OR #480-64-SM OR #481-64-SM) FOR STONE CONCRETE ONLY.
5. ¾" x 1" GALVANIZED IRON HANGERS 8'-0" ON CENTER FOR DUCTS 4 SQ. FT. AND UNDER, 4'-0" ON CENTER FOR DUCTS OVER 4 SQ. FT. IN AREA.
6. IN CINDER CONCRETE SLABS OR IN REPUBLIC ARCH. USE APPROVE SCISSOR TYPE HANGER HOOK (B.S.&A. FILE #A-61-63 SM).

TYPICAL DUCT HANGING DETAILS

NOT TO SCALE

HD-002



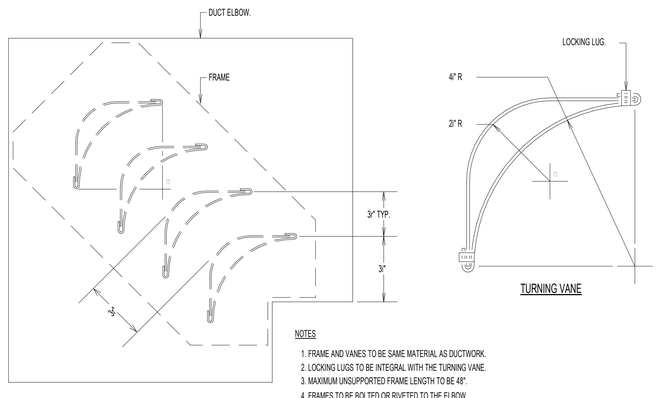
NOTES:

1. SEE PLANS FOR DUCT SIZES.
2. ALL DIMENSIONS SHOWN ON PLANS ARE ALL INTERIOR DUCT SIZES.

TYPICAL RECTANGULAR SUPPLY AND RETURN DUCTWORK BRANCH DUCT CONNECTIONS

NOT TO SCALE

HD-005



NOTES

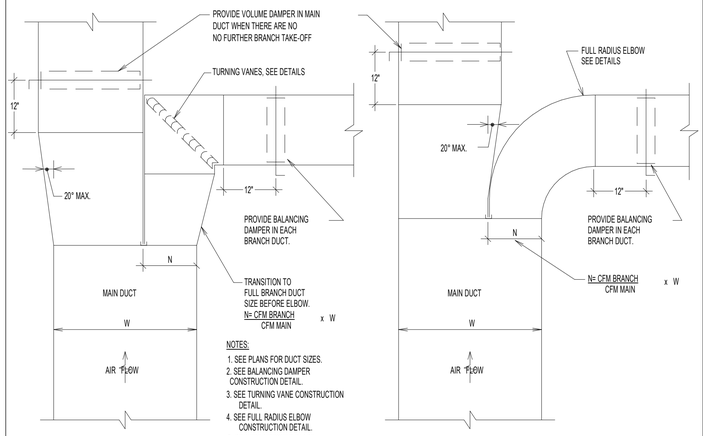
1. FRAME AND VANES TO BE SAME MATERIAL AS DUCTWORK.
2. LOCKING LUGS TO BE INTEGRAL WITH THE TURNING VANE.
3. MAXIMUM UNSUPPORTED FRAME LENGTH TO BE 48".
4. FRAMES TO BE BOLTED OR RIVETED TO THE ELBOW.
5. VANES AND FRAMES TO BE SAME GAUGE AS THE ELBOW. (MINIMUM 20 GAUGE)
6. SQUARE ELBOWS ARE TO BE USED ONLY WHEN SPECIFICALLY INDICATED ON THE DESIGN DRAWINGS.

VANED ELBOW

MITERED ELBOWS WITH DOUBLE THICKNESS TURNING VANES

NOT TO SCALE

HD-007



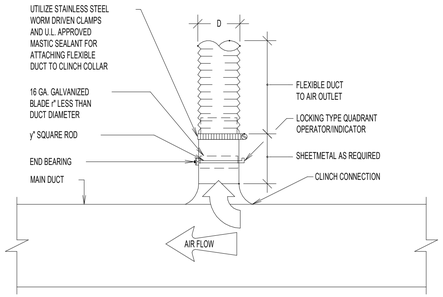
NOTES:

1. SEE PLANS FOR DUCT SIZES.
2. SEE BALANCING DAMPER CONSTRUCTION DETAIL.
3. SEE TURNING VANE CONSTRUCTION DETAIL.
4. SEE FULL RADIUS ELBOW CONSTRUCTION DETAIL.
5. PROVIDE OPPOSED BLADE DAMPERS FOR BALANCING.

SUPPLY AIR DUCT NECK CONNECTIONS

NOT TO SCALE

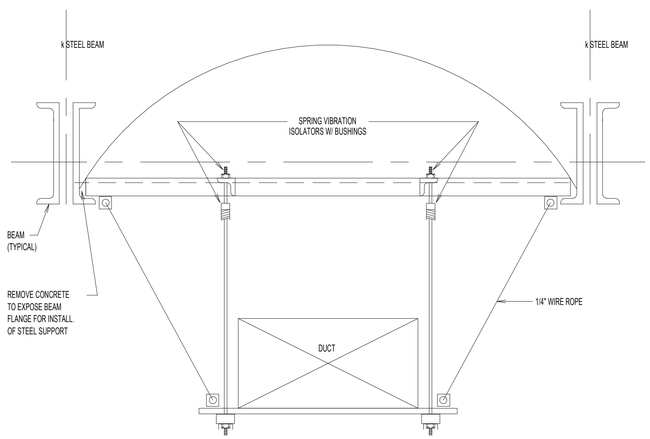
HD-006



CIRCULAR BRANCH CONNECTION TO SINGLE AIR OUTLET

NOT TO SCALE

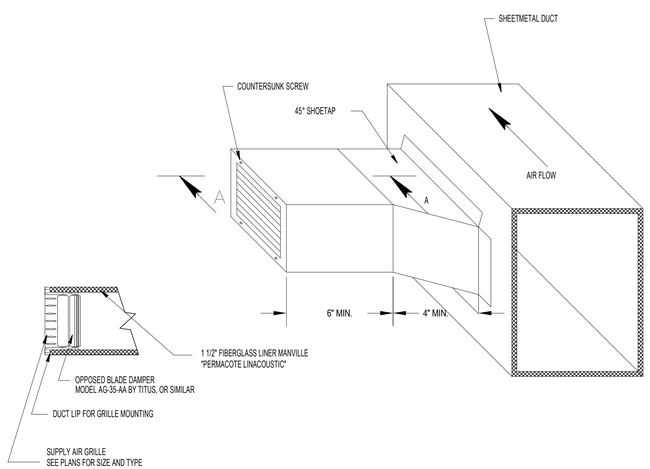
HD-039



DUCT HANGING DETAIL

NOT TO SCALE

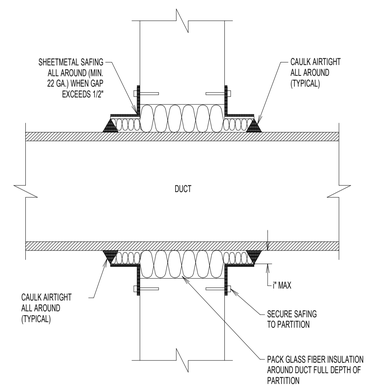
HD-004



SIDEWALL GRILLE DETAIL

NOT TO SCALE

HD-129



ACOUSTICAL SEAL FOR DUCT PENETRATIONS

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PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

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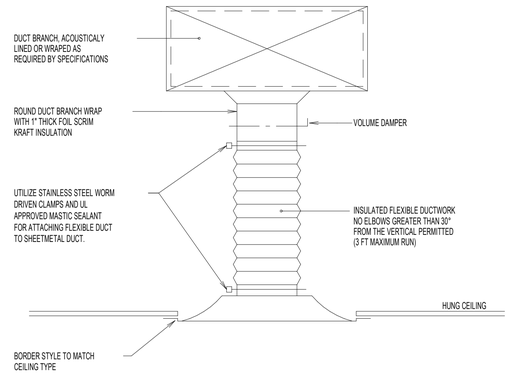
SHEET TITLE:
MECHANICAL DETAILS I

SHEET NO.

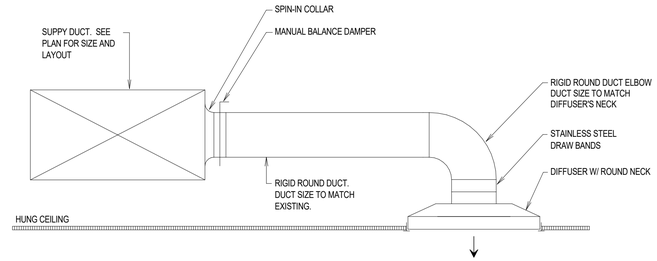
M9.1



TYPICAL DIFFUSER CONNECTION WITH FLEXIBLE DUCTWORK

NOT TO SCALE

HD-031



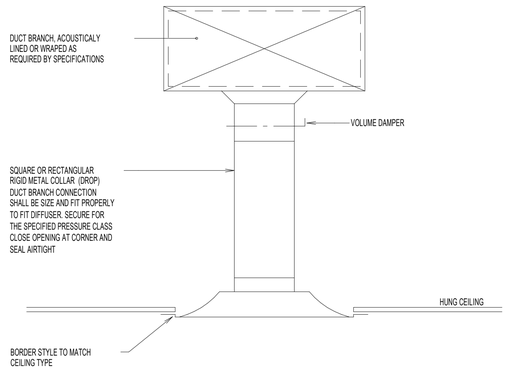
NOTES:

1. ALL BRANCH DUCTWORK TO AIR DEVICES MUST BE PROVIDED WITH VOLUME DAMPERS FOR BALANCING.
2. ALL SUPPLY DUCTWORK SHALL BE INSULATED IN ACCORDANCE WITH MECHANICAL SPECIFICATIONS.

BRANCH DUCT AND DIFFUSER DETAIL

NOT TO SCALE

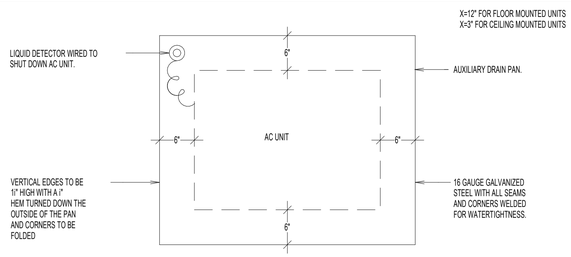
HD-099



TYPICAL RIGID DIFFUSER CONNECTION TO DUCTWORK

NOT TO SCALE

HD-095



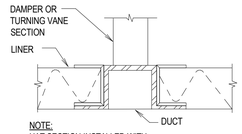
NOTES:

1. THIS DETAIL APPLIES TO-
   -FLOOR MOUNTED OR CEILING HUNG AC UNITS WITH INTEGRAL CONDENSATE DISCHARGE PUMPS.
   -FLOOR MOUNTED OR CEILING HUNG AC UNITS WITH GRAVITY FLOW CONDENSATE DRAIN PIPING.
2. FOR CEILING INSTALLATIONS, SUPPORT AC UNIT AND DRAIN PAN INDEPENDENTLY FROM STRUCTURE OVERHEAD.
3. PITCH DRAIN PAN TO LIQUID DETECTOR. PROVIDE s" PLUGGED DRAIN AT LOW POINT.
4. PROVIDE AUXILIARY CONTACT OR LIQUID DETECTOR FOR INTERFACE WITH THE BUILDING MANAGEMENT SYSTEM WHEN SPECIFIED.

TYPICAL DETAIL OF AUXILIARY DRAIN PAN FOR AC UNITS

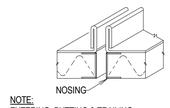
NOT TO SCALE

HD-086



NOTE:
HAT SECTION INSTALLED WITH NOSING TO CONCEAL LINER EDGES.

DETAIL AT DAMPERS AND TURNING VANES

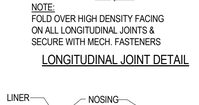


NOTE:
ENTERING, BUTTING & TRAILING EDGES OF LINER AT TRANSVERSE JOINTS TO BE COVERED BY NOSING

TRANSVERSE JOINT DETAIL

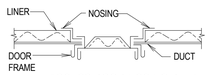
GENERAL NOTES:

1. NOSING ATTACHED TO DUCT BY RIVETS,SCREWS OR WELDS.
2. NOSING : 24 GA. UP TO 48", OVER 48", SAME GA. AS DUCT



NOTE:
FOLD OVER HIGH DENSITY FACING ON ALL LONGITUDINAL JOINTS & SECURE WITH MECH. FASTENERS

LONGITUDINAL JOINT DETAIL



ACCESS DOOR NOSING DETAIL

ACOUSTICAL DUCT LINER DETAIL

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Ossining, NY 10562

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MECHANICAL DETAILS II

SHEET NO.

M9.2

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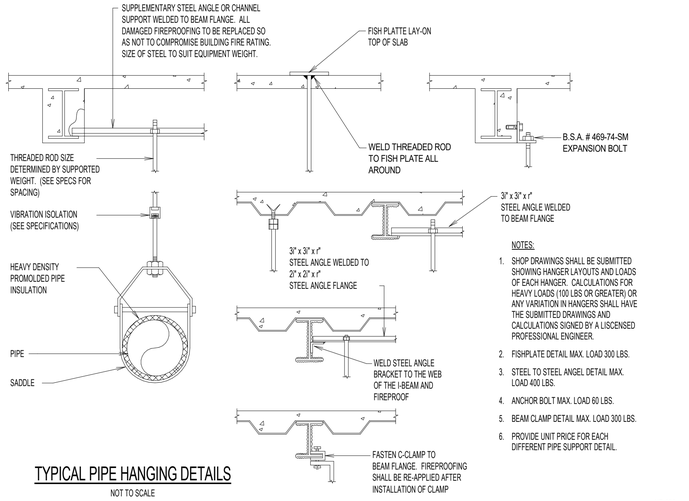
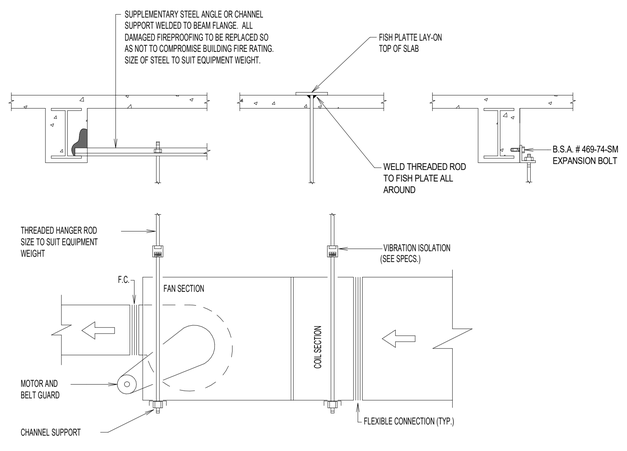


TYPICAL PIPE HANGING DETAILS

NOT TO SCALE

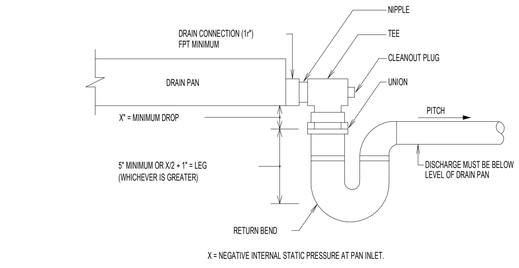
HD-036



HVAC EQUIPMENT HANGING DETAIL

NOT TO SCALE

HD-037



X = NEGATIVE INTERNAL STATIC PRESSURE AT PAN INLET.

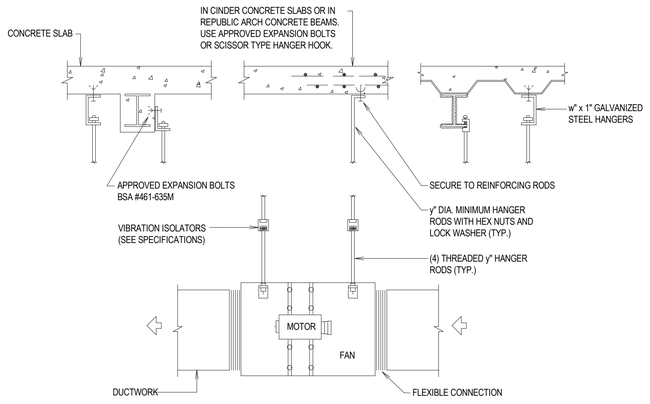
DRAW - THRU UNIT

NOTES:
1. ALLOW SUFFICIENT SPACE BELOW DRAIN PAN FOR TRAPS.
2. PITCH DRAIN FOR PROPER RUN-OFF.
3. MANUALLY PRIME FILL TRAP BEFORE START UP TO FORM INITIAL DRAIN SEAL.
4. SUPPORT LENGTHY DRAIN LINES TO PREVENT SAG AND CONDENSATE OVERFLOW.

DRAIN PAN WATER SEAL PIPING DETAIL

NOT TO SCALE

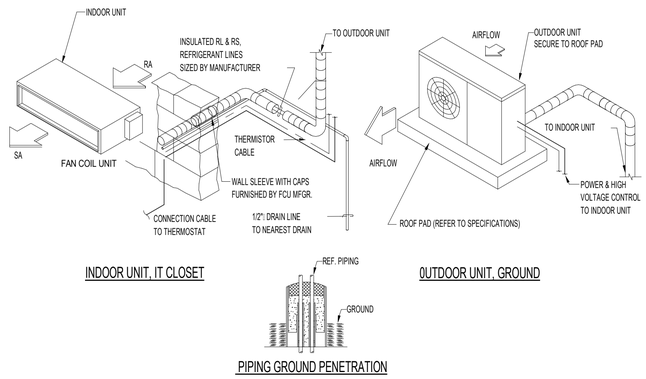
HD-098



INLINE FAN HANGING SUPPORT DETAIL

NOT TO SCALE

HD-026

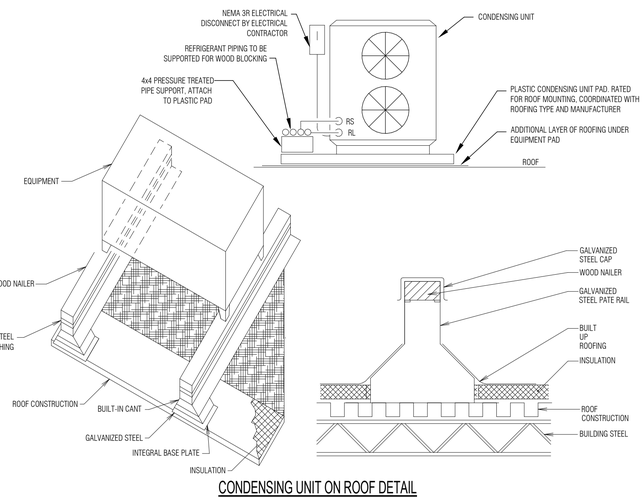


INDOOR UNIT, IT CLOSET

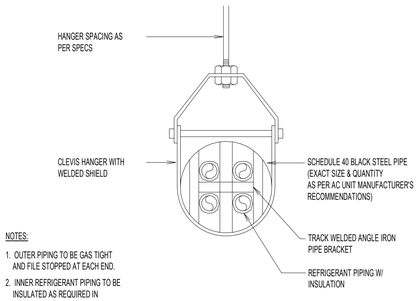
OUTDOOR UNIT, GROUND

PIPING GROUND PENETRATION

FAN COIL AIR CONDITIONER UNIT DETAIL



CONDENSING UNIT ON ROOF DETAIL

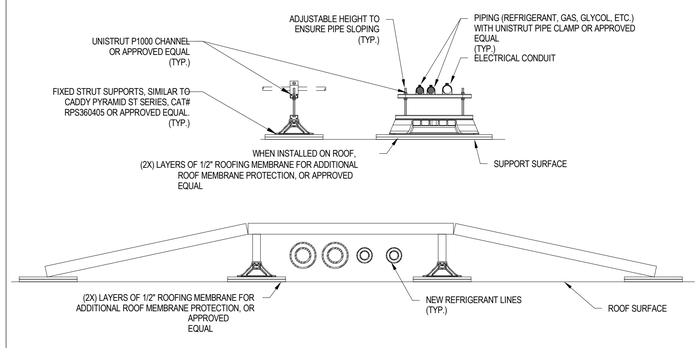


NOTES:
1. OUTER PIPING TO BE GAS TIGHT AND FILE STOPPED AT EACH END.
2. INNER REFRIGERANT PIPING TO BE INSULATED AS REQUIRED IN SPECIFICATIONS.
3. PROVIDE SHIELDS AT SUPPORT POINTS OF INNER REFRIGERANT PIPING.

DOUBLE PIPE ENCASED REFRIGERANT PIPING DETAIL

NOT TO SCALE

HD-101



PIPING SUPPORT AND PIPING OVER-CROSS BRIDGE DETAIL

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MECHANICAL DETAILS III

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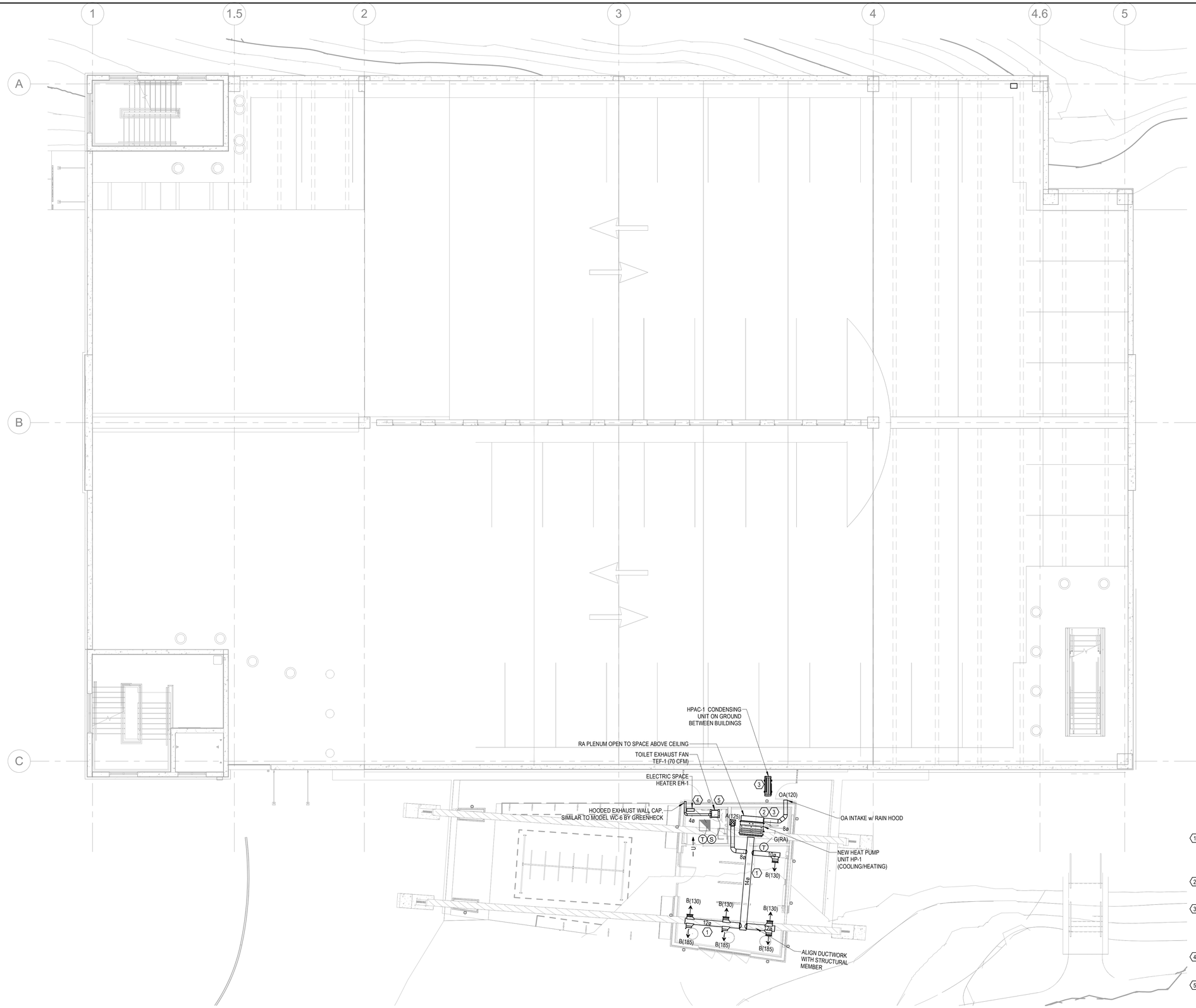

NEW WORK NOTES:

1. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF ALL NEW AND EXISTING EQUIPMENT (AC UNITS, FANS, TERMINAL DEVICES, ETC.) TO ALLOW FOR PROPER MAINTENANCE ACCESS. PROVIDE ACCESS DOORS AS REQUIRED. ALL ACCESS PANELS TO BE REVIEWED BY ENGINEER AND CONFIRMED BY ARCHITECT.
2. EXISTING FIRE DAMPERS AND FIRE ALARM DEVICES AT BASE BUILDING SUPPLY MAINS ARE EXISTING TO REMAIN. MAINTAIN ACCESS AS REQUIRED.
3. ALL NEW DUCTWORK SHALL BE CONSTRUCTED OF METAL AS SET FORTH IN THE ANSI/SMACNA 006 HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE.
4. PROVIDE STRUCTURAL SUPPORT AND VIBRATION ISOLATORS FOR ALL NEW EQUIPMENT. NEW EQUIPMENT EXCEEDING 400 LBS. SHALL BE PROVIDED WITH SEISMIC BRACING.
5. ALL OPEN ENDED-DUCTWORK SHALL HAVE WIRE MESH SCREEN OR RA GRILLE WHEN EXPOSED TO VIEW. COORDINATE WORK IN FIELD AS REQUIRED.
6. ALL ACOUSTICAL FLEXIBLE DUCT SHALL BE CASCO ACOUSTICAL FLEX DUCT SM-181M. CONTRACTOR SHALL PROVIDE A MINIMUM 3FT AND A MAXIMUM 5 FT OF ACOUSTICAL FLEXIBLE DUCT CONNECTION BETWEEN DIFFUSERS AND VOLUME DAMPERS.
7. PROVIDE MANUAL BALANCING DAMPERS TO PROPERLY BALANCE THE AIR DISTRIBUTION SYSTEM AS SHOWN ON PLANS AND LISTED BELOW:
   A. ALL SUPPLY AIR MAIN BRANCHES FROM TRUNK, EACH SPLIT, AND ALL SUB-BRANCHES FROM MAINS SHALL HAVE BALANCING DAMPERS.
   B. EXHAUST AND RETURN MAIN BRANCHES FROM TRUNK, EACH SPLIT AND ALL SUB-BRANCHES FROM MAINS SHALL HAVE BALANCING DAMPERS.
   C. IF DAMPER IS NOT ACCESSIBLE, OR IS LOCATED ABOVE A DRYWALL CEILING, PROVIDE CABLE OPERATED DAMPER OR APPROVED EQUAL.
8. ALL SINGLE AND DOUBLE ELBOW TRANSFER DUCTS SHALL HAVE 1" INTERNAL ACOUSTIC LINING UNLESS NOTED OTHERWISE.
9. DUCTWORK PENETRATING FULL HEIGHT WALLS SHALL BE ACOUSTICALLY SEALED.
10. CONTRACTOR SHALL PROVIDE AND INSTALL LINED RETURN AIR TRANSFER DUCTS (TRD) WIT WIRE MESH SCREEN (WMS) ON ALL FULL HEIGHT WALLS AS REQUIRED FOR PROPER RETURN AIR FLOW PATH BACK TO THE MAIN RETURN SYSTEM. REFER TO MECHANICAL DETAILS FOR MORE INFORMATION. ON FULL HEIGHT WALLS EXPOSED TO VIEW INSTALL RA GRILLES (SIMILAR TO TYPE F IN SCHEDULES) IN PLACE OF WMS. COORDINATE RA GRILLES SELECTIONS WITH ARCHITECT FOR AESTHETICS PRIOR TO PURCHASE.
11. ALL NEW DUCTWORK SHALL BE PROVIDED WITH 1" ACOUSTICAL LINING IN EXPOSED CEILING AREAS AND EXTERNAL WRAP INSULATION WHEN LOCATED ABOVE HUNG CEILING. INSULATION SHALL MEET THE MINIMUM SECTION 6 ENERGY CODE REQUIREMENTS FOR INDOOR/OUTDOOR DUCTWORK INSTALLATION (R-6 AND R-8, RESPECTIVELY).
12. ALL EXPOSED MECHANICAL DUCTWORK TO BE PAINTED, EXACT COLOR TO BE VERIFIED WITH ARCHITECT. PRIOR TO PAINTING, ALL LABELS AND STICKERS SHALL BE REMOVED FROM DUCTWORK. MECHANICAL EQUIPMENT NAMEPLATES, TAGS, AND OTHER TECHNICAL LABELS SHALL NOT BE PAINTED OVER. COORDINATE WORK WITH ARCHITECT PRIOR TO START OF WORK.
13. REFER TO BRANCH DUCT SIZING SCHEDULE FOR DUCTWORK NOT SIZED ON PLANS.
14. ALL DUCT DIMENSIONS INDICATE CLEAR INTERNAL OPEN AREA UNLESS OTHERWISE NOTED.
15. COORDINATE ALL DUCTING WITH LIGHT FIXTURES AND EXISTING INSTALLATIONS NOT AFFECTED BY THIS SCOPE OF WORK.
16. CONTRACTOR TO PROVIDE AND COORDINATE ALL JOGGED WALL FRAMING AT ALL EXISTING AND NEW DUCTWORK. WHERE SLAB TO SLAB FRAMING IS REQUIRED. WHERE APPLICABLE, CONTRACTOR TO COORDINATE WITH ALL OTHER TRADES AND INCLUDE RELOCATION OF ANY PIPES, VALVES, SERVICES, ETC. THE INSTALLING CONTRACTOR SHALL ENSURE SERVICE ACCESS TO EXISTING AND RE-USED HVAC EQUIPMENT. ADD SERVICE ACCESS DOORS AND SERVICE ACCESS HATCHES AS REQUIRED.

DRAWING NOTES (NEW WORK)

1. INSTALL NEW DUCTWORK IN THE INDICATED AREAS. ALL NEW DUCTWORK IN AREAS EXPOSED TO VIEW SHALL BE LINED. COORDINATE WORK WITH EXISTING STRUCTURE, INCLUDING BEAMS, COLUMNS AND BUILDING CORE WALLS.
2. FURNISH AND INSTALL NEW SERVICE ACCESS PANELS OR ACCESS DOORS TO SERVE NEW AC EQUIPMENT LOCATED ABOVE INACCESSIBLE CEILING.
3. THE NEW HEAT PUMP (HP-1) UNIT SHALL BE CONNECTED VIA REFRIGERANT PIPING TO DEDICATED AIR-COOLED CONDENSING UNIT. PROVIDE ADEQUATE SERVICE ACCESS TO NEW EQUIPMENT. REFER TO MECHANICAL DETAILS AND EQUIPMENT SCHEDULES FOR MORE INFORMATION.
4. FURNISH AND INSTALL NEW ELECTRIC SPACE HEATER. COORDINATE WORK IN FIELD WITH PLUMBING AND ELECTRICAL TRADES, AS REQUIRED.
5. FURNISH AND INSTALL NEW TOILET EXHAUST FAN. COORDINATE WORK IN FIELD WITH ELECTRICAL TRADE, AS REQUIRED.

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SHEET TITLE:
MECHANICAL DUCTWORK LEVELS 2-3 FLOOR PLAN

SHEET NO.
MB5.2

NEW WORK NOTES

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE PIPING SYSTEM(S) INDICATED ON THE DRAWINGS. REFER TO SPECIFICATIONS FOR MORE INFORMATION. ALL NEW PIPING INSTALLATIONS SHALL CONFORM TO CURRENT APPLICABLE CODE(S).
2. UNLESS OTHERWISE NOTED, ALL PIPING SHALL BE OVERHEAD, TIGHT TO UNDERSIDE OF STRUCTURE OF SLAB, WITH SPACE FOR INSULATION AS REQUIRED.
3. INSTALL PIPING SO THAT ALL VALVES, FILTERS, UNIONS, TRAPS AND OTHER APPURTENANCES REQUIRING ACCESS ARE ACCESSIBLE.
4. ALL VALVES SHALL BE INSTALLED SO THAT VALVE REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON EQUIPMENT SIDE OF VALVE IS REMOVED.
5. ALL VALVES (EXCEPT CONTROL VALVES) AND TRAPS SHALL BE FULL SIZE OF PIPE BEFORE REDUCING SIZE TO MAKE CONNECTIONS TO EQUIPMENT AND CONTROLS.
6. UNIONS AND/ OR FLANGES SHALL BE INSTALLED AT EACH PIECE OF EQUIPMENT, IN BYPASSES, AND IN LONG PIPING RUNS (100 FEET OF MORE) TO PERMIT DISASSEMBLY FOR ALTERATIONS AND REPAIRS.
7. ALL PIPING SHALL CLEAR DOORS, WINDOWS AND STAIRS. COORDINATE WORK IN FIELD AS REQUIRED.
8. ALL NEW REFRIGERANT PIPING WORK SHALL BE INSTALLED IN STRAIGHT RUNS, TO EXTENT POSSIBLE. COORDINATE WORK WITH OTHER TRADES. ALL NECESSARY TURNS AND OFF-SETS AROUND STRUCTURAL OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
9. INSULATE ALL NEW REFRIGERANT PIPING AND COLD CONDENSATE (CD) AS PER INSULATION SPECIFICATIONS. REFER TO MECHANICAL PIPING INSULATION SPECIFICATIONS FOR MORE INFORMATION.

DRAWING NOTES

(1) INSTALL NEW REFRIGERANT PIPING FOLLOWING INDUSTRY STANDARDS AND AC UNIT MANUFACTURER'S RECOMMENDATIONS. INSTALL PIPING AWAY FROM PARKING SPACES AND HUMAN TRAFFIC. APPLY ADEQUATE INSULATION AND PIPING JACKETS FOR PROTECTION. COORDINATE ROUTING IN FIELD AS REQUIRED. REFER TO MECHANICAL DETAILS FOR MORE INFORMATION.

(2) INSTALL NEW CONDENSATE DRAIN FOLLOWING INDUSTRY STANDARDS AND AC UNIT MANUFACTURER'S RECOMMENDATIONS. INSTALL PIPING AWAY FROM PARKING SPACES AND HUMAN TRAFFIC. APPLY ADEQUATE INSULATION AND PIPING JACKETS FOR PROTECTION. ROUTE DRAIN TO NEAREST APPROVED FLOOR SINK OR FLOOR DRAIN. ENSURE THAT THE CONDENSATE DRAIN LINES ARE SLOPED TOWARDS THE NEAREST FLOOR DRAINS. A MINIMUM SLOPE SHALL NOT BE LESS THAN 1/8" PER 1 FT OF PIPE RUN. INSTALL DRAIN POINTS TO ALLOW FOR PIPING WINTERIZATION. REFER TO SPECIFICATIONS FOR MORE INFORMATION. REFER TO PLUMBING DRAWINGS FOR AVAILABLE FLOOR DRAIN LOCATIONS. COORDINATE ROUTING IN FIELD AS REQUIRED

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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

DRAWN: Author
REVIEWED: Checker
DATE: 03/06/24

SHEET TITLE:
MECHANICAL PIPING LEVELS 2-3 FLOOR PLAN

SHEET NO.
MB6.2

ELECTRICAL LEGEND - RISER

PANEL VOLTAGE AMPS — PANELBOARD

XXXXNNG — FEEDER DESIGNATION TAG
G - GROUND ONLY, NG - NEUTAL + GROUND, NNG - 200% NEUTRAL + GROUND

FUSED DISCONNECT SWITCH

DISCONNECT SWITCH

CIRCUIT BREAKER

M — METER AND CURRENT TRANSFORMER

GROUND CONNECTION

TRANSFORMER

T — FLOOR MOUNTED TRANSFORMER

T — SUSPENDED NON-LINEAR RATED TRANSFORMER

LIGHTING LEGEND

S_a — LIGHTING CONTROL SWITCH ("a" DENOTES LIGHTING FIXTURES CONTROLLED). IF NO LETTER SHOWN SWITCH SHALL CONTROL ALL LIGHT FIXTURES IN THE ROOM OR SPACE.

F1 A#X EM a — DOWNLIGHT. THE FOLLOWING IS TYPICAL FOR ALL LIGHT FIXTURES:

"F1" - DENOTES FIXTURE TYPE.
"a" - LOWER CASE LETTER DENOTES SWITCH CONTROL. IF NO LETTER SHOWN SWITCH SHALL CONTROL ALL LIGHTS IN SPACE.
"A#X" - NUMBER DENOTES CIRCUIT TO SWITCH FIXTURE IS CONNECTED.
SHADED FIXTURE (AND/OR DENOTED EM OR EM/NL) DENOTES EMERGENCY FIXTURE PROVIDED WITH EMERGENCY BATTERY PACK OPTION FROM MANUFACTURER

F2 A#X EM a — LINEAR LIGHT FIXTURE

"F2" - DENOTES FIXTURE TYPE.
"a" - LOWER CASE LETTER DENOTES SWITCH CONTROL. IF NO LETTER SHOWN SWITCH SHALL CONTROL ALL LIGHTS IN SPACE.
"A#X" - DENOTES CIRCUIT TO SWITCH FIXTURE IS CONNECTED.
SHADED FIXTURE (AND/OR DENOTED EM OR EM/NL) DENOTES EMERGENCY FIXTURE PROVIDED WITH EMERGENCY BATTERY PACK OPTION FROM MANUFACTURER

CONTINUOUS LIGHTING STRIP FIXTURE

CEILING MOUNTED EXIT SIGN WITH OUTLET BOX WITH OR WITHOUT DIRECTIONAL ARROWS. SHADED PORTION INDICATES ILLUMINATED FACE.

WALL MOUNTED EXIT SIGN WITH OUTLET BOX WITH OR WITHOUT DIRECTIONAL ARROWS. SHADED PORTION INDICATES ILLUMINATED FACE.

WALL MOUNTED BATTERY LIGHT FIXTURE

OS ADT — CEILING MOUNTED DUAL-TECHNOLOGY OCCUPANCY SENSOR.
ADT - ACTIVE DUAL-TECHNOLOGY SENSOR WITH ULTRASONIC

VS ADT — CEILING MOUNTED DUAL-TECHNOLOGY VACANCY SENSOR.
ADT - ACTIVE DUAL-TECHNOLOGY SENSOR WITH ULTRASONIC

P — CEILING MOUNTED PHOTOSENSOR.

Lighting Fixture Schedule

TAG	Manufacturer	Specification #
A1	OPTEC LED LIGHTING	OLPG1-090-UNVL-40/80-SW-PD(1)-NA-U8-OSMWBLESR-PSKRD
A1em	OPTEC LED LIGHTING	OLPG1-090-UNVL-40/80-SW-PD(1)-NA-U8-EM-WCMWBLESR-OSMWHBL-PSKRD
B1	OPTEC LED LIGHTING	OLPG1-048-UNVL-40/80-SW-PD(1)-NA-U8-OSMWBLESR-PSKRD
B1em	OPTEC LED LIGHTING	OLPG1-048-UNVL-40/80-SW-PD(1)-NA-U8-EM-WCMWBLESR-OSMWHBL-PSKRD
B2	OPTEC LED LIGHTING	OLPG1-048-UNVL-40/80-SLA-PD(1)-NA-U8-OSMWBLESR-PSKRD
C1	UTOPIA LIGHTING	VR9-4-54LED-40K-UNV-GR-CWEM8-O10W-HC403-BAA-WET
C3	Delviro Energy	DLT-SD-D-12'-D750-N-80-40K-U-FR-N-AC-DIMOFF-BT-1-N-5WIRE-CL-W
C3em	Delviro Energy	DLT-SD-D-12'-D750-N-80-40K-U-FR-N-AC-DIMOFF-BT-1-EM-6WIRE-CL-W
D	Beghelli North America, Corp.	BS100LED-4FT-HT-MO-120-277-(3)-SS
Dem	Beghelli North America, Corp.	BS100LED-4FT-SA-MO-120-277-(3)-SS
D1	Beghelli North America, Corp.	BS100LED-4FT-HT-MO-120-277-(3)-IS(MWC-MW-BTSS
D1EM	Beghelli North America, Corp.	BS100LED-4FT-SA-MO-120-277-(3)-IS(MWC-MW-BTSS
D2	Beghelli North America, Corp.	BS100LED-2FT-HT-MO-120-277-(3)-SS
D3	OPTEC LED LIGHTING	OLPG1-048-UNVL-40/80-SW-PD(1)-NA-U8-OSMWBLESR-PSKRD
D3em	OPTEC LED LIGHTING	OLPG1-048-UNVL-40/80-SW-PD(1)-NA-U8-EM-WCMWBLESR-OSMWHBL-PSKRD
E1	Eclipse Lighting Inc.	TY-6-CM-LED15-4K-UNV-ID-BK-M-DL
E1em	Eclipse Lighting Inc.	TY-6-CM-LED15-4K-UNV-ID-BK-M-DL-RELBW
E2	Eclipse Lighting Inc.	TY-20-WM-LED25-LED15-4K-UNV-IUD-BK-M-DL *Refer to Arch plans for Bike shop Specifications
E2em	Eclipse Lighting Inc.	TY-20-WM-LED25-LED15-4K-UNV-IUD-BK-M-DL-BBWM-EL8W
E3em	Eclipse Lighting Inc.	TY-10-WM-LED15-4K-UNV-ID-BK-M-DL-BBWM-EL8W
H	UTOPIA LIGHTING	ELT22-2G-38LE-40K-UNV-GR
S-A	Sternberg	VCOB-6590-GEN1-4L-30-TA-MDL03
S-B	Landscapeforms	TUMBLER-TML *CONFIRM EXACT SPECIFICATION WITH ARCHITECT*
SLA	OPTEC LED LIGHTING	OLA1-80-UNVL-20-4-TA-NA-WCMWBLESR-EMC
SLA-L	OPTEC LED LIGHTING	OLA1-80-UNVL-20-4L-TA-NA-OSMWBLESR
SLA-R	OPTEC LED LIGHTING	OLA1-80-UNVL-20-4R-TA-NA-OSMWBLESR
SLA-POLE	WJM, inc.	HPA-4001110-F-3
T1	TSLC	HB3014 - 277V *CONFIRM EXACT SPECIFICATION WITH ARCHITECT*
X	Beghelli North America, Corp.	FTZ-SA-LG-1-W-BB
X1	Beghelli North America, Corp.	FTZ-SA-LG-U-U-BB
X1	Falcon Lighting LLC	SK1-8-OD-RD-FL-36-3W

POWER LEGEND

WALL MOUNTED DUPLEX RECEPTACLE, 20A, 125V, 2P, 3W NEMA 5-20R.

GFI — WALL MOUNTED DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTING, 20A, 125V, 2P, 3W.

WALL MOUNTED DOUBLE DUPLEX RECEPTACLE, 20A, 125V, 2P, 3W (GROUNDED) NEMA CONFIGURATION 5-20R, IN 2 GANG BOX.

ELECTRICAL LEGEND

1 PNL-1 — HOMERUN WITH PANEL DESIGNATION. NUMERAL WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSIST OF 2#12-s"C, UNLESS OTHERWISE NOTED.

CONCEALED WIRING (IN WALL OR CEILING)

J — CEILING MOUNTED JUNCTION BOX

J — WALL MOUNTED JUNCTION BOX

J — SLAB MOUNTED JUNCTION BOX

CSB — PULL/TAP BOX. "CSB"-CABLE SUPPORT BOX

WIREWAY

M — MOTOR

FINAL EQUIPMENT CONNECTION

S_T — MANUAL MOTOR SWITCH WITH THERMAL OVERLOAD PROTECTION

J — TOGGLE-TYPE DISCONNECT SWITCH WITH FLEXIBLE EQUIPMENT CONNECTION.

J — ELECTRICAL SYMBOL FOR MISCELLANEOUS CONNECTION:

PS-PROJECTION SCREEN PJ-PROJECTION EQUIPMENT MS-MOTORIZED SHADE
MD-MOTORIZED DRAPE SEC SECURITY EQUIPMENT

ELECTRICAL SYMBOL FOR MECHANICAL EQUIPMENT CONNECTION.

AHU-AIR HANDLING UNIT FVAV-FAN POWERED VAV BOX FCU-FAN COIL UNIT
AC-AIR CONDITIONING UNIT VAV-VARIABLE AIR VOLUME BOX UH-UNIT HEATER
EHC-ELECTRIC HEAT COIL EWC-ELECTRIC WATER COOLER MD-MOTORIZED DAMPER
HWH-HOT WATER HEATER ECH-ELECTRIC CABINET HEATER CP-CONDENSATE PUMP

UNFUSED DISCONNECT SWITCH U.O.N.

FUSED DISCONNECT SWITCH U.O.N.

COMBINATION MOTOR STARTER/DISCONNECT SWITCH

LIGHTING RELAY PANEL

NEW SURFACE MOUNTED PANELBOARD

T — TRANSFORMER

LINE REPRESENTATION

NEW WIRING

EXISTING WIRING TO REMAIN

NEW EQUIPMENT

EXISTING EQUIPMENT TO REMAIN

DRAWING NOTATIONS

— DRAWING NOTE TAG

A B — SECTION DESIGNATION ON DRAWING WHERE SECTION IS CUT
A-SECTION DESIGNATION
B-DRAWING NO.

1 — REVISION SYMBOL

NYS ENERGY CODE COMPLIANCE STATEMENT

AS REQUIRED PER SECTION C105.2.2 OF THE 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE (ECCONYS), THIS PROJECT HAS BEEN DESIGNED AND CONSTRUCTED IN COMPLIANCE WITH THE PROVISIONS OF THE 2020 ECCONYS. THE ENERGY CODE REQUIREMENTS APPLICABLE TO THIS PROJECT INCLUDE, BUT ARE NOT LIMITED TO, THE BUILDING LIGHTING, AND ELECTRICAL POWER SYSTEMS.

THE DESIGN HAS BEEN REVIEWED AND VERIFIED TO MEET OR EXCEED THE MINIMUM PERFORMANCE STANDARDS SET FORTH IN THE 2020 ECCONYS THROUGH PRESCRIPTIVE OR PERFORMANCE-BASED COMPLIANCE PATHWAYS, AS APPLICABLE. COMCHECK FORMS DEMONSTRATING COMPLIANCE HAVE BEEN PROVIDED IN ACCORDANCE WITH ECCONYS REQUIREMENTS.

THIS CERTIFICATION IS MADE TO ENSURE THAT THE PROJECT MEETS THE ENERGY EFFICIENCY STANDARDS MANDATED BY THE STATE OF NEW YORK TO PROMOTE ENERGY CONSERVATION AND SUSTAINABLE BUILDING PRACTICES.

ABBREVIATIONS

(NOT ALL ABBREVIATIONS ARE NECESSARILY USED ON THIS PROJECT)

A	AMP/AMPERE
ACU	AIR CONDITIONING UNIT
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FURNISHED FLOOR
AHJ	AUTHORITIES HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO VISUAL
AWG	AMERICAN WIRE GAUGE
BDS	BATTERY DIAGNOSTIC SYSTEM
C, CDT	CONDUIT
CAC	COMPUTER ROOM GRADE AIR CONDITIONING UNIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CP	CONDENSATE PUMP
CT	COOLING TOWER
CU	COPPER
DISC	DISCONNECT
DWG	DRAWING
(E)	EXISTING TO REMAIN
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EHC	ELECTRIC HEAT COIL
ELEC	ELECTRICAL
EM	EMERGENCY
EPO	EMERGENCY POWER OFF
EWH	ELECTRIC HOT WATER HEATER
(ER)	EXISTING TO BE RELOCATED
FA	FIRE ALARM
FBO	FURNISHED BY OTHERS, INSTALLED AND WIRED BY THE ELECTRICAL CONTRACTOR
FCU	FAN COIL UNIT
FIBO	FURNISHED AND INSTALLED BY OTHERS, WIRED BY THE ELECTRICAL CONTRACTOR
FT	FEET
G, GND	GROUND
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
HZ	HERTZ
IG	ISOLATED GROUND
IDF	INFORMATION DISTRIBUTION FRAME
IT	INFORMATION TECHNOLOGY
JB	JUNCTION BOX
KVA	KILOVOLTAMPERE
KCMIL	THOUSAND CIRCULAR MILS
LCP	LIGHTING CONTROL PANEL
LD	LEAK DETECTOR
LDP	LEAK DETECTION PANEL
LTG	LIGHTING
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MER	MECHANICAL EQUIPMENT ROOM
MLO	MAIN LUG ONLY
MS	MOTORIZED SHADE
MTD	MOUNTED
N	NEUTRAL
(N)	NEW
(NE)	NEW TO REPLACE EXISTING
NF	NON-FUSED
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
P	POLE
PB	PULL BOX
PDU	POWER DISTRIBUTION UNIT
PH	PHASE
PS	PROJECTION SCREEN
PNL	PANEL
(RE)	RELOCATED EXISTING (NEW LOCATION)
RECEPT	RECEPTACLE
RGB	REFERENCE GROUND BAR
RM	ROOM
SD	SMOKE DETECTOR
SRG	SIGNAL REFERENCE GROUND BAR
SPEC	SPECIFICATION
SW	SWITCH
SWBD	SWITCHBOARD
TEL	TELEPHONE
TF	TRANSFER FAN
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UNF	UNFUSED
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLT/VOLTAGE
VA	VOLTAMPERE
VAV	VARIABLE AIR VOLUME
W	WIRE
WP	WEATHERPROOF
(X)	REMOVE

DRAWING LIST

SHEET NUMBER	SHEET NAME
E0.1	ELECTRICAL LEGENDS AND NOTES
E0.2	ELECTRICAL COMMCHECK
E1.1	ELECTRICAL SPECIFICATIONS
E1.2	ELECTRICAL SPECIFICATIONS
E1.3	ELECTRICAL SPECIFICATIONS
E3.1	ELECTRICAL RISER DIAGRAM
E4.1	ELECTRICAL PANEL SCHEDULES
E4.2	ELECTRICAL PANEL SCHEDULES
E5.0	ELECTRICAL LOWER LEVEL POWER PLAN
E5.1	ELECTRICAL LEVEL 1 FLOOR POWER PLAN
E5.2	ELECTRICAL LEVELS 2 FLOOR POWER PLAN
E5.3	ELECTRICAL LEVELS 3 FLOOR POWER PLAN
E5.4	ELECTRICAL LEVEL 4 FLOOR POWER PLAN
E5.5	ELECTRICAL LEVEL 5 FLOOR POWER PLAN
E6.0	ELECTRICAL LOWER LEVEL LIGHTING PLAN
E6.1	ELECTRICAL LEVEL 1 FLOOR LIGHTING PLAN
E6.2	ELECTRICAL LEVEL 2 FLOOR LIGHTING PLAN
E6.3	ELECTRICAL LEVEL 3 FLOOR LIGHTING PLAN
E6.4	ELECTRICAL LEVEL 4 FLOOR LIGHTING PLAN
E8.0	ELECTRICAL LEVEL SITE POWER PLAN

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PROJECT NO.
T077-02-001

PROJECT
Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
ELECTRICAL LEGENDS AND NOTES

SHEET NO.
E0.1

COM*check* Software Version COMcheckWeb

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2020 New York State Energy Conservation Construction Code
Project Title: OSSINING
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:

Additional Efficiency Package(s)

Credits: 1.0 Required 0.0 Proposed

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-Parking Garage:Garage Area	83950	0.14	11753
2-Common Space Types:Electrical/Mechanical	725	0.43	312
3-Common Space Types:Stairwell	3040	0.58	1763
4-Retail:Sales Area	340	1.22	415
5-Common Space Types:Storage >=50 - <=1000 sq.ft.	70	0.46	32
6-Common Space Types:Storage >=1000 sq.ft.	1260	0.46	580
7-Common Space Types:Restrooms	50	0.85	42
		Total Allowed Watts =	14897

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
1-Parking Garage:Garage Area				
B1: Other:	1	84	20	1680
A: Other:	1	7	20	140
D1: Other:	1	6	30	180
B2: Other:	1	27	20	540
A1: Other:	1	8	20	160
SA-1: Other:	1	4	30	120
2-Common Space Types:Electrical/Mechanical				
D1: Other	1	12	30	360
3-Common Space Types:Stairwell				
C: Other:	1	8	30	240
C3: Other:	1	16	30	480
4-Retail:Sales Area				
J: Other:	1	3	50	150
L: Other:	1	3	25	75
5-Common Space Types:Storage >=50 - <=1000 sq.ft.				
E4: Other:	1	1	30	30

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
6-Common Space Types:Storage >=1000 sq.ft.				
D1: Other:	1	12	30	360
7-Common Space Types:Restrooms				
E4: Other:	1	1	30	30
			Total Proposed Watts =	4545

Interior Lighting PASSES: Design 69% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2020 New York State Energy Conservation Construction Code requirements in COM*check* Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Arthur Metzler- Founder & CEO — Signature — 02/21/25
Name - Title Date

COM*check* Software Version COMcheckWeb

Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2020 New York State Energy Conservation Construction Code
Project Title: OSSINING
Project Type: New Construction
Exterior Lighting Zone 3 (Other (LZ3))

Construction Site: Owner/Agent: Designer/Contractor:

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts /	D Tradable Wattage	E Allowed Watts (B X C)
Free standing/attached sales canopy	885 ft2	0.6	Yes	531
			Total Tradable Watts (a) =	531
			Total Allowed Watts =	531
			Total Allowed Supplemental Watts (b) =	500

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 500 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
Free standing/attached sales canopy (885 ft2): Tradable Wattage				
K: Other:	1	3	45	135
E2: Other:	1	9	25	225
			Total Tradable Proposed Watts =	360

Exterior Lighting PASSES: Design 65% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2020 New York State Energy Conservation Construction Code requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

COM*check* Software Version COMcheckWeb

Inspection Checklist

Energy Code: 2020 New York State Energy Conservation Construction Code

Requirements: 0.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR4][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C103.2 [PR8][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.2.2 [EL22][1]	Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern >= 50 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1, C405.2.1.1 [EL18][1]	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1.2 [EL19][1]	Occupancy sensors control function in warehouses: In warehouses, the lighting in aisleways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1.3 [EL20][1]	Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces >= 300 sq.ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas <= 600 sq.ft. within the space, 2) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 3) are configured so that general lighting power in each control zone is reduced by >= 80% of the full zone general lighting power within 20 minutes of all occupants leaving that control zone, and 4) are configured such that any daylight responsive control will activate space general lighting or control zone general lighting only when occupancy for the same area is detected.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.2, C405.2.2.1, C405.2.2.2 [EL21][2]	Each area not served by occupancy sensors (per C405.2.1) have time-switch controls and functions detailed in sections C405.2.2.1 and C405.2.2.2.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.3, C405.2.3.1, C405.2.3.2 [EL23][2]	Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces, C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.4 [EL26][1]	Separate lighting control devices for specific uses installed per approved lighting plans.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.4 [EL27][1]	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.5 [EL28][1]	Manual controls required by the energy code are in a location with ready access to occupants and located where the controlled lights are visible, or identify the area served and their status.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.6 [EL30][1]	Automatic lighting controls for exterior lighting installed. Controls will be daylight controlled, set based on business operation time-of-day, or reduce connected lighting > 30%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.3 [EL6][1]	Exit signs do not exceed 5 watts per face.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.2 [FI17][3]	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.4.1 [FI18][1]	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Interior Lighting fixture schedule for values.*
C405.5.1 [FI19][1]	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Exterior Lighting fixture schedule for values.*
C408.2.5.1 [FI16][3]	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.3 [FI33][1]	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
ELECTRICAL COMMCHECK

SHEET NO.

E0.2

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS:

A. ALL WORK SHALL COMPLY WITH REQUIREMENTS OF NATIONAL ELECTRIC CODE AND ALL AUTHORITIES HAVING JURISDICTION (AHJ). APPLICABLE NATIONAL, STATE AND LOCAL CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK SHALL BE INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS.

B. IF A CONFLICT OCCURS IN THE SPECIFICATIONS AND/OR ON THE DRAWINGS, THE MORE STRINGENT SITUATION SHALL APPLY.

C. ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF THIS WORK. FINAL ACCEPTANCE SHALL BE DEFINED AS THE TIME AT WHICH THE ELECTRICAL WORK IS TAKEN OVER AND ACCEPTED BY THE OWNER. ENGAGE THE SERVICES OF VARIOUS MANUFACTURERS SUPPLYING THE EQUIPMENT FOR THE PROPER STARTUP, OPERATION AND TRAINING OF ALL SYSTEMS INSTALLED. INSTRUCT THE OWNERS PERSONNEL IN THE PROPER OPERATION AND SERVICING OF THE EQUIPMENT.

D. ELECTRICAL CONTRACTOR SHALL VISIT AND EXAMINE CAREFULLY THE EXISTING AREAS AFFECTED BY THIS WORK TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND WITH DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THE WORK. CONTRACTOR SHALL PERFORM THIS, PRIOR TO SUBMITTING THEIR PROPOSAL. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN UNDERTAKEN.

E. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF WORK. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ALL DEVICES INCLUDING DIMENSIONS AND ELEVATIONS. WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS.

F. ALTHOUGH NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON THE DRAWINGS, ANY EQUIPMENT, MATERIALS, ACCESSORIES, OR LABOR REQUIRED FOR PROPER AND COMPLETE INSTALLATION OF THE ELECTRICAL WORK SHALL BE FURNISHED AND INSTALLED AS PART OF THE ORIGINAL BID.

G. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE LATEST COPY OF THE BUILDING RULES AND REGULATIONS TO DETERMINE THE EXTENT OF PREMIUM TIME WORK REQUIRED. BASE BUILDING SYSTEM INTERRUPTIONS ARE TO BE PERFORMED OUTSIDE OF NORMAL BUSINESS HOURS. COORDINATE WITH BUILDING OWNER FOR ANY SERVICE INTERRUPTION OF EXISTING SYSTEMS AND GIVE NOTICE AS REQUIRED BY BUILDING RULES AND REGULATIONS.

H. ANY DAMAGE TO EXISTING PARTITIONS, FLOORS, CEILINGS OR ANY PART OF THE BUILDING OR EQUIPMENT HOUSED THEREIN CAUSED BY THE WORK OF THE CONTRACTOR SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.

I. ALL NEW MATERIALS REQUIRED SHALL CONF0RM WITH THE STANDARDS OF THE UNDERWRITERS LABORATORIES, INC. (UL) IN EVERY CASE WHERE SUCH A STANDARD EXISTS.

J. DURING THE PROJECT DURATION, THE BUILDING MANAGEMENT OFFICE AND ITS DESIGNATED REPRESENTATIVE SHALL BE ABLE TO INSPECT THE WORK IN PROGRESS. ANY WORK WHICH THE BUILDING MANAGEMENT DEEMS UNACCEPTABLE SHALL BE REMOVED AND REPLACED AT THE EXPENSE OF CONTRACTOR/TENANT.

K. ALL EQUIPMENT INSTALLED OR CONNECTED INTO THE BUILDING RISERS, SYSTEMS AND INFRASTRUCTURE SHALL BE APPROVED IN ADVANCE BY THE BUILDING PRIOR TO INSTALLATION.

1.02 SCOPE OF WORK:

A. PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR COMPLETE, SAFE INSTALLATION OF ALL ELECTRICAL WORK. THE SCOPE OF WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

1. INSTALLATION OF LIGHTING FIXTURES AND LAMPS INCLUDING EXIT AND EMERGENCY LIGHTING.
2. INSTALLATION OF WALL SWITCHES, RECEPTACLES, ETC.
3. INSTALLATION OF NEW RACEWAY AND CONDUCTORS FOR LIGHTING AND POWER.
4. ADDITION OR MODIFICATION OF EXISTING ELECTRICAL DISTRIBUTION EQUIPMENT.
5. INSTALLATION OF MECHANICAL EQUIPMENT FEEDERS AND FINAL CONNECTIONS TO MECHANICAL EQUIPMENT.
6. GROUNDING OF ALL EQUIPMENT AS REQUIRED BY CODE AND AS SPECIFIED.
7. MODIFICATION OF EXISTING FIRE ALARM SYSTEM.
8. TEMPORARY LIGHTING AND POWER DURING CONSTRUCTION.
9. CUTTING, CHANNELING, CORING, AND CHASING REQUIRED TO ACCOMMODATE ELECTRIC INSTALLATION AND ROUGH PATCHING.
10. DEMOLITION AND REMOVAL OF ELECTRICAL EQUIPMENT AS REQUIRED INCLUDING ALL CONDUCTORS AND CONDUIT BACK TO THEIR SOURCE.
11. MAINTENANCE AND PROPER OPERATION OF EXISTING BASE BUILDING SYSTEMS WITHIN THE CONTRACT AREA IN ACCORDANCE WITH THE REQUIREMENTS OF BUILDING MANAGEMENT.
12. PROVISION OF IT SYSTEMS INFRASTRUCTURE AS DETAILED.
13. PROVISION OF SECURITY SYSTEM INFRASTRUCTURE AS DETAILED.
14. PROVISION OF AUDIO VISUAL SYSTEM INFRASTRUCTURE AS DETAILED.
15. RECEIPT AND INSTALLATION OF DEVICES, EQUIPMENT, SYSTEMS, SUPPLIED BY OTHERS AS DETAILED.
16. COORDINATION WITH OTHER TRADES.
17. COMMISSIONING
18. SHORT-CIRCUIT, COORDINATION AND ARC-FLASH HAZARD ANALYSIS.

1.03 SUBSTITUTIONS:

A. NO SUBSTITUTE MATERIAL OR MANUFACTURER OF EQUIPMENT SHALL BE PERMITTED WITHOUT A FORMAL WRITTEN SUBMITTAL TO THE ENGINEER WHICH INCLUDES ALL DIMENSIONAL, PERFORMANCE AND MATERIAL SPECIFICATIONS. ANY CHANGES IN LAYOUT, MECHANICAL CHARACTERISTICS, STRUCTURAL REQUIREMENTS, OR DESIGN DUE TO THE USE OF A SUBSTITUTION SHALL BE SUBMITTED TO THE ENGINEER AS PART OF THIS PROPOSAL. THE CONTRACTOR TAKES FULL RESPONSIBILITY FOR THE SUBSTITUTION AND ALL CHANGES RESULTING FROM SUBSTITUTION. ALL ITEMS SHALL BE SUBMITTED FOR REVIEW IN CONJUNCTION WITH THE SUBMITTAL OF THE ALTERNATE. ANY SUBSTITUTION MUST BE SUBMITTED WITH AN EXPLANATION WHY SUBSTITUTION IS BEING UTILIZED. IF THE SUBSTITUTED ITEM DEVIATES FROM THE SPECIFIED ITEM, THOSE DEVIATIONS ARE TO BE IDENTIFIED ON A LINE BY LINE BASIS. IF THE SUBSTITUTION IS BEING UTILIZED FOR FINANCIAL REASONS, THE ASSOCIATED CREDIT MUST BE SIMULTANEOUSLY SUBMITTED.

B. ALL SUBSTITUTED EQUIPMENT SHALL CONFORM TO SPACE REQUIREMENTS AND PERFORMANCE REQUIREMENTS SHOWN ON CONTRACT DOCUMENTS.

C. CONTRACTOR SHALL SUBMIT BID BASED ON SPECIFIED ITEMS AND SHALL SUPPLY AS AN ALTERNATE PRICE ANY SUBSTITUTIONS.

1.04 SHOP DRAWINGS:

A. SHOP DRAWINGS SUBMISSION SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

1. DISTRIBUTION EQUIPMENT (PANELS, SWITCHES, ETC.).
2. OVERCURRENT PROTECTIVE DEVICES (FUSES AND CIRCUIT BREAKERS).
3. LIGHTING FIXTURES.
4. WIRING DEVICES.
5. FIRE ALARM EQUIPMENT, WIRING SCHEMATIC AND SEQUENCE OF OPERATION.
6. COORDINATION DRAWINGS OF ELECTRIC CLOSET LAYOUTS INCLUDING ELEVATIONS AND MOUNTING DETAILS OF PANELBOARDS, TRANSFORMERS, ETC.
7. FLOOR BOXES/ POKE THRU DEVICES.
8. GROUNDING EQUIPMENT/DEVICES.
9. CONDUIT, RACEWAYS, WIREWAYS
10. WIRING
11. LIGHTING CONTROL SYSTEMS
12. TESTING AND COMMISSIONING SCHEDULE.
13. SCALED FIELD DRAWINGS.
14. TRANSFORMERS.
15. SHORT-CIRCUIT COORDINATION, ARC-FLASH HAZARD ANALYSIS.
16. SURGE PROTECTION DEVICES.

B. ALL SUBMISSIONS SHALL BE MADE ELECTRONICALLY IN PDF FORMAT.

C. CHANGES MADE TO SHOP DRAWINGS BY THE CONSULTANT WILL NOT AFFECT THE CONTRACT PRICE.

1.05 QUALITY ASSURANCE

A. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE.

B. COMPLY WITH NFPA 70

1.06 COORDINATION

A. COORDINATE CHASES, SLOTS, INSERTS, SLEEVES, AND OPENINGS WITH GENERAL CONSTRUCTION WORK AND ARRANGE IN BUILDING STRUCTURE DURING PROGRESS OF CONSTRUCTION TO FACILITATE THE ELECTRICAL INSTALLATIONS THAT FOLLOW.

1. SET INSERTS AND SLEEVES IN POURED-IN-PLACE CONCRETE, MASONRY WORK, AND OTHER STRUCTURAL COMPONENTS AS THEY ARE CONSTRUCTED.

B. SEQUENCE, COORDINATE, AND INTEGRATE INSTALLING ELECTRICAL MATERIALS AND EQUIPMENT FOR EFFICIENT FLOW OF THE WORK. COORDINATE INSTALLING LARGE EQUIPMENT REQUIRING POSITIONING BEFORE CLOSING IN THE BUILDING.

C. COORDINATE ELECTRICAL SERVICE CONNECTIONS TO COMPONENTS FURNISHED BY UTILITY COMPANIES.

1. COORDINATE INSTALLATION AND CONNECTION OF EXTERIOR UNDERGROUND AND OVERHEAD UTILITIES AND SERVICES, INCLUDING PROVISION FOR ELECTRICITY-METERING COMPONENTS.
2. COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION AND OF UTILITY COMPANY PROVIDING ELECTRICAL POWER AND OTHER SERVICES.

D. COORDINATE LOCATION OF ACCESS PANELS AND DOORS FOR ELECTRICAL ITEMS THAT ARE CONCEALED BY FINISHED SURFACES. ACCESS DOORS AND PANELS ARE SPECIFIED IN A SEPARATE DIVISION OF THE SPECIFICATIONS.

E. WHERE ELECTRICAL IDENTIFICATION DEVICES ARE APPLIED TO FIELD-FINISHED SURFACES, COORDINATE INSTALLATION OF IDENTIFICATION DEVICES WITH COMPLETION OF FINISHED SURFACE.

F. WHERE ELECTRICAL IDENTIFICATION MARKINGS AND DEVICES WILL BE CONCEALED BY ACOUSTICAL CEILINGS AND SIMILAR FINISHES, COORDINATE INSTALLATION OF THESE ITEMS BEFORE CEILING INSTALLATION.

1.07 AS-BUILT DRAWINGS:

A. CONTRACTOR SHALL MAINTAIN RECORD DRAWING PRINTS ON JOB SITE AND RECORD, AT TIME OF OCCURRENCE, DEVIATIONS FROM CONTRACT DOCUMENTS.

B. AT THE COMPLETION OF WORK AND BEFORE FINAL ACCEPTANCE, PROVIDE AS-BUILT DRAWINGS OF THE INSTALLATION, IN AUTO-CAD (VERSION AS REQUESTED BY CLIENT).

C. INCORPORATE ALL CHANGES AND DEVIATIONS FROM BID DRAWINGS, UTILIZING NORMAL RECOGNIZED DRAFTING PROCEDURES THAT MATCH THE ORIGINAL DRAFTING METHODOLOGY. AS-BUILT DRAWINGS SHALL INDICATE ACTUAL LOCATIONS OF ALL EQUIPMENT.

D. ALL MAIN BRANCH CONDUIT RUNS, JUNCTION BOX LOCATIONS, CONDUIT RUNS FOR ALL FLOOR OUTLETS, ETC., MUST BE REFLECTED ON THE DRAWINGS.

E. CLEARLY INDICATE THE WORDS "AS-BUILT" IN THE TITLE BLOCK COLUMN OF THE DRAWINGS AS WELL AS THE ELECTRICAL CONTRACTOR'S NAME AND ADDRESS.

F. SUBMIT ONE (1) PDF SET TO CONSULTANT FOR REVIEW. WHEN FOUND ACCEPTABLE BY THE CONSULTANT, SUBMIT THREE (3) SETS OF PRINTS TOGETHER WITH THE CAD AND PDF DISK FOR PRESENTATION TO THE LANDLORD AND TENANT.

1.08 OPERATION AND MAINTENANCE MANUALS:

A. PROVIDE TWO (2) SETS OF OPERATION AND MAINTENANCE MANUALS SUBMITTED IN HARD COVER 3-RING BINDERS. INCLUDE THE FOLLOWING INFORMATION IN THE OPERATIONS AND MAINTENANCE MANUALS:

1. NAMES AND ADDRESS OF LOCAL SUPPLIERS FOR THE ITEMS INCLUDED.
2. TECHNICAL DATA, PRODUCT DATA, SUPPLEMENTED BY BULLETINS, COMPONENT ILLUSTRATIONS, EXPLODED VIEWS, TECHNICAL DESCRIPTIONS OF ITEMS, AND PARTS LISTS. ADVERTISING OR SALES LITERATURE IS NOT ACCEPTABLE.
3. THE CONSULTANTS REVIEWED SHOP DRAWINGS.
4. CERTIFICATE(S) OF ACCEPTANCE FROM THE AUTHORITIES INSPECTION DEPARTMENT.
5. VERIFICATION REPORTS AND CERTIFICATE(S) FOR ANY NEW FIRE ALARM COMPONENTS OR TIE-INS AND ANY BASE BUILDING TIE-INS FOR MISCELLANEOUS SYSTEMS (I.E. SECURITY, LIGHTING CONTROL, DIGITAL METERING).
6. WRITTEN GUARANTEE.
7. LIST OF EACH FIXTURE TYPE IDENTIFYING TYPE OF LAMP, WATTAGE AND MANUFACTURER'S CONTACT INFO.
8. COORDINATION STUDY.

B. REVIEW INFORMATION PROVIDED IN THE MAINTENANCE INSTRUCTIONS AND MANUALS WITH THE TENANT'S OPERATING PERSONNEL AND LANDLORD'S OPERATING PERSONNEL WHERE BASE BUILDING SYSTEMS ARE REVISED, TO ENSURE A COMPLETE UNDERSTANDING OF THE ELECTRICAL EQUIPMENT AND SYSTEMS AND THEIR OPERATION.

1.09 MATERIALS AND EQUIPMENT:

A. ALL MATERIALS AND EQUIPMENT SHALL BE NEW, CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY AND MANUFACTURED TO THE STANDARDS SPECIFIED.

B. WHERE THERE IS NO ALTERNATIVE TO SUPPLYING EQUIPMENT WHICH IS NOT NRTL CERTIFIED, OBTAIN SPECIAL APPROVAL FROM THE LOCAL ELECTRICAL SAFETY AUTHORITY.

1.10 INSURANCE:

A. PROVIDE AND MAINTAIN INSURANCE TO PROTECT THE LANDLORD, TENANT AND TRADES FROM ALL POSSIBLE CLAIMS. SUBMIT WITH BID FOR AN AMOUNT ACCEPTABLE TO LANDLORD AND TENANT.

1.11 CONTRACT DOCUMENTS:

A. THE DRAWINGS FOR THE ELECTRICAL WORK ARE DIAGRAMMATIC PERFORMANCE DRAWINGS ONLY, INTENDED TO CONVEY THE SCOPE OF WORK AND INDICATE THE GENERAL ARRANGEMENT AND APPROXIMATE SIZE AND LOCATION OF ELECTRICAL EQUIPMENT. THE DRAWINGS DO NOT INTEND TO SHOW ARCHITECTURAL, INTERIOR DESIGN, MECHANICAL, STRUCTURAL OR BASE BUILDING DETAILS. BE RESPONSIBLE FOR A THOROUGH KNOWLEDGE OF SAME BEFORE PROCEEDING WITH THE WORK.

B. DO NOT SCALE OR MEASURE DRAWINGS, BUT OBTAIN INFORMATION REGARDING ACCURATE DIMENSIONS FROM THE DIMENSIONS SHOWN ON THE DESIGN CONSULTANT/ARCHITECT'S DRAWINGS, OR BY SITE MEASUREMENTS.

C. ANY DISCREPANCIES BETWEEN DRAWINGS AND/OR SPECIFICATIONS AND EXISTING CONDITIONS, MUST BE REFERRED TO THE DESIGN CONSULTANT/ARCHITECT BEFORE ANY WORK AFFECTED IS BEGUN.

D. COOPERATE AND COORDINATE WITH OTHER CONTRACTORS IN LAYING OUT OF WORK SO AS NOT TO CONFLICT WITH THE WORK OF OTHER CONTRACTORS. CARRY OUT WORK PROMPTLY AS PER CONSTRUCTION SCHEDULE AND COORDINATE WITH WORK OF OTHER CONTRACTORS.

E. MAKE, AT NO ADDITIONAL COST, ANY CHANGES OR ADDITIONS TO MATERIALS AND EQUIPMENT NECESSARY TO ACCOMMODATE STRUCTURAL CONDITIONS (OFFSETS AROUND BEAMS, COLUMN, ETC.)

1.12 INTENT:

A. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS THAT THE CONTRACTOR PROVIDE COMPLETE AND OPERATIONAL SYSTEMS AS REQUIRED. WHERE DIFFERENCES OCCUR, THE MAXIMUM CONDITION SHALL GOVERN.

B. ANY MISCELLANEOUS ITEMS, HARDWARE, DEVICES, WIRING, ETC., NOT SPECIFICALLY DESCRIBED, BUT REQUIRED FOR THE OPERATION OF THE SYSTEM, MUST BE PROVIDED AND INCLUDED AS PART OF THE BID.

1.13 LOCATIONS OF OUTLETS

A. REFER TO DESIGN CONSULTANT'S/ARCHITECT'S DRAWINGS FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND WIRING DEVICES.

B. CHANGE LOCATION OF OUTLETS AT NO COST OR CREDIT, PROVIDING DISTANCE DOES NOT EXCEED (10'-0") AND INFORMATION IS GIVEN PRIOR TO INSTALLATION.

C. ALL OUTLETS TO BE MARKED ON JOB SITE FOR APPROVAL BY DESIGN CONSULTANT/ARCHITECT PRIOR TO INSTALLATION.

1.14 PLYWOOD:

A. ALL SURFACE MOUNTED ELECTRICAL DISTRIBUTION EQUIPMENT SHALL BE MOUNTED ON PLYWOOD BACKBOARDS. PROVIDE ALL PLYWOOD BACKBOARDS REQUIRED FOR THE WORK OF THIS DIVISION. PLYWOOD BACKBOARDS SHALL BE 3/4" THICK, OF HIGHEST QUALITY FIRE RETARDANT FIR. PRIME AND PAINT BACKBOARDS WITH FIRE RETARDANT PAINT COLOR AS SELECTED BY THE DESIGN CONSULTANT/ARCHITECT.

1.15 ACCESS DOORS:

A. WHEREVER ANY BASE BUILDING EQUIPMENT REQUIRES ACCESSIBILITY, MAINTENANCE OR ADJUSTMENT, PROVIDE ACCESS DOORS APPROVED BY DESIGN CONSULTANT/ARCHITECT AND LANDLORD. ARRANGE FOR ITS INSTALLATION BY THE DIVISION IN WHOSE WORK IT OCCURS.

1.16 DRY WALL CEILINGS:

A. IN ALL DRYWALL CEILING AREAS, DIVISION 16 IS TO REMOVE AND RELOCATE ALL EXISTING JUNCTION BOXES TO ACCESSIBLE CEILING SPACE.

B. PROVIDE ACCESS PANELS FOR ALL NEW AND EXISTING DEVICES AS REQUIRED

1.17 CORE DRILLING [TRENCHING]:

A. BEFORE CORE DRILLING [TRENCHING] FLOOR SLAB OR STRUCTURAL WALLS, X-RAY SLABS OR WALLS AND HAVE THE LOCATIONS APPROVED BY THE STRUCTURAL ENGINEER AND LANDLORD IN WRITING.

B. ANY EXISTING BUILDING SERVICE DAMAGED BY CORE DRILLING SHALL BE REPAIRED IMMEDIATELY AT NO COST TO LANDLORD OR TENANT.

C. FLOOR DRILLING TO BE PERFORMED AFTER NORMAL WORKING HOURS AND AT A TIME ACCEPTABLE TO LANDLORD AND ALLOWANCES FOR THIS WORK SHALL BE INCLUDED IN BID PRICE SUBMITTED.

D. ALL ELECTRICAL CONDUCTORS AND IT WORK INSTALLED IN THE CEILING OF ANOTHER TENANT SPACE SHALL BE IN CONDUIT. ARMORED CABLING AND USE OF EXPOSED PLENUM IT CABLING SHALL NOT BE PERMITTED.

1.18 NOISE AND VIBRATION:

A. ELECTRICAL EQUIPMENT IS TO OPERATE WITHOUT OBJECTIONABLE NOISE OR VIBRATION. IF, IN THE OPINION OF THE LANDLORD, ARCHITECT OR CONSULTANT, THE EQUIPMENT OPERATES WITH EXCESSIVE NOISE OR VIBRATION, THEN THE EQUIPMENT MUST BE REPLACED OR NOISE OR VIBRATION ELIMINATED.

B. CONNECTIONS TO NOISE-PRODUCING AND VIBRATING EQUIPMENT MUST BE MADE WITH LIQUID-TIGHT FLEXIBLE CONDUIT AND ASSOCIATED CONNECTORS. THIS INCLUDES TRANSFORMERS, DIMMING EQUIPMENT RACKS, AND MOTORS. USE A MINIMUM OF 3 FT OF FLEXIBLE CABLE WITH SLACK AT EACH DEVICE.

C. VIBRATION ISOLATORS ARE TO BE PROVIDED WHERE INDICATED OR REQUIRED. TRANSFORMERS TO BE ISOLATED FROM THE STRUCTURE, WITH SPRING AND RUBBER ISOLATORS WHEN WALL MOUNTED OR SUSPENDED AND 1/2" HIGH DENSITY NEOPRENE SANDWICH PADS (TYPE MWP) WHEN FLOOR MOUNTED.

1.19 TENANT'S EQUIPMENT:

A. WHERE SPECIFIED, INSTALL ALL EQUIPMENT PROVIDED BY THE TENANT. RECEIVE, STORE AND INSTALL EQUIPMENT AND ACCEPT FULL RESPONSIBILITY FOR ITS CORRECT OPERATION. PROVIDE CONDUIT, WIRE, BOXES, SWITCHES, OUTLETS, DEVICES, FLEX CONNECTIONS, ETC., AS REQUIRED.

1.20 INTERRUPTION OF SERVICES:

A. INTERRUPTION OF ELECTRICAL SERVICE TO ANY PART OF THE BUILDING SHALL OCCUR ONLY BY PRE-ARRANGEMENT WITH AND AT TIMES SUITABLE TO THE LANDLORD.

B. INTERRUPTIONS SHALL ONLY OCCUR DURING PREMIUM TIME PERIODS; ALL ALLOWANCES FOR THIS SHALL BE INCLUDED IN THE PRICE SUBMITTED.

1.21 VALUATION OF CHANGES:

A. PROVIDE COMPLETE BREAKDOWN OF MATERIAL, LABOR, OVERHEAD, PROFIT, ETC., WHEN SUBMITTING QUOTATIONS FOR CHANGE NOTICES ON THIS PROJECT.

B. THE HOURLY LABOR RATE SHALL BE INCLUSIVE OF ALL CHARGES FOR SUPERVISION, VARIABLE LABOR FACTORS, HAND TOOLS, PAYROLL BURDENS, HEIGHT FACTORS, WARRANTIES, STORAGE, RENTALS, ADDITIONAL BONDING, PARKING, CLEAN-UP, AS-BUILT DRAWINGS, HOISTING, FREIGHT AND DELIVERY, BUT EXCLUSIVE OF OVERHEAD AND PROFIT.

1.22 ENGINEERS FINAL INSPECTION

A. FINAL INSPECTION IS IMPERATIVE. PRIOR TO CLOSING OF CEILINGS, THIS CONTRACTOR SHALL CONTACT AMA CONSULTING ENGINEERS. (212-944-7722) AND THE LANDLORD'S REPRESENTATIVE TO PERFORM A FINAL INSPECTION. WHEN CEILING TILES HAVE BEEN INSTALLED IT WILL BE NECESSARY FOR THE CONTRACTOR TO REMOVE PORTIONS FOR INSPECTION.

1.23 COMPLETION OF CONTRACT:

A. ALL EQUIPMENT MUST BE CLEANED AND TESTED BEFORE FINAL ACCEPTANCE BY THE CONSULTANT.

B. DEFECTS AND DEFICIENCIES WHICH ORIGINATE OR BECOME EVIDENT DURING THE WARRANTY PERIOD MUST BE REPAIRED OR REPLACED, AT NO COST.

C. REPLACE, AT NO COST, ALL INCANDESCENT LAMPS BURNED-OUT DURING A THIRTY (30) DAY PERIOD AND ALL BURNED-OUT LED AND HID LAMPS FOR A PERIOD OF NINETY (90) DAYS AFTER DATE OF ISSUANCE OF CERTIFICATE OF "SUBSTANTIAL PERFORMANCE" FOR THE CONTRACT FOR THE WORK.

D. IF, DURING THE WARRANTY PERIOD, TRANSFORMERS, BALLASTS OR OTHER NOISE AND VIBRATION PRODUCING EQUIPMENT ARE CONSIDERED BY THE CONSULTANT TO EXCEED ACCEPTABLE STANDARDS, THEN THESE MUST BE REPLACED WITHOUT DELAY OR ADDITIONAL COST TO THE TENANT. ALL WORK RELATING TO THE REPLACEMENT OF DEFECTIVE ITEMS, MUST BE CARRIED OUT AFTER NORMAL WORKING HOURS AND AT A TIME WHICH IS ACCEPTABLE TO THE TENANT.

1.25 WORK IN NEW AND RENOVATED AREAS:

A. WHEN DELETING AND/OR MAKING SAFE EXISTING ELECTRICAL WORK, ENSURE THAT IT INCLUDES REMOVAL OF ALL DISCONNECTED WIRING BACK TO THE ASSOCIATED PANELBOARD OR DISTRIBUTION EQUIPMENT.

B. DISCONNECT AND REMOVE EXISTING LUMINAIRES, DEVICES, OUTLETS, ETC., WHICH ARE NOT TO BE REUSED. SUCH ITEMS SHALL BE CARTONED AND TURNED OVER TO THE LANDLORD AT A PLACE DESIGNATED BY THE LANDLORD. CUT BACK AND CAP UNUSED RACEWAY AND OUTLETS AND REMOVE UNUSED WIRING BACK TO PANELBOARD IN AN APPROVED MANNER. REMOVE ALL REDUNDANT COMMUNICATIONS CABLES BACK TO HUB ROOMS AND/OR TELEPHONE RISER ROOMS.

C. ENSURE THAT ALL EXISTING EQUIPMENT WHICH IS TO BE REUSED AND/OR RELOCATED IS THOROUGHLY INSPECTED AND REFURBISHED TO ENSURE CORRECT OPERATION WHEN PUT BACK INTO SERVICE AND MEETS THE LOCAL ELECTRICAL SAFETY AUTHORITY'S APPROVAL. OUTLET BOXES AND WIRING AND/OR CONDUITS WHICH ARE CORRODED OR DAMAGED ARE TO BE REPLACED.

D. ALL EXISTING ELECTRICAL EQUIPMENT WHICH IS NO LONGER REQUIRED SHALL BE REMOVED AND DISPOSED OF, OFF SITE.

E. WHERE EXISTING OUTLET BOXES ARE REMOVED FROM EXISTING UNDERFLOOR DUCTS, PLUG AND CAP EXISTING HOLES FLUSH WITH FLOOR USING APPROVED FITTINGS. REMOVE ALL REDUNDANT WIRE AND CABLE BACK TO SERVICE.

F. BE RESPONSIBLE AND PAY FOR ANY DAMAGE TO THE BASE BUILDING INCURRED BY WORK OF THIS DIVISION, OR REPAIR TO THE SATISFACTION OF THE CONSULTANT.

G. CARRY OUT THE WORK WITH A MINIMUM OF NOISE, DUST AND DISTURBANCE.

H. PROVIDE TOOLS AND CLEAN UP EQUIPMENT. OBTAIN THE LANDLORD'S PERMISSION FOR THE USE OF ELECTRICAL, ELEVATOR, PLUMBING OR DRAINAGE OUTLETS.

I. PROVIDE DAILY CLEAN UP AND PROPER DISPOSAL OF DEBRIS GENERATED BY DAILY OPERATIONS. ON COMPLETION OF THE WORK, ALL TOOLS, SURPLUS MATERIALS AND WASTE MATERIALS SHALL BE REMOVED AND THE PREMISES LEFT IN A CLEAN AND PERFECT CONDITION.

J. REMOVE AND REROUTE EXISTING CONDUITS WHICH ARE TO REMAIN IN "FINISHED" AREAS WHICH ARE TO BE EXPOSED.

K. CONDUITS WHICH ARE TO BE CUT BACK ARE TO TERMINATE IN A JUNCTION BOX.

L. CLEAN LUMINAIRE REFLECTORS AND LENSES, LAMPS AND OTHER SURFACES THAT HAVE BEEN EXPOSED TO CONSTRUCTION DUST AND DIRT. CLEAN THE INSIDES AND OUTSIDES OF PANELBOARDS, SPLITTERS AND OTHER ELECTRICAL EQUIPMENT, AND COMPLETELY REMOVE ALL DEBRIS AND TOOLS FROM THE PROJECT.

1.26 SHORT CIRCUIT, DEVICE COORDINATION AND ARC-FLASH ANALYSIS

A. SHORT-CIRCUIT, DEVICE COORDINATION AND ARC-FLASH ANALYSES SHALL BE SUBMITTED PRIOR TO SUBMITTING THE ELECTRIC EQUIPMENT SHOP DRAWINGS FOR REVIEW AND APPROVAL.

B. SUBMIT A SHORT CIRCUIT ANALYSIS AS FOLLOWS:

1. UTILIZE COMPUTER SOFTWARE PROGRAMS CERTIFYING COMPLIANCE WITH IEEE 399. MANUAL CALCULATIONS ARE NOT ACCEPTABLE.
2. OBTAIN AVAILABLE FAULT CURRENT AND UTILITY IMPEDANCE FROM UTILITY COMPANY.
3. OBTAIN AND TABULATE ALL ELECTRICAL PROTECTION DATA FOR ALL THE EQUIPMENT.
4. OBTAIN FEEDER LENGTHS AND RATINGS FOR ALL NEW AND EXISTING FEEDERS.
5. PERFORM A SHORT CIRCUIT ANALYSIS TO DETERMINE SHORT CIRCUIT CURRENT AND GROUND FAULT CURRENT LEVELS AT EACH PIECE OF EQUIPMENT IN THE DISTRIBUTION SYSTEM, HAVING OBTAINED THE AVAILABLE SHORT CIRCUIT CURRENT AND IMPEDANCE OF UTILITY SERVICE ENTRANCE FROM THE LOCAL ELECTRICAL SUPPLY AUTHORITY.
6. PERFORM ANALYSIS FOR EACH SYSTEM SCENARIO.
7. GENERATE AN EQUIPMENT EVALUATION REPORT FOR ALL ELECTRICAL EQUIPMENT AND OVERCURRENT PROTECTIVE DEVICES COMPARING CALCULATED AVAILABLE FAULT CURRENTS TO EQUIPMENT WITHSTAND RATINGS.

C. SUBMIT A DEVICE COORDINATION STUDY CONSISTING OF THE FOLLOWING:

1. A SET OF TIME CURRENT CURVE CHARACTERISTICS OF ALL PROTECTIVE DEVICES IN THE SYSTEM PLOTTED ON LOG/LOG GRAPH PAPER WITH CORRESPONDING SHORT CIRCUIT CURRENT LEVELS.
2. TIME CURRENT DAMAGE CURVES FOR ALL TRANSFORMERS, MOTORS, AND CABLES
3. PROVIDE A COMPLETE SCHEDULE OF ALL MAIN PROTECTIVE RELAYS, FUSES AND OTHER PROTECTIVE DEVICE LISTING DEVICE LOCATIONS, MANUFACTURER, MODEL NUMBER, SIZE, RANGE, SETTING, ETC.
4. GENERATE APPROPRIATE SETTINGS FOR ALL RELAYS AND PROTECTIVE DEVICES FROM THE LEVEL OF THE LOCAL ELECTRICAL SUPPLY AUTHORITY FEEDER PROTECTIVE DEVICES TO ALL DOWNSTREAM DEVICES.
5. THE COMPLETE STUDY WILL ILLUSTRATE AND ENSURE THAT THE SETTINGS AND SIZES OF ALL PROTECTIVE DEVICES FOR EACH VOLTAGE LEVEL HAVE BEEN CHOSEN TO ENSURE MAXIMUM OR OPTIMAL PROTECTION AND COORDINATION DURING ELECTRICAL FAULT OR OVERLOAD CONDITIONS

D. PERFORM AN ARC-FLASH HAZARD ANALYSIS IN ACCORDANCE WITH IEEE 1584 EQUATIONS AS PRESENTED IN NFPA 70E.

1. CALCULATE THE FLASH PROTECTION BOUNDARY AND THE INCIDENT ENERGY AT EACH PIECE OF ELECTRICAL EQUIPMENT.
2. CALCULATIONS MUST BE PERFORMED FOR ALL SYSTEM SCENARIOS AND GREATEST INCIDENT ENERGY SHALL BE REPORTED.
3. WHERE 'DANGEROUS' INCIDENT ENERGY LEVELS EXIST, MAKE RECOMMENDATIONS TO REDUCE ENERGY LEVELS.
4. PROVIDE ARC-FLASH LABELS FOR EACH PIECE OF EQUIPMENT.CLABEL SHALL INCLUDE AT A MINIMUM:
    a. LOCATION
    b. NOMINAL VOLTAGE
    c. FLASH PROTECTION BOUNDARY
    d. HAZARD RISK CATEGORY
    e. INCIDENT ENERGY
    f. WORKING DISTANCE

E. ENTIRE REPORT SHALL BE PERFORMED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED, WHO SHALL SIGN AND STAMP THE STUDY.

F. ELECTRICAL CONTRACTOR AND EQUIPMENT MANUFACTURER SHALL PERFORM FIELD ADJUSTMENT OF PROTECTIVE DEVICE SETTINGS IN ACCORDANCE WITH THE APPROVED COORDINATION STUDY.

G. ENSURE CIRCUIT PROTECTIVE DEVICES SUCH AS OVERCURRENT TRIPS, RELAYS, CIRCUIT BREAKERS AND FUSES ARE INSTALLED TO VALUES AND SETTINGS SO AS TO PROVIDE PROTECTION BY MEANS OF OPENING THE CLOSEST DEVICE TO THE FAULT.

1.27 UNIT PRICES:

A. SUBMIT THE FOLLOWING LIST OF UNIT PRICES:

1. LIGHT FIXTURES -FOR EACH TYPE SPECIFIED ON DRAWINGS ($/FIXTURE).
2. RECEPTACLES - ADD/DEDUCT PRICE FOR EACH TYPE SPECIFIED ON DRAWINGS ($/RECEPTACLE).
3. DATA/TELEPHONE OUTLET -ADD/DEDUCT PRICE FOR WALL MOUNTED TELEPHONE OUTLET WITH 1" CONDUIT STUBBED INTO HUNG CEILING ($/OUTLET).
4. RACEWAYS - ALL SIZES ON PROJECT ($/LIN FT), CONDUCTORS ($/LIN FT), MC CABLE ($/LIN FT)
5. FIRE ALARM DEVICES.
6. ELECTRICAL PANELS - ALL TYPES INDICATED ON DRAWINGS.
7. TRANSFORMERS - ALL RATINGS INDICATED ON DRAWINGS.

PART 2 PRODUCT/APPLICATION

2.01 RACEWAYS:

A. EMT: ANSI C80.3, ZINC-COATED STEEL, WITH DOUBLE SET-SCREW OR COMPRESSION FITTINGS.

B. FMC: ZINC-COATED STEEL.

C. RMC: ANSI C80.1, HOT-DIPPED GALVANIZED STEEL WITH THREADED FITTINGS

D. IMC: ANSI C80.6, ZINC-COATED STEEL, WITH THREADED FITTINGS.

E. LFMC: ZINC-COATED STEEL WITH SUNLIGHT-RESISTANT AND MINERAL-OIL-RESISTANT PLASTIC JACKET.

F. RNC: NEMA TC 2, SCHEDULE 40/SCHEDULE 80 PVC, WITH NEMA TC3 FITTINGS.

G. RACEWAY FITTINGS: SPECIFICALLY DESIGNED FOR THE RACEWAY TYPE WITH WHICH USED.

H. ELECTRIC METALLIC TUBING SHALL BE INDUSTRY STANDARD THIN WALL CONDUIT, HOT DIPPED GALVANIZED STEEL (3/4" MIN, 4" MAX).

I. THE FLEXIBLE METALLIC CONDUIT SHALL BE OF THE GROUNDING TYPE. IT SHALL CONSIST OF GALVANIZED STEEL TAPE FORMED INTO AN INDUSTRY STANDARD INTERLOCKING COIL (3/4" MIN).

J. RIGID METAL CONDUIT SHALL BE INDUSTRY STANDARD STEEL CONDUIT (3/4" MIN, 4" MAX.)

K. THREADED FITTINGS SHALL BE USED WITH RIGID CONDUIT. DOUBLE SET SCREW OR COMPRESSION FITTINGS SHALL BE USED WITH EMT.

2.02 WIRE AND CABLE:

A. CONDUCTORS, NO. 10 AWG AND SMALLER: SOLID COPPER.

B. CONDUCTORS, LARGER THAN NO. 10 AWG: STRANDED COPPER.

C. INSULATION: THERMOPLASTIC, RATED AT 75 DEG C MINIMUM.

D. ALL CONDUCTORS SHALL BE SOFT 98% MINIMUM CONDUCTIVITY PROPERLY REFINED COPPER, TYPE THHN/THWN INSULATED FOR INDOOR USE AND TYPE XHHW-2 FOR OUTDOOR USE RATED AT 600V, UNLESS OTHERWISE NOTED.

E. REFER TO SECTION 3.11 FOR COLOR-CODING OF ALL WIRING.

2.03 SUPPORTING DEVICES

A. MATERIAL: COLD-FORMED STEEL, WITH CORROSION-RESISTANT COATING ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.

B. METAL ITEMS FOR USE OUTDOORS OR IN DAMP LOCATIONS: HOT-DIP GALVANIZED STEEL.

C. SLOTTED-STEEL CHANNEL SUPPORTS: FLANGE EDGES TURNED TOWARD WEB, AND 9/16-INCH DIAMETER SLOTTED HOLES AT A MAXIMUM OF 2 INCHES O.C., IN WEBS.

D. SLOTTED-STEEL CHANNEL SUPPORTS: COMPLY WITH DIVISION 5 SECTION "METAL FABRICATIONS" FOR SLOTTED CHANNEL FRAMING.

1. CHANNEL THICKNESS: SELECTED TO SUIT STRUCTURAL LOADING.
2. FITTINGS AND ACCESSORIES: PRODUCTS OF THE SAME MANUFACTURER AS CHANNEL SUPPORTS.

E. NONMETALLIC CHANNEL AND ANGLE SYSTEMS: STRUCTURAL-GRADE, FACTORY-FORMED, GLASS-FIBER-RESIN CHANNELS AND ANGLES WITH 9/16-INCH- DIAMETER HOLES AT A MAXIMUM OF 8 INCHES O.C., IN AT LEAST ONE SURFACE.

1. FITTINGS AND ACCESSORIES: PRODUCTS OF THE SAME MANUFACTURER AS CHANNELS AND ANGLES.
2. FITTINGS AND ACCESSORY MATERIALS: SAME AS CHANNELS AND ANGLES, EXCEPT METAL ITEMS MAY BE STAINLESS STEEL.

F. RACEWAY AND CABLE SUPPORTS: MANUFACTURED CLEVIS HANGERS, RISER CLAMPS, STRAPS, THREADED C-CLAMPS WITH RETAINERS, CEILING TRAPEZE HANGERS, WALL BRACKETS, AND SPRING-STEEL CLAMPS OR CLICK-TYPE HANGERS.

G. PIPE SLEEVES: ASTM A 53, TYPE E, GRADE A, SCHEDULE 40, GALVANIZED STEEL, PLAIN ENDS.

H. CABLE SUPPORTS FOR VERTICAL CONDUIT: FACTORY-FABRICATED ASSEMBLY CONSISTING OF THREADED BODY AND INSULATING WEDGING PLUG FOR NONARMORED ELECTRICAL CABLES IN RISER CONDUITS. PLUGS HAVE NUMBER AND SIZE OF CONDUCTOR GRIPPING HOLES AS REQUIRED TO SUIT INDIVIDUAL RISERS. BODY CONSTRUCTED OF MALLEABLE-IRON CASTING WITH HOT-DIP GALVANIZED FINISH.

I. EXPANSION ANCHORS: CARBON-STEEL WEDGE OR SLEEVE TYPE.

J. TOGGLE BOLTS: ALL-STEEL SPRINGHEAD TYPE.

K. POWDER-DRIVEN THREADED STUDS: HEAT-TREATED STEEL

L. PROVIDE ALL STEEL SUPPORTING MEMBERS, HANGERS, BRACKETS OR OTHER SPECIAL DETAILS REQUIRED AND NECESSARY AS PER CODE.

M. EXCEPT FOR BRANCH CIRCUITRY INSTALL ALL CONDUIT IN HUNG CEILING SPACE ON ACCEPTABLE HANGERS AND INSERTS. CONDUIT OR MC CABLE FOR BRANCH CIRCUITRY SHALL BE SUPPORTED BY CLAMPS OR PIPE STRAPS SECURED TO THE CEILING SUPPORT SYSTEM, FROM STRUCTURAL MEMBERS OR FROM THE DECK. SUPPORT FROM CEILING TEES, CROSS TEES OR SUPPORT WIRES IS PROHIBITED.

N. SPACING OF SUPPORTS SHALL BE PER THE NEC.

O. INSERTS ARE TO BE OF A LEAD SHIELD TYPE.

P. HANGERS MUST NOT BE WELDED TO STRUCTURAL STEEL MEMBERS AND BURNING OF HOLES IN STRUCTURAL STEEL IS PROHIBITED.

Q. SLEEVES ARE TO BE OF A TYPE SUITABLE FOR THE APPLICATION AND BE SEALED AND MADE WATERTIGHT. SLEEVES THROUGH CONCRETE SHALL BE SCHEDULE 40 STEEL PIPE, SIZED FOR FREE PASSAGE OF CONDUIT AND INSTALLED FLUSH WITH UNDERSIZE OF CONCRETE SLAB AND EXTEND 4" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.

2.04 PULLBOXES, JUNCTION BOXES AND OUTLET BOXES:

A. PULLBOXES, JUNCTION BOXES AND OUTLET BOXES SHALL BE MANUFACTURED FROM GALVANIZED INDUSTRY STANDARD GAUGE SHEET STEEL.

B. PROVIDE PULL BOXES AND JUNCTION BOXES IN LONG STRAIGHT RUNS OF RACEWAY TO ASSURE THAT CABLES ARE NOT DAMAGED WHEN THEY ARE PULLED, TO FULFILL REQUIREMENTS AS TO THE NUMBER OF BENDS PERMITTED IN RACEWAY BETWEEN CABLE ACCESS POINTS, THE ACCESSIBILITY OF CABLE JOINTS AND SPLICES, AND THE APPLICATION OF CABLE SUPPORTS.

C. PULLBOXES AND JUNCTION BOXES SHALL BE SIZED SO THAT THE MINIMUM BENDING RADIUS CRITERIA SPECIFIED FOR THE WIRES AND CABLE ARE MAINTAINED.

D. SWITCH RECEPTACLE AND WALL OUTLET BOXES SHALL BE A NOMINAL 4" SQUARE, 1-1/2" OR 2-1/8" DEEP AS REQUIRED BY CODE WITH A RAISED COVER, UNLESS OTHERWISE INDICATED ON THE DRAWING.

E. PROVIDE BLANK COVERPLATES FOR BOXES WITHOUT WIRING DEVICES.

F. DO NOT INSTALL OUTLET BOXES BACK TO BACK IN PARTITIONS. STAGGER TO PREVENT SOUND TRANSFER.

G. TWO OR MORE OUTLET BOXES THAT OCCUR AT THE SAME LOCATION SHALL BE GANGED TOGETHER IN THE SAME COVERPLATE UNLESS OTHERWISE NOTED.

H. LIGHTING FIXTURE BOXES SHALL BE 4" OCTAGON TYPE, DEPTH AS REQUIRED WITH 3/8" FIXTURE STUD. FOR SUSPENDED CEILING WORK, PROVIDE A 4" OCTAGON BOX WITH REMOVABLE BACKPLATE WHERE REQUIRED.

I. PULL/JUNCTION BOX BARRIERS SHALL BE PROVIDED WHERE REQUIRED BY CODE.

J. INSTALL JUNCTION AND PULLBOXES IN INCONSPICUOUS LOCATIONS.

K. A MINIMUM OF ONE PULLBOX SHALL BE INSTALLED FOR EVERY 100 FT OF CONDUITS. (NOTE: EACH 90 DEGREE BEND SHALL EQUATE TO 30' LENGTH OF CONDUIT).

L. NO MORE THAN TWO (2) 90 DEGREE BENDS SHALL BE INSTALLED BETWEEN AND TWO ADJACENT PULLBOXES.

M. ALL EQUIPMENT, DEVICE BOXES, JUNCTION BOXES, PULLBOXES AND OUTLET BOXES SHALL BE INSTALLED SO AS TO ALLOW ACCESS TO THE BOX.

N. OUTLET BOXES SHALL BE PROVIDED FOR ALL LOW VOLTAGE DEVICES (I.E. TELEPHONE/DATA, SECURITY, FIRE ALARM, ETC.). COORDINATE BOX SIZE AND DEPTH WITH RESPECTIVE VENDOR.

2.05 WIRING DEVICES:

A. ALL WIRING DEVICES SHALL BE SPECIFICATION GRADE, DECORATIVE STYLE, UNLESS OTHERWISE NOTED.

B. COVERPLATES FOR RECEPTACLES, SWITCHES, ETC. SHALL BE COORDINATED WITH ARCHITECTURAL SPECIFICATIONS.

C. LIGHTING CONTROL SWITCHES SHALL BE COMPATIBLE WITH THE CENTRAL LIGHTING CONTROL SYSTEM TO BE INSTALLED OR AS SPECIFIED ON ELECTRICAL PLANS WHERE STANDALONE APPLICATION DIFFERS FROM THE CENTRAL SYSTEM. COORDINATE FINISH OF ALL LIGHT SWITCHES TO BE INSTALLED WITH ARCHITECTURAL SPECIFICATIONS.

D. RECEPTACLES

1. PROVIDE SPECIFICATION GRADE 20A. 120 VOLT, "U" GROUND RECEPTACLES, WITH MATCHING COVERPLATES. RECEPTACLES SHALL BE OF THE "DECORATOR STYLE".
2. REFER TO NOTES AND DETAILS FOR SPECIALITY RECEPTACLE COLORS
3. RECEPTACLES TO HAVE CIRCUIT NUMBER IDENTIFIED ON THE WALL PLATE AND FURTHER IDENTIFIED WITH THE EXACT LOCATION LISTED IN THE PANEL DIRECTORY.
4. FINISH OF ALL RECEPTACLES TO BE COORDINATED WITH ARCHITECTURAL SPECIFICATIONS.
5. RECEPTACLES INSTALLED OUTDOORS SHALL BE GFCI TYPE AND PROVIDED WITH WEATHERPROOF WHILE-IN-USE COVER, PASS & SEYMOUR WIUCED SERIES OR APPROVED EQUAL.

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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
ELECTRICAL SPECIFICATIONS

SHEET NO.
E1.1

2.06 SUPPORTS AND FASTENINGS:

A. PROVIDE ALL STEEL SUPPORTING MEMBERS, HANGERS, BRACKETS OR OTHER SPECIAL DETAILS REQUIRED AND NECESSARY AS PER CODE.

B. EXCEPT FOR BRANCH CIRCUITRY INSTALL ALL CONDUIT IN HUNG CEILING SPACE ON ACCEPTABLE HANGERS AND INSERTS. CONDUIT OR MC CABLE FOR BRANCH CIRCUITRY SHALL BE SUPPORTED BY CLAMPS OR PIPE STRAPS SECURED TO THE CEILING SUPPORT SYSTEM (BLACK IRON), FROM STRUCTURAL MEMBERS OR FROM THE DECK. SUPPORT FROM CEILING TEES, CROSS TEES OR SUPPORT WIRES IS PROHIBITED.

C. SPACING OF SUPPORTS SHALL BE PER THE NEC.

D. INSERTS ARE TO BE OF A LEAD SHIELD TYPE.

E. HANGERS MUST NOT BE WELDED TO STRUCTURAL STEEL MEMBERS AND BURNING OF HOLES IN STRUCTURAL STEEL IS PROHIBITED.

F. SLEEVES ARE TO BE OF A TYPE SUITABLE FOR THE APPLICATION AND BE SEALED AND MADE WATERTIGHT. SLEEVES THROUGH CONCRETE SHALL BE SCHEDULE 40 STEEL PIPE, SIZED FOR FREE PASSAGE OF CONDUIT AND INSTALLED FLUSH WITH UNDERSIZE OF CONCRETE SLAB AND EXTEND 4" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.

2.07 DISCONNECT SWITCHES:

A. INDOOR DISCONNECT SWITCHES SHALL BE "QUICK-MAKE, QUICK-BREAK," HEAVY DUTY TYPE IN NEMA 1 ENCLOSURES. PROVIDE ALL FUSES WHERE NOTED.

B. OUTDOOR DISCONNECT SWITCHES SHALL BE SIMILAR TO INDOOR, EXCEPT LISTED FOR OUTDOOR APPLICATIONS (NEMA 3R OR 4, AS REQUIRED)

C. FUSED DISCONNECT SWITCHES SHALL BE PROVIDED WITH FUSE CLIPS TO ACCEPT SPECIFIED FUSES.

2.08 FUSES:

A. FUSES SHALL BE CURRENT LIMITING TYPE WITH A UL LISTED INTERRUPTING CAPACITY OF 200,000 RMS.

B. FUSES RATED 601 AMPS AND LARGER SHALL BE CURRENT-LIMITING, TIME-DELAY, UL CLASS L FUSES.

C. FUSES RATED 600 AMPS AND BELOW SHALL BE CUREENT-LIMITING, DUAL-ELEMENT, TIME-DELAY UL CLASS RK-1 OR UL CLASS J FOR NON-MOTOR CIRCUITS AND UL CLASS RK-5 FOR MOTOR CIRCUITS.

D. ALL FUSES SHALL BE OF THE SAME MANUFACTURER.

2.09 CIRCUIT BREAKERS:

A. FOR PANELBOARD APPLICATIONS, CIRCUIT BREAKERS SHALL BE BOLTED TO THE PANELBOARD BUS BARS. WHERE CIRCUIT BREAKERS ARE INSTALLED IN EXISTING PANELBOARD BREAKERS SHALL BE OF THE SAME MANUFACTURER AND INTERRUPTING RATING. BREAKERS SHALL BE COMPATIBLE WITH EXISTING PANELBOARD.

B. CIRCUIT BREAKERS SHALL BE "THERMAL MAGNETIC" TYPE, QUICK-MAKE, QUICK- BREAK, TRIP-FREE WITH NON-WELDING CONTACTS COMPENSATED FOR AMBIENT TEMPERATURES AND SHALL HAVE A MINIMUM SHORT CIRCUIT RATING OF 10,000 AMPERES SYMMETRICAL FOR 120/208V PANELS AND 14,000 AMPERES SYMMETRICAL FOR 277/480V PANELS OR HIGHER WHERE NOTED. CIRCUIT BREAKERS SHALL BE FULLY RATED. SERIES RATING IS NOT ACCEPTABLE.

C. MULTI-WIRE BRANCH CIRCUITS SUPPLYING POWER TO MORE THAN ONE DEVICE OR EQUIPMENT SHALL BE PROVIDED WITH A MEANS TO DISCONNECT SIMULTANEOUSLY ALL UNGROUNDED CONDUCTORS AT THE PANELBOARD WHERE THE BRANCH CIRCUIT ORIGINATES. CONTRACTOR SHALL COORDINATE WITH LOCAL AHJ THE MEANS REQUIRED TO MEET NEC SECTIONS 210.4(B). CONTRACTOR SHALL REMOVE AND REPLACE ALL EXISTING CIRCUIT BREAKERS THAT CAN NOT BE RETROFITTED WITH TIE BARS AS REQUIRED TO COMPLY WITH REQUIREMENT.

D. TANDEM BREAKERS MAY NOT BE UTILIZED.

E. PROVIDE BREAKER LOCKS FOR ALL NEW AND EXISTING BREAKERS SERVING EXIT LIGHTS, EMERGENCY LIGHTING AND EMERGENCY BATTERY PACKS.

F. WHERE INDICATED TO BE LSI TYPE, CIRCUIT BREAKERS SHALL BE SOLID-STATE ELECTRONIC TRIP WITH FIELD-ADJUSTABLE LONG-TIME AND SHORT-TIME PICKUP LEVELS, LONG-TIME AND SHORT-TIME TIME ADJUSTMENTS, INSTANTANEOUS TRIP. PROVIDE ADJUSTABLE GROUND FAULT PICKUP AND TIME DELAY WHERE INDICATED AS LSIG TYPE.

G. CIRCUIT BREAKERS WITH FRAME RATINGS 1200 AMPS OR GREATER SHALL BE PROVIDED WITH ENERGY REDUCING MAINTENANCE SWITCH WITH LOCAL STATUS INDICATOR.

2.10 PANELBOARDS:

A. PANELBOARD BOXES SHALL BE MADE OF SHEET STEEL "BENT-UP" OR RIVETED OR BOLTED TOGETHER WITH EXTERIOR ANGLE IRON FRAME. BOX SHALL BE OF SUFFICIENT SIZE TO ALLOW A GUTTER AT LEAST 6" IN WIDTH ENTIRELY SURROUNDING EACH SECTION OF BOARD. PANELBOARDS SHALL BE SURFACE OR FLUSH TYPE AS NOTED ON THE DRAWINGS. PANEL BOX AND COVER SHALL BE GIVEN TWO COATS OF GRAY ENAMEL PAINT.

B. PROVIDE CODE GAUGE STEEL DOORS FOR ALL PANELBOARD BOXES. FRONT COVER SHALL BE A "DOOR WITHIN A DOOR" TYPE. THE OUTER DOOR (TRIM) SHALL ALLOW ACCESS TO ENTIRE PANELBOARD BOX INCLUDING GUTTER SPACES. OUTER DOOR (TRIM) SHALL BE ATTACHED DIRECTLY TO BOX BY A FULL LENGTH PIANO HINGE. THE INNER DOOR SHALL ALLOW ACCESS TO CIRCUIT BREAKERS ONLY. PROVIDE LOCK AND SET OF KEYS FOR INNER DOOR PER PANELBOARD.

C. PANEL BUS BARS SHALL BE COPPER PROPORTIONED FOR A CURRENT DENSITY OF 1000 AMPERES PER SQUARE INCH OF CROSS-SECTIONAL AREA. PROVIDE A COPPER EQUIPMENT GROUND BAR IN EACH PANEL, AND A COPPER ISOLATED GROUND BAR IN NOTED PANELS.

D. PANELS SHALL BE PROVIDED WITH NEUTRAL BARS SIZED AT 200% OF THE PHASE BUS BARS.

E. ALL MAIN BREAKERS SHALL BE SEPARATELY MOUNTED ON TOP OR BOTTOM OF PANEL TO SUIT CABLE ENTRY. BRANCH MOUNTING IS NOT ACCEPTABLE.

F. ALL FLOOR MOUNTED DISTRIBUTION EQUIPMENT, INCLUDING PANELBOARDS AND/OR DISTRIBUTION PANELBOARDS SHALL BE INSTALLED ON A 4" HIGH CONCRETE BASE TO EXTEND 2" ON ALL SIDES WITH CHAMFERED CORNERS. ALL CONCRETE WORK TO BE INCLUDED, IN THIS DIVISION.

G. A TYPEWRITTEN LIST OF CIRCUITS SHOWING CLEARLY THE LOADS SUPPLIED BY EACH CIRCUIT SHALL BE INSTALLED ON THE INSIDE OF EACH PANEL BOARD DOOR. THIS LIST SHALL BE MOUNTED IN A STEEL FRAME UNDER A PLASTIC WINDOW. EACH PANEL SHALL BE EXTERNALLY TAGGED WITH PERMANENT LAMACOID PLATE INDICATING PANEL DESIGNATION AND VOLTAGE. PANEL DIRECTORY SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLING IN PANELBOARD. THE IDENTIFICATION SHALL INCLUDE AN APPROVED DEGREE OF DETAIL THAT ALLOWS EACH CIRCUIT TO BE DISTINGUISHED FROM ALL OTHER. CIRCUITS USED FOR THE SAME PURPOSE MUST BE IDENTIFIED BY THEIR LOCATION. LOAD DESCRIPTION SHALL INCLUDE COLUMN GRID LINES, ROOM NUMBERS, WORKSTATION NUMBERS OR OTHER INFORMATION TO CLEARLY DISTINGUISH LOAD LOCATION.

H. PHASE LEGS OF ALL PANELS SHALL BE BALANCED AT SUPPLY POINT TO WITHIN 10% AFTER ALL CIRCUITS ARE WIRED AND LOADS CONNECTED.

I. ALL PANELBOARDS SHALL HAVE A MINIMUM SHORT CIRCUIT RATING AS INDICATED ON DRAWINGS. EQUIPMENT SHALL BE FULLY RATED. SERIES RATING IS NOT ACCEPTABLE.

2.11 TRANSFORMERS:

A. THREE PHASE TRANSFORMERS SHALL BE 480 VOLT DELTA PRIMARY AND 208/120 VOLT WYE SECONDARY IN A NEMA 1 VENTILATED ENCLOSURE, UNLESS OTHERWISE NOTED. TRANSFORMERS SHALL HAVE A MINIMUM OF TWO 2-1/2% FULL CAPACITY PRIMARY TAPS ABOVE AND FOUR 2-1/2% FULL CAPACITY PRIMARY TAPS BELOW NORMAL PRIMARY VOLTAGE. ADJUST SECONDARY VOLTAGE TO BE 208/120 WHEN INSTALLED.

B. TRANSFORMERS 15KVA AND ABOVE SHALL BE 115 DEGREE CENTIGRADE TEMPERATURE RISE ABOVE 40 DEGREES CENTIGRADE AMBIENT BASED UPON A 220°C INSULATION SYSTEM (CLASS 220).

C. DRY TYPE TRANSFORMERS SHALL BE OF THE SAME MANUFACTURER AS THE BASE BUILDING BUT WITH A DESIGN K FACTOR OF 13 AND WITH ELECTROSTATICALLY SHIELDED, COPPER WINDINGS. TRANSFORMERS SHALL NOT BE "T-TAP" TYPE.

D. ALL NON LINEAR LOAD TRANSFORMERS SHALL BE INSTALLED WITH NEUTRAL CONDUCTORS SIZED AT TWICE THE AMPACITY OF THE PHASE CONDUCTORS. PROVIDE DOUBLE LUGS ON TRANSFORMER NEUTRALS FOR CONNECTION OF CABLES.

E. TRANSFORMERS SHALL BE PROVIDED WITH COPPER WINDINGS.

F. 75KVA TRANSFORMERS & LOWER SHALL BE SUSPENDED FROM SLAB WITH SUSPENSION RODS AND SPRING ISOLATORS.

G. TRANSFORMERS NOTED AS FLOOR MOUNTED SHALL BE INSTALLED WITH SPRING VIBRATION ISOLATION.

H. TRANSFORMERS SHALL COMPLY WITH, OR EXCEED, DEPARTMENT OF ENERGY 2016 ENERGY EFFICIENCY REQUIREMENTS.

2.12 LIGHTING FIXTURES:

A. ALL LIGHTING FIXTURE MOUNTING HARDWARE SHALL MATCH AND BE COORDINATED WITH THE NEW CEILING SYSTEM TYPE. ALL FIXTURES INSTALLED IN SUSPENDED CEILINGS SHALL BE EQUIPPED WITH "EARTHQUAKE" CLIPS. ALL LIGHTING FIXTURES SHALL BE INSTALLED WITH SEISMIC BRACING AS INDICATED ON ARCHITECTURAL CEILING DETAILS.

B. ALL FIXTURES SHALL BE FREE OF LIGHT LEAKS BELOW CEILING.

C. FLUORESCENT BALLASTS SHALL BE UL'S CLASS "P" AND SHALL CONFORM TO ANSI AND UL SPECIFICATION WITH LABELS OF APPROVAL BY UL AND CERTIFICATION BY C.B.M. BALLASTS SHALL COMPLY WITH THE STATE ENERGY CODE. BALLASTS FOR FLUORESCENT LAMPS SHALL BE OF THE ENERGY SAVING SUPER LOW HEAT DESIGN WITH HIGH POWER FACTOR (0.9 MINIMUM) AND A HIGH BALLAST FACTOR (0.95 MINIMUM). ALL BALLASTS SHALL BE SUPPLIED AS UNIVERSAL VOLTAGE, SUITABLE TO BE CONNECTED TO 120 VOLT OR 277 VOLT LIGHTING.

D. WHERE DIMMING OF FIXTURES IS REQUIRED, THE ELECTRONIC CONTROL COMPONENTS INSTALLED MUST BE COMPATIBLE WITH THE DIMMING SPECIFIED.

E. ALL FLUORESCENT LIGHTING FIXTURES THAT UTILIZE DOUBLE ENDED LAMPS OR ARE SUPPLIED FROM MULTI-WIRE BRANCH CIRCUITS AND CONTAIN BALLASTS THAT CAN BE SERVICED IN PLACE SHALL BE PROVIDED WITH A DISCONNECTING MEANS.

F. REFER TO ARCHITECTURAL DRAWINGS FOR ALL LIGHTING FIXTURE SPECIFICATIONS. IF ALTERNATE FIXTURES ARE SUPPLIED, FIXTURE INPUT WATTAGE SHALL NOT EXCEED SPECIFIED WATTAGE.

G. ALL FIXTURES SHALL BE COMPLETE WITH NEW LAMPS, CONTROL COMPONENTS, ACCESSORIES AND MOUNTING APPURTENANCES.

H. ALL LIGHT FIXTURES SHALL BE LISTED BY UL, CSA, ETL OR OTHER NATIONALLY RECOGNIZED TESTING LABORATORY IN NORTH AMERICA. <u>CE LISTED FIXTURES SHALL NOT BE APPROVED OR INSTALLED</u>.

I. CONTRACTOR SHALL AIM AND ADJUST ALL LIGHT FIXTURES IN PRESENCE OF LIGHTING CONSULTANT.

H. ALL INCANDESCENT LIGHT FIXTURES SHALL BE PROVIDED WITH DIMMABLE LED LAMPS.

I. ALL FIXTURES NOTED AS EM OR EM/NL SHALL BE EQUIPPED WITH INTEGRAL EMERGENCY BATTERY AND SHALL HAVE TEST SWITCH AND/OR BATTERY INDICATOR LIGHT BUILT INTEGRAL TO THE FIXTURE. IF NOT AVAILABLE FROM MANUFACTURER, CONTRACTOR TO PROVIDE A REMOTE (PLENUM RATED) INVERTER IN CEILING ADJACENT TO FIXTURE WITH INDICATOR LIGHT/TEST SWITCH INSTALLED IN CEILING ADJACENT TO THE LIGHT FIXTURE. BATTERY UNITS SHALL BE RATED FOR AT LEAST 10 WATT POWER OUTPUT.

2.13 LIGHTING CONTROLS:

A. CONTRACTOR PROVIDE ALL LOW VOLTAGE AND/OR ETHERNET WIRING REQUIRED TO MAKE A COMPLETE OPERABLE SYSTEM.

B. CONTRACTOR IS OBLIGATED TO INSTALL THE SYSTEM IN OBSERVANCE OF ALL APPLICABLE LOCAL AND NATIONAL CODES IN ACCORDANCE WITH APPROVED SUBMITTALS INCLUDING ALL NOTES AND REVISIONS.

C. CONTRACTOR SHALL INSTALL ALL CONTROL COMPONENTS, SENSORS, AND SWITCHES IN ACCORDANCE WITH THESE DRAWINGS AND MANUFACTURER SUBMITTALS TO DEVELOP A FULLY FUNCTIONAL, CODE COMPLIANT SYSTEM.

D. LIGHTING CONTROL SYSTEM SHALL INCLUDE:

1. PREWIRE VISIT FROM LOCAL MANUFACTURER'S TECH TO SUPPORT ELECTRICAL CONTRACTOR AND ANSWER QUESTIONS PRIOR TO INSTALLATION.
2. SYSTEM MANUFACTURER OR REPRESENTATIVE SHALL PROVIDE OR ORCHESTRATE PROJECT MANAGEMENT AND QUALIFIED STARTUP OR COMMISSIONING SERVICES TO MEET THE SPECIFICATION AND CONTROL INTENT AND PROVIDE DOCUMENTATION TO THE CLIENT THAT THE SYSTEM HAS BEEN COMMISSIONED AS SUCH.
3. SYSTEM MANUFACTURER OR REPRESENTATIVE SHALL PROVIDE TRAINING FOR THE END USER AS PER PROJECT REQUIREMENTS AND ONE ADDITIONAL DAY ON SITE 45-60 DAYS AFTER STARTUP FOR SYSTEM ADJUSTMENT AND ADDITIONAL TRAINING IF REQUIRED.

2.14 GROUNDING:

A. PROVIDE SUPPLEMENTARY GROUND BONDING WHERE METALLIC CONDUITS TERMINATE AT METAL CLAD EQUIPMENT (OR AT THE METAL PULL BOX OF EQUIPMENT) FOR WHICH A GROUND BUS IS SPECIFIED WITH A BUSHING OF THE GROUNDING TYPE CONNECTED INDIVIDUALLY TO GROUND BUS.

B. GROUND ALL EQUIPMENT IN ACCORDANCE WITH LATEST EDITION OF THE NATIONAL ELECTRICAL CODE. PROVIDE SEPARATE GREEN INSULATED GROUND CONDUCTOR IN EVERY CONDUIT TO ALL DEVICES, LIGHTING FIXTURES AND FEEDERS (PANELBOARDS, DISCONNECT SWITCHES, ETC.)

C. ALL GROUND WIRES SHALL BE SUITABLY PROTECTED FROM MECHANICAL INJURY.

D. SPECIALTY GROUNDING AS DETAILED ON THE DESIGN DRAWINGS OR REQUESTED AS ELECTRICAL CONTRACTOR SCOPE BY OTHER CONSULTANTS DOCUMENTS.

2.15 SELF-POWERED EXIT SIGNS:

A. FURNISH AND INSTALL SELF-POWERED EXIT SIGNS COMPLETE WITH INTEGRAL BATTERY/CHARGER CAPABLE OF OPERATING THE SIGN FOR 90 MINUTES IN THE EVENT OF A POWER FAILURE.

B. UNIT SHALL HAVE SEALED NICKEL CADMIUM BATTERY, LED ILLUMINATORS, TEST BUTTON AND INDICATING LIGHT.

C. BATTERY/CHARGER PACK SHALL BE MOUNTED ABOVE THE SIGN. CEILING MOUNTED SIGNS SHALL BE ARRANGED SO THAT THE PACK IS RECESSED ABOVE THE CEILING. WALL MOUNTED SIGNS SHALL HAVE CONCEALED BATTERY PACKS.

D. EDGE LIT PANEL SHALL HAVE LEGEND "EXIT" IN RED LETTERING, 6" HIGH, OR 8" HIGH IN PLACES OF ASSEMBLY OR WHERE REQUIRED BY LL.

E. EXIT SIGNS SHALL MATCH BUILDING STANDARD OR BE MANUFACTURED BY ATLITE, LITHONIA, ENCORE, OR APPROVED EQUAL.

F. SINGLE FACE AND DOUBLE FACE EXIT SIGNS SHALL BE PROVIDED WITH MYLAR BACKING.

G. EXTEND WIRING TO NEW EMERGENCY LUMINAIRES FROM EXISTING CIRCUITS AVAILABLE IN CEILING SPACE. DO NOT OVERLOAD CIRCUIT. PROVIDE NEW CIRCUITS AS NECESSARY, IF REQUIRED. PLANS DENOTE FINAL LOCATION OF EMERGENCY LUMINAIRES. RECIRCUIT EXISTING NORMAL AND EMERGENCY LIGHTING CIRCUITS TO OBTAIN LAYOUT AS SHOWN.

H. CONNECT EXIT LIGHTS TO NEAREST EXIT LIGHT CIRCUIT ON THIS FLOOR (IF EXISTS). EXIT LIGHTS TO MATCH BASE BUILDING STANDARD UNLESS OTHERWISE NOTED. DO NOT OVERLOAD CIRCUIT. PROVIDE NEW CIRCUITS AS NECESSARY, IF REQUIRED.

I. EXIT SIGN SHALL BE UL LISTED AND SHALL MEET THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.

J. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO <u>INCLUDE DEDUCT-ALTERNATE COST</u> TO REPLACE ALL EXISTING BASE BUILDING RED "EXIT" SIGNS (INDICATED ON THE PLANS AS EXISTING OR EXISTING TO BE RELOCATED) WITH NEW EDGELIT LED TYPE FULLY RECESSED.

2.16 MOTORS AND APPARATUS FURNISHED BY OTHERS:

A. INSTALL ALL WIRING IN CONDUITS. CONNECT CONDUIT TO MOTOR CONDUIT TERMINAL BOXES WITH 18" TO 24" OF FLEXIBLE CONDUIT FROM END OF CONDUIT TO MOTOR TERMINAL BOX.

B. PROVIDE CONNECTIONS TO ALL "EXISTING TO BE RELOCATED" AS WELL AS NEW MOTORS, CONTROLLERS, DISCONNECTS, ACTUATING AND CONTROL DEVICES. CONDUCTORS TO MOTORS TO BE THE SAME AS TO CONTROLLERS EXCEPT AS NOTED.

C. MOTORS, CONTROLLERS, ACTUATING AND CONTROL DEVICES WILL BE SUPPLIED UNDER SECTIONS OF WORK EXCEPT AS NOTED.

D. ACCEPT DELIVERY OF CONTROLLERS, OR RELOCATE EXISTING CONTROLLERS, ERECT ON WALLS OR ABOVE CEILING AS INDICATED AND WIRE UNDER THIS SECTION EXCEPT AS NOTED.

E. WIRE ALL MOTOR AND ACTUATING DEVICES SUPPLIED AND INSTALLED UNDER OTHER SECTIONS OF WORK EXCEPT AS NOTED.

F. FURNISH DISCONNECT SWITCHES UNDER THIS SECTIONS OF WORK EXCEPT AS NOTED.

G. LEAVE MOTOR, CONTROL AND ACTUATING EQUIPMENT READY FOR OPERATION.

H. ASCERTAIN EXACT LOCATIONS OF CONTROLLERS AND CONTROL SERVICES PRIOR TO INSTALLATION AND PULLING WIRING.

I. COORDINATE WITH ALL OTHER TRADES AND PROVIDE ALL WIRING, CONDUIT, JUNCTION BOXES, DISCONNECTS, CONNECTIONS AND TERMINATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER WIRING AND NECESSARY ELECTRICAL ADJUSTMENTS AS REQUIRED BY THE EQUIPMENT SPECIFICATION.

J. UNLESS OTHERWISE NOTED, ALL STARTERS AND CONTROL WIRING TO BE PROVIDED BY DIVISION 15. DIVISION 16 TO RECEIVE, INSTALL STARTERS AND PROVIDE ALL LINE-SIDE AND LOAD-SIDE POWER WIRING AND REQUIRED ISOLATING DISCONNECT SWITCHES.

K. CONFIRM ELECTRICAL REQUIREMENTS AND EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT WITH DIVISION 15 PRIOR TO INSTALLATION

2.17 CUTTING AND PATCHING:

A. ALL CUTTING AND PATCHING REQUIRED TO THE EXISTING BUILDING STRUCTURE FOR THE WORK SHALL BE INCLUDED UNDER THIS CONTRACT AND BE ACCEPTABLE TO THE LANDLORD. OBTAIN WRITTEN APPROVAL FROM LANDLORD BEFORE ANY CUTTING IS CARRIED OUT.

B. WHERE CONDUITS PASS THROUGH FIRE RATED WALLS OR FLOORS, PROVIDE FIRE STOPPING MATERIAL LISTED WITH, AND BEAR LABEL OF CSA AND ULC, AND MAINTAIN SAME FIRE RATING OF BUILDING COMPONENT PENETRATION.

2.18 BALANCING AND METERING:

A. MEASURE PHASE CURRENT TO PANELBOARDS WITH NORMAL LOADS OPERATING AT TIME OF ACCEPTANCE. ADJUST BRANCH CIRCUIT CONNECTIONS AS REQUIRED TO OBTAIN BEST BALANCE OF CURRENT BETWEEN PHASES AND SUBMIT A REPORT FOR INSERTION INTO MANUALS.

B. METER ALL POWER CIRCUIT FEEDERS. IF GROUND RESISTANCE ON ANY CIRCUIT IS LESS THAN THAT REQUIRED BY NEC OR OTHER GOVERNING REGULATIONS, SUCH CIRCUITS ARE TO BE CONSIDERED DEFECTIVE AND MUST BE REPLACED.

2.19 ELECTRICAL IDENTIFICATION

A. IDENTIFICATION DEVICES: A SINGLE TYPE OF IDENTIFICATION PRODUCT FOR EACH APPLICATION CATEGORY. USE COLORS PRESCRIBED BY ANSI A13.1, NFPA 70, AND THESE SPECIFICATIONS.

B. RACEWAY AND CABLE LABELS: COMPLY WITH ANSI A13.1, TABLE 3, FOR MINIMUM SIZE OF LETTERS FOR LEGEND AND MINIMUM LENGTH OF COLOR FIELD FOR EACH RACEWAY AND CABLE SIZE.

1. TYPE: PRETENSIONED, WRAPAROUND PLASTIC SLEEVES. FLEXIBLE, PREPRINTED, COLOR-CODED, ACRYLIC BAND SIZED TO SUIT THE DIAMETER OF THE ITEM IT IDENTIFIES.
2. TYPE: PREPRINTED, FLEXIBLE, SELF-ADHESIVE, VINYL. LEGEND IS OVERLAMINATED WITH A CLEAR, WEATHER- AND CHEMICAL-RESISTANT COATING.
3. COLOR: BLACK LETTERS ON ORANGE BACKGROUND.
4. LEGEND: INDICATES VOLTAGE.

C. COLORED ADHESIVE MARKING TAPE FOR RACEWAYS, WIRES, AND CABLES: SELF-ADHESIVE VINYL TAPE, NOT LESS THAN 1 INCH WIDE BY 3 MILS THICK.

D. UNDERGROUND WARNING TAPE: PERMANENT, BRIGHT-COLORED, CONTINUOUS-PRINTED, VINYL TAPE WITH THE FOLLOWING FEATURES:

1. NOT LESS THAN 6 INCHES WIDE BY 4 MILS THICK (150 MM WIDE BY 0.102 MM THICK).
2. COMPOUNDED FOR PERMANENT DIRECT-BURIAL SERVICE.
3. EMBEDDED CONTINUOUS METALLIC STRIP OR CORE.
4. PRINTED LEGEND THAT INDICATES TYPE OF UNDERGROUND LINE.

E. TAPE MARKERS FOR WIRE: VINYL OR VINYL-CLOTH, SELF-ADHESIVE, WRAPAROUND TYPE WITH PREPRINTED NUMBERS AND LETTERS.

F. COLOR-CODING CABLE TIES: TYPE 6/6 NYLON, SELF-LOCKING TYPE. COLORS TO SUIT CODING SCHEME.

G. ENGRAVED-PLASTIC LABELS, SIGNS, AND INSTRUCTION PLATES: ENGRAVING STOCK, MELAMINE PLASTIC LAMINATE PUNCHED OR DRILLED FOR MECHANICAL FASTENERS 1/16-INCH (1.6-MM) MINIMUM THICKNESS FOR SIGNS UP TO 20 SQ. IN. (129 SQ. CM) AND 1/8-INCH (3.2-MM) MINIMUM THICKNESS FOR LARGER SIZES. ENGRAVED LEGEND IN BLACK LETTERS ON WHITE BACKGROUND.

H. INTERIOR WARNING AND CAUTION SIGNS: COMPLY WITH 29 CFR, CHAPTER XVII, PART 1910.145. PREPRINTED, ALUMINUM, BAKED-ENAMEL-FINISH SIGNS, PUNCHED OR DRILLED FOR MECHANICAL FASTENERS, WITH COLORS, LEGEND, AND SIZE APPROPRIATE TO THE APPLICATION.

I. EXTERIOR WARNING AND CAUTION SIGNS: COMPLY WITH 29 CFR, CHAPTER XVII, PART 1910.145. WEATHER-RESISTANT, NONFADING, PREPRINTED, CELLULOSE-ACETATE BUTYRATE SIGNS WITH 0.0396-INCH (1-MM), GALVANIZED-STEEL BACKING, WITH COLORS, LEGEND, AND SIZE APPROPRIATE TO THE APPLICATION. 1/4-INCH (6-MM) GROMMETS IN CORNERS FOR MOUNTING.

J. FASTENERS FOR NAMEPLATES AND SIGNS: SELF-TAPPING, STAINLESS-STEEL SCREWS OR NO. 10/32 STAINLESS-STEEL MACHINE SCREWS WITH NUTS AND FLAT AND LOCK WASHERS.

2.20 EQUIPMENT FOR UTILITY COMPANY'S ELECTRICITY METERING

A. CURRENT-TRANSFORMER CABINETS: COMPLY WITH REQUIREMENTS OF ELECTRICAL POWER UTILITY COMPANY.

B. METER SOCKETS: COMPLY WITH REQUIREMENTS OF ELECTRICAL POWER UTILITY COMPANY.

C. MODULAR METER CENTERS: FACTORY-COORDINATED ASSEMBLY OF A MAIN METER CENTER CIRCUIT-BREAKER UNIT WITH WIREWAYS, TENANT METER SOCKET MODULES, AND TENANT BRANCH CIRCUIT BREAKERS ARRANGED IN ADJACENT VERTICAL SECTIONS, COMPLETE WITH INTERCONNECTING BUSES.

1. HOUSING: NEMA 250, [TYPE 1] [TYPE 3R] ENCLOSURE.
2. TENANT BRANCH CIRCUIT BREAKERS: SERIES COMBINATION RATED TO PROTECT CIRCUIT BREAKERS IN DOWNSTREAM PANELBOARDS THAT HAVE 65,000-A INTERRUPTING CAPACITY, MINIMUM.

2.21 EQUIPMENT FOR ELECTRICITY METERING BY OWNER

A. METER: ELECTRONIC KILOWATT-HOUR/DEMAND MEASURING TO RECORD ELECTRICITY USED AND HIGHEST PEAK DEMAND OVER A TIME PERIOD ACCORDING TO ELECTRIC UTILITY. METER IS DESIGNED FOR USE ON THE TYPE AND RATING OF CIRCUIT INDICATED FOR ITS APPLICATION.

1. KILOWATT-DEMAND DISPLAY: DIGITAL, LIQUID-CRYSTAL TYPE TO REGISTER HIGHEST PEAK DEMAND.
2. ENCLOSURE: NEMA 250, TYPE 1, MINIMUM, WITH HASP FOR PADLOCKING OR SEALING.
3. MEMORY BACKUP: SELF-CONTAINED TO MAINTAIN MEMORY THROUGHOUT POWER OUTAGES OF 72 HOURS, MINIMUM.
4. SENSORS: CURRENT-SENSING TYPE, WITH CURRENT OR VOLTAGE OUTPUT, SELECTED FOR OPTIMUM RANGE AND ACCURACY FOR THE RATINGS OF THE CIRCUITS INDICATED FOR THIS APPLICATION.
5. ACCURACY: NATIONALLY RECOGNIZED TESTING LABORATORY CERTIFIED TO MEET ANSI C12.1 SPECIFICATIONS.
6. DEMAND SIGNAL COMMUNICATION INTERFACE: MATCH SIGNAL TO BUILDING AUTOMATION SYSTEM INPUT THAT CONVEYS DATA ON INSTANTANEOUS/INTEGRATED DEMAND LEVEL MEASURED BY METER USED FOR LOAD SWITCHING TO CONTROL DEMAND.

C. CURRENT-TRANSFORMER CABINETS: LISTED OR RECOMMENDED BY METERING EQUIPMENT MANUFACTURER FOR USE WITH SENSORS INDICATED.

2.22 CONCRETE BASES

A. CONCRETE FORMS AND REINFORCEMENT MATERIALS: AS SPECIFIED IN OTHER SECTIONS OF THIS SPECIFICATION.

B. CONCRETE: 6" HIGH AS SPECIFIED IN OTHER SECTIONS OF THIS SPECIFICATION.

2.23 TOUCHUP PAINT

A. FOR EQUIPMENT: EQUIPMENT MANUFACTURER'S PAINT SELECTED TO MATCH INSTALLED EQUIPMENT FINISH.

B. GALVANIZED SURFACES: ZINC-RICH PAINT RECOMMENDED BY ITEM MANUFACTURER.

2.24 SWITCHBOARDS

A. SWITCHBOARDS UP TO 3,000 AMPERES SHALL BE FRONT CONNECTED, FRONT ACCESSIBLE SWITCHEBOARDS WITH SECTIONS FRONT ALIGNED AND DEVICES PANELMOUNTED. SWITCHBOARDS GREATER THAN 3,000 AMPERES SHALL BE FRONT-AND REAR ACCESIBLE WITH SECTIONS FRONT ALIGNED AND DEVICES INDIVIDUALLY MOUNTED.

B. SWITCHBOARD BUSING SHALL BE RATED FOR THE SHORT CIRCUIT AND VOLTAGE RATING INDICATED AND SHALL BE THREE-PHASE, FOUR-WIRE WITH GROUND BAR, UNLESS OTHERWISE NOTED. ALL BUSSING SHALL BE COPPER.

C. ALL SPACES INDICATED FOR FUTURE USE SHALL BE PROVIDED WITH BUSSING CONNECTIONS AND SUPPORTFOR FUTURE DEVICE INSTALLATION.

D. FURNISH SWITCHBOARD WITH ALL PROVISIONS NECESSARY FOR FUTURE EXTENSION OF BUSWORK AND ENCLOSURE, IF NOT DOUBLE ENDED EQUIPMENT.

E. MOLDED-CASE CIRCUIT BREAKERS (MCCB) SHALL BE INSTALLED WHERE INDICATED AND SHALL BE FULLY RATED TO MEET AVAILABLE FAULT CURRENTS. SERIES RATED SHALL NOT BE PERMITTED FOR SWITCHBOARDS. REFER TO CIRCUIT BREAKER REQUIREMENTS INCLUDED AS PART OF THIS DIVISION OF SPECIFICATIONS.

F. WHERE INDICATED TO BE LSI TYPE, CIRCUIT BREAKERS SHALL BE SOLID-STATE ELECTRONIC TRIP WITH FIELD-ADJUSTABLE LONG-TIME AND SHORT-TIME PICKUP LEVELS, LONG-TIME AND SHORT-TIME TIME ADJUSTMENTS, INSTANTANEOUS TRIP. PROVIDE ADJUSTABLE GROUND FAULT PICKUP AND TIME DELAY WHERE INDICATED AS LSIG TYPE. ALL I^2T SETTINGS SHALL BE OFF WHEN COORDINATING WITH OTHER BREAKERS, AND SHALL BE ON WHEN COORDINATING WITH FUSES OR TRANSFORMERS.

G. FUSIBLE SWITCHES SHALL BE INSTALLED WHERE INDICATED WITH SIZE AS NOTED. FUSES COMPATIBLE WITCH SWITCHES SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR IN ACCORDANCE WITH DESIGN DRAWINGS. REFER TO SWITCH AND FUSE REQUIREMENTS INCLUDED AS PART OF THIS DIVISION OF SPECIFICATIONS.

H. ALL SERVICE RATED OVERCURRENT PROTECTION DEVICES 1,000 AMPERES OR GREATER SHALL INCLUDE GFCI PROTECTION OR RELAY.

I. ALL OVERCURRENT PROTECTION DEVICES THAT ARE RATED FOR, OR CAN BE ADJUSTED TO, 1,200 AMPERES OR GREATER SHALL BE PROVIDED WITH ENERGY REDUCING MAINTENANCE SWITCH WITH LOCAL STATUS INDICATOR.

J. EACH SWITCHBOARD SECTION SHALL BE PROVIDED WITH PERMANENT LAMACOID PLATE INDICATING DESIGNATION, VOLTAGE, AMPERAGE AND SECITON NUMBER. EACH OVERCURRENT DEVICE SHALL BE PROVIDED WITH PERMANENT LAMACOID NAMEPLATE INDICATING LOAD SERVED.

K. ACCESSORY COMPONENTS:

1. KEY INTERLOCKS SHALL BE PROVIDED AS INDICATED ON THE DRAWINGS. ARRANGE SO KEYS ARE ATTACHED AT DEVICES INDICATED. THESE INTERLOCKS SHALL KEEP THE CIRCUIT BREAKERS TRIP-FREE WHEN ACTUATED. MOUNTINGS AND HARDWARE ARE INCLUDED WHERE FUTURE INSTALLATION OF KEY-INTERLOCK DEVICES IS INDICATED.
2. SWITCHBOARD SHALL BE MANUFACTURED WITH UTILITY METERING OR CLIENT SUB-METERING AS INDICATED, COORDINATE WITH UTILITY COMPANY METERING SPECIFICATIONS FOR REQUIREMENTS OR WITH CLIENT METERING VENDOR FOR REQUIREMENTS. ALL UTILITY COMPANY METERING COMPONENTS MUST BE PRE-APPROVED PRIOR TO FABRICATION.
3. PROVIDE IR SCANNING WINDOWS IN SWITCHBOARD DEAD FRONT TO ALLOW SCAN OF LINE AND LOAD SIDE LUGS AND BOLTED CONNECTIONS.
4. PROVIDE INTEGRAL/EXTERNAL SURGE PROTECTION DEVICES AS NOTED, COMPLIANT WITH THE REQUIREMENTS FOR SURGE PROTECTIONS INCLUDED AS PART OG THIS DIVISIONS OF SPECIFICATIONS.

2.27 SURGE PROTECTION DEVICES

A. SERVICE ENTRANCE: PROVIDE AND INSTALL AT MAIN SERVICE PANEL AN EXTERNALLY MOUNTED ANSI/UL 1449, 4TH EDITION, TYPE 1, 20 KA I-N SPD.

1. PROTECTION MODES SHALL BE EACH LINE TO NEUTRAL, LINE TO GROUND AND NEUTRAL TO GROUND.
2. MAXIMUM SURGE CURRENT, BASED ON SINGLE PULSE, ANSI/IEEE C62.41 WAVEFORM, SHALL BE NO LESS THAN 120 KA PER MODE.
3. SPD SHALL INCLUDE INTEGRATED DIAGNOSTICS WITH RED AND GREEN STATUS LED'S, DRY CONTACTS, AUDIBLE ALARM AND COMMUNICATIONS VIA RS-485.
4. A MINIMUM OF A 10 YEAR PARTS AND 5 YEAR LABOR WARRANTY SHALL BE INCLUDED.

B. BRANCH PANEL: PROVIDE AND INSTALL AT BRANCH PANEL AN EXTERNALLY MOUNTED ANSI/UL 1449, 4TH EDITION, TYPE 2, 20 KA I-N SPD WHERE LISTED ON DRAWINGS.

1. PROTECTION MODES SHALL BE EACH LINE TO NEUTRAL, LINE TO GROUND AND NEUTRAL TO GROUND.
2. MAXIMUM SURGE CURRENT, BASED ON SINGLE PULSE, ANSI/IEEE C62.41 WAVEFORM, SHALL BE NO LESS THAN 50 KA PER MODE.
3. SPD SHALL INCLUDE RED AND GREEN STATUS LED'S, DRY CONTACTS, AUDIBLE ALARM AND COMMUNICATIONS VIA RS-485.
4. A MINIMUM OF A 10 YEAR WARRANTY SHALL BE INCLUDED.

2.28 ACCEPTABLE MANUFACTURERS:

A. RECEPTACLES: PASS & SEYMOUR, LEVITON, OR HUBBELL

B. LIGHTING CONTROLS: WATTSTOPPER, NLIGHT, OR LUTRON

C. RACEWAYS: ALLIED TUBE & CONDUIT, NUCOR, WESTERN TUBE, WHEATLAND

D. WIRE/CABLE: SOUTHWIRE, GENERAL CABLE, OR CERRO

E. METAL CLAD CABLE: AFC, SOUTHWIRE, OR STABILOY

F. FITTINGS, COUPLINGS, BUSHINGS, CONNECTORS: OZ GEDNEY, BURNDY, NEPCO, OR THOMAS AND BETTS

G. DISCONNECT SWITCHES: EATON, GE/ABB, SQUARE D, OR SIEMENS

H. FUSES: BUSSMAN, MERSEN, OR LITTLEFUSE

I. CIRCUIT BREAKERS: EATON, GE/ABB, SQUARE D OR SIEMENS. MATCH BUILDING STANDARD

J. DISTRIBUTION BOARDS: EATON, GE/ABB, SQUARE D OR SIEMENS.

K. TRANSFORMERS: EATON, GE/ABB, SIEMENS, SQUARE D OR HAMMOND

L. FLOOR BOXES/POKE-THRU'S: WIREMOLD, HUBBELL, OR FSR

M. WIREWAYS: HUBBELL OR WIREMOLD

N. METERING: EMON, SATEC, SQUARE D, SIEMENS. MATCH BUILDING STANDARD

O. INVERTERS: MYERS POWER PRODUCTS, LITHONIA, SIGNIFY BODINE

M. SPD: CURRENT TECHNOLOGIES, SIEMENS, ASCO, LEA INTERNATIONAL

PART 3 EXECUTION

3.01 GENERAL:

A. PERFORM THE WORK AT SUCH TIME AND IN SUCH MANNER AS TO MINIMIZE INTERFERENCE WITH BUILDING'S NORMAL OPERATION. NOTIFY BUILDING MANAGEMENT REPRESENTATIVES IN ADVANCE EACH TIME A SERVICE OUTAGE OR INTERRUPTION WILL BE REQUIRED FOR THE PERFORMANCE OF SOME PHASE OF THE WORK. SCHEDULE SUCH SERVICE OUTAGE OR INTERRUPTION, ONLY AFTER HAVING RECEIVED APPROVAL OF DATE, HOUR, AND TIME INTERVAL REQUIRED THEREOF. SCHEDULE OF WORK AS DIRECTED SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE.

B. OPENINGS AROUND ELECTRICAL PENETRATIONS THROUGH FIRE RESISTANCE RATED WALLS, PARTITIONS, FLOORS, OR CEILINGS SHALL BE FIRE STOPPED USING APPROVED METHODS. SEALANT SHALL BE RATED FOR 3 HOURS. TELECOMMUNICATION CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING FIRE STOPPING IN 'IT' CONDUITS/SLEEVES/PENETRATIONS AFTER 'IT' WIRES ARE PULLED.

C. PROVIDE 277/480 VOLT DANGER LABELING AT ALL EQUIPMENT AND JUNCTION/PULL BOXES PER CODE.

D. MAINTAIN GROUND CONTINUITY THROUGHOUT ALL SYSTEMS.

E. MAINTAIN CONTINUITY AND PROTECT ALL EXISTING CIRCUITS TO REMAIN SERVING EQUIPMENT WITHIN BASE BUILDING CORE AREAS OR OTHER TENANT AREAS AFFECTED BY THE ALTERATION WORK. CONTRACTOR SHALL BE RESPONSIBLE TO TRACE ALL EXISTING CIRCUITS TO REMAIN ORIGINATING FROM PANELBOARDS, AND SUBMIT FINDINGS TO ENGINEER FOR CLARIFICATION PRIOR TO THE START OF ANY PANELBOARD WORK. WHENEVER IT IS REQUIRED THAT AN EXISTING CIRCUIT BE MODIFIED, REVISED, DISCONNECTED OR REMOVED IT SHALL BE UNDERSTOOD THAT THE CIRCUIT SHALL BE RECONNECTED AND SERVICE RE-ESTABLISHED IN THE REMAINING PORTION OF THE CIRCUIT AFFECTED BY THE ALTERNATION.

F. PRIOR TO ANY CHASING, CHOPPING, OR CORE DRILLING BEING PERFORMED, THE CONTRACTOR SHALL FIELD INVESTIGATE CONDITIONS AND COORDINATE WITH ALL APPROPRIATE TRADES TO ENSURE THAT WORK WILL BE IN HARMONY WITH OTHER WORK AND NOT AFFECTED ANY EXISTING BUILDING SYSTEMS. X-RAY SLABS IF REQUIRED. THIS WORK MUST BE APPROVED BY BUILDING MANAGEMENT PRIOR TO PROCEEDING. ALL CORING/CHASING WILL BE DONE ON OVERTIME.

G. FOR TEMPORARY POWER, FURNISH AND INSTALL WIRING FOR ADEQUATE LIGHT AND SMALL TOOLS POWER FOR THE PROJECT. THIS SHALL INCLUDE STRINGERS, LAMPS, OUTLETS, BREAKERS, AND FUSING, AS IT IS NECESSARY. ALL TEMPORARY WIRING SHALL BE REMOVED FROM SPACE AT COMPLETION OF PROJECT.

H. FURNISH AND INSTALL A MINIMUM 1" EMPTY CONDUIT FOR ALL WALL MOUNTED LOW VOLTAGE EQUIPMENT JUNCTION BOXES. CONDUIT SHALL BE STUBBED 6" ABOVE HUNG CEILING AND TURNED TOWARDS TERMINATION CLOSET ABOVE ACCESSIBLE CEILING AREA.

I. COORDINATE WITH THE BUILDING OWNER FOR ANY SERVICE INTERRUPTION OF EXISTING SYSTEMS AND GIVE NOTICE AS REQUIRED BY BUILDING RULES AND REGULATIONS OR A MINIMUM OF TEN (10) BUSINESS DAYS PRIOR TO ANY WORK, WHICHEVER IS MORE STRINGENT. CONTRACTOR IS TO PERFORM WORK ON PREMIUM TIME SO AS TO NOT DISTURB EXISTING TENANTS ON OTHER FLOORS.

J. PRIOR TO CONNECTING ANY NEW CIRCUITS TO EXISTING PANELBOARDS, CONNECTED TO FEEDERS WHICH SERVE OTHER TENANTS OR LOADS, PERFORM A 30 DAY CONTINUOUS METERING OF AMPERAGE ON ALL THREE PHASES PER NEC ARTICLE 220-87, EXCEPTION (1). SUBMIT INITIAL RESULTS TO ENGINEER FOR EVALUATION AFTER RECORDING OF 7 DAYS. NEW LOADS SHALL NOT BE CONNECTED TO AFFECTED PANELS PRIOR TO ENGINEER'S EVALUATION.

K. WHEN USING TEMPORARY LIGHTING, THE CONTRACTOR SHALL CLEARLY LABEL PANELS AND BREAKERS USED FOR LIGHTING. LOCATION OF PANELS TO BE SHOWN ON FLOOR PLAN POSTED AT ENTRANCE TO WORK AREA. PROPER TEMPORARY LIGHTING AND POWER MUST BE INSTALLED AND MAINTAINED IN ALL WORK AREAS. CONNECTIONS TO EXISTING STAIRWELL AND EXIT LIGHT SYSTEMS ARE NOT PERMITTED.

L. THE CONTRACTOR SHALL CUT BACK TO THE FLOOR, WALL OR CEILING, REMOVE WIRING AND PLUG BOTH ENDS OF CONCEALED CONDUITS MADE OBSOLETE BY THIS ALTERNATION. EXPOSED CONDUITS, WIREWAYS, OUTLET BOXES, PULL BOXES, HANGERS, ETC. MADE OBSOLETE BY THE ALTERNATION WORK SHALL BE REMOVED, UNLESS OTHERWISE NOTED.

M. IT IS POSSIBLE THAT THERE WILL BE CERTAIN REMOVALS AND RELOCATIONS OF THE EXISTING ELECTRICAL INSTALLATION NECESSARY FOR THE SATISFACTORY PERFORMANCE OF THE WORK. THESE CHANGES CANNOT BE COMPLETELY DETAILED ON THE DRAWINGS, BUT MUST BE CONSIDERED BY THE CONTRACTOR WHILE REVIEWING THE EXISTING CONDITIONS AT THE SITE AND PREPARING THE PROPOSAL.

3.02 ELECTRICAL EQUIPMENT INSTALLATION

A. HEADROOM MAINTENANCE: IF MOUNTING HEIGHTS OR OTHER LOCATION CRITERIA ARE NOT INDICATED, ARRANGE AND INSTALL COMPONENTS AND EQUIPMENT TO PROVIDE THE MAXIMUM POSSIBLE HEADROOM.

B. MATERIALS AND COMPONENTS: INSTALL LEVEL, PLUMB, AND PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS, UNLESS OTHERWISE INDICATED.

C. EQUIPMENT: INSTALL TO FACILITATE SERVICE, MAINTENANCE, AND REPAIR OR REPLACEMENT OF COMPONENTS. CONNECT FOR EASE OF DISCONNECTING, WITH MINIMUM INTERFERENCE WITH OTHER INSTALLATIONS.

D. RIGHT OF WAY: GIVE TO RACEWAYS AND PIPING SYSTEMS INSTALLED AT A REQUIRED SLOPE.

3.03 RACEWAY APPLICATION

A. USE THE FOLLOWING RACEWAYS FOR INDOOR INSTALLATIONS:

1. EXPOSED: EMT.
2. WITHIN 1.5" OF ROOF DECKING: IMC/RMC
3. CONCEALED: EMT (MC CABLE WHERE PERMISSIBLE ACCORDING TO SECTION 3.06B).
4. CONNECTION TO VIBRATING EQUIPMENT: FMC; EXCEPT IN WET OR DAMP LOCATIONS, USE LFMC.
5. DAMP OR WET LOCATIONS: IMC/RMC.
6. BOXES AND ENCLOSURES: NEMA 250, TYPE 1, UNLESS OTHERWISE INDICATED.

B. USE THE FOLLOWING RACEWAYS FOR OUTDOOR INSTALLATIONS:

1. EXPOSED: IMC/RMC.
2. CONCEALED: IMC/RMC.
3. UNDERGROUND, BELOW SLAB: RNC - SCHEDULE 40 PVC.
4. UNDERGROUND, ALL OTHER LOCATIONS: RNC - SCHEDULE 80 PVC.
5. CONNECTION TO VIBRATING EQUIPMENT: LFMC.
6. BOXES AND ENCLOSURES: NEMA 250, TYPE 3R OR TYPE 4.

3.04 RACEWAY AND CABLE INSTALLATION

A. CONCEAL RACEWAYS AND CABLES, UNLESS OTHERWISE INDICATED, WITHIN FINISHED WALLS, CEILINGS, AND FLOORS.

B. INSTALL RACEWAYS AND CABLES AT LEAST 6 INCHES (150 MM) AWAY FROM PARALLEL RUNS OF FLUES AND STEAM OR HOT-WATER PIPES. LOCATE HORIZONTAL RACEWAY RUNS ABOVE WATER AND STEAM PIPING.

C. USE TEMPORARY RACEWAY CAPS TO PREVENT FOREIGN MATTER FROM ENTERING.

D. MAKE CONDUIT BENDS AND OFFSETS SO ID IS NOT REDUCED. KEEP LEGS OF BENDS IN THE SAME PLANE AND STRAIGHT LEGS OF OFFSETS PARALLEL, UNLESS OTHERWISE INDICATED.

E. USE RACEWAY AND CABLE FITTINGS COMPATIBLE WITH RACEWAYS AND CABLES AND SUITABLE FOR USE AND LOCATION.

F. INSTALL RACEWAYS EMBEDDED IN SLABS IN MIDDLE THIRD OF SLAB THICKNESS WHERE PRACTICAL, AND LEAVE AT LEAST 1-INCH CONCRETE COVER. OBTAIN STRUCTURAL ENGINEER'S APPROVAL PRIOR TO INSTALLATION.

1. SECURE RACEWAYS TO REINFORCING RODS TO PREVENT SAGGING OR SHIFTING DURING CONCRETE PLACEMENT.
2. SPACE RACEWAYS LATERALLY TO PREVENT VOIDS IN CONCRETE.
3. INSTALL CONDUIT LARGER THAN 1-INCH TRADE SIZE (DN27) PARALLEL TO OR AT RIGHT ANGLES TO MAIN REINFORCEMENT. WHERE CONDUIT IS AT RIGHT ANGLES TO REINFORCEMENT, PLACE CONDUIT CLOSE TO SLAB SUPPORT.
4. TRANSITION FROM SCHEDULE 40 NONMETALLIC TUBING TO SCHEDULE 80 NONMETALLIC CONDUIT, RIGID STEEL CONDUIT, OR IMC BEFORE RISING ABOVE FLOOR.
5. MAKE BENDS IN EXPOSED PARALLEL OR BANKED RUNS FROM SAME CENTERLINE TO MAKE BENDS PARALLEL. USE FACTORY ELBOWS ONLY WHERE ELBOWS CAN BE INSTALLED PARALLEL; OTHERWISE, PROVIDE FIELD BENDS FOR EXPOSED PARALLEL RACEWAYS.

G. INSTALL PULL WIRES IN EMPTY RACEWAYS. USE NO. 14 AWG ZINC-COATED STEEL OR MONOFILAMENT PLASTIC LINE WITH NOT LESS THAN 200-LB TENSILE STRENGTH. LEAVE AT LEAST 12 INCHES OF SLACK AT EACH END OF THE PULL WIRE.

H. INSTALL TELEPHONE AND SIGNAL SYSTEM RACEWAYS, 2-INCH TRADE SIZE AND SMALLER, IN MAXIMUM LENGTHS OF 100 FEET AND WITH A MAXIMUM OF TWO 90-DEGREE BENDS OR EQUIVALENT. SEPARATE LENGTHS WITH PULL OR JUNCTION BOXES WHERE NECESSARY TO COMPLY WITH THESE REQUIREMENTS, IN ADDITION TO REQUIREMENTS ABOVE.

I. CONNECT MOTORS AND EQUIPMENT SUBJECT TO VIBRATION, NOISE TRANSMISSION, OR MOVEMENT WITH A MAXIMUM OF 72-INCH (1830-MM) FLEXIBLE CONDUIT. INSTALL LFMC IN WET OR DAMP LOCATIONS. INSTALL SEPARATE GROUND CONDUCTOR ACROSS FLEXIBLE CONNECTIONS.

J. SET FLOOR BOXES LEVEL AND TRIM AFTER INSTALLATION TO FIT FLUSH TO FINISHED FLOOR SURFACE.

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PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

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SHEET TITLE:
ELECTRICAL SPECIFICATIONS

SHEET NO.
E1.2

3.05 WIRING METHODS FOR POWER, LIGHTING, AND CONTROL CIRCUITS

A. FEEDERS: TYPE THHN/THWN INSULATED CONDUCTORS IN RACEWAY

B. UNDERGROUND FEEDERS AND BRANCH CIRCUITS: TYPE THWN OR SINGLE-WIRE, TYPE UF INSULATED CONDUCTORS IN RACEWAY.

C. BRANCH CIRCUITS: TYPE THW OR THHN/THWN INSULATED CONDUCTORS IN RACEWAY WHERE EXPOSED. METAL-CLAD CABLE SHALL BE PERMITTED WHERE PERMITTED BY AUTHORITIES HAVING JURISDICTION AND WHEN APPROVED BY LANDLORD RULES AND REGULATIONS AND BY TENANT. METAL-CLAD CABLE SHALL NOT BE INSTALLED WITHIN ELECTRIC CLOSETS OR DIRECTLY INTO PANELBOARDS.

D. REMOTE-CONTROL SIGNALING AND POWER-LIMITED CIRCUITS: TYPE THHN/THWN INSULATED CONDUCTORS IN RACEWAY FOR CLASSES 1, 2, AND 3, UNLESS OTHERWISE INDICATED. CONDUCTORS USED FOR LOW-VOLTAGE SYSTEMS INCLUDING LIGHTING CONTROLS, HVAC CONTROLS, ETC. SHALL NOT SHARE THE SAME RACEWAY/ENCLOSURE AS LINE VOLTAGE CONDUCTORS.

E. MULTI-WIRE BRANCH CIRCUITS SHALL BE PROVIDED WITH A MEANS TO DISCONNECT SIMULTANEOUSLY ALL UNGROUNDED CONDUCTORS AT THE PANELBOARD WHERE THE BRANCH CIRCUIT ORIGINATES.

3.06 WIRING INSTALLATION

A. ALL CONDUCTORS SHALL BE RUN IN CONDUIT. [SEE WIRE AND CABLE SECTION 3.06B FOR ALTERNATE PRICING TO UTILIZE MC CABLE WHERE PERMISSIBLE.]

B. METAL CLAD (TYPE MC) FOR CONCEALED BRANCH CIRCUITRY IN TENANT SPACE ONLY MAYBE USED WHEN APPROVED BY TENANT AND BUILDING MANAGEMENT AND WHERE PERMITTED BY CODE. EMT SHALL BE USED OUTSIDE TENANT SPACE AND IN BUILDING CLOSETS. CONTRACTOR SHALL SUBMIT A DEDUCT ALTERNATE PRICE FOR USE OF MC IN LIEU OF EMT THROUGHOUT IN SUBMISSION OF BID. METAL CLAD (TYPE MC) SHALL NOT BE INSTALLED INTO PANELBOARDS.

C. WIRE CONNECTORS AND SPLICES: UNITS OF SIZE, AMPACITY RATING, MATERIAL, TYPE, AND CLASS SUITABLE FOR SERVICE INDICATED.

D. THE MINIMUM WIRE SIZE FOR BRANCH CIRCUITS SHALL BE NO. 12 AWG EXCEPT 120 VOLT CIRCUITS OVER 100' IN LENGTH SHALL BE NO. 10 AWG.

E. ALL FEEDER CONDUCTORS SHALL BE SIZED FOR MAXIMUM 2% VOLTAGE DROP PER ASHRAE 90.1-2010 8.4.1.1. BRANCH CIRCUITS SHALL ALSO BE SIZED FOR 2.5% VOLTAGE DROP

F. TAG ALL FEEDERS IN ALL PULL BOXES, GUTTER SPACES, AND WIREWAYS THROUGH WHICH THEY PASS.

G. TERMINATE STRANDED CONDUCTORS NO. 8 AWG AND LARGER, AT SWITCHBOARDS, TRANSFORMERS, UPS SYSTEMS WITH COMPRESSION TYPE CONNECTORS. TERMINATE WITH MECHANICAL LUGS AT PANELBOARDS.

H. JOIN OR TAP STRANDED CONDUCTORS (NO. 6 AWG AND LARGER) WITH PRESSURE INDENT TYPE CONNECTORS BURNDY, NEPCO, OR O.Z./GEDNEY WITH COMPOSITION INSULATING COVERS.

I. SPLICES IN BRANCH WIRING (NO. 8 AWG AND SMALLER) SHALL BE TWISTED AND MADE MECHANICALLY TIGHT; THEN SECURED WITH PIGTAIL CONNECTORS, CRIMP TYPE CONNECTORS SHALL NOT BE USED. UTILIZE UL LISTED, "SILICON FILLED" PIGTAIL CONNECTORS WHERE LOCATED IN WET ENVIRONMENTS OR OUTDOORS.

J. SUPPORT CONDUCTORS IN VERTICAL RACEWAYS IN ACCORDANCE WITH THE NEC BASED ON CONDUCTOR SIZE AND VERTICAL DISTANCE.

K. WALL MOUNTED DEVICES SHALL BE FED VERTICALLY. HORIZONTAL RUNS THROUGH PARTITIONS SHALL NOT BE PERMITTED, EXCEPT IN LOW HEIGHT PARTITIONS OR WHERE NOTED ON DRAWINGS

L. INSTALL WIRING AT OUTLETS WITH AT LEAST 12 INCHES (300 MM) OF SLACK CONDUCTOR AT EACH OUTLET.

M. CONNECT OUTLET AND COMPONENT CONNECTIONS TO WIRING SYSTEMS AND TO GROUND. TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS, ACCORDING TO MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES. IF MANUFACTURER'S TORQUE VALUES ARE NOT INDICATED, USE THOSE SPECIFIED IN UL 486A.

N. FOR ALL SIZES OF CONDUIT LARGER THAN 1-1/2", USE STANDARD ELBOW.

O. CONDUIT SHALL BE SECURELY FASTENED IN PLACE AND HANGERS, SUPPORTS OR FASTENINGS SHALL BE PROVIDED AT EACH ELBOW AND AT EACH END OF EACH STRAIGHT RUN TERMINATED AT A BOX OR CABINET.

P. PROVIDE EXPANSION FITTINGS IN EACH CONDUIT RUN WHEREVER IT CROSSES AN EXPANSION JOINT AND WHEREVER THE CONDUIT LENGTH EXCEEDS 200 FEET.

Q. UNLESS OTHERWISE INDICATED OR SPECIFIED, ALL WIRING SHALL BE INSTALLED CONCEALED.

R. FEEDERS AND BRANCH CIRCUITRY ABOVE HUNG CEILING AND IN PARTITIONS SHALL BE RUN IN ELECTRICAL METALLIC TUBING (EMT) UNLESS OTHERWISE NOTED. FINAL CONNECTIONS TO MOTORS, LIGHT FIXTURES, TRANSFORMERS, AND EQUIPMENT SUBJECT TO VIBRATION WILL BE DONE WITH FLEXIBLE METALLIC CONDUIT (GREENFIELD). LENGTH SHALL NOT EXCEED 6 FEET.

S. ALL CONDUIT IN MECHANICAL ROOMS, ELECTRICAL CLOSETS AND WHERE CONCEALED IN CONCRETE OR INSTALLED OUTDOORS SHALL BE RIGID THREADED REGARDLESS OF SIZE.

T. ALL CONDUITS INSTALLED IN CONCRETE OR OUTDOORS SHALL BE PROVIDED WITH WEATHERPROOF CONNECTORS.

U. ALL METAL CONDUIT TERMINATING IN A METAL ENCLOSURE SHALL HAVE AN INSULATED BUSHING. PROVIDE "GROUNDING" TYPE BUSHING WHERE REQUIRED.

V. WHERE CONDUITS ARE RUN IN THE CEILING SPACE OF THE FLOOR BELOW, THEY SHALL BE CONTINUOUS AND HAVE NO JUNCTION OR PULL BOXES UNLESS PRIOR APPROVAL IS GIVEN BY BUILDING MANAGEMENT/CLIENT.

W. INSTALL CONDUITS TO CONSERVE HEADROOM, PARALLEL AND PERPENDICULAR TO BUILDING LINES. DO NOT CLIP CONDUITS TO CEILING HANGER

X. WALL COMMUNICATIONS CONDUIT SHALL BE REAMED AND INSTALLED COMPLETE WITH INSULATED BUSHINGS AT EACH END.

3.07 WIRING DEVICE INSTALLATION

A. COORDINATE MOUNTING HEIGHT OF ALL DEVICES WITH ARCHITECTURAL SPECIFICATIONS.

B. DEVICES GANGED TOGETHER IN MULTI-GANG BOX SHALL BE MOUNTED UNDER A SINGLE COVERPLATE.

C. RECEPTACLES SHALL BE ORIENTED SO THAT THE GROUND PIN OF VERTICALLY INSTALLED RECEPTACLES IS BELOW THE PHASE AND NEUTRAL PINS. FOR RECEPTACLES INSTALLED HORIZONTALLY, THE GROUND PIN SHALL BE TO THE RIGHT OF THE PHASE AND NEUTRAL PINS.

D. KEEP GANG BOXES FREE OF DUST AND DEBRIS THAT COULD CONTAMINATE CONDUCTORS, WIRES, OR CABLES THAT ARE TERMINATED IN WIRING DEVICES. VACUUM CLEAN ALL GANGBOXES PRIOR TO DEVICE INSTALLATION.

E. WHEN 15 AND 20 AMP BRANCH CIRCUIT CONDUCTORS ARE SIZED LARGER THAN 12 AWG FOR VOLTAGE DROP, DERATING, ETC., CONTRACTOR SHALL SPLICE WIRING TO 12 AWG PIGTAILS FOR WIRING DEVICE CONNECTION.

F. GANGBOXES SHALL BE INSTALLED SO THAT ALL DEVICES ARE FLUSH WITH FINAL WALL FINISH PER NEC SECTION 314.20 AND 314.21. REPAIR WALL FINISHES AND REMOUNT OUTLET BOXES WHEN DEVICE PLATES DO NOT FIT FLUSH OR DO NOT COVER WALL OPENING.

G. ALL SCREWS FOR DEVICES TERMINALS, DEVICE SUPOORT SCREWS, AND ALL UNUSED SCREWS SHALL BE TIGHTENED TO THE MAXIMUM EXTENT POSSIBLE. AVOID STRIPPING SCREW HEADS.

H. IDENTIFY EACH RECEPTACLE WITH PANELBOARD IDENTIFICATION AND CIRCUIT NUMBER. RECEPTACLES RATED MORE THAN 120V SHALL HAVE VOLTAGE IDENTIFIED. PROVIDE P-TOUCH LABEL OR SIMILAR ADHERED TO THE OUTSIDE OF THE RECEPTACLE COVERPLATE JUST ABOVE THE RECEPTACLE. LABELS SHALL BE INSTALLED IN A NEAT AND LEVEL FASHION.

3.08 LIGHTING FIXTURE INSTALLATION

A. REMOTE MOUNTING OF DRIVERS: DISTANCE BETWEEN THE DRIVER AND FIXTURE SHALL NOT EXCEED THAT RECOMMENDED BY MANUFACTURER. VERIFY, WITH MANUFACTURERS, MAXIMUM DISTANCE BETWEEN DRIVER AND LUMINAIRE. DRIVERS SHALL BE LOCATED IN AN ACCESSIBLE LOCATION. PROVIDE ACCESS PANEL WHERE INSTALLED IN SOLID CEILING CONSTRUCTION.

B. PROVIDE ALL NECESSARY HANGING OR MOUNTING DEVICES AND ACCESSORIES FOR ALL LUMINAIRES. VERIFY THE TYPES NEEDED FOR VARIOUS CEILING CONDITIONS. PLASTER RINGS SHALL BE PROVIDED WHERE REQUIRED.

C. LUMINAIRE WIRING CONNECTIONS, INCLUDING EQUIPMENT GROUNDING CONDUCTOR, IS TO BE VIA 6FT MAXIMUM FLEXIBLE CONDUIT FROM A RIGIDLY SUPPORTED JUNCTION BOX. WIRE PER REQUIREMENTS OF BRANCH CIRCUIT INSTALLATION. PROPERLY GROUND EACH LUMINAIRE.

D. LUMINAIRES SHALL NOT BE SECURED TO DUCTWORK OR OTHER SYSTEMS OR UTILIZE SUPPORTS INSTALLED FOR OTHER SYSTEMS.

E. COORDINATE ALL LIGHT FIXTURE WIRING WITH MANUFACTURER SUBMITTALS, WIRING DOCUMENTS, ETC. AND POWER CIRCUITRY INCLUDING LIGHTING CONTROL WIRING. VERIFY FIXTURE ORIENTATION IS CORRECT FOR LINEAR FIXTURES WITH MULTIPLE CONTROL CIRCUITS, EMERGENCY SECTIONS, ETC. PRIOR TO INSTALLATION IN CEILING.

3.09 ELECTRICAL SUPPORTING DEVICE APPLICATION

A. DAMP LOCATIONS AND OUTDOORS: HOT-DIP GALVANIZED MATERIALS OR NONMETALLIC, U-CHANNEL SYSTEM COMPONENTS.

B. DRY LOCATIONS: STEEL MATERIALS.

C. SUPPORT CLAMPS FOR PVC RACEWAYS: CLICK-TYPE CLAMP SYSTEM.

D. SELECTION OF SUPPORTS: COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

E. STRENGTH OF SUPPORTS: ADEQUATE TO CARRY PRESENT AND FUTURE LOADS, TIMES A SAFETY FACTOR OF AT LEAST FOUR; MINIMUM OF 200-LB (90-KG) DESIGN LOAD.

3.10 SUPPORT INSTALLATION

A. INSTALL SUPPORT DEVICES TO SECURELY AND PERMANENTLY FASTEN AND SUPPORT ELECTRICAL COMPONENTS.

B. INSTALL INDIVIDUAL AND MULTIPLE RACEWAY HANGERS AND RISER CLAMPS TO SUPPORT RACEWAYS. PROVIDE U-BOLTS, CLAMPS, ATTACHMENTS, AND OTHER HARDWARE NECESSARY FOR HANGER ASSEMBLIES AND FOR SECURING HANGER RODS AND CONDUITS.

C. SUPPORT PARALLEL RUNS OF HORIZONTAL RACEWAYS TOGETHER ON TRAPEZE- OR BRACKET-TYPE HANGERS.

D. SIZE SUPPORTS FOR MULTIPLE RACEWAY INSTALLATIONS SO CAPACITY CAN BE INCREASED BY A 25 PERCENT MINIMUM IN THE FUTURE.

E. SUPPORT INDIVIDUAL HORIZONTAL RACEWAYS WITH SEPARATE, MALLEABLE-IRON PIPE HANGERS OR CLAMPS.

F. INSTALL 1/4-INCH- (6-MM-) DIAMETER OR LARGER THREADED STEEL HANGER RODS, UNLESS OTHERWISE INDICATED.

G. SPRING-STEEL FASTENERS SPECIFICALLY DESIGNED FOR SUPPORTING SINGLE CONDUITS OR TUBING MAY BE USED INSTEAD OF MALLEABLE-IRON HANGERS FOR 1-1/2-INCH (38-MM) AND SMALLER RACEWAYS SERVING LIGHTING AND RECEPTACLE BRANCH CIRCUITS ABOVE SUSPENDED CEILINGS AND FOR FASTENING RACEWAYS TO SLOTTED CHANNEL AND ANGLE SUPPORTS.

H. ARRANGE SUPPORTS IN VERTICAL RUNS SO THE WEIGHT OF RACEWAYS AND ENCLOSED CONDUCTORS IS CARRIED ENTIRELY BY RACEWAY SUPPORTS, WITH NO WEIGHT LOAD ON RACEWAY TERMINALS.

I. SIMULTANEOUSLY INSTALL VERTICAL CONDUCTOR SUPPORTS WITH CONDUCTORS.

J. SEPARATELY SUPPORT CAST BOXES THAT ARE THREADED TO RACEWAYS AND USED FOR FIXTURE SUPPORT. SUPPORT SHEET-METAL BOXES DIRECTLY FROM THE BUILDING STRUCTURE OR BY BAR HANGERS. IF BAR HANGERS ARE USED, ATTACH BAR TO RACEWAYS ON OPPOSITE SIDES OF THE BOX AND SUPPORT THE RACEWAY WITH AN APPROVED FASTENER NOT MORE THAN 24 INCHES (610 MM) FROM THE BOX.

K. INSTALL METAL CHANNEL RACKS FOR MOUNTING CABINETS, PANELBOARDS, DISCONNECT SWITCHES, CONTROL ENCLOSURES, PULL AND JUNCTION BOXES, TRANSFORMERS, AND OTHER DEVICES UNLESS COMPONENTS ARE MOUNTED DIRECTLY TO STRUCTURAL ELEMENTS OF ADEQUATE STRENGTH.

L. INSTALL SLEEVES FOR CABLE AND RACEWAY PENETRATIONS OF CONCRETE SLABS AND WALLS UNLESS CORE-DRILLED HOLES ARE USED. INSTALL SLEEVES FOR CABLE AND RACEWAY PENETRATIONS OF MASONRY AND FIRE-RATED GYPSUM WALLS AND OF ALL OTHER FIRE-RATED FLOOR AND WALL ASSEMBLIES. INSTALL SLEEVES DURING ERECTION OF CONCRETE AND MASONRY WALLS.

M. SECURELY FASTEN ELECTRICAL ITEMS AND THEIR SUPPORTS TO THE BUILDING STRUCTURE, UNLESS OTHERWISE INDICATED. PERFORM FASTENING ACCORDING TO THE FOLLOWING UNLESS OTHER FASTENING METHODS ARE INDICATED:

1. WOOD: FASTEN WITH WOOD SCREWS OR SCREW-TYPE NAILS.
2. MASONRY: TOGGLE BOLTS ON HOLLOW MASONRY UNITS AND EXPANSION BOLTS ON SOLID MASONRY UNITS.
3. NEW CONCRETE: CONCRETE INSERTS WITH MACHINE SCREWS AND BOLTS.
4. EXISTING CONCRETE: EXPANSION BOLTS.
5. INSTEAD OF EXPANSION BOLTS, THREADED STUDS DRIVEN BY A POWDER CHARGE AND PROVIDED WITH LOCK WASHERS MAY BE USED IN EXISTING CONCRETE.
6. STEEL: WELDED THREADED STUDS OR SPRING-TENSION CLAMPS ON STEEL.
    a. FIELD WELDING: COMPLY WITH AWS D1.1.
7. WELDING TO STEEL STRUCTURE MAY BE USED ONLY FOR THREADED STUDS, NOT FOR CONDUITS, PIPE STRAPS, OR OTHER ITEMS.
8. LIGHT STEEL: SHEET-METAL SCREWS.
9. FASTENERS: SELECT SO THE LOAD APPLIED TO EACH FASTENER DOES NOT EXCEED 25 PERCENT OF ITS PROOF-TEST LOAD.
10. PULL TESTING FOR ALL POST INSTALLED ANCHORS IN CONCRETE AND IN MASONRY SHALL BE IN ACCORDANCE WITH ACI 318, AC01, AC58, AC93, AC106 STANDARDS AND LOCAL BUILDING CODE. THE MINIMUM NUMBER OF ANCHORS TESTED SHALL BE THE GREATER OF 20% OR THE TOTAL OF THREE.

3.11 IDENTIFICATION MATERIALS AND DEVICES

A. INSTALL AT LOCATIONS FOR MOST CONVENIENT VIEWING WITHOUT INTERFERENCE WITH OPERATION AND MAINTENANCE OF EQUIPMENT.

B. COORDINATE NAMES, ABBREVIATIONS, COLORS, AND OTHER DESIGNATIONS USED FOR ELECTRICAL IDENTIFICATION WITH CORRESPONDING DESIGNATIONS INDICATED IN THE CONTRACT DOCUMENTS OR REQUIRED BY CODES AND STANDARDS. USE CONSISTENT DESIGNATIONS THROUGHOUT PROJECT.

C. SELF-ADHESIVE IDENTIFICATION PRODUCTS: CLEAN SURFACES BEFORE APPLYING.

D. IDENTIFY RACEWAYS AND CABLES WITH COLOR BANDING AS FOLLOWS:

1. BANDS: PRETENSIONED, SNAP-AROUND, COLORED PLASTIC SLEEVES OR COLORED ADHESIVE MARKING TAPE. MAKE EACH COLOR BAND 2 INCHES (51 MM) WIDE, COMPLETELY ENCIRCLING CONDUIT, AND PLACE ADJACENT BANDS OF TWO-COLOR MARKINGS IN CONTACT, SIDE BY SIDE.
2. BAND LOCATIONS: AT CHANGES IN DIRECTION, AT PENETRATIONS OF WALLS AND FLOORS, AT 50-FOOT (15-M) MAXIMUM INTERVALS IN STRAIGHT RUNS, AND AT 25-FOOT (8-M) MAXIMUM INTERVALS IN CONGESTED AREAS.
3. COLORS: AS FOLLOWS:
    a. FIRE ALARM SYSTEM: RED.
    b. SECURITY SYSTEM: BLUE AND YELLOW.
    c. TELECOMMUNICATION SYSTEM: GREEN AND YELLOW.

E. TAG AND LABEL CIRCUITS DESIGNATED TO BE EXTENDED IN THE FUTURE. IDENTIFY SOURCE AND CIRCUIT NUMBERS IN EACH CABINET, PULL AND JUNCTION BOX, AND OUTLET BOX. COLOR-CODING MAY BE USED FOR VOLTAGE AND PHASE IDENTIFICATION.

F. INSTALL CONTINUOUS UNDERGROUND PLASTIC MARKERS DURING TRENCH BACKFILLING, FOR EXTERIOR UNDERGROUND POWER, CONTROL, SIGNAL, AND COMMUNICATION LINES LOCATED DIRECTLY ABOVE POWER AND COMMUNICATION LINES. LOCATE 6 TO 8 INCHES BELOW FINISHED GRADE. IF WIDTH OF MULTIPLE LINES INSTALLED IN A COMMON TRENCH OR CONCRETE ENVELOPE DOES NOT EXCEED 16 INCHES, OVERALL, USE A SINGLE LINE MARKER.

G. COLOR-CODE 208/120-V SYSTEM SECONDARY SERVICE, FEEDER, AND BRANCH-CIRCUIT CONDUCTORS THROUGHOUT THE SECONDARY ELECTRICAL SYSTEM SHALL BE SIMILAR TO (MATCHING BUILDING STANDARDS) :

1. PHASE A: BLACK.
2. PHASE B: RED.
3. PHASE C: BLUE.
4. NEUTRAL: WHITE
5. GROUND: GREEN

H. COLOR-CODE 480/277-V SYSTEM SECONDARY SERVICE, FEEDER, AND BRANCH-CIRCUIT CONDUCTORS THROUGHOUT THE SECONDARY ELECTRICAL SYSTEM SHALL BE SIMILAR TO (MATCHING BUILDING STANDARDS):

1. PHASE A: YELLOW.
2. PHASE B: BROWN.
3. PHASE C: ORANGE.
4. NEUTRAL: GRAY OR WHITE WITH A COLORED STRIPE (NOT GREEN),
5. GROUND: GREEN

I. INSTALL WARNING, CAUTION, AND INSTRUCTION SIGNS WHERE REQUIRED TO COMPLY WITH 29 CFR, CHAPTER XVII, PART 1910.145, AND WHERE NEEDED TO ENSURE SAFE OPERATION AND MAINTENANCE OF ELECTRICAL SYSTEMS AND OF ITEMS TO WHICH THEY CONNECT. INSTALL ENGRAVED PLASTIC-LAMINATED INSTRUCTION SIGNS WITH APPROVED LEGEND WHERE INSTRUCTIONS ARE NEEDED FOR SYSTEM OR EQUIPMENT OPERATION. INSTALL METAL-BACKED BUTYRATE SIGNS FOR OUTDOOR ITEMS.

J. INSTALL ENGRAVED-LAMINATED EMERGENCY-OPERATING SIGNS WITH WHITE LETTERS ON RED BACKGROUND WITH MINIMUM 3/8-INCH- (9-MM-) HIGH LETTERING FOR EMERGENCY INSTRUCTIONS ON POWER TRANSFER, LOAD SHEDDING, AND OTHER EMERGENCY OPERATIONS.

3.12 UTILITY COMPANY ELECTRICITY-METERING EQUIPMENT

A. INSTALL EQUIPMENT ACCORDING TO UTILITY COMPANY'S WRITTEN REQUIREMENTS. PROVIDE GROUNDING AND EMPTY CONDUITS AS REQUIRED BY UTILITY COMPANY.

3.13 FIRESTOPPING

A. APPLY FIRESTOPPING TO CABLE AND RACEWAY PENETRATIONS OF FIRE-RATED FLOOR AND WALL ASSEMBLIES TO ACHIEVE FIRE-RESISTANCE RATING OF THE ASSEMBLY. PROVIDE FIELD APPLIED INTUMESCENT PUTTY (HILITI FS-ONE OR EQUAL) FIRESTOPPING AT ALL PENETRATIONS OF RATED ASSEMBLIES. FACTORY PRE-MANUFACTURED FIRESTOPPING DEVICES WILL NOT BE ACCEPTED. FIRESTOPPING MATERIALS AND INSTALLATION REQUIREMENTS ARE SPECIFIED IN A SEPARATE DIVISION OF THE SPECIFICATIONS.

3.14 CONCRETE BASES

A. CONSTRUCT CONCRETE BASES OF DIMENSIONS INDICATED, BUT NOT LESS THAN 4 INCHES (100 MM) LARGER, IN BOTH DIRECTIONS, THAN SUPPORTED UNIT. FOLLOW SUPPORTED EQUIPMENT MANUFACTURER'S ANCHORAGE RECOMMENDATIONS AND SETTING TEMPLATES FOR ANCHOR-BOLT AND TIE LOCATIONS, UNLESS OTHERWISE INDICATED. USE 3000-PSI (20.7-MPA), 28-DAY COMPRESSIVE-STRENGTH CONCRETE AND REINFORCEMENT AS SPECIFIED IN A SEPARATE DIVISION OF THE SPECIFICATIONS.

3.15 SURGE PROTECTION DEVICES

A. INSTALL SPD'S WITH CONDUCTORS BETWEEN SUPPRESSOR AND POINTS OF ATTACHMENT AS SHORT AND STRAIGHT AS POSSIBLE, AND ADJUST CIRCUIT-BREAKER POSITIONS TO ACHIEVE THE SHORTEST AND STRAIGHTEST LEADS. DO NOT SPLICE AND EXTEND SPD LEADS UNLESS SPECIFICALLY PERMITTED BY MANUFACTURER.

3.17 CUTTING AND PATCHING

A. CUT, CHANNEL, CHASE, AND DRILL FLOORS, WALLS, PARTITIONS, CEILINGS, AND OTHER SURFACES REQUIRED TO PERMIT ELECTRICAL INSTALLATIONS. PERFORM CUTTING BY SKILLED MECHANICS OF TRADES INVOLVED.

B. REPAIR AND REFINISH DISTURBED FINISH MATERIALS AND OTHER SURFACES TO MATCH ADJACENT UNDISTURBED SURFACES. INSTALL NEW FIREPROOFING WHERE EXISTING FIRESTOPPING HAS BEEN DISTURBED. REPAIR AND REFINISH MATERIALS AND OTHER SURFACES BY SKILLED MECHANICS OF TRADES INVOLVED.

3.18 REFINISHING AND TOUCHUP PAINTING

A. REFINISH AND TOUCH UP PAINT. PAINT MATERIALS AND APPLICATION REQUIREMENTS ARE SPECIFIED IN A SEPARATE DIVISION OF THE SPECIFICATIONS.

1. CLEAN DAMAGED AND DISTURBED AREAS AND APPLY PRIMER, INTERMEDIATE, AND FINISH COATS TO SUIT THE DEGREE OF DAMAGE AT EACH LOCATION.
2. FOLLOW PAINT MANUFACTURER'S WRITTEN INSTRUCTIONS FOR SURFACE PREPARATION AND FOR TIMING AND APPLICATION OF SUCCESSIVE COATS.
3. REPAIR DAMAGE TO GALVANIZED FINISHES WITH ZINC-RICH PAINT RECOMMENDED BY MANUFACTURER.
4. REPAIR DAMAGE TO PVC OR PAINT FINISHES WITH MATCHING TOUCHUP COATING RECOMMENDED BY MANUFACTURER.

3.19 CLEANING AND PROTECTION

A. ON COMPLETION OF INSTALLATION, INCLUDING OUTLETS, FITTINGS, AND DEVICES, INSPECT EXPOSED FINISH. REMOVE BURRS, DIRT, PAINT SPOTS, AND CONSTRUCTION DEBRIS.

B. PROTECT EQUIPMENT AND INSTALLATIONS AND MAINTAIN CONDITIONS TO ENSURE THAT COATINGS, FINISHES, AND CABINETS ARE WITHOUT DAMAGE OR DETERIORATION AT TIME OF SUBSTANTIAL COMPLETION.

3.20 IDENTIFICATION OF EQUIPMENT:

A. ALL PANELBOARDS, CONTROL PANELS, AND CABINETS SPECIFIED HEREIN SHALL BE CLEARLY IDENTIFIED WITH THE EQUIPMENT DESIGNATION AND VOLTAGE RATING. IDENTIFICATION SHALL BE BY WHITE ON BLACK PLASTIC NAMEPLATE WITH 1/2" MINIMUM LETTERING ATTACHED BY SCREWS.

B. ALL PANELBOARDS, SPECIFIED HEREIN SHALL BE PROVIDED WITH A MEANS OF IDENTIFICATION OF THE MULTI-WIRE BRANCH CIRCUIT COLOR CODE IDENTIFICATION SYSTEM INSTALLED PER THE REQUIREMENTS OF NEC ARTICLE 210.5. REFER TO SPECIFICATION SECTION 3.09 FOR COLOR CODING DESIGNATIONS.

C. JUNCTION BOXES, SPLICE BOXES, ETC., SHALL BE IDENTIFIED WITH PANEL AND CIRCUIT NUMBERS, FOR CIRCUITS CONTAINED THEREIN. FACEPLATE OF SWITCHES FOR EQUIPMENT SUCH AS MOTORIZED SCREENS, ETC., SHALL BE IDENTIFIED WITH THE NAME OF THE DEVICE CONTROLLED. IDENTIFICATION SHALL BE BY INDELIBLE MARKER IN CONCEALED LOCATIONS AND ADHESIVE ('P' TOUCH TYPE) LABELS IN EXPOSED LOCATIONS. EMERGENCY DEVICES SHALL BE IDENTIFIED IN RED.

D. CLEARLY LABEL ALL EXPOSED CONDUIT, PULLBOXES, JUNCTION BOXES, ETC TO INDICATE THE NATURE OF THE SERVICE.

E. EMPTY CONDUITS SHALL BE IDENTIFIED WITH TAGS AT BOTH ENDS INDICATING THE LOCATION OF TERMINATION OF THE OPPOSITE END.

F. FIRE ALARM SYSTEM JUNCTION BOXES SHALL BE PAINTED FIRE DEPARTMENT RED. APPROVED IDENTIFICATION CARDS SHALL BE FURNISHED ADJACENT TO ALL CONTROL PANELS AND MANUAL STATIONS.

G. ALL RECEPTACLES SHALL HAVE CIRCUIT NUMBERS AND ASSOCIATED PANEL DESIGNATION CLEARLY IDENTIFIED ON THE RECEPTACLES (OR DISCONNECT, JUNCTION BOX, ETC...) FACEPLATE. IDENTIFICATION SHALL BE PERMANENT, INDELIBLE AND TYPEWRITTEN.

H. PROVIDE SCREW-FASTENED TYPEWRITTEN ENGRAVED LAMICOID NAMEPLATE WITH MINIMUM 1/4" HIGH WHITE LETTERING ON BLACK BACKGROUND, CLEARLY INDICATING THE FUNCTION, DESIGNATION OR EQUIPMENT CONTROLLED FOR EACH OF THE FOLLOWING:

1. ALL PANEL AND SWITCH BOARDS
2. EACH FEEDER CIRCUIT BREAKER/SWITCH WITHIN EACH SWITCHBOARD AND PANELBOARD
3. MOTOR STARTERS AND MISCELLANEOUS CONTROL SWITCHES
4. DISCONNECT SWITCHES
5. ENCLOSED CIRCUIT BREAKERS
6. CONTACTORS AND RELAYS
7. CONTROL SWITCHES
8. TRANSFORMERS
9. LIGHTING CONTROL RELAY PANELS

I. PROVIDE NAMEPLATES FOR ALL NEW AND EXISTING EQUIPMENT AS DESCRIBED ABOVE AND/OR DETAILED ON THE ENGINEERING DRAWINGS.

J. PROVIDE TYPEWRITTEN DIRECTORIES FOR NEW AND EXISTING PANELS. CONFIRM EXISTING IDENTIFICATION AND CORRECT WHERE NECESSARY

3.21 EXISTING EQUIPMENT REFURBISHMENT:

A. WHERE PANELBOARDS, SWITCHES, CIRCUIT BREAKERS, TRANSFORMERS, ETC. ARE EXISTING TO BE REUSED THE CONTRACTOR SHALL CLEAN AND REFURBISH THE EQUIPMENT. THIS SHALL INCLUDE TIGHTENING ALL CONNECTIONS, REPLACING DEFECTIVE MECHANISMS, EXERCISING MECHANISMS AND PROVIDING ANY MISCELLANEOUS COMPONENTS SO THE EQUIPMENT IS IN FIRST CLASS WORKING ORDER.

B. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO FIELD SURVEY ALL EXISTING BASE BUILDING RECEPTACLE, LIGHTING AND EQUIPMENT CIRCUITS WHICH ARE EXISTING TO REMAIN. PROVIDE AS BUILT SURVEY PRIOR TO THE START OF ANY WORK AND SUBMIT TO ENGINEER FOR RECORD. CIRCUITS SHALL REMAIN IN EXISTING PANELS OR WHEN PANELBOARDS ARE REPLACED, RETERMINATED IN NEW PANELBOARD.

3.22 ELECTRICAL FURNITURE SYSTEMS

A. THE ELECTRIFIED FURNITURE VENDOR WILL SUPPLY ALL RECEPTACLES, FURNITURE TASK LIGHTING FIXTURES, WIRING HARNESSES, CONNECTORS AND FITTINGS TO THE ELECTRICAL CONTRACTOR FOR THE COMPLETE WIRING INSTALLATION. ALL WIRING AND COMPONENTS SHALL BE INSTALLED AS DIRECTED BY VENDOR. ELECTRICAL CONTRACTOR SHALL FURNISH AN 18" MAXIMUM LIQUID TIGHT FLEXIBLE CONDUIT CONNECTIONS WITH REQUIRED PHASE CONDUCTORS, NEUTRAL CONDUCTORS AND GROUND CONDUCTORS AS INDICATED FROM WALL OR FLOOR OUTLET.

B. THE FURNITURE VENDOR SHALL CHALK THE FURNITURE SYSTEM OUTLINE ON THE FLOOR FOR COORDINATION OF POWER AND COMMUNICATION IN-FEED LOCATIONS. IN-FEED LOCATIONS INDICATED ON PLAN DOCUMENTS ARE FOR CLARITY PURPOSES. IN-FEED LOCATIONS AND QUANTITY SHALL BE APPROVED IN FIELD BY ARCHITECT AND FURNITURE SYSTEM VENDOR PRIOR TO INSTALLATION.

C. FURNITURE SYSTEM CIRCUITRY DESIGN IS DEVELOPED BASED UPON A "2+2" WIRING CONFIGURATION. CONTRACTOR SHALL CIRCUIT 2 PHASE CONDUCTORS, WITH A NEUTRAL FOR CIRCUITS "1&2" AND 2 PHASE CONDUCTORS, WITH A NEUTRAL FOR CIRCUITS "3&4". BOTH PAIRS OF CIRCUITS SHALL BE PROVIDED WITH A GROUND CONDUCTOR. CONTRACTOR SHALL INSTALL 8#10 AWG CONDUCTORS TO EACH FURNITURE SYSTEM INFEED.

D. MULTI-WIRE BRANCH CIRCUITS SUPPLYING POWER TO PERMANENTLY CONNECTED FREESTANDING PARTITIONS (ELECTRIFIED FURNITURE SYSTEMS) SHALL BE PROVIDED WITH A MEANS TO DISCONNECT SIMULTANEOUSLY ALL UNGROUNDED CONDUCTORS AT THE PANELBOARD WHERE THE BRANCH CIRCUIT ORIGINATES. CONTRACTOR SHALL COORDINATE WITH LOCAL AHJ THE MEANS REQUIRED TO MEET NEC SECTIONS 605.7.

3.23 LIFE SAFETY TESTING:

A. AFTER COMPLETION OF THE PROJECT, PERFORM A TEST OF THE EMERGENCY EGRESS LIGHTING SYSTEM. TEST SHALL BE PERFORMED AFTER DARK (AT LEAST 1 HOUR AFTER SUNSET); SIMULATE POWER FAILURE ON ALL LIGHTING CIRCUITS. TAKE LIGHT LEVEL READINGS ALONG PATHS OF EGRESS AT FLOOR LEVEL UTILIZING A FOOT CANDLE METER; RECORD READINGS ON A REDUCED SCALE (1/16"=1'-0") FLOOR PLAN. READINGS SHALL BE TAKEN ALONG THE ENTIRE EGRESS PATH, AND THE AVERAGE, MINIMUM, AND MAX TO MIN RATIO SHALL BE RECORDED. SUBMIT SEALED AND SIGNED COPY OF THE FLOOR PLAN READINGS TO THE ENGINEER.

3.24 WARNING LABELS:

A. SWITCHBOARDS, PANELBOARDS AND ASSOCIATED EQUIPMENT (UPS, ETC.) THAT WILL REQUIRE ADJUSTMENT, SERVICING, INSPECTION, OR MAINTENANCE WHILE ENERGIZED SHALL BE FIELD MARKED INDICATING VOLTAGE AND WARNING QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC-FLASH HAZARDS PER NEC SECTION 110.16 AND NFPA 70E. REFER TO SECTION 1.26 FOR ADDITIONAL INFORMATION ON FLASH HAZARD ANALYSIS.

B. SERVICE EQUIPMENT SHLL BE FIELD MARKED INDICATING THE MAXIMUM AVAILABLE FAULT CURRENT IN ACCORDANCE WITH NEC 110.24 (A). CONTRACTOR IS RESPONSIBLE FOR OBTAINING CORRECT VALUES FROM THE UTILITY COMPANY.

3.25 PROTECTION:

A. CONTRACTOR SHALL BE RESPONSIBLE FOR WORK AND EQUIPMENT UNTIL FINALLY INSPECTED, TESTED AND ACCEPTED. MATERIALS AND EQUIPMENT SHALL BE CAREFULLY STORED WHICH ARE NOT IMMEDIATELY INSTALLED AFTER DELIVERY TO SITE. CLOSE EXPOSED PARTS OF THE WORK WITH TEMPORARY COVERS, OR PLUGS DURING CONSTRUCTION, TO PREVENT ENTRY OF MOISTURE OR OBSTRUCTING MATERIALS.

B. PROTECT THE WORK AND MATERIAL OF OTHERS FROM DAMAGE INSTALLED AS PART OF THIS CONTRACT. RESTORE ANY WORK DAMAGED AND BE RESPONSIBLE FOR ALL CURRENT WORK AND ASSOCIATED COSTS.

3.26 FIELD QUALITY CONTROL

A. INSPECT INSTALLED COMPONENTS FOR DAMAGE AND FAULTY WORK, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. RACEWAYS.
2. BUILDING WIRE AND CONNECTORS.
3. SUPPORTING DEVICES FOR ELECTRICAL COMPONENTS.
4. ELECTRICAL IDENTIFICATION.
5. ELECTRICITY-METERING COMPONENTS.
6. CONCRETE BASES.
7. ELECTRICAL DEMOLITION.
8. CUTTING AND PATCHING FOR ELECTRICAL CONSTRUCTION.
9. TOUCHUP PAINTING.
10. PANELBOARDS
11. TRANSFORMERS
12. SWITCHBOARDS

B. TEST OWNER'S ELECTRICITY-METERING INSTALLATION FOR PROPER OPERATION, ACCURACY, AND USABILITY OF OUTPUT DATA.

1. CONNECT A LOAD OF KNOWN KW RATING, 1.5 KW MINIMUM, TO A CIRCUIT SUPPLIED BY THE METERED FEEDER.
2. TURN OFF CIRCUITS SUPPLIED BY THE METERED FEEDER AND SECURE THEM IN THE "OFF" CONDITION.
3. RUN THE TEST LOAD CONTINUOUSLY FOR EIGHT HOURS, MINIMUM, OR LONGER TO OBTAIN A MEASURABLE METER INDICATION. USE A TEST LOAD PLACEMENT AND SETTING THAT ENSURE CONTINUOUS, SAFE OPERATION.
4. CHECK AND RECORD METER READING AT END OF TEST PERIOD AND COMPARE WITH ACTUAL ELECTRICITY USED BASED ON TEST LOAD RATING, DURATION OF TEST, AND SAMPLE MEASUREMENTS OF SUPPLY VOLTAGE AT THE TEST LOAD CONNECTION. RECORD TEST RESULTS.
5. REPAIR OR REPLACE MALFUNCTIONING METERING EQUIPMENT OR CORRECT TEST SETUP; THEN RETEST. REPEAT FOR EACH METER IN INSTALLATION UNTIL PROPER OPERATION OF ENTIRE SYSTEM IS VERIFIED.

3.27 EXTRA MATERIALS:

A. IN ADDITION TO ALL MATERIALS AND INSTALLATION COMPONENTS INICATED ON THE DRAWINGS, ELECTRICAL CONTACOTR SHALL PROVIDE THE FOLLOWING (INCLUSIVE OF ALL MATERIAL AND LABOR ASSOCIATED WITH INSTALL):

1. TWENTY-FIVE (25) DUPLEX RECEPTACLES
2. FIVE (5) CEILING MOUNTED OCCUPANCY/VACANCY SENSORS
3. TWELVE (12) 20 AMPERE, 1-POLE BRANCH CIRCUITS CONSISTING OF 100' OF 3#12 IN 3/4" CONDUIT.
4. ALLOW FOR SIX (6) ADDITIONAL EXIT SIGNS PER FLOOR TO BE INSTALLED AS PER BUILDING INSPECTORS REQUIREMENTS UPON FINAL INSPECTION. INCLUDE FOR 30 FEET OF RACEWAY, WIRING AND FINAL CONNECTION TO EMERGENCY LIGHTING CIRCUIT.

3.28 ELECTRICAL COMMISSIONING:

A. ELECTRICAL SYSTEMS TO BE COMMISSIONED:

1. LIGHTING CONTROL SYSTEM
2. OCCUPANCY SENSORS
3. VACANCY SENSORS
4. LIGHTING CONTROL DEVICES
5. ELECTRICAL SUB-METERING

B. ELECTRICAL CONTRACTOR SHALL ASSIST OWNER SELECTED COMMISSIONING AGENT WITH THE COMMISSIONING OF THE LIGHTING CONTROL SYSTEM FOR COMPLIANCE ALL APPLICABLE CODE REQUIREMENTS (I.E. ENERGY CODE, ELECTRICAL CODE, ETC.).

C. ELECTRICAL CONTRACTOR SHALL INCLUDE IN THEIR BASE BID, THE SERVICES OF THE LIGHTING CONTROL SYSTEM AND SENSOR SYSTEM MANUFACTURER'S REPRESENTATIVES TO ATTEND AND ASSIST IN THE FINAL COMMISSIONING OF THE SYSTEMS.

D. COMMISSIONING SHALL ENSURE THAT ALL CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.

E. COORDINATE ALL WORK ASSOCIATED WITH THE FUNDAMENTAL COMMISSIONING ACTIVITIES, INCLUDING:

1. ATTEND ALL COMMISSIONING MEETINGS WITH ASSOCIATED SUB-CONTRACTORS AND MANUFACTURER'S REPRESENTATIVES THAT ARE REQUIRED TO COMPLETE THE COMMISSIONING OF THE EQUIPMENT PROVIDED.
2. PERFORM AND DOCUMENT TESTING OUTLINED IN THE COMMISSIONING AUTHORITY PROCEDURES.
3. WORK CLOSELY WITH THE COMMISSIONING AUTHORITY IN IDENTIFYING ALL OPERATING, MAINTENANCE, FAILURE MODES THAT MUST BE DEMONSTRATED AS PART OF THE COMMISSIONING PROCESS.
4. COMPLETE PRE-STARTUP AND STARTUP ON ALL INSTALLED EQUIPMENT PRIOR TO ALL COMMISSIONING ACTIVITIES.
5. COORDINATE, SCHEDULE, AND COMPLETE COMMISSIONING TASKS WITH THE COMMISSIONING AUTHORITY. THE ELECTRICAL CONTRACTOR SHALL BE MADE READILY AVAILABLE FOR OPERATING AND TESTING ALL EQUIPMENT TO BE COMMISSIONED.
6. PROVIDE MANUFACTURER ACCEPTABLE TESTING DOCUMENTATION (STARTUP MANUALS) PRIOR TO START OF COMMISSIONING TESTING PROCEDURES.
7. RESPONSIBLE FOR ALL COSTS FOR TESTING, INCLUDING PRE-TESTING DUE TO DEFICIENCIES/NON-COMPLIANCE WITH TESTING/SPECIFICATIONS.
8. RESPONSIBLE TO SUPPLY AND CONNECT ALL TESTING EQUIPMENT REQUIRED FOR ANY PART OF THE COMMISSIONING PROCESS (I.E. LOAD BANKS, CABLES, INFRARED SCANNING, TEMPORARY COOLING MEANS, ETC.).

F. SYSTEM REVIEW SHALL INCLUDE THAT ALL SENSORS, SWITCHES, PROGRAMMED SCHEDULE CONTROLS, PHOTOSENSORS OR DAYLIGHT CONTROLS MEET THE FOLLOWING REQUIREMENTS:

1. COMMISSIONING AGENT SHALL CONFIRM PLACEMENT, SENSITIVITY AND TIME OUT ADJUSTMENTS FOR OCCUPANT SENSORS YIELD ACCEPTABLE PERFORMANCE.
2. COMMISSIONING AGENT SHALL CONFIRM THAT TIME SWITCHES AND PROGRAMMABLE SCHEDULE CONTROLS ARE PROGRAMMED TO TURN OFF LIGHTING
3. COMMISSIONING AGENT SHALL CONFIRM THAT THE PLACEMENT AND SENSITIVITY ADJUSTMENTS FOR PHOTOSENSOR CONTROLS REDUCE ELECTRIC LIGHT BASED ON THE AMOUNT OF USABLE DAYLIGHT IN THE SPACE AS SPECIFIED.

G. ELECTRICAL CONTRACTOR SHALL PRETEST ALL SYSTEMS AND DEVICES AND SHALL SUBMIT A COMPLETION CERTIFICATE FROM THE MANUFACTURER'S REPRESENTATIVE, ON MANUFACTURER'S LETTERHEAD, THAT ALL SYSTEMS ARE OPERATIONAL AND PERFORM TO CONTRACT DOCUMENT SPECIFICATIONS. MANUFACTURER'S CERTIFICATE SHALL BE DELIVERED TO GENERAL CONTRACTOR/ CONSTRUCTION MANAGER, TENANT, AND ENGINEER A MINIMUM OF FIVE (5) DAYS PRIOR TO TENANT MOVE IN.

F. COMMISSIONING OF LIGHTING CONTROL SYSTEM (PROGRAMMABLE SYSTEM CONTROLS, OCCUPANT SENSORS, PHOTOSENSORS, AND DAYLIGHT CONTROLS) SHALL BE READY FOR COMMISSIONING AGENT NO FEWER THAN TEN (10) WORKING DAYS PRIOR TO TENANT MOVE IN.

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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
ELECTRICAL SPECIFICATIONS

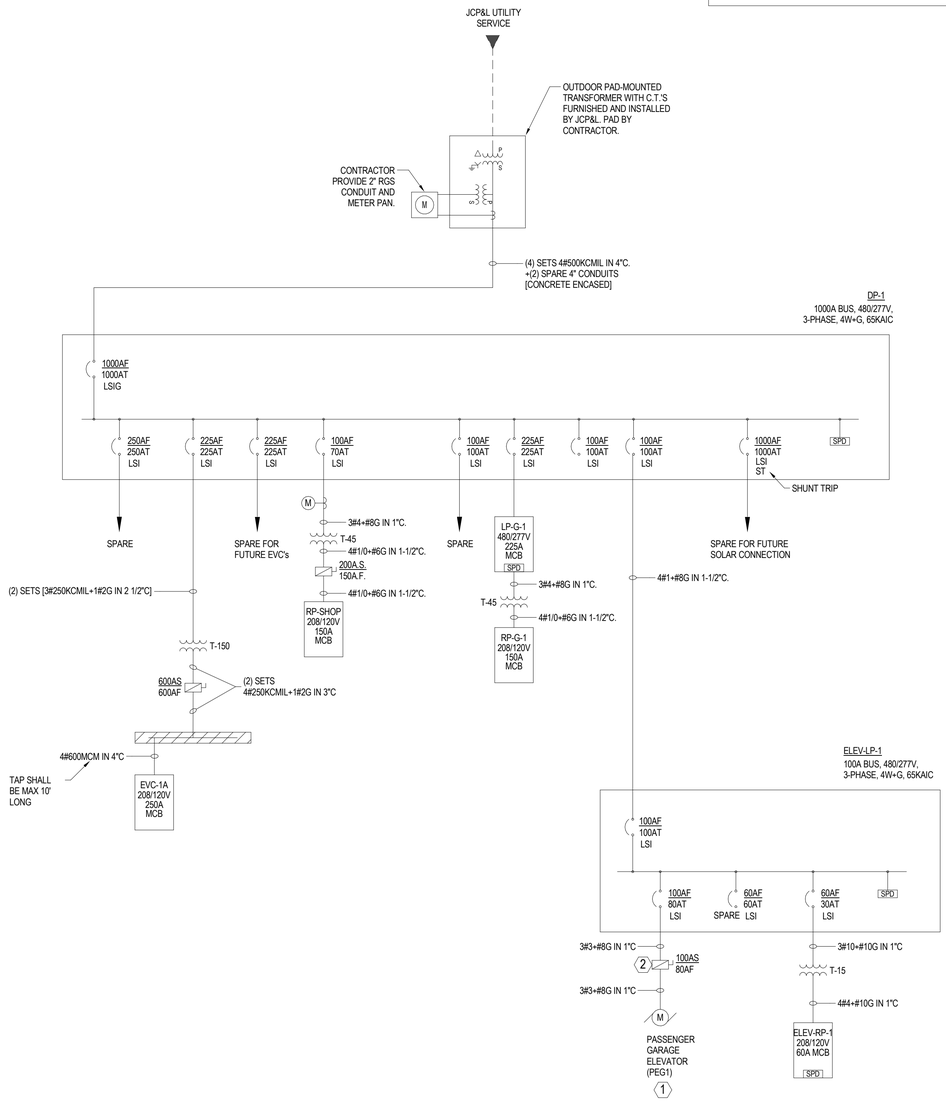
SHEET NO.
E1.3

LEGEND:

NEW

EXISTING - REFER TO EAST BUILDING RISER FILED UNDER SEPARATE PERMIT

ELECTRICAL EQUIPMENT CONCRETE PAD SCHEDULE			
EQUIPMENT NAME	LOCATION	PAD HEIGHT (IN)	MINIMUM PAD DIMENSIONS
DP-1	FIRST FLOOR ELECTRICAL ROOM	6"	EQUIPMENT FOOTPRINT + 4" ON ALL SIDES
T-150	1ST & 2ND FLOOR ELECTRICAL ROOM	6"	EQUIPMENT FOOTPRINT + 4" ON ALL SIDES



NOTES

1. COORDINATE INCOMING SERVICE WITH JCPL PRIOR TO INSTALLATION.
2. OBTAIN JCPL APPROVAL FOR ALL SERVICE EQUIPMENT PRIOR TO FABRICATION.
3. PROVIDE ALL RACEWAY AND WIRING FOR ALL METERING IN ACCORDANCE WITH JCPL REQUIREMENTS.
3. CONTRACTOR SHALL INCLUDE IN PRICE TO PROVIDE A SHORT CIRCUIT, SELECTIVE COORDINATION AND ARC FLASH HAZARD STUDY INCLUDING ALL OF THE SHOWN ELECTRICAL INFRASTRUCTURE. REPORT SHALL PROVIDE RECOMMENDATIONS ON FAULT CURRENT BRACING RATINGS, OVERCURRENT PROTECTIVE DEVICE TRIP SETTINGS, PERSONAL PROTECTIVE EQUIPMENT, ETC. FURNISH TO ENGINEER PRIOR TO SUBMISSION OF ANY ELECTRICAL EQUIPMENT FOR FABRICATION.
4. CONTRACTOR TO PROVIDE FIELD SCALED DRAWINGS OF ALL ELECTRICAL EQUIPMENT ROOMS SHOWING DIMENSIONED PANEL/EQUIPMENT MOUNTING, CONDUIT RUNS, ETC. SUBMIT AS A SHOP DRAWING FOR COORDINATION PRIOR TO ANY WORK.
5. ALL FEEDERS RUN IN NON-METALLIC CONDUITS SHALL BE PROVIDED WITH DEDICATED GROUND WIRE SIZED AS PER NEC REQUIREMENTS.

HEXAGON NOTES

1. CONTROL WIRING TO ELEVATOR CONTROLLER PANELS. PROVIDE 2 HOUR RATED PROTECTION AS PER NEC CODE.
2. PROVIDE SHUNT TRIP SAFETY SWITCH FOR ELEVATOR EATON STS-3-X-F-P-X-4-CL OR APPROVED EQUAL. COORDINATE EXACT VOLTAGE OF SHUNT TRIP COIL WITH FIRE ALARM VENDOR.

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PROJECT NO.
T077-02-001

PROJECT
Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
ELECTRICAL RISER DIAGRAM

SHEET NO.
E3.1

Panel Name: LP-G-1

Location:

Fed From:

Volt	480/277 Wye	**Main Breaker**	225 A	**Phase**	3	**Ground Bus**	Yes	**Cover**	Door-in-Door
Bus	225 A	**Lugs Only**	No	**Wire Service**	4	**IG Bus**	No	**Mounting**	Surface
AIC	22 kA	**Feed Thru Lugs**	No	**200% Neutral**	No	**Sub-feed Breaker**	None	**Panel Status**	New Construction

NOTES:

	Circuit Description	Classification	Rating	Poles	A		B		C		Poles	Rating	Classification	Circuit Description	
L#1	BOH LIGHTING	Lighting	20	1	780	725					1	20	Lighting	STAIR UPLIGHTING	L#2
L#3	LIGHTING	Lighting	20	1			700	500			1	20	Lighting	ART LIGHTING	L#4
L#5	LIGHTING	Lighting	20	1					520	0	1	20	--	SITE LTG	L#6
L#7	LIGHTING	Lighting	20	1	280	0					1	20	--	SITE LTG	L#8
L#9	LIGHTING	Lighting	20	1			520	0			1	20	--	Spare	L#10
L#11	LIGHTING	Lighting	20	1					120	0	1	20	--	Spare	L#12
L#13	LIGHTING	Lighting	20	1	380	0					1	20	--	Spare	L#14
L#15	LIGHTING	Lighting	20	1			360	0			1	20	--	Spare	L#16
L#17	LIGHTING	Lighting	20	1					270	0	1	20	--	Spare	L#18
L#19	STAIRWELL LIGHTING	Lighting;...	20	1	308	0					1	20	--	Spare	L#20
L#21	STAIRWELL LIGHTING	Lighting;...	20	1			717	0			1	20	--	Spare	L#22
L#23	Spare	--	20	1					0	0	1	20	--	Spare	L#24
L#25	Spare	--	20	1	0	0					1	20	--	Spare	L#26
L#27	Spare	--	20	1			0	0			1	20	--	Spare	L#28
L#29	Spare	--	20	1					0	0	1	20	--	Spare	L#30
L#31	Spare	--	20	1	0	0					1	20	--	Spare	L#32
L#33	Spare	--	20	1			0	0			1	20	--	Spare	L#34
L#35	Spare	--	20	1					0	0	1	20	--	Spare	L#36
L#37	Spare	--	20	1	0	0					1	20	--	Spare	L#38
L#39	Spare	--	20	1			0	0			1	20	--	Spare	L#40
L#41	Spare	--	20	1					0	0	1	20	--	Spare	L#42
					2449.88 VA		**2766 VA**		**905 VA**						
					10 A		**11 A**		**3 A**						

Load Classification	Connected Load (VA)	Demand Factor	Calculated Load (VA)	Panel Totals	kVA	A (Amps)
Lighting	5486	100.00%	5486			
Receptacle	0	0.00%	0	**LOAD SUMMARY**	6.1	7.3
Largest Motor	0	0.00%	0	**MAX DESIGN LOAD**	150	180.0
Motor	0	0.00%	0	**DEMAND LOAD**	6.1	7.3
Heating	0	0.00%	0	**SPARE CAPACITY**	144	173
Appliance	0	0.00%	0			
Equipment	0	0.00%	0	**All circuit breakers are 20A, 1P unless noted otherwise**		
Other	0	0.00%	0			

Panel Name: RP-G-1

Location:

Fed From:

Volt	120/208 Wye	**Main Breaker**	150 A	**Phase**	3	**Ground Bus**	Yes	**Cover**	Door-in-Door
Bus	150 A	**Lugs Only**	No	**Wire Service**	4	**IG Bus**	No	**Mounting**	Surface
AIC	10 kA	**Feed Thru Lugs**	No	**200% Neutral**	No	**Sub-feed Breaker**	None	**Panel Status**	New Construction

NOTES:

	Circuit Description	Classification	Rating	Poles	A		B		C		Poles	Rating	Classification	Circuit Description	
R#1	GATE POWER	Receptacle	20	1	180	750					2	20	Heating	EH-1	R#2
R#3	GATE POWER	Receptacle	20	1			180	750							R#4
R#5	CONVENIENCE	Receptacle	20	1					1080	750	2	20	Heating	EH-1	R#6
R#7	CONVENIENCE	Receptacle	20	1	1080	750									R#8
R#9	CONVENIENCE	Receptacle	20	1			540	750			2	20	Heating	EH-1	R#10
R#11	STORAGE ROOM...	Receptacle	20	1					360	750					R#12
R#13	ELEC/WATER RM....	Receptacle	20	1	360	750					2	20	Heating	EH-1	R#14
R#15	CONVENIENCE	Receptacle	20	1			180	750							R#16
R#17	ELEVATOR PIT	Receptacle	20	1					360	750	2	20	Heating	EH-1	R#18
R#19	IT ROOM	Receptacle	20	1	180	750									R#20
R#21	IT ROOM	Receptacle	20	1			180	1500			1	20	Other	EF-1	R#22
R#23	IT ROOM	Receptacle	20	1					180	2080	2	20	Other	ACC-2	R#24
R#25	RECEPTACLE	Receptacle	20	1	360	2080									R#26
R#27	RECEPTACLE	Receptacle	20	1			720	1082			2	20	Other	ACCU-3	R#28
R#29	RECEPTACLE	Receptacle	20	1					360	1082					R#30
R#31	Spare	--	20	1	0	250					1	20	Other	EF-2	R#32
R#33	Spare	--	20	1			0	750			2	20	Heating	SP-1	R#34
R#35	Spare	--	20	1					0	750					R#36
R#37	Spare	--	20	1	0	1082					2	20	Other	ACCU-4	R#38
R#39	Spare	--	20	1			0	1082							R#40
R#41	Spare	--	20	1					0	0	1	20	--	Spare	R#42
					8571.5 VA		**8463 VA**		**8502 VA**						
					71 A		**71 A**		**71 A**						

Load Classification	Connected Load (VA)	Demand Factor	Calculated Load (VA)	Panel Totals	kVA	A (Amps)
Lighting	0	0.00%	0			
Receptacle	6300	100.00%	6300	**LOAD SUMMARY**	25.5	70.9
Largest Motor	0	0.00%	0	**MAX DESIGN LOAD**	43	120.0
Motor	0	0.00%	0	**DEMAND LOAD**	25.5	70.9
Heating	9000	100.00%	9000	**SPARE CAPACITY**	18	49
Appliance	0	0.00%	0			
Equipment	0	0.00%	0	**All circuit breakers are 20A, 1P unless noted otherwise**		
Other	10236	100.00%	10236			

Panel Name: RP-SHOP

Location:

Fed From:

Volt	120/208 Wye	**Main Breaker**	150 A	**Phase**	3	**Ground Bus**	Yes	**Cover**	Door-in-Door
Bus	150 A	**Lugs Only**	No	**Wire Service**	4	**IG Bus**	No	**Mounting**	Surface
AIC	10 kA	**Feed Thru Lugs**	No	**200% Neutral**	No	**Sub-feed Breaker**	None	**Panel Status**	New Construction

NOTES:

	Circuit Description	Classification	Rating	Poles	A		B		C		Poles	Rating	Classification	Circuit Description	
S#1	CONVENIENCE	Receptacle	20	1	540	208					1	20	Lighting	SHOP LIGHTING	S#2
S#3	FLOORBOX	Receptacle	20	1			180	433			1	20	Lighting;...	LIGHTING - DWELLIN...	S#4
S#5	WORK AREA	Receptacle	20	1					360	750	2	20	Heating	EH-1	S#6
S#7	WORK AREA	Receptacle	20	1	180	750									S#8
S#9	WORK AREA	Receptacle	20	1			180	250			1	20	Other	EF-2	S#10
S#11	WORK AREA	Receptacle	20	1					180	2100	2	25	Other	EWH-1	S#12
S#13	WORK AREA	Receptacle	20	1	360	2100									S#14
S#15	BIKE CHARGER	Receptacle	20	1			180	2080			2	20	Other	OTHER	S#16
S#17	BIKE CHARGER	Receptacle	20	1					180	2080					S#18
S#19	BIKE CHARGER	Receptacle	20	1	180	0					1	20	--	Spare	S#20
S#21	BIKE CHARGER	Receptacle	20	1			180	0			1	20	--	Spare	S#22
S#23	EXTERIOR...	Receptacle	20	1					360	0	1	20	--	Spare	S#24
S#25	BIKE CHARGER	Receptacle	20	1	180	0					1	20	--	Spare	S#26
S#27	BIKE CHARGER	Receptacle	20	1			180	0			1	20	--	Spare	S#28
S#29	BIKE CHARGER	Receptacle	20	1					180	0	1	20	--	Spare	S#30
S#31	BIKE CHARGER	Receptacle	20	1	180	0					1	20	--	Spare	S#32
S#33	Spare	--	20	1			0	0			1	20	--	Spare	S#34
S#35	Spare	--	20	1					0	0	1	20	--	Spare	S#36
S#37	Spare	--	20	1	0	0					1	20	--	Spare	S#38
S#39	Spare	--	20	1			0	0			1	20	--	Spare	S#40
S#41	Spare	--	20	1					0	0	1	20	--	Spare	S#42
					4672.73 VA		**3663 VA**		**6190 VA**						
					40 A		**31 A**		**53 A**						

Load Classification	Connected Load (VA)	Demand Factor	Calculated Load (VA)	Panel Totals	kVA	A (Amps)
Lighting	552	100.00%	552			
Receptacle	3780	100.00%	3780	**LOAD SUMMARY**	14.5	40.3
Largest Motor	0	0.00%	0	**MAX DESIGN LOAD**	43	120.0
Motor	0	0.00%	0	**DEMAND LOAD**	14.5	40.3
Heating	1500	100.00%	1500	**SPARE CAPACITY**	29	80
Appliance	0	0.00%	0			
Equipment	0	0.00%	0	**All circuit breakers are 20A, 1P unless noted otherwise**		
Other	8610	100.00%	8610			

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EXP: 06/20/25

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PROJECT NO.
T077-02-001

PROJECT
Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
ELECTRICAL PANEL SCHEDULES

SHEET NO.
E4.1

Panel Name: EV-1

Location:

Fed From:

Volt	120/208 Wye	**Main Breaker**	250 A		**Phase**	3		**Ground Bus**	Yes		**Cover**	Door-in-Door			
Bus	250 A	**Lugs Only**	No		**Wire Service**	4		**IG Bus**	No		**Mounting**	Surface			
AIC	10 kA	**Feed Thru Lugs**	No		**200% Neutral**	No		**Sub-feed Breaker**	None		**Panel Status**	New Construction			

NOTES:

	Circuit Description	Classification	Rating	Poles	A		B		C		Poles	Rating	Classification	Circuit Description	
EV1#1	EV CHARGER	Receptacle	50	2	4150	4150					2	50	Receptacle	EV CHARGER	EV1#2
EV1#3							4150	4150							EV1#4
EV1#5	EV CHARGER	Receptacle	50	2					4150	4150	2	50	Receptacle	EV CHARGER	EV1#6
EV1#7					4150	4150									EV1#8
EV1#9	EV CHARGER	Receptacle	50	2			4150	4150			2	50	Receptacle	EV CHARGER	EV1#10
EV1#11									4150	4150					EV1#12
EV1#13	EV CHARGER	Receptacle	50	2	4150	--					1	--	--	Space	EV1#14
EV1#15							4150	--			1	--	--	Space	EV1#16
EV1#17	EV CHARGER	Receptacle	50	2					4150	--	1	--	--	Space	EV1#18
EV1#19					4150	--					1	--	--	Space	EV1#20
EV1#21	EV CHARGER	Receptacle	50	2			4150	--			1	--	--	Space	EV1#22
EV1#23									4150	--	1	--	--	Space	EV1#24
EV1#25	EV CHARGER	Receptacle	50	2	4150	--					1	--	--	Space	EV1#26
EV1#27							4150	--			1	--	--	Space	EV1#28
EV1#29	EV CHARGER	Receptacle	50	2					4150	--	1	--	--	Space	EV1#30
EV1#31					4150	--					1	--	--	Space	EV1#32
EV1#33	EV CHARGER	Receptacle	50	2			4150	--			1	--	--	Space	EV1#34
EV1#35									4150	--	1	--	--	Space	EV1#36
EV1#37	Space	--	--	1	--	--					1	--	--	Space	EV1#38
EV1#39	Space	--	--	1			--	--			1	--	--	Space	EV1#40
EV1#41	Space	--	--	1					--	--	1	--	--	Space	EV1#42
					33200 VA		**33200 VA**		**33200 VA**						
					277 A		**277 A**		**277 A**						

Load Classification	**Connected Load (VA)**	**Demand Factor**	**Calculated Load (VA)**	**Panel Totals**		
					kVA	**A (Amps)**
Lighting	0	0.00%	0			
Receptacle	99600	55.02%	54800	**LOAD SUMMARY**	99.6	276.5
Largest Motor	0	0.00%	0	**MAX DESIGN LOAD**	72	200.0
Motor	0	0.00%	0	**DEMAND LOAD**	54.8	152.1
Heating	0	0.00%	0	**SPARE CAPACITY**	17	48
Appliance	0	0.00%	0			
Equipment	0	0.00%	0	**All circuit breakers are 20A, 1P unless noted otherwise**		
Other	0	0.00%	0			

Panel Name: ELEV-LP-1

Location:

Fed From:

Volt	480/277 Wye	**Main Breaker**	100 A		**Phase**	3		**Ground Bus**	Yes		**Cover**	Door-in-Door			
Bus	100 A	**Lugs Only**	No		**Wire Service**	4		**IG Bus**	No		**Mounting**	Surface			
AIC	22 kA	**Feed Thru Lugs**	No		**200% Neutral**	No		**Sub-feed Breaker**	None		**Panel Status**	New Construction			

NOTES:

	Circuit Description	Classification	Rating	Poles	A		B		C		Poles	Rating	Classification	Circuit Description	
EL#1					0	0					1	20	--	Spare	EL#2
EL#3	ELEVATOR	Motor	80	3			0	0			1	20	--	Spare	EL#4
EL#5									0	0	1	20	--	Spare	EL#6
EL#7	Spare	--	20	1	0	0					1	20	--	Spare	EL#8
EL#9	Spare	--	20	1			0	0			1	20	--	Spare	EL#10
EL#11	Spare	--	20	1					0	0	1	20	--	Spare	EL#12
EL#13	Spare	--	20	1	0	0					1	20	--	Spare	EL#14
EL#15	Spare	--	20	1			0	0			1	20	--	Spare	EL#16
EL#17	Spare	--	20	1					0	0	1	20	--	Spare	EL#18
EL#19	Spare	--	20	1	0	0					1	20	--	Spare	EL#20
EL#21	Spare	--	20	1			0	0			1	20	--	Spare	EL#22
EL#23	Spare	--	20	1					0	0	1	20	--	Spare	EL#24
EL#25	Spare	--	20	1	0	0					1	20	--	Spare	EL#26
EL#27	Spare	--	20	1			0	0			1	20	--	Spare	EL#28
EL#29	Spare	--	20	1					0	0	1	20	--	Spare	EL#30
EL#31	Spare	--	20	1	0	0					1	20	--	Spare	EL#32
EL#33	Spare	--	20	1			0	0			1	20	--	Spare	EL#34
EL#35	Spare	--	20	1					0	0	1	20	--	Spare	EL#36
EL#37	Spare	--	20	1	0	0					1	20	--	Spare	EL#38
EL#39	Spare	--	20	1			0	0			1	20	--	Spare	EL#40
EL#41	Spare	--	20	1					0	0	1	20	--	Spare	EL#42
					0 VA		**0 VA**		**0 VA**						
					0 A		**0 A**		**0 A**						

Load Classification	**Connected Load (VA)**	**Demand Factor**	**Calculated Load (VA)**	**Panel Totals**		
					kVA	**A (Amps)**
Lighting	0	0.00%	0			
Receptacle	0	0.00%	0	**LOAD SUMMARY**	0.0	0.0
Largest Motor	0	0.00%	0	**MAX DESIGN LOAD**	67	80.0
Motor	0	0.00%	0	**DEMAND LOAD**	0.0	0.0
Heating	0	0.00%	0	**SPARE CAPACITY**	67	80
Appliance	0	0.00%	0			
Equipment	0	0.00%	0	**All circuit breakers are 20A, 1P unless noted otherwise**		
Other	0	0.00%	0			

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PROJECT NO.
T077-02-001

PROJECT
Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

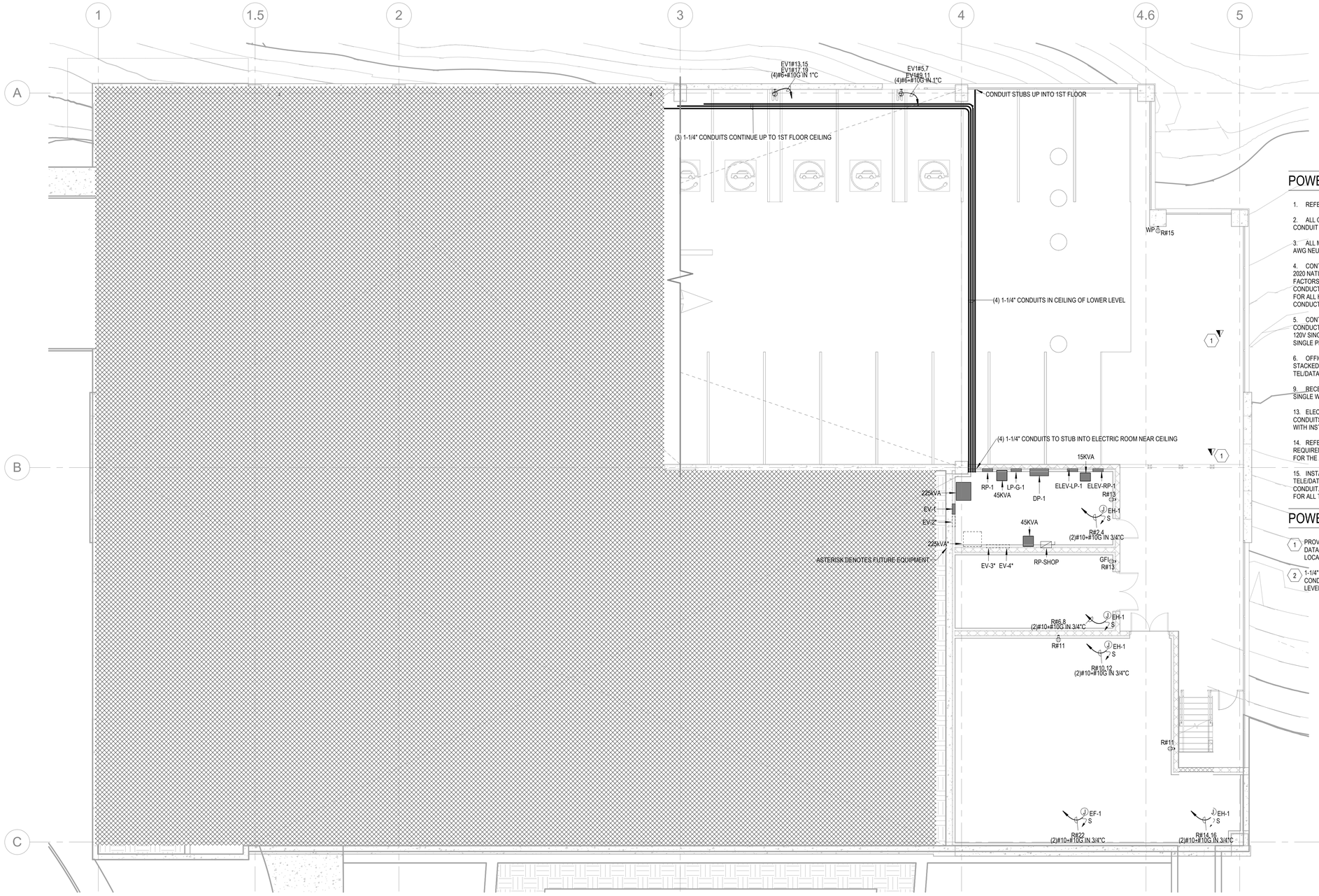
NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
ELECTRICAL PANEL SCHEDULES

SHEET NO.
E4.2



POWER NOTES

1. REFER TO DRAWING E-001 FOR GENERAL NOTES.
2. ALL CIRCUITRY SHALL BE INSTALLED IN EMT. FLEXIBLE METALLIC CONDUIT MAY BE USE AS PER SPECIFICATIONS.
3. ALL MULTIPLE CIRCUIT HOMERUNS SHALL BE PROVIDED WITH #10 AWG NEUTRAL CONDUCTORS.
4. CONTRACTOR SHALL COMPLY WITH WIRING REQUIREMENTS OF THE 2020 NATIONAL ELECTRIC CODE, TABLE 310.15(B)(3)(a) FOR ADJUSTMENT FACTORS ASSOCIATED WITH MORE THAN THREE CURRENT CARRYING CONDUCTORS IN A RACEWAY. UTILIZE #10 AWG, SOLID CONDUCTORS, FOR ALL HOMERUNS CONTAINING 4 OR MORE CURRENT CARRYING CONDUCTORS.
5. CONTRACTOR SHALL LIMIT MAXIMUM CURRENT CARRYING CONDUCTORS TO 9 PER CONDUIT. NEUTRAL CONDUCTORS UTILIZED IN 120V SINGLE PHASE CIRCUITS AND SHARED BETWEEN TWO (2) 120V, SINGLE PHASE CIRCUITS ARE DEFINED AS CURRENT CARRYING.
6. OFFICE RECEPTACLES INDICATED AS BACK TO BACK, SHALL BE STACKED. PROVIDE SEPARATE CONDUITS, STUBBED INTO CEILING FOR TEL/DATA CABLING.
9. RECEPTACLES GANGED TOGETHER SHALL BE MOUNTED UNDER SINGLE WHITE COVERPLATE.
13. ELECTRICAL CONTRACTOR SHALL PROVIDE JUNCTION BOXES AND CONDUITS FOR ALL SECURITY DEVICES. COORDINATE REQUIREMENTS WITH INSTALLING CONTRACTOR AND SECURITY DOCUMENTS.
14. REFER TO AV CONSULTANT'S DRAWINGS FOR ALL EMPTY CONDUIT REQUIREMENTS, RECEPTACLE LOCATIONS, AND EQUIPMENT REQUIRED FOR THE AV SYSTEM.
15. INSTALL TELE/DATA BOXES AND AN EMPTY CONDUIT SYSTEM. TELE/DATA CABLING BY OTHERS. INSTALL PULL STRING IN EACH EMPTY CONDUIT. REFER TO TELECOMMUNICATION SCOPE OF WORK DOCUMENT FOR ALL TELEPHONE/DATA CABLING REQUIREMENTS.

POWER HEX NOTES

1. PROVIDE 1" CONDUIT AND SINGLE GANG DATA JACK AT CEILING. RUN DATA CABLING BACK TO IT CLOSET. VERIFY EXACT MOUNTING LOCATION WITH ARCHITICT PRIOR TO ROUGH-IN.
2. 1-1/4" CONDUIT TO STUB UP ONTO THIS LEVEL FROM CEILING BELOW. CONDUIT TO ENTER 16"X16"X6" WALL MOUNTED PULLBOX ON THIS LEVEL. PULLBOX TO BE MOUNTED ON NORTH WALL AT 18"AFF.

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PROJECT NO.
T077-02-001

PROJECT
Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

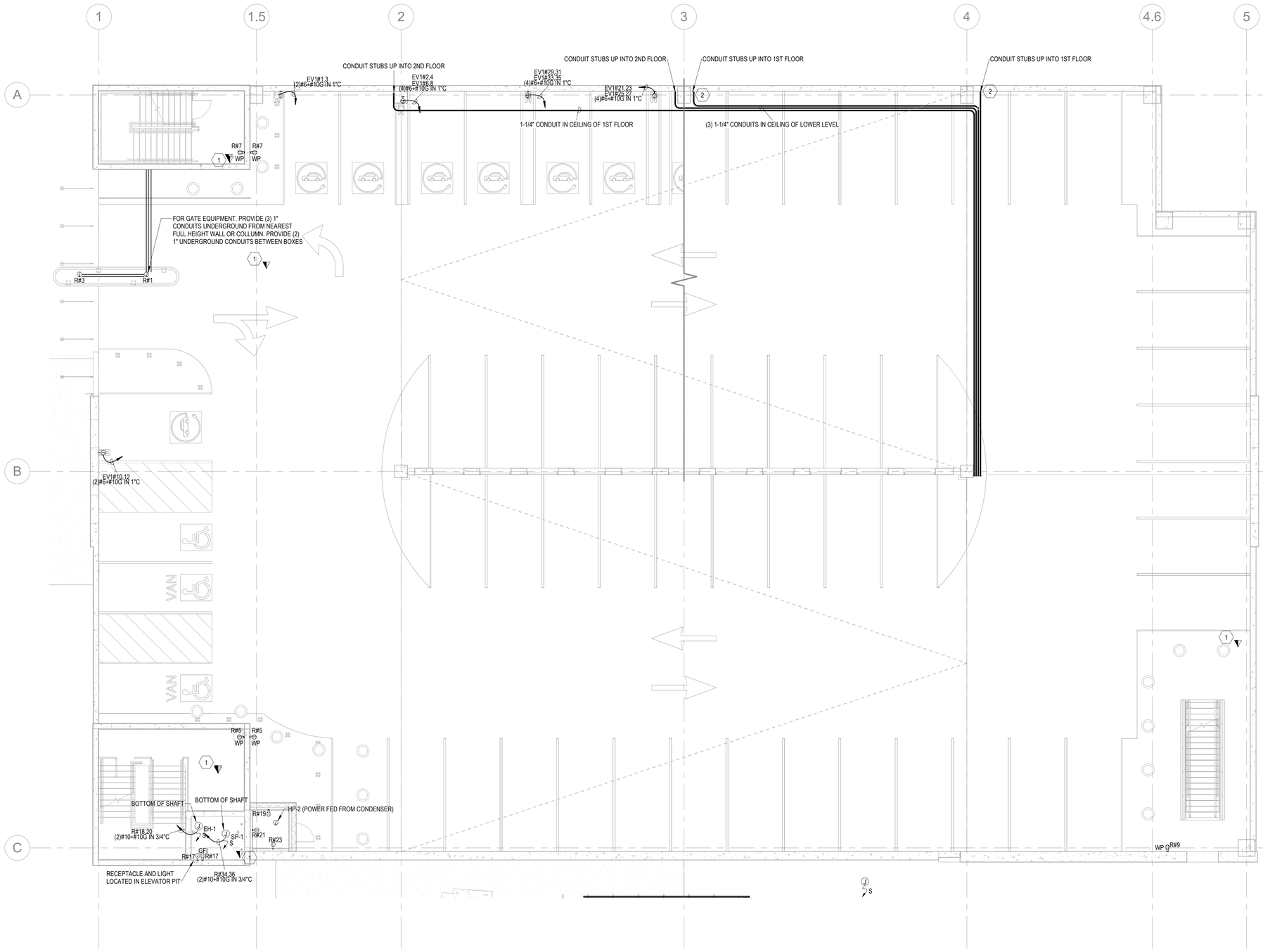
NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 06/18/24

SHEET TITLE:
ELECTRICAL LOWER LEVEL POWER PLAN

SHEET NO.
E5.0



POWER NOTES

1. REFER TO DRAWING E-001 FOR GENERAL NOTES.
2. ALL CIRCUITRY SHALL BE INSTALLED IN EMT. FLEXIBLE METALLIC CONDUIT MAY BE USE AS PER SPECIFICATIONS.
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POWER HEX NOTES

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2. 1-1/4" CONDUIT TO STUB UP ONTO THIS LEVEL FROM CEILING BELOW. CONDUIT TO ENTER 16"X16"X6" WALL MOUNTED PULLBOX ON THIS LEVEL. PULLBOX TO BE MOUNTED ON NORTH WALL AT 18"AFF.

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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

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SHEET TITLE:
ELECTRICAL LEVEL 1 FLOOR POWER PLAN

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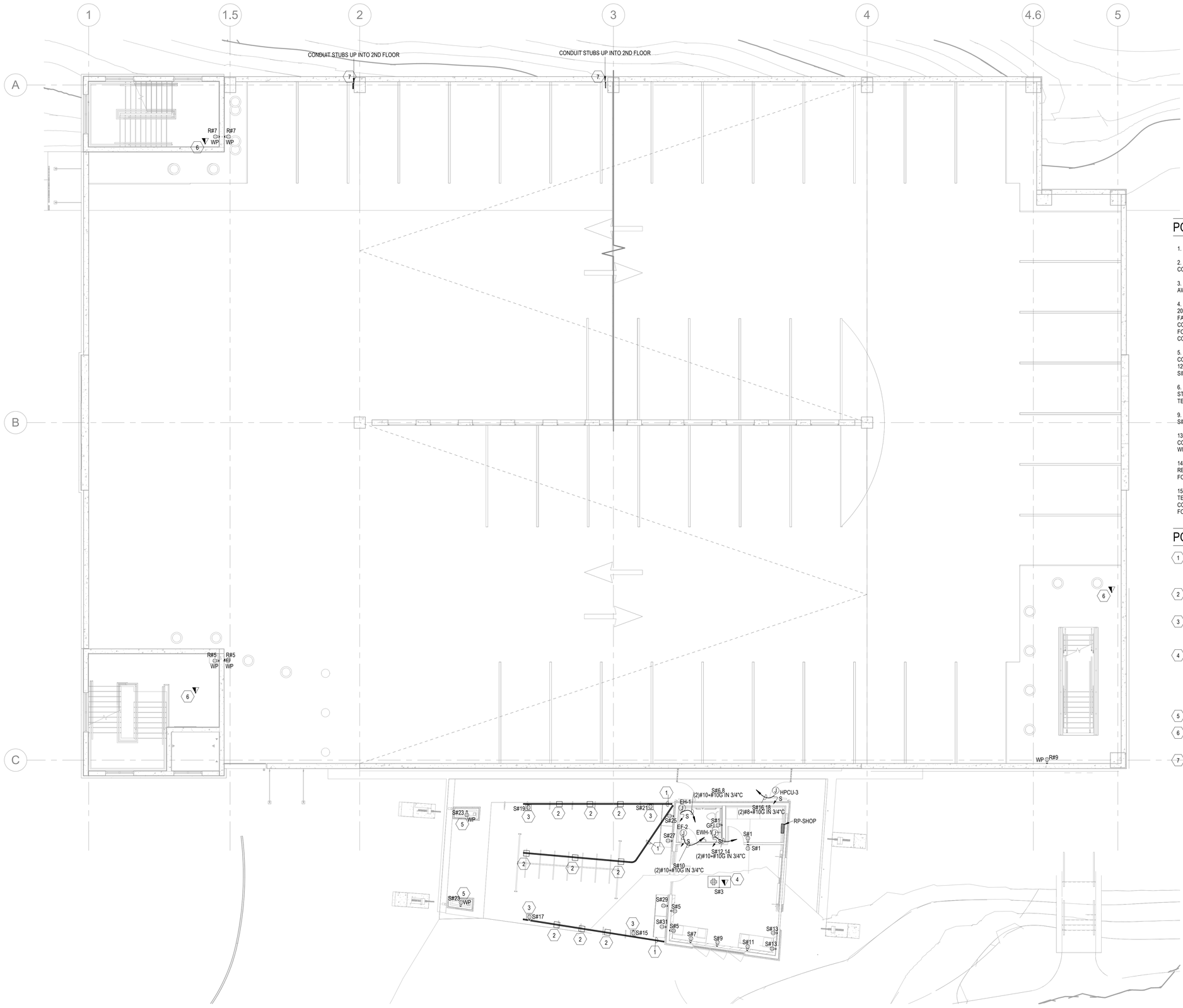
E5.1



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POWER HEX NOTES

1. 2" UNDERGROUND CONDUIT FOR E-BIKE CHARGING. STUB UP CONDUITS AT LOCATION APPROVED BY ARCHITECT. COORDINATE CONDUIT ROUTING BACK TO ELECTRICAL PANEL WITH ARCHITECT, CIVIL ENGINEER AND OTHER APPLICABLE TRADES.

2. TURN CONDUIT UP AND CAP WITHIN FLUSH ENCLOSURE ASSEMBLY BOX. LABEL AS "EMPTY CONDUIT FOR FUTURE ELECTRIC VEHICHLE CHARGING". COORDINATE FINAL BOX LOCATION WITH ARCHITECT.

3. PROVIDE FLUSH FLOOR MOUNTED EXTERIOR POWER BOX WITH QUAD RECEPTACLES. SIMILAR TO LEGRAND WIREMOLD OUTDOOR GROUND BOX XB814C515. COORDINATE EXACT LOCATION AND COLOR WITH ARCHITECT. RUN CONDUCTORS THROUGH UNDER GROUND CONDUITS.

4. FLUSH FLOOR MOUNTED FLOOR BOX. FURNISH AND INSTALL 2-GANG DEVICE WITH DUPLEX POWER RECEPTACLE AND DATA OUTLETS (CONFIRM EXACT QUANTITY WITH ARCHITECT). COORDINATE EXACT LOCATIONS WITH GC, FURNITURE VENDOR, ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO TRENCHING. CONDUITS TO BE RUN IN TRENCH FROM NEAREST WALL OR COLUMN. TRENCH SHALL BE 6"LONG X 3" DEEP. PROVIDE WIREMOLD OMNIBOX (OR APPROVED EQUAL). COORDINATE COVER COLOR WITH ARCHITECT.

5. RECEPTACLES TO BE FED VIA UNDERGORUND CONDUIT.

6. PROVIDE 1" CONDUIT AND SINGLE GANG DATA JACK AT CEILING. RUN DATA CABLING BACK TO IT CLOSET. VERIFY EXACT MOUNTING LOCATION WITH ARCHITICT PRIOR TO ROUGH-IN.

7. 1-1/4" CONDUIT TO STUB UP ONTO THIS LEVEL FROM CEILING BELOW. CONDUIT TO ENTER 16"X16"X6" WALL MOUNTED PULLBOX ON THIS LEVEL. PULLBOX TO BE MOUNTED ON NORTH WALL AT 18"AFF.

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Ossining, NY 10562

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BID SET
02.21.25

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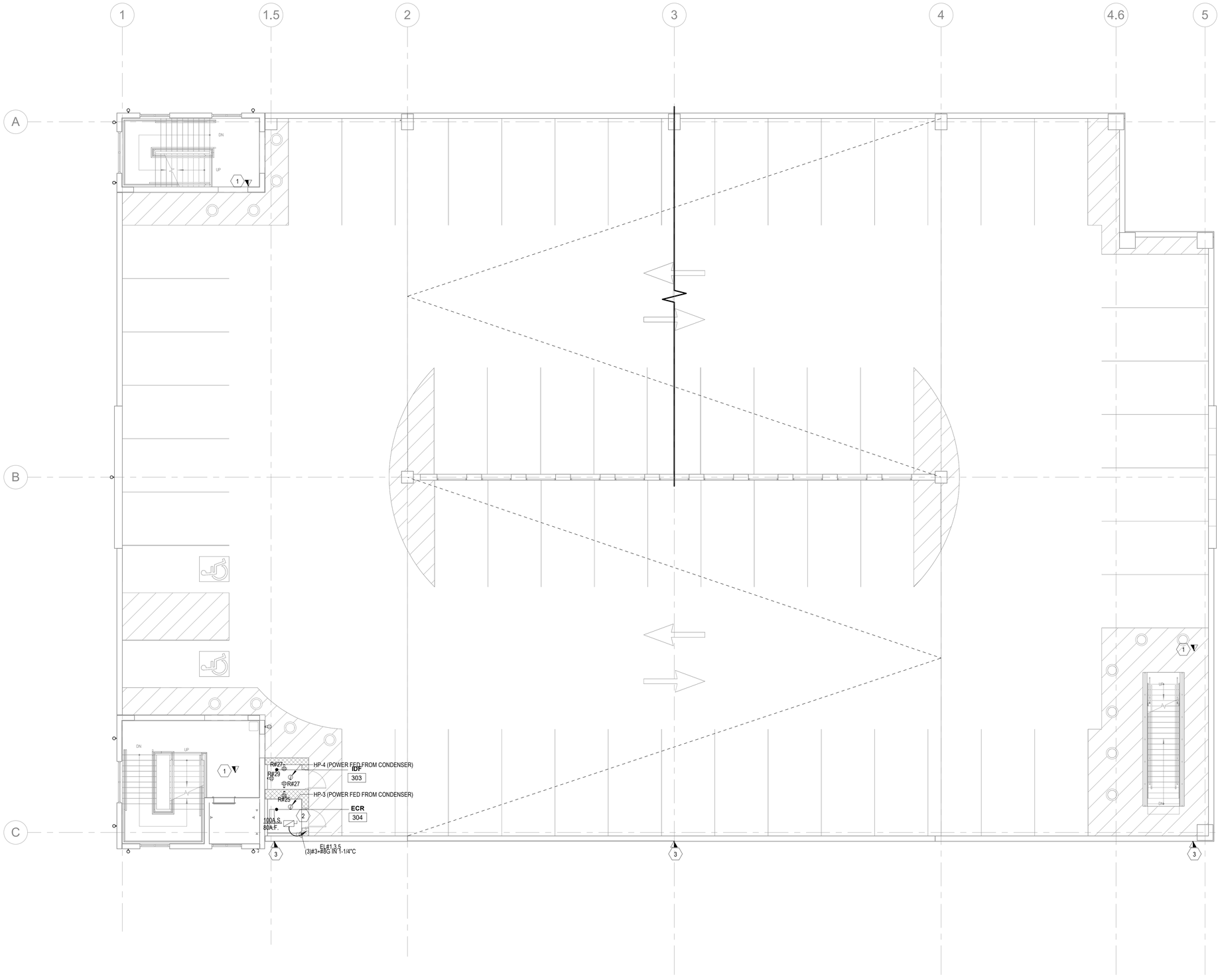
SHEET NO.
E5.2



POWER NOTES

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2. PROVIDE SHUNT TRIP SAFETY SWITCH FOR ALL ELEVATORS EATON STS-3-X-F-P-X-4-CL OR APPROVED EQUAL. COORDINATE EXACT VOLTAGE OF SHUNT TRIP COIL WITH FIRE ALARM VENDOR.
3. PROVIDE 1" CONDUIT AND SINGLE GANG DATA JACK AT WALL LOCATION. RUN DATA CABLING BACK TO IT CLOSET. VERIFY EXACT MOUNTING LOCATION WITH ARCHITICT PRIOR TO ROUGH-IN.

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PROJECT NO.
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Ossining, NY 10562

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SHEET TITLE:
ELECTRICAL LEVELS 3 FLOOR POWER PLAN

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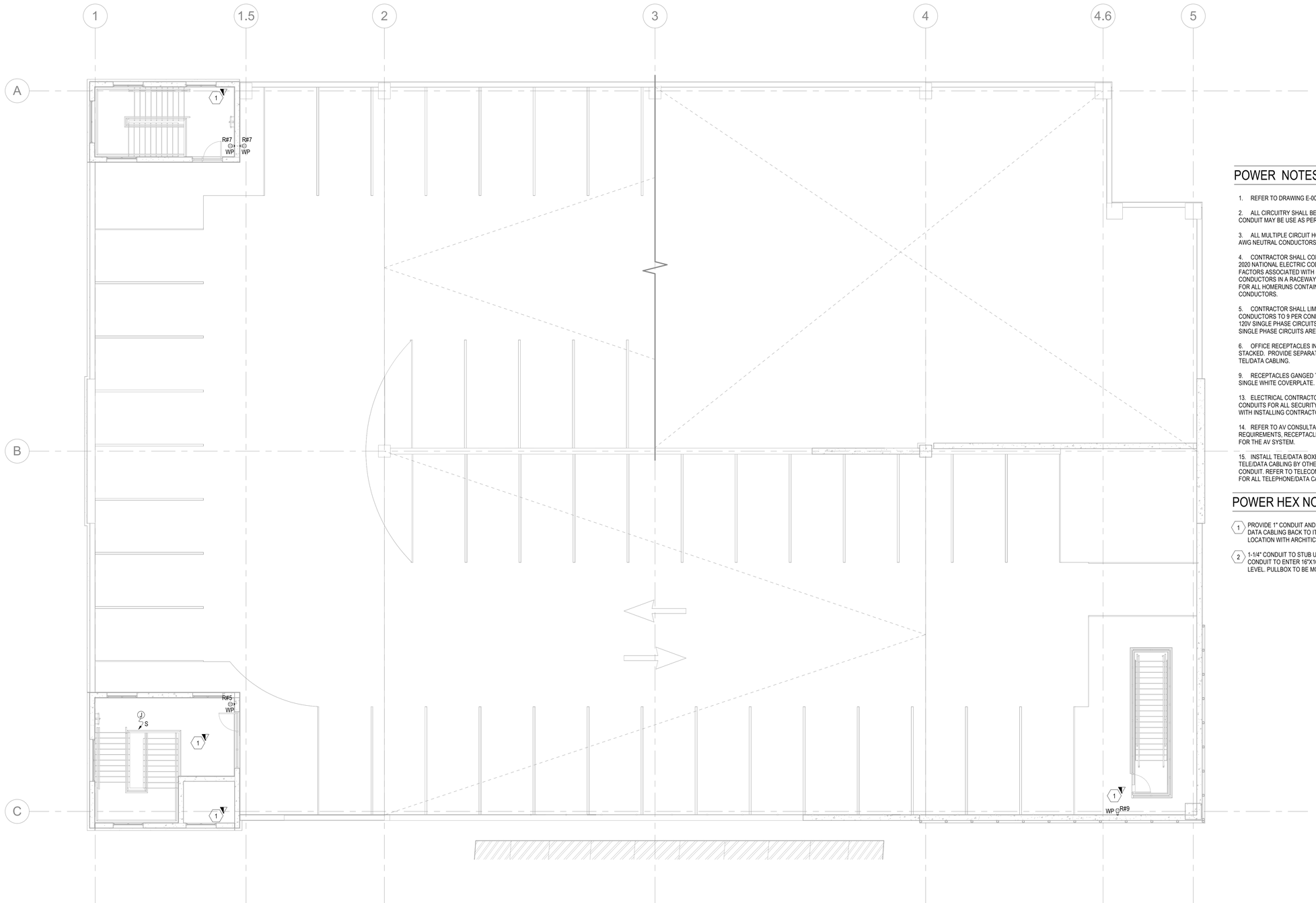
E5.3



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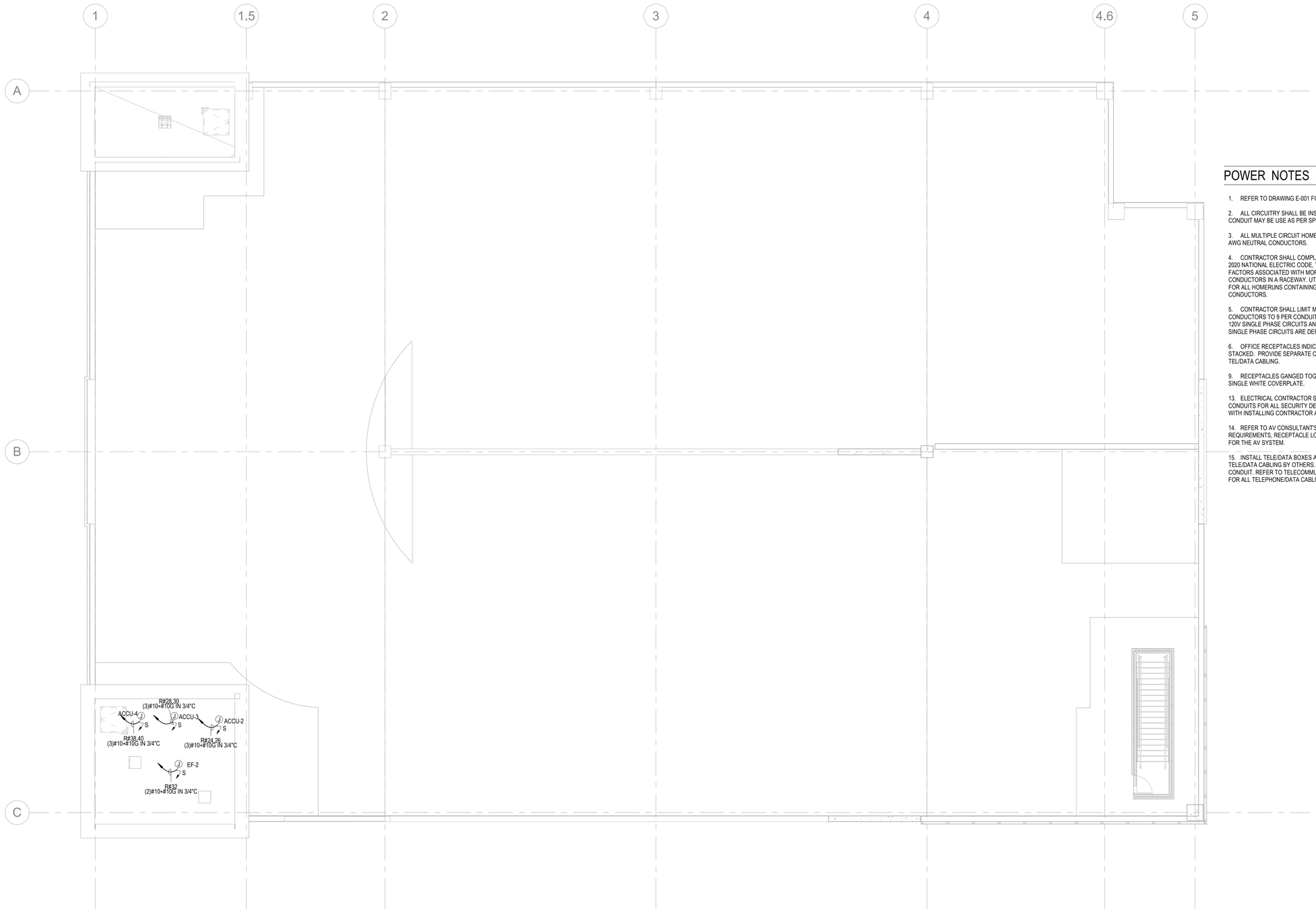
SHEET TITLE:
ELECTRICAL LEVEL 4 FLOOR POWER PLAN

SHEET NO.
E5.4



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ELECTRICAL LEVEL 5 FLOOR POWER PLAN

SHEET NO.
E5.5

LIGHTING NOTES

1. REFER TO DRAWING E-001 FOR GENERAL NOTES.
4. REFER TO POWER PLAN DRAWING FOR PANEL LOCATIONS.
5. ALL HOMERUNS SHALL BE INSTALLED IN CONDUIT THROUGHOUT.
7. ALL EMERGENCY (EM) AND EM/NL LIGHT FIXTURES IN PROJECT SHALL BE PROVIDED WITH INTEGRAL BATTERY BALLAST OPTION FROM MANUFACTURER. CONTRACTOR SHALL PROVIDE UNSWITCHED LEG OF NORMAL LIGHTING CIRCUIT TO FEED BATTERY AS REQUIRED FOR ALL EM FIXTURES.
8. ALL SINGLE FACE AND DOUBLE FACE EXIT SIGNS SHALL BE PROVIDED WITH MYLAR BACKING. ALL EXIT SIGNS SHALL BE PROVIDED WITH EMERGENCY BATTERY BALLAST.
10. ALL PRIVATE OFFICES AND ENCLOSED ROOMS SHALL BE PROVIDED WITH A WALL MOUNTED LIGHT SWITCH AND CEILING MOUNTED SENSOR AS INDICATED ON THE DESIGN DRAWINGS. COORDINATE WITH ARCHITECT FOR EXACT SWITCH LOCATION.
12. INFRARED COMPONENT OF ALL CEILING MOUNTED SENSORS SHALL BE MASKED TO AVOID NUISANCE TRIPPING IN PRIVATE OFFICES. FINAL LOCATION OF ALL SENSORS SHOULD BE DETERMINED IN FIELD WITH CONTROLS REPRESENTATIVE AND BE LOCATED IN ORDER TO MAXIMIZE VISIBILITY OF ROOM OR AREA AND FUNCTIONALITY OF SENSOR(S).
13. PROVIDE DUAL VOLTAGE SWITCHPACKS AS REQUIRED, CONNECTED TO ONE SENSOR FOR LIGHTING IN ROOM(S). SENSOR SHALL CONTROL ALL FIXTURES IN ROOM(S).
14. CONTRACTOR SHALL COMPLY WITH WIRING REQUIREMENTS OF THE 2020 NATIONAL ELECTRIC CODE, TABLE 310.15(B)(3)(a) FOR ADJUSTMENT FACTORS ASSOCIATED WITH MORE THAN THREE CURRENT CARRYING CONDUCTORS IN A RACEWAY. UTILIZE #10 AWG, SOLID CONDUCTORS, FOR ALL HOMERUNS CONTAINING 4 OR MORE CURRENT CARRYING CONDUCTORS.
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16. LIGHTING OCCUPANCY SENSOR COMPATIBLE WITH LIGHTING RELAY SYSTEM FOR AFTER HOURS CONTROL OF ELEVATOR LOBBY LIGHTING ONLY. DURING NORMAL HOURS, FIXTURES SHALL BE TIME SCHEDULED. OTHER FIXTURES IN ELEVATOR LOBBY SHALL BE TIME CONTROLLED ONLY, NO AFTER HOURS OVERRIDE UNLESS INPUTTED BY COMPUTER.
16. AREAS WITHIN A PRIMARY SIDELIGHTED AREA (THE HORIZONTAL DISTANCE FROM ANY FENESTRATION EQUAL TO THE HEIGHT FROM THE FINISHED FLOOR TO THE TOP OF WINDOW, PLUS 2' ON EACH SIDE) CONTAINING MORE THAN 150 WATTS OF LIGHTING POWER SHALL BE PROVIDED WITH A MEANS FOR AUTOMATIC DAYLIGHT SENSING/DIMMING (EITHER EXTERNAL OR INTERNAL PHOTOCELL SENSOR) AND SHALL BE PROVIDED WITH A 0-10V DIMMING BALLAST OR DRIVER AS REQUIRED.
17. ALL LIGHTING FIXTURES THAT UTILIZE DOUBLE ENDED LAMPS OR ARE SUPPLIED FROM MULTIWIRE BRANCH CIRCUITS AND CONTAIN BALLASTS THAT CAN BE SERVICED IN PLACE SHALL BE PROVIDED WITH A DISCONNECTING MEANS

LIGHTING HEX NOTES

1. LIGHTING IN THIS AREA IS TO BE CONTROLLED BY FIXTURE INTEGRAL OCCUPANCY SENSORS.
2. LIGHT FIXTURES IN THIS SPACE TO BE CONTROLLED BY LINE VOLTAGE WALL SWITCH.

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PROJECT NO.
T077-02-001

PROJECT
Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

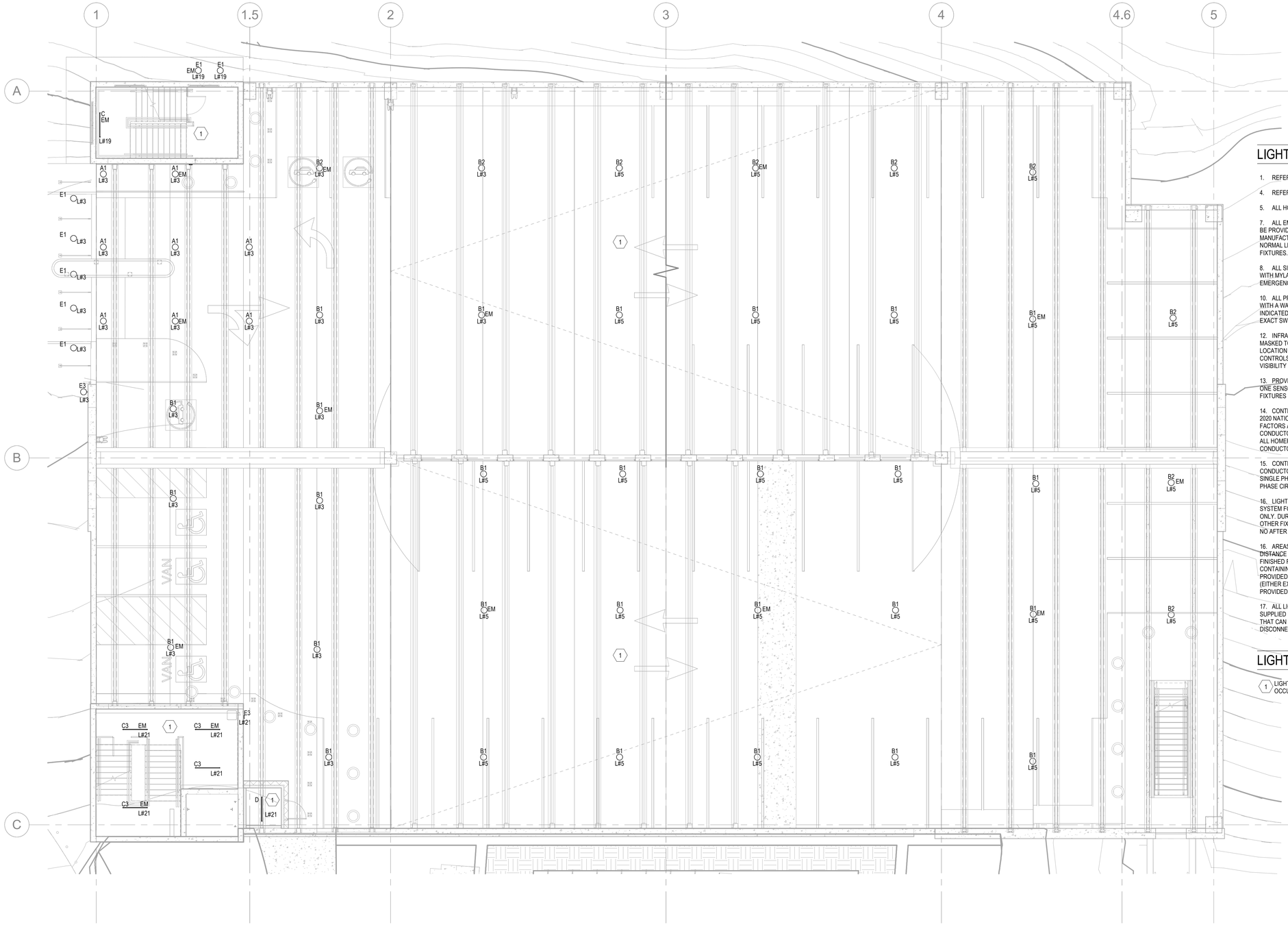
NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 06/18/24

SHEET TITLE:
ELECTRICAL LOWER LEVEL LIGHTING PLAN

SHEET NO.
E6.0



LIGHTING NOTES

1. REFER TO DRAWING E-001 FOR GENERAL NOTES.
4. REFER TO POWER PLAN DRAWING FOR PANEL LOCATIONS.
5. ALL HOMERUNS SHALL BE INSTALLED IN CONDUIT THROUGHOUT.
7. ALL EMERGENCY (EM) AND EM/NL LIGHT FIXTURES IN PROJECT SHALL BE PROVIDED WITH INTEGRAL BATTERY BALLAST OPTION FROM MANUFACTURER. CONTRACTOR SHALL PROVIDE UNSWITCHED LEG OF NORMAL LIGHTING CIRCUIT TO FEED BATTERY AS REQUIRED FOR ALL EM FIXTURES.
8. ALL SINGLE FACE AND DOUBLE FACE EXIT SIGNS SHALL BE PROVIDED WITH MYLAR BACKING. ALL EXIT SIGNS SHALL BE PROVIDED WITH EMERGENCY BATTERY BALLAST.
10. ALL PRIVATE OFFICES AND ENCLOSED ROOMS SHALL BE PROVIDED WITH A WALL MOUNTED LIGHT SWITCH AND CEILING MOUNTED SENSOR AS INDICATED ON THE DESIGN DRAWINGS. COORDINATE WITH ARCHITECT FOR EXACT SWITCH LOCATION.
12. INFRARED COMPONENT OF ALL CEILING MOUNTED SENSORS SHALL BE MASKED TO AVOID NUISANCE TRIPPING IN PRIVATE OFFICES. FINAL LOCATION OF ALL SENSORS SHOULD BE DETERMINED IN FIELD WITH CONTROLS REPRESENTATIVE AND BE LOCATED IN ORDER TO MAXIMIZE VISIBILITY OF ROOM OR AREA AND FUNCTIONALITY OF SENSOR(S).
13. PROVIDE DUAL VOLTAGE SWITCHPACKS AS REQUIRED, CONNECTED TO ONE SENSOR FOR LIGHTING IN ROOM(S). SENSOR SHALL CONTROL ALL FIXTURES IN ROOM(S).
14. CONTRACTOR SHALL COMPLY WITH WIRING REQUIREMENTS OF THE 2020 NATIONAL ELECTRIC CODE, TABLE 310.15(B)(3)(a) FOR ADJUSTMENT FACTORS ASSOCIATED WITH MORE THAN THREE CURRENT CARRYING CONDUCTORS IN A RACEWAY. UTILIZE #10 AWG, SOLID CONDUCTORS, FOR ALL HOMERUNS CONTAINING 4 OR MORE CURRENT CARRYING CONDUCTORS.
15. CONTRACTOR SHALL LIMIT MAXIMUM CURRENT CARRYING CONDUCTORS TO 9 PER CONDUIT. NEUTRAL CONDUCTORS UTILIZED IN 120V SINGLE PHASE CIRCUITS AND SHARED BETWEEN TWO (2) 120V, SINGLE PHASE CIRCUITS ARE DEFINED AS CURRENT CARRYING.
16. LIGHTING OCCUPANCY SENSOR COMPATIBLE WITH LIGHTING RELAY SYSTEM FOR AFTER HOURS CONTROL OF ELEVATOR LOBBY LIGHTING ONLY. DURING NORMAL HOURS, FIXTURES SHALL BE TIME SCHEDULED. OTHER FIXTURES IN ELEVATOR LOBBY SHALL BE TIME CONTROLLED ONLY, NO AFTER HOURS OVERRIDE UNLESS INPUTTED BY COMPUTER.
16. AREAS WITHIN A PRIMARY SIDELIGHTED AREA (THE HORIZONTAL DISTANCE FROM ANY FENESTRATION EQUAL TO THE HEIGHT FROM THE FINISHED FLOOR TO THE TOP OF WINDOW, PLUS 2' ON EACH SIDE) CONTAINING MORE THAN 150 WATTS OF LIGHTING POWER SHALL BE PROVIDED WITH A MEANS FOR AUTOMATIC DAYLIGHT SENSING/DIMMING (EITHER EXTERNAL OR INTERNAL PHOTOCELL SENSOR) AND SHALL BE PROVIDED WITH A 0-10V DIMMING BALLAST OR DRIVER AS REQUIRED.
17. ALL LIGHTING FIXTURES THAT UTILIZE DOUBLE ENDED LAMPS OR ARE SUPPLIED FROM MULTIWIRE BRANCH CIRCUITS AND CONTAIN BALLASTS THAT CAN BE SERVICED IN PLACE SHALL BE PROVIDED WITH A DISCONNECTING MEANS

LIGHTING HEX NOTES

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Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

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NO.	DESCRIPTION	DATE

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DRAWN: Author
REVIEWED: Checker
DATE: 03/06/24

SHEET TITLE:
ELECTRICAL LEVEL 1 FLOOR LIGHTING PLAN

SHEET NO.
E6.1

LIGHTING NOTES

1. REFER TO DRAWING E-001 FOR GENERAL NOTES.
4. REFER TO POWER PLAN DRAWING FOR PANEL LOCATIONS.
5. ALL HOMERUNS SHALL BE INSTALLED IN CONDUIT THROUGHOUT.
7. ALL EMERGENCY (EM) AND EM/NL LIGHT FIXTURES IN PROJECT SHALL BE PROVIDED WITH INTEGRAL BATTERY BALLAST OPTION FROM MANUFACTURER. CONTRACTOR SHALL PROVIDE UNSWITCHED LEG OF NORMAL LIGHTING CIRCUIT TO FEED BATTERY AS REQUIRED FOR ALL EM FIXTURES.
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LIGHTING HEX NOTES

1. LIGHTING IN THIS AREA IS TO BE CONTROLLED BY FIXTURE INTEGRAL OCCUPANCY SENSORS.
2. LIGHTING IN THIS AREA TO BE CONTROLLED BY WALLMOUNTED VACANCY SENSOR SWITCH.
3. LIGHTING FIXTURES IN THIS SPACE SHALL BE CONTROLLED BY ROOM CONTROLLER. FIXTURES TO BE USER CONTROLLED VIA DIMMING LOW VOLTAGE WALL SWITCH. PROVIDE (2) ZONES OF 0-10V DIMMING. SPACE SHOULD UTILIZE FOLLOWING OPERATION: AUTOMATIC ON VIA TIMECLOCK AT START OF BUSINESS HOURS, AUTOMATIC OFF VIA TIMECLOCK AT END OF BUSINESS HOURS, OUTSIDE OF BUSINESS HOURS, FIXTURES SHALL OPERATE AS AUTOMATIC ON WITH OCCUPANCY DETECTION AND AUTOMATIC OFF AFTER 15 MIN OF NO OCCUPANCY.

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SUBMISSIONS / REVISIONS
BID SET
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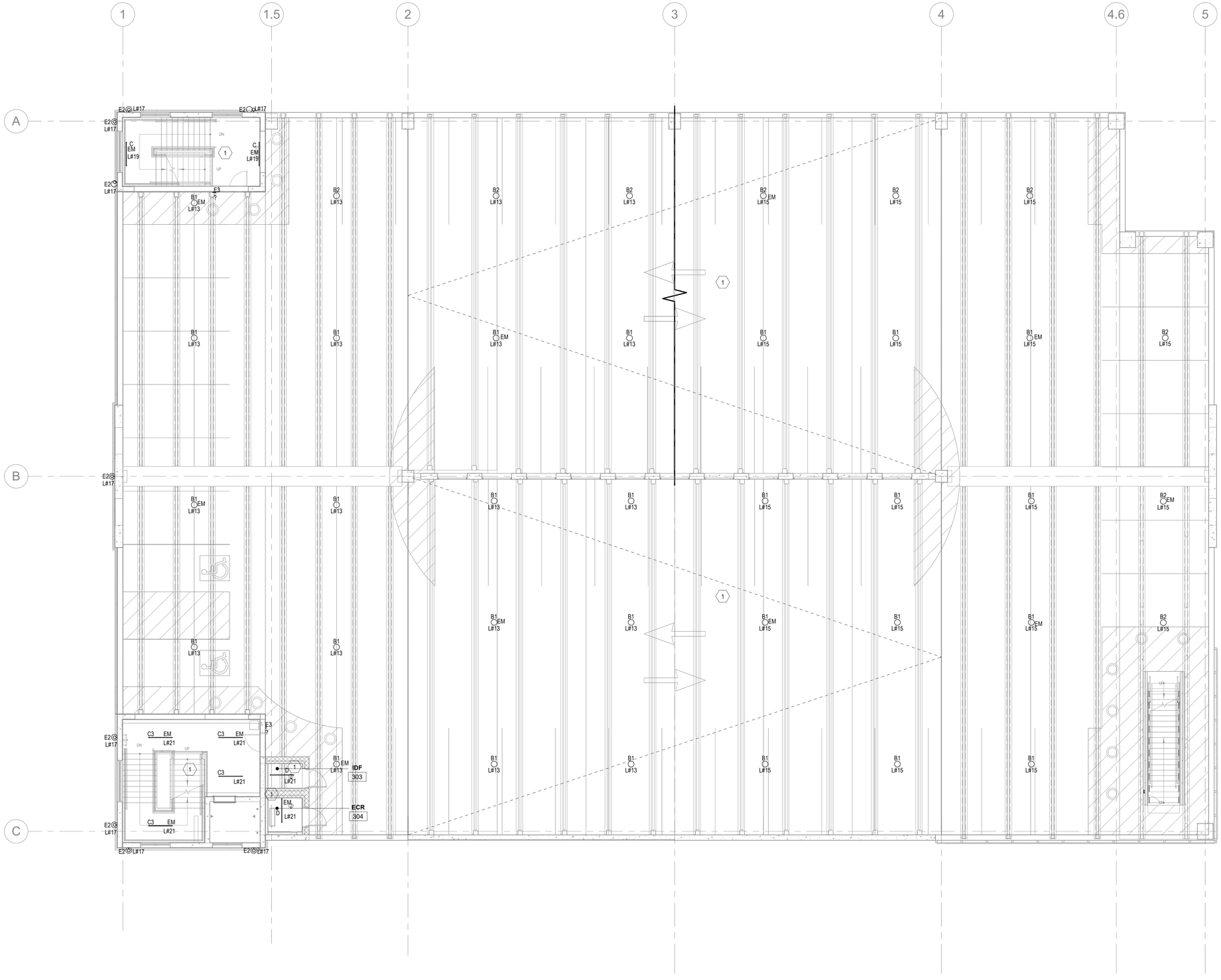
SHEET TITLE:
ELECTRICAL LEVEL 2 FLOOR LIGHTING PLAN

SHEET NO.
E6.2



LIGHTING NOTES

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4. REFER TO POWER PLAN DRAWING FOR PANEL LOCATIONS.

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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

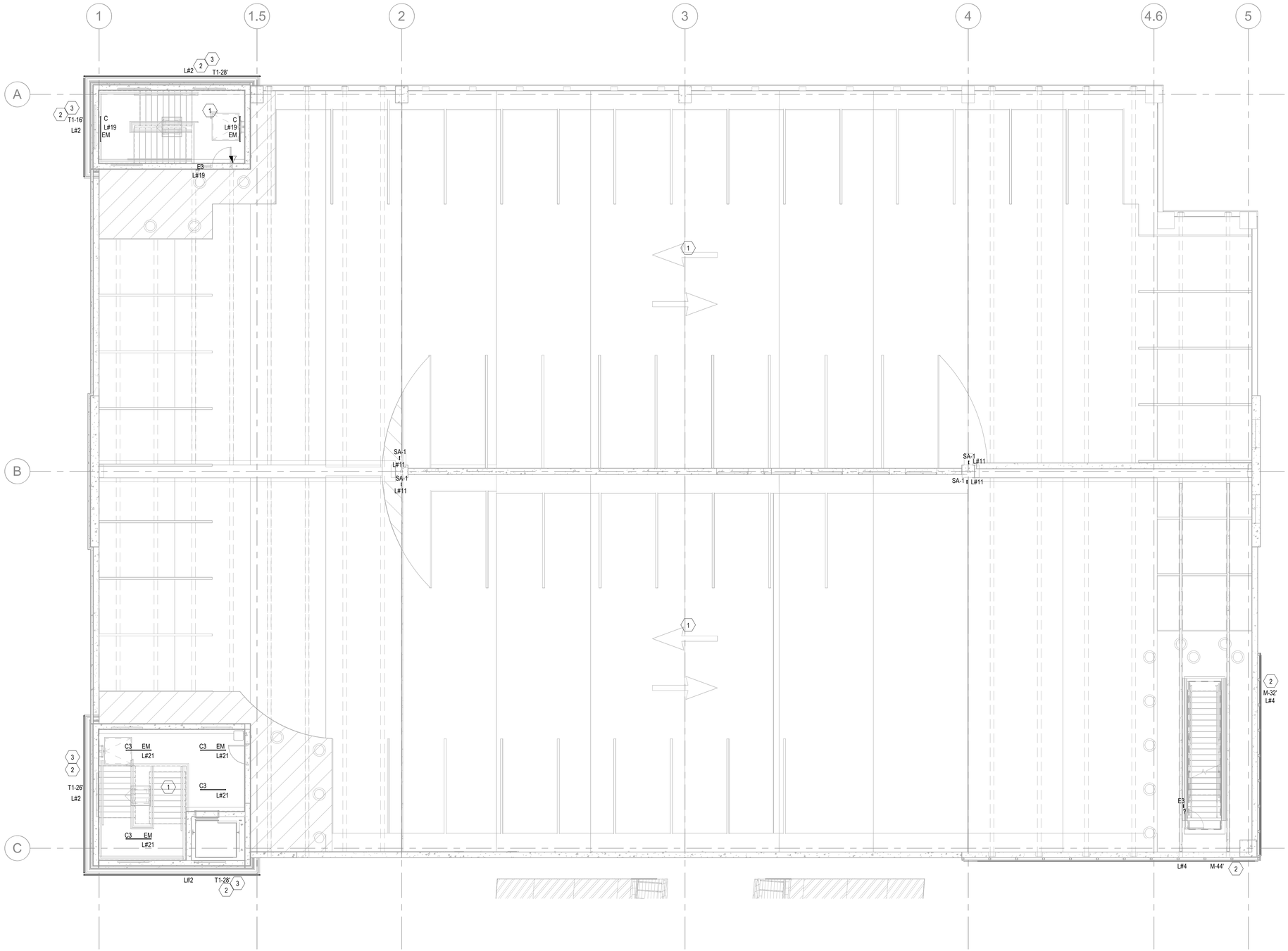
NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 03/06/24

SHEET TITLE:
ELECTRICAL LEVEL 3 FLOOR LIGHTING PLAN

SHEET NO.

E6.3



LIGHTING NOTES

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LIGHTING HEX NOTES

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2. CONTROL FIXTURE VIA PHOTOCELL.
3. PROVIDE ADD ALTERNATE PRICING TO FURNISH AND INSTALL TYPE T1 UPLIGHTING AT STAIR TOWERS.

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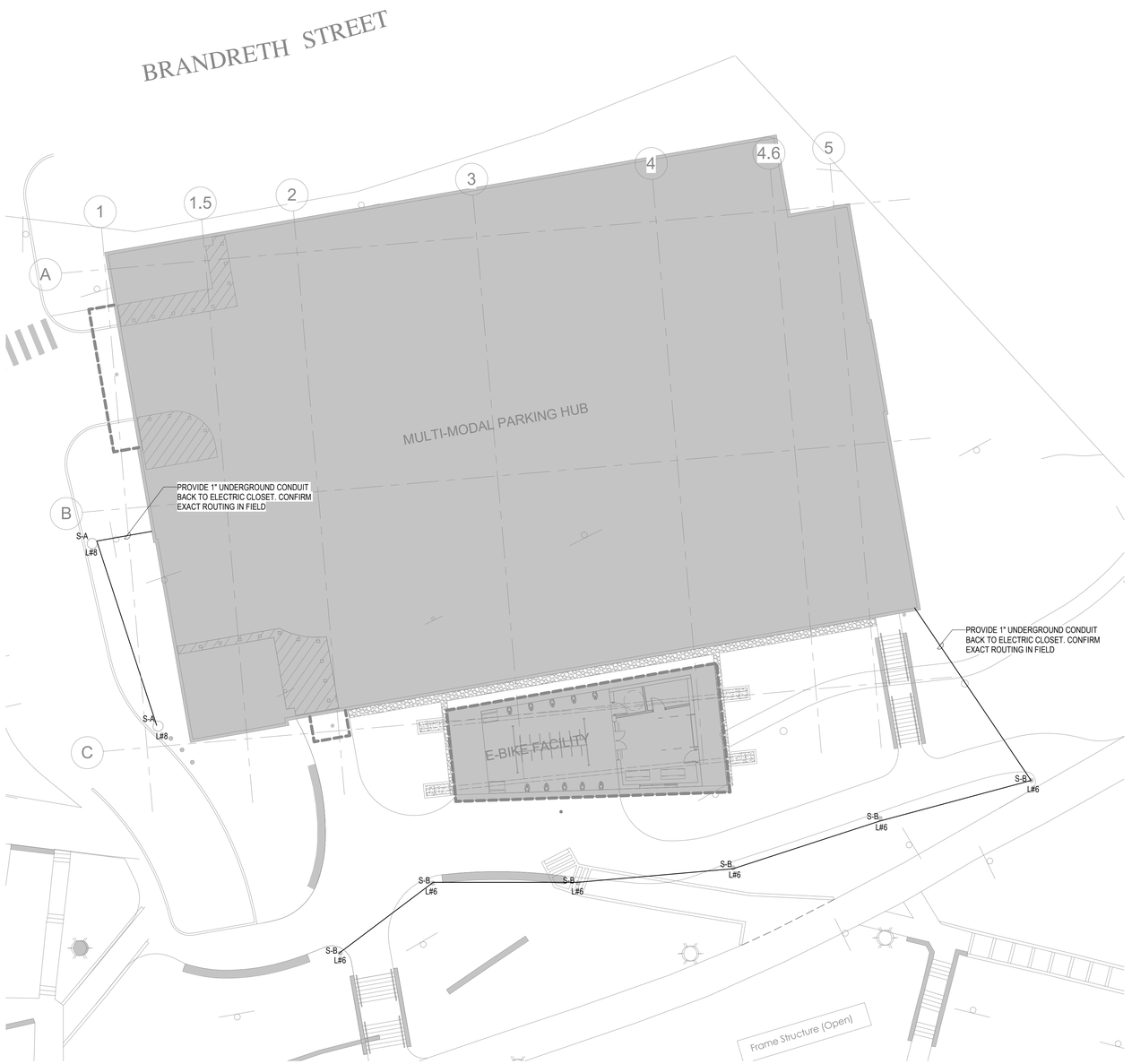
ELECTRICAL LEVEL 4 FLOOR LIGHTING PLAN

SHEET NO.
E6.4



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NORTH

DRAWN: Author
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SHEET TITLE:
ELECTRICAL LEVEL SITE POWER PLAN

SHEET NO.

E8.0

PLUMBING NOTES

1. ALL NEW DOMESTIC HOT AND COLD WATER SUPPLY AND HOT WATER RETURN PIPES SHALL BE COPPER TUBING AND SHALL ORIGINATE ON THE SAME FLOOR FROM THE NEAREST WET COLUMN WITH PROPER ACCESS FOR MAINTENANCE. IF ATTACHED TO DISSIMILAR METAL, A CORROSION INHIBITOR IS TO BE PROVIDED.
2. INSULATE ALL NEW AND EXISTING DOMESTIC HOT AND COLD WATER SUPPLY AND HOT WATER RETURN PIPES.
3. WASTE LINES SHALL BE PROPERLY PITCHED TO PREVENT "TRAPPED" WATER. INSTALL WASTE LINE CONNECTIONS WITH LONG TERM OR 45° "Y" FITTINGS.
4. RETAIN EXISTING CLEAN OUT CONNECTIONS AND PROVIDE CLEAN OUT CONNECTIONS AT NEW FITTINGS.
5. WHEN CONNECTING NEW DOMESTIC HOT AND COLD WATER SUPPLY AND HOT WATER RETURN PIPES TO EXISTING RISERS, CONTRACTORS SHALL LEAVE A PLUGGED VALVED OUTLET FOR EACH, FOR FUTURE USE.
6. ALL NEW DOMESTIC HOT AND COLD WATER SUPPLY AND HOT WATER RETURN PIPES ATTENDANT FITTINGS MUST BE PROPERLY INSULATED AND COVERED.
7. INDIVIDUAL SHUT-OFF VALVES MUST BE SUPPLIED AND INSTALLED FOR EACH NEW FIXTURE, INCLUDING WATER COOLERS.
8. ALL NEW PIPES ARE TO BE SUPPORTED FROM SLAB OR STEEL BEAMS, NOT FROM EXISTING PIPES OR DUCT WORK.
9. PLUMBER SHALL BE RESPONSIBLE THAT ENTIRE INSTALLATION IS IN ACCORDANCE WITH LOCAL AND STATE CODES.
10. PRIVATE BATHROOMS MUST BE INSTALLED ON MINIMUM 4" WASTE LINE.
11. ALL VALVES ARE TO BE PROPERLY TAGGED.
12. ALL DOMESTIC WATER PIPING SHALL BE PROPERLY LABELED.
13. ANY WET COLUMNS USED SHOULD BE PROVIDED WITH A 24" x 24" STEEL SURFACE MOUNTED ACCESS DOOR.
14. HOT WATER HEATERS SERVING PRIVATE BATHROOMS, KITCHENS, ETC. ARE TO BE SUPPLIED FROM THE WET COLUMN THAT SUPPLIES THE COLD WATER TO THESE AREAS.

LINE REPRESENTATION

- NEW COLD WATER PIPING
- NEW HOT WATER PIPING
- NEW VENT PIPING
- NEW SANITARY OR STORM WATER PIPING ABOVE GROUND
- NEW SANITARY OR STORM WATER PIPING BELOW GROUND

DRAWING NOTATIONS

- (#) DRAWING HEXAGON NOTE TAG
- (1) DRAWING CIRCLE NOTE TAG
- A / B — TAG SECTION DESIGNATION ON DRAWING WHERE SECTION IS CUT A-SECTION DESIGNATION B-DRAWING NUMBER
- POINT OF NEW CONNECTION TO EXISTING
- POINT OF DISCONNECTION FROM EXISTING
- 1 — REVISION SYMBOL
- F / P — RISER SYSTEM / RISER NUMBER
- PIPING FLOW DIRECTION

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
BFP	BACKFLOW PREVENTER
CODP	CLEAN OUT DECK PLATE
CW	COLD WATER
DIA	DIAMETER
DN	DOWN
EWC	ELECTRIC WATER COOLER
FAI	FRESH AIR INLET
FCW	FILTERED COLD WATER
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
FL	FLOOR
FS	FLOOR SINK
G	GAS
HB	HOSE BIBB
HW	HOT WATER
HWR	HOT WATER RECIRCULATION
IM	ICE MAKER
LAV	LAVATORY
LDR	LEADER
MIN	MINIMUM
MR	MOP RECEPTOR
P	PLUMBING
RD	ROOF DRAIN
RPZ	REDUCED PRESSURE ZONE
RTU	ROOF TOP UNIT
S	SANITARY
SK	SINK
ST	STORM
UR	URINAL
V	VENT
VB	VACUUM BREAKER
VIF	VERIFY IN FIELD
VTR	VENT THRU ROOF
W	WASTE
WH	WALL HYDRANT
WC	WATER CLOSET

PLUMBING LEGEND

- PIPE UP
- PIPE DROP
- BOTTOM CONNECTION
- TOP CONNECTION
- UNION
- PIPE SLEEVE
- CAP
- CLEANOUT
- CLEAN OUT DECK PLATE
- P-TRAP
- HOUSE TRAP
- FRESH AIR INLET
- SHOCK ABSORBER
- VACUUM BREAKER
- PRESSURE GAUGE
- THERMOMETER
- M — MANUAL AIR VENT
- A — AUTOMATIC AIR VENT
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- GATE VALVE
- GATE VALVE
- EXISTING GATE VALVE
- CHECK VALVE
- CHECK VALVE
- EXISTING CHECK VALVE
- BALL VALVE
- EXISTING BALL VALVE
- MIXING VALVE
- OS&Y VALVE
- PRESSURE REDUCING VALVE
- PRESSURE REDUCING VALVE
- SOLENOID VALVE
- BUTTERFLY VALVE
- STRAINER
- STRAINER WITH BLOWOFF
- RELIEF VALVE
- VALVE WITH HOSE BIBB
- PLUG VALVE
- DOMESTIC WATER METER
- DDCV — DOUBLE DETECTOR CHECK VALVE
- FLOOR DRAIN
- FLOOR DRAIN (ELEVATION)
- FUNNEL FLOOR DRAIN (ELEVATION)
- INLINE PUMP
- ROOF DRAIN (ELEVATION)
- PLANTER DRAIN (ELEVATION)
- VENT THROUGH ROOF (ELEVATION)
- TRENCH DRAIN (ELEVATION)
- WALL HUNG WATER CLOSET (ELEVATION)
- FLOOR MOUNTED WATER CLOSET (ELEVATION)
- FLOOR MOUNTED WATER CLOSET (ELEVATION)
- URINAL (ELEVATION)
- LAVATORY (ELEVATION)
- KITCHEN OR PANTRY SINK (ELEVATION)
- ELECTRIC WATER COOLER (ELEVATION)
- MOP RECEPTOR (ELEVATION)
- SLOP SINK (ELEVATION)
- BATHTUB (ELEVATION)
- 2 COMPARTMENT SINK (ELEVATION)
- 3 COMPARTMENT SINK (ELEVATION)

PLUMBING DRAWING LIST

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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

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PLUMBING LEGENDS AND NOTES

SHEET NO.
P0.1

PLUMBING SPECIFICATIONS

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS:

A. THE LATEST EDITION OF AIA DOCUMENTS A201 GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, OR AS REQUIRED BY THE ARCHITECTURAL DOCUMENTS AND/OR THE STRUCTURAL ENGINEERS DOCUMENTS ARE PART OF THE CONTRACT.

B. PROVIDE ALL PLUMBING WORK SHOWN ON THE CONTRACT DOCUMENTS. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE 2020 NEW YORK STATE BUILDING CODE, 2020 NEW YORK STATE PLUMBING CODE, AND ALL AUTHORITIES HAVING JURISDICTION (AHJ). APPLICABLE NATIONAL, STATE AND LOCAL CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK SHALL BE INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS.

C. ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF THIS WORK. FINAL ACCEPTANCE SHALL BE DEFINED AS THE TIME AT WHICH THE PLUMBING WORK IS TAKEN OVER AND ACCEPTED BY THE OWNER. ENGAGE THE SERVICES OF VARIOUS MANUFACTURERS SUPPLYING THE EQUIPMENT FOR THE PROPER STARTUP, OPERATION AND TRAINING OF ALL SYSTEMS INSTALLED. INSTRUCT THE OWNERS PERSONNEL IN THE PROPER OPERATION AND SERVICING OF THE EQUIPMENT.

D. EXAMINE THE CONTRACT DOCUMENTS OF THIS TRADE AND ALL OTHER TRADES FOR THIS PROJECT. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT, OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BID. IF DISCREPANCIES ARE NOT RESOLVED TO CONTRACTORS SATISFACTION THEY SHALL BE QUALIFIED IN THEIR BID SUBMISSION.

E. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN CONTRACT. IT IS NOT INTENDED TO SPECIFY OR TO SHOW EVERY OFFSET, FITTING, OR COMPONENT. HOWEVER, CONTRACT DOCUMENTS REQUIRE COMPONENTS AND MATERIALS WHETHER OR NOT INDICATED OR SPECIFIED AS NECESSARY TO MAKE THE INSTALLATION COMPLETE AND OPERATIONAL. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID CONFLICT. THE CONTRACTOR SHALL, WITHOUT EXTRA COST TO THE OWNER, MAKE ALL REASONABLE MODIFICATIONS IN THE WORK AS MAY BE REQUIRED TO PREVENT CONFLICT WITH THE WORK OF OTHER TRADES, OR FOR THE PROPER INSTALLATION OF THE WORK.

F. ALTHOUGH NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON THE DRAWINGS, ANY EQUIPMENT, MATERIALS, ACCESSORIES, OR LABOR REQUIRED FOR A CODE COMPLIANT AND COMPLETE INSTALLATION OF THE PLUMBING WORK SHALL BE FURNISHED AND INSTALLED AS PART OF THE ORIGINAL BID.

G. PATCH AND/OR REPLACE DAMAGED ARCHITECTURAL COMPONENTS AS A RESULT OF PLUMBING SYSTEMS INSTALLATION. CLEAN UP THE CONSTRUCTION SITE DAILY DURING CONSTRUCTION SO AS NOT TO INTERFERE WITH THE WORK OF OTHER TRADES, AND AFTER THE COMPLETION OF INSTALLATION AND TESTING.

H. ALL NECESSARY CUTTING AND PATCHING IN FLOOR SLABS, ROOF SLABS, WALLS, AND CEILINGS FOR THE PLUMBING WORK SHALL BE PERFORMED BY THIS CONTRACTOR.

I. ALL EQUIPMENT INSTALLED OR CONNECTED INTO THE BUILDING STACKS, RISERS, PLUMBING SYSTEMS AND INFRASTRUCTURE SHALL BE APPROVED IN ADVANCE BY THE BUILDING PRIOR TO INSTALLATION. ALL SYSTEM SHUTDOWNS AFFECTING OTHER AREAS SHALL BE COORDINATED WITH BUILDING MANAGEMENT.

J. GUARANTEE: THE CONTRACTOR SHALL GUARANTEE AND SERVICE THE ENTIRE INSTALLATION FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE FINAL ACCEPTANCE OF THE INSTALLATION. THE CONTRACTOR SHALL, DURING THE PERIOD OF THE GUARANTEE, REPLACE OR REPAIR AT HIS OWN EXPENSE ANY PIECE OF EQUIPMENT AND/OR MATERIAL WHICH IS FOUND TO BE DEFECTIVE. THE REPLACEMENT OR REPAIR SHALL BE PERFORMED THE SAME DAY OF NOTIFICATION IN AN EMERGENCY FASHION WHEN NOTIFIED BY THE OWNER OR AUTHORIZED REPRESENTATIVE. THE

CONTRACTOR SHALL ALSO REPAIR ALL DAMAGE TO SURROUNDING WORK CAUSED BY THE FAILURE, REPAIR OR REPLACEMENT OF DEFECTIVE EQUIPMENT. THE FINAL ACCEPTANCE WILL BE MADE AFTER THE CONTRACTOR HAS DEMONSTRATED THAT HIS WORK FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATION AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVALS.

1.02 SCOPE OF WORK

A. THE CONTRACTOR SHALL FURNISH AND INSTALL PLUMBING WORK COMPLETE WITH ALL EQUIPMENT, FIXTURES, PIPING, VALVES, AND ACCESSORIES AND ASSOCIATED WORK IN ACCORDANCE ALL NATIONAL, STATE AND LOCAL AUTHORITIES HAVING JURISDICTION, BUILDING MANAGEMENT, DESIGN DRAWINGS AND THIS SPECIFICATION. THE SCOPE OF WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

1. FURNISH AND INSTALL NEW FIXTURES, PIPING, VALVES, SUPPORTS, SEISMIC BRACING AND RELATED EQUIPMENT. MAKE ALL REQUIRED PLUMBING CONNECTIONS TO APPLIANCES OR EQUIPMENT FURNISHED BY OTHERS.
2. PREPARE AND SUBMIT 'AS-BUILT' DRAWINGS INDICATING ACTUAL LOCATIONS OF EQUIPMENT, PIPING, AND VALVES. 'AS-BUILT' DRAWINGS SHALL BE SUBMITTED TO THE OWNER UPON COMPLETION OF INSTALLATION AND TESTING. SUBMIT DIGITAL COPIES IN PDF FORMAT AND .DWG AUTOCAD FORMAT.
3. PERFORM CUTTING, CORING, AND ROUGH PATCHING REQUIRED TO ACCOMMODATE PLUMBING INSTALLATION.
4. PROVIDE INSULATION OF PIPING, FITTINGS, VALVES. PROVIDE PIPING SYSTEMS IDENTIFICATION. PROVIDE VALVE TAGS AND CHART.
5. COORDINATION WITH WORK OF OTHER TRADES.
6. SCAFFOLDING AND RIGGING.
7. TESTING AS REQUIRED BY APPLICABLE CODES AND STANDARDS.
8. SECURING OF ALL PERMITS AND APPROVALS AND PAYMENT OF FEES.

1.03 SHOP DRAWINGS, EQUIPMENT SUBMISSION, MAINTENANCE MANUALS.

A. SUBMIT ONE (1) PRINT OF THE PLUMBING PIPING LAYOUT, CERTIFIED BY ALL TRADES THAT COORDINATION HAS BEEN ESTABLISHED. SUBMIT MANUFACTURER'S CATALOG CUTS OF THE FOLLOWING:

1. PIPING AND FITTINGS
2. INSULATION
3. FIXTURES, SUPPORTS, TRIM
4. VALVES
5. VALVE TAGS AND CHART
6. BACKFLOW PREVENTION DEVICES
7. HANGERS AND SUPPORTS, SEISMIC SUPPORTS
8. CLEANOUTS
9. ROOF DRAINS, OVERFLOW ROOF DRAINS
10. HOSE BIBBS, NON-FREEZE WALL HYDRANTS
11. ESCUTCHEONS AND SLEEVES
12. WATER METERS
13. OPERATION AND MAINTENANCE MANUALS
14. MANUFACTURER'S CATALOG CUTS OF ALL EQUIPMENT

B. UPON REQUEST, THE ENGINEER MAY FURNISH DESIGN DRAWINGS TO THE CONTRACTOR TO AID IN DEVELOPMENT OF PIPING SHOP DRAWINGS. THESE SHALL BE FURNISHED IN THE SAME FORMAT FOR WHICH THE DESIGN DRAWINGS WERE CREATED.

1.04 SUBSTITUTIONS

A. NO SUBSTITUTE MATERIAL OR MANUFACTURER OF EQUIPMENT SHALL BE PERMITTED WITHOUT A FORMAL WRITTEN SUBMITTAL TO THE ENGINEER WHICH INCLUDES ALL DIMENSIONAL, PERFORMANCE AND MATERIAL SPECIFICATIONS. ANY CHANGES IN LAYOUT, STRUCTURAL REQUIREMENTS, OR DESIGN DUE TO THE USE OF A SUBSTITUTION SHALL BE SUBMITTED TO THE ENGINEER AS PART OF THIS PROPOSAL. THE CONTRACTOR TAKES FULL RESPONSIBILITY FOR THE SUBSTITUTION AND ALL CHANGES RESULTING FROM SUBSTITUTION. ALL ITEMS SHALL BE SUBMITTED FOR REVIEW IN CONJUNCTION WITH THE SUBMITTAL OF THE

ALTERNATE. ANY SUBSTITUTION MUST BE SUBMITTED WITH AN EXPLANATION WHY SUBSTITUTION IS BEING UTILIZED. IF THE SUBSTITUTED ITEM DEVIATES FROM THE SPECIFIED ITEM, THOSE DEVIATIONS ARE TO BE IDENTIFIED ON A LINE BY LINE BASIS. IF THE SUBSTITUTION IS BEING UTILIZED FOR FINANCIAL REASONS, THE ASSOCIATED CREDIT MUST BE SIMULTANEOUSLY SUBMITTED.

B. ALL SUBSTITUTED MATERIAL SHALL CONFORM TO SPACE REQUIREMENTS AND PERFORMANCE REQUIREMENTS SHOWN ON CONTRACT DOCUMENTS.

C. CONTRACTOR SHALL SUBMIT HIS BID BASED ON THE SPECIFIED ITEMS AND SHALL SUPPLY AS AN ADD OR DEDUCT ALTERNATE PRICE FOR ANY SUBSTITUTIONS.

1.05 QUALITY ASSURANCE

A. ALL PIPES SHALL BE MARKED TO INDICATE MANUFACTURER AND ASTM STANDARD. EACH FULL PIPE LENGTH SHALL HAVE THE MANUFACTURER'S NAME CAST, STAMPED OR ROLLED ON.

B. EACH FITTING SHALL HAVE THE MANUFACTURER'S SYMBOL & PRESSURE RATİNG CAST, STAMPED OR ROLLED ON.

C. ALL NEW COMPONENTS OF THE PLUMBING SYSTEM MUST CONFORM TO LOCAL AND STATE BUILDING AND PLUMBING CODES AND BUILDING STANDARDS.

1.06 COORDINATION WITH BUILDING MANAGEMENT

A. THE PLUMBING CONTRACTOR IS TO OBTAIN A COPY OF THE BUILDING RULES AND REGULATIONS FOR TENANT ALTERATIONS PRIOR TO BID SUBMISSION IN ORDER TO DETERMINE THE BUILDING MANAGEMENTS MINIMUM MATERIAL REQUIREMENTS AND THE EXTENT OF WORK REQUIRED TO BE PERFORMED ON PREMIUM TIME, INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

1. SHUT-DOWNS OF BUILDING SERVICES
2. NOISY WORK, INCLUDING CORE DRILLING
3. WORK IN OTHER TENANTS SPACES

B. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE BUILDING OWNER'S RULES AND REGULATIONS, ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND THE BUILDING'S RULES AND REGULATIONS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER WITH THE BID FOR REVIEW.

C. DURING THE PROJECT DURATION, THE BUILDING MANAGEMENT OFFICE AND ITS DESIGNATED REPRESENTATIVE SHALL BE ABLE TO INSPECT THE WORK IN PROGRESS. ANY WORK WHICH THE BUILDING MANAGEMENT DEEMS UNACCEPTABLE SHALL BE REMOVED AND REPLACED AT THE EXPENSE OF CONTRACTOR/TENANT.

1.07 AS-BUILT DRAWINGS:

A. CONTRACTOR SHALL MAINTAIN RECORD DRAWING PRINTS ON JOB SITE AND RECORD, AT TIME OF OCCURRENCE, DEVIATIONS FROM CONTRACT DOCUMENTS.

B. AT THE COMPLETION OF WORK AND BEFORE FINAL ACCEPTANCE, PROVIDE AS-BUILT DRAWINGS OF THE INSTALLATION, IN AUTO-CAD 2014 OR NEWER. AN ELECTRONIC COPY (AUTOCAD FORMAT) OF ALL PLUMBING DRAWINGS WILL BE PROVIDED TO THE PLUMBING CONTRACTOR BY THE CONSULTANT AT NO COST. (ARCHITECTURAL DRAWINGS IN AUTOCAD FORMAT MUST BE OBTAINED FROM THE ARCHITECT). THE DRAWINGS WILL REFLECT THE BID AND/OR CONSTRUCTION SET OF DRAWINGS. SHOULD THE CONTRACTOR REQUIRE ADDITIONAL ELECTRONIC COPIES DURING CONSTRUCTION, A COST OF $250.00 PER DRAWING WILL BE CHARGED BY THE CONSULTANT.

C. CLEARLY INDICATE THE WORDS “AS-BUILT” IN THE TITLE BLOCK COLUMN OF THE DRAWINGS AS WELL AS THE PLUMBING CONTRACTOR'S NAME AND ADDRESS.

D. SUBMIT A SINGLE PRINT TO CONSULTANT FOR REVIEW. WHEN FOUND ACCEPTABLE BY THE CONSULTANT, SUBMIT THREE SETS OF PRINTS TOGETHER WITH THE CAD DISK FOR PRESENTATION TO THE LANDLORD AND TENANT.

1.08 OPERATION AND MAINTENANCE MANUALS:

A. PROVIDE TWO) SETS OF OPERATION AND MAINTENANCE MANUALS OF ALL PLUMBING EQUIPMENT SUBMITTED IN HARD COVER 3-RING BINDERS. INCLUDE THE FOLLOWING INFORMATION IN THE OPERATIONS AND MAINTENANCE MANUALS:

1. NAMES AND ADDRESS OF LOCAL SUPPLIERS FOR THE ITEMS INCLUDED.
2. TECHNICAL DATA, PRODUCT DATA, SUPPLEMENTED BY BULLETINS, COMPONENT ILLUSTRATIONS, EXPLODED VIEWS, TECHNICAL DESCRIPTIONS OF ITEMS, AND PARTS LISTS. ADVERTISING OR SALES LITERATURE IS NOT ACCEPTABLE.
3. THE CONSULTANTS REVIEWED SHOP DRAWINGS.
4. CERTIFICATE(S) OF ACCEPTANCE FROM THE AUTHORITIES INSPECTION DEPARTMENT.

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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
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P1.1

B. REVIEW INFORMATION PROVIDED IN THE MAINTENANCE INSTRUCTIONS AND MANUALS WITH THE TENANT'S OPERATING PERSONNEL AND LANDLORD'S OPERATING PERSONNEL WHERE BASE BUILDING SYSTEMS ARE REVISED, TO ENSURE A COMPLETE UNDERSTANDING OF THE ELECTRICAL EQUIPMENT AND SYSTEMS AND THEIR OPERATION.

1.09 MATERIALS AND EQUIPMENT

A. ALL MATERIALS AND EQUIPMENT SHALL BE NEW, CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY AND MANUFACTURED TO THE STANDARDS SPECIFIED.

1.10 INSURANCE

A. PROVIDE AND MAINTAIN INSURANCE TO PROTECT THE LANDLORD, TENANT AND TRADES FROM ALL POSSIBLE CLAIMS. SUBMIT WITH BID FOR AN AMOUNT ACCEPTABLE TO LANDLORD AND TENANT.

1.11 CONTRACT DOCUMENTS

A. THE DRAWINGS FOR THE PLUMBING WORK ARE DIAGRAMMATIC PERFORMANCE DRAWINGS ONLY, INTENDED TO CONVEY THE SCOPE OF WORK AND INDICATE THE GENERAL ARRANGEMENT AND APPROXIMATE SIZE AND LOCATION OF PLUMBING AND EQUIPMENT. THE DRAWINGS DO NOT INTEND TO SHOW ARCHITECTURAL, INTERIOR DESIGN, MECHANICAL, STRUCTURAL OR BASE BUILDING DETAILS. CONTRACTOR IS TO BE RESPONSIBLE FOR A THOROUGH KNOWLEDGE OF SAME BEFORE PROCEEDING WITH THE WORK.

B. DO NOT SCALE OR MEASURE DRAWINGS BUT OBTAIN INFORMATION REGARDING ACCURATE DIMENSIONS FROM THE DIMENSIONS SHOWN ON THE DESIGN CONSULTANT/ARCHITECT'S DRAWINGS, OR BY SITE MEASUREMENTS.

C. COOPERATE AND COORDINATE WITH OTHER CONTRACTORS IN LAYING OUT OF WORK SO AS NOT TO CONFLICT WITH THE WORK OF OTHER CONTRACTORS. CARRY OUT WORK PROMPTLY AS PER CONSTRUCTION SCHEDULE AND COORDINATE WITH WORK OF OTHER CONTRACTORS.

D. MAKE, AT NO ADDITIONAL COST, ANY CHANGES OR ADDITIONS TO MATERIALS AND EQUIPMENT NECESSARY TO ACCOMMODATE STRUCTURAL CONDITIONS (OFFSETS AROUND BEAMS, COLUMN, ETC.)

1.12 INTENT

A. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS THAT THE CONTRACTOR IS TO PROVIDE COMPLETE AND OPERATIONAL SYSTEMS.

B. ANY MISCELLANEOUS ITEMS, VALVES, FITTINGS, GAUGES, HARDWARE, ETC., NOT SPECIFICALLY DESCRIBED, BUT REQUIRED FOR THE OPERATION OF THE PLUMBING SYSTEMS, MUST BE PROVIDED AND INCLUDED AS PART OF THE BID.

1.13 ACCESS DOORS.

A. WHEREVER ANY BASE BUILDING EQUIPMENT OR NEW EQUIPMENT, VALVES, ETC. REQUIRES ACCESSIBILITY, MAINTENANCE OR ADJUSTMENT, PROVIDE ACCESS DOORS APPROVED BY DESIGN CONSULTANT/ARCHITECT AND LANDLORD. ARRANGE FOR ACCESS DOOR INSTALLATION BY THE DIVISION IN WHOSE WORK IT OCCURS.

B. PROVIDE ACCESS PANELS, MINIMUM 18" X 18", FOR ALL NEW VALVES, EQUIPMENT, ETC. AS REQUIRED.

1.14 CORE DRILLING

A. BEFORE CORE DRILLING FLOOR SLAB OR STRUCTURAL WALLS, X-RAY SLABS OR WALLS AND HAVE THE LOCATIONS APPROVED BY THE LANDLORD IN WRITING.

B. FLOOR DRILLING TO BE PERFORMED AFTER NORMAL WORKING HOURS AND AT A TIME ACCEPTABLE TO LANDLORD AND ALLOWANCES FOR THIS WORK SHALL BE INCLUDED IN BID PRICE SUBMITTED.

1.15 INTERRUPTION OF SERVICES

A. INTERRUPTIONS SHALL ONLY OCCUR DURING PREMIUM TIME PERIODS; ALL ALLOWANCES FOR THIS SHALL BE INCLUDED IN THE PRICE SUBMITTED.

1.16 VALUATION OF CHANGES

A. PROVIDE COMPLETE BREAKDOWN OF MATERIAL, LABOR, OVERHEAD, PROFIT, ETC., WHEN SUBMITTING QUOTATIONS FOR CHANGE ORDERS ON THIS PROJECT.

B. THE HOURLY LABOR RATE SHALL BE INCLUSIVE OF ALL CHARGES FOR SUPERVISION, VARIABLE LABOR FACTORS, HAND TOOLS, PAYROLL BURDENS, HEIGHT FACTORS, WARRANTIES, STORAGE, RENTALS, ADDITIONAL BONDING, PARKING, CLEAN-UP, AS-BUILT DRAWINGS, HOISTING, FREIGHT AND DELIVERY, BUT EXCLUSIVE OF OVERHEAD AND PROFIT.

1.17 COMPLETION OF CONTRACT

A. ALL EQUIPMENT MUST BE CLEANED AND TESTED BEFORE FINAL ACCEPTANCE BY THE CONSULTANT.

B. DEFECTS AND DEFICIENCIES WHICH ORIGINATE OR BECOME EVIDENT DURING THE WARRANTY PERIOD MUST BE REPAIRED OR REPLACED, AT NO COST.

1.18 UNIT PRICES

A. SUBMIT THE FOLLOWING LIST OF UNIT PRICES (FURNISH AND INSTALL):

1. FIXTURES - $ FOR EACH TYPE IN THE DOCUMENTS (INCLUDE ROUGHING)

2. PIPING - $/LF FOR EACH SIZE AND TYPE REQUIRED (INCLUDE HANGERS & INSULATION WHERE APPLICABLE)

PART 2 MATERIALS

2.01 PIPING AND FITTINGS

A. SANITARY DRAINAGE AND VENT PIPING, STORM DRAINAGE

1. ABOVEGROUND - CAST IRON HUBLESS PIPE AND FITTINGS COMPLYING WITH CAST IRON SOIL PIPE (CISPI) STANDARD 301 AND/OR ASTM A-888 AND SHALL BE MADE IN THE UNITED STATES AND MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE AND LISTED BY NSF INTERNATIONAL. ALL PIPE AND FITTINGS SHALL BE BY THE SAME MANUFACTURER.

JOIN HUBLESS CAST-IRON SOIL PIPING ACCORDING TO CISPI 310 AND CISPI'S "CAST IRON SOIL PIPE AND FITTINGS HANDBOOK" FOR HUBLESS-COUPLING JOINTS. USE HEAVY DUTY SHIELDED COUPLINGS HAVING NEOPRENE GASKET CONFORMING TO ASTM C 1540 WITH 3" WIDE 304 STAINLESS STEEL CORRUGATED SHIELD AND FOUR STAINLESS STEEL BANDS FOR SIZES 1-1/2" THROUGH 4" (SIX STAINLESS STEEL BANDS FOR SIZES 5" AND LARGER). ALL COUPLINGS SHALL BE ANACO-HUSKY SERIES HD 2000 HEAVY DUTY OR APPROVED EQUAL.

HORIZONTAL PIPE AND FITTINGS 5" DIA. AND LARGER MUST BE SUITABLY BRACED TO PREVENT HORIZONTAL MOVEMENT. THIS MUST BE DONE AT EVERY BRANCH OPENING OR CHANGE OF DIRECTION BY THE USE OF BRACES, BLOCKS, RODDING, OR OTHER SUITABLE METHOD, IN ORDER TO PREVENT MOVEMENT OR JOINT SEPARATION PER CHAPTER IV OF THE CISPI HANDBOOK.

2. UNDERGROUND - CAST IRON HUB AND SPIGOT SERVICE WEIGHT PIPE AND FITTINGS COMPLYING WITH CISPI STANDARD HS-67 AND/OR ASTM A-74-66 AND SHALL BE MADE IN THE UNITED STATES AND MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE AND LISTED BY NSF INTERNATIONAL. ALL PIPE AND FITTINGS SHALL BE BY THE SAME MANUFACTURER.

JOIN HUB-AND-SPIGOT, CAST-IRON SOIL PIPING WITH GASKETED JOINTS ACCORDING TO CISPI'S "CAST IRON SOIL PIPE AND FITTINGS HANDBOOK" FOR COMPRESSION JOINTS. JOINTS SHALL BE MADE WITH PUSH-ON NEOPRENE RUBBER COMPRESSION GASKET CONFORMING TO CISPI STANDARD HSN-76.

B. DOMESTIC COLD WATER PIPING

1. PIPING (SOLDERED JOINTS): TYPE L HARD COPPER TUBE, DRAWN TEMPER, COMPLYING WITH ASTM B 88 AND NSF 61.

2. FITTINGS (SOLDERED JOINTS): WROUGHT COPPER SOLDER JOINT PRESSURE TYPE FITTINGS COMPLYING WITH ASME B.16.22.

3. SOLDER FILLER METALS: ALLOY SN95 OR ALLOY SN94: TIN (SN) APPROXIMATELY 95%, AND SILVER (AG) APPROXIMATELY 5%, HAVING 0.10% MAXIMUM LEAD (PB) CONTENT.

4. SOLDERING FLUX: APPLY ASTM B 813, WATER-FLUSHABLE FLUX TO END OF TUBE. JOIN COPPER TUBE AND FITTINGS ACCORDING TO ASTM B 828 OR CDA'S "COPPER TUBE HANDBOOK.

5. ALL EXPOSED PIPING SHALL BE CHROME PLATED BRASS. ALL PIPE PASSING THROUGH WALLS, FLOORS, CEILINGS, AND PARTITIONS SHALL BE PROVIDED WITH CHROME PLATED

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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

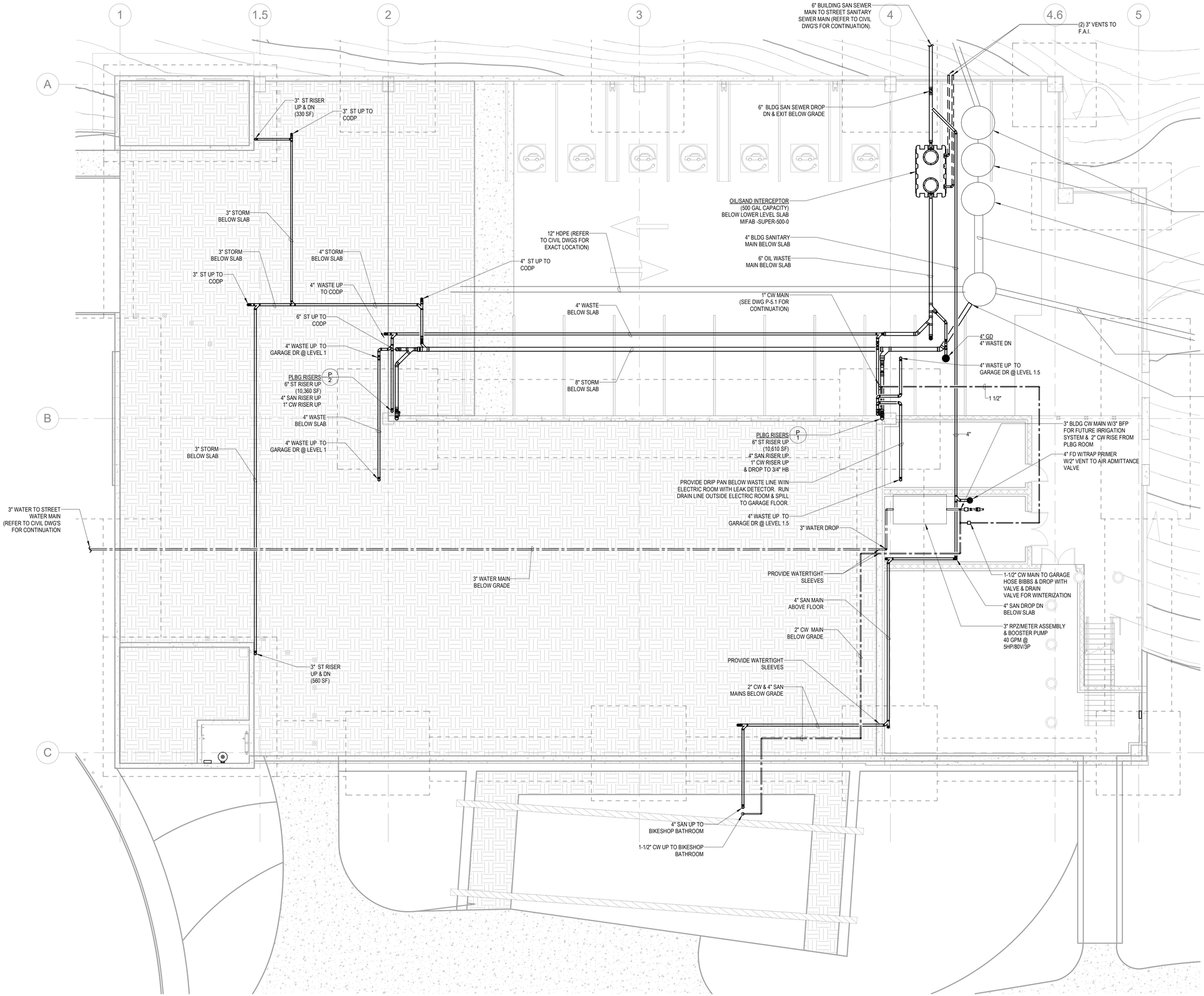
NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
PLUMBING SPECIFICATIONS II

SHEET NO.

P1.2



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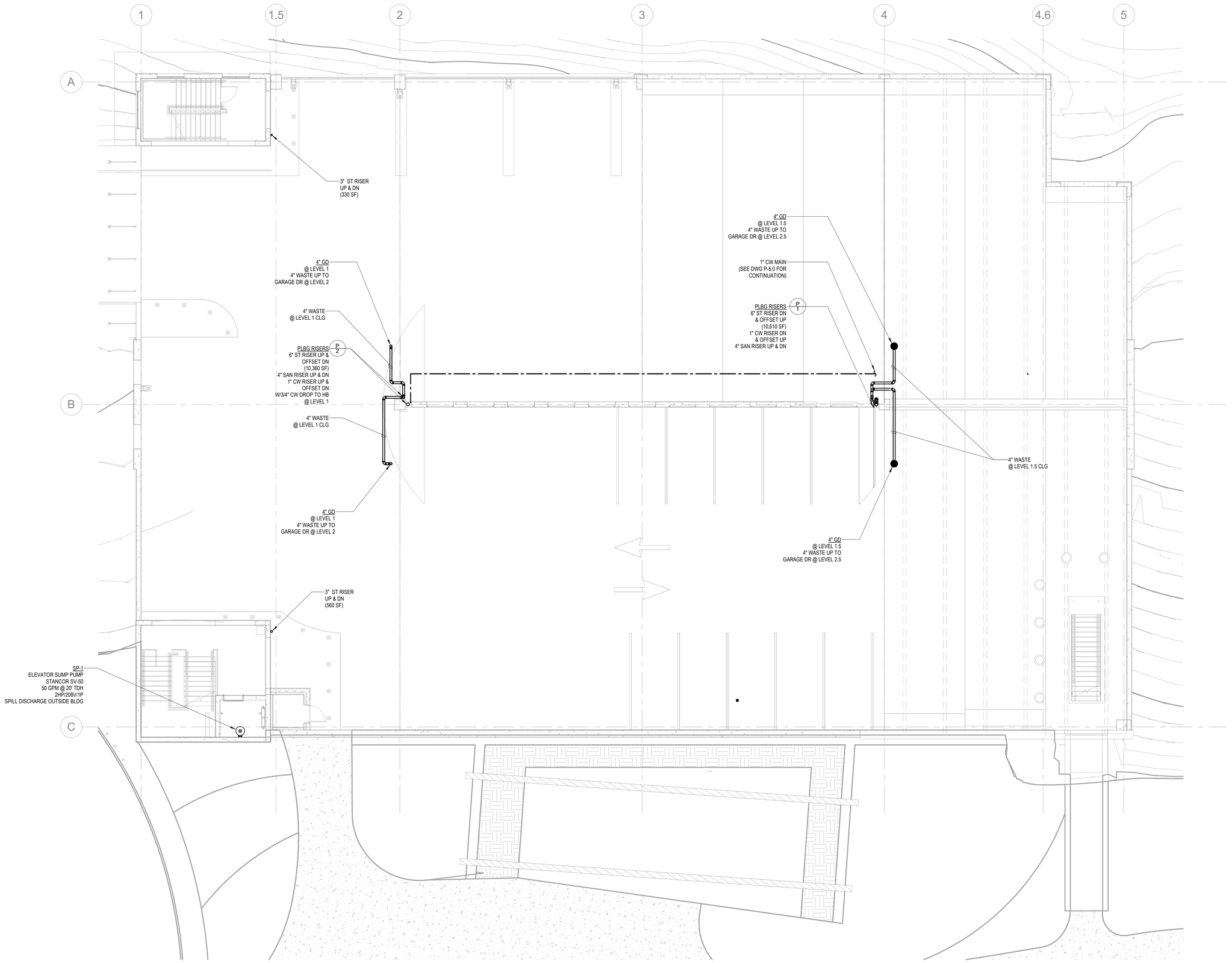
SHEET TITLE:
PLUMBING LOWER LEVEL PLAN

SHEET NO.
P5.0



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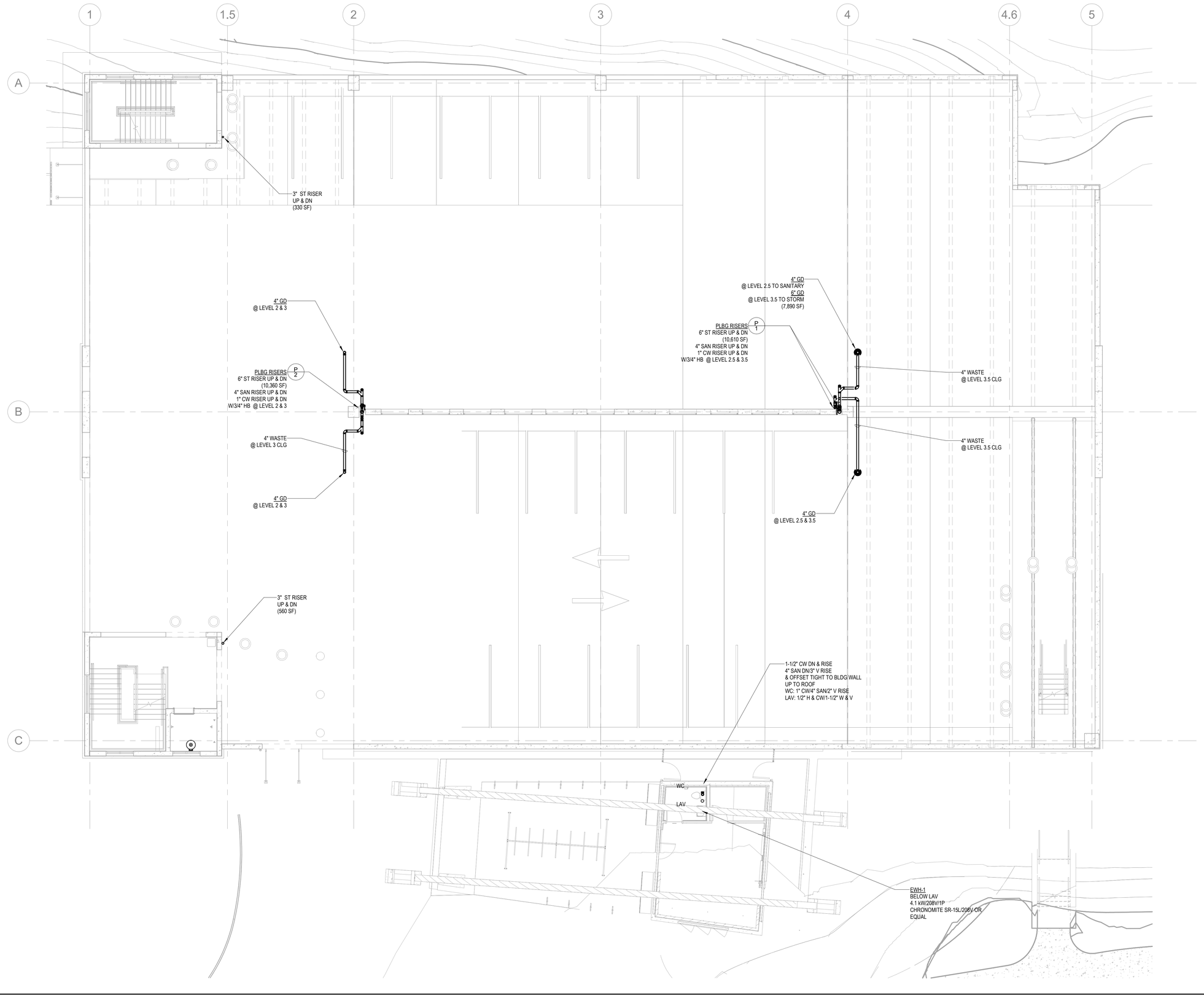
SHEET TITLE:
PLUMBING LEVEL 1 FLOOR PLAN

SHEET NO.

P5.1



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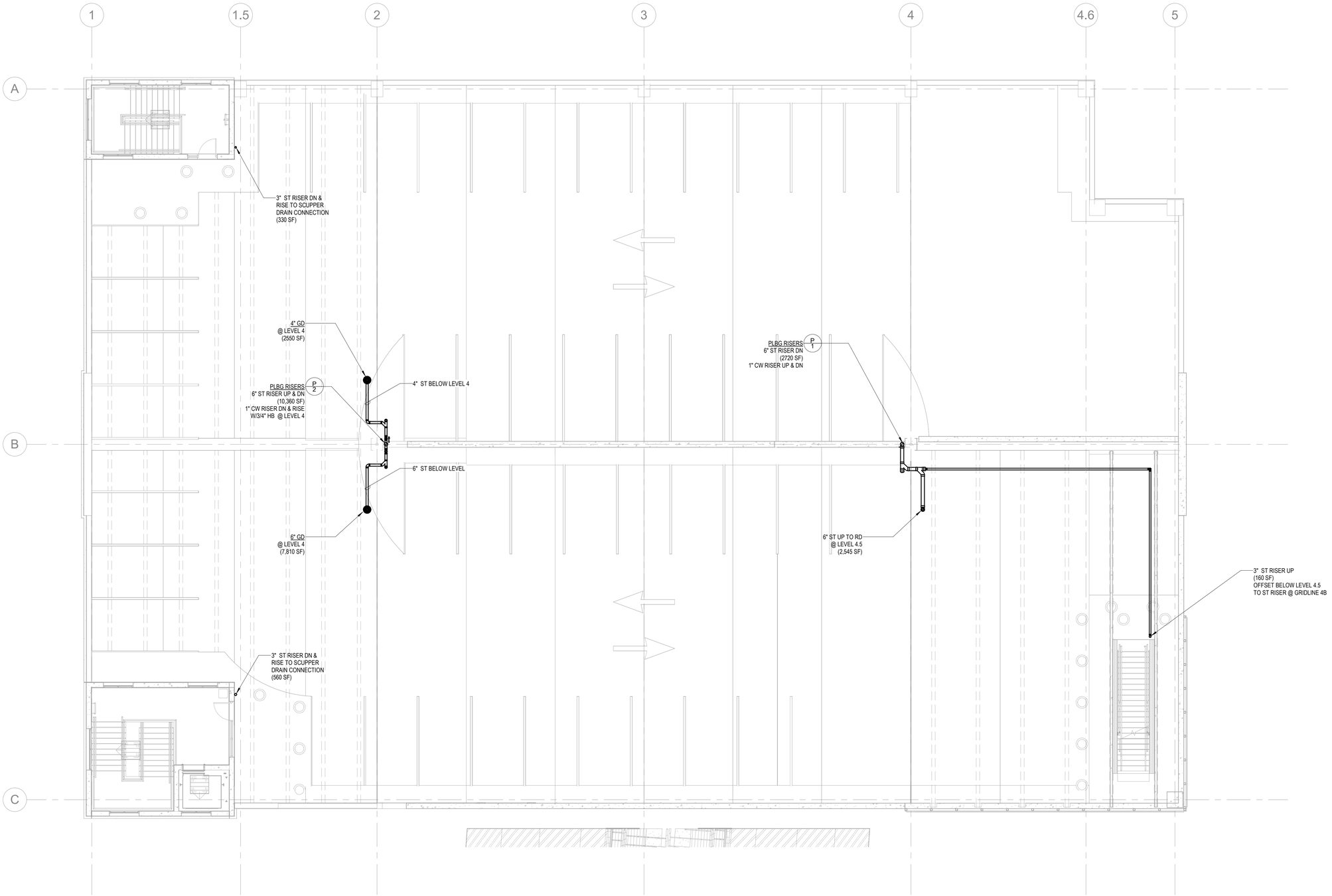
SHEET TITLE:
PLUMBING LEVELS 2-3 FLOOR PLAN

SHEET NO.

P5.2



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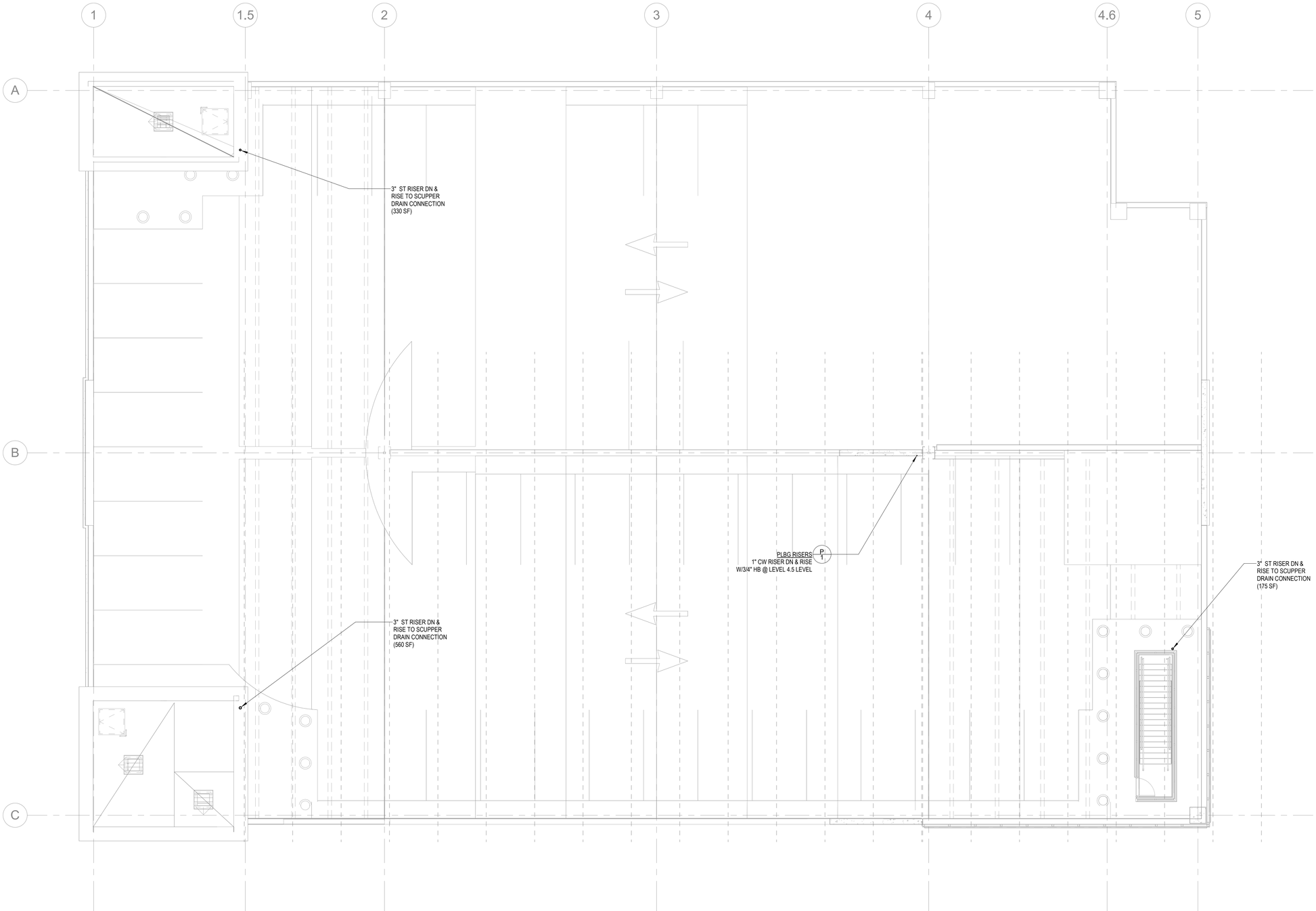
SHEET TITLE:
PLUMBING LEVEL 4 FLOOR PLAN

SHEET NO.
P5.4



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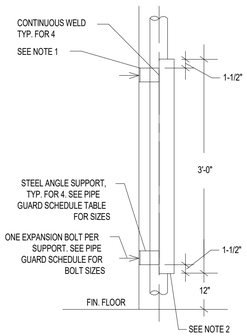
SHEET TITLE:
PLUMBING LEVEL 5 FLOOR PLAN

SHEET NO.
P5.5



NOTES:

1. INDICATED STEEL ANGLE SIZE SHALL BE PLACED ON THE WALL OR COLUMN FOR ANCHORING.

   (*) ONE LEG OF THE ANGLE IS NOT SIZED. CONTRACTOR SHALL SELECT THE PROPER LEG SIZE TO ACCOMODATE THE DISTANCE REQUIRED FOR PIPE GUARD PROJECTION.

2. SPLIT SCHEDULE 40 STANDARD WEIGHT PIPE FOR GUARD. WELD TO STEEL ANGLE SUPPORTS.
   a. INSIDE DIA. OF GUARD PIPE SHALL BE TWO INCHES LARGER THAN THE SERVICE PIPE FOR UP TO 5"□.
   b. INSIDE DIA. OF GUARD PIPE SHALL BE ONE INCH LARGER THAN THE SERVICE PIPE FOR 6"□ AND ABOVE.
   c. USE ⅜" THICK BENT PLATE FOR SERVICE PIPES WITH DIAMETER GREATER THAN 10".

3. ALL MATERIALS SHALL BE GALVANIZED AND PAINTED AFTER INSTALLATION.

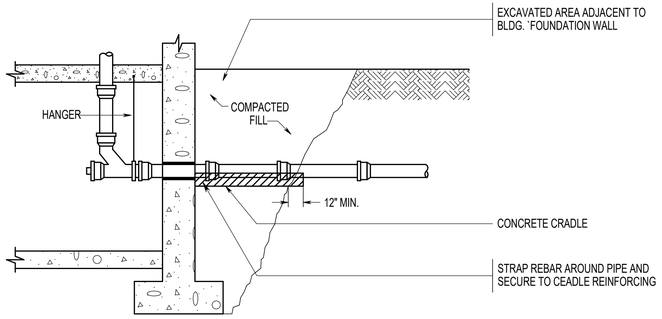
4. COORD. PROPER SIZED OPENINGS FOR CLEAN OUTS AT SERVICE PIPES.

5. THIS DETAIL APPLIES TO ALL RISERS SUBJECT TO VEHICULAR BARRIER LOADING.

PIPE GUARD SCHEDULE				
PIPE GUARD SIZE	STEEL ANGLE SUPPORT		EXPANSION BOLT	
	SIZE	LENGTH	DIAMETER	LENGTH
7" & BELOW	4x4x5/16	0'-4"	5/8"	3 1/2"
8" & ABOVE	4x4x5/16	0'-4"	3/4"	4"

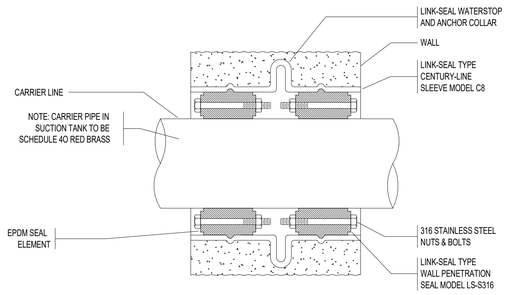
PIPE GUARD DETAIL

SCALE: NTS



UNDERGROUND SUPPORT FOR PIPING AT FOUNDATION WALL

SCALE: N.T.S.

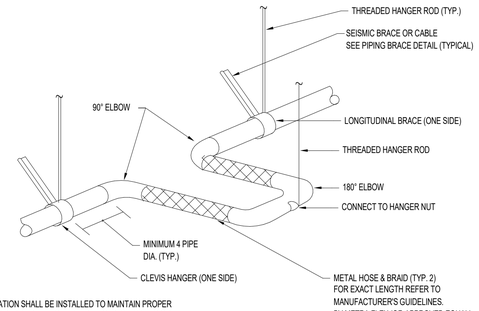


NOTE: WATER STOP AND SEAL ELEMENT SIZE TO BE AS PER MANUFACTURERS RECOMMENDATIONS, AND MATERIAL AND PIPE SIZE.

SCHEMATIC DETAIL WATERTIGHT SLEEVES THRU FOUNDATION WALLS

NO SCALE

MANUFACTURED BY CENTURY-LINE SLEEVE & LINK SEAL
PIPE-THRU-WALL PENETRATION ASSEMBLY DETAIL
THUNDERLINE CORPORATION, BELLEVILLE, MI 48111



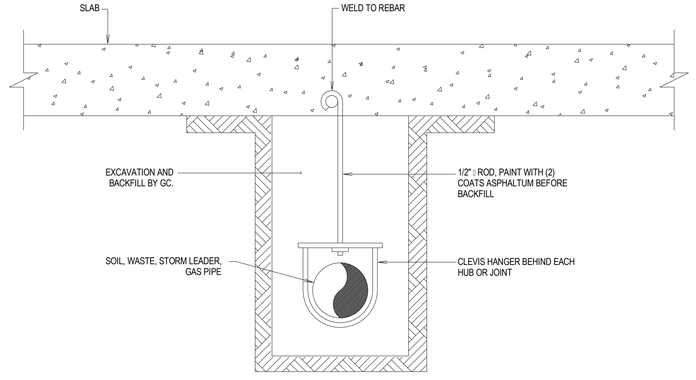
NOTES :

1. INSULATION SHALL BE INSTALLED TO MAINTAIN PROPER VAPOR BARRIER WITHOUT INHIBITING, RESTRICTING OR PREVENTING MOVEMENT OF THE FLEXIBLE LOOP.

2. SEISMIC BRACING SHALL NOT PASS THROUGH BUILDING SEISMIC AND/OR EXPANSIN AND CONTRACTION JOINTS. SEISMIC BRACING SHALL NOT CONNECT OR TIE TOGETHER DIFFERENT SIDES OR PARTS OF THE BUILDING STRUCTURE.

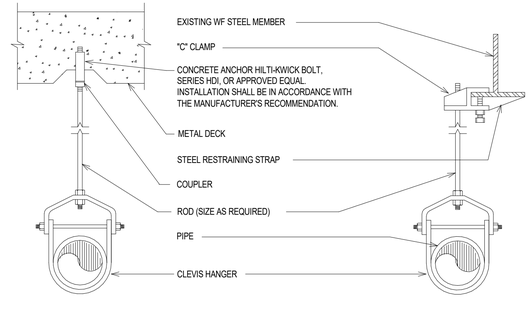
DOMESTIC WATER PIPING (ONLY) FLEXIBLE LOOP WITH HANGER SUPPORT AND SEISMIC BRACING DETAIL

NOT TO SCALE



TYPICAL UNDERGROUND PIPE SUPPORT

NOT TO SCALE



NOTES:

1. CLEVIS HANGERS REQUIRED ON PIPING LARGER THAN 1"

TYPICAL HANGER DETAILS

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SHEET TITLE:
PLUMBING DETAILS

SHEET NO.
P9.1

FIRE ALARM LEGEND

S	CEILING MOUNTED PHOTOELECTRIC SMOKE DETECTOR
CO	CEILING MOUNTED CARBON MONOXIDE DETECTOR
ST	FLUSH WALL MOUNTED STROBE LIGHT
F	FLUSH WALL MOUNTED DUAL ACTION MANUAL PULL STATION
H	WALL MOUNTED HORN/STROBE
WF	WATERFLOW SWITCH
TS	TAMPER SWITCH
IR	INTERFACE MODULE WITH OUTPUT RELAY
FACP	FIRE ALARM CONTROL PANEL
FADP	FIRE ALARM DOCUMENTATION PANEL
	END OF LINE RESISTOR
	EXISTING
	NEW
	EXISTING TO BE REMOVED

ABBREVIATIONS

(NOT ALL ABBREVIATIONS ARE NECESSARILY USED ON THIS PROJECT)

A	AMP/AMPERE
ACU	AIR CONDITIONING UNIT
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FURNISHED FLOOR
AHJ	AUTHORITIES HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AWG	AMERICAN WIRE GAUGE
C, CDT	CONDUIT
CD	CANDELA
CAC	COMPUTER ROOM GRADE AIR CONDITIONING UNIT
CKT	CIRCUIT
CU	COPPER
DGP	DATA GATHERING PANEL
DWG	DRAWING
(E)	EXISTING TO REMAIN
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ELEC	ELECTRICAL
EM	EMERGENCY
(ER)	EXISTING TO BE RELOCATED
FA	FIRE ALARM
FBO	FURNISHED BY OTHERS, INSTALLED AND WIRED BY THE ELECTRICAL CONTRACTOR
FCO	FUSED CUT OUT
FCS	FIRE COMMAND STATION
FIBO	FURNISHED AND INSTALLED BY OTHERS, WIRED BY THE ELECTRICAL CONTRACTOR
FSD	FIRE SMOKE DAMPER
FT	FEET
G, GND	GROUND
GEN	GENERATOR
HZ	HERTZ
IG	ISOLATED GROUND
JB	JUNCTION BOX
MAX	MAXIMUM
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MER	MECHANICAL EQUIPMENT ROOM
MTD	MOUNTED
(N)	NEW
(NE)	NEW TO REPLACE EXISTING
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PB	PULL BOX
RCU	REMOTE COMPUTERIZED UNIT PANEL
(RE)	RELOCATED EXISTING (NEW LOCATION)
RM	ROOM
SD	SMOKE DETECTOR
SPEC	SPECIFICATION
TTB	TERMINAL BOX
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
W	WIRE
WP	WEATHERPROOF
(X)	REMOVE

GENERAL FIRE ALARM NOTES

1. ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE WITH BUILDING FIRE ALARM MAINTENANCE VENDOR FOR TYPE OF FIRE ALARM DEVICES TO BE USED. ALL NEW DEVICES INSTALLED SHALL BE COMPATIBLE AND CONSISTENT WITH THE EXISTING BUILDING FIRE ALARM SYSTEM INSTALLATION.
2. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN THE SERVICES OF THE BASE BUILDING FIRE ALARM VENDOR TO DEVELOP AND DESIGN A CODE COMPLIANT, FULLY FUNCTIONAL FIRE ALARM SYSTEM. THE DESIGN DOCUMENTS INDICATE GENERAL INTENT OF AUDIO, VISUAL, AND ACTIVATION DEVICES. ELECTRICAL CONTRACTOR SHALL INCLUDE IN THEIR BID ALL DEVICES REQUIRED BY LOCAL FIRE ALARM INSPECTORS INCLUDING, BUT NOT LIMITED TO SMOKE DETECTORS, PULL STATIONS, WARDEN STATIONS, INTERFACE RELAYS, CONTROL PANELS, POWER BOOSTER PANELS, STROBE PANELS, ADDITIONAL AMPLIFIERS, ETC. CONTRACTOR AND VENDOR SHALL ALSO INCLUDE ALL COMPONENTS TO UPGRADE THE EXISTING BASE BUILDING SYSTEM EXPANSION INCLUDING, BUT NOT LIMITED TO, ADDITIONAL DGP PANELS, RELAY CARDS, STROBE BOOSTER PANELS, AMPLIFIERS, ETC.
3. ELECTRICAL CONTRACTOR/FIRE ALARM VENDOR SHALL CONFIRM, PRIOR TO BID, THAT ALL EXISTING DEVICES AND WIRING ARE CODE COMPLIANT. IF DEVICES AND WIRING ARE NOT COMPLIANT REPLACEMENT OF DEVICES AND WIRING SHALL BE INCLUDED IN BASE BID. ADDITIONAL CLAIMS FOR CHANGES IN SCOPE TO REPLACE EXISTING DEVICES, AFTER SUBMISSION OF BID WILL NOT BE ACCEPTED. ALTERNATE NOTE: ELECTRICAL CONTRACTOR/FIRE ALARM VENDOR SHALL INCLUDE THE REPLACEMENT OF ALL EXISTING FIRE ALARM DEVICES AND WIRING IN THEIR BASE BID, WITH A DEDUCT ALTERNATE TO MAINTAIN EXISTING WIRING AND DEVICES FOR REUSE.
4. FIRE ALARM RISER DIAGRAM SHOWN IS FOR GENERAL ARRANGEMENT AND SHALL NOT BE USED FOR ESTIMATING. ELECTRICAL CONTRACTOR SHALL VERIFY EXISTING FIELD CONDITIONS AND OBTAIN POINT TO POINT WIRING DIAGRAM FROM BUILDING FIRE ALARM VENDOR PRIOR TO INSTALLATION, THAT IS CONSISTENT WITH LOCAL FIRE MARSHALL OFFICE REQUIREMENTS.
5. ALL WORK SHALL BE DONE IN ACCORDANCE WITH NFPA 72 (2016 EDITION) FIRE ALARM CODE AND NFPA 70 (2017 EDITION) NATIONAL ELECTRICAL CODE AS REFERENCED BY THE 2020 BCNYS.
6. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH FILING REPRESENTATIVE AND ENSURE THAT ALL DRAWINGS AND DOCUMENTATION HAS BEEN SUBMITTED FOR FILING AND APPROVAL PRIOR TO THE COMMENCEMENT OF WORK. ALL PERMIT COSTS AND INSPECTION FEES SHALL BE INCLUDED AS PART OF THIS CONTRACT. NO WORK SHALL COMMENCE UNTIL PLANS ARE APPROVED AND PERMITS FOR FIRE ALARM AND ELECTRICAL WORK IS ISSUED BY THE AHJ.
7. AFTER COMPLETION OF ALL FIRE ALARM SCOPE AND FULL PRE-TEST WITNESSED BY THE INSTALLING LICENSED ELECTRICAL CONTRACTOR AND FIRE ALARM VENDOR, THE ELECTRICAL CONTRACTOR SHALL ACCOMPANY THE FIRE DEPARTMENT INSPECTOR DURING THE INSPECTION OF THE SYSTEM. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH AHJ FOR PROPER PROCEDURES OF THE INSPECTION PROCESS.
8. SUBMISSION OF BID ACKNOWLEDGES THAT ELECTRICAL CONTRACTOR HAS CONTACTED THE BASE BUILDING VENDOR AND HAS INCLUDED ALL COMPONENTS FOR A CODE COMPLIANT SYSTEM. ADDITIONAL CLAIMS FOR CHANGES IN VENDOR SCOPE OR ADDITIONAL DEVICES/COMPONENTS, UNLESS INITIATED BY TENANT, WILL NOT BE ACCEPTED.
9. ALL PROGRAMMING MUST BE UNDERTAKEN BY THE BASE BUILDING FIRE ALARM VENDOR AND ALL FINAL TERMINATIONS MUST BE SUPERVISED (AS A MINIMUM) BY A FIRE ALARM VENDOR TECHNICIAN. ELECTRICAL CONTRACTOR SHALL RETAIN BUILDING FIRE ALARM VENDOR FOR THIS SCOPE. ALL COST ASSOCIATED WITH CONNECTIONS AND REPROGRAMMING OF THE EXISTING FIRE ALARM SYSTEM TO BE PAID BY THIS CONTRACTOR, AND INCLUDED IN THE BASE BID.
10. AT COMPLETION OF WORK, CONTRACTOR SHALL PROVIDE COPIES OF APPROVED FIRE ALARM PLANS AND ANY APPLICABLE FORMS TO OWNER/TENANT AND BUILDING MANAGEMENT.
11. ELECTRICAL CONTRACTOR/FIRE ALARM VENDOR SHALL SUBMIT FLOOR PLAN SHOP DRAWINGS INDICATING LOCATION OF ALL DEVICES, WIRING OF DEVICES, AND ALL CIRCUITS ON FLOOR. SHOP DRAWING SHALL ALSO INDICATE LOCATION OF END OF LINE RESISTORS.
12. ALL EQUIPMENT SHALL BE UL LISTED, SHALL MEET REQUIREMENTS OF NFPA 70, ALL APPLICABLE CODES AND LOCAL LAWS, AND BE INSTALLED AND CONNECTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS. ALL FINAL CONNECTIONS TO BE MADE BY THIS CONTRACTOR WITH THE APPROVAL AND SUPERVISION OF THE BASE BUILDING FIRE ALARM SYSTEM VENDOR.
13. FIRE ALARM CABLES SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
    - A MINIMUM TEMPERATURE RATING OF 200°C.
    - A MINIMUM AVERAGE INSULATION THICKNESS OF 15 MILS.
    - A MINIMUM AVERAGE JACKET THICKNESS OF 25 MILS.
    - THE COLOR OF THE CABLE SHALL BE RED.
    - THE CABLE SHALL BE TYPE FPLP (PLENUM TYPE)
    - THE CABLE SHALL BE VISIBLY MARKED EXTERNALLY "FIRE ALARM".
    - THE CABLE SHALL MEET THE ABOVE REQUIREMENTS AND HAVE UL 1424 AND UL 910 LISTING.
    - CABLES SHALL BE APPROVED FOR LOCAL AHJ.
16. ALL WIRING INCLUDING THE GROUNDING TO BE INSTALLED ACCORDING TO NFPA 72 (2016 EDITION) FIRE ALARM CODE AND NFPA 70 (2017 EDITION) NATIONAL ELECTRICAL CODE AS REFERENCED BY THE 2020 BCNYS.
17. ALL SIGNAL WIRING SHALL BE RATED FOR CIRCUIT SURVIVABILITY LEVEL 2 OR GREATER AND PATHWAYS SHALL BE CLASS A, B, OR, X AS DIRECTED BY THE BUILDING'S FIRE ALARM VENDOR. ALL WIRING INCLUDING NEEDED TO SURVIVABILITY AND PATHWAY DESIGNATION REQUIREMENTS IS TO BE INCLUDED IN BID PRICING. ALL SHOP DRAWING AND AS-BUILT FIRE ALARM DRAWINGS SUBMITTED UNDER THIS CONTRACT SHALL INDICATE THE CIRCUIT SURVIVABILITY LEVEL AND CIRCUIT CLASS OF ALL FIRE ALARM CIRCUITS USED UNDER THIS CONTRACT.
18. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN AND PROTECT ALL FIRE ALARM SPEAKERS, SMOKE DETECTORS, FIRE WARDEN STATIONS AND OTHER FIRE ALARM SAFETY DEVICES IN OPERATION AT ALL TIMES.
19. IF ANY PORTION OF THE FIRE ALARM SYSTEM IS DISABLED, NOTIFY BUILDING MANAGER IMMEDIATELY. COORDINATE WITH BUILDING MANAGEMENT IN ADVANCE TO ALLOW ADEQUATE TIME FOR TEMPORARY FIRE WATCHES TO BE SCHEDULED.
20. ALL NEW FIRE ALARM CABLE SHALL BE RUN PARALLEL AND PERPENDICULAR - NO DIAGONAL RUNS. SUPPORTS SHALL BE PROVIDED EVERY 5'-0" ON CENTER. CONTRACTOR SHALL RE-SUPPORT ALL EXISTING FIRE ALARM WIRING ON FLOOR TO ASSURE COMPLIANCE WITH 5'-0" ON CENTER SUPPORT REQUIREMENT. FIRE ALARM CABLE SHALL NOT COME IN CONTACT WITH ANY OTHER WIRING, EQUIPMENT OR DUCTWORK.
21. DO NOT RUN FIRE ALARM CABLE IN THE SAME RACEWAY WITH NON FIRE ALARM CABLE.
22. NO CONDUITS ARE TO ENTER THE TOP OF A FIRE ALARM CONTROL PANEL REGARDLESS OF SYSTEM TYPE OR SIZE.
23. AVOID INSTALLING FIRE ALARM CABLES NEAR SOURCES OF ALTERNATING CURRENT. (LIGHTING, POWER, ETC.).
24. ANY REQUIREMENTS FOR SHIELDING CERTAIN CONDUCTORS OR RUNNING THEM IN SEPARATE RACEWAYS SHALL BE AS RECOMMENDED BY THE MANUFACTURERS DOCUMENTATION.
25. ALL NEW EXPOSED TEFLON WIRE SHALL BE SLEEVED AND SEALED AT ALL FIRE RATED WALL AND FLOOR PASSAGES. SEALANT SHALL BE 3M FIRE BARRIER CP-25
26. OBSERVE ALL POLARITY ON ALL FIRE ALARM CIRCUITS. NO TEE TAPPING IS PERMITTED ON ALARM INDICATING CIRCUITS (STROBES, SPEAKERS, ETC.).
27. ALL FIRE ALARM WIRE SHALL BE CLEARLY LABELED IN JUNCTION BOXES AND CABINETS. CONDUCTORS IN CABINETS SHALL BE FORMED SO THAT THEY DROP OFF DIRECTLY OPPOSITE TO ITS TERMINAL CONNECTION. ALL TERMINALS SHALL BE NUMBERED AND LABELED IN EVERY CABINET.
28. ALL FIRE ALARM PANELS, JUNCTION BOX COVERS, ETC. SHALL BE PAINTED "FIRE DEPARTMENT RED".
29. DEVICE LOCATIONS MUST BE READILY ACCESSIBLE TO ALLOW FOR MAINTENANCE AND REPAIR.
30. ALL FIRE ALARM DEVICES SHALL BE FLUSH MOUNTED, UNLESS OTHERWISE NOTED.
31. PROVIDE OUTLET BOXES, ETC... FOR ALL DEVICES AS REQUIRED
32. ALL CEILING MOUNTED DEVICES MUST BE SECURELY FASTENED TO THE BUILDING STRUCTURE. ALL WALL-MOUNTED DEVICES SHALL BE SECURELY MOUNTED IN PLACE. PLASTIC ANCHORS ARE NOT ACCEPTABLE.
33. INSTALL SMOKE DETECTORS A MINIMUM OF 3'-0" FROM ANY SUPPLY OR RETURN OPENING.
34. ALL DUCT MOUNTED SMOKE DETECTORS INSTALLED CONCEALED ABOVE HUNG CEILING, ETC, SHALL BE PROVIDED WITH A REMOTE LED IN CEILING TO PROVIDE A RAPID VISIBLE INDICATION OF THE DETECTOR LOCATION AND STATUS FROM THE OCCUPIED SPACE.
35. PROVIDE REMOTE LED FOR FSD'S ABOVE HUNG CEILING. LED TO BE VISIBLE FROM TENANT SPACE TO INDICATE LOCATION/OPERATION.
36. ALL WIRING TO BE CHECKED TO INSURE THAT THEY ARE FREE OF ANY OPENS, SHORTS OR GROUNDS
37. END OF LINE RESISTOR LOCATIONS SHALL BE PERMANENTLY LABELED ON INSTALLED DEVICE IN FIELD.
38. SHUTDOWN OF A/C UNITS ON FLOOR SHALL BE PERFORMED VIA A RELAY INTERFACE WITH THE FIRE ALARM SYSTEM. COMPUTER ROOM A/C UNITS SHALL ONLY BE SHUTDOWN UPON ACTIVATION OF UNITS DUCT MOUNTED DETECTOR. A/C UNIT RE-START SHALL BE MANUAL AT EACH UNIT. PROVIDE REQUIRED COMPONENTS IN A NEMA-1 ENCLOSURE PAINTED RED WITH A MOMENTARY PUSHBUTTON. PROVIDE AN ENGRAVED NAMEPLATE READING "A/C UNIT RESTART". RESTART BUTTON SHALL BE LOCATED ADJACENT TO UNIT SERVED. FANS SHALL ALSO HAVE THE CAPABILITY TO BE RESTARTED FROM THE MAIN BUILDING FIRE COMMAND CENTER.
39. AFTER ALARM INDICATION ALL FANS SHALL BE MANUALLY RESET INDEPENDENT OF FACP RESET.
40. AFTER THE SYSTEM MODIFICATIONS ARE COMPLETE, TEST ALL COMPONENTS IN ACCORDANCE WITH SEQUENCE OF OPERATION PRIOR TO FIRE INSPECTION.
41. THE SYSTEM SHALL BE PRE-TESTED IN THE PRESENCE OF THE OWNER DURING NON BUSINESS HOURS AS PART OF THE CONTRACT. INSTALLER SHALL BE RESPONSIBLE FOR PROVIDING A SYSTEM ACCEPTABLE TO THE OWNER, AND SHALL PROVIDE ANY ADDITIONAL TESTING AND ADJUSTING AT NO ADDITIONAL COST TO THE SATISFACTION TO THE OWNER. AFTER SUCCESSFUL COMPLETION OF PRE-TEST, CONTRACTOR SHALL SCHEDULE A FIRE DEPARTMENT INSPECTION.
42. THE OPERATION OF THE FIRE ALARM INSTALLATION DOES NOT CONSTITUTE AN ACCEPTANCE OF THE WORK BY THE OWNER. FINAL ACCEPTANCE IS TO BE MADE AFTER THE CONTRACTOR HAS DEMONSTRATED THAT THE WORK FULFILLS THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS AND HAD FURNISHED ALL REQUIRED CERTIFICATES OF APPROVAL FROM THE STATE AUTHORITIES, MUNICIPAL AUTHORITIES AND UNDERWRITERS.

FIRE ALARM AUDIBILITY DESIGN CRITERIA

AUDIBLE NOTIFICATION DEVICES - DESIGN CRITERIA	AMBIENT LEVEL	DESIGN GOAL
ROOMS	55 DBA	> 70 DBA
CORRIDORS	55 DBA	> 70 DBA
OPEN AREAS	45 DBA	> 60 DBA
MECHANICAL ROOMS	85 DBA	> 100 DBA

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PROJECT NO.
T077-02-001

PROJECT
Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
FIRE ALARM LEGENDS AND NOTES

SHEET NO.
FA0.1

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section Includes:

1. This specification describes an addressable Fire Detection and alarm signaling system. The control panel shall be intelligent device addressable, analog detecting, low voltage and modular, with digital communication techniques, in full compliance with all applicable codes and standards. The features and capacities described in this specification are required as a minimum for this project and shall be furnished by the successful contractor.
2. The system shall include all required hardware, raceways, interconnecting wiring and software to accomplish the requirements of this specification and the contract drawings, whether or not specifically itemized herein.
3. All equipment furnished shall be new and the latest state-of-the-art products of a single manufacturer, engaged in the manufacturing and sale of analog fire detection devices for over ten years.
4. The system as specified shall be supplied, installed, tested and approved by the local Authority Having Jurisdiction, and turned over to the owner in an operational condition.
5. In the interest of job coordination and responsibilities, the installing contractor shall contract with a single supplier for fire alarm equipment, engineering, programming, inspection and tests.
6. The system specified shall be that of Desigo® Fire Safety which meets the project requirements. Other systems shall be submitted 10 days prior to bid date for approval by the Engineer. All system approved shall meet all the requirements spelled out in this specification. System approval shall be in writing by the Engineer and a copy shall be submitted with the system submittals.
7. The system shall support approved smart-infrastructure integration (SII) and be capable of bi-directional data exchange with other building systems where required.

1.03 DEFINITIONS

A. ASME: American Society of Mechanical Engineers.

B. Broadcast Media: The speakers, radio, cell phone, and other media that will carry the selected message to the selected audience.

C. FACP: Fire alarm control panel.

D. NAC: Notification Appliance Circuit. A circuit used to monitor and activate notification appliances or devices.

E. FM: FM Global (Factory Mutual).

F. Furnish: To supply the stated equipment or materials.

G. Install: To set in position and connect or adjust for use.

H. LED: Light-emitting diode.

I. NFPA: National Fire Protection Association. Definitions in NFPA 72 apply to fire alarm terms used in this Section.

J. NICET: National Institute for Certification in Engineering Technologies.

K. Provide: To furnish and install the stated equipment or materials.

L. UL: Underwriters Laboratories.

M. AHJ: Authority Having Jurisdiction. Local authority (such as a fire marshal), presiding over the occupancy of the building(s).

N. Desigo® CC : Desigo® Danger Management Station

O. VESDA: Very Early Smoke-Detection Apparatus.

P. ASSD: Air Sampling Smoke Detection

Q. VEWFD: Very Early Warning Fire Detection

R. ISOtechnology™: devices with built-in isolation

S. NRTL: National Recognized Testing Lab (UL, ULC, FM, ETL etc.)

1.04 SYSTEM DESCRIPTION

A. Basic Desigo® Fire Safety - The system shall be a complete, electrically supervised fire detection and notification system, with a microprocessor-based operating system having the following capabilities, features, and capacities:

1. The local system shall provide status indicators and control switches for all of the following functions:
   a. Audible and visual notification alarm circuit zone control.
   b. Status indicators for sprinkler system water-flow and valve supervisory devices.
   c. Any additional status or control functions as indicated on the drawings, including but not limited to; emergency generator functions, fire pump functions, door unlocking and security with bypass capabilities.

1.05 PERFORMANCE REQUIREMENTS

A. General Performance: System devices shown shall comply with NFPA 72 and all contract documents and specification requirements.

B. The system shall have Class B (Former Style 4) circuits for each floor. The system shall operate in the alarm mode upon actuation of any alarm initiating device. The system shall remain in the alarm mode until all initiating device(s) are reset and the fire alarm control panel is manually reset and restored to normal.

C. The system shall be capable of the following configurations. Both configurations are permitted on the same network.

1. The system shall support up to 252 addressable devices, which may be divided in any ratio on one, two, three, or four separate, isolated Class B circuits.
2. The system shall support two loops of 252 addressable devices, each of which may be divided in any ratio on one, on two, isolated Class A circuits.

D. The system shall support H-series devices and Desigo® series devices

E. The system shall support X-Series I/O modules & X-Series manual pull stations with built-in isolation capability with ISO*technology*₃™.

F. The system shall have an optional digital alarm communication transmitter.

G. The system shall provide an off-normal warning prior to reset for all active devices.

H. The system shall be capable of remote monitoring via Desigo® FS View®, a proprietary software system that provides a graphical representation of the fire alarm control panel at a remote PC when connected via Ethernet to the system. The display will show the exact state of the panel, including blinking LEDs, and with menu buttons for control.

I. The system shall be capable of being configured via a PC Tool.

J. The system shall provide the following functions and operating features:

1. The FACP and auxiliary power panels shall provide power, annunciation, supervision and control for the system.
2. Provide Class B (formerly style 4) initiating device circuits.
3. Provide two Class B (formerly style 4) notification appliance circuits. Arrange circuits to allow individual, selective, and visual notification by zone. Notification appliance circuits shall be zoned to correspond with the building fire barriers and other building features.
4. Audibles shall be synchronized throughout the entire building.
5. Provide electrical supervision of the primary power (AC) supply, presence of the battery, battery voltage, and placement of system modules within the control panel.

K. The system shall provide a field test function where one person can test the complete system or a specific area while maintaining full operational function of other areas not being tested. Alarms, supervisory signals, trouble signals shall be logged in system history during the walk-test.

L. Alarm functions shall override trouble or supervisory functions. Supervisory functions shall override trouble functions.

M. Fire alarm signal initiation shall be by one or more of the following devices:

1. Manual pull station
2. Heat detector
3. Addressable area smoke detectors
4. Addressable Multi-criteria, dual optical smoke detectors
5. Addressable Multi-criteria smoke detectors with built-in Carbon Monoxide (CO) sensor
6. Standard Addressable Duct smoke detector
7. Specialized Duct Smoke detector
8. Projected beam detector
9. Automatic sprinkler system water flow switch.

N. Activation of any system fire, supervisory, trouble, or status initiating device shall cause the following actions and indications at all network Person Machine Interfaces using an LCD display with multiple detail screens.

1. Fire Alarm Condition:
   a. Sound an audible alarm and display a custom message defining the building in alarm and the specific alarm point initiating the alarm on an LCD display.
   b. Log into the system history archives all activity pertaining to the alarm condition.
   c. Sound the ANSI 117-1 signal with synchronized audible notification appliances and synchronized strobes throughout the facility.
   d. Audible signals shall be silenced from the fire alarm control panel by an alarm silence switch. Visual signals shall be programmable to flash until system reset or alarm silencing, as required.
   e. A signal dedicated to sprinkler system water flow alarm shall not be silenced while the sprinkler system is flowing at a rate of flow equal to a single head.
   f. Activation of any smoke detector in a single elevator lobby or an elevator equipment room shall, in addition to the actions described, cause the recall of that bank of elevators to the 1st floor and the lockout of controls. In the event of recall initiation by a detector in the first-floor lobby, the recall shall be to the alternate floor as determined by the AHJ.
   g. System operated duct detectors as per local requirements shall accomplish HVAC shut down.
   h. Door closure devices shall operate by floor or by local requirements.
2. Supervisory Condition:
   a. Display the origin of the supervisory condition report at the local fire alarm control panel LCD display.
   b. Activate supervisory audible and dedicated visual signal.
   c. Audible signals shall be silenced from the control panel by the supervisory acknowledge switch.
   d. Record within system history the initiating device and time of occurrence of the event.
3. Trouble Condition
   a. Display at the local fire alarm control panel LCD display, the origin of the trouble condition report.
   b. Activate trouble audible and visual signals at the control panel and as indicated on the drawings.
   c. Audible signals shall be silenced from the fire alarm control panel by a trouble acknowledge switch.
   d. Trouble conditions that have been restored to normal shall be automatically removed from the trouble display queue and not require operator intervention. This feature shall be software selectable and shall not preclude the logging of trouble events to the historical file.
   e. Trouble reports for primary system power failure to the master control shall be automatically delayed for a period of time equal to 25% of the system standby battery capacity to eliminate spurious reports as a result of power fluctuations.
   f. Record within system history, the occurrence of the event, the time of occurrence and the device initiating the event.

O. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

1.06 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories. Complete manufacturer's catalog data including supervisory power usage, alarm power usage, physical dimensions, and finish and mounting requirements.

B. Power calculations. Battery capacity calculations. Battery size shall be a minimum of 125% of the calculated requirement. Provide the following supporting information:

1. Supervisory power requirements for all equipment.
2. Alarm power requirements for all equipment.
3. Power supply rating justification showing power requirements for each of the system power supplies. Power supplies shall be sized to furnish the total connected load in a worst-case condition plus 25% spare capacity.
4. Voltage drop calculations for wiring runs demonstrating worst-case condition.
5. NAC circuit design shall incorporate a 20% spare capacity for future expansion.

C. Submit manufacturer's requirements for testing Signaling Line Circuits and device addresses prior to connecting to control panel. At a minimum the following tests shall be required; device address, the usage (Alarm, Supervisory, etc.), environmental compensation, temperature ratings for thermal detectors and smoke detector sensitivities. This requirement shall need approval before any wiring is connected to the control panel.

D. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
2. Wiring Diagrams: For power, signal, and control wiring.
3. Complete drawings covering the following shall be submitted by the contractor for the proposed system:
   a. Floor plans in a CAD compatible format at a scale of 1/8" = 1'-0" showing all equipment and raceways, marked for size, conductor count with type and size, showing the percentage of allowable National Electric Code fill used.
   b. Provide a fire alarm system function matrix as referenced by NFPA 72, Figure A-7-5.2.2 (9). Matrix shall illustrate alarm input/out events in association with initiation devices. Matrix summary shall include system supervisory and trouble output functions. Include any and all departures, exceptions, variances or substitutions from these specifications and/or drawings at time of bid.
4. Installation drawings shop drawings, and as-built drawings shall be prepared by an individual experienced with the work specified herein.
5. Incomplete submittals shall be returned without review, unless with prior approval of the Engineer.

E. Coordination Drawings: Reflected ceiling plan(s) and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from Installers of the items involved:

1. Light fixtures.
2. HVAC registers
3. Fire protection equipment interfaces
4. Special suppression system interfaces

F. Qualification Data: For qualified Installer, Applicator, manufacturer, fabricator, professional engineer, testing agency, and factory-authorized service representative.

G. Source quality-control reports.

H. Field quality-control reports.

I. Operation and Maintenance Data: For all fire alarm equipment, to include in operation and maintenance manuals.

J. Software and Firmware Operational Documentation:

1. Software operating and upgrade manuals.
2. Program Software Backup: On magnetic media or compact disk, complete with data files.
3. Device address list.
4. Printout of software application and graphic screens.

1.07 QUALITY ASSURANCE

A. Manufacturer Qualifications: The publications listed below form a part of this publication to the extent referenced. The publications are referenced in the text by the basic designation only. The latest version of each listed publication shall be used as a guide unless the authority having jurisdiction has adopted an earlier version.

1. FM Global (Factory Mutual (FM)):FM Approval Guide
2. National Fire Protection Association (NFPA)
   a. NFPA 70 National Electrical Code (2017 Edition)
   b. NFPA 72 National Fire Alarm Code (2016 Edition)
   c. NFPA 90A Standard for The Installation of Air Conditioning and Ventilating Systems (2015 Edition)
   d. NFPA 720 Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment (2015 Edition)
3. Underwriters' Laboratories, Inc. (UL) equipment standards, Latest Edition
   a. UL Fire Protection Equipment Directory
   b. UL Electrical Construction Materials Directory
   c. UL 38 - Manually Actuated Signaling Boxes for Use with Fire Protection Signaling Systems
   d. UL 228 - Door Holding Devices
   e. UL 268 - Smoke Detectors for Fire Protective Signaling Systems
   f. UL 268A - Smoke Detectors for Duct Application
   g. UL 464 - Audible Signal Appliances
   h. UL 497A - Secondary Protectors for Communications Circuits
   i. UL 521 - Heat Detectors for Fire Protective Signaling Systems
   j. UL 864 - Control Units for Fire Protective Signaling Systems
   k. UL 1283 - Electromagnetic Interference Filters
   l. UL 1449 - Transient Voltage Surge Suppressors
   m. UL 1971 - Signaling Devices for the Hearing Impaired
   n. UL 2075 - Gas and Vapor Detectors and Sensors
   o. UL 2572 - Mass Notification Systems
4. International Code Council
   a. International Building Code
   b. International Fire Code.
5. State and Local Building Codes as adopted and/or amended by The Authority Having Jurisdiction, ADA, and/or State and local equivalency standards as adopted by The Authority Having Jurisdiction.
6. California State Fire Marshal
7. The manufacturer shall have a minimum of 15 years production experience in the manufacture and design of high sensitivity Air sampling type smoke detection systems.
8. ISO 9002

B. Supplier Qualifications

1. The manufacturer of the supplied products must utilize multi-channel product distribution on a national basis to be considered for this bid. The manufacturer must have factory branches as well as independent distributors to allow the end user with the ability to utilize factory trained and authorized competitive service providers after system installation and commissioning.
2. Provide the services of a factory trained and certified representative or technician, experienced in the installation and operation of the type of system provided. The representative shall be licensed in the State if required by law.
3. The technician shall supervise installation, software documentation, adjustment, preliminary testing, final testing and certification of the system. The technician shall provide the required instruction to the owner's personnel in the system operation and maintenance.
4. The suppliers shall furnish evidence they have an experienced service organization, which carries a stock of spare and repair parts for the system being furnished.
5. The equipment supplier shall be authorized and trained by the manufacturer to calculate, design, install, test, and maintain the air sampling system and shall be able to produce a certificate stating such upon request.

C. Installer Qualifications:

1. Before commencing work, submit data showing that the manufacturer has successfully installed fire alarm systems of the same scope, type and design as specified.
2. The contractor shall submit copies of all required Licenses and Bonds as required in the State having jurisdiction.
3. The manufacturer representative shall employ on staff a minimum of one NICET certified designer, technician and/or a professional engineer, registered in the State of the installation, as required by the AHJ.
4. Contractors unable to comply with the provisions of Qualification of Installers shall present proof of engaging the services of a subcontractor qualified to furnish the required services.

D. Testing Agency Qualifications: Qualified for testing indicated.

E. Source Limitations for fire alarm equipment: Obtain fire alarm equipment from single source.

F. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 50 or less.
3. Combustion Characteristics: ASTM E 136.

G. 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.

H. Pre-installation Conference: Conduct conference at Project site.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to project site in original, unopened packages with intact and legible manufacturers' labels identifying product and manufacturer, date of manufacture, and shelf life if applicable.

B. Store materials inside, under cover, above ground, and kept dry and protected from physical damage until ready for use. Remove from site and discard wet or damaged materials.

1.09 PROJECT CONDITIONS

A. Installed products or materials shall be free from any damage including, but not limited to, physical insult, dirt and debris, moisture, and mold damage.

B. Environmental Limitations: Do not deliver or install products or materials until spaces are enclosed and weather-tight, wet work in spaces is complete and dry, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

1.10 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire alarm equipment that fail(s) in materials or workmanship within specified warranty period.

1. Warranty Period: 1 year from date of Substantial Completion.

1.11 SERVICE AGREEMENT

A. Technical Support: Beginning with Substantial Completion, provide software support for 1 year.

B. Upgrade Service: Update software to latest version at Project completion. Install and program software upgrades that become available within two years from date of Substantial Completion. Upgrading software shall include operating system. Upgrade shall include new or revised licenses for use of software.

1. Provide 30 days' notice to Owner to allow scheduling and access to system and to allow Owner to upgrade computer equipment if necessary.

1.12 EXTRA MATERIALS

A. Furnish 10% extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. The parts should include, but are not limited to, main system equipment (motherboards, processors, cards, etc.) and peripheral components (field devices such as initiating devices and notification appliances).

PART 2 - PRODUCTS

2.01MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements.

1. Siemens (Basis of Design)
2. Edwards
3. Honeywell
4. Approved Equal

2.02CONTROL PANEL

A. The fire alarm control panel shall be microprocessor based using multiple microprocessors throughout the system providing rapid processing of smoke detector and other initiation device information to control system output functions.

B. There shall be a watchdog circuit, which shall verify the system processors and the software program. Problems with either the processors or the system program the panel shall activate a trouble signal, and reset the panel.

C. The system modules shall communicate with an RS-485 network communications protocol. All module wiring shall be to terminal blocks.

D. The Desigo® Fire Safety FC and FV2025 system shall be capable of the following configurations. Both configurations are permitted on the same network.

1. The system shall support up to 252 addressable devices, which may be divided in any ratio on one, two, three, or four separate, isolated Class B circuits.
2. The system shall support 252 addressable devices, each of which may be divided in any ratio on one, or two separate, isolated Class A circuits.

E. The Desigo® Fire Safety FC and FV2050 system shall be capable of the following configurations. Both configurations are permitted on the same network.

1. The system shall support up to 504 addressable devices, which includes a second SLC configuration and each may be divided in any ratio on one, two, three, or four separate, isolated Class B circuits.
2. The system shall support 504 addressable devices, each of which includes a second SLC configuration and each may be divided in any ratio on one, or two separate, isolated Class A circuits.

F. The system shall be capable of supporting unshielded wiring applications.

G. The system shall be compliant with the requirements of NFPA 720 as a Carbon Monoxide Detection Control Unit and shall meet the UL 2075 listing requirements. All inputs from CO sensors shall be indicated visually and audibly at the control panel. CO sensor inputs shall be distinct and descriptively annunciated from other signals.

H. System Components:

1. The System Periphery board shall be capable of 252 intelligent devices distributed between one, two, three, or four Class B SLC circuits. Any trouble on one circuit shall not affect the other circuit. This module controls the signaling from the initiation devices reporting alarms and troubles to the control panel. This module shall also provide the signaling to the field devices for the controlling the output of specific initiation devices. The on-board microprocessor provides the periphery board with the ability to function even if the main microprocessor fails. LEDs on the board shall provide annunciation for the following; Power, Gnd. Fault, Alarm, Trouble. This board is integral to the system. The board shall be model number FCI2016-U1.
2. The system periphery board shall be capable of supporting two system drivers of 252 intelligent devices distributed between one, two, three, or four Class B SLC circuits, for a total panel capacity of 504 addressable devices. Any trouble on one circuit shall not affect the other circuit. This module controls the signaling from the initiation devices reporting alarms and troubles to the control panel. This module shall also provide the signaling to the field devices for the controlling the output of specific initiation devices. The on-board microprocessor provides the periphery board with the ability to function even if the main microprocessor fails. LEDs on the board shall provide annunciation for the following: Power, Gnd. Fault, Alarm, and Trouble. This board is integral to the system. The board shall be model number FCI2017-U1.
3. The Signal Line Circuits (SLC) shall be tested for opens, shorts and communications with all addressable devices installed before connection to the control panel. Systems without this capability shall have a test panel installed for initial testing to eliminate any possible damage short term or long term to the control panel. After initial testing replace the test panel and proceed with complete testing.
4. The standard Operator Interface shall have the ability to view events, acknowledge, silence, and reset the system and any networked Desigo® Fire Safety control panels, when configured as a global PMI. The standard operator interface can acknowledge, silence, and reset panels via Global PMI.
5. The LED Operator Interface shall have the ability to view events, acknowledge, silence, and reset the system and any networked Desigo® Fire Safety control panels, when configured as a global PMI. Additionally, the operator interface provides twelve multicolored configurable LEDs for annunciating system status
6. The System Periphery Board shall contain 2 Class B NAC circuits rated at 3 amps each with power-limited outputs. The zones shall be isolated and independently supervised. There shall be at least 6 unique codes/signals for each circuit based on system logic. These signals shall be Temporal Code 3 (Evacuation), Steady (Such as "Recall"), Temporal Code 3 (for CO alarms), March Time 120ppm, March Time 60ppm, and March Time 30ppm. The card shall have the following LEDs to provide trouble shooting and annunciation, Power, Gnd. Fault, Zone Activation or Trouble. This functionality shall be integral to the system. The card shall be model number FCI2016-U1/FCI2017-U1.
7. The control panel shall be equipped with four Form C relays for alarm, trouble, supervisory, and programmable output. The system shall provide the mounting of all system cards, field wiring, and panel's inter-card wiring. All power limited field wiring shall be separated from all non-power limited internal wiring. The card shall be model number FCI2016-U1/FCI2017-U1.

I. System response time from alarm to output shall comply with UL requirements.

J. All system cards and modules shall have Flash memory for downloading the latest module firmware.

K. Passwords:

1. Technician Level Password - There shall be a 8-character password that a user must enter into the control panel in order to perform such maintenance- and control-related functions at the panel as:
   a. Arming and disarming devices.
   b. Activating, deactivating or modifying detector ASD and sensitivity settings.
   c. Activating and deactivating the History Log function, and deleting obsolete entries.
   d. Changing the system time and date.
2. Maintenance Level Password - There shall be a 8-character password that a user must enter into the control panel in order to access the panel's reporting functions and walktest functions.
3. Acknowledge Silenceable Reset Access - There shall be a key required to open a locked cabinet that a system user must use in order to acknowledge events, turn silenceable audibles and visuals on and off, and perform panel resets.

L. Software Modifications: The system structure and software shall place no limit on the type or extent of software modifications on-site. Modification of software shall not require power-down of the system or loss of system fire protection while modifications are being made. Systems that require the use of external programmers or change of EPROMs are not acceptable.

M. Logic: The fire alarm system shall support generic functions that deal with binary states (True/False, high/low), and produce desired outputs from one or more binary inputs (for example, alarm outputs from detector or manual station inputs). AND, OR, NOT, Any N, Latches, Start Timer, Delay Timer, Restart Timer are generic functions. Generic functions can be used as inputs to other function. The system shall support 500 logic functions.

N. History: The system shall store 10,000 events in history. Trouble warnings will occur when the History buffer is full.

O. Reports:

1. The system shall have the ability to provide configuration, status, queue and history reports.
2. Configuration reports shall provide the following information:
   a. Custom Messages
   b. Database Information
   c. Entity Type
   d. Zone usage
   e. Device Category
   f. Firmware revision
   g. Status reports shall provide the following information:
   h. Disarmed cards and devices
   i. ASD settings
   j. Sensitivity in %/foot
   k. Alarm threshold in %/foot
   l. Temperature in degrees F.
   m. Walktest
3. Status reports shall provide the following information:
   a. Disarmed cards and devices
   b. ASD settings
   c. Sensitivity in %/foot
   d. Alarm threshold in %/foot
   e. Temperature in degrees F.
   f. Walktest
4. Queue reports shall provide the following information:
   a. Alarm events with custom message and event time
   b. Mass notification events with custom message and event time
   c. Gas alarm events with custom message and event time
   d. Supervisory events with custom message and event time
   e. Trouble events with custom message and event time
   f. Status events with custom message and event time
   g. Information events
5. History reports shall provide Address, History Type, Description, Time & Date and Custom Message. The following event types shall be reported:
   a. Alarm events
   b. Gas alarm events
   c. Supervisory events
   d. Status changes
   e. Alarm verification
   f. Output activation from logic
   g. System Reset
   h. Event Acknowledgements
   i. Block Acknowledgements
   j. Audible Silence System Flag Changes
   k. Sensitivity Changes
   l. Arm / Disarm Commands
   m. Arm / Disarm By Logic
   n. Manual Output Overrides
   o. Output Overrides By Logic
   p. Time Changes
   q. Menu Logins
   r. ASD Changes
   s. Walktest
   t. Device Input to Logic Activations/Deactivations

2.03POWER SUPPLY

A. The system Power Supply FP2011-U1 shall be a 170 Watt, 6-amp that provides 24VDC power for system operation. The power supply shall be filtered and regulated. The power supply provides power for all system operation, including signaling line circuits, notification appliance circuits, auxiliary power, battery charger, and all optional modules. The power supply shall be rated for 120/240VAC 50/60Hz. The module shall be model number FP2011-U1

B. The system Power Supply FP2012-U1 shall be a 300 Watt, 9-amp that provides 24VDC power for system operation. The power supply provides power for all system operation, including signaling line circuits, notification appliance circuits, auxiliary power, battery charger, and all optional modules. The power supply shall be rated for 120/240VAC 50/60Hz. The module shall be model number FP2012-U1.

C. For applications requiring greater than 300W of power, the Model FP2013-U1 power supply can optionally power a Model FV2025 or FV2050 system. Model FP2013-U1 consists of two (2) power supply units and one (1) interconnection cable, in order to balance the power from Model FP2013-U1. Consequently, this power-supply configuration can provide up to 600W at 24VDC.

D. The battery charger shall be able to charge the system batteries up to 100AH batteries. Battery charging shall be microprocessor controlled and programmed to select battery sizes.

E. Transfer from AC to battery power shall be instantaneous when AC voltage drops to a point where it is not sufficient for normal operation.

2.04REMOTE POWER SUPPLY FOR NON-VOICE NOTIFICATION APPLIANCES

A. The PAD-5 power supply unit shall be used with a Siemens Desigo® System. It shall an addressable NAC distributed controller to provide power to visual strobe circuits or supply auxiliary power to such items as Door holder circuits.

B. The PAD-5 shall communicate on the SLC loop to the Siemens Desigo® Control Panel. It shall provide status monitoring, device level fault indications and individual NAC control using a single address on the SLC. The PAD-5 unit shall provide a constant 24VDC nominal output voltage to each NAC-independent of voltage fluctuations on the primary or secondary power source.

C. The PAD-5 shall be a self-contained unit with 24VDC power supply and batteries housed in its own locked enclosure. Enclosure shall be made of 16 GA cold rolled steel, lockable and having the same key as the other control enclosures. Shall have 2 sizes (1 unit and a 2 unit) and colors (red and black).

D. The power supply shall be UL 864 listed and available in 6A and 9A models and 120 or 240VAC.

E. The power supply be able to support up to 18AH batteries in a single unit and 35AH in a 2-unit enclosure. Shall be able to support up to 100AH batteries in a separate enclosure.

F. The power supply shall have four independent 3 amp rated NAC circuits, expandable to a total of eight (8) Class B or four (4) Class A circuits or a mixture of each with an expansion CLSA card.

G. The power supply shall have the ability to add one of two types of expansion cards which take one additional address on the SLC:

1. CLSA expansion card provides additional NAC circuits and can be configured with two (2) Class B or one (1) Class A releasing circuits with on board service disconnect switches.
2. CDC Conventional Zone Module is an expansion card that provides for four (4) Class A or B conventional detection zone input circuit or shorting device (non-alarm) input circuits

H. The power supply shall be a class X isolating device residing on the SLC loop.

I. Each NAC output can be configured as an Aux Power output or a non-alarm closure input circuit.

J. Complete status monitoring to the individual circuit level at the main FACP and on-board LED status and diagnostic indicators.

K. The PAD-5 is fully configurable through the Siemens system configuration tool.

L. Output Circuits can be configured individually as Steady On, Temp 3, Temp 4, March Time 30, 60 or 120PPM.

M. All NAC circuits have synchronized strobe outputs, any combination of PAD-5 Main Boards and Expansion cards up to 32 can be synchronized on the same XDLC loop.

N. A dedicated Bell Follower circuit can be used to achieve synchronization across multiple SLC loops.

O. Shall be able to accept a range of End of the Line (EOL) resistor values (2.2K to 24KΩ) without having to program or configure unit.

2.05SYSTEM ENCLOSURE

A. Provide the enclosure as specified. Provide the color as to the local AHU requirements.

B. Provide two-height-unit backbox as part of the Desigo® Fire Safety intelligent non-voice-communication system hardware for use with 2HU system enclosures. Specifically, each backbox is used to fasten with a 2HU outer door.

C. Provide Red cabinet enclosure.

2.06INTELLIGENT INITIATING DEVICES

A. General

1. All initiation devices shall be insensitive to initiating loop polarity. Specifically, the devices shall be insensitive to plus/minus voltage connections. Except when built-in isolation with ISOtechnology™ is used, polarity sensitivity is required for the devices configured in isolation mode.

B. Smoke Detectors - S-Line - Addressable FDOO-Series

1. The detectors shall be guaranteed in writing not to false alarm when configured by the factory trained certified technician. The detectors must provide at least 19 different environmental algorithms that allow the detector to provide superior false alarm immunity without the need for additional alarm verification delays.
2. The detectors shall have a tri-color LED to streamline system maintenance/inspection by plainly indicating detector status as follows: green for normal operation, amber for maintenance required, red for alarm.
3. Detectors shall utilize state of the art forward/backward light scattering technology, with improved detection for smoldering and flaming fire signatures. The detectors shall replace the need for ionization detectors due to improved response characteristics to flaming fires.
4. When required, the detectors shall incorporate an addressable Carbon Monoxide (CO) sensor. The CO sensor of the FDOOTC441 The CO sensor of the FDOOTC441 has a 10-year lifetime from the date of installation. The CO sensor shall be selectable as an input to the multi-criteria fire detector algorithm and as an independent life-safety CO gas detector (in compliance with NFPA 720).
5. Detectors shall provide pre-alarm signal at 0.2% obs/ft and a full alarm at 1.0% obs/ft. to meet the performance requirements of NFPA 76 - National Fire Protection Association Standard 76, Fire Protection of Telecommunications Facilities as a Very Early Warning Fire Detector (VEWFD).
6. The forward/backward light scattering technology shall provide improved immunity to spurious activation (deceptive phenomena). The detectors shall have a "No False Alarm Guarantee".
7. The detectors shall be RoHS-compliant: it shall meet standards for Reduction of Hazardous Substances (RoHS) by reduction in lead content and other restricted substances.
8. The multi-criteria detector with CO input shall be UL 2075 compliant as a gas and vapor detector.

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PROJECT NO.
T077-02-001

PROJECT
Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

NO.	DESCRIPTION	DATE

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

NORTH

SHEET TITLE:
FIRE ALARM SPECIFICATIONS

SHEET NO.
FA1.1

9. The multi-criteria fire detectors shall be an intelligent digital photoelectric detector with a programmable heat detector. Detectors shall be listed for use as open area protective coverage, in-duct installation and sampling assembly installation and shall be insensitive to air velocity changes. The detectors' communications shall allow the detectors to provide alarm input to the system and alarm output from the system within four (4) seconds. So as to minimize the effort required by the installing and maintenance technician to appropriately configure the detector to ensure optimal system design, the detectors shall be programmable as application specific. Application settings shall be selected in software for a minimum of 19 environmental fire profiles unique to the devices installed location.
10. The detectors shall be designed to eliminate the possibility of false indications caused by dust, moisture, RFI/EMI, chemical fumes and air movement while factoring in conditions of ambient temperature rise, obscuration rate changes and hot/cold smoke phenomenon into the alarm decision to give the earliest possible real alarm condition report.
11. The detectors shall be capable of being field programmed for simultaneous and /or independent functionality, depending on the application. For example, the detectors shall be capable of utilizing the optical, heat, and/or CO sensors together for enhanced fire detection (multi-criteria) and simultaneously provide independent outputs for CO gas life-safety, smoke, and heat detection. Any combination of the sensors is possible.
12. The detectors shall be UL listed for operation in a 95% relative humidity (RH) environment.
13. The detectors shall be designed to eliminate calibration errors associated with field cleaning of the chamber.
14. The detectors shall support the use of a relay, or LED remote indicator without requiring an additional software address. Low profile, white case shall not exceed 2.5 inches of extension below the finish ceiling.
15. The detectors shall support the use of an ambient temperature warning signal at the panel. This temperature shall be user-configurable for the set temperature of the warning and the event type generated by the warning. This event can be used to trigger system logic.
16. The multi-criteria detector with CO sensor shall support the use of an ambient Carbon Monoxide (CO) warning signal at the panel. This ambient CO level shall be user-configurable in parts per million (PPM) for the set threshold of the warning and event type generated by the warning. This event can be used to trigger system logic.
17. CO sensor shall have a 10-year lifetime.
18. For the detectors where required, there shall be available a locking kit and detector guard to prevent unauthorized detector removal.
19. UL Listed as "direct in-duct" mounting.
20. Detectors shall include optional built-in short circuit isolation, ISOtechnology.
21. Available models:
    a. FDOOT441. Multi-Criteria incorporating 2 Optical sensors and 2 Thermal sensors with an operating temperature range of 32°F to 120°F (0°C to 49°C). Nineteen selectable profiles. Polarity insensitive installation wiring. Three color LED.
    b. FDOOTC441. Multi-Criteria incorporating 2 Optical sensors, 2 Thermal sensors, and Carbon Monoxide sensing technologies with an operating temperature range of 32°F to 120°F (0°C to 49°C). Twenty-Five selectable profiles. Polarity insensitive installation wiring. Three color LED. CO sensor may be programmed as part of the multi-criteria, or may be an independent CO detector.

C. Smoke Detectors - C-Line- Standard_ Addressable FD-Series:
1. The smoke detectors must provide at least 2 environmental parameter sets to assist in device sensitivity configuration.
2. The detectors shall have a tri-color LED to streamline system maintenance/inspection by plainly indicating detector status as follows: green for normal operation, amber for maintenance required, red for alarm.
3. The detector shall be RoHS-compliant: it shall meet standards for Reduction of Hazardous Substances (RoHS) by reduction in lead content and other restricted substances.
4. The detectors shall be UL listed for operation in a 95% relative humidity (RH) environment.
5. The detectors shall be designed to eliminate calibration errors associated with field cleaning of the chamber.
6. The detectors shall support the use of a relay, or LED remote indicator without requiring an additional software address. Low profile, white case shall not exceed 2.5 inches of extension below the finish ceiling.
7. For the detectors where required, there shall be available a locking kit and detector guard to prevent unauthorized detector removal.
8. Detectors shall include optional built-in short circuit isolation, ISOtechnology.
9. Available models:
    a. FDOT421. Multi-Criteria incorporating 1 Optical sensor and 1 Thermal sensor with an operating temperature range of 32°F to 100°F (0°C to 38°C). Available in four parameter sets. Polarity insensitive installation wiring. Three color LED.
    b. FDO421. Photoelectric Smoke detector with an operating temperature range of 32°F to 120°F (0°C to 49°C). Available in three parameter sets. Polarity insensitive installation wiring. Three color LED.

D. Heat Detectors - Addressable
1. Thermal Detectors shall be rated at 135°F (57°C) fixed temperature and 15°F (8.3°C) per minute rate of rise. Detectors shall be constructed to compensate for the thermal lag inherent in conventional type detectors due to the thermal mass, and alarm at the set point of 135°F (57°C). The choice of alarm reporting as a fixed temperature detector or a combination of fixed and rate of rise shall be made in system software and be changeable at any time without the necessity of hardware replacement.
2. The detectors furnished shall have a listed spacing for coverage up to 2,500 square feet and shall be installed according to the requirements of NFPA 72 for open area coverage. The thermal detector shall be model number FDT421.
3. Detectors shall include optional built-in short circuit isolation, ISOtechnology.
4. Model FDT421 heat detector shall have the following temperature settings:
    a. Fixed temperature at 135°F (57°C), 145°F (63°C), 155°F (68°C), 165°F (74°C), 174°F (79°C)
    b. Rate of Rise at 15°F/ min (8.3°C) at 135°F (57°C)
    c. Rate of Rise at 15°F/ min (8.3°C) at 174°F (79°C)
    d. Low temperature warning at 40°F (4.4°C)

E. Duct Smoke Detectors - Addressable
1. For duct detector applications, the smoke detector shall be an intelligent digital photoelectric detector. Detectors shall be listed for use as open area protective coverage, in duct installation and sampling assembly installation and shall be insensitive to air velocity changes.
2. The detector communications shall allow the detector to provide alarm input to the system and alarm output from the system within four (4) seconds. The detector shall be mounted in a duct detector housing listed for that purpose. The duct detector shall support the use of a remote test switch, relay or LED remote indicator. The duct detector shall be supplied with the appropriate sampling tubes to fit the installation.
3. Where duct detectors are exposed to the weather a weatherproof enclosure shall be available. A NEMA-3R and NEMA-4X option shall be available. The duct housing cover shall include a test port for functional testing of the detector without cover removal. The duct housing shall include a cover removal switch capable of indicating cover removal status to the fire alarm control panel.
4. The intelligent duct detector shall have a model number from the FDBZ-Series. Where required there shall be available a duct housing with an on-board relay. Also, where required, there shall be a standalone housing available with its own power supply and test/reset switch that does not require connection to a fire alarm control panel. It shall be model FBZ492-PR.
5. Duct smoke detector housing shall allow use in duct systems with air velocity ranging from 100 to 4,000ft/min (0.51 to 20m/s), within temperature ranges of 32°F to 120°F (0°C to 49°C) per minute, and with relative humidity ranging from 0 to 95%.
6. Detectors shall include optional built-in short circuit isolation, ISOtechnology.
7. Duct Housings and Accessories:
    a. FDBZ492 Global Air Duct Housing for Conventional and Addressable Detectors
    b. FDBZ492-HR Global Air Duct Housing for Addressable P2 Detectors with Relay Application
    c. FDBZ492-R Global Air Duct Housing for Conventional Detectors with Relay Application
    d. FDBZ492-RP Global Air Duct Housing for Conventional Detectors with Relay Application and Built-in Power Source
    e. FDBZ-WP Weather-Proof housing to accommodate all versions of Global Air Duct Housings
    f. FDBZ-RTL Remote Test Lamp for Conventional Detectors

F. Detector Bases - Addressable
1. Detector bases shall be low profile twist lock type with screw clamp terminals and self-wiping contacts. Bases shall be installed on an industry standard, 4in square or octagonal electrical outlet box.
2. Multi-Criteria Fire Detector Model FDOOTC441 shall be listed as providing CO detection in duct application.
3. The model number for the standard base shall be DB-11 - 6in version.
4. The model number for the standard base shall be DB-11E - 4in version.
5. The model ABHW-4B houses a pre-wired, audible (sounder) device capable of generating a 3,000Hz tone that provides a signal up to 85dBA at 10ft (3.05m) for localized annunciation. With the exception of the 520Hz low frequency square wave, the ABHW-4B shall meet the requirements of UL464. When used with a Desigo® Fire Safety intelligent detector, Model ABHW-4B has the option of being powered directly from a signal line circuit (SLC) in a two-wire configuration. All Model ABHW-4B bases are capable of sounding simultaneously, individually or in any combination -- depending upon the system configuration used on a Siemens FACP.
6. The model ABHW-4S is a UL / ULC Listed supplementary smoke-detection device that meets or exceeds the 85dB at 10ft (3.05m) audibility requirement, including the low-frequency requirement of 520 Hz for 'Sleeping Areas'. The ABHW-4S shall meet the requirements of UL464. All model ABHW-4S bases are capable of sounding simultaneously, individually or in any combination: it is based upon the detector type, and when it used and configured with a compatible Siemens FACP.

G. Manual Pull Stations - Addressable
1. Provide addressable manual stations where shown on the drawings, to be flush or surface mounted as required. Manual stations shall contain the intelligence for reporting address, identity, alarm and trouble to the fire alarm control panel. The manual station communications shall allow the station to provide alarm input to the system and alarm output from the system within less than four (4) seconds.
2. The manual station shall be equipped with terminal strip and pressure style screw terminals for the connection of field wiring. Surface mounted stations where indicated on the drawings shall be mounted using a manufacturer's prescribed matching red enamel outlet box.
3. The double action pull station shall be model number XMS-D. It shall provide built-in isolation capability with ISOtechnology™. The operator display shall indicate which specific device has detected a wiring fault on the data communication line.
4. Where required, there shall also be available pull stations with break glass, capable of explosion proof installation, capable of weatherproof installation, reset key operation, and metal housings.
5. Pull stations shall include optional built-in short circuit isolation, ISOtechnology.

H. Addressable Interface Devices
1. Addressable Interface Devices shall be provided to monitor inputs (contacts) and control outputs (relays) to and from the fire alarm system and associated devices. These interface devices shall be able to monitor single or dual contacts. An address will be provided for each contact. Where remote supervised relay is required the interface shall be equipped with a SPDT relay rated for 4 amps resistive and 3.5 amps inductive. The addressable interface modules shall be model FDCIO Series, XTRI Series, ILED-X series, TSM-1X or HCP series.
2. Where needed, a Conventional Zone Module shall connect to the Signal Line Circuit, which will allow the use of conventional initiation devices. This module shall have the ability to support up to 15 conventional smoke detectors and an unlimited number of contact devices. The module shall be model HZM.
3. Model XTRI Series shall provide input and outputs as needed by specific model number. The device shall also provide built-in isolation capability with ISOtechnology™. The operator display shall indicate which specific device has detected a loop short on the data communication line.
4. Model FDCIO422 device shall provide built-in isolation capability with ISOtechnology™. The addressable input/output module shall be insensitive to polarity except when built in isolation ISOtechnology™ is used in which case polarity sensitivity is required for the devices configured in isolation mode. Additionally, the FDCIO422 shall have the capability for up to 4 separate inputs (Class B) or 2 separate Class A inputs and 4 separate outputs (Class B).
5. Model ILED-X addressable remote LED alarm indicators shall provide a visual notification for remote or concealed initiating devices. The device shall also provide built-in isolation capability with ISOtechnology™.
6. Model TSM-1X addressable remote test switch shall provide an addressable normally open (N.O.) momentary switch with a tricolor light-emitting diode (LED) indicator. The LED indicator shall provide visual notification of the status of the tested device. The device shall also provide built-in isolation capability with ISOtechnology™.
7. Model HCP addressable control point shall provide remote, independent control of a single device.
8. Monitoring applications include (but not limited to):
    a. Water-flow switches
    b. Tamper switches
    c. PIV switches
    d. Damper position - All 3 states on one input
    e. Conventional devices (e.g., Smoke detectors, beam detectors, flame detectors, etc.)
    f. Duct Detectors
9. Control applications include (but not limited to):
    a. Not Used
    b. Telephone zones
    c. Not Used
    d. Damper position
    e. Solenoids for sprinklers
10. Where applicable, all interface devices shall meet NFPA 72 Class X requirements for survivability.

2.07 DEVICE PROGRAMMING UNIT

A. Device Programming Unit: The programming tool shall program the intelligent devices with addresses. The unit shall test the device to respond to its address. Dipswitches and rotary switches shall not be acceptable. The programmer shall be model DPU with carrying case.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine areas and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Perform work in accordance with the requirements of NFPA 70, NFPA 72 and NECA 1-2006, Standard of Good Workmanship in Electrical Contracting.
B. Fasten equipment to structural members of building or metal supports attached to structure, or to concrete surfaces.
C. In the event that limited energy cable installation is allowed, all cable runs shall be run at right angles to building walls, supported from structure at intervals not exceeding 3ft (1m) and where installed in environmental air plenums, be rated for such use and tied/supported by components listed for environmental air plenums installation.
D. Wiring Method: Install cables in raceways and cable trays except within consoles, cabinets, desks, and counters and except in accessible ceiling spaces and in gypsum board partitions where unenclosed wiring method may be used. Conceal raceway and cables except in unfinished spaces.
E. Wiring Method: Conceal conductors and cables in accessible ceilings, walls, and floors where possible.
F. Wiring within Enclosures: Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's limitations on bending radii. Provide and use lacing bars and distribution spools.
G. Provide primary power for each panel from normal/ emergency panels as indicated on the Electrical Power Plans. Power shall be 120 VAC service, transformed through a two-winding, isolation type transformer and rectified to low voltage DC for operation of all circuits and devices.

3.03 BOXES, ENCLOSURES AND WIRING DEVICES

A. Boxes shall be installed plumb and firmly in position.
B. Extension rings with blank covers shall be installed on junction boxes where required.
C. Junction boxes served by concealed conduit shall be flush mounted.
D. Upon initial installation, all wiring outlets, junction, pull and outlet boxes shall have dust covers installed. Dust covers shall not be removed until wiring installation when permanent dust covers or devices are installed.
E. "Fire alarm system" decal or silk-screened label shall be applied to all junction box covers.

3.04 CONDUCTORS

A. Each conductor shall be identified as shown on the drawings at each with wire markers at terminal points. Attach permanent wire markers within 2in (50mm) of the wire termination. Marker legends shall be visible.
B. All wiring shall be supplied and installed in compliance with the requirements of the National Electric Code, NFPA 70, Article 760, and that of the manufacturer.
C. Not Used
D. All splices shall be made using solder-less connectors. All connectors shall be installed in conformance with the manufacturer recommendations.
E. Crimp-on type spade lugs shall be used for terminations of stranded conductors to binder screw or stud type terminals. Spade lugs shall have upset legs and insulation sleeves sized for the conductors.
F. The installation contractor shall submit for approval prior to installation of wire, a proposed color code for system conductors to allow rapid identification of circuit types.
G. Wiring within sub panels shall be arranged and routed to allow accessibility to equipment for adjustment and maintenance.

3.05 DEVICES

A. Relays and other devices to be mounted in auxiliary panels are to be securely fastened to avoid false indications and failures due to shock or vibration.
B. Wiring within panels shall be arranged and routed to allow accessibility to equipment for adjustment and maintenance.
C. All devices and appliances shall be mounted to or in an approved electrical box.

3.06 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Division 26 Section "Identification for Electrical Systems."
B. Permanently label or mark each conductor at both ends with permanent alphanumeric wire markers.
C. A consistent color code for fire alarm system conductors throughout the installation.

3.07 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
B. Testing General:
1. All Alarm Initiating Devices shall be observed and logged for correct zone and sensitivity. These devices and their bases shall be tagged with adhesive tags located in an area not visible when installed, showing the initials of the installing technician and date.
2. Wiring runs shall be tested for continuity, short circuits and grounds before system is energized. Resistance, current and voltage readings shall be made as work progresses.
3. The acceptance inspector shall be notified before the start of the required tests. All items found at variance with the drawings or this specification during testing or inspection by the acceptance inspector shall be corrected.
4. Test reports shall be delivered to the acceptance inspector as completed.
5. All test equipment, instruments, tools and labor required to conduct the system tests shall be made available by the installing contractor. The following equipment shall be a minimum for conducting the tests:
    a. Ladders and scaffolds as required to access all installed equipment.
    b. Multi-meter for reading voltage, current and resistance.
    c. Two-way radios and flashlights.
    d. A manufacturer recommended device for measuring air flow through air duct smoke detector sampling assemblies.
    e. Decibel meter.
    f. In addition to the testing specified to be performed by the installing contractor, the installation shall be subject to test by the acceptance inspector.

3.08 ACCEPTANCE TESTING

A. A written acceptance test procedure (ATP) for testing the fire alarm system components and installation will be prepared by the engineer in accordance with NFPA 72 and this specification. The contractor shall be responsible for the performance of the ATP, demonstrating the function of the system and verifying the correct operation of all system components, circuits, and programming.
B. A program matrix shall be prepared by the installing contractor referencing each alarm input to every output function affected as a result of an alarm condition on that input.
C. The installing contractor prior to the ATP shall prepare a complete listing of all device labels for alphanumeric annunciator displays.
D. Loop Resistance Tests: Measure and record the resistance of each circuit with each pair of conductors in the circuit short-circuited at the farthest point from the circuit origin. The tests shall be witnessed by the owner and test results recorded for use at the final acceptance test.
E. Preliminary Testing: Conduct preliminary tests to ensure that all devices and circuits are functioning properly. After preliminary testing is complete, provide a letter certifying that the installation is complete and fully operable. The letter shall state that each initiating and indicating device was tested in place and functioned properly. The letter shall also state that all panel functions were tested and operated properly. The Contractor and an authorized representative from each supplier of equipment shall be in attendance at the preliminary testing to make necessary adjustments.
F. Final Acceptance Test: Notify the owner in writing when the system is ready for final acceptance testing. Submit request for test at least 14 calendar days prior to the test date. A final acceptance test will not be scheduled until megger test results, the loop resistance test results, and the submittals required in Part 1 are provided to the owner. Test the system in accordance with the procedures outlined in NFPA 72.
1. Verify that the control unit is in the normal condition as detailed in the manufacturer's operating and maintenance manual.
2. Test each initiating and indicating device and circuit for proper operation and response. Disconnect the confirmation feature for smoke detectors during tests to minimize the amount of smoke or test gas needed to activate the detector.
3. Test the system for all specified functions in accordance with the contract drawings and specifications and the manufacturer's operating and maintenance manual.
4. Visually inspect all wiring.
5. Verify that all software control and data files have been entered or programmed into the FACP.
6. Verify that Shop Drawings reflecting as-built conditions are accurate.
7. Measure the current in circuits to assure that there is the calculated spare capacity for the circuits.
8. Measure voltage readings for circuits to assure that voltage drop is not excessive.

G. The acceptance inspector shall use the system record drawings in combination with the documents specified in this specification during the testing procedure to verify operation as programmed. In conducting the ATP, the acceptance inspector shall request demonstration of any or all input and output functions. The items tested shall include but not be limited to the following:
1. System wiring shall be tested to demonstrate correct system response and correct subsequent system operation in the event of:
    a. Open, shorted and grounded signal line circuits.
    b. Not Used
    c. Primary power or battery disconnected.
2. Not Used
3. System indications shall be demonstrated as follows:
    a. Correct message display for each alarm input at the control display.
    b. Correct history logging for all system activity.
4. System off-site reporting functions shall be demonstrated as follows:
    a. Correct zone transmitted for each alarm input
    b. Trouble signals received for disconnect
5. Secondary power capabilities shall be demonstrated as follows:
    a. System primary power shall be disconnected for a period of time as specified herein. At the end of that period, an alarm condition shall be created and the system shall perform as specified for a period as specified.
    b. System primary power shall be restored for forty-eight hours and system-charging current shall be normal trickle charge for a fully charged battery bank.
    c. System battery voltages and charging currents shall be checked at the fire alarm control panel.

H. VESDA System Tests
1. The contractor shall allow for the manufacturer's representative to attend commissioning of the entire installation in the presence of the owner and/or its representative.
2. All necessary instrumentation, equipment, materials and labor shall be provided by the Contractor.
3. The Contractor shall record all tests and system calibrations and a copy of these results shall be retained on site in the System Logbook.
4. System Checks
    a. Visually check all pipes to ensure that all joints, fittings, bends, sampling points, etc., comply with the Specification.
        1) Check the system to ensure the following features are operational and programmed in accordance with the specification.
        2) Alarm threshold levels
        3) Detector address
        4) Time and date
        5) Time delays
        6) Air flow fault thresholds
        7) External button operable (Reset/ Isolate)
        8) Referencing
    b. Units set to U.S. /S.I.
    c. Check to ensure that all ancillary warning devices operate as specified.
    d. Check interconnection with Fire Alarm Control Panel to ensure correct operation.
5. Tests
    a. Introduce Smoke into the Detector Assembly to provide a basic functional test.
    b. Introduce smoke to the least favorable Sampling Point in each Sampling Pipe. Transport time is not to exceed two minutes.
    c. Activate the appropriate Fire Alarm zones and advise all concerned that the system is fully operational. Fill out the logbook and commissioning report accordingly.
    d. If more than two bar graph divisions illuminate under normal conditions (no smoke), review event log for two (2) weeks from date of commissioning and make appropriate adjustments to the alarm and delay thresholds.

3.09 DOCUMENTATION

A. System documentation shall be furnished to the owner and shall include but not be limited to the following:
1. System record drawings and wiring details including one set of reproducible drawings, and a CD ROM with copies of the record drawings in DXF format for use in a CAD drafting program.
2. System operation, installation and maintenance manuals.
3. System matrix showing interaction of all input signals with output commands.
4. Documentation of system voltage, current and resistance readings taken during the installation, testing and ATP phases of the system installation.
5. System program showing system functions, controls and labeling of equipment and devices.
6. All applicable NFPA 72 commissioning reports.

3.10 PROTECTION

A. Remove and replace devices and panel components that are wet, moisture damaged, or mold damaged.

3.11 DEMONSTRATION

A. Instructor: Include in the project the services of an instructor, who shall have received specific training from the manufacturer for the training of other persons regarding the inspection, testing and maintenance of the system provided. The instructor shall train the employees designated by the owner, in the care, adjustment, maintenance, and operation of the fire alarm system.
B. Training sessions shall cover all aspects of system performance, including system architecture, signaling line circuit configurations, sensor and other initiating device types, locations, and addresses, fire alarm control panel function key operation, and other functions as designated by the owner.
C. Required Instruction Time: Provide 16 hours of instruction after final acceptance of the system. The instruction shall be given during regular working hours on such dates and times as are selected by the owner. The instruction may be divided into two or more periods at the discretion of the owner. One training session shall be videotaped by the contractor. Videotapes shall be delivered to the owner.
D. Provide a typeset printed or typewritten instruction card mounted behind a Lexan plastic or glass cover in a stainless steel or aluminum frame. Install the frame in a conspicuous location observable from the FACP. The card shall show those steps to be taken by an operator when a signal is received as well as the functional operation of the system under all conditions, normal, alarm, supervisory and trouble. The instructions shall be approved by the owner.
E. Comprehensive system troubleshooting training shall be provided for a single individual designated by the owner. This session shall be separate and distinct from the above-described sessions.
F. All training sessions shall be conducted following final system certification and acceptance. Three additional training sessions shall be provided for all security personnel on all shifts six months after final system certification.
G. All training sessions shall be conducted by an authorized fire alarm system distributor representative, who has received specific training from the manufacturer for the training of other persons regarding the inspection, testing, and maintenance of the system provided.

3.12 FIRE ALARM DOCUMENTATION PANEL

A. This section covers the requirements for the Fire Alarm Documentation Panel to be installed in compliance with NFPA 72 (2016) Section 7.7.2 and applicable local codes.
PART 1 – GENERAL
B. The Fire Alarm Documentation Panel shall serve as a permanent, secure, and accessible location for storing essential fire alarm system records and documents.
1.1 SUMMARY
A. NFPA 72 – National Fire Alarm and Signaling Code (2016 Edition)B. NFPA 70 – National Electrical Code (NEC)C. New York State Fire CodeD. Local Authority Having Jurisdiction (AHJ) Requirements
1.2 REFERENCES
SUBMITTALS
1.3 A. Product Data: Provide manufacturer's data sheets and installation details for the documentation cabinet.
B. Shop Drawings: Provide scaled drawings showing the installation location, mounting details, and accessibility provisions.
C. Operation and Maintenance Manual: Provide a manual detailing maintenance and usage instructions.
D. Compliance Certifications: Submit documentation that the panel meets NFPA 72 and local fire code requirements.
A. The documentation panel shall be a permanently mounted, lockable cabinet constructed of metal or durable ...
PART 2 – PRODUCTS
B. The cabinet shall be labeled "FIRE ALARM DOCUMENTATION PANEL" in red letters on a white background with a minimum letter height of 1 inch.
C. The panel shall provide sufficient storage for all fire alarm documentation required by NFPA 72.
2.1 FIRE ALARM DOCUMENTATION PANEL
The documentation panel shall include, but is not limited to, the following:
A. Record (As-Built) Drawings – device locations, wiring, riser diagrams, and system configurations.
2.2 CONTENTS
B. Operation and Maintenance Manuals – Manufacturer-provided manuals for all fire alarm components.
C. System Programming Information – Addressing, zones, and system configurations.
D. Battery Calculations – Documentation showing compliance with required backup power durations.
E. Sequence of Operations – A written document outlining how the system responds to alarms, supervisory conditions, and trouble signals.
F. Inspection, Testing, and Maintenance Logs – Forms for documenting compliance with NFPA 72 Chapter 14.
A. Install the documentation panel near the Fire Alarm Control Unit (FACU) or in a location approved by the AHJ.
PART 3 – EXECUTION
B. Ensure the cabinet is secure yet accessible to authorized personnel, including fire inspectors and maintenance technicians.
C. Mount the panel at an accessible height, with a clear path free from obstructions.
3.1 INSTALLATION
Provide the panel ... approved ... secured area.
D.
INSPECTION
3.2 TESTING AND
A. Verify that all required documentation is present and up to date.
B. Ensure compliance with local requirements.
C. Update documentation as required following system modifications or upgrades.
Coordinate inspection with the AHJ.

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PROJECT NO.
T077-02-001

PROJECT
Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS
BID SET
02.21.25

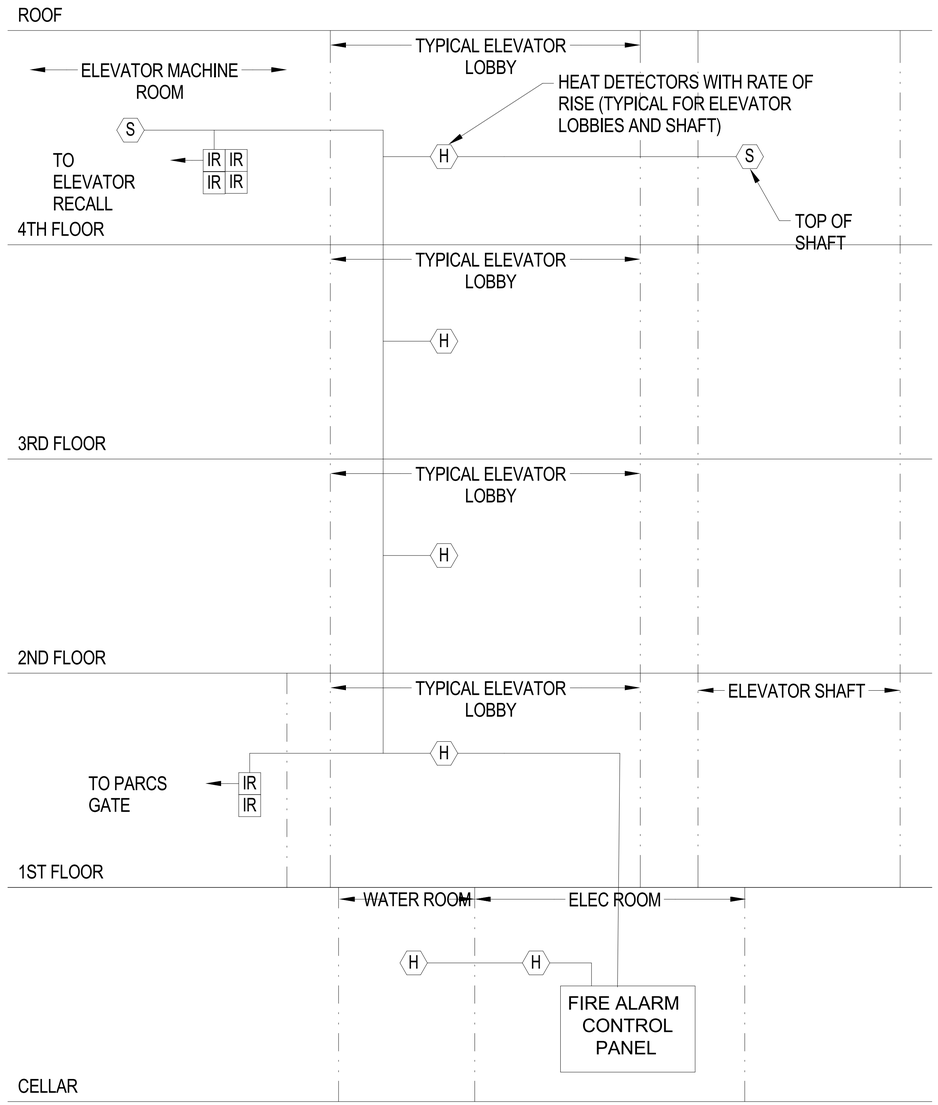
NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
FIRE ALARM SPECIFICATIONS

SHEET NO.
FA1.2



FIRE ALARM GARAGE RISER DIAGRAM

NOT TO SCALE

FIRE ALARM RISER NOTES

1. THIS IS NOT A POINT-TO-POINT WIRING DIAGRAM. USE THIS DIAGRAM FOR ESTIMATING PURPOSES ONLY. PRIOR TO STARTING ANY WORK, A WORKING POINT-TO-POINT WIRING DIAGRAM SHALL BE OBTAINED FROM THE BUILDING FIRE ALARM VENDOR

2. TIE IN ALL SECURITY SYSTEM DOOR RELEASE MECHANISMS TO FIRE ALARM SYSTEM. CONTRACTOR SHALL RE-ACTIVE EXISTING SYSTEM. REFER TO GENERAL NOTES, SHEET FA-001.

3. FOR EXACT LOCATION OF MECHANICAL EQUIPMENT REFER TO HVAC DRAWINGS.

4. UNLESS OTHERWISE DIRECTED BY BUILDING FIRE ALARM VENDOR, FIRE ALARM DEVICE WIRING SHALL BE AS FOLLOWS (FOR INFORMATION ONLY TO BE APPROVED WITH FA VENDOR PRIOR TO PURCHASE):

A. SPEAKER WIRING - #16 AWG TWISTED AND SHIELDED PAIR BSA/MEA APPROVED TEFLON CABLE.

B. STROBE WIRING - #14 AWG TWISTED AND SHIELDED PAIR BSA/MEA APPROVED TEFLON CABLE.

C. SIGNAL WIRING - #14 AWG TWISTED AND SHIELDED PAIR BSA/MEA APPROVED TEFLON CABLE.

D. ADDRESSABLE LOOP WIRING TWISTED AND SHIELDED PAIR #16.

E. WARDEN STATION WIRING - 3 PAIR TWISTED SHIELDED #18 AWG.

8. ALL WIRING BELOW 8' A.F.F. SHALL BE INSTALLED IN CONDUIT. 3/4"C SHALL BE MINIMUM SIZED USED PER SECTION 760.24 OF THE NEC.

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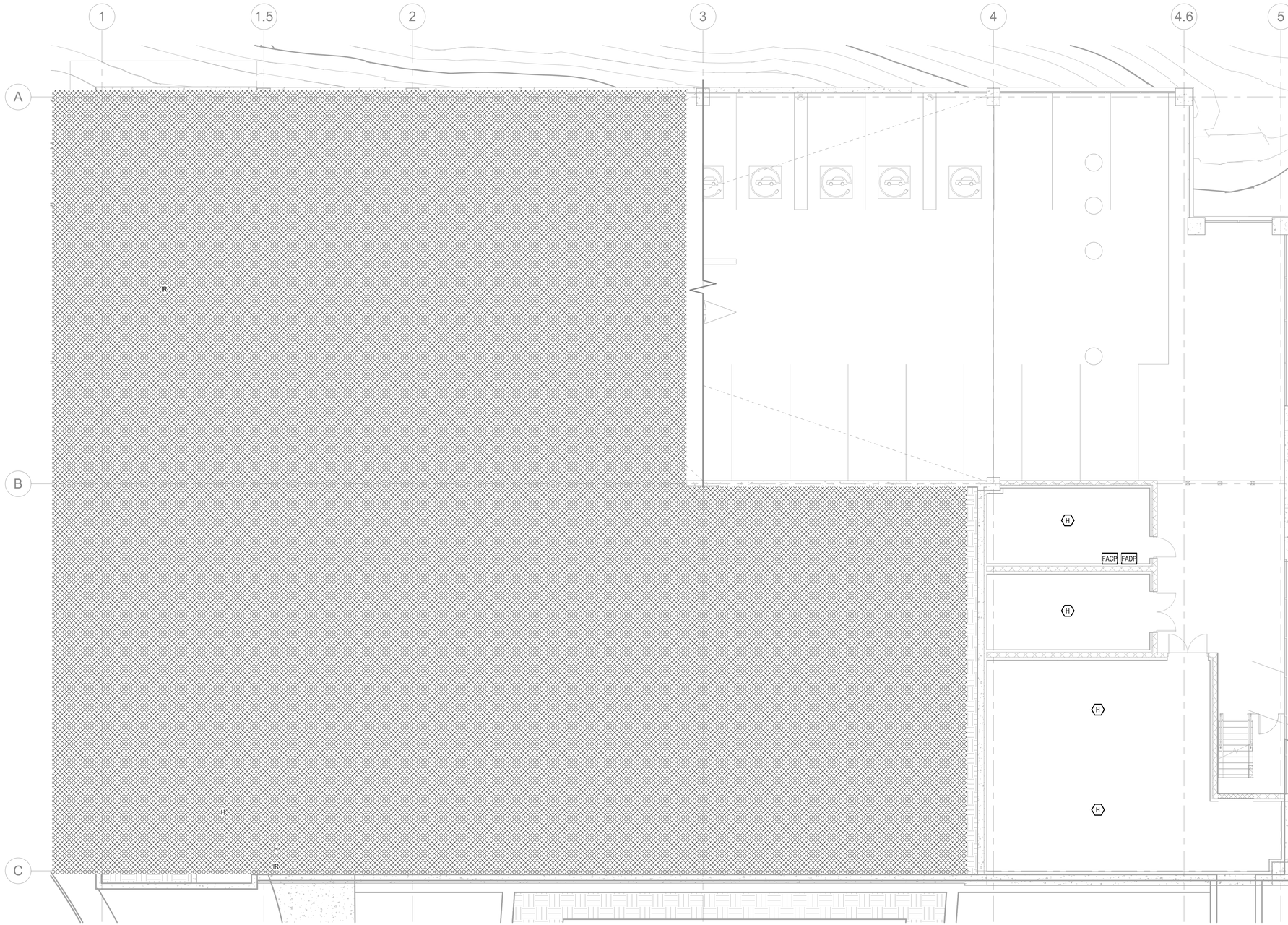
SHEET TITLE:
FIRE ALARM RISER DIAGRAM

SHEET NO.
FA3.1



FIRE ALARM NOTES

1. REFER TO DRAWING FA-001 FOR GENERAL NOTES.
2. REFER TO SPECIFICATION SECTIONS FOR CONTRACTOR/VENDOR DESIGN BUILD REQUIREMENTS.
3. NEW FIRE ALARM STROBE DEVICES SHALL BE A MINIMUM OF 15/75 CANDELA PER ADA REQUIREMENTS.
4. NEW FIRE ALARM STROBE & SPEAKERS/STROBE DEVICES SHALL BE WALL OR COLUMN MOUNTED IN ACCORDANCE WITH 18.5.4.1 OF 2016 NFPA 72 SO THAT THE LENS IS BETWEEN 80 TO 96 INCHES ABOVE THE FLOOR. WHERE CEILING HEIGHT DOES NOT PERMIT MOUNTING AT 80" AFF, STROBE DEVICE SHALL BE MOUNTED WITHIN 6 INCHES OF THE CEILING IN ACCORDANCE WITH 18.5.4.2 OF 2016 NFPA 72.
5. ALL MANUAL PULL STATIONS SHALL SO THAT THE OPERABLE PART IS INSTALLED NOT LESS THAN 42" AND NO MORE THAN 48" AFF IN ACCORDANCE WITH 17.14.4 OF 2016 NFPA 72.
6. ALL FIRE ALARM WIRING SHALL BE TEFLON 'RED'.
7. IN THE ACCESSIBLE HUNG CEILING ROUTE FIRE ALARM WIRING EXPOSED, OTHERWISE IN CONDUIT. FIRE ALARM WIRING IN GARAGES, LOADING DOCKS, MECHANICAL/ELECTRICAL ROOMS, AND ELEVATOR ROOMS SHALL BE IN RMC.
8. LOCATIONS OF ALL DEVICES REQUIRE ARCHITECT'S/ENGINEER'S APPROVAL PRIOR TO INSTALLATION. CONTRACTOR SHALL LOCATE ALL DEVICES IN FIELD & OBTAIN ARCHITECT SIGN OFF PRIOR TO INSTALLATION OF ANY ROUGHING DEVICE. ANY DEVICES INSTALLED WITHOUT ARCHITECT'S APPROVAL THAT ARCHITECT/ENGINEER REQUESTS TO BE RELOCATED, SHALL BE MOVED AT NO ADDITIONAL COST.
9. HORN/STROBE DEVICES SHALL BE INSTALLED IN ALL COMMON AREAS SO THAT NO SPACE IS MORE THAN 50 FEET FROM A SPEALER/STROBE DEVICE
10. ALL STROBE LIGHTS WITHIN A GIVEN FIELD OF VIEW SHALL BE SYNCHRONIZED
11. SMOKE DETECTORS SHALL BE LOCATED A MINIMUM OF 3' FROM ANY HVAC SUPPLY AND RETURN DIFFUSERS AS REQUIRED BY NFPA 72 (2016) FIRE ALARM CODE SECTION 17.7.4.1.
12. A MINIMUM OF TWO (2) HORN AND TWO (2) STROBE CIRCUITS SHALL BE INSTALLED THROUGHOUT FLOOR. DEVICES SHALL BE ALTERNATELY WIRED THROUGHOUT FLOOR SO THAT NO TWO DEVICES, ADJACENT TO EACH OTHER IN A GIVEN FIELD OF VIEW SHALL BE ON THE SAME CIRCUIT.
13. ALL CABLING SHALL BE INDEPENDENTLY SUPPORTED FROM SLAB OR BEAMS AT A MINIMUM OF 5 FEET ON CENTER. PROVIDE APPROVED BRIDAL RINGS OR OTHER APPROVED SUPPORTS AS REQUIRED.
14. ALL FIRE ALARM CABLING, PASSING THRU NON RATED SHEETROCK WALLS, SHALL PASS THRU WALL INDEPENDENT OF DUCTS, MC CABLING, SECURITY CABLING ETC. FIRE ALARM CABLING SHALL NOT TOUCH ANY OTHER SERVICE WHILE PASSING THRU WALLS. ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT SLEEVES FOR ALL CABLING PASSING THRU SHEETROCK WALLS.
15. END OF LINE RESISTOR LOCATION SHALL BE PERMANENTLY LABELED IN FIELD AT DEVICE LOCATION. UTILIZE BROTHER P TOUCH TO INDICATE "CIRCUIT # E.O.L."
16. WHERE MECHANICAL UNIT SHUTDOWN IS REQUIRED, FAN SHUTDOWN RELAY AND WIRING TO CONTROL UNIT SHALL BE LOCATED WITHIN 36" OF THE CONTROL UNIT FOR THAT MECHANICAL UNIT.

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NO.	DESCRIPTION	DATE

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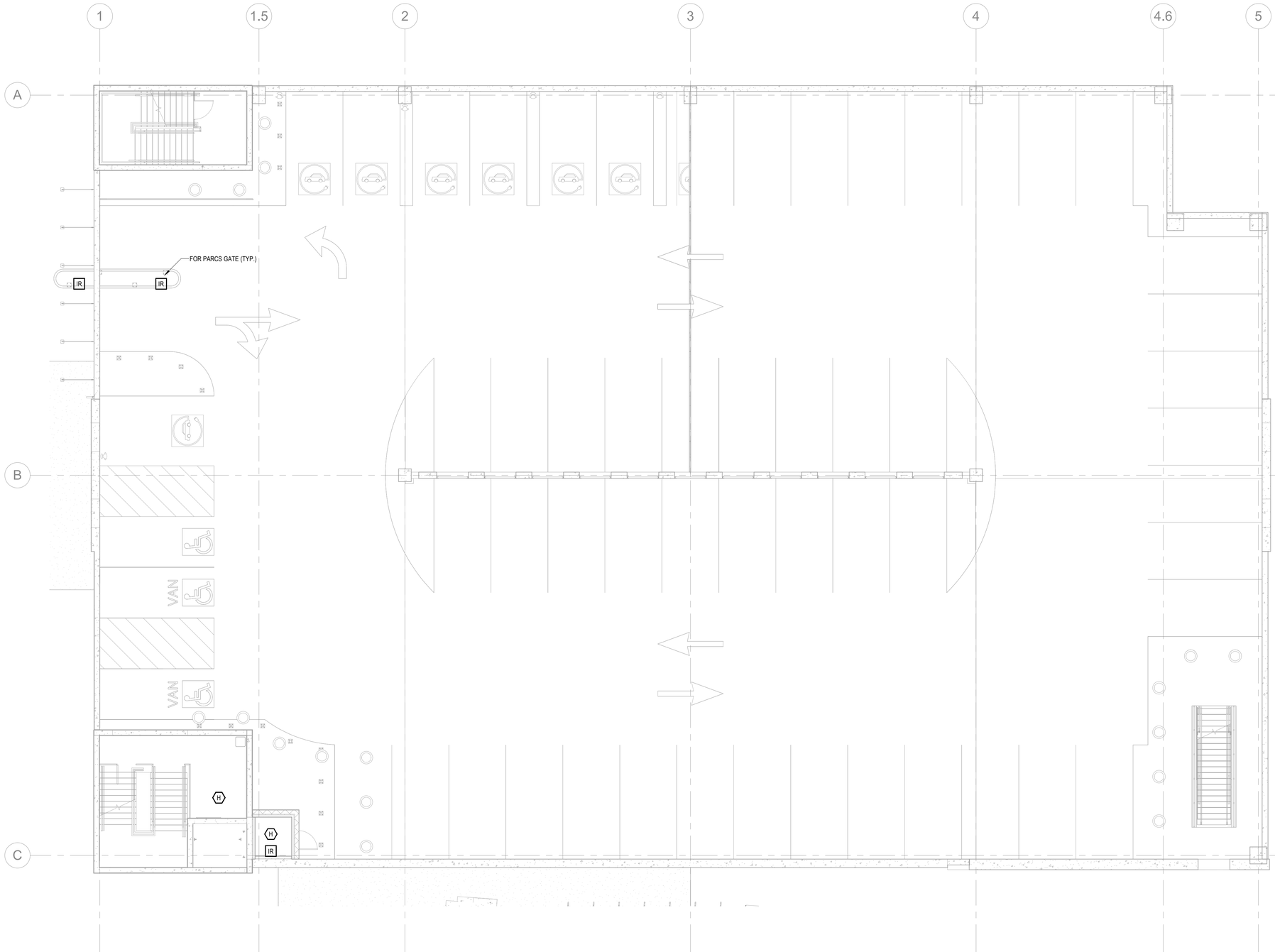
SHEET TITLE:
FIRE ALARM LOWER LEVEL PLAN

SHEET NO.

FA5.0



FIRE ALARM NOTES

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5. ALL MANUAL PULL STATIONS SHALL SO THAT THE OPERABLE PART IS INSTALLED NOT LESS THAN 42" AND NO MORE THAN 48" AFF IN ACCORDANCE WITH 17.14.4 OF 2016 NFPA 72.
6. ALL FIRE ALARM WIRING SHALL BE TEFLON 'RED'.
7. IN THE ACCESSIBLE HUNG CEILING ROUTE FIRE ALARM WIRING EXPOSED, OTHERWISE IN CONDUIT. FIRE ALARM WIRING IN GARAGES, LOADING DOCKS, MECHANICAL/ELECTRICAL ROOMS, AND ELEVATOR ROOMS SHALL BE IN RMC.
8. LOCATIONS OF ALL DEVICES REQUIRE ARCHITECT'S/ENGINEER'S APPROVAL PRIOR TO INSTALLATION. CONTRACTOR SHALL LOCATE ALL DEVICES IN FIELD & OBTAIN ARCHITECT SIGN OFF PRIOR TO INSTALLATION OF ANY ROUGHING DEVICE. ANY DEVICES INSTALLED WITHOUT ARCHITECT'S APPROVAL THAT ARCHITECT/ENGINEER REQUESTS TO BE RELOCATED, SHALL BE MOVED AT NO ADDITIONAL COST.
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10. ALL STROBE LIGHTS WITHIN A GIVEN FIELD OF VIEW SHALL BE SYNCHRONIZED
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12. A MINIMUM OF TWO (2) HORN AND TWO (2) STROBE CIRCUITS SHALL BE INSTALLED THROUGHOUT FLOOR. DEVICES SHALL BE ALTERNATELY WIRED THROUGHOUT FLOOR SO THAT NO TWO DEVICES, ADJACENT TO EACH OTHER IN A GIVEN FIELD OF VIEW SHALL BE ON THE SAME CIRCUIT.
13. ALL CABLING SHALL BE INDEPENDENTLY SUPPORTED FROM SLAB OR BEAMS AT A MINIMUM OF 5 FEET ON CENTER. PROVIDE APPROVED BRIDAL RINGS OR OTHER APPROVED SUPPORTS AS REQUIRED.
14. ALL FIRE ALARM CABLING, PASSING THRU NON RATED SHEETROCK WALLS, SHALL PASS THRU WALL INDEPENDENT OF DUCTS, MC CABLING, SECURITY CABLING ETC. FIRE ALARM CABLING SHALL NOT TOUCH ANY OTHER SERVICE WHILE PASSING THRU WALLS. ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT SLEEVES FOR ALL CABLING PASSING THRU SHEETROCK WALLS.
15. END OF LINE RESISTOR LOCATION SHALL BE PERMANENTLY LABELED IN FIELD AT DEVICE LOCATION. UTILIZE BROTHER P TOUCH TO INDICATE "CIRCUIT # E.O.L."
16. WHERE MECHANICAL UNIT SHUTDOWN IS REQUIRED, FAN SHUTDOWN RELAY AND WIRING TO CONTROL UNIT SHALL BE LOCATED WITHIN 36" OF THE CONTROL UNIT FOR THAT MECHANICAL UNIT.

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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 03/06/24

SHEET TITLE:
FIRE ALARM LEVEL 1 FLOOR PLAN

SHEET NO.

FA5.1

FIRE ALARM NOTES

1. REFER TO DRAWING FA-001 FOR GENERAL NOTES.
2. REFER TO SPECIFICATION SECTIONS FOR CONTRACTOR/VENDOR DESIGN BUILD REQUIREMENTS.
3. NEW FIRE ALARM STROBE DEVICES SHALL BE A MINIMUM OF 15/75 CANDELA PER ADA REQUIREMENTS.
4. NEW FIRE ALARM STROBE & SPEAKERS/STROBE DEVICES SHALL BE WALL OR COLUMN MOUNTED IN ACCORDANCE WITH 18.5.4.1 OF 2016 NFPA 72 SO THAT THE LENS IS BETWEEN 80 TO 96 INCHES ABOVE THE FLOOR. WHERE CEILING HEIGHT DOES NOT PERMIT MOUNTING AT 80" AFF, STROBE DEVICE SHALL BE MOUNTED WITHIN 6 INCHES OF THE CEILING IN ACCORDANCE WITH 18.5.4.2 OF 2016 NFPA 72.
5. ALL MANUAL PULL STATIONS SHALL SO THAT THE OPERABLE PART IS INSTALLED NOT LESS THAN 42" AND NO MORE THAN 48" AFF IN ACCORDANCE WITH 17.14.4 OF 2016 NFPA 72.
6. ALL FIRE ALARM WIRING SHALL BE TEFLON 'RED'.
7. IN THE ACCESSIBLE HUNG CEILING ROUTE FIRE ALARM WIRING EXPOSED, OTHERWISE IN CONDUIT. FIRE ALARM WIRING IN GARAGES, LOADING DOCKS, MECHANICAL/ELECTRICAL ROOMS, AND ELEVATOR ROOMS SHALL BE IN RMC.
8. LOCATIONS OF ALL DEVICES REQUIRE ARCHITECT'S/ENGINEER'S APPROVAL PRIOR TO INSTALLATION. CONTRACTOR SHALL LOCATE ALL DEVICES IN FIELD & OBTAIN ARCHITECT SIGN OFF PRIOR TO INSTALLATION OF ANY ROUGHING DEVICE. ANY DEVICES INSTALLED WITHOUT ARCHITECT'S APPROVAL THAT ARCHITECT/ENGINEER REQUESTS TO BE RELOCATED, SHALL BE MOVED AT NO ADDITIONAL COST.
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11. SMOKE DETECTORS SHALL BE LOCATED A MINIMUM OF 3' FROM ANY HVAC SUPPLY AND RETURN DIFFUSERS AS REQUIRED BY NFPA 72 (2016) FIRE ALARM CODE SECTION 17.7.4.1.
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SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

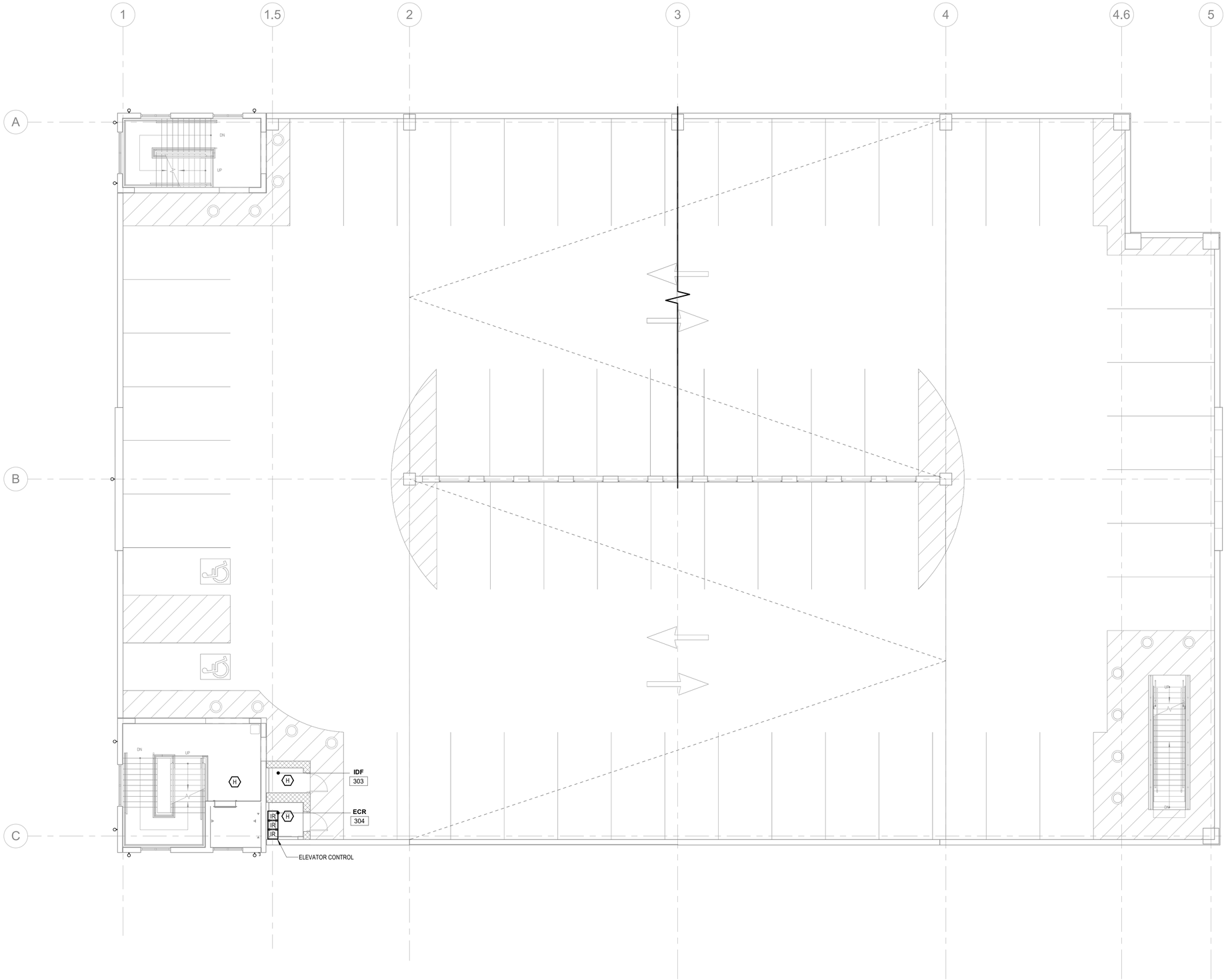
NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 03/06/24

SHEET TITLE:
FIRE ALARM LEVEL 2 FLOOR PLAN

SHEET NO.

FA5.2



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SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

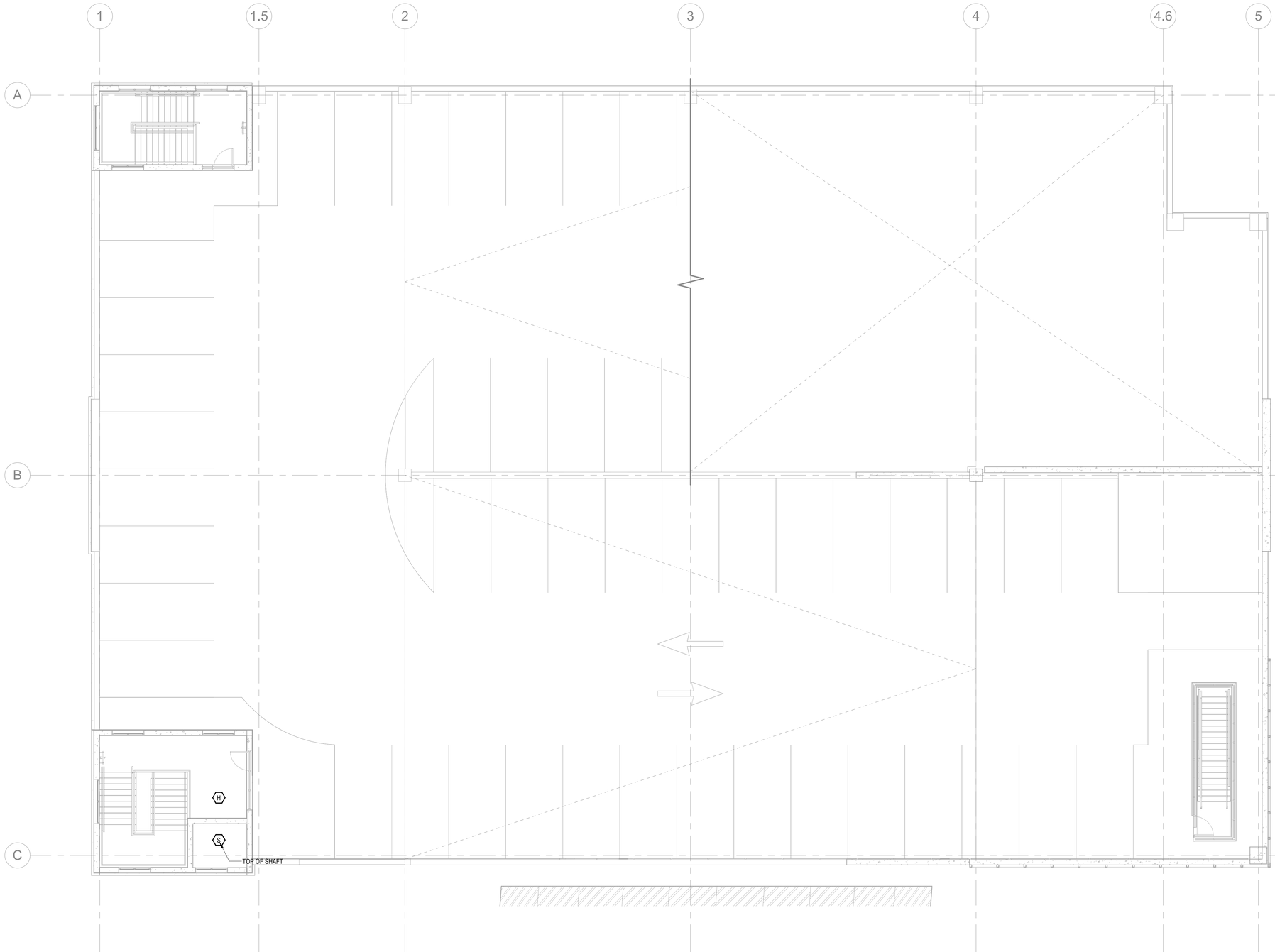
NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 03/06/24

SHEET TITLE:
FIRE ALARM LEVEL 3 FLOOR PLAN

SHEET NO.

FA5.3



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PROJECT
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Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 06/18/24

SHEET TITLE:
FIRE ALARM LEVEL 4 FLOOR PLAN

SHEET NO.
FA5.4

FIRE PROTECTION NOTES

1. GENERAL NOTES, SYMBOLS LIST AND DETAILS ARE APPLICABLE TO ALL DRAWINGS MARKED FP.
2. DRAWINGS ARE DIAGRAMMATIC. DETERMINE EXACT LOCATIONS OF SYSTEM AND COMPONENTS IN FIELD.
3. STANDPIPE DESIGN SHALL COMPLY WITH NFPA 14-2016, CHAPTER 8 FOR PLANS AND REQUIRED CALCULATIONS.
4. THE FIRE PROTECTION SUBCONTRACTOR IS RESPONSIBLE TO PROVIDE A COMPLETE SET OF SHOP DRAWINGS WHICH SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER DULY LISCENSED.
5. FIRE PROTECTION SUBCONTRACTOR IS TO CAREFULLY COORDINATE FIRE STANDPIPES, AND PIPING LOCATIONS WITH OWNER'S REPRESENTATIVES PRIOR TO RUNNING ANY PIPE.
6. ALL FIRE PROTECTION WORK SHALL BE IN ACCORDANCE WITH THE DRAWINGS, CURRENT EDITIONS OF NFPA CODES, BUILDING CODE OF NEW YORK STATE 2020 AND ALL APPLICABLE LOCAL CODES.
7. IT SHALL BE RESPONSIBILITY OF THIS CONTRACTOR TO COORDINATE HIS WORK WITH THAT OF ALL OTHER TRADES, INCLUDING (BUT NOT LIMITED TO), ELECTRICAL, HVAC, SPRINKLER, PLUMBING STRUCTURAL AND GENERAL ARCHITECTURE.
8. ANY INTERFERENCE SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND THE OWNER'S REPRESENTATIVE, AND SHALL BE RESOLVED PRIOR TO THE INSTALLATION OF THE WORK INVOLVED.
9. NO WORK SHALL BE INSTALLED IN VIOLATION OF ANY GOVERNING CODES. ANY WORK SHOWN ON THE DRAWINGS WHICH IS IN IN VIOLATION OF SUCH CODES SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND THE OWNER'S REPRESENTATIVE AND SHALL BE RESOLVED TO THE INSTALLATION OF THE WORK INVOLVED.
10. ALL PIPING PENETRATING CEILING AND WALLS SHALL BE INSTALLED WITH CHROME (STAINLESS WHERE NOTED) PLATED ESCUTCHEONS AT THE PENETRATION. ALL PIPING PENETRATING EXTERIOR WALLS AND ROOFS SHALL BE FLASHED IN AN APPROVED MANNER AND SHALL BE SEALED WEATHERTIGHT. PIPING PENETRATING RATED PARTITIONS SHALL BE PROTECTED AS REQUIRED BY LOCAL CODE AUTHORITY.
11. PRODUCT INSTALLATION SHALL ADHERE TO MANUFACTURES' RECOMMENDATIONS.
12. PROVIDE ACCESS PANELS FOR EQUIPMENT THAT REQUIRES PERIODIC SERVICE.
13. CONTRACTOR SHALL COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL FIRE PROTECTION EQUIPMENT WITH THE ELECTRICAL DRAWINGS, AND SHALL FURNISH EQUIPMENT WIRED FOR THE VOLTAGES SHOWN HEREIN.
14. ALL SLEEVES THROUGH CONCRETE FLOORS AND ALL CORE DRILLING OF CONCRETE FLOORS AND WALLS SHALL BE BY THIS CONTRACTOR.
15. CONCRETE PADS AND PLATFORMS FOR WORK OF THIS SECTION WILL BE PROVIDED BY GENERAL CONTRACTOR. PROVIDE INFORMATION AND HARDWARE AS NECESSARY TO COORDINATE WORK.
16. STRUCTURAL WELDING SHALL BE 1/4" FILLET UNLESS REQUIRED OTHERWISE.
17. PIPE SUPPORTS FOR FIRE PROTECTION IN BUILDING SHAFTS ARE BY THIS CONTRACTOR. CAREFULLY COORDINATE WITH MISCELLANEOUS STEEL CONTRACTOR FOR PLACEMENT OF STEEL SUPPORT BEAMS. SHAFTS PIPE SUPPORT SHALL BEAR FROM WALL AND FROM FLOOR SUPPORT BEAMS.
18. PIPING SHALL NOT RUN OVER ELECTRICAL PANELS AND SHALL BE COORDINATED WITH WORK OF OTHER TRADES.

SPRINKLER LEGEND

	SIAMESE CONNECTION
	FIRE HOSE VALVE

LINE REPRESENTATION

—DSP—	NEW DRY STANDPIPE PIPING

DRAWING NOTATIONS

#	DRAWING NOTE TAG
A / B	SECTION DESIGNATION ON DRAWING WHERE SECTION IS CUT A-SECTION DESIGNATION B-DRAWING NO.
SP	SPRINKLER RISER DESIGNATION
1	REVISION SYMBOL
	POINT OF NEW CONNECTION TO EXISTING WORK

ABBREVIATION

AFF	ABOVE FINISHED FLOOR
DP	DRY PIPE
F	FIRE
FHR	FIRE HOSE RACK
FHC	FIRE HOSE CABINET
FSP	FIRE STANDPIPE
NIC	NOT IN CONTRACT
PA	PREACTION
SP	SPRINKLER
TS	TAMPER SWITCH
WF	WATERFLOW SWITCH

DRAWING LIST

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DRAWN: Author
REVIEWED: Checker
DATE: 08/11/21

SHEET TITLE:
FIRE PROTECTION LEGENDS AND NOTES

SHEET NO.
FP0.1

FIRE PROTECTION SPECIFICATIONS

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

A. PROVIDE ALL STANDPIPE WORK SHOWN ON THE CONTRACT DOCUMENTS. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE 2020 BUILDING CODE OF NEW YORK STATE, NFPA 13-2016, NFPA 14-2016, LANDLORD'S BUILDING STANDARDS, AND ALL AUTHORITIES HAVING JURISDICTION (AHJ). APPLICABLE NATIONAL, STATE AND LOCAL CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK SHALL BE INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS.

1.02 SCOPE OF WORK

A. INSTALL STANDPIPE SYSTEM AND PIPING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, UNDERWRITERS' REQUIREMENTS, THE LOCAL AND STATE BUILDING CODES AND OTHER AUTHORITIES HAVING JURISDICTION. TEST ALL NEW WORK IN THE PRESENCE OF THE OWNERS' REPRESENTATIVE AND ALL AUTHORITIES HAVING JURISDICTION.

B. INSTALL NEW STANDPIPE SYSTEM AND PIPING WHERE SHOWN ON THE CONTRACT DRAWINGS. FURNISH ALL LABOR, MATERIALS, EQUIPMENT, APPLIANCES AND PERFORM ALL OPERATIONS REQUIRED FOR A COMPLETE STANDPIPE SYSTEM AS SPECIFIED HEREIN. THE ENTIRE SYSTEM SHALL BE MADE COMPLETE IN EVERY RESPECT.

C. BEFORE SUBMITTING HIS BID, THE FIRE PROTECTION CONTRACTOR SHALL VISIT THE SITE AND SHALL FULLY FAMILIARIZE HIMSELF WITH THE STRUCTURAL LAYOUT OF THE BEAMS IN RELATIONSHIP TO THE NEW HVAC DUCT LAYOUT AND NEW LIGHTING FIXTURES AND HUNG CEILING HEIGHTS AND BECOME FAMILIAR WITH THE DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THIS WORK. CONTRACTOR SHALL PERFORM THIS PRIOR TO SUBMITTING HIS BID. SUBMISSION OF A BID WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE, AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.

D. UPON REVIEW OF STANDPIPE DRAWINGS PRIOR TO SUBMITTING HIS PROPOSAL, THIS CONTRACTOR SHALL INFORM ARCHITECT AND/OR ENGINEER OF ANY DISCREPANCIES OR REQUEST CLARIFICATION IN WRITING, IF NECESSARY, CONCERNING THE INTENT OF THE PLANS AND SPECIFICATIONS TO PROVIDE A COMPLETE STANDPIPE SYSTEM INSTALLATION. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS SHOULD SUCH PROCEDURE NOT BE FOLLOWED.

E. PREPARE AND SUBMIT MANUFACTURERS DATA AND INSTALLATION SHOP DRAWINGS TO THE ENGINEER FOR REVIEW. INSTALLATION SHOP DRAWINGS SHALL BE COORDINATED WITH NEW WORK OF OTHER TRADES.

F. PREPARE AS-BUILT DRAWINGS INDICATING ACTUAL LOCATIONS OF FIRE HOSE VALVES AND CABINETS, AND PIPING. AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE OWNER UPON COMPLETION OF INSTALLATION AND TESTING. SUBMIT THREE SETS OF PRINTS AND ONE SET OF REPRODUCIBLES. IN ADDITION, PROVIDE ON DISK TO OWNER THE AS-BUILT CONDITIONS IN AUTOCAD FORMAT.

G. REPAIR AND/OR REPLACE ARCHITECTURAL COMPONENTS WHICH MAY BECOME DAMAGED AS A RESULT OF SYSTEM INSTALLATION.

H. THE FIRE PROTECTION CONTRACTOR SHALL EXAMINE THE PREMISES BEFORE SUBMITTING HIS BID, AND SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH CONDITIONS WHICH AFFECT HIS WORK. THE FIRE PROTECTION CONTRACTOR SHALL REPORT ANY CONDITIONS WHICH WOULD PREVENT THE INSTALLATION OF THE NEW WORK TO THE OWNER'S REPRESENTATIVE PRIOR TO THE START OF ANY INSTALLATION.

I. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN INSTALLING PIPING IN FINISHED WALLS, CEILINGS AND PARTITIONS.

J. CLEAN-UP AND RUBBISH REMOVAL FROM THE JOB SITE DIRECTLY RELATED TO AND AS A RESULT OF THIS CONTRACT SHALL BE DONE DAILY AS WORK PROGRESSES AS NOT TO CAUSE INTERFERENCE WITH THE NORMAL BUILDING OPERATION.

K. FURNISH ALL LABOR AND MATERIALS FOR ALL TESTS AS REQUIRED BY CODES OR AUTHORITIES HAVING JURISDICTION.

L. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND OBTAIN ALL APPROVALS REQUIRED BY ALL AUTHORITIES HAVING JURISDICTION.

1.03 OTHER WORK INCLUDED

A. ALL PRIME PAINTING AND FACTORY APPLIED FINISHES.

B. ROUGH CUTTING

C. ROUGH PATCHING

1.04 QUALITY ASSURANCE

A. ALL PIPES SHALL BE MARKED TO INDICATE MANUFACTURER AND ASTM STANDARD. EACH FULL PIPE LENGTH SHALL HAVE THE MANUFACTURER'S NAME CAST, STAMPED OR ROLLED ON.

B. EACH FITTING SHALL HAVE THE MANUFACTURER'S SYMBOL AND PRESSURE RATING CAST, STAMPED OR ROLLED ON.

C. ALL NEW COMPONENTS OF THE STANDPIPE SYSTEM MUST CONFORM TO NFPA 13, NFPA 14 AND LOCAL BUILDING CODES, ASTM AND NEMA. ALL NEW PIPING MUST BE U.L. LISTED AND FACTORY MUTUAL AND APPROVED.

D. ALL GROOVED JOINTS COUPLINGS, FITTINGS, VALVES, AND SPECIALTIES SHALL BE THE PRODUCTS OF A SINGLE MANUFACTURER. GROOVING TOOLS SHALL BE OF THE SAME MANUFACTURER AS THE GROOVED COMPONENTS.

1.05 SUBMITTALS

A. PRIOR TO PURCHASING EQUIPMENT, SUBMIT A LIST OF ALL PROPOSED PIPING MATERIALS AND EQUIPMENT.

B. SUBMIT COMPLETE BACK-UP MATERIAL WHERE MANUFACTURING SPECIFICATION STANDARDS OF PROPOSED MATERIAL DIFFER FROM THOSE SPECIFIED.

C. WHERE MANUFACTURER'S CATALOG INFORMATION DOES NOT SATISFACTORY DESCRIBE MATERIALS, ENGINEERING DESIGN, QUALITY OF CONSTRUCTION OR AESTHETICS OF PROPOSED MATERIALS, SAMPLES MUST BE SUBMITTED AS REQUESTED AT NO ADDITIONAL COST TO THE OWNER.

D. MANUFACTURER'S SPECIFICATIONS AND ENGINEERING DATA SHALL CONSIST OF A COMPLETE DESCRIPTION OF MATERIALS, PARTS, DEVICES, FINISHES AND PERFORMANCE.

1.06 MATERIAL DELIVERY, STORAGE AND HANDLING

A. THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR THE ON-TIME DELIVERY OF HIS MATERIALS.

B. THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFE STORAGE OF ALL HIS MATERIALS EITHER ON THE SITE AS DESIGNATED BY THE OWNER'S REPRESENTATIVE OR IN HIS OWN WAREHOUSE.

C. ANY MATERIALS DAMAGED DURING HANDLING, STORAGE OR INSTALLATION SHALL BE REPLACED OR REPAIRED BY THE FIRE PROTECTION CONTRACTOR AT NO COST TO THE OWNER.

1.07 GUARANTEE

A. THE MANUFACTURER OF MATERIALS AND INSTALLER FOR THE WORK OF THIS CONTRACT SHALL, AS PART OF THIS CONTRACT, GUARANTEE AND CERTIFY THAT ALL NEW WORK IS FREE FROM DEFECTIVE WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR FROM DATE OF OWNER'S FINAL ACCEPTANCE. FINAL ACCEPTANCE BY THE OWNER SHALL BE THE DATE OF THE FINAL PAYMENT TO THE CONTRACTOR.

1.08 SHOP DRAWINGS

A. THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING SHOP DRAWINGS OF THE NEW STANDPIPE WORK TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. THE STANDPIPE DRAWING SHALL SHOW FIRE HOSE VALVES. SUBMIT SHOP DRAWINGS IN TIME TO ALLOW ONE WEEK REVIEW PERIOD. STANDPIPE PLANS SHALL CONSIST OF FULLY DIMENSIONED DRAWINGS FOR THE NEW WORK. SHOP DRAWINGS SHALL BE SUBMITTED IN QUANTITIES AS DIRECTED BY THE ARCHITECT.

B. SUBMIT SHOP DRAWINGS AND/OR SAMPLES OF ESCUTCHEON PLATES, PIPES, FITTINGS, HANGERS AND SLEEVES.

C. UPON REQUEST, THE ENGINEER MAY FURNISH DESIGN DRAWINGS TO THE CONTRACTOR TO AID IN DEVELOPMENT OF PIPING SHOP DRAWINGS. THESE SHALL BE FURNISHED IN THE SAME FORMAT FOR WHICH THE DESIGN DRAWINGS WERE CREATED.

1.09 SUBSTITUTION

A. THE PRODUCTS AND/OR MATERIALS LISTED IN THESE SPECIFICATIONS REPRESENT DESIRED MATERIALS AND CONSTRUCTION STANDARDS FOR THE VARIOUS ITEMS OF WORK. MANUFACTURER NAMES AND MODEL NUMBERS ARE USED TO DESCRIBE TYPES, STYLES AND QUALITY MATERIALS SUBMITTED FOR APPROVAL OTHER THAN SPECIFIED HEREIN MUST MEET OR EXCEED THESE STANDARDS.

PART 2 MATERIALS

2.01 SLEEVES

A. PROVIDE SLEEVES FOR ALL PIPES PASSING THROUGH WALLS. SLEEVES WITHIN FURRED OUT ENCLOSURES, THROUGH STUD PARTITIONS AND BLOCK WALLS SHALL BE 18 GAUGE GALVANIZED SHEETMETAL.

B. PROVIDE OPENINGS WITH AN I.D. AT LEAST 2" GREATER THAN THE OUTSIDE OF THE PIPE SERVED. PASSING THROUGH SLEEVE OR MINIMUM OF 1" CLEARANCE BETWEEN.

C. PACK THE SPACE BETWEEN PIPES AND SLEEVES WITH FIBER-GLASS AND FINISH WITH NON-HARDENING MASTIC OR SILICONE SEALANT.

D. SLEEVES THROUGH WALLS AND PARTITIONS SHALL BE EQUAL TO THE DEPTH OF CONSTRUCTION AND TERMINATED FLUSH WITH FINISHED SURFACES.

E. SLEEVE SIZES SHALL BE TWO PIPE SIZES LARGER THAN THE PIPE SERVED.

2.02 ESCUTCHEONS

A. PROVIDE ESCUTCHEON ON ALL EXPOSED PIPING PASSING THROUGH WALLS, PARTITIONS AND CEILINGS.

B. ESCUTCHEONS SHALL BE HELD IN PLACE BY SET SCREWS.

C. ESCUTCHEON APPLICATION SCHEDULE:

D. LOCATION ESCUTCHEON MATERIAL

E. FINISH SPACE CHROME PLATED BRASS

F. UNFINISHED SPACE PLAIN BRASS OR CAST IRON

2.03 DRY PIPE SYSTEMS PIPING

A. SPRINKLER PIPING 2-1/2" AND ABOVE SHALL BE SCHEDULE 10 GALVANIZED STEEL PIPE WITH VICTAULIC COUPLINGS. ALL FITTINGS AND FLANGES SHALL BE AMERICAN STANDARD GALVANIZED STEEL SPRINKLER FITTINGS, FLANGED OR SCRWED AS REQUIRED, DESIGNED AND MANUFACTURED FOR A WATER WORKING PRESSURE OF 175 POUNDS.

2.04 MECHANICAL COUPLINGS

A. THE FOLLOWING FIRE PROTECTION COUPLINGS ARE TAKEN FROM THE CATALOG OF VICTAULIC AND ARE REPRESENTATIVE OF THE STYLE AND CONSTRUCTION REQUIRED (2" AND LARGER). ASTM A449 COMPLIANT NUTS AND BOLTS USED WITH MECHANICAL COUPLINGS SHALL BE ZINC-ELECTROPLATED.

B. FLEXIBLE - 75, 77 INSTALLATION-READY 177 (BASED ON PSI REQUIREMENTS)

C. RIGID: COUPLING HOUSINGS WITH OFFSETTING, ANGLE-PATTERN BOLT PADS SHALL BE USED TO PROVIDE SYSTEM RIGIDITY AND SUPPORT AND HANGING IN ACCORDANCE WITH NFPA-13, FULLY INSTALLED AT VISUAL PAD-TO-PAD OFFSET CONTACT. COUPLINGS THAT REQUIRE GAPPING OF BOLT PADS OR SPECIFIC TORQUE RATINGS FOR PROPER INSTALLATION ARE NOT PERMITTED. INSTALLATION-READY, FOR DIRECT STAB INSTALLATION WITHOUT FIELD DISASSEMBLY.

D. FIRELOCK RIGID - INSTALLATION READY 009N

E. INSTALLATION-READY STYLE 107

F. STYLE 920 / 920N

2.05 THE FOLLOWING PRODUCTS ARE NOT ACCEPTABLE:

A. FIT STYLE 96, 963, 969, 719, 966, 960, & 929

2.06 HANGERS AND SUPPORTS

A. HANGERS FOR THE NEW HORIZONTAL PIPES SHALL BE LOCATED AT EVERY 12'-0" ON CENTER. BRANCH RUNOUTS WITHOUT HANGERS SHALL NOT EXCEED 2'-0" IN LENGTH.

B. CHAIN STRAPS, PERFORATED BARS OR WIRE HANGERS SHALL NOT BE PERMITTED.

C. PIPE HANGERS SHALL BE FASTENED ONLY TO THE BUILDING STRUCTURE.

D. ALL ANCHORS INSTALLED IN SHALL HAVE AN ICC-ES LISTING. SEISMIC RESTRAINTS FOR ALL PIPING SYSTEMS AND EQUIPMENT AS REQUIRED BY LOCAL AND STATE CODES. SUBMIT SHOP DRAWINGS SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER.

2.07 SLEEVE FIRE STOPPING

A. ALL SLEEVES THROUGH RATED WALLS OR PARTITIONS SHALL FORM A U.L (UL 1479 & ASTM E814 ASTM TESTED) CLASSIFIED FIRESTOP CAPABLE OR RETURNING THE WALL OR PARTITION BACK TO ITS UNPENETRATED FIRE RESISTANCE.

B. FIRESTOPPING CAULK SHALL BE SIMILAR TO 3M CP 25WB & CAULK.

C. FIRESTOPPING WRAP SHALL BE SIMILAR TO 3M FS-195 + WRAP/STRIP

2.08 FIRE DEPARTMENT CONNECTION

A. STORZ BODY SHALL BE CROKER, OR APPROVED OTHER, MODEL NO. 6354 AND MODEL NO. 6371 INLET SIZES AND THREADS TO CONFORM TO LOCAL FIRE DEPARTMENT STANDARD.

B. WALL PLATE SHALL BE LETTERED "STANDPIPE."

C. AT THE LOW POINT NEAR EACH STORZ CONNECTION, PROVIDE A 90-DEGREE ELBOW WITH DRAIN CONNECTION TO ALLOW FOR LOCALIZED SYSTEM DRAINAGE TO PREVENT FREEZING. BASIS OF DESIGN: VICTAULIC FIRELOCK #10-DR.

2.09 AUTOMATIC BALL DRIP

A. WHERE INDICATED ON THE DRAWINGS, FOR STORZ CONNECTIONS, PROVIDE A ¾" AUTOMATIC BALL DRIP, INSTALLED BETWEEN THE FIRE DEPARTMENT STORZ CONNECTION AND THE CHECK VALVE TO PREVENT LINE FROM FREEZING.

B. AUTOMATIC BALL DRIP SHALL BE CROKER No. 6781, OR APPROVED OTHER.

PART 3 EXECUTION

3.01 GENERAL INSTALLATION FOR NEW PIPING

A. INSTALLATION, AS STRAIGHT AND DIRECT AS POSSIBLE, FORMING RIGHT ANGLES OR PARALLEL LINES WITH BUILDING WALLS AND OTHER PIPES, AND NEATLY SPACED. PIPING SHALL BE INSTALLED SO THAT EVERY PORTION OF THE SYSTEM CAN BE ENTIRELY DRAINED.

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PROJECT NO.
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PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

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FIRE PROTECTION SPECIFICATIONS I

SHEET NO.

FP1.1

B. THE STANDPIPE DRAWING ARE GIVEN AS A GUIDE ONLY, AND THEREFORE, DO NOT RELIEVE THIS CONTRACTOR FROM PROVIDING AND INSTALLING ALL EQUIPMENT NECESSARY TO COMPLETE THE INSTALLATION ACCORDING TO THE CODE REQUIREMENTS.

C. DO NOT INSTALL PIPES OR OTHER APPARATUS IN A MANNER WHICH MAY INTERFERE WITH THE FULL SWING OF ANY DOOR.

D. THE ARRANGEMENTS, POSITIONS AND CONNECTIONS OF PIPES INDICATED ON THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE, BUT THE RIGHT IS RESERVED BY THE OWNER TO CHANGE LOCATIONS AND ELEVATIONS TO ACCOMMODATE CONDITIONS WHICH MAY ARISE DURING THE PROGRESS OF THE WORK, WITHOUT ADDITIONAL COMPENSATION TO THE CONTRACTOR FOR SUCH CHANGES, PROVIDED THAT NO ADDITIONAL HEADS ARE REQUIRED AND CHANGES ARE REQUESTED PRIOR TO INSTALLATION.

E. REAM ALL PIPE SMOOTH BEFORE INSTALLATION. DO NOT BEND, SPLIT, FLATTEN OR INJURE PIPE IN ANY WAY. ANY PIPE CUT, DENTED OR DAMAGED SHALL BE REPLACED BY THIS CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER.

F. PIPE THREADS SHALL BE MADE WITH THE BEST DIES AND TOOLS AVAILABLE. DURING THREADING THE PIPE SHALL BE SATURATED WITH SOLVENT TO ASSURE SHARP THREADS FREE OF BURRS AND HOLES.

G. ALL THREADED JOINTS SHALL BE MADE WITH TEFLON TAPE CAREFULLY PLACED ON THREADS OF PIPE AND NOT FITTINGS.

H. GROOVED JOINTS: INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S LATEST PUBLISHED INSTALLATION INSTRUCTIONS. PIPE ENDS SHALL BE CLEAN AND FREE FROM INDENTATIONS, PROJECTIONS AND ROLL MARKS IN THE AREA FROM PIPE END TO (AND INCLUDING) GROOVE. GASKET SHALL BE MANUFACTURED BY THE COUPLING MANUFACTURER AND VERIFIED AS SUITABLE FOR THE INTENDED SERVICE. A FACTORY TRAINED REPRESENTATIVE (DIRECT EMPLOYEE) OF THE COUPLING MANUFACTURER SHALL PROVIDE ON-SITE TRAINING FOR CONTRACTOR'S FIELD PERSONNEL IN THE USE OF GROOVING TOOLS, APPLICATION OF GROOVE, AND PRODUCT INSTALLATION. THE REPRESENTATIVE SHALL PERIODICALLY VISIT THE JOB SITE AND REVIEW INSTALLATION TO ENSURE BEST PRACTICES IN GROOVED JOINT INSTALLATION ARE BEING FOLLOWED. CONTRACTOR SHALL REMOVE AND REPLACE ANY IMPROPERLY INSTALLED PRODUCTS.

3.02 CLEANING AND PROTECTION

A. PROTECT THE SYSTEM AGAINST FREEZING

B. THOROUGHLY BLOW OUT OR WASH OUT ALL NEW PIPING TO REMOVE ALL ACCUMULATION OF DIRT, CHIPS OR OTHER HARMFUL MATERIAL.

3.03 BUILDING DEPARMENT PERMITS AND CERTIFICATES

A. THE FIRE PROTECTION SHALL OBTAIN ALL REQUIRED PERMITS WITH THE LOCAL BUILDING DEPARTMENT AND BE RESPONSIBLE FOR OBTAINING FINAL APPROVALS WITH ALL AUTHORITIES HAVING JURISDICTION. PROVIDE A COPY OF ALL REQUIRED D.O.B. APPLICATIONS AND PERMITS TO THE PROPERTY MANAGER AND LANDLORD FOR THEIR RECORDS.

3.04 CUTTING AND PATCHING

A. ACCURATELY LAYOUT WORK FOR WHICH CUTTING IS REQUIRED, SO AS TO AVOID UNNECESSARY LARGE OPENINGS. CUTTING OF BEAMS, JOISTS, FLOORS OR WALLS OF THE BUILDING WILL NOT BE PERMITTED EXCEPT AFTER RECEIVING APPROVAL OF THE BUILDING MANAGER.

B. ROUGH PATCHING WILL BE DONE BY THIS CONTRACTOR IN A MANNER TO ACCOMMODATE FINISHED PATCHING WORK. FINISHED PATCHING WILL BE DONE "UNDER ANOTHER SECTION OF THE SPECIFICATIONS".

3.05 UNIT PRICES

A. AMOUNTS INDICATED SHALL BE FOR WORK FULL INSTALLED COMPLETE WITH ALL ASSOCIATED COMPONENTS AND SHALL BE BINDING FOR THE DURATION OF THE PROJECT.

B. UNIT PRICES SHALL INCLUDE ALL RELATED GENERAL CONDITIONS, OVERHEAD, PROFIT, INSURANCE, LABOR, ENGINEERING, MATERIALS, AND SUPERVISION REQUIRED. UNIT PRICES TO BE TAKEN EQUALLY FOR ALL ADDS AND DEDUCTS TO THE CONTRACT DOCUMENTS.

C. UNIT PRICE QUOTATIONS SHALL, IN EACH CASE, BE FOR COMPLETE WORK, FURNISHED AND INSTALLED.

3.06 TESTING FOR FIRE STANDPIPE

A. PROVIDE LABOR, MATERIALS, INSTRUMENTS, POWER, ETC., AS REQUIRED FOR TESTING. ALL NEW PIPING SHOWN ON THE CONTRACT DOCUMENTS SHALL BE TESTED AS HEREIN SPECIFIED. TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE AND SUCH OTHER PARTIES AS MAY HAVE LEGAL JURISDICTION.

B. NOTIFY THE OWNER'S REPRESENTATIVE AND ALL AUTHORITIES HAVING JURISDICTION AT LEAST 48 HOURS IN ADVANCE OF MAKING THE REQUIRED TESTS SO THAT ARRANGEMENTS MAY BE MADE FOR THEIR PRESENCE TO WITNESS THE TESTS.

C. PRESSURE TESTS SHALL BE APPLIED TO ALL COMPLETED OR PARTIALLY COMPLETED WORK. IN NO CASE SHALL PIPING AND COMPONENTS BE SUBJECT TO PRESSURES EXCEEDING THEIR RATING.

D. ALL DEFECTIVE WORK SHALL BE PROMPTLY REPAIRED OR REPLACED AND THE TESTS SHALL BE REPEATED UNTIL THE SYSTEM AND ALL COMPONENT PARTS RECEIVE THE APPROVAL OF THE OWNER'S REPRESENTATIVE.

E. ANY DAMAGES RESULTING FROM TESTING SHALL BE REPAIRED AND/OR DAMAGED MATERIALS REPLACED, ALL TO THE SATISFACTION OF THE OWNER.

F. STANDPIPE TESTING SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE UNDERWRITERS' AND LOCAL BUILDING DEPARTMENT REQUIREMENTS, BUT IN NO CASE SHALL STANDPIPE PIPING BE TESTED AT LESS THAN 300 PSI FOR ONE HOUR.

G. INSTALLATION OF POST INSTALLED ANCHORS IN CONCRETE AND IN MASONRY SHALL BE IN ACCORDANCE WITH ACI 318, AC01, AC58, AND/OR AC106 STANDARDS AND LOCAL BUILDING CODE. ALL ANCHORS IN MASONRY NOT HAVING AN ICC-ES LISTING SHALL BE PULL TESTED. THE MINIMUM NUMBER OF ANCHORS TESTED SHALL BE THE GREATER OF 20% OF THE TOTAL OR THREE.

3.07 DURING CONSTRUCTION

A. STANDPIPE SYSTEMS REQUIRED DURING CONSTRUCTION AND DEMOLITION OPERATIONS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 3311 OF THE BUILDING CODE OF NEW YORK STATE 2020.

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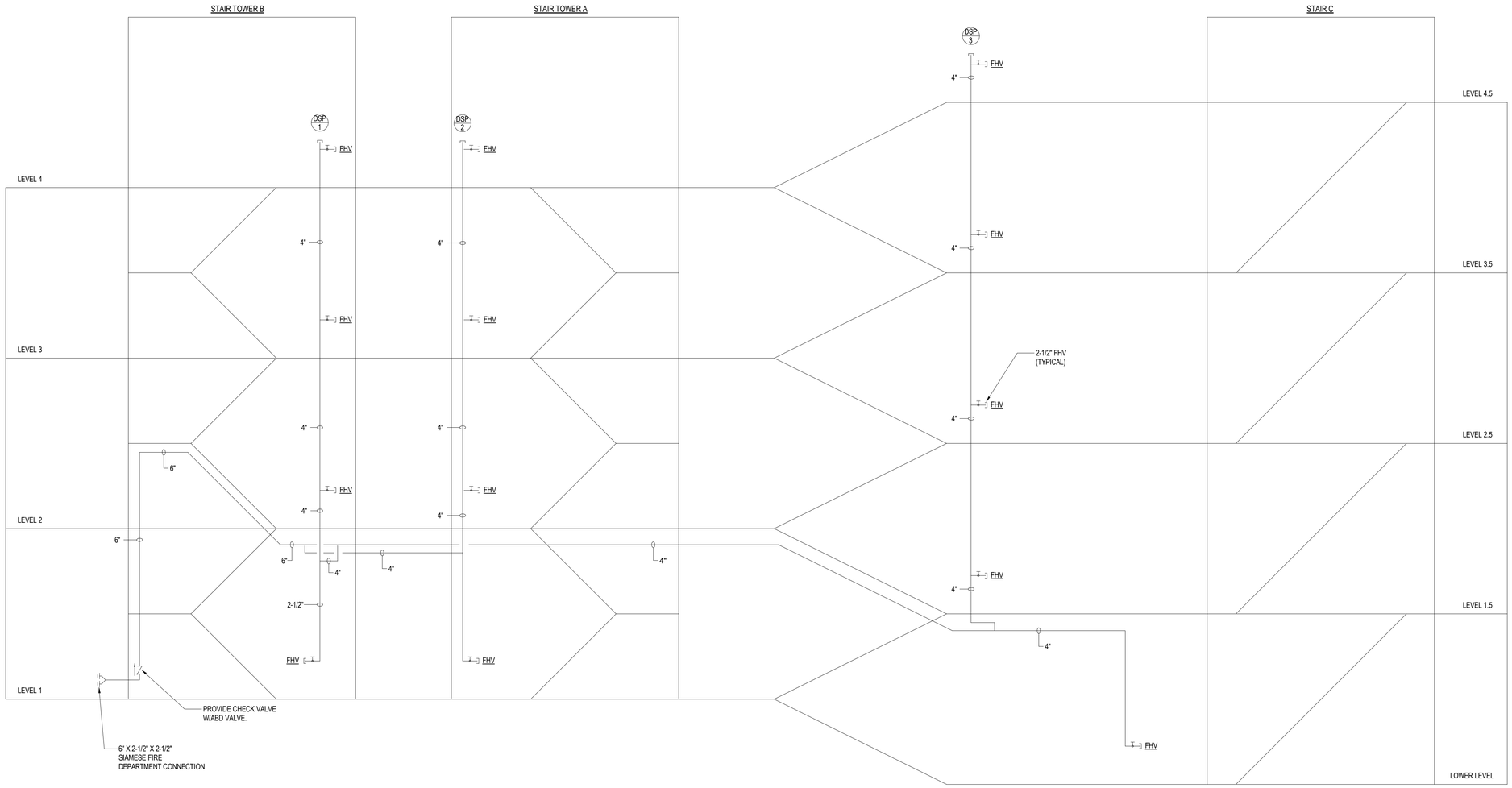

DRY STANDPIPE FIRE PROTECTION RISER DIAGRAM

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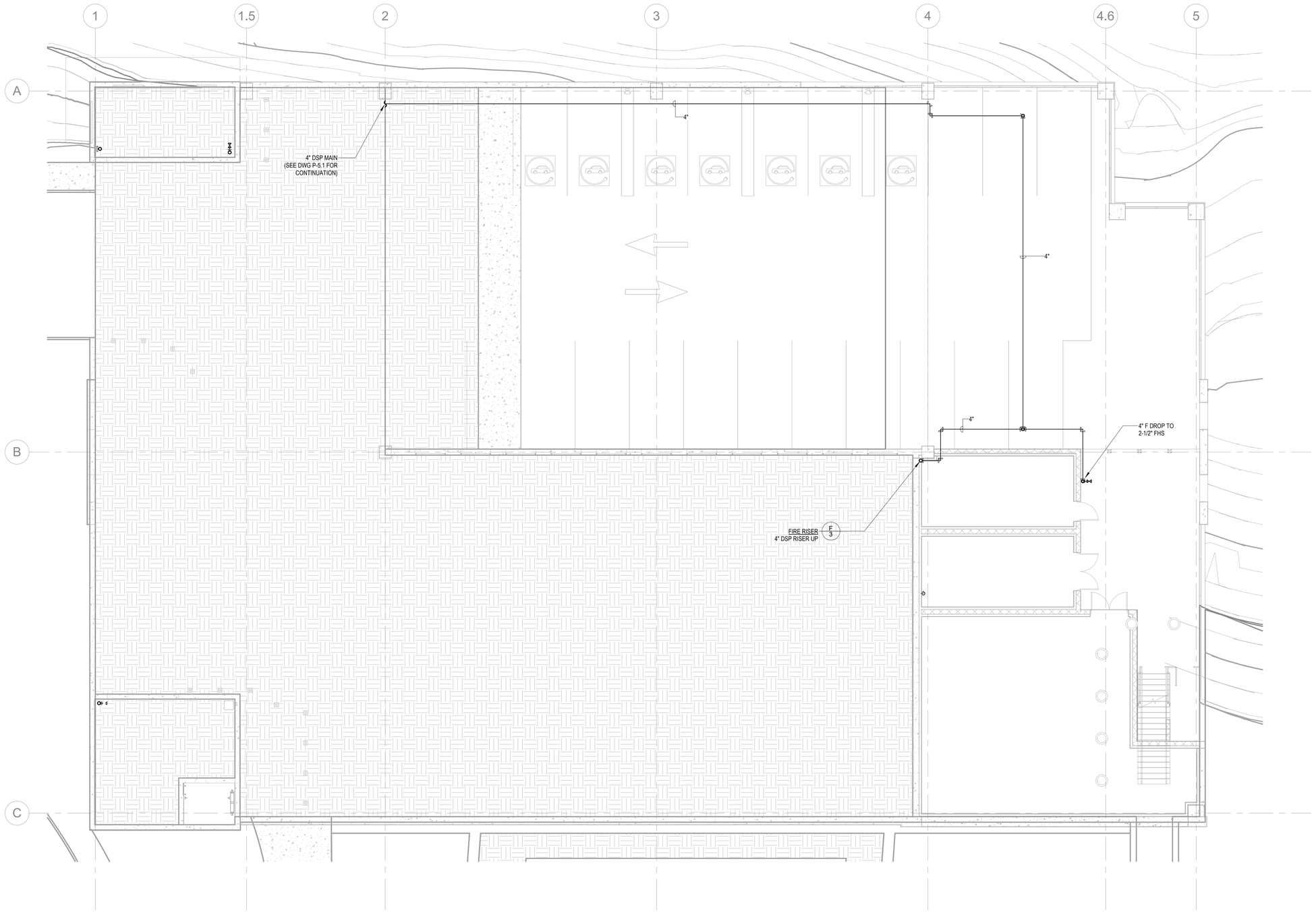

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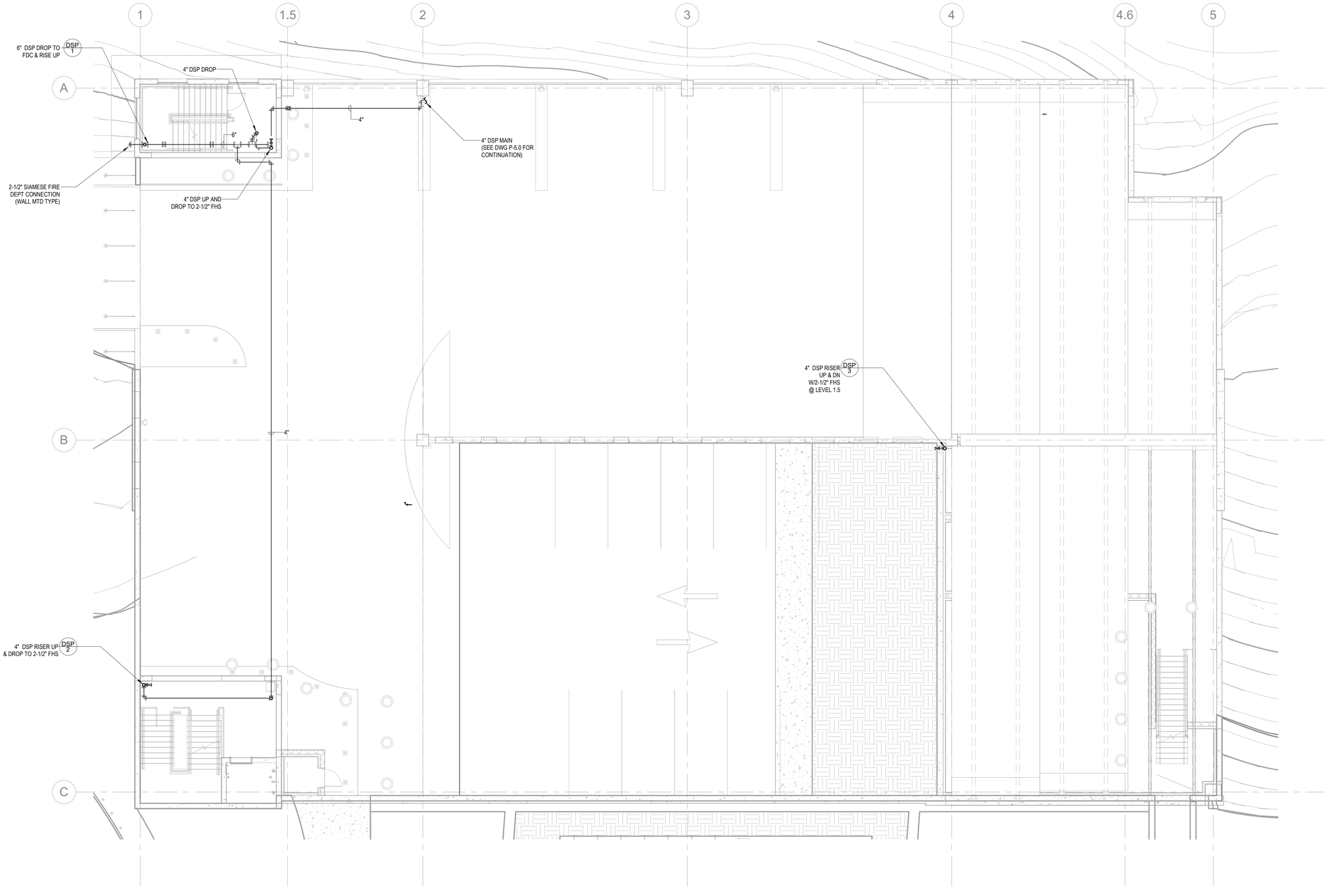
SHEET NO.

FP5.0



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PROJECT NO.
T077-02-001

PROJECT

Village of Ossining Multi-Model Transportation Hub

Ossining, NY 10562

SUBMISSIONS / REVISIONS

BID SET
02.21.25

NO.	DESCRIPTION	DATE

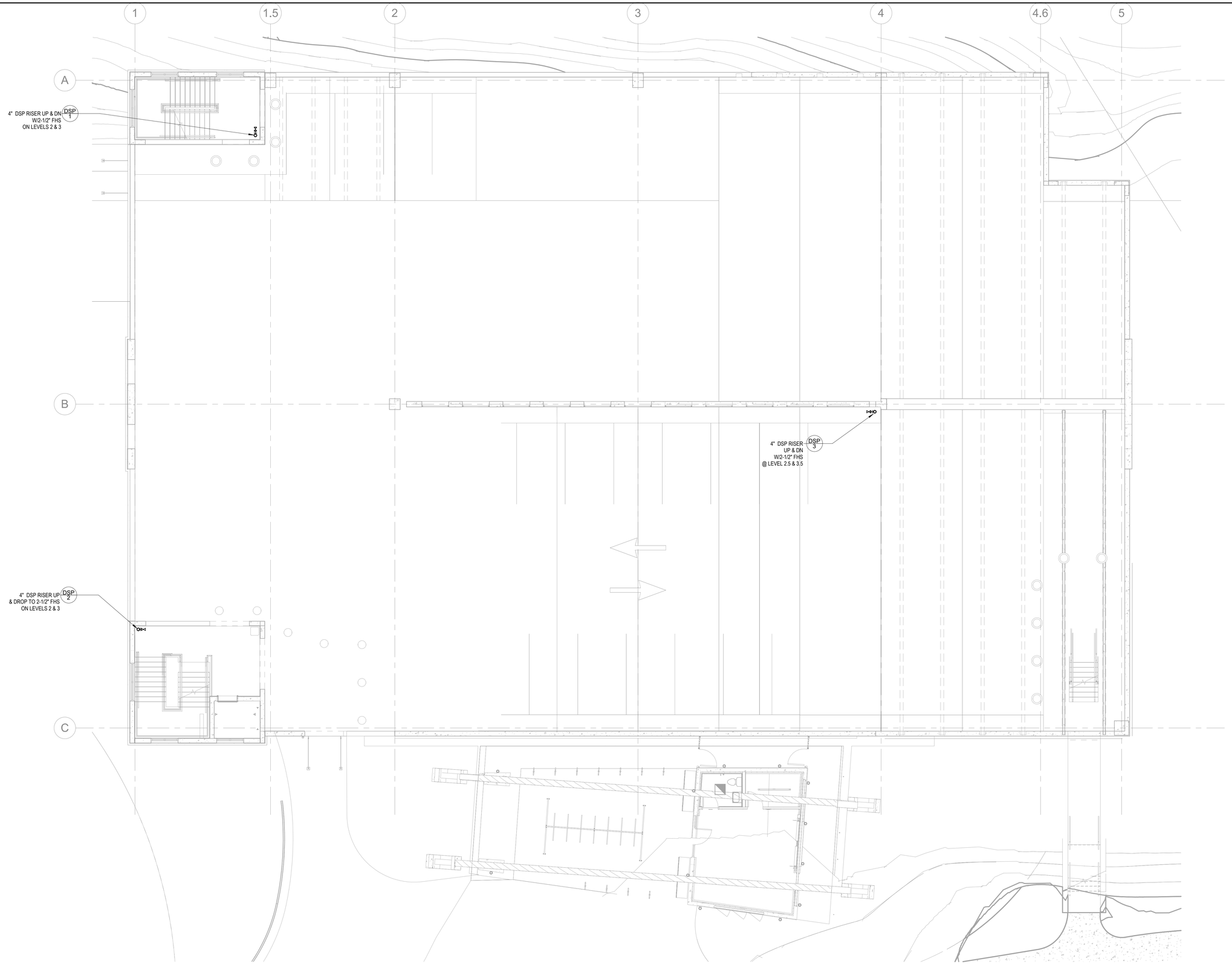
NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 03/06/24

SHEET TITLE:
FIRE PROTECTION LEVEL 1 FLOOR PLAN

SHEET NO.

FP5.1



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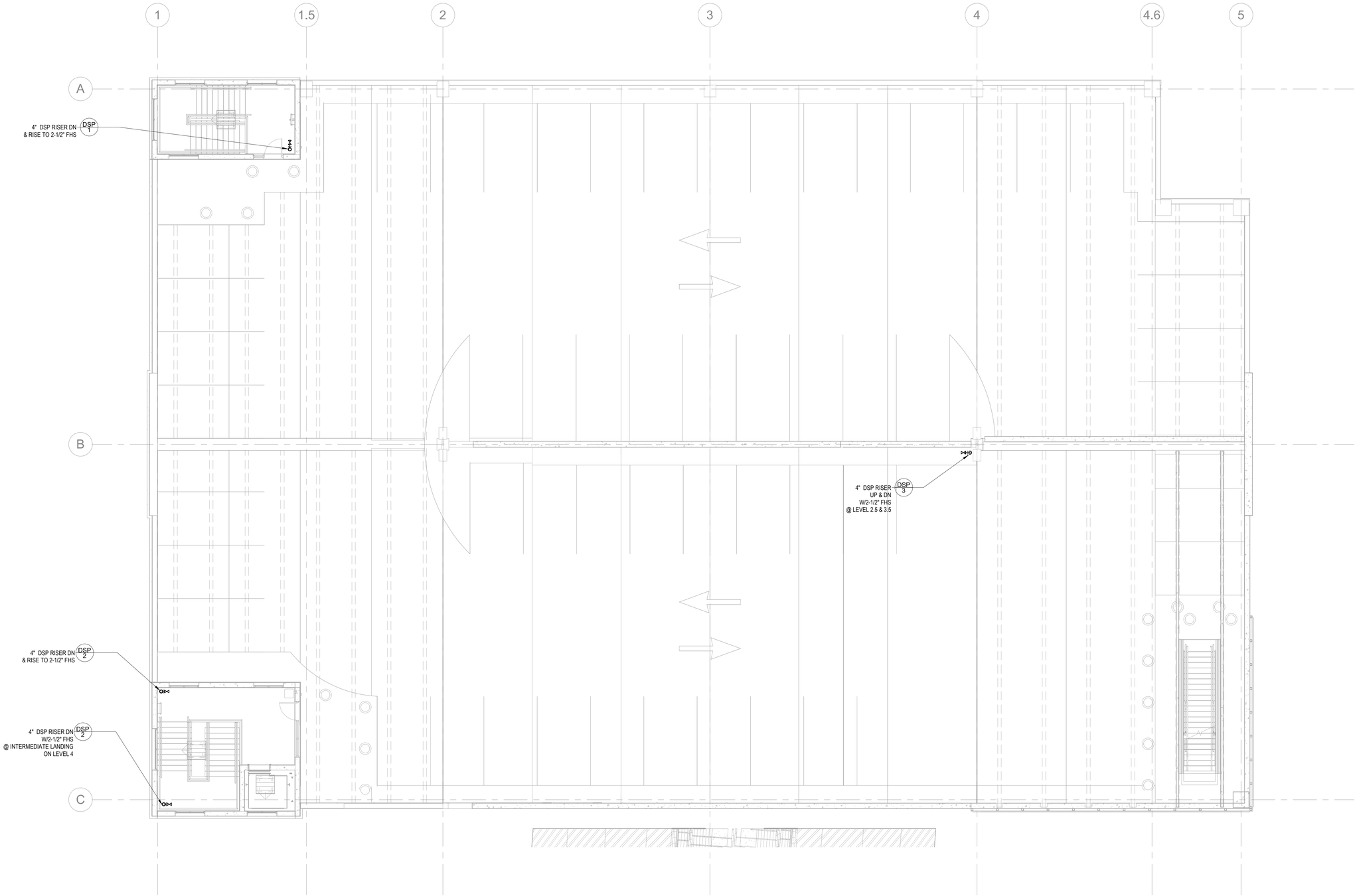
SHEET TITLE:
FIRE PROTECTION LEVELS 2-3 FLOOR PLAN

SHEET NO.
FP5.2



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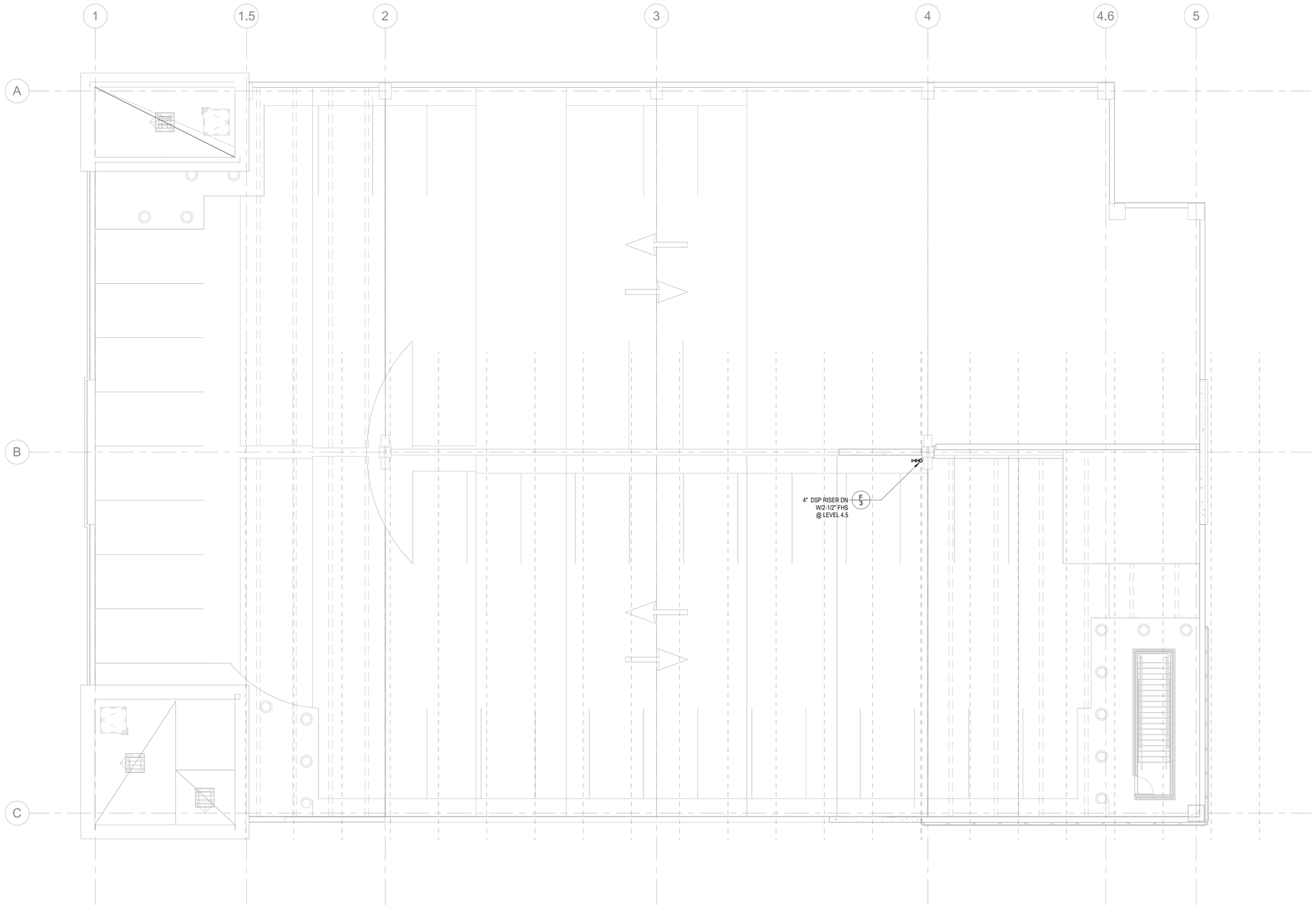
SHEET TITLE:
FIRE PROTECTION LEVEL 4 FLOOR PLAN

SHEET NO.
FP5.4



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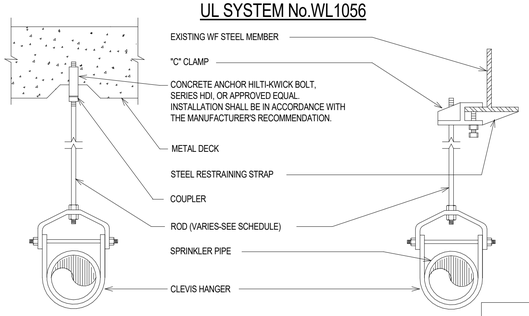
SHEET TITLE:
FIRE PROTECTION LEVEL 5 FLOOR PLAN

SHEET NO.

FP5.5

UL SYSTEM No.WL1056



NOTES:

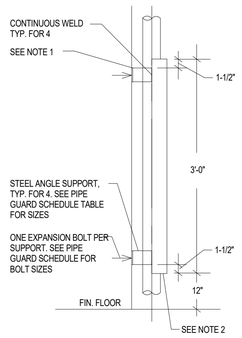
1. CLEVIS HANGERS REQUIRED ON PIPING LARGER THAN 1"
2. GENERAL PURPOSE HANGERS MAY BE USED ON 1" SPRINKLER PIPING ONLY.
3. PROVIDE SHEET METAL SADDLE ON HANGERS WHEN PIPIES ARE INSULATED.
4. REFER TO SPECIFICATIONS FOR DISTANCE BETWEEN HANGARS

ROD SCHEDULE	
PIPE SIZE	ROD SIZE
i"-2"	y"
2i"-3"	i"
4"-5"	p"
6"	s"

NOTE:
HANGER, ROD, SLEEVE & INSERT SHALL BE DIPPED IN ZINC CHROMATE PRIMER PRIOR TO INSTALLATION

TYPICAL HANGER DETAILS

NOT TO SCALE



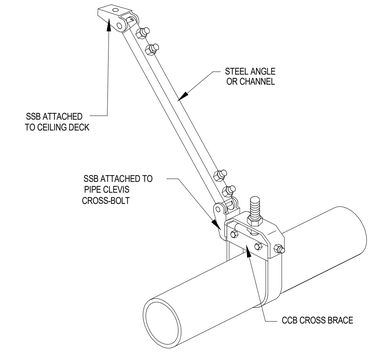
NOTES:

1. INDICATED STEEL ANGLE SIZE SHALL BE PLACED ON THE WALL OR COLUMN FOR ANCHORING. LEG OF THE ANGLE IS NOT SIZED. CONTRACTOR SHALL SELECT THE PROPER LEG SIZE TO ACCOMODATE THE DISTANCE REQUIRED FOR PIPE GUARD PROJECTION.
2. SPLIT SCHEDULE 40 STANDARD WEIGHT PIPE FOR GUARD. WELD TO STEEL ANGLE SUPPORTS.
   a. INSIDE DIA. OF GUARD PIPE SHALL BE TWO INCHES LARGER THAN THE SERVICE PIPE FOR UP TO 5"□.
   b. INSIDE DIA. OF GUARD PIPE SHALL BE ONE INCH LARGER THAN THE SERVICE PIPE FOR 6"□ AND ABOVE.
   c. USE ¼" THICK BENT PLATE FOR SERVICE PIPES WITH DIAMETER GREATER THAN 10".
3. ALL MATERIALS SHALL BE GALVANIZED AND PAINTED AFTER INSTALLATION.
4. COORD. PROPER SIZED OPENINGS FOR CLEAN OUTS AT SERVICE PIPES.
5. THIS DETAIL APPLIES TO ALL RISERS SUBJECT TO VEHICULAR BARRIER LOADING.

PIPE GUARD SCHEDULE				
PIPE GUARD SIZE	STEEL ANGLE SUPPORT		EXPANSION BOLT	
	SIZE	LENGTH	DIAMETER	LENGTH
7" & BELOW	4x•x5/16	0-4"	5/8"	3 1/2"
8" & ABOVE	4x•x5/16	0-4"	3/4"	4"

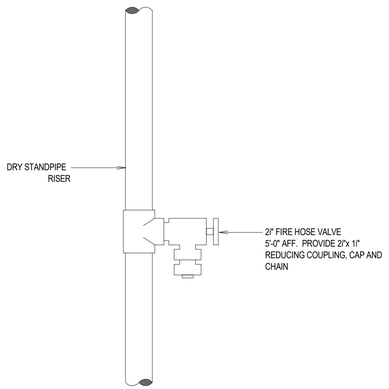
PIPE GUARD DETAIL

SCALE: NTS



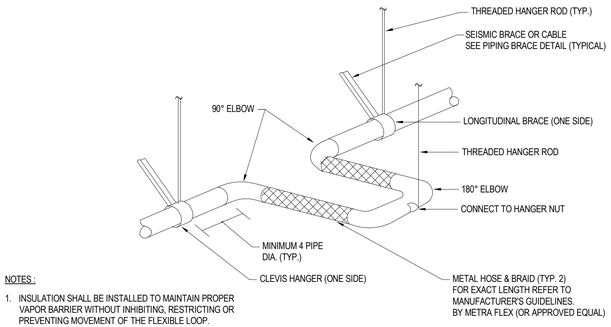
SEISMIC SOLID BRACE
OSHPD PRE-APPROVAL No. 0202

SCALE: NTS



DRY STANDPIPE W/FIRE HOSE VALVE

NOT TO SCALE

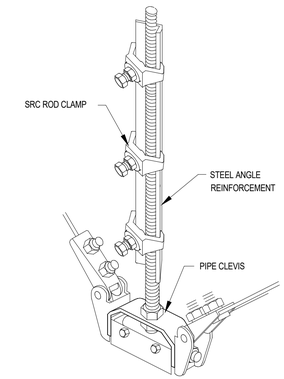


NOTES :

1. INSULATION SHALL BE INSTALLED TO MAINTAIN PROPER VAPOR BARRIER WITHOUT INHIBITING, RESTRICTING OR PREVENTING MOVEMENT OF THE FLEXIBLE LOOP.
2. SEISMIC BRACING SHALL NOT PASS THROUGH BUILDING SEISMIC AND/OR EXPANSIN AND CONTRACTION JOINTS. SEISMIC BRACING SHALL NOT CONNECT OR TIE TOGETHER DIFFERENT SIDES OR PARTS OF THE BUILDING STRUCTURE.

PIPING FLEXIBLE LOOP WITH HANGER SUPPORT AND SEISMIC BRACING DETAIL

NOT TO SCALE



SRC SEISMIC ROD CLAMPS
OSHPD PRE-APPROVAL No. 0203

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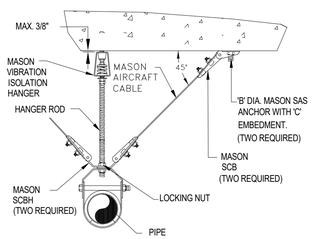
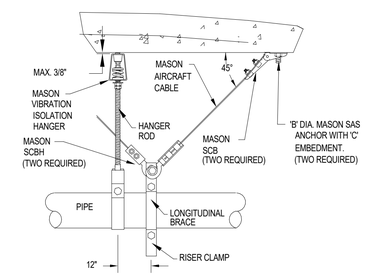


SEISMIC-SINGLE CLEVIS CONDITION AT A TRANSVERSE BRACE LOCATION - PIPING AND/OR CONDUIT

SCALE: NTS



SEISMIC-SINGLE CLEVIS CONDITION AT A LONGITUDINAL BRACE LOCATION - PIPING AND/OR CONDUIT

SCALE: NTS

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SHEET TITLE:
FIRE PROTECTION DETAILS

SHEET NO.

FP9.1