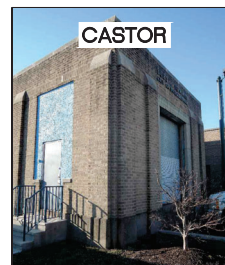




TRACTION POWER SUBSTATION REHABILITATION
CONTRACT 5
BROAD — PARK — LOUDON — CASTOR



LIST OF DRAWINGS: SEE SHEETS G101 - G104
ACT NOTIFICATION LIST:



**SOUTHEASTERN
PENNSYLVANIA
TRANSPORTATION
AUTHORITY**
EMAC DIVISION

1234 MARKET ST., 13TH F.
PHILADELPHIA, PA 19102

CHIEF ENGINEER - ENAC

CHIEF ENGINEERING OFFICER - SAS

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SYSTEM SAFETY

DIRECTOR OF ENGINEERING - SAS

MANAGER - ARCH/ENGINEERING

PROJECT MANAGER



HDR Engineering, Inc.
Philadelphia, PA

[illegible]

CONTRACT 5
BROAD - PARK - LOUDON - CASTOR
TRACTION POWER SUBSTATION
REHABILITATION
GENERAL
COVER SHEET

SCALE NTS	SCALE FACTOR -
DATE 10/16/2017	DRAWN BY: WLB
CHECKED BY: WS	
WORK ORDER NO.: -	
SHEET NUMBER G100	
DWG. NO.: 1	OF 10
SHT. NO.: 1	OF 452
ARCHIVE NO.:	
COMPUTER FILE NO.: 17AN-G100	
REV.:	

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STATISTICAL CONSULTING

SPW\WORKING\PTT\199884\17AN-G100.DWG

1	G100	COVER SHEET
2	G101	INDEX OF DRAWINGS - GENERAL & BROAD
3	G102	INDEX OF DRAWINGS - PARK
4	G103	INDEX OF DRAWINGS - LOUDON
5	G104	INDEX OF DRAWINGS - CASTOR
6	G105	GENERAL NOTES
7	G107	DESCRIPTION OF WORK
8	G108	SUGGESTED OVERALL STAGING
9	G109	WORKING CLEARANCES FOR ELECTRICAL EQUIPMENT
10	G110	CABLES & CONDUITS - SCHEDULE TEMPLATE

11	C100	EXISTING CONDITIONS
12	C101	SITE PLAN
13	C102	CURB & PAVEMENT DETAILS

14	A100	GENERAL NOTES & LEGENDS
15	A101	ABBREVIATIONS
16	A102	CODE DATA
17	A103	GROUND FLOOR REMOVAL PLAN
18	A104	MEZZANINE REMOVAL PLANS
19	A105	BASEMENT REMOVAL PLAN
20	A106	ROOF REMOVAL PLAN
21	A107	PROPOSED GROUND FLOOR PLAN
22	A108	PROPOSED MEZZANINE FLOOR PLANS
23	A109	PROPOSED BASEMENT FLOOR PLAN
24	A110	EXISTING ELEVATIONS - SHEET 1
25	A111	EXISTING ELEVATIONS - SHEET 2
26	A112	EXISTING INTERIOR ELEVATIONS - SHEET 1
27	A113	EXISTING INTERIOR ELEVATIONS - SHEET 2
28	A114	EXISTING INTERIOR ELEVATIONS - SHEET 3
29	A115	EXISTING INTERIOR ELEVATIONS - SHEET 4
30	A116	PROPOSED ELEVATIONS - SHEET 1
31	A117	PROPOSED ELEVATIONS - SHEET 2
32	A118	PHOTO DETAILS - SHEET 1
33	A119	PHOTO DETAILS - SHEET 2
34	A120	PHOTO DETAILS - SHEET 3
35	A121	MISCELLANEOUS DETAILS - SHEET 1
36	A122	MISCELLANEOUS DETAILS - SHEET 2

37	S100	GENERAL NOTES & ABBREVIATIONS
38	S101	EXISTING CONDITIONS & REMOVAL – BASEMENT
39	S102	EXISTING CONDITIONS & REMOVAL – FIRST FLOOR
40	S103	EXISTING CONDITIONS & REMOVAL – MEZZANINE
41	S104	EXISTING CONDITIONS & REMOVAL – ROOF
42	S105	EXISTING FIRST FLOOR PLAN
43	S106	EXISTING MEZZANINE FRAMING PLAN
44	S107	PROPOSED BASEMENT PLAN
45	S108	PROPOSED FIRST FLOOR PLAN
46	S109	PROPOSED MEZZANINE PLAN
47	S110	PROPOSED ROOF LAYOUT
48	S111	CONCRETE REPAIR DETAILS – SHEET 1
49	S112	CONCRETE REPAIR DETAILS – SHEET 2
50	S113	CONCRETE REPAIR DETAILS – SHEET 3
51	S114	FOUNDATION & PAD DETAILS
52	S115	FLAT PROTECTION DETAILS – SHEET 1
53	S116	BUILDING DETAILS – SHEET 1
54	S117	BUILDING DETAILS – SHEET 2

55	M100	GENERAL NOTES, SYMBOLS & ABBREVIATIONS
56	M101	DEMOLITION BASEMENT FLOOR PLAN
57	M102	DEMOLITION FIRST FLOOR PLAN
58	M103	DEMOLITION MEZZANINE FLOOR PLAN
59	M104	DEMOLITION ROOF PLAN
60	M105	PROPOSED BASEMENT FLOOR PLAN
61	M106	PROPOSED FIRST FLOOR PLAN
62	M108	PROPOSED ROOF PLAN
63	M109	ENLARGED PLANS
64	M111	MISCELLANEOUS DETAILS

65	E100	NOTES, SYMBOLS & ABBREVIATIONS
66	E101	DEMOLITION POWER BASEMENT FLOOR PLAN
67	E102	DEMOLITION POWER FIRST FLOOR PLAN
68	E103	DEMOLITION POWER MEZZANINE FLOOR PLAN
69	E104	DEMOLITION LIGHTING BASEMENT FLOOR PLAN
70	E105	DEMOLITION LIGHTING FIRST FLOOR PLAN
71	E106	DEMOLITION LIGHTING MEZZANINE FLOOR PLAN
72	E107	PROPOSED POWER BASEMENT FLOOR PLAN
73	E108	PROPOSED POWER FIRST FLOOR PLAN
74	E109	PROPOSED POWER MEZZANINE FLOOR PLAN
75	E110	PROPOSED LIGHTING BASEMENT FLOOR PLAN
76	E111	PROPOSED LIGHTING FIRST FLOOR PLAN
77	E112	PROPOSED LIGHTING MEZZANINE FLOOR PLAN
78	E113	PROPOSED SINGLE LINE WIRING DIAGRAM
79	E114	PROPOSED SINGLE LINE WIRING DIAGRAM
80	E115	ELECTRICAL SCHEDULES
81	E116	PANEL SCHEDULES

82	FA100	NOTES, SYMBOLS & ABBREVIATIONS
83	FA101	DEMOLITION BASEMENT FLOOR PLAN
84	FA102	DEMOLITION FIRST FLOOR PLAN
85	FA103	DEMOLITION MEZZANINE FLOOR PLAN
86	FA104	PROPOSED BASEMENT FLOOR PLAN
87	FA105	PROPOSED FIRST FLOOR PLAN
88	FA106	PROPOSED MEZZANINE FLOOR PLAN
89	FA107	DETAILS

90	TP100	ABBREVIATIONS
91	TP101	LEGENDS & SYMBOLS
92	TP102	DEVICE TABLES
93	TP105	SUBSTATION SITE PLAN
94	TP106	EXISTING SINGLE LINE DIAGRAM
95	TP107	EXISTING MEZZANINE & FIRST FLOOR EQUIPMENT PLANS
96	TP108	EXISTING BASEMENT EQUIPMENT PLAN
97	TP109	PROPOSED SINGLE LINE DIAGRAM
98	TP110	STAGING ACTIVITIES & NOTES
99	TP111	STAGE 1 SINGLE LINE DIAGRAM
100	TP112	STAGE 1 MEZZANINE & FIRST FLOOR EQUIPMENT PLANS
101	TP113	STAGE 1 BASEMENT EQUIPMENT PLAN
102	TP114	STAGE 2 SINGLE LINE DIAGRAM
103	TP115	STAGE 2 MEZZANINE & FIRST FLOOR EQUIPMENT PLANS
104	TP116	STAGE 2 BASEMENT EQUIPMENT PLAN
105	TP117	STAGE 3 SINGLE LINE DIAGRAM
106	TP118	STAGE 3 MEZZANINE & FIRST FLOOR EQUIPMENT PLANS
107	TP119	STAGE 3 BASEMENT EQUIPMENT PLAN
108	TP120	PROPOSED MEZZANINE & FIRST FLOOR EQUIPMENT PLANS
109	TP121	PROPOSED BASEMENT EQUIPMENT PLAN
110	TP126	PROPOSED FIRST FLOOR EQUIPMENT ELEVATIONS
111	TP127	PROPOSED BASEMENT EQUIPMENT ELEVATIONS
112	TP132	13.2 KV CABLE & DUCT BANK
113	TP133	4.8 KV CABLE & DUCT BANK
114	TP134	BATTERY & CONTROL DIAGRAM
115	TP137	PROTECTION & RELAY SINGLE LINE DIAGRAM - SHEET 1
116	TP138	PROTECTION & RELAY SINGLE LINE DIAGRAM - SHEET 2
117	TP139	CIRCUIT BREAKER CONTROL DIAGRAMS - TYPICAL
118	TP140	DC RECTIFIER CONTROL SCHEMATIC
119	TP141	OVERCURRENT FAULT PROTECTION SCHEME
120	TP142	DC REMOTE CONTROL BOARD CONTROL SCHEMATIC
121	TP143	SCADA POINTS LIST
122	TP145	GROUNDING PLAN
123	TP146	GROUNDING DETAILS

124	COM100	GENERAL NOTES, SYMBOLS & ABBREVIATIONS
125	COM101	DEMOLITION BASEMENT FLOOR PLAN
126	COM102	DEMOLITION FIRST FLOOR PLAN
127	COM103	INTERFACE CABINET & CABLE PLANS
128	COM104	PROPOSED BASEMENT FLOOR PLAN
129	COM105	PROPOSED FIRST FLOOR PLAN
130	COM106	SINGLE LINE DIAGRAM
131	COM107	FIBER NODE DIAGRAM

CIVILARCHITECTURALSTRUCTURALMECHANICALELECTRICAL

FIRE ALARM

TRACTION POWER

COMMUNICATIONS

STATUS: 50% SUBMISSION

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LOUDON

CIVIL

261	C300	EXISTING CONDITIONS
262	C301	SITE PLAN
263	C302	CURB & PAVEMENT DETAILS

ARCHITECTURAL

264	A300	GENERAL NOTES & LEGENDS
265	A301	ABBREVIATIONS
266	A302	CODE DATA
267	A303	GROUND FLOOR REMOVAL PLAN
268	A304	BASEMENT REMOVAL PLAN
269	A305	ROOF REMOVAL PLAN
270	A306	PROPOSED GROUND FLOOR PLAN
271	A307	PROPOSED BASEMENT FLOOR PLAN
272	A308	PROPOSED ROOF PLAN
273	A309	EXISTING ELEVATIONS - SHEET 1
274	A310	EXISTING ELEVATIONS - SHEET 2
275	A311	EXISTING INTERIOR ELEVATIONS - SHEET 1
276	A312	EXISTING INTERIOR ELEVATIONS - SHEET 2
277	A313	PROPOSED ELEVATIONS - SHEET 1
278	A314	PROPOSED ELEVATIONS - SHEET 2
279	A315	PHOTO DETAILS - SHEET 1
280	A316	PHOTO DETAILS - SHEET 2
281	A317	PHOTO DETAILS - SHEET 3
282	A318	MISCELLANEOUS DETAILS - SHEET 1
283	A319	MISCELLANEOUS DETAILS - SHEET 2

STRUCTURAL

284	S300	GENERAL NOTES & ABBREVIATIONS
285	S301	EXISTING CONDITIONS & REMOVAL - BASEMENT
286	S302	EXISTING CONDITIONS & REMOVAL - FIRST FLOOR
287	S303	EXISTING CONDITIONS & REMOVAL - ROOF
288	S304	COLUMN & FOUNDATION SCHEDULE
289	S305	PROPOSED BASEMENT PLAN
290	S306	PROPOSED FIRST FLOOR PLAN
291	S307	PROPOSED ROOF PLAN
292	S308	EXISTING FIRST FLOOR FRAMING PLAN
293	S309	PROPOSED FIRST FLOOR FRAMING PLAN
294	S310	CONCRETE REPAIR DETAILS - SHEET 1
295	S311	CONCRETE REPAIR DETAILS - SHEET 2
296	S312	CONCRETE REPAIR DETAILS - SHEET 3
297	S313	FOUNDATION DETAILS - SHEET 1
298	S314	FOUNDATION DETAILS - SHEET 2
299	S315	STEEL DETAILS
300	S316	FALL PROTECTION DETAILS - SHEET 1
301	S317	BUILDING DETAILS - SHEET 1
302	S318	BUILDING DETAILS - SHEET 2
303	S319	BUILDING DETAILS - SHEET 3
304	S320	BUILDING DETAILS - SHEET 4

MECHANICAL

305	M300	GENERAL NOTES, SYMBOLS & ABBREVIATIONS
306	M301	DEMOLITION BASEMENT FLOOR PLAN
307	M302	DEMOLITION FIRST FLOOR PLAN
308	M303	DEMOLITION ROOF PLAN
309	M304	PROPOSED BASEMENT FLOOR PLAN
310	M305	PROPOSED FIRST FLOOR PLAN
311	M306	PROPOSED ROOF PLAN
312	M307	ENLARGED PLANS
313	M308	SCHEDULES
314	M309	SCHEDULES
315	M310	MISCELLANEOUS DETAILS

ELECTRICAL

316	E300	NOTES, SYMBOLS & ABBREVIATIONS
317	E301	DEMOLITION POWER BASEMENT FLOOR PLAN
318	E302	DEMOLITION POWER FIRST FLOOR PLAN
319	E303	DEMOLITION LIGHTING BASEMENT FLOOR PLAN
320	E304	DEMOLITION LIGHTING FIRST FLOOR PLAN
321	E305	PROPOSED POWER BASEMENT FLOOR PLAN
322	E306	PROPOSED POWER FIRST FLOOR PLAN
323	E307	PROPOSED LIGHTING BASEMENT FLOOR PLAN
324	E308	PROPOSED LIGHTING FIRST FLOOR PLAN
325	E309	DEMOLITION SINGLE LINE DIAGRAM
326	E310	PROPOSED SINGLE LINE DIAGRAM
327	E311	ELECTRICAL SCHEDULES
328	E312	PANEL SCHEDULES - SHEET 1
329	E313	PANEL SCHEDULES - SHEET 2

FIRE ALARM

330	FA300	NOTES, SYMBOLS & ABBREVIATIONS
331	FA301	DEMOLITION BASEMENT FLOOR PLAN
332	FA302	DEMOLITION FIRST FLOOR PLAN
333	FA303	PROPOSED BASEMENT FLOOR PLAN
334	FA304	PROPOSED FIRST FLOOR PLAN
335	FA305	DETAILS

TRACTION POWER

336	TP300	ABBREVIATIONS
337	TP301	LEGENDS & SYMBOLS
338	TP302	DEVICE TABLES
339	TP305	SUBSTATION SITE PLAN
340	TP306	EXISTING SINGLE LINE DIAGRAM
341	TP307	EXISTING FIRST FLOOR EQUIPMENT PLAN
342	TP308	EXISTING BASEMENT EQUIPMENT PLAN
343	TP309	PROPOSED SINGLE LINE DIAGRAM
344	TP310	STAGING ACTIVITIES & NOTES
345	TP311	STAGE 1 SINGLE LINE DIAGRAM
346	TP312	STAGE 1 FIRST FLOOR EQUIPMENT PLAN
347	TP313	STAGE 1 BASEMENT EQUIPMENT PLAN
348	TP314	STAGE 2 SINGLE LINE DIAGRAM
349	TP315	STAGE 2 FIRST FLOOR EQUIPMENT PLAN
350	TP316	STAGE 2 BASEMENT EQUIPMENT PLAN
351	TP317	STAGE 3 SINGLE LINE DIAGRAM
352	TP318	STAGE 3 FIRST FLOOR EQUIPMENT PLAN
353	TP319	STAGE 3 BASEMENT EQUIPMENT PLAN
354	TP320	PROPOSED FIRST FLOOR EQUIPMENT PLAN
355	TP321	PROPOSED BASEMENT EQUIPMENT PLAN
356	TP326	PROPOSED FIRST FLOOR EQUIPMENT ELEVATIONS
357	TP327	PROPOSED BASEMENT EQUIPMENT ELEVATIONS
358	TP332	13.2 KV CABLE & DUCT BANK
359	TP333	4.8 KV CABLE & DUCT BANK
360	TP334	BATTERY & CONTROL DIAGRAM
361	TP337	PROTECTION & RELAY SINGLE LINE DIAGRAM - SHEET 1
362	TP338	PROTECTION & RELAY SINGLE LINE DIAGRAM - SHEET 2
363	TP339	CIRCUIT BREAKER CONTROL DIAGRAMS - TYPICAL
364	TP340	DC RECTIFIER CONTROL SCHEMATIC
365	TP341	DC GROUND FAULT PROTECTION SCHEME
366	TP342	DC REMOTE CONTROL BOARD CONTROL SCHEMATIC
367	TP343	SCADA POINTS LIST
368	TP345	GROUNDING PLAN
369	TP346	GROUNDING DETAILS

COMMUNICATIONS

370	COM300	GENERAL NOTES, SYMBOLS & ABBREVIATIONS
371	COM301	DEMOLITION BASEMENT FLOOR PLAN
372	COM302	DEMOLITION FIRST FLOOR PLAN
373	COM303	PROPOSED BASEMENT FLOOR PLAN
374	COM304	PROPOSED FIRST FLOOR PLAN
375	COM306	SINGLE LINE DIAGRAM
376	COM305	INTERFACE CABINET & CABLE PLAN
377	COM307	FIBER NODE DIAGRAM



DATE PREPARED: DATE

DATE ENGINEERING REVIEW: DATE

DATE FOR THE PROJECT: DATE

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CONTRACT 5
BROAD - PARK - LOUDON - CASTOR
TRACTION POWER SUBSTATION
REHABILITATION
GENERAL
INDEX OF DRAWINGS - LOUDON

NTS
DATE: 10/16/2017
DRAWN BY: MS
CHECKED BY: MS
SCALE FACTOR: -
SHEET NUMBER: G103
SHEET NO: 4 OF 10
SHEET NO: 4 OF 452
REVISION NO: -
COMPUTER FILE NO: 17AN-G103
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50% SUBMISSION
NOT FOR CONSTRUCTION

STATUS: 50% SUBMISSION
DATE PRINTED: 10/27/2025

CIVIL

377	C400	EXISTING CONDITIONS
378	C401	SITE PLAN
379	C402	FENCE & SIGN DETAILS

ARCHITECTURAL

380	A400	GENERAL NOTES & LEGENDS
381	A401	ABBREVIATIONS
382	A402	CODE DATA
383	A403	GROUND FLOOR REMOVAL PLAN
384	A404	ROOF REMOVAL PLAN
385	A405	PROPOSED GROUND FLOOR PLAN
386	A406	PROPOSED ROOF PLAN
387	A407	EXISTING ELEVATIONS
388	A408	PROPOSED ELEVATIONS
389	A409	PHOTO DETAILS - SHEET 1
390	A410	PHOTO DETAILS - SHEET 2
391	A411	MISCELLANEOUS DETAILS

STRUCTURAL

392	S400	GENERAL NOTES & ABBREVIATIONS
393	S401	EXISTING CONDITIONS & REMOVAL - MAIN FLOOR
394	S402	EXISTING CONDITIONS & REMOVAL - ROOF
395	S403	PROPOSED MAIN FLOOR PLAN
396	S404	PROPOSED ROOF PLAN
397	S405	ROOF FRAMING PLAN
398	S406	BUILDING ELEVATIONS
399	S407	CONCRETE REPAIR DETAILS - SHEET 1
400	S408	CONCRETE REPAIR DETAILS - SHEET 2
401	S409	CONCRETE REPAIR DETAILS - SHEET 3
402	S410	FOUNDATION DETAILS - SHEET 1
403	S411	FOUNDATION DETAILS - SHEET 2
404	S412	BUILDING DETAILS - SHEET 1
405	S413	BUILDING DETAILS - SHEET 2

MECHANICAL

406	M400	GENERAL NOTES, SYMBOLS & ABBREVIATIONS
407	M401	DEMOLITION FLOOR PLAN
408	M402	PROPOSED FLOOR PLAN
409	M403	ENLARGED PLAN
410	M404	SCHEDULES
411	M405	MISCELLANEOUS DETAILS

ELECTRICAL

412	E400	NOTES, SYMBOLS & ABBREVIATIONS
413	E401	DEMOLITION POWER FLOOR PLAN
414	E402	DEMOLITION LIGHTING FLOOR PLAN
415	E403	PROPOSED POWER FLOOR PLAN
416	E404	PROPOSED LIGHTING FLOOR PLAN
417	E405	DEMOLITION SINGLE LINE DIAGRAM
418	E406	PROPOSED SINGLE LINE DIAGRAM
419	E407	ELECTRICAL SCHEDULES
420	E408	PANEL SCHEDULES

FIRE ALARM

421	FA400	NOTES, SYMBOLS & ABBREVIATIONS
422	FA401	DEMOLITION FLOOR PLAN
423	FA402	PROPOSED FLOOR PLAN
424	FA403	DETAILS

TRACTION POWER

425	TP400	ABBREVIATIONS
426	TP401	LEGENDS & SYMBOLS
427	TP402	DEVICE TABLES
428	TP405	EXISTING/PROPOSED SUBSTATION SITE PLAN
429	TP406	EXISTING SINGLE LINE DIAGRAM
430	TP407	EXISTING EQUIPMENT PLAN
431	TP409	PROPOSED SINGLE LINE DIAGRAM
432	TP410	STAGING ACTIVITIES & NOTES
433	TP411	STAGE 1 SINGLE LINE DIAGRAM
434	TP412	STAGE 1 EQUIPMENT PLAN
435	TP420	PROPOSED EQUIPMENT PLAN
436	TP426	PROPOSED EQUIPMENT ELEVATIONS
437	TP432	13.2 KV CABLE & DUCT PLAN
438	TP434	BATTERY & CONTROL DIAGRAM
439	TP437	PROTECTION & RELAY SINGLE LINE DIAGRAM – SHEET 1
440	TP438	PROTECTION & RELAY SINGLE LINE DIAGRAM – SHEET 2
441	TP439	CIRCUIT BREAKER CONTROL DIAGRAMS – TYPICAL
442	TP440	DC RECTIFIER CONTROL SCHEMATIC
443	TP441	DC GROUND FAULT PROTECTION SCHEME
444	TP442	SCADA POINTS LIST
445	TP445	GROUNDING PLAN
446	TP446	GROUNDING DETAILS

COMMUNICATIONS

447	COM400	GENERAL NOTES, SYMBOLS & ABBREVIATIONS
448	COM401	DEMOLITION FLOOR PLAN
449	COM402	PROPOSED FLOOR PLAN
450	COM404	SINGLE LINE DIAGRAM
451	COM403	INTERFACE CABINET & CABLE PLAN
452	COM407	FIBER NODE DIAGRAM

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50% SUBMISSION
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- SOUTHEASTERN
PENNSYLVANIA
TRANSPORTATION
AUTHORITY**
EMAC DIVISION
- 1234 MARKET ST., 13TH FL.
PHILADELPHIA, PA 19107

PROJECT MANAGER

[illegible]

DATE PRINTED: 10/21/2025

CONTRACT 5
BROAD - PARK - LOUDON - CASTOR
TRACTION POWER SUBSTATION
REHABILITATION
GENERAL
GENERAL NOTES

SCALE: NTS	SCALE FACTOR: -
DATE: 10/16/2017	DRAWN BY: MS CHECKED BY: MS
WORK ORDER NO.: -	
SHEET NUMBER: G105	
DWG. NO.: 6 OF 10	
SHT NO.: 6 OF 452	
ARCHIVE NO.:	
COMPUTER FILE NO.: 17AN-G105	
	REV. A

50% SUBMISSION
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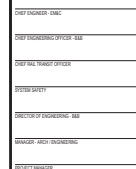
STATIS-500 SUBMISSION



NOTES:

1. COORDINATE THE TRACTION POWER SUBSTATION (TPSS) REHABILITATION SCHEDULE WITH SEPTA TO MINIMIZE THE IMPACT TO THE SYSTEM OPERATION.
2. THE REHABILITATION OF BROAD TPSS AND LOUDON TPSS WILL BE DONE SIMULTANEOUSLY, WITH SOME STAGGER.
3. THE REHABILITATION OF PARK TPSS WILL BE DONE AFTER THE REHABILITATION OF BROAD TPSS.
4. THE REHABILITATION OF CASTOR TPSS CAN BE DONE INDEPENDENTLY OF THE REHABILITATION OF BROAD STREET LINE TPSS.
5. THE CONTRACTOR SHALL COORDINATE WITH SEPTA TO ENSURE THAT DURING THE REHABILITATION WORK ON CASTOR TPSS, THE OTHER TPSSs FEEDING ROUTE 59 TRACKLESS TROLLEY ARE IN WORKING CONDITION.

50% SUBMISSION
NOT FOR CONSTRUCTION

[illegible]

CONTRACT 5
BROAD - PARK - LOUDON - CASTOR
TRACTION POWER SUBSTATION
REHABILITATION
GENERAL
SUGGESTED OVERALL STAGING

SCALE: NTS	SCALE FACTOR: -
DATE: 10/16/2017	DRAWN BY: MB CHECKED BY: VS
WORK ORDER NO.: -	
WEST NUMBER G108	
DWG. NO.: 8	OF 10
SHT. NO.: 8	OF 452
ARCHIVE NO.:	
COMPUTER FILE NO.: 17AN-G108	REV. NO.: -

DATE PRINTED: 10/21/2025

STATISTICS-57% SUBMISSION

CONDUIT AND CABLE SCHEDULE

[illegible]

NOTES:

1. THE CONTRACTOR SHALL DEVELOP POWER AND CONTROL CABLE SCHEDULES FOR EACH VOLTAGE TYPE FOR EACH DISCIPLINE (TRACTION POWER, ELECTRICAL, MECHANICAL, FIRE ALARM, ETC.) AND FILL IN DATA PER THIS TYPICAL TEMPLATE.



CHIEF ENGINEER - ENBC

CHIEF ENGINEERING OFFICER:

CHIEF RAIL TRANSIT OFFICER

STEM SAFETY

DIRECTOR OF ENGINEERING - III

BAGER - ARCHITECTURE

PROJECT MANAGER



HDR Engineering, Inc.
Philadelphia, PA

[illegible]

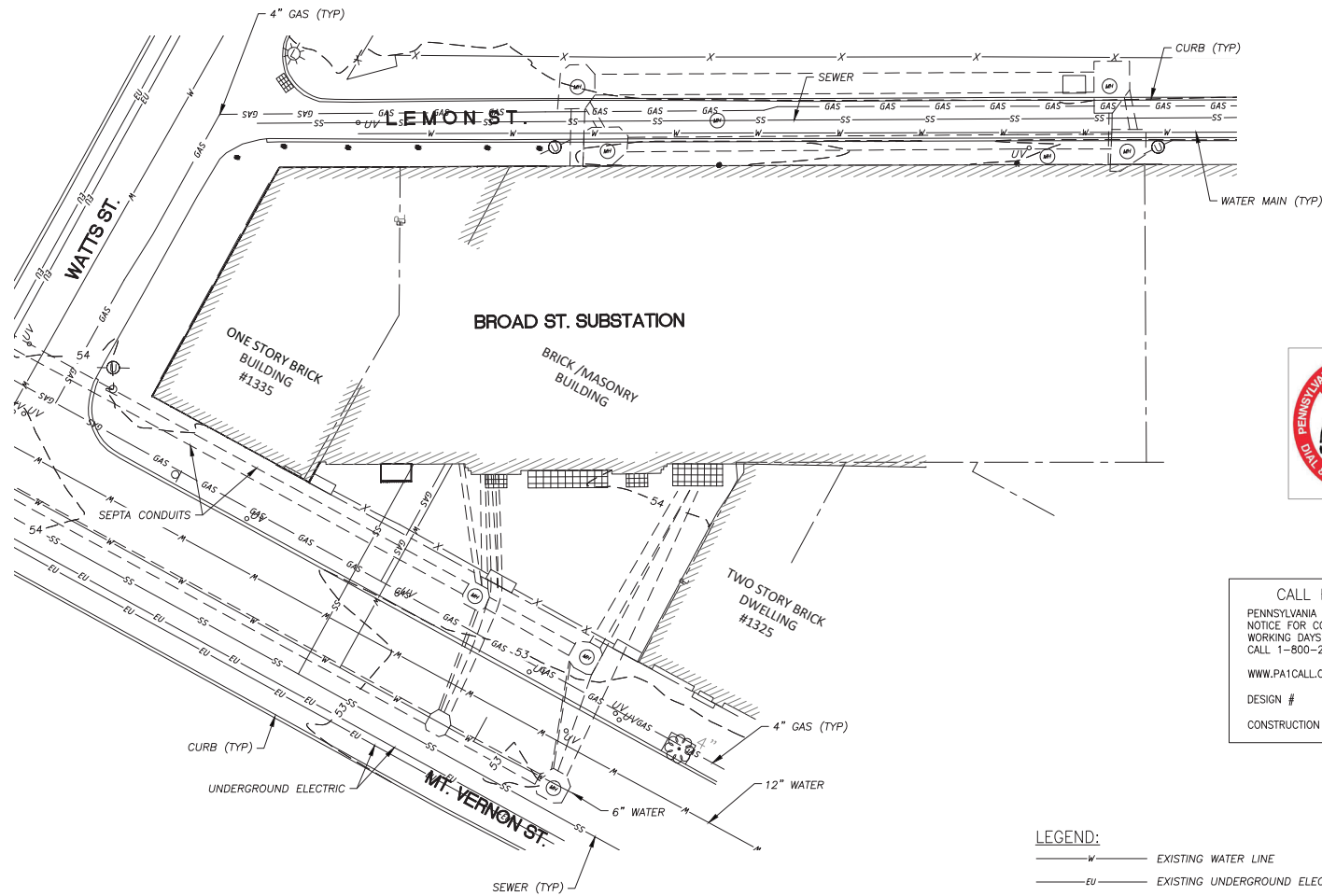
DATE PRINTED: 10/21/2025

CONTRACT 5
BROAD - PARK - LOUDON - CASTOR
TRACTION POWER SUBSTATION
REHABILITATION
GENERAL
CABLES & CONDUITS - SCHEDULE TEMPLATE

SCALE FACTOR: -	SCALE FACTOR: -
DRAWN BY: WS	DRAWN BY: WS
CHECKED BY: VS	CHECKED BY: VS
WORK ORDER NO.: -	
KEY NUMBER	
G110	
WG. NO.: 10	OF 10
HT. NO.: 10	OF 452
ARCHIVE NO.:	
COMPUTER FILE NO.: 7AN-G108	REV. NO.: -

50% SUBMISSION
NOT FOR CONSTRUCTION

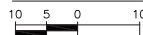
STATUS: 50% SUBMISSION



NOTES:

1. VERTICAL DATUM NAVD 88 AND HORIZONTAL DATUM PENNSYLVANIA STATE PLANE COORDINATE SYSTEM SOUTH ZONE (NAD 83) ESTABLISHED BY GLOBAL POSITIONING SYSTEM METHODOLOGY.
2. UNDERGROUND UTILITIES AND FACILITIES HAVE BEEN PLOTTED FROM MULTIPLE SOURCES AND ARE SHOWN IN APPROXIMATE LOCATIONS. FIELD VERIFY AS NECESSARY.
3. EXISTING FEATURES SHOWN HEREON ARE DEPICTED AS THEY EXISTED IN MARCH 2016.
4. PROPERTY LINE INFORMATION HEREON SHOULD BE CONSIDERED APPROXIMATE AND SHOWN FOR INFORMATIONAL PURPOSES ONLY, BASED ON THE CITY PLAN CP-58 PROVIDED BY THE PHILADELPHIA CITY PLANS UNIT, PHILADELPHIA DEPARTMENT OF RECORDS TAX MAP 5-N-17 AND PASDA GIS INFORMATION.

PLAN VIEW



SCALE: 1"=10'

LEGEND:

— W —	EXISTING WATER LINE
— EU —	EXISTING UNDERGROUND ELECTRIC
— — — — —	EXISTING DUCT BANK
— GAS —	EXISTING GAS LINE
— SS —	EXISTING SANITARY/SEWER
— P —	PROPERTY LINE
— X —	EXISTING FENCE
⊙	EXISTING MANHOLE



CALL BEFORE YOU DIG

PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL 1-800-242-1776

WWW.PA1CALL.ORG

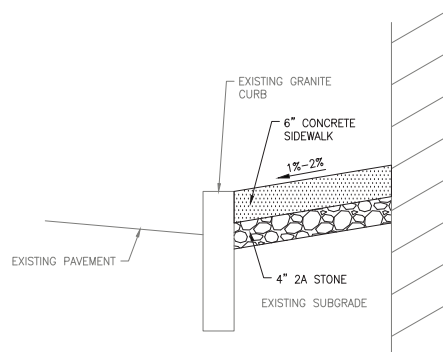
DESIGN # 2016 327 2345

CONSTRUCTION #

50% SUBMISSION
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	CHKD	APPD

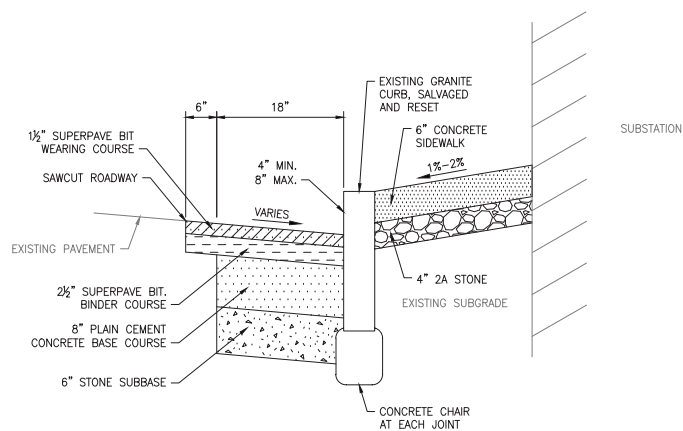
BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
CIVIL
EXISTING CONDITIONS



TYPICAL SECTION

CONCRETE SIDEWALK

N.T.S.



TYPICAL SECTION

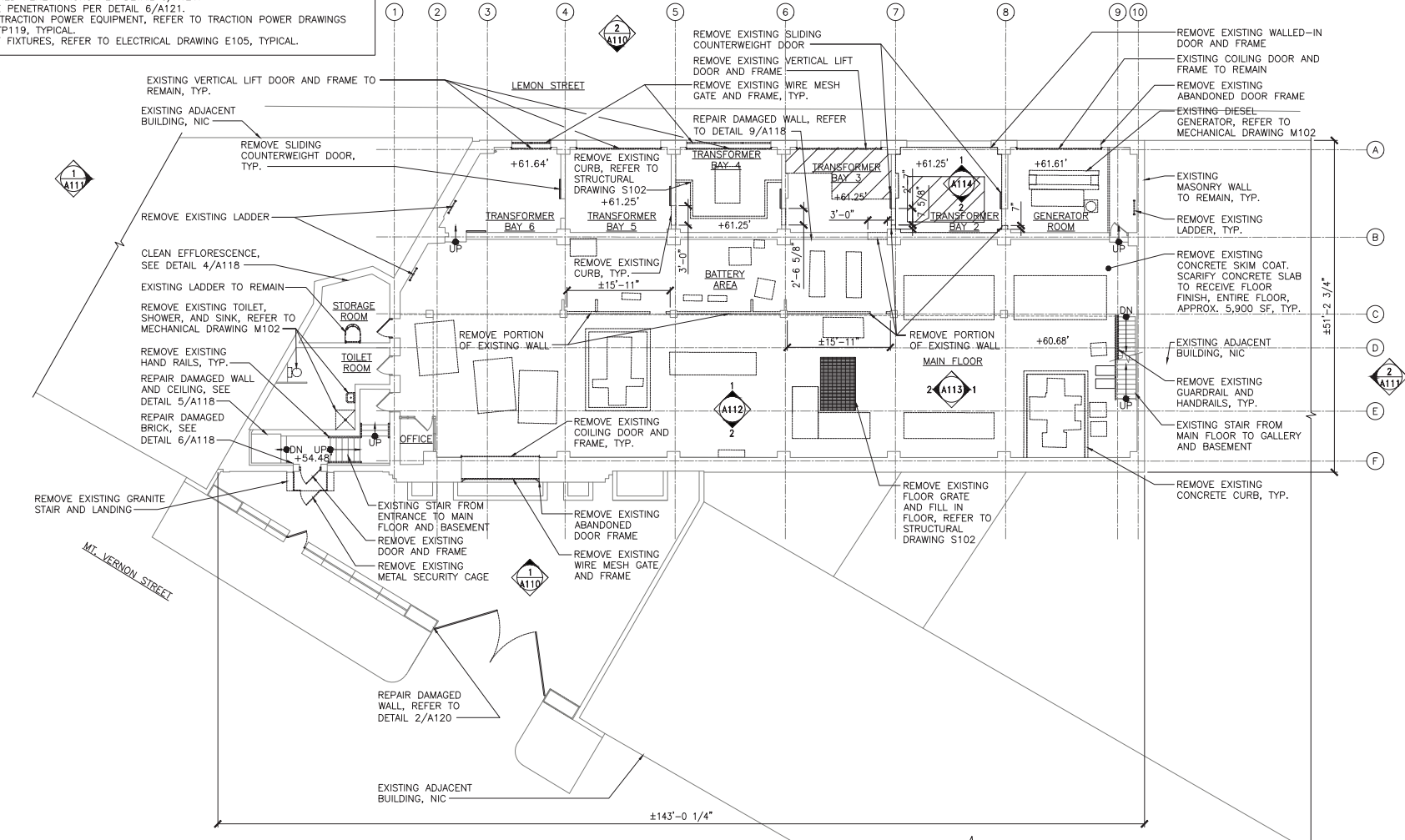
RESET OF GRANITE CURB

N.T.S.

50% SUBMISSION
NOT FOR CONSTRUCTION

NOTES:

1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
3. DRAWINGS INDICATE THE VARIOUS TYPES OF REPAIRS REQUIRED AT THE MOST SEVERE LOCATIONS. DRAWINGS SHOW THE INTENT OF THE SCOPE OF WORK BUT DO NOT INCLUDE EVERY SMALL AREA REQUIRING REPAIR, RESTORATION OR REFINISH.
4. WORK SITE IS AN ACTIVE TRACTION POWER SUBSTATION (TPSS). FOLLOW ALL SEPTA SAFETY RULES.
5. WORK SHALL BE PERFORMED IN STAGES ACCORDING TO OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN. SOME WORK MAY ONLY BE PERFORMED DURING POWER OUTAGE.
6. FLOOR WILL BE MADE AVAILABLE IN STAGES AS THE EXISTING EQUIPMENT IS REMOVED PER OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN.
7. SEAL ALL ABANDONED PENETRATIONS PER DETAIL 5/A121.
8. REPAIR ALL ACTIVE PENETRATIONS PER DETAIL 6/A121.
9. REMOVE EXISTING TRACTION POWER EQUIPMENT, REFER TO TRACTION POWER DRAWINGS TP112 THROUGH TP119, TYPICAL.
10. REMOVE ALL LIGHT FIXTURES, REFER TO ELECTRICAL DRAWING E105, TYPICAL.



1 FIRST FLOOR REMOVAL PLAN
SCALE: 1/8" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



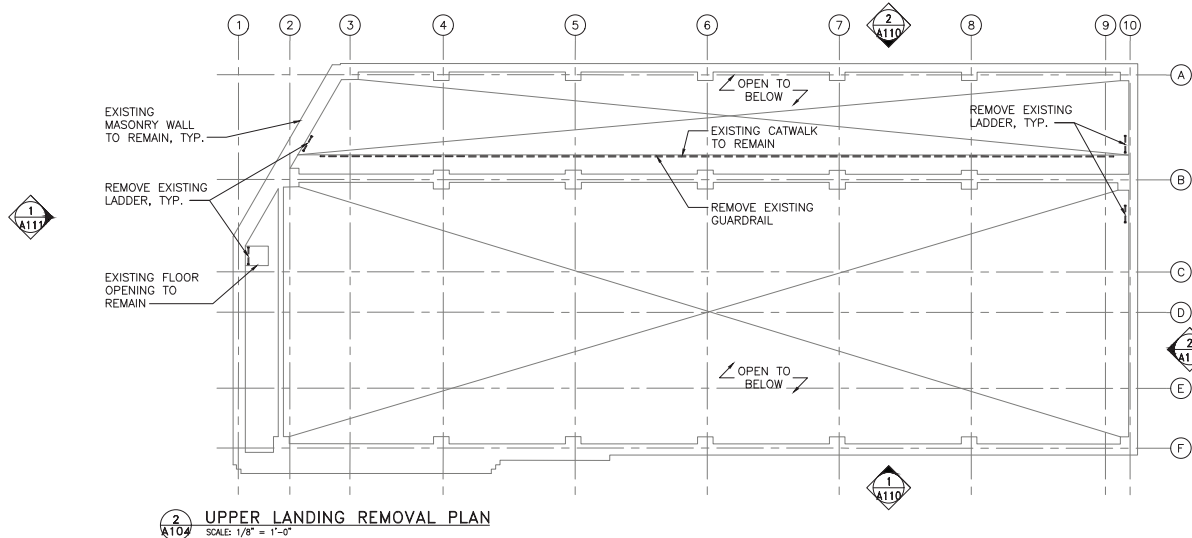
PROJECT NUMBER: 276491
PROJECT LOCATION: 1201 MARKET ST., 17TH FL., PHILADELPHIA, PA 19107
PROJECT OWNER: SEPTA
PROJECT MANAGER: [Name]
DESIGNER: HDR Engineering, Inc.
DATE: 08/22/2025



REV	DATE	DESCRIPTION	BY	CHKD	APPD
1	08/22/2025	ISSUED FOR PERMIT	[Name]	[Name]	[Name]
2	08/22/2025	REVISION	[Name]	[Name]	[Name]
3	08/22/2025	REVISION	[Name]	[Name]	[Name]
4	08/22/2025	REVISION	[Name]	[Name]	[Name]
5	08/22/2025	REVISION	[Name]	[Name]	[Name]
6	08/22/2025	REVISION	[Name]	[Name]	[Name]
7	08/22/2025	REVISION	[Name]	[Name]	[Name]
8	08/22/2025	REVISION	[Name]	[Name]	[Name]
9	08/22/2025	REVISION	[Name]	[Name]	[Name]
10	08/22/2025	REVISION	[Name]	[Name]	[Name]

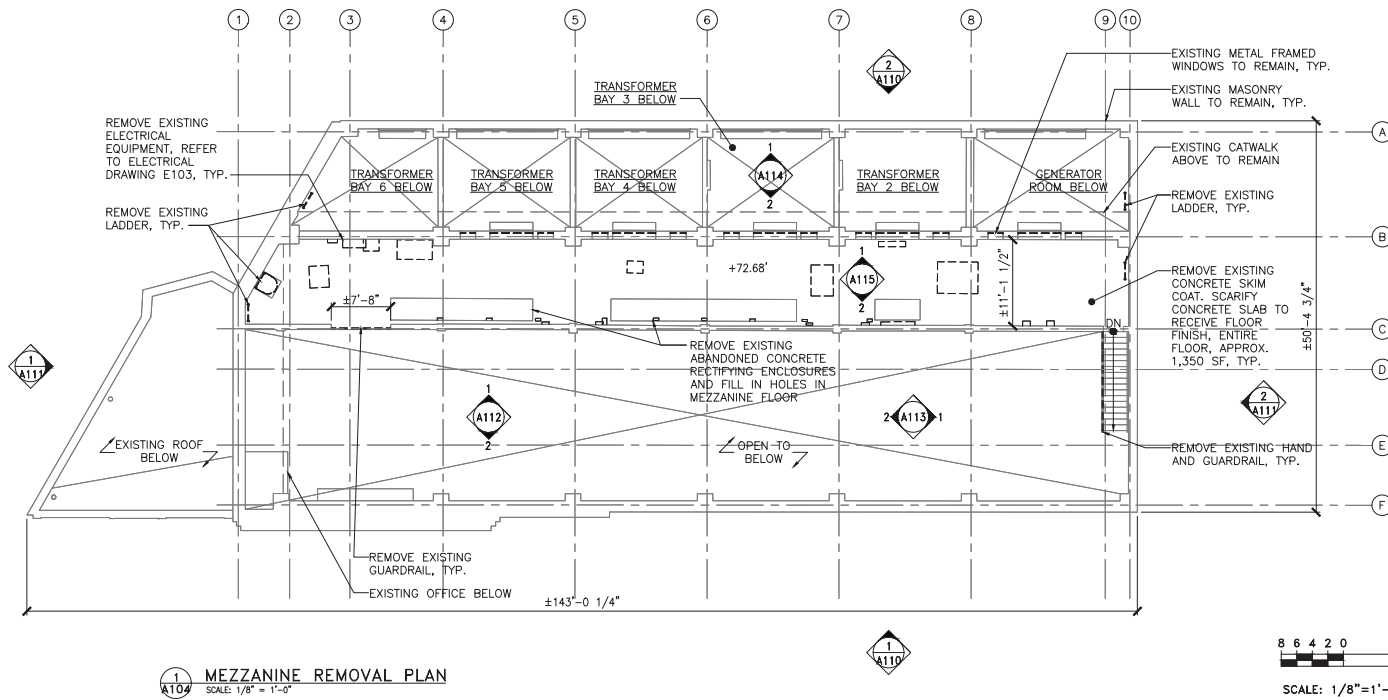
BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ARCHITECTURAL
GROUND FLOOR REMOVAL PLAN

SCALE: 1/8" = 1'-0"
DATE: 08/22/2025
DRAWN BY: [Name]
CHECKED BY: [Name]
PROJECT NUMBER: 276491
SHEET NUMBER: A103
TOTAL SHEETS: 23
SHEET NO.: 17 OF 453
PROJECT NO.: 17AN-A103



NOTES:

1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
3. DRAWINGS INDICATE THE VARIOUS TYPES OF REPAIRS REQUIRED AT THE MOST SEVERE LOCATIONS. DRAWINGS SHOW THE INTENT OF THE SCOPE OF WORK BUT DO NOT INCLUDE EVERY SMALL AREA REQUIRING REPAIR, RESTORATION OR REFINISH.
4. WORK SITE IS AN ACTIVE TRACTION POWER SUBSTATION (TPSS). FOLLOW ALL SEPTA SAFETY RULES.
5. WORK SHALL BE PERFORMED IN STAGES ACCORDING TO OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN. SOME WORK MAY ONLY BE PERFORMED DURING POWER OUTAGE.
6. FLOOR WILL BE MADE AVAILABLE IN STAGES AS THE EXISTING EQUIPMENT IS REMOVED PER OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN.
7. SEAL ALL ABANDONED PENETRATIONS PER DETAIL 5/A121.
8. REPAIR ALL ACTIVE PENETRATIONS PER DETAIL 6/A121.
9. REMOVE EXISTING TRACTION POWER EQUIPMENT, REFER TO TRACTION POWER DRAWINGS TP112 THROUGH TP119, TYPICAL.
10. REMOVE ALL EXISTING LIGHT FIXTURES, REFER TO ELECTRICAL DRAWING E106, TYPICAL.



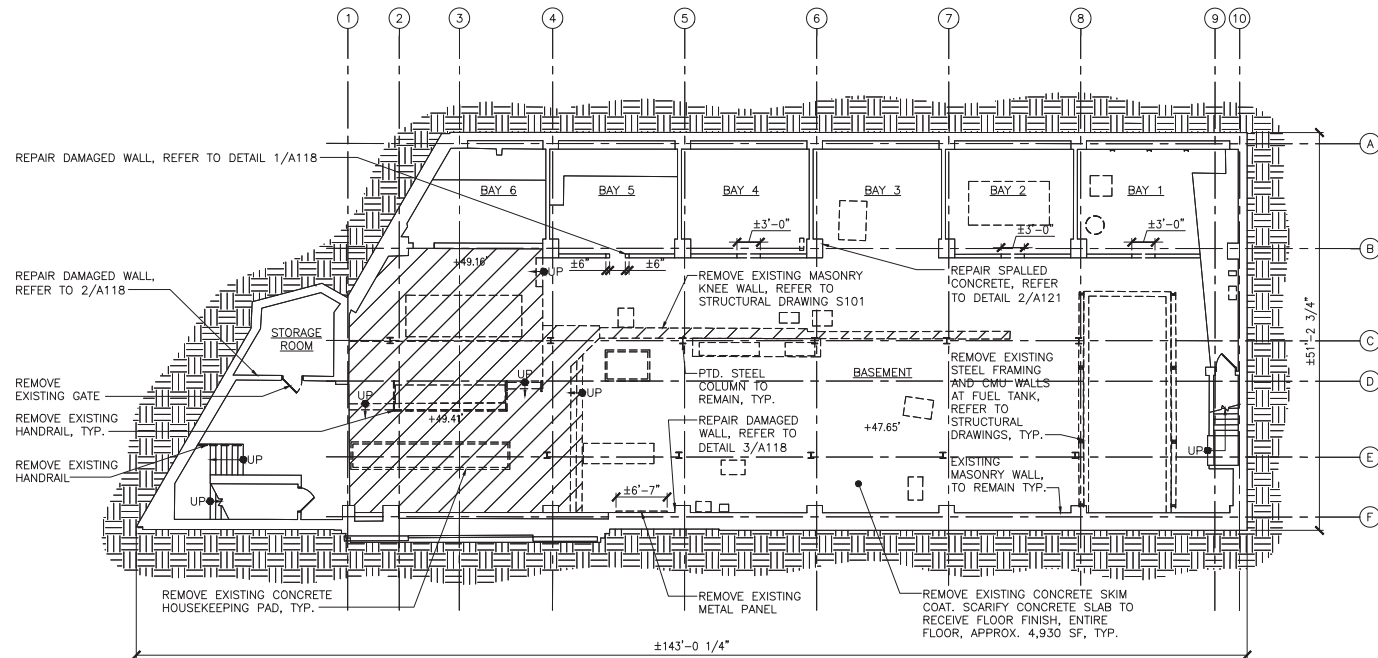
8 6 4 2 0 8
SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION

C:\PWORKING\PTD\16888\17AN-A105.DWG

NOTES:

1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
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6. FLOOR WILL BE MADE AVAILABLE IN STAGES AS THE EXISTING EQUIPMENT IS REMOVED PER OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN.
7. SEAL ALL ABANDONED PENETRATIONS PER DETAIL 5/A121.
8. REPAIR ALL ACTIVE PENETRATIONS PER DETAIL 6/A121.
9. REMOVE EXISTING TRACTION POWER EQUIPMENT, REFER TO TRACTION POWER DRAWINGS TP112 THROUGH TP119, TYPICAL.
10. REMOVE EXISTING LIGHT FIXTURES, REFER TO ELECTRICAL DRAWING E104, TYPICAL.



1
A105 **BASEMENT REMOVAL PLAN**
SCALE: 1/8" = 1'-0"

LEGEND



AREA OF FLOOR TO BE LOWERED (APPROX 1,100 SF) REFER TO STRUCTURAL DRAWING S101

8 6 4 2 0 8

SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



DRPA PROJECT: DATE:
DRPA ENGINEERING OFFICE: NAME:
DRPA RAIL PROJECT: SECTION:
UNIVERSITY:
DIRECTOR OF ENGINEERING: NAME:
BRIDGE: HIGHWAY: LOCATION:
PROJECT NUMBER:



REV	DATE	DESCRIPTION	BY	CHKD	APPD

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ARCHITECTURAL
BASEMENT REMOVAL PLAN

SCALE: FACTOR: 1:1
AS SHOWN
DATE: 08/22/2025
DRAWN BY: JC
CHECKED BY: SF
WORK ORDER NO.: 276491
SHEET NUMBER: **A105**
TWO SETS: 6 OF 23
SET NO.: 19 OF 453
PROJECT NO.:
COMPUTER FILE NO.: 17AN-A105
REV: 01

DATE PRINTED: 10/27/2025

STATUS: 50% SUBMISSION

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- NOTES:
1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
 2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
 3. WORK SITE IS AN ACTIVE TPSS. FOLLOW ALL SEPTA SAFETY RULES.
 4. WORK SHALL BY PERFORMED IN STAGES ACCORDING TO OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN. SOME WORK MAY ONLY BE PERFORMED DURING A POWER OUTAGE.

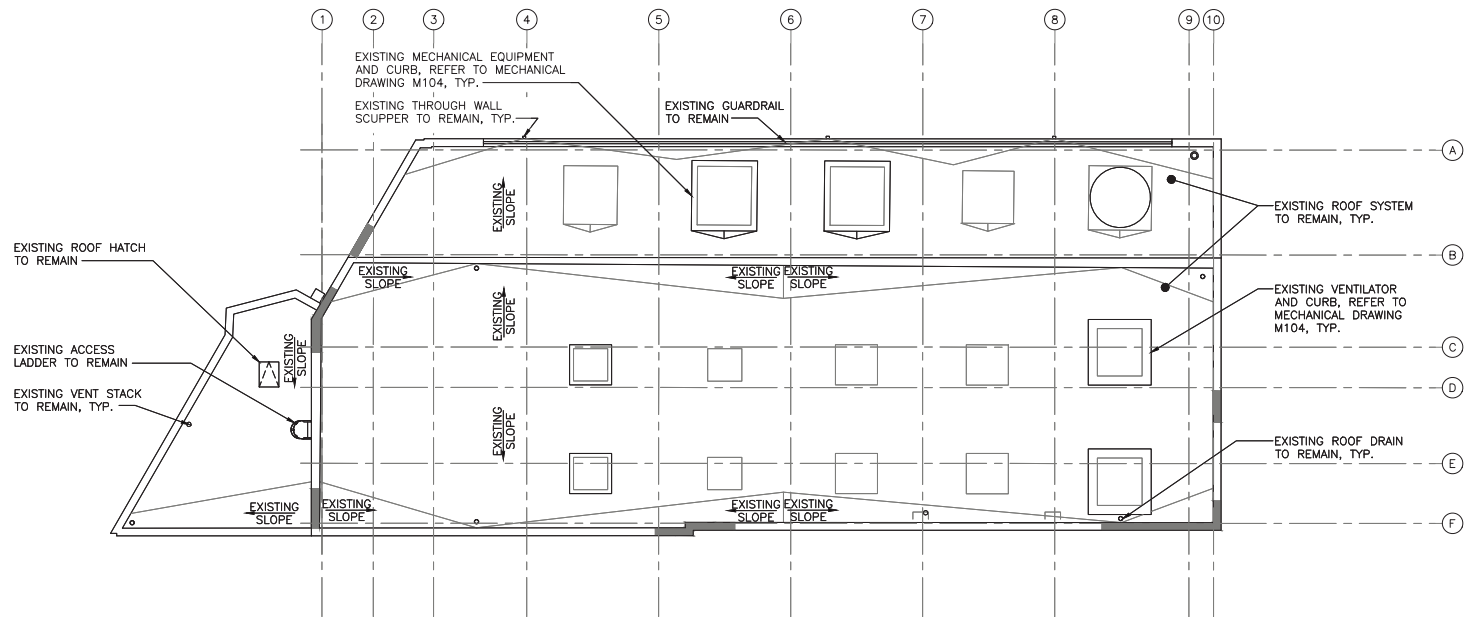


PROJECT NUMBER: 0000
DATE: 08/22/2025
PROJECT LOCATION: 1201 MARKET ST., 10TH FL., PHILADELPHIA, PA 19107
PROJECT OWNER: SEPTA
PROJECT MANAGER: [Blank]
DESIGNER: HDR ENGINEERING, INC.
CHECKED BY: [Blank]
DATE: [Blank]



REV	DATE	DESCRIPTION	BY	CHKD	APPD

DATE PRINTED: 10/27/2025



1 ROOF REMOVAL PLAN
A106 SCALE: 1/8" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ARCHITECTURAL
ROOF REMOVAL PLAN

SCALE: AS SHOWN	SCALE FACTOR: 1:1
DATE: 08/22/2025	DRAWN BY: JC
WORK ORDER NO: 276491	CHECKED BY: JC
SHEET NUMBER: A106	
DWG NO: 7	OF 23
SHT NO: 20	OF 452
PROJECT NO:	
COMPUTER FILED: 17AN-A106	REV: 01

STATUS: 50% SUBMISSION

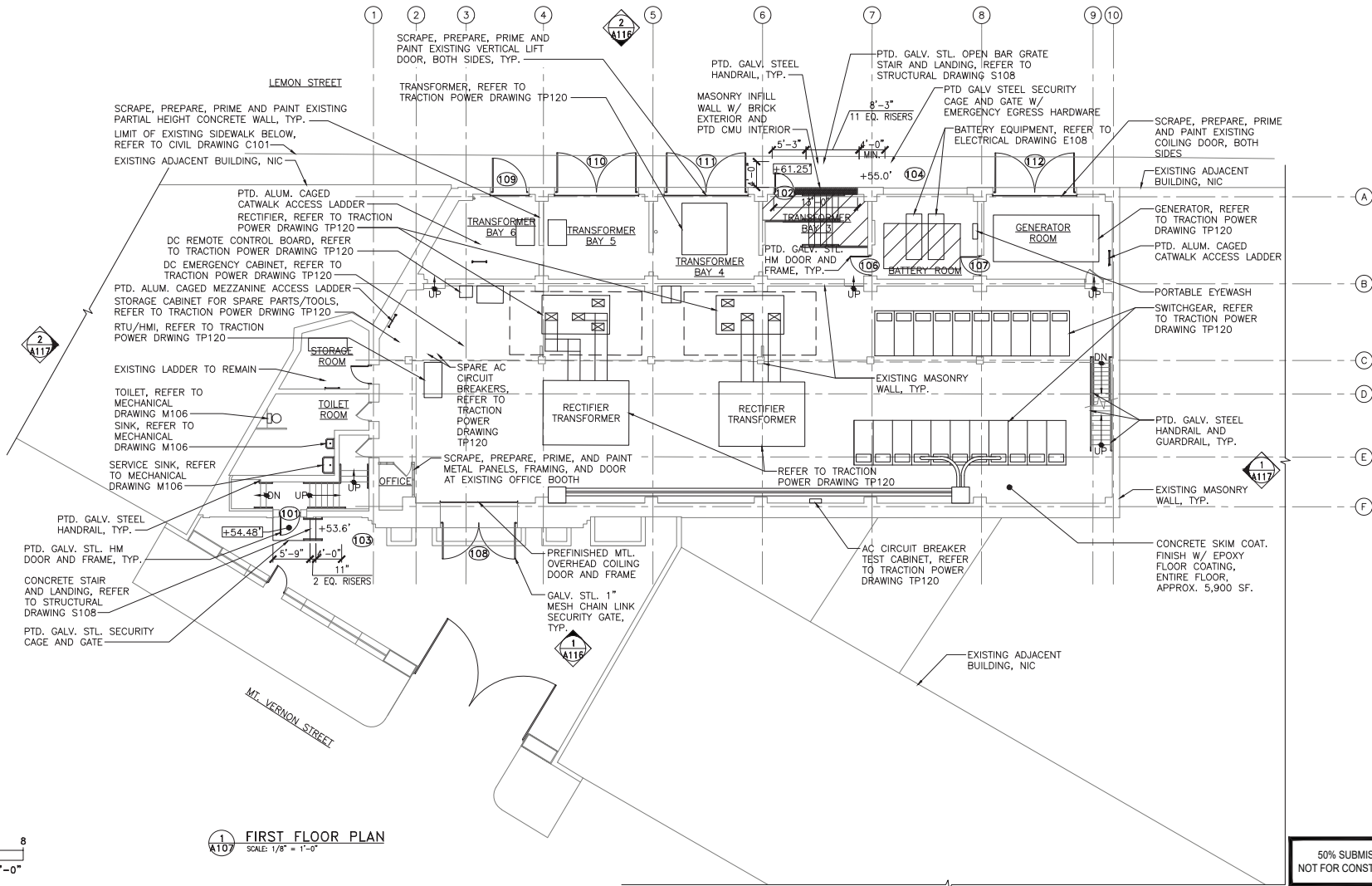
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8 6 4 2 0 8
SCALE: 1/8"=1'-0"

1
A107
FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"

NOTES:

1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
3. DRAWING INDICATE THE VARIOUS TYPES OF REPAIRS REQUIRED AT THE MOST SEVERE LOCATIONS. DRAWINGS SHOW THE INTENT OF THE SCOPE OF WORK BUT DO NOT INCLUDE EVERY SMALL AREA REQUIRING REPAIR, RESTORATION OR REFINISH.
4. WORK SITE IS AN ACTIVE TRACTION POWER SUBSTATION (TPSS). FOLLOW ALL SEPTA SAFETY RULES.
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6. FLOOR WILL BE MADE AVAILABLE IN STAGES AS THE EXISTING EQUIPMENT IS REMOVED PER OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN.
7. SCRAPE, PREPARE, PRIME AND PAINT ENTIRE SURFACE OF EXISTING CONCRETE CEILING, TYPICAL.
8. SCRAPE, PREPARE, PRIME AND PAINT ALL EXPOSED STRUCTURAL STEEL ROOF FRAMING, TYPICAL.
9. REFER TO TRACTION POWER DRAWING TP120 FOR TRACTION POWER EQUIPMENT LAYOUT, TYPICAL.



PROJECT NUMBER: 276491
PROJECT LOCATION: 1201 MARKET ST., 15TH FL. PHILADELPHIA, PA 19107
PROJECT OWNER: SEPTA
PROJECT MANAGER: [Blank]
DESIGNER: HDR ENGINEERING, INC.
DATE: 08/22/2025

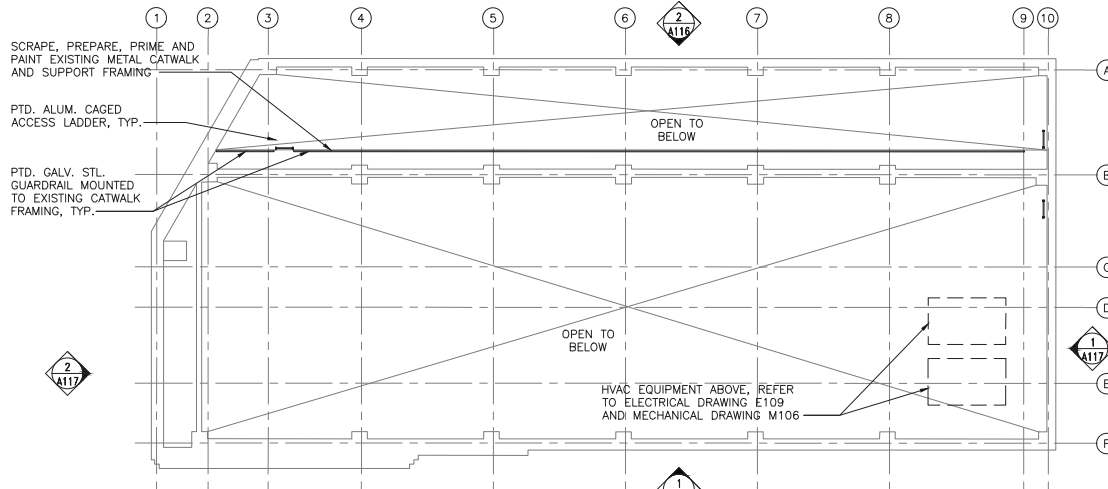


NO.	DESCRIPTION	BY	CHKD	DATE
1	AS SHOWN			08/22/2025
2	REVISION			
3	REVISION			
4	REVISION			
5	REVISION			
6	REVISION			
7	REVISION			
8	REVISION			
9	REVISION			
10	REVISION			
11	REVISION			
12	REVISION			
13	REVISION			
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16	REVISION			
17	REVISION			
18	REVISION			
19	REVISION			
20	REVISION			

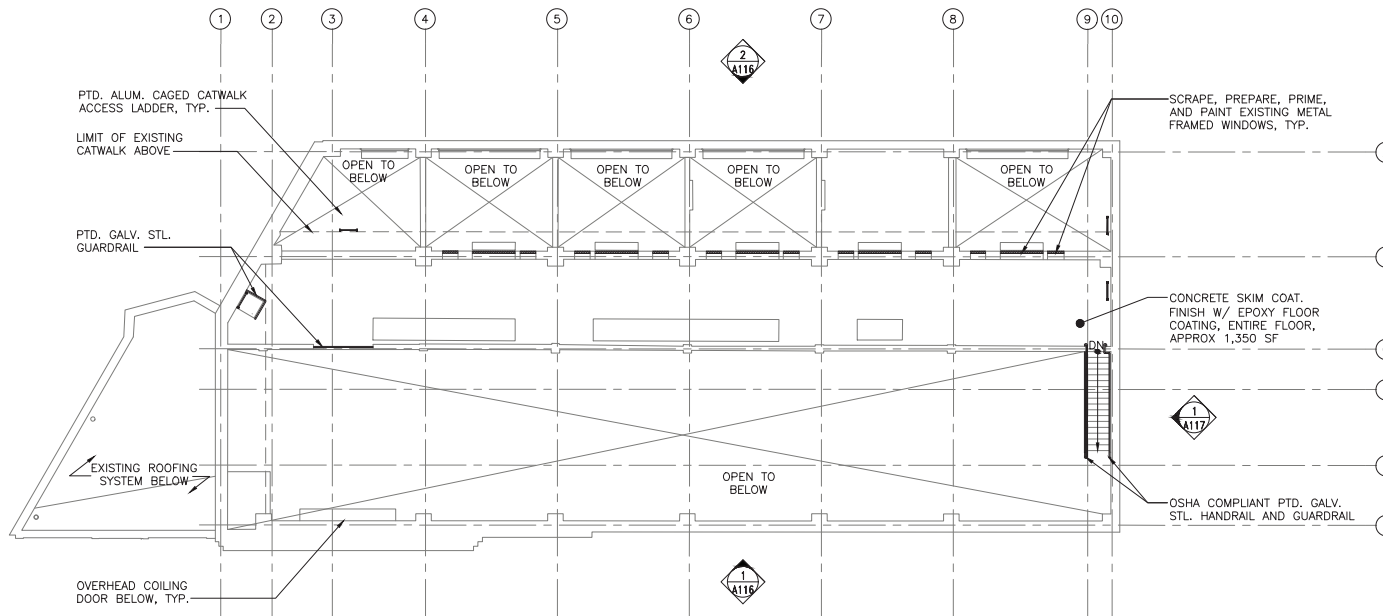
BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ARCHITECTURAL
PROPOSED GROUND FLOOR PLAN

SCALE: 1/8"=1'-0"
DATE: 08/22/2025
DRAWN BY: [Blank]
CHECKED BY: [Blank]
PROJECT NUMBER: 276491
SHEET NUMBER: A107
TOTAL SHEETS: 23
SHEET NO.: 21 OF 452
PROJECT NO.: 17AN-A107
DATE: 08/22/2025
STATUS: 50% SUBMISSION

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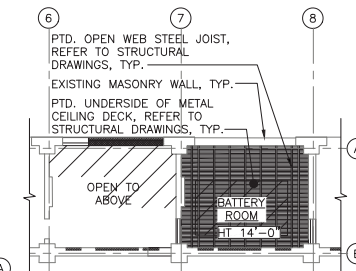
2 UPPER LANDING FLOOR PLAN
SCALE: 1/8" = 1'-0"



1 MEZZANINE FLOOR PLAN
SCALE: 1/8" = 1'-0"

NOTES:

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4. WORK SITE IS AN ACTIVE TRACTION POWER SUBSTATION (TPSS). FOLLOW ALL SEPTA SAFETY RULES.
5. WORK SHALL BE PERFORMED IN STAGES ACCORDING TO OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN. SOME WORK MAY ONLY BE PERFORMED DURING POWER OUTAGE.
6. FLOOR WILL BE MADE AVAILABLE IN STAGES AS THE EXISTING EQUIPMENT IS REMOVED PER OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN.
7. REFER TO TRACTION POWER DRAWING TP120 FOR TRACTION POWER EQUIPMENT LAYOUT, TYPICAL.



3 BATTERY ROOM RCP
SCALE: 1/8" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8"=1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



PROJECT NUMBER: 0000
DATE: 08/22/2025
PROJECT NAME: BROAD STREET
PROJECT LOCATION: 1224 MARKET ST., 10TH FL., PHILADELPHIA, PA 19107
PROJECT MANAGER: [Blank]

HDR
HDR Engineering, Inc.
Philadelphia, PA

SOWINSKI SULLIVAN

REV	DATE	DESCRIPTION	BY	CHKD	APPD

BROAD STREET
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ARCHITECTURAL
PROPOSED MEZZANINE FLOOR PLANS

SCALE: 1/8" = 1'-0"
DATE: 08/22/2025
DRAWN BY: JC
CHECKED BY: [Blank]
PROJECT NUMBER: 276491
A108
SHEET NO: 9 OF 23
REV NO: 22 OF 452
PROJECT NO: [Blank]
COMPUTER FILE: 17AN-A108
REV: [Blank]

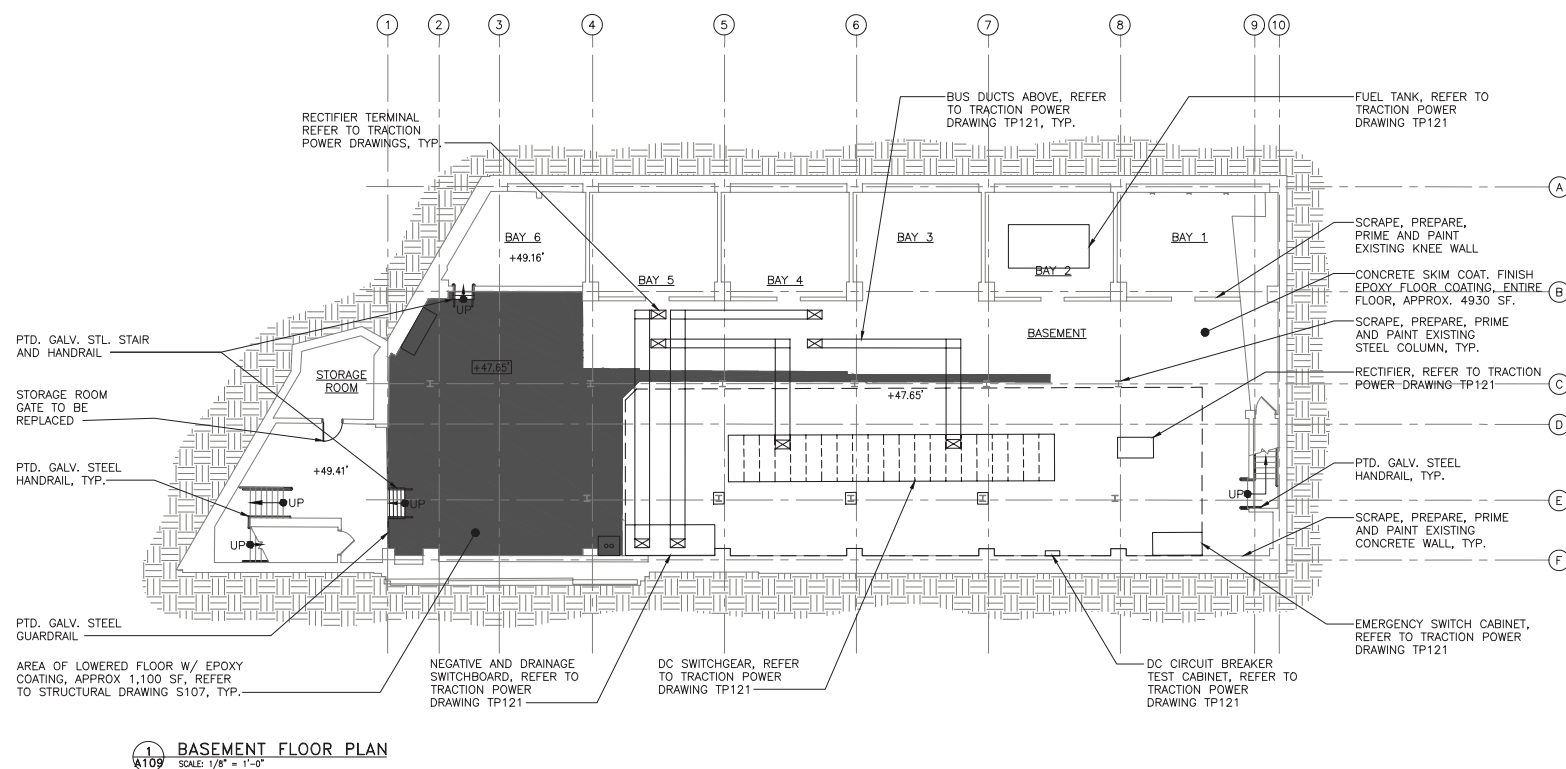
DATE PRINTED: 10/2/2025

STATUS: 50% SUBMISSION

[illegible]

SCALE:	AS SHOWN	SCALE FACTOR:	1:1
DATE:	08/22/2025	DRAWN BY:	AC
		CHECKED BY:	BF
WORK ORDER NO.		276491	
SHEET NUMBER		A109	
DWG. NO.	10	OF	23
SHIT. NO.:	23	OF	452
ARCHIVE NO.:			
COMPUTER FILE NO.:			REV. NO.
17AN-A109			-

1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
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6. FLOOR WILL BE MADE AVAILABLE IN STAGES AS THE EXISTING EQUIPMENT IS REMOVED PER OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN.
7. SCRAPE, PREPARE, PRIME AND PAINT ENTIRE SURFACE OF EXISTING CONCRETE CEILING AND CONCRETE BEAMS, TYPICAL.
8. REFLECT TO Traction Power Drawing TP121 FOR TRACTION POWER EQUIPMENT LAYOUT, TYPICAL.



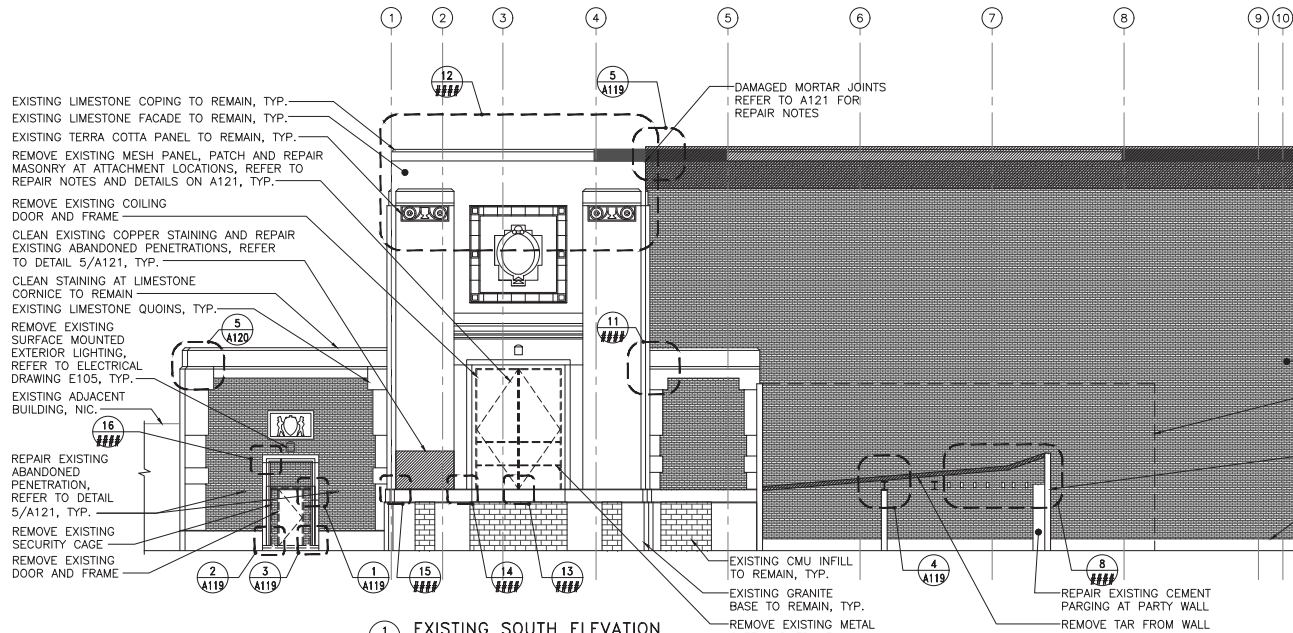
1 BASEMENT FLOOR PLAN
A109 SCALE: 1/8" = 1'-0"

AREA OF LOWERED FLOOR
(APPROX 1,100 SF)

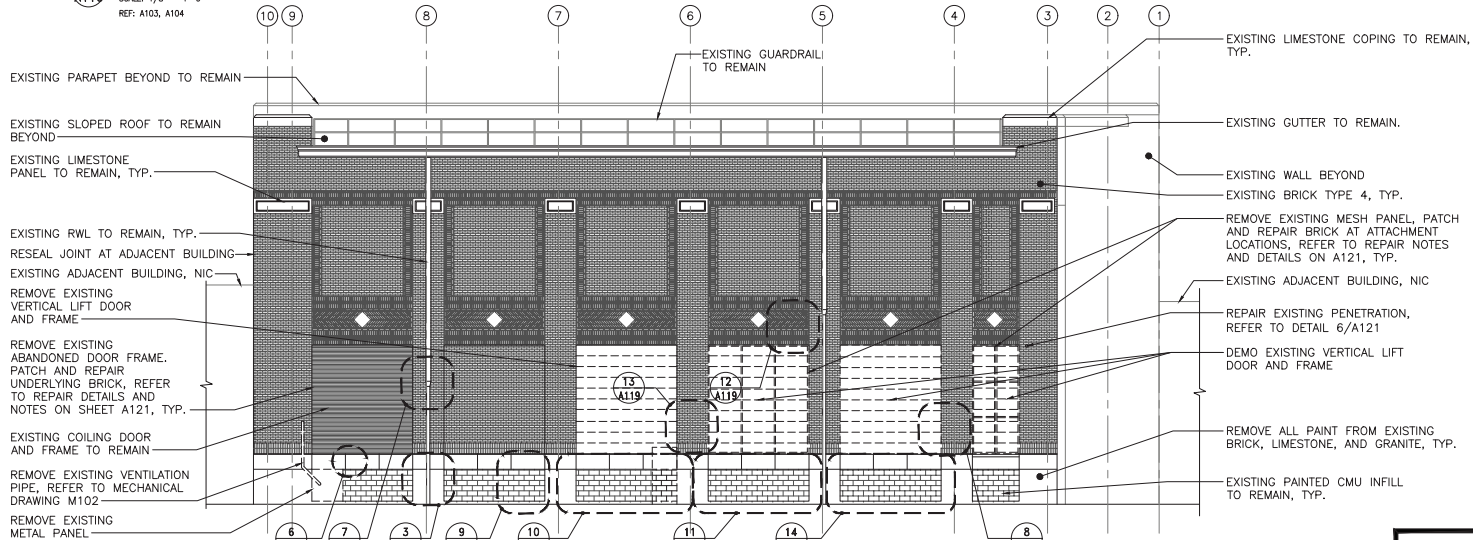


50% SUBMISSION
NOT FOR CONSTRUCTION

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1 EXISTING SOUTH ELEVATION
SCALE: 1/8" = 1'-0"
REF: A103, A104



2 EXISTING NORTH ELEVATION
SCALE: 1/8" = 1'-0"
REF: A103, A104

NOTES:

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4. RAKE AND REPOINT DAMAGED MORTAR JOINTS, EACH ELEVATION.
5. CLEAN ENTIRE FACADE, EACH ELEVATION.
6. WORK SITE IS AN ACTIVE TRACTION POWER SUBSTATION (TPSS). FOLLOW ALL SEPTA SAFETY RULES.
7. WORK SHALL BE PERFORMED IN STAGES ACCORDING TO OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN. SOME WORK MAY ONLY BE PERFORMED DURING POWER OUTAGE.
8. CLOSE INSPECTION OF PORTIONS OF THE FACADE WAS NOT POSSIBLE DUE TO RESTRICTED ACCESS AT PRIVATE PROPERTY. DUE TO THIS, NOT ALL AREAS REQUIRING REPAIR, RESTORATIONS OR REFURBISHING ARE INCLUDED ON DRAWINGS. THE CONTRACTOR SHALL INSPECT ENTIRE BUILDING AND REPAIR ALL DAMAGE.

BRICK LEGEND:

1. BRICK TYPE 1=HY-TEX BRICK
2. BRICK TYPE 2=ENAMELED BRICK-"GREEN"
3. BRICK TYPE 3=ENAMELED BRICK-"GRANITE MARBLE"
4. BRICK TYPE 4=FACE BRICK



PROJECT NUMBER: 0000
PROJECT LOCATION: 1200 MARKET ST., 10TH FL., PHILADELPHIA, PA 19107
PROJECT OWNER: SEPTA
PROJECT ARCHITECT: HDR
PROJECT ENGINEER: HDR
PROJECT MANAGER: HDR

HDR Engineering, Inc.
Philadelphia, PA

SOWINSKI SULLIVAN

REV	DATE	DESCRIPTION	BY	CHKD	APPD

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ARCHITECTURAL
EXISTING ELEVATIONS - SHEET 1

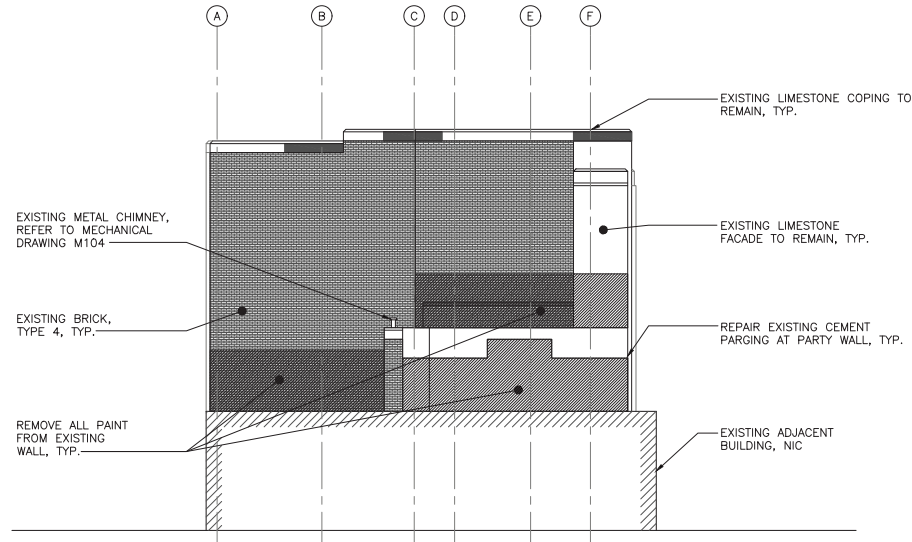
SCALE: AS SHOWN
DATE: 08/22/2025
DRAWN BY: JCL
CHECKED BY: JCL
PROJECT NUMBER: 276491
SHEET NUMBER: A110
TOTAL SHEETS: 11 OF 23
SHEET NO.: 24 OF 452
PROJECT NO.: 17AN-A110
COMPUTER FILED: 17AN-A110

50% SUBMISSION
NOT FOR CONSTRUCTION

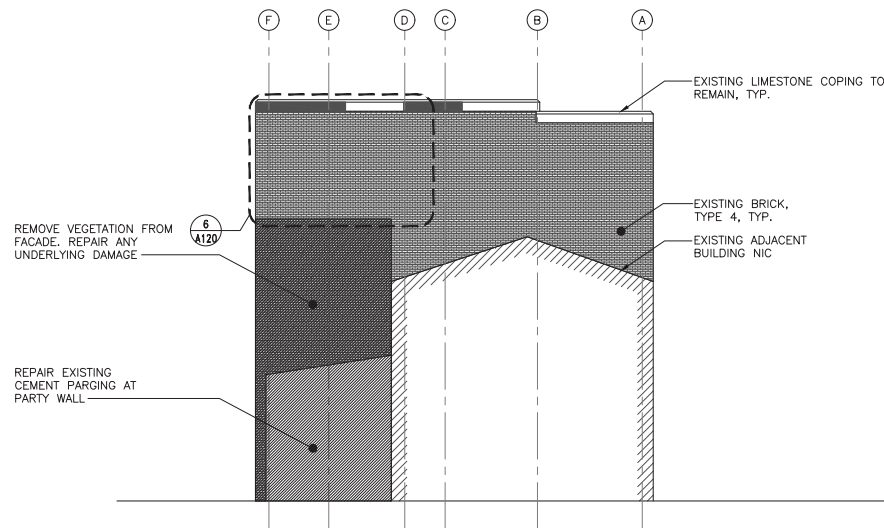
DATE PRINTED: 10/2/2025

STATUS: 50% SUBMISSION

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1
A111
EXISTING WEST ELEVATION
SCALE: 1/8" = 1'-0"
REF: A103, A104



2
A111
EXISTING EAST ELEVATION
SCALE: 1/8" = 1'-0"
REF: A103, A104

NOTES:

1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
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4. RAKE AND REPOINT DAMAGED MORTAR JOINTS, EACH ELEVATION.
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BRICK LEGEND:

1. BRICK TYPE 1 = HY-TEX BRICK
2. BRICK TYPE 2 = ENAMELED BRICK - "GREEN"
3. BRICK TYPE 3 = ENAMELED BRICK - "GRANITE MARBLE"
4. BRICK TYPE 4 = FACE BRICK

8 6 4 2 0 8
SCALE: 1/8"=1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



PROJECT NUMBER: 276491

PROJECT LOCATION: 1200 MARKET ST., 10TH FL., PHILADELPHIA, PA 19107

PROJECT NAME: BROAD SUBWAY/ELEVATED TRAINS TRACTION POWER SUBSTATION REHABILITATION ARCHITECTURAL EXISTING ELEVATIONS - SHEET 2

PROJECT LOCATION: 1200 MARKET ST., 10TH FL., PHILADELPHIA, PA 19107

PROJECT NAME: BROAD SUBWAY/ELEVATED TRAINS TRACTION POWER SUBSTATION REHABILITATION ARCHITECTURAL EXISTING ELEVATIONS - SHEET 2

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PROJECT NAME: BROAD SUBWAY/ELEVATED TRAINS TRACTION POWER SUBSTATION REHABILITATION ARCHITECTURAL EXISTING ELEVATIONS - SHEET 2

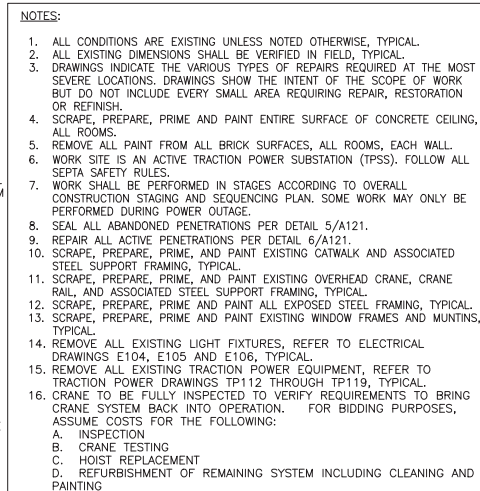
PROJECT LOCATION: 1200 MARKET ST., 10TH FL., PHILADELPHIA, PA 19107

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PROJECT LOCATION: 1200 MARKET ST., 10TH FL., PHILADELPHIA, PA 19107



BRICK LEGEND

1. BRICK TYPE 1 = HY-TEX BRICK
2. BRICK TYPE 2 = ENAMELED BRICK - "GREEN"
3. BRICK TYPE 3 = ENAMELED BRICK - "GRANITE MARBLE"
4. BRICK TYPE 4 = FACE BRICK

2 EXISTING SOUTH INTERIOR ELEVATION MAIN AREA
A112 SCALE: 1/8" = 1'-0"
REF: A103, A104



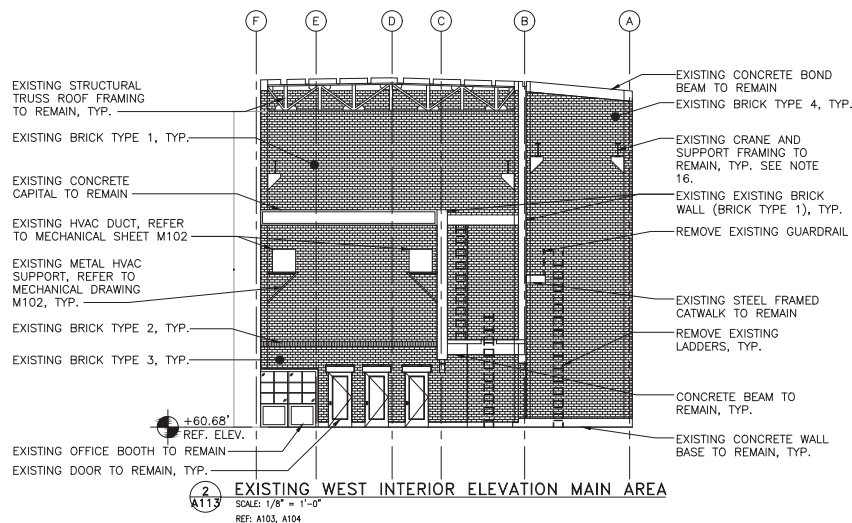
50% SUBMISSION
NOT FOR CONSTRUCTION



1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
3. DRAWINGS INDICATE THE VARIOUS TYPES OF REPAIRS REQUIRED AT THE MOST SEVERE LOCATIONS. DRAWINGS SHOW THE INTENT OF THE SCOPE OF WORK BUT DO NOT INCLUDE EVERY SMALL AREA REQUIRING REPAIR, RESTORATION OR REFINISH.
4. SCRAPE, PREPARE, PRIME AND PAINT ENTIRE SURFACE OF CONCRETE CEILING, ALL ROOMS.
5. REMOVE ALL PAINT FROM ALL BRICK SURFACES, ALL ROOMS, EACH WALL.
6. WORK SITE IS AN ACTIVE TRACTION POWER SUBSTATION (TPSS). FOLLOW ALL OSHA SAFETY RULES.
7. WORK SHALL BE PERFORMED IN STAGES ACCORDING TO OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN. SOME WORK MAY ONLY BE PERFORMED DURING POWER OUTAGE.
8. SEAL ALL ABANDONED PENETRATIONS PER DETAIL 5/A121.
9. REPAIR ALL ACTIVE PENETRATIONS PER DETAIL 6/A121.
10. SCRAPE, PREPARE, PRIME, AND PAINT EXISTING CATWALK AND ASSOCIATED STEEL SUPPORT FRAMING, TYPICAL.
11. SCRAPE, PREPARE, PRIME, AND PAINT EXISTING OVERHEAD CRANE, CRANE RAIL, AND ASSOCIATED STEEL SUPPORT FRAMING, TYPICAL.
12. SCRAPE, PREPARE, PRIME AND PAINT ALL EXPOSED STEEL FRAMING, TYPICAL.
13. SCRAPE, PREPARE, PRIME AND PAINT EXISTING WINDOW FRAMES AND MUNTINS, TYPICAL.
14. REMOVE ALL EXISTING LIGHT FIXTURES, REFER TO ELECTRICAL DRAWINGS TP105 AND TP106, TYPICAL.
15. REMOVE ALL EXISTING TRACTION POWER EQUIPMENT, REFER TO TRACTION POWER DRAWINGS TP112 THROUGH TP119, TYPICAL.
16. CRANE TO BE FULLY INSPECTED TO VERIFY REQUIREMENTS TO BRING CRANE SYSTEM BACK INTO OPERATION. FOR BIDDING PURPOSES, ASSUME COSTS FOR THE FOLLOWING:
 - A. INSPECTION
 - B. CRANE TESTING
 - C. HOIST REPLACEMENT
 - D. REFURBISHMENT OF REMAINING SYSTEM INCLUDING CLEANING AND PAINTING

BRICK LEGEND:

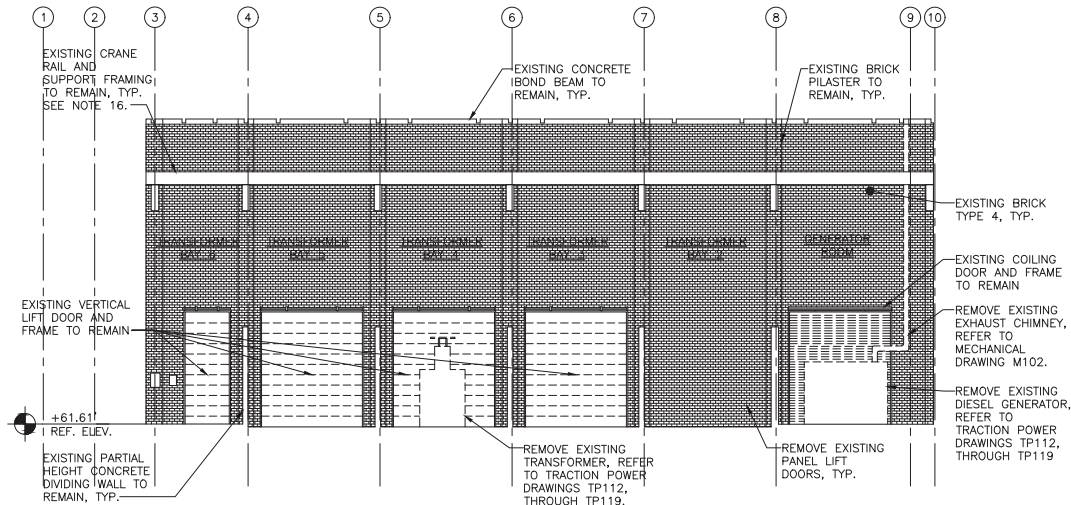
1. BRICK TYPE 1 = HY-TEX BRICK
2. BRICK TYPE 2 = ENAMELED BRICK - "GREEN"
3. BRICK TYPE 3 = ENAMELED BRICK - "GRANITE MARBLE"
4. BRICK TYPE 4 = FACE BRICK



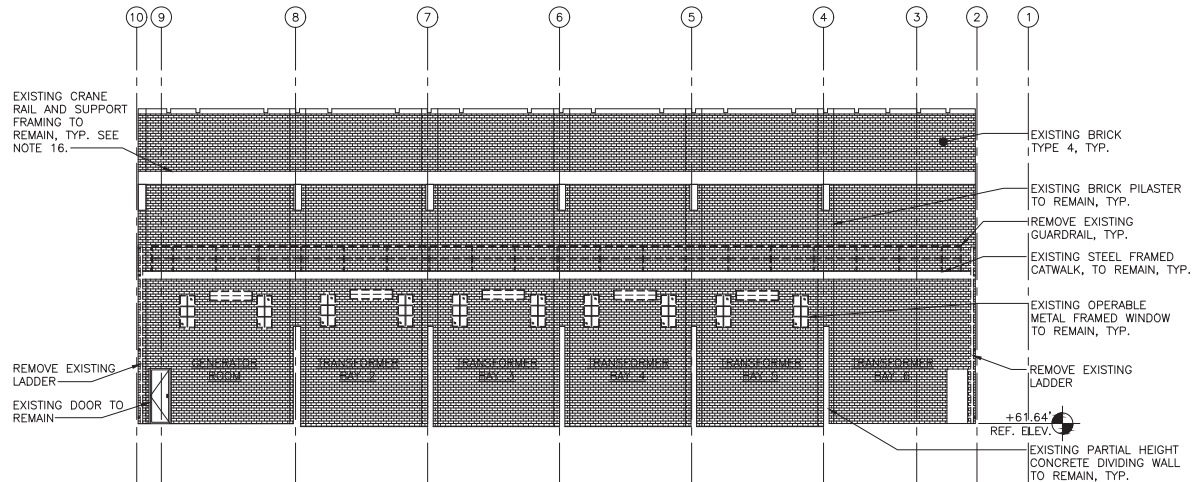
8 6 4 2 0

SCALE: $1/8"=1'-0"$

50% SUBMISSION
NOT FOR CONSTRUCTION



1
A114 EXISTING NORTH INTERIOR ELEVATION TRANSFORMER BAYS
SCALE: 1/8" = 1'-0"
REF: A103, A104



2
A114 EXISTING SOUTH INTERIOR ELEVATION TRANSFORMER BAYS
SCALE: 1/8" = 1'-0"
REF: A103, A104

NOTES:

- ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
- ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
- DRAWINGS INDICATE THE VARIOUS TYPES OF REPAIRS REQUIRED AT THE MOST SEVERE LOCATIONS. DRAWINGS SHOW THE INTENT OF THE SCOPE OF WORK BUT DO NOT INCLUDE EVERY SMALL AREA REQUIRING REPAIR, RESTORATION OR REFINISH.
- SCRAPE, PREPARE, PRIME AND PAINT ENTIRE SURFACE OF CONCRETE CEILING, ALL ROOMS.
- REMOVE ALL PAINT FROM ALL BRICK SURFACES, ALL ROOMS, EACH WALL.
- WORK SITE IS AN ACTIVE TRACTION POWER SUBSTATION (TPSS). FOLLOW ALL SEPTA SAFETY RULES.
- WORK SHALL BE PERFORMED IN STAGES ACCORDING TO OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN. SOME WORK MAY ONLY BE PERFORMED DURING POWER OUTAGE.
- SEAL ALL ABANDONED PENETRATIONS PER DETAIL 5/A121.
- REPAIR ALL ACTIVE PENETRATIONS PER DETAIL 6/A121.
- SCRAPE, PREPARE, PRIME, AND PAINT EXISTING CATWALK AND ASSOCIATED STEEL SUPPORT FRAMING, TYPICAL.
- SCRAPE, PREPARE, PRIME, AND PAINT EXISTING OVERHEAD CRANE, CRANE RAIL, AND ASSOCIATED STEEL SUPPORT FRAMING, TYPICAL.
- SCRAPE, PREPARE, PRIME AND PAINT ALL EXPOSED STEEL FRAMING, TYPICAL.
- SCRAPE, PREPARE, PRIME AND PAINT EXISTING WINDOW FRAMES AND MUNTINS, TYPICAL.
- REMOVE ALL EXISTING LIGHT FIXTURES, REFER TO ELECTRICAL DRAWINGS E104, E105 AND E106, TYPICAL.
- REMOVE ALL EXISTING TRACTION POWER EQUIPMENT, REFER TO TRACTION POWER DRAWINGS TP112 THROUGH TP119, TYPICAL.
- CRANE TO BE FULLY INSPECTED TO VERIFY REQUIREMENTS TO BRING CRANE SYSTEM BACK INTO OPERATION. FOR BIDDING PURPOSES, ASSUME COSTS FOR THE FOLLOWING:
 - INSPECTION
 - CRANE TESTING
 - HOIST REPLACEMENT
 - REFURBISHMENT OF REMAINING SYSTEM INCLUDING CLEANING AND PAINTING

BRICK LEGEND:

- BRICK TYPE 1 = HY-TEX BRICK
- BRICK TYPE 2 = ENAMELED BRICK - "GREEN"
- BRICK TYPE 3 = ENAMELED BRICK - "GRANITE MARBLE"
- BRICK TYPE 4 = FACE BRICK

8 6 4 2 0 8
SCALE: 1/8"=1'-0"

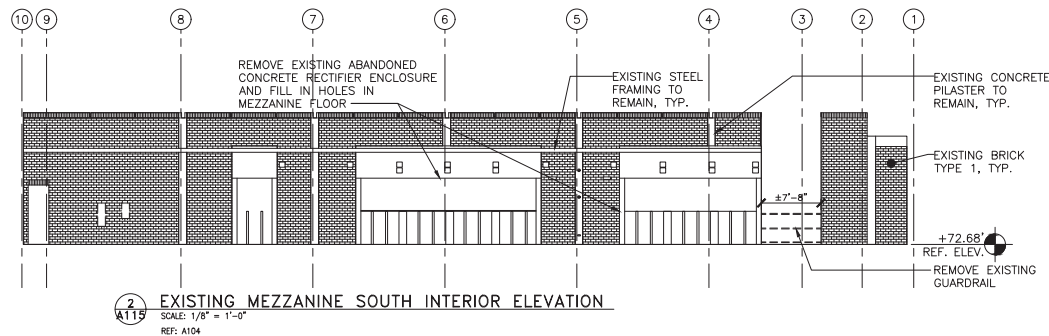
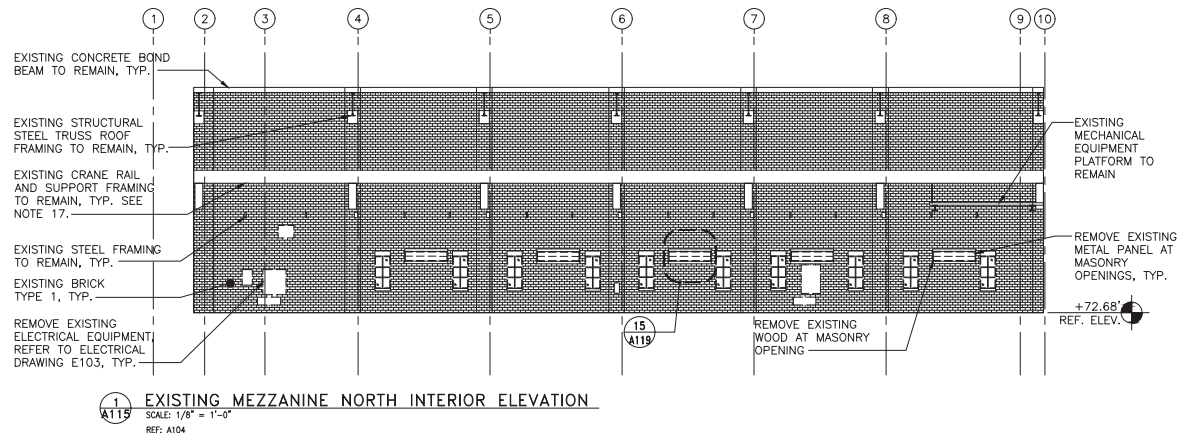
50% SUBMISSION
NOT FOR CONSTRUCTION

NOTES:

- ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
- ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
- DRAWINGS INDICATE THE VARIOUS TYPES OF REPAIRS REQUIRED AT THE MOST SEVERE LOCATIONS. DRAWINGS SHOW THE INTENT OF THE SCOPE OF WORK BUT DO NOT INCLUDE EVERY SMALL AREA REQUIRING REPAIR, RESTORATION OR REFINISH.
- SCRAPE, PREPARE, PRIME AND PAINT ENTIRE SURFACE OF CONCRETE CEILING, ALL ROOMS.
- REMOVE ALL PAINT FROM ALL BRICK SURFACES, ALL ROOMS, EACH WALL.
- WORK SITE IS AN ACTIVE TRACTION POWER SUBSTATION (TPSS). FOLLOW ALL SEPTA SAFETY RULES.
- WORK SHALL BE PERFORMED IN STAGES ACCORDING TO OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN. SOME WORK MAY ONLY BE PERFORMED DURING POWER OUTAGE.
- SEAL ALL ABANDONED PENETRATIONS PER DETAIL 5/A121.
- REPAIR ALL ACTIVE PENETRATIONS PER DETAIL 6/A121.
- SCRAPE, PREPARE, PRIME, AND PAINT EXISTING CATWALK AND ASSOCIATED STEEL SUPPORT FRAMING, TYPICAL.
- SCRAPE, PREPARE, PRIME, AND PAINT EXISTING OVERHEAD CRANE, CRANE RAIL, AND ASSOCIATED STEEL SUPPORT FRAMING, TYPICAL.
- SCRAPE, PREPARE, PRIME AND PAINT ALL EXPOSED STEEL FRAMING, TYPICAL.
- SCRAPE, PREPARE, PRIME AND PAINT EXISTING WINDOW FRAMES AND MUNTINS, TYPICAL.
- REMOVE ALL ABANDONED TRACTION POWER EQUIPMENT. PATCH AND REPAIR ANY DAMAGE TO UNDERLYING WALL. REFER TO DETAIL 4/A120 FOR TYPICAL CONDITIONS AND TO TRACTION POWER DRAWINGS, TYPICAL.
- REMOVE ALL EXISTING LIGHT FIXTURES, REFER TO ELECTRICAL DRAWINGS E104, E105 AND E106, TYPICAL.
- REMOVE ALL EXISTING TRACTION POWER EQUIPMENT, REFER TO TRACTION POWER DRAWINGS TP112 THROUGH TP119, TYPICAL.
- CRANE TO BE FULLY INSPECTED TO VERIFY REQUIREMENTS TO BRING CRANE SYSTEM BACK INTO OPERATION. FOR BIDDING PURPOSES, ASSUME COSTS FOR THE FOLLOWING:
 - INSPECTION
 - CRANE TESTING
 - HOIST REPLACEMENT
 - REFURBISHMENT OF REMAINING SYSTEM INCLUDING CLEANING AND PAINTING

BRICK LEGEND:

- BRICK TYPE 1 = HY-TEX BRICK
- BRICK TYPE 2 = ENAMELED BRICK - "GREEN"
- BRICK TYPE 3 = ENAMELED BRICK - "GRANITE MARBLE"
- BRICK TYPE 4 = FACE BRICK



8 6 4 2 0 8

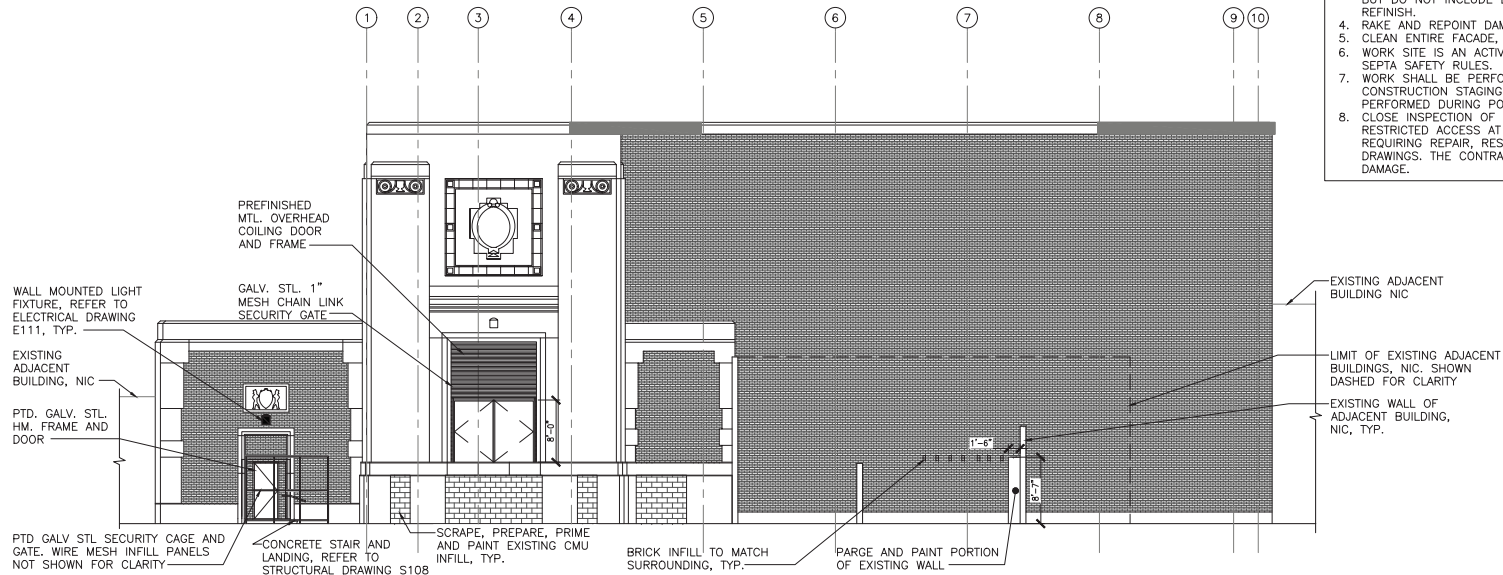
SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION

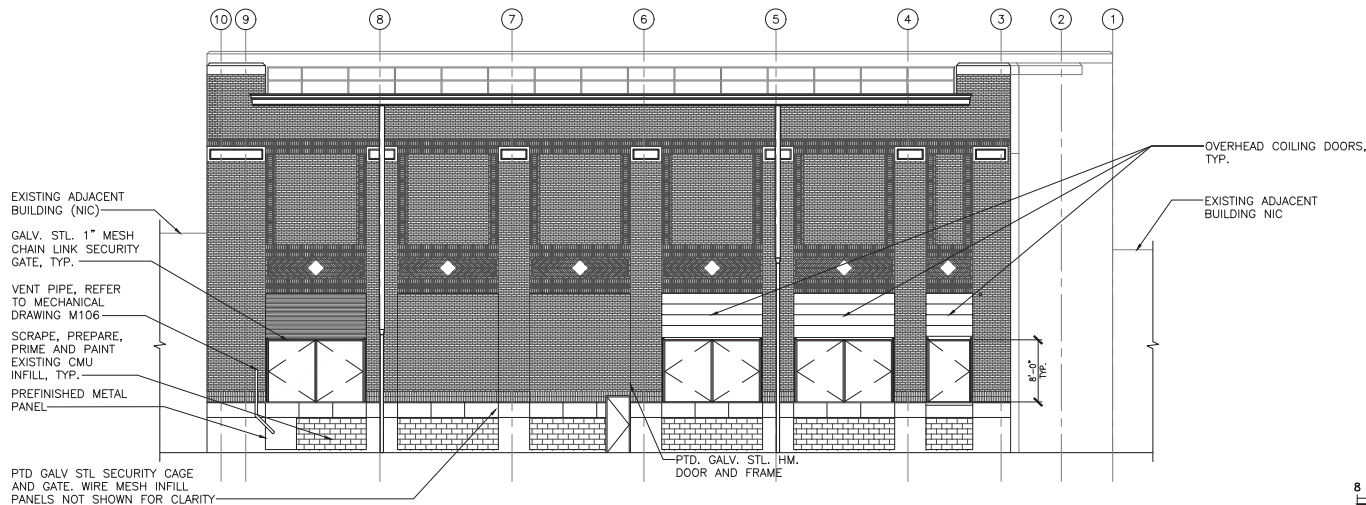
BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ARCHITECTURAL
EXISTING INTERIOR ELEVATIONS - SHEET 4

DATE: 08/22/2025	SCALE: 1:1
PROJECT: 276491	PROJECT: 276491
SHEET: A115	SHEET: A115
DATE: 08/22/2025	DATE: 08/22/2025
PROJECT: 276491	PROJECT: 276491
SHEET: A115	SHEET: A115
DATE: 08/22/2025	DATE: 08/22/2025
PROJECT: 276491	PROJECT: 276491
SHEET: A115	SHEET: A115
DATE: 08/22/2025	DATE: 08/22/2025
PROJECT: 276491	PROJECT: 276491
SHEET: A115	SHEET: A115

C:\PWORKING\PTD\166881\17AN-A116.DWG



1 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"
REF: A107, A108



2 NORTH ELEVATION
SCALE: 1/8" = 1'-0"
REF: A107, A108

NOTES:

1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
3. DRAWINGS INDICATE THE VARIOUS TYPES OF REPAIRS REQUIRED AT THE MOST SEVERE LOCATIONS. DRAWINGS SHOW THE INTENT OF THE SCOPE OF WORK BUT DO NOT INCLUDE EVERY SMALL AREA REQUIRING REPAIR, RESTORATION OR REFINISH.
4. RAKE AND REPOINT DAMAGED MORTAR JOINTS, EACH ELEVATION.
5. CLEAN ENTIRE FACADE, EACH ELEVATION.
6. WORK SITE IS AN ACTIVE TRACTION POWER SUBSTATION (TPSS). FOLLOW ALL SEPTA SAFETY RULES.
7. WORK SHALL BE PERFORMED IN STAGES ACCORDING TO OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN. SOME WORK MAY ONLY BE PERFORMED DURING POWER OUTAGE.
8. CLOSE INSPECTION OF PORTIONS OF THE FACADE WAS NOT POSSIBLE DUE TO RESTRICTED ACCESS AT PRIVATE PROPERTY. DUE TO THIS, NOT ALL AREAS REQUIRING REPAIR, RESTORATIONS OR REFURBISHING ARE INCLUDED ON DRAWINGS. THE CONTRACTOR SHALL INSPECT ENTIRE BUILDING AND REPAIR ALL DAMAGE.

BRICK LEGEND:

1. BRICK TYPE 1 = HY-TEX BRICK
2. BRICK TYPE 2 = ENAMELED BRICK-"GREEN"
3. BRICK TYPE 3 = ENAMELED BRICK-"GRANITE MARBLE"
4. BRICK TYPE 4 = FACE BRICK

8 6 4 2 0 8
SCALE: 1/8"=1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



PROJECT NUMBER: 0000
DATE: 08/22/2025
PROJECT LOCATION: 1201 MARKET ST., 10TH FL., PHILADELPHIA, PA 19107
PROJECT NAME: BROAD SUBWAY/ELEVATED TRAINS TRACTION POWER SUBSTATION REHABILITATION ARCHITECTURAL PROPOSED ELEVATIONS - SHEET 1
PROJECT MANAGER: [Blank]

HDR Engineering, Inc.
Philadelphia, PA

SOWINSKI SULLIVAN

REV	DATE	DESCRIPTION	BY	CHKD	APPD

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ARCHITECTURAL
PROPOSED ELEVATIONS - SHEET 1

SCALE: 1/8" = 1'-0"
DATE: 08/22/2025
DRAWN BY: [Blank]
CHECKED BY: [Blank]
PROJECT NUMBER: 276491
SHEET NUMBER: **A116**
TOTAL SHEETS: 17 OF 23
SHEET NO.: 30 OF 452
PROJECT FILE: 17AN-A116
COMPUTER FILE: [Blank]

STATUS: 50% SUBMISSION



SAW CUT KNEE WALL TO
MAKE OPENING 3'-0"

SCRAPE, PREPARE, PRIME
AND PAINT EXISTING
CONCRETE KNEE WALL

1
A118 **DAMAGED CONCRETE**

SCALE: NOT TO SCALE
REF: A105



CRACKED CONCRETE
REFER TO DETAIL
3/A121

SCRAPE, PREPARE, PRIME
AND PAINT EXISTING
CONCRETE, TYP.

2
A118 **CRACKED CONCRETE**

SCALE: NOT TO SCALE
REF: A105



REMOVE EXISTING
METAL PANELS

SCRAPE, PREPARE, PRIME
AND PAINT EXISTING
CONCRETE WALL, TYP.

3
A118 **DAMAGED METAL PANELS**

SCALE: NOT TO SCALE
REF: A105



REMOVE EFFLORESCENCE
FROM BRICK, TYP.

4
A118 **EFFLORESCENCE**

SCALE: NOT TO SCALE
REF: A103



SCRAPE, PREPARE, PRIME
AND PAINT EXISTING
CONCRETE AND METAL
LINTEL

SPALLED CONCRETE,
REFER TO DETAIL
2/A121

SCRAPE, PREPARE, PRIME
AND PAINT EXISTING
CONCRETE CEILING

5
A118 **DAMAGED CEILING**

SCALE: NOT TO SCALE
REF: A103



REMOVE AND REPLACE
DAMAGED GLAZED BRICK,
APPROX 1 SF, TYP.

FILL ABANDONED
PENETRATION, REFER TO
DETAIL 5/A121, TYP.

PAINT EXISTING CMU
INFILL, TYP.

CLEAN ENTIRE SURFACE
OF WALL, TYP.

6
A118 **DAMAGED BRICK**

SCALE: NOT TO SCALE
REF: A103



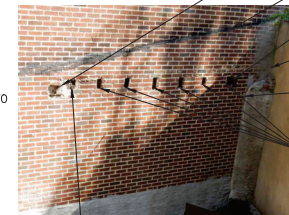
REMOVE AND REPLACE
DAMAGED GLAZED
BRICK, TYP.

FILL ABANDONED
PENETRATION, REFER TO
DETAIL 5/A121, TYP.

CLEAN ENTIRE WALL
SURFACE, TYP.

7
A118 **DAMAGED BRICK**

SCALE: NOT TO SCALE
REF: A103



EXPOSED STEEL MEMBER,
REFER TO STRUCTURAL
DRAWINGS

REMOVE TAR FROM
EXISTING BRICK, TYP.

REMOVE DAMAGED BRICK

RAKE AND REPOINT OPEN
MORTAR JOINTS, TYP.

CRACKED CONCRETE,
REFER TO DETAIL 3/A121

INFILL OPENINGS WITH
BRICK TO MATCH
SURROUNDING, TYP.

REMOVE WOOD FROM
EXISTING OPENING

8
A118 **HOLES IN WALL**

SCALE: NOT TO SCALE
REF: A110



FILL ABANDONED
PENETRATION, REFER TO
DETAIL 5/A121, TYP.

REMOVE AND REPLACE
DAMAGED GLAZED BRICK,
APPROX 19 SF, TYP.

CLEAN ENTIRE SURFACE
OF WALL, TYP.

9
A118 **DAMAGED BRICK**

SCALE: NOT TO SCALE
REF: A103



FILL ABANDONED
PENETRATION, REFER TO
DETAIL 5/A121, TYP.

CLEAN ENTIRE SURFACE
OF WALL, TYP.

REMOVE AND REPLACE
DAMAGED GLAZED BRICK,
APPROX 12 SF, TYP.

10
A118 **DAMAGED BRICK**

SCALE: NOT TO SCALE
REF: A103



CLEAN ENTIRE SURFACE
OF WALL, TYP.

CRACKED LIMESTONE,
REFER TO DETAIL
3/A121, TYP.

11
A118 **CRACKED LIMESTONE**

SCALE: NOT TO SCALE
REF: A110



REMOVE SEALANT FROM
JOINT, RAKE AND REPOINT
WITH COMPATIBLE MORTAR,
TYP.

CLEAN ENTIRE SURFACE
OF WALL, TYP.

RAKE AND REPOINT OPEN
MORTAR JOINTS, TYP.

SPALLED LIMESTONE,
REFER TO DETAIL
2/A121, TYP.

FILL ABANDONED
PENETRATIONS, REFER TO
DETAIL 5/A121, TYP.

12
A118 **OPEN JOINTS**

SCALE: NOT TO SCALE
REF: A110



REMOVE AND REPLACE
EXISTING METAL SILL

CHIPPED GRANITE,
REFER TO REPAIR
DETAIL 2/A121

RAKE AND REPOINT
EXISTING MORTAR JOINT,
TYP.

FILL ABANDONED
PENETRATION, REFER TO
DETAIL 5/A121, TYP.

13
A118 **CHIPPED GRANITE**

SCALE: NOT TO SCALE
REF: A110



CLEAN ENTIRE SURFACE
OF WALL, TYP.

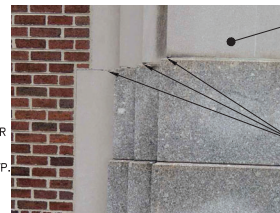
RAKE AND REPOINT
EXISTING MORTAR JOINT,
TYP.

DAMAGED GRANITE,
REMOVE EXISTING
CONCRETE PATCH, REFER
TO DETAIL 2/A121

PAINT EXISTING CMU, TYP.

14
A118 **DAMAGED GRANITE**

SCALE: NOT TO SCALE
REF: A110

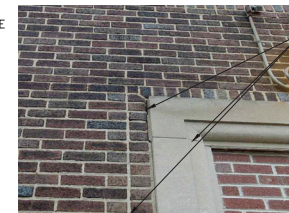


CLEAN ENTIRE SURFACE
OF WALL, TYP.

RAKE AND REPOINT
EXISTING MORTAR
JOINT, TYP.

15
A118 **OPEN MORTAR JOINT**

SCALE: NOT TO SCALE
REF: A110



RAKE AND REPOINT
MORTAR JOINT, TYP.

16
A118 **OPEN MORTAR JOINT**

SCALE: NOT TO SCALE
REF: A110

30% SUBMISSION
NOT FOR CONSTRUCTION



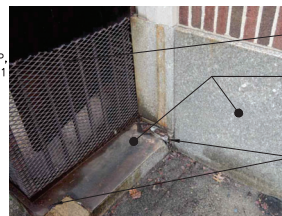
- REMOVE EXISTING METAL SECURITY CAGE
- RAKE AND REPOINT EXISTING OPEN MORTAR JOINT
- CRACKED LIMESTONE DOOR SURROUND, REFER TO DETAIL 3/A121

1
A119
CRACKED SURROUND
SCALE: NOT TO SCALE
REF: A110



- REMOVE MOSS FROM CORNER. REPAIR ANY DAMAGE TO UNDERLYING GRANITE
- DAMAGED GRANITE STOOP, REFER TO DETAIL 2/A121
- REMOVE EXISTING METAL SECURITY CAGE
- FILL VOID AT LOCATION OF REMOVED FENCE POST, REFER TO REPAIR DETAIL 5/A121
- CRACKED GRANITE STOOP, REFER TO DETAIL 2/A121

2
A119
DAMAGED STOOP
SCALE: NOT TO SCALE
REF: A110



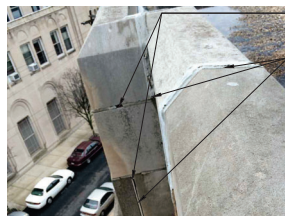
- REMOVE EXISTING METAL SECURITY CAGE
- CLEAN EXISTING GRANITE, TYP.
- DAMAGED GRANITE STOOP, REFER TO DETAIL 2/A121

3
A119
DAMAGED STOOP
SCALE: NOT TO SCALE
REF: A110



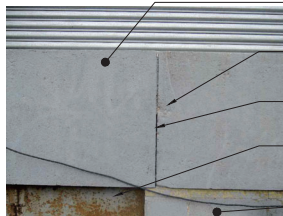
- REMOVE TAR FROM EXISTING WALL, TYP.
- EXPOSED STEEL MEMBER, REFER TO STRUCTURAL DRAWINGS

4
A119
EXPOSED STEEL MEMBER
SCALE: NOT TO SCALE
REF: A110



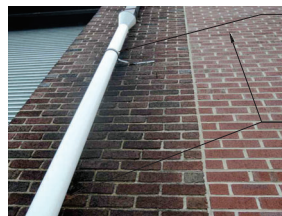
- RAKE AND REPOINT OPEN MORTAR JOINT, TYP.
- REMOVE SEALANT FROM EXISTING JOINT
- RAKE AND REPOINT WITH COMPATIBLE MORTAR, TYP.
- NOTE: PORTIONS OF THE PARAPET AND COPING ARE TO BE REBUILT UNDER SEPTA ROOF REPLACEMENT PROJECT WORK ORDER NUMBER 1AJ-3100. COORDINATE WORK AT PARAPET WITH SEPTA ROOF REPLACEMENT PROJECT WORK ORDER NUMBER 1AJ-3100

5
A119
OPEN MORTAR JOINT
SCALE: NOT TO SCALE
REF: A110



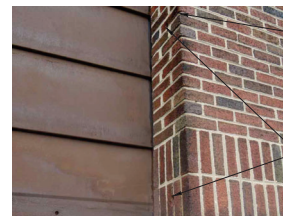
- REMOVE ALL PAINT FROM EXISTING GRANITE, TYP.
- SPALLED GRANITE, REFER TO DETAIL 2/A121
- RAKE AND REPOINT EXISTING OPEN MORTAR JOINT
- REMOVE AND REPLACE EXISTING METAL PANEL WITH PREFINISHED METAL PANEL
- SCRAPE, PREPARE, PRIME AND PAINT EXISTING METAL PANEL, TYP.

6
A119
SPALLED GRANITE
SCALE: NOT TO SCALE
REF: A110



- COORDINATE WORK AT RWL WITH SEPTA ROOF REPLACEMENT PROJECT WORK ORDER NUMBER 079-3100
- SPALLED BRICK, REFER TO DETAIL 1/A121

7
A119
SPALLED BRICK
SCALE: NOT TO SCALE
REF: A110



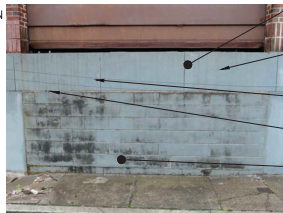
- SPALLED BRICK, REFER TO DETAIL 1/A121
- FILL ABANDONED PENETRATION, REFER TO DETAIL 5/A121, TYP.

8
A119
ABANDONED PENETRATIONS
SCALE: NOT TO SCALE
REF: A110



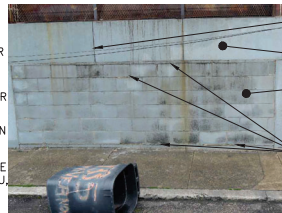
- RAKE AND REPOINT OPEN MORTAR JOINT, TYP.
- CRACKED GRANITE STOOP, REFER TO DETAIL 3/A121
- SCRAPE, PREPARE, PRIME AND PAINT EXISTING CMU, TYP.
- SCRAPE, PREPARE, PRIME AND PAINT EXISTING CMU, TYP.
- REPAIR SIDEWALK, REFER TO CIVIL DRAWINGS, TYP.

9
A119
CRACKED GRANITE
SCALE: NOT TO SCALE
REF: A110



- REMOVE PAINT FROM EXISTING GRANITE, TYP.
- SPALLED GRANITE, REFER TO DETAIL 2/A121
- CRACKED GRANITE, REFER TO DETAIL 3/A121
- RAKE AND REPOINT OPEN MORTAR JOINTS, TYP.
- SCRAPE, PREPARE, PRIME AND PAINT EXISTING CMU, TYP.

10
A119
SPALLED GRANITE
SCALE: NOT TO SCALE
REF: A110



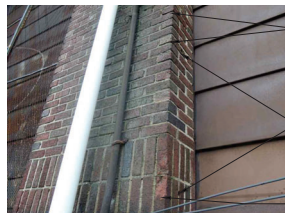
- SPALLED GRANITE, REFER TO DETAIL 2/A121
- REMOVE ALL PAINT FROM EXISTING GRANITE, TYP.
- SCRAPE, PREPARE, PRIME AND PAINT EXISTING CMU
- CRACKED MORTAR JOINT, REFER TO DETAIL 4/A121

11
A119
SPALLED GRANITE
SCALE: NOT TO SCALE
REF: A110



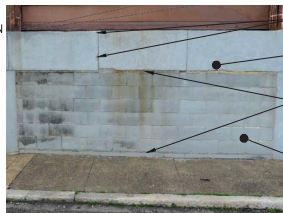
- RAKE AND REPOINT OPEN MORTAR JOINTS, TYP.
- RAKE AND REPOINT OPEN MORTAR JOINTS, TYP.

12
A119
OPEN MORTAR JOINTS
SCALE: NOT TO SCALE
REF: A110



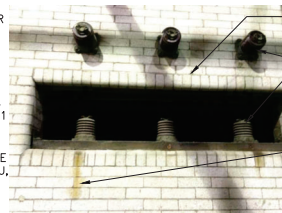
- RAKE AND REPOINT OPEN MORTAR JOINTS, TYP.
- FILL ABANDONED PARTITION, REFER TO DETAIL 5/A121
- SPALLED BRICK, REFER TO DETAIL 1/A121

13
A119
SPALLED BRICK
SCALE: NOT TO SCALE
REF: A110



- SPALLED GRANITE, REFER TO DETAIL 1/A121
- REMOVE PAINT FROM EXISTING GRANITE, TYP.
- CRACKED MORTAR JOINT, REFER TO DETAIL 4/A121
- SCRAPE, PREPARE, PRIME AND PAINT EXISTING CMU, TYP.

14
A119
SPALLED GRANITE
SCALE: NOT TO SCALE
REF: A110



- CRACKED BRICK, REFER TO DETAIL 3/A121
- REMOVE ABANDONED INSULATOR, TYP.
- CLEAN EXISTING BRICK, TYP.

15
A119
LOOSE BRICK
SCALE: NOT TO SCALE
REF: A115

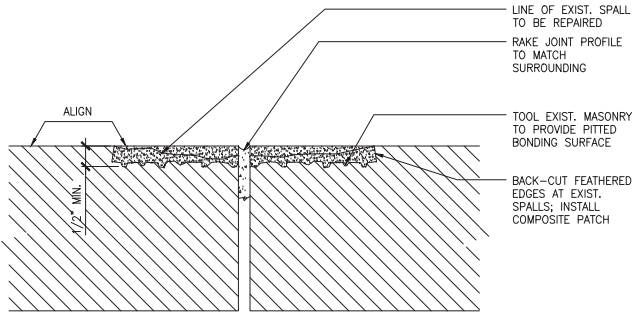


- REPOINT OPEN MORTAR JOINT
- SCRAPE, PREPARE, PRIME AND PAINT EXISTING CONCRETE LINTEL
- DAMAGED BRICK, REFER TO REPAIR NOTES ON DRAWING A121

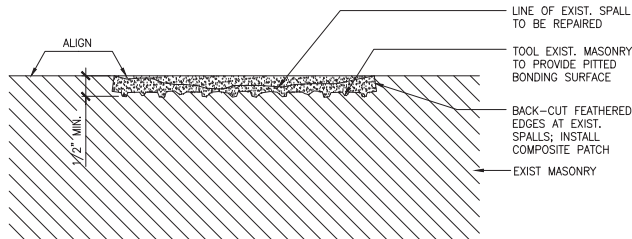
16
A119
DAMAGED BRICK
SCALE: NOT TO SCALE
REF: A112

50% SUBMISSION
NOT FOR CONSTRUCTION

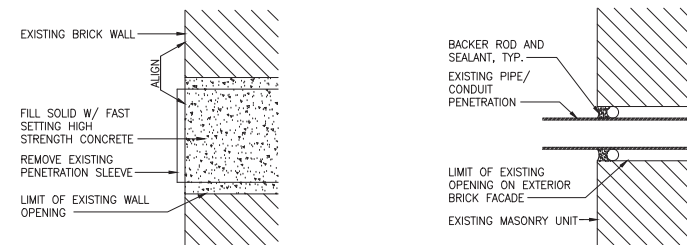
NO.	DESCRIPTION	REV.	DATE	BY	CHKD	APPD



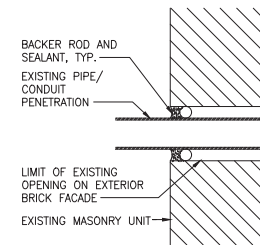
1 MASONRY SPALL REPAIR AT JOINT
SCALE: 6" = 1'-0"



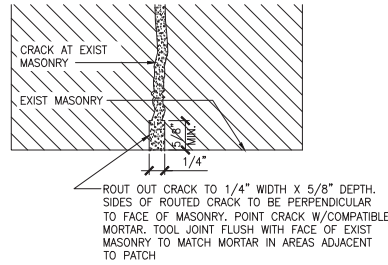
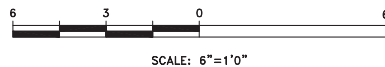
2 MASONRY SPALL REPAIR
SCALE: 6" = 1'-0"



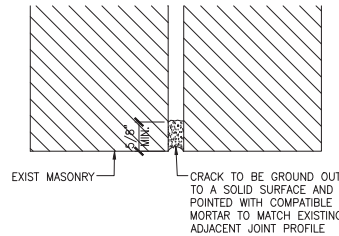
5 ABANDONED PENETRATION REPAIR
SCALE: 6" = 1'-0"



6 PENETRATION REPAIR
SCALE: 6" = 1'-0"



3 MASONRY CRACK REPAIR
SCALE: 6" = 1'-0"



4 MORTAR JOINT REPAIR
SCALE: 6" = 1'-0"

NOTES:

1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
3. DRAWINGS INDICATE THE VARIOUS TYPES OF REPAIRS REQUIRED AT THE MOST SEVERE LOCATIONS. DRAWINGS SHOW THE INTENT OF THE SCOPE OF WORK BUT DO NOT INCLUDE EVERY SMALL AREA REQUIRING REPAIR, RESTORATION OR REFINISH.
4. PATCHING CEMENT SHALL BE DESIGNED FOR THE REPAIR OF HORIZONTAL, VERTICAL, AND OVERHEAD CONCRETE AND MASONRY SURFACES.
5. MORTAR SHALL BE COMPATIBLE WITH EXISTING MORTAR IN HARDNESS, TEXTURE AND COLOR.

REPAIR NOTES

BRICK:

1. POWERWASH ALL BRICK SURFACES TO REMOVE DIRT AND GRIME.
2. RAKE AND REPOINT ALL AREAS OF DAMAGED MORTAR JOINTS.
3. REMOVE AND RE-INSTALL BRICKS AT SEVERE CRACK LOCATIONS.
4. GRIND OUT CRACK, PREP, PRIME AND PAINT METAL SURFACE OF SHELF ANGLE, REMORTAR.
5. WATERPROOF BRICK WALLS WITH AN APPROVED BREATHABLE CLEAR SILANE SOLUTION.
6. REPLACE ALL MISSING, CRACKED, BROKEN AND SPALLED BRICK.
7. REPAIR CRACKS IN WALLS.
8. REMOVE AND REBUILD THE BOWING AREA OF BRICK WALL LOCATED IN THE CENTER END OF THE WEST ELEVATION. APPROXIMATELY 150 S.F. WORK AREA, 10 S.F. OF THIS AREA IS TO BE REMOVED AND REBUILT.
9. REPAIR ALL CRACKED BRICK, MAXIMUM CRACK WIDTH 1/8". REPLACE BRICK WHERE CRACK EXCEEDS 1/8".
10. REPOINT OPEN MORTAR JOINTS IN EXISTING AREAS AS SHOWN.
11. REMOVE ALL EXISTING PAINT ON BRICK.

WALL PENETRATIONS:

1. REMOVE ABANDONED PROJECTIONS, FILL OPEN HOLES SOLID WITH NON-SHRINK GROUT.
2. AT SMALL PIPE/CONDUIT WALL PENETRATIONS SEAL VOID BETWEEN PIPE AND WALL WITH BACKER ROD AND SEALANT.
3. SEAL PERIMETER OF CONDUIT AND SLEEVES.
4. REMOVE ABANDONED PIPING, FILL OPEN HOLES SOLID WITH NON-SHRINK GROUT.

STEEL LINTELS:

1. EXISTING FAILING LINTELS TO BE REMOVED & REPLACED.
2. RAKE AND RE-CAULK METAL/ MASONRY TIE-IN.
3. PREPARE RUSTED LINTEL TO BARE METAL, PRIME (1 COAT) AND PAINT (2 COATS).
4. REMOVE AND REPLACE DAMAGED LINTELS. COORDINATE WITH STRUCTURAL DRAWINGS.

POWERWASHING, SCRAPING, AND SANDING:

1. TESTING SHALL BE PERFORMED TO DETERMINE PRESENCE OF LEAD. IF LEAD IS PRESENT, ALL INSTANCES SHALL BE REMEDIATED. ALL REMEDIATION WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES AND LAWS.
2. PAINTED SURFACES BEING POWERWASHED SHALL BE "CONTAINED" AS PER CODE.
3. DRY SCRAPING OR SANDING OF PAINTED SURFACES MAY ONLY BE PERFORMED WITH EQUIPMENT UTILIZING VACUUM ATTACHMENT W/ HEPA FILTER, AS PER CODE.

ASBESTOS REMOVAL:

1. TESTING SHALL BE PERFORMED TO DETERMINE THE PRESENCE OF ASBESTOS. IF ASBESTOS IS PRESENT, ALL INSTANCES SHALL BE ABATED. ALL ABATEMENT WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES AND LAWS.
2. REMOVAL OF NON-FRIABLE ASBESTOS CONTAINING MATERIALS SHALL BE PERFORMED IN SUCH A MANNER THAT THE MATERIALS REMAIN NON-FRIABLE DURING THE RENOVATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE MATERIALS ARE REMOVED WITHOUT RENDERING THE MATERIAL FRIABLE. REFER TO ASBESTOS ABATEMENT SPECIFICATIONS FOR ADDITIONAL INFORMATION ON REMOVAL PROCEDURES.

GRANITE:

1. REMOVE ALL EXISTING PAINT ON GRANITE.
2. POWERWASH ALL GRANITE SURFACES TO REMOVE DIRT AND GRIME.
3. REPAIR CRACKS IN WALLS.
4. REPOINT ALL OPEN MORTAR JOINTS.
5. WATERPROOF GRANITE WITH APPROVED, CLEAR, BREATHABLE SILANE SOLUTION.

LIMESTONE:

1. REMOVE ALL EXISTING PAINT ON LIMESTONE.
2. POWERWASH ALL SURFACES TO CLEAN STONES.
3. REPAIR AND RESTORE ALL SPALLED AND BROKEN LIMESTONE.
4. RAKE AND REPOINT ALL OPEN JOINTS.
5. WATERPROOF LIMESTONE WITH APPROVED, CLEAR, BREATHABLE SILANE SOLUTION.

TERRA COTTA:

1. POWER WASH ALL SURFACES TO REMOVE DIRT AND GRIME.
2. REPAIR AND RESTORE DAMAGED TERRA COTTA.
3. REPLACE TERRA COTTA UNITS WITH SEVERE SPALLING.
4. RAKE AND REPOINT ALL OPEN JOINTS.
5. WATERPROOF TERRA COTTA WITH APPROVED SEALANT PER SPECIFICATION 04212.

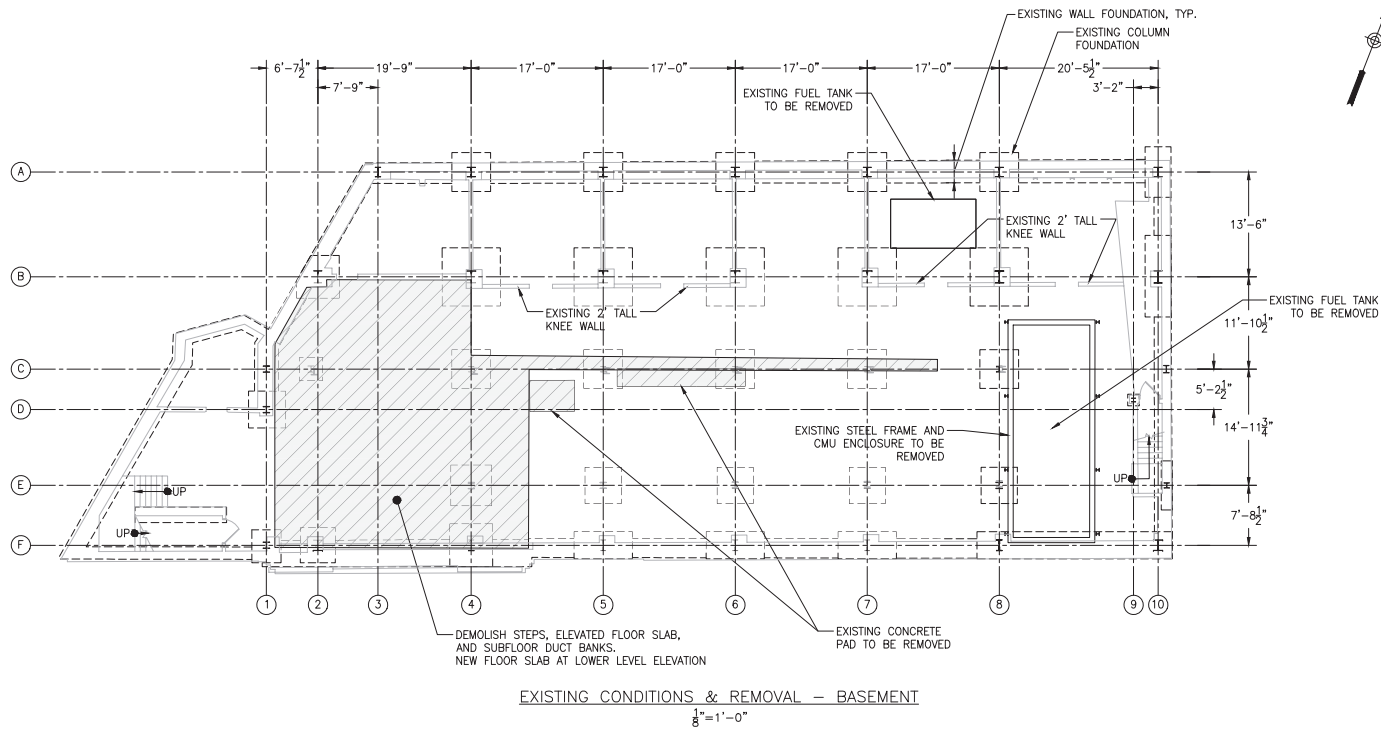
POLYCHROME TERRA COTTA:

1. POWER WASH ALL SURFACES TO REMOVE DIRT AND GRIME.
2. MECHANICALLY ABRASE SURFACES TO REMOVE LOOSE GLAZING.
3. FILL IN CRACKS, REBUILD DAMAGED SECTIONS AND CROSS JOINTS WITH THE ELASTOMERIC COATING SYSTEM'S APPROVED PASTE.
4. REMOVE AND REINSTALL SECTIONS THAT HAVE SEPARATED MORE THAN 3/8" FROM EACH OTHER AT HORIZONTAL JOINTS.
5. PRIME SURFACE.
6. APPLY COLOR CAST.

CEMENT PARGE:

1. POWER WASH REPAIR AREA AND SURROUNDING AREA.
2. APPLY CEMENT PARGE EVENLY WITH EXISTING.
3. PAINT TO MATCH EXISTING.

50% SUBMISSION
NOT FOR CONSTRUCTION



NOTES:

- FOR GENERAL STRUCTURAL NOTES SEE DRAWING S100.

WORK ON THIS DRAWING:

- SELECT DEMOLITION OF EXISTING CONCRETE EQUIPMENT PADS.
- DEMOLISH STAIRS, DUCT BANKS AND LEVEL FLOOR.

8 6 4 2 0 8

SCALE: $\frac{1}{8}'' = 1'-0''$

50% SUBMISSION
NOT FOR CONSTRUCTION



1324 MARKET ST., 19TH FL.
PHILADELPHIA, PA 19107

SEPTA ENGINEER: EAC

SEPTA PROJECTING OFFICE: BBS

SEPTA RAIL TRACT OFFICE:

SEPTA SPECIALTY:

SEPTA PROJECTING OFFICE: BBS

SEPTA ARCHITECT/ENGINEER:

PROJECT NUMBER:



HDR Engineering, Inc.
Philadelphia, PA

MELIGRA DESIGN
250 MORGAN STREET
PHILADELPHIA, PA 19146
(610) 933-0123

REV	DATE	DESCRIPTION	BY	CHK	APP

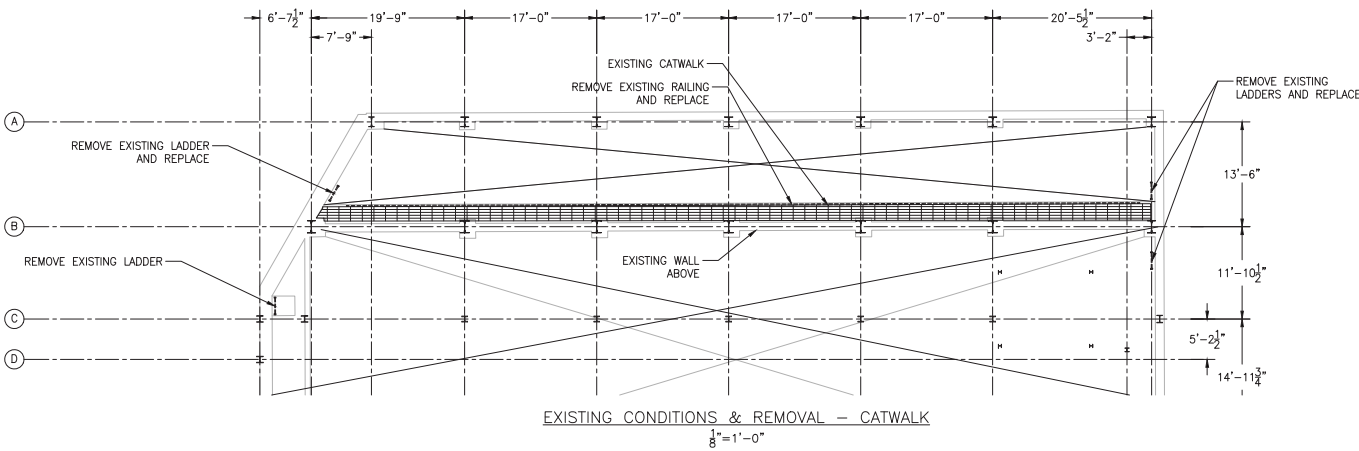
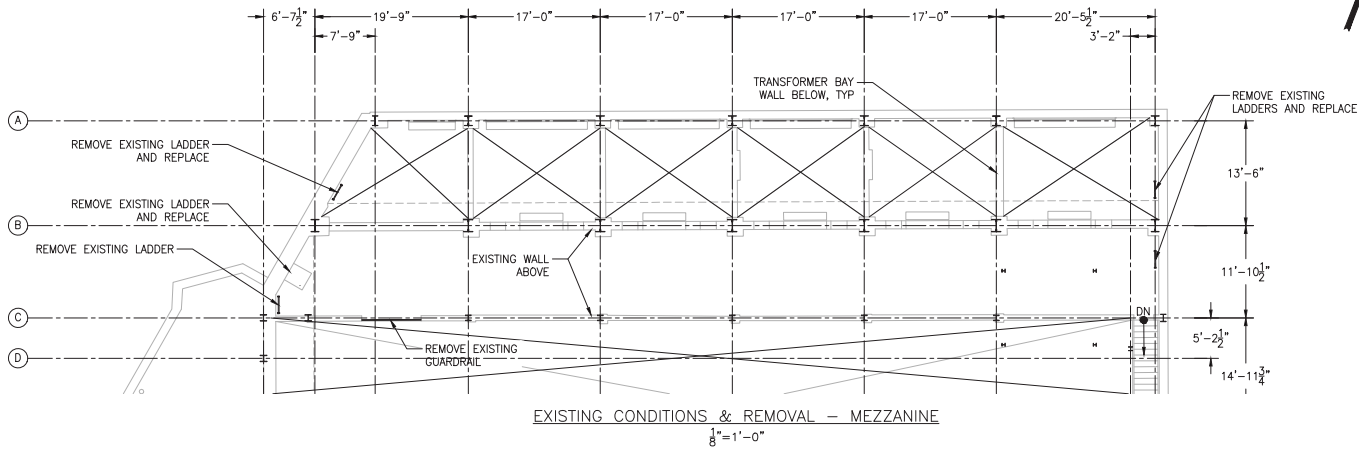
BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
STRUCTURAL
EXISTING CONDITIONS & REMOVAL - BASEMENT

DATE:	1/8" = 1'-0"	SCALE FACTOR:
DATE:	08/22/2025	DESIGNED BY: BBS
PROJECT NUMBER:	276491	CHECKED BY: BBS
SHEET NUMBER:	S101	
DWG NO.:	2	OF 17
CITY NO.:	38	OF 452
ARCHIVE NO.:		
COMPUTER FILE NO.:	17AN-S101	
REV. NO.:	-	

DATE PRINTED: 10/19/2025

STATUS: 50% SUBMISSION

C:\PWORKING\PTT\17AN\S103.DWG



NOTES:
1. FOR GENERAL STRUCTURAL NOTES SEE DRAWING S100.

WORK ON THIS DRAWING:
• REMOVE LADDERS.
• REMOVE GALLERY GUARDRAIL.
• REMOVE CATWALK GUARDRAIL.

8 6 4 2 0 8
SCALE: 1/8"=1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



HDR ENGINEER: EAC
2025 PROJECTING OFFICE: BBS
2025 RAIL TRAFFIC OFFICE:
PROJECT ID: 17AN-S103
DIRECTOR OF PROJECTING: BBS
MANAGER ARCHITECTURE:
PROJECT MANAGER:

HDR
HDR Engineering, Inc.
Philadelphia, PA
MELIGRA DESIGN
250 MORGAN STREET
PHILADELPHIA, PA 19146
(610) 933-0123

REV	DATE	DESCRIPTION	BY	CHK	APP

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
STRUCTURAL
EXISTING CONDITIONS & REMOVAL — MEZZANINE

DATE: 08/22/2025
SCALE FACTOR: 1/8" = 1'-0"
DRAWN BY: BBS
CHECKED BY: BBS
PROJECT NUMBER: 276491
SHEET NUMBER: **S103**
SHEET TOTAL: 4 OF 17
DATE: 08/22/2025
PROJECT: 17AN-S103
STATUS: 50% SUBMISSION

CHIEF ENGINEER - EMBG
CHIEF ENGINEERING OFFICER - SSB
CHIEF RAIL TRAMST OFFICER
SYSTEMS SAFETY
DIRECTOR OF ENGINEERING - SSB
MANAGER - ARCH ENGINEERING
PROJECT MANAGER

MELIORA DESIGN
Civil, Water Resources, and Structural Engineering
259 MORGAN STREET
PHOENIXVILLE, PA 19460
(610) 933-0123

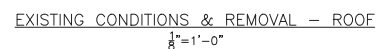
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DATE PRINTED: 10/15/2025

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
STRUCTURAL
EXISTING CONDITIONS & REMOVAL - ROOF

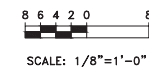
SCALE: 1/8" = 1'-0"	SCALE FACTOR: -
DATE: 08/22/2025	DRAWN BY: MKT CHECKED BY: JWA
WORK ORDER NO.: 276491	
SHEET NUMBER: S104	
DWG. NO.: 5	OF 17
SHT. NO.: 41	OF 452
ARCHIVE NO.:	
COMPUTER FILE NO.: 17AN-S104	REV. NO.: -

ATTI S. 576: S. 1111



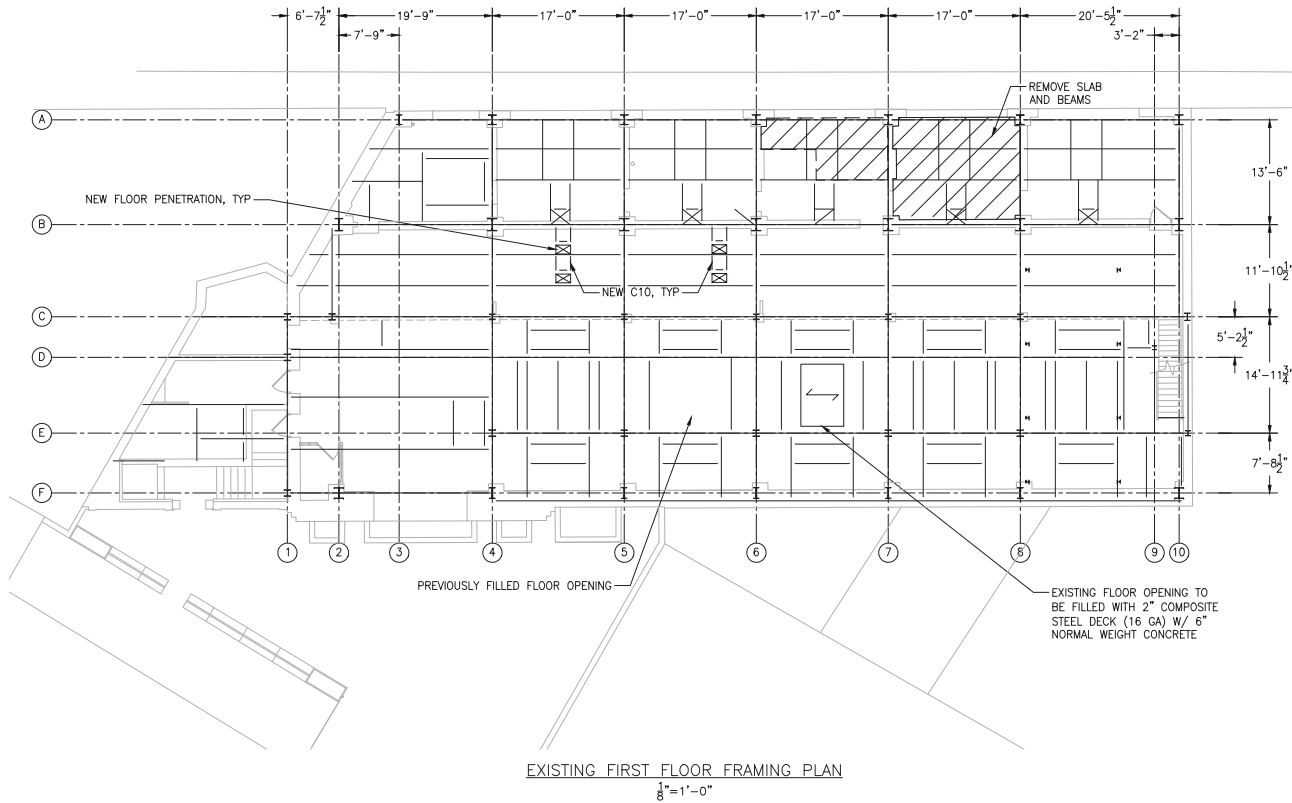
NOTES:
1. FOR GENERAL STRUCTURAL NOTES SEE DRAWING
S100.

WORK ON THIS DRAWING:
• NONE.



50% SUBMISSION
NOT FOR CONSTRUCTION

C:\PWORKING\PTT\085017\AN-S105.DWG



EXISTING FIRST FLOOR FRAMING PLAN
1/8"=1'-0"

- NOTES:
1. FOR GENERAL STRUCTURAL NOTES SEE DRAWING S100.
 2. ALL FRAMING IS EXISTING UNLESS OTHERWISE NOTED.

WORK ON THIS DRAWING:

- NEW FLOOR PENETRATIONS.

8 6 4 2 0 8
SCALE: 1/8"=1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



HDR ENGINEER: EACB
SEPTA PROJECTING OFFICE: BBS
SEPTA RAIL TRACT OFFICE:
PROJECT ID: 001
SEPTA PROJECTING OFFICE: BBS
SEPTA RAIL TRACT OFFICE:
PROJECT NUMBER:

HDR
HDR Engineering, Inc.
Philadelphia, PA
MELIGRA DESIGN
250 MORGAN STREET
PHILADELPHIA, PA 19146
(610) 933-0123

REV	DATE	DESCRIPTION	BY	CHK	APP

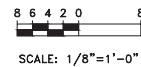
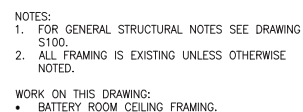
BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
STRUCTURAL
EXISTING FIRST FLOOR FRAMING PLAN

DATE: 08/22/2025
SCALE FACTOR: 1/8"=1'-0"
DRAWN BY: BBS
CHECKED BY: BBS
PROJECT NUMBER: 276491
SHEET NUMBER: **S105**
DRAWING NO.: 6 OF 17
SHEET NO.: 42 OF 452
COMPUTER FILE NO.: 17AN-S105
SHEET NO.: -

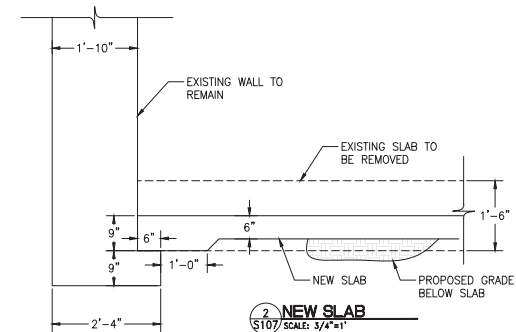
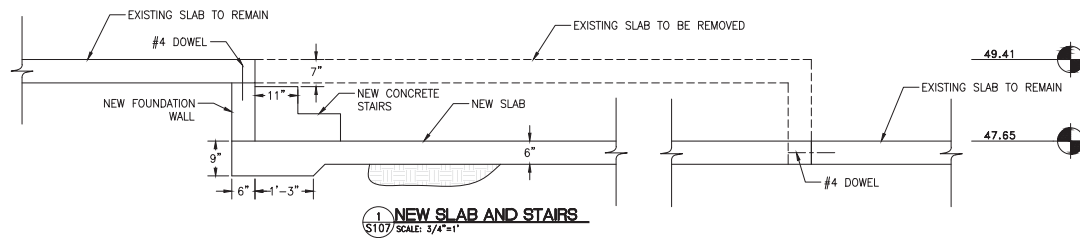
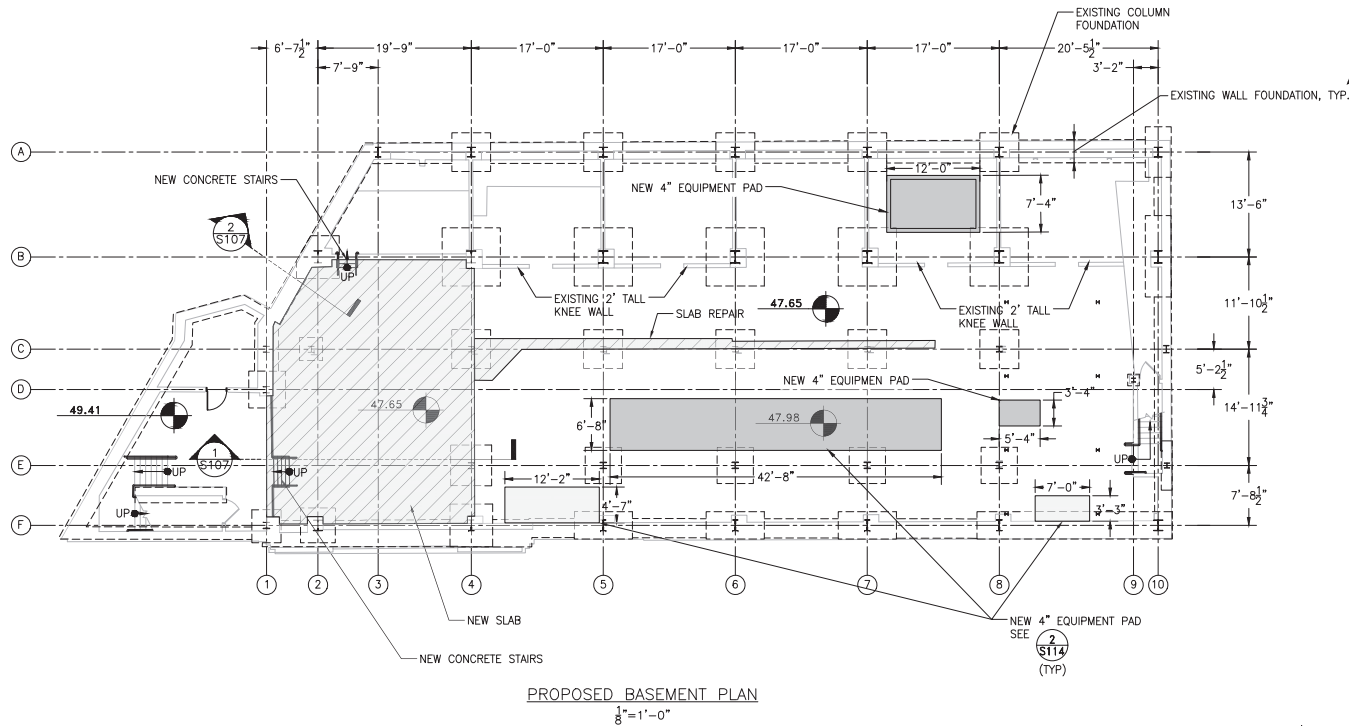
DATE PRINTED: 10/19/2025

STATUS: 50% SUBMISSION

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
STRUCTURAL
EXISTING MEZZANINE FRAMING PLAN

DATE PRINTED: 10/15/2025

50% SUBMISSION
NOT FOR CONSTRUCTION



- NOTES:
- FOR GENERAL STRUCTURAL NOTES SEE DRAWING S100.
 - FINAL EQUIPMENT PAD TO BE FINALIZED ONCE TANK IS PROCURED.
- WORK ON THIS DRAWING:
- NEW CONCRETE FLOOR SLAB.
 - NEW CONCRETE EQUIPMENT PADS.
 - NEW CONCRETE STAIRS.



1324 MARKET ST., 15TH FL.
PHILADELPHIA, PA. 19107

SEPTA ENGINEER: [Blank]
 SEPTA PROJECTING OFFICE: [Blank]
 SEPTA RAIL TRASH OFFICE: [Blank]
 SEPTA STATION: [Blank]
 SEPTA PROJECTING OFFICE: [Blank]
 SEPTA ARCHITECT: [Blank]
 SEPTA OWNER: [Blank]

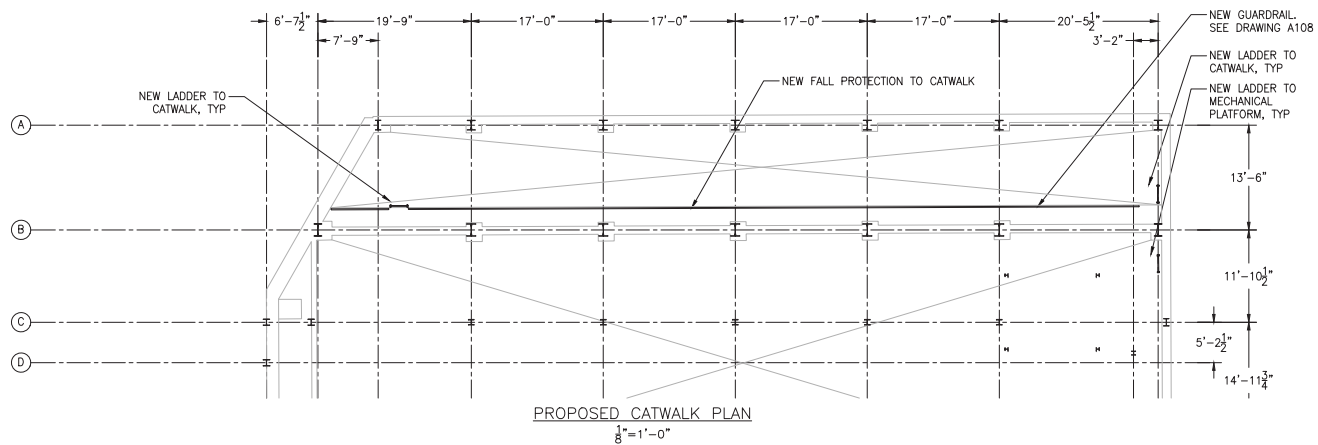
HDR Engineering, Inc.
 Philadelphia, PA
MELIGRA DESIGN
 250 MORGAN STREET
 PHILADELPHIA, PA 19146
 (610) 933-0123

REV	DATE	DESCRIPTION	BY	CHK	APP

BROAD
 SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
STRUCTURAL
 PROPOSED BASEMENT PLAN

DATE: AS NOTED
 DATE: 08/22/2025
 DRAWN BY: [Blank]
 CHECKED BY: [Blank]
 PROJECT NUMBER: 276491
S107
 SHEET NO.: 8 OF 17
 SHEET NO.: 44 OF 452
 ARCHITECT: [Blank]
 COMPUTER FILE NO.: [Blank]
 SHEET NO.: [Blank]

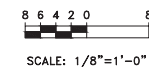
50% SUBMISSION
 NOT FOR CONSTRUCTION



NOTES:
1. FOR GENERAL STRUCTURAL NOTES SEE DRAWING S100.

WORK ON THIS DRAWING:

- NEW LADDERS.
- NEW GALLERY GUARDRAIL.
- NEW CATWALK GUARDRAIL.



50% SUBMISSION
NOT FOR CONSTRUCTION



1234 MARKET ST., 13TH FL.
SAN FRANCISCO, CA 94102

CHIEF ENGINEER - EMC

CHIEF ENGINEERING OFFICER - 888

CHIEF FAL TRANSIT OFFICER

SYSTEM SAFETY

DIRECTOR OF ENGINEERING - III

MANAGER - ARCH / ENGINEERING

PROJECT MANAGER



HDR Engineering, Inc.
Philadelphia, PA

MELIORA DESIGN
Civil, Water Resources, and Structural Engineering
259 MORGAN STREET
PHOENIXVILLE, PA 19460
(610) 933-0123

[illegible]

REV | DATE |
DATE PRINTED: 10/15/2025

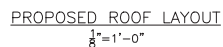
**BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
STRUCTURAL
PROPOSED MEZZANINE PLAN**

SCALE: 1/8" = 1'-0"	SCALE FACTOR: -
DATE: 08/22/2025	DRAWN BY: MKT CHECKED BY: JBA
WORK ORDER NO.: 276491	
SHEET NUMBER: S109	
DWG. NO.: 10	OF 17
SHT. NO.: 46	OF 452
ARCHIVE NO.:	
COMPUTER FILE NO.: 17AN-S109	REV. NO.: -

NO. 1111

DATE PRINTED: 10/15/2025

SCALE: 1/8" = 1'-0"	SCALE FACTOR: -
DATE: 08/22/2025	DRAWN BY: SKT CHECKED BY: JWA
WORK ORDER NO.: 276491	
SHEET NUMBER: S110	
DWG. NO.: 11	OF 17
SHT. NO.: 47	OF 452
ARCHIVE NO.:	
COMPUTER FILE NO.: 17AN-S110	
REV. NO.:	



8 6 4 2 0 8

SCALE: 1/8"=1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



REPAIR TYPE 2 IS USED WHEN DEPTH OF DETERIORATED CONCRETE IS GREATER THAN 3/4" AND EXISTING REINFORCEMENT SPACED $\leq 12"$ ON CENTERS. OTHERWISE USE REPAIR TYPE 2A.

CONCRETE REPAIR TYPE 2 DETAIL
FOR AREAS WITH EXISTING
REINFORCEMENT HAVING LESS
THAN 2" OF COVER.

1. SQUARE OFF DETERIORATED CONCRETE TO SOUND CONCRETE WITH A SAWCUT OF 3/4" MINIMUM TO 1" MAXIMUM BUT NOT TO THE DEPTH OF THE REINFORCEMENT STEEL. BACK BEVEL EDGE BEYOND SAWCUT.
2. USE HAND TOOLS TO REMOVE ALL LOOSE AND DELAMINATED CONCRETE THAT PROVIDES A SOUND BOND BETWEEN EXISTING CONCRETE AND NEW CONCRETE. PNEUMATIC HAMMERS WITH IMPACT RATINGS OF 3 FT-LBS OR LESS MAY BE USED IF REQUIRED.
3. IF DETERIORATED CONCRETE EXTENDS BEYOND THE PRIMARY REINFORCEMENT, REMOVE THE CONCRETE TO AT LEAST 3/4" BEHIND THE REINFORCEMENT.
4. APPLY AN EPOXY BONDING COMPOUND BETWEEN THE EXISTING AND THE NEW CLASS A CEMENT CONCRETE.
5. "W" REPRESENTS LEAST DIMENSION OF DETERIORATED CONCRETE.
6. USE DOWELS ONLY WHEN "W" DIMENSION OF DETERIORATED CONCRETE IS GREATER THAN 2'-0" AND NEW OR EXISTING REINFORCEMENT CANNOT ADEQUATELY BE DEVELOPED BY LAPPING WITH EXISTING REINFORCEMENT.
7. USE A PACHOMETR TO LOCATE EXISTING REINFORCEMENT WHEN DRILLING DOWEL HOLES TO AVOID DRILLING THRU EXISTING BARS.
8. AN APPROVED EPOXY ANCHORING SYSTEM IN 90° HOLES MAY REPLACE GROUT IN SLOPED HOLES. USE A 6" MINIMUM EMBEDMENT AND IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
9. A #4 DEFORMED REINFORCEMENT BENT "L" BAR MAY REPLACE THE 1/2" DIAMETER DOWEL HOOK.
10. ALTERNATE WIRE MESH MAY BE SUBSTITUTED FOR 3x3-W10x10, PROVIDED WIRE SPACING DOES NOT EXCEED 4" AND AN EQUIVALENT STEEL AREA IS PROVIDED. NEW REINFORCEMENT BARS MAY BE OMITTED IF WIRE MESH STEEL AREA EXCEEDS EXISTING REINFORCEMENT.
11. CLEAN EXISTING REINFORCEMENT BY MECHANICAL MEANS.
12. LAP EQUIVALENT NEW REINFORCEMENT TO THE EXISTING REINFORCEMENT AS DIRECTED.
13. REINFORCEMENT BARS TO BE GALVANIZED.

NOTES:
1. FOR GENERAL STRUCTURAL NOTES SEE DRAWING S100.

WORK ON THIS DRAWING:
• CONCRETE REPAIRS.



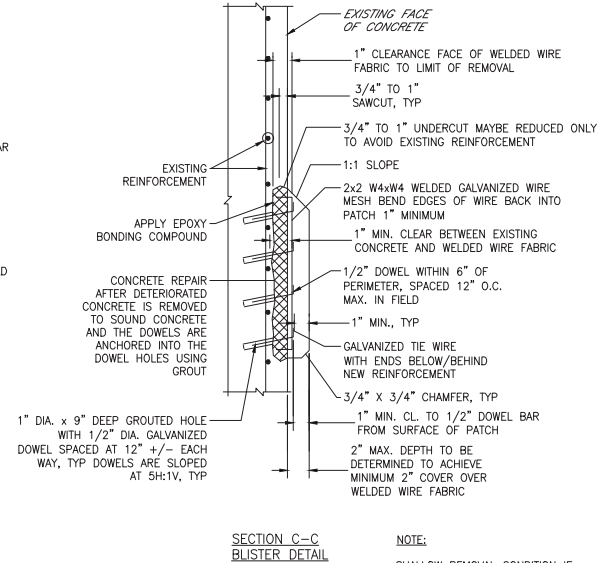
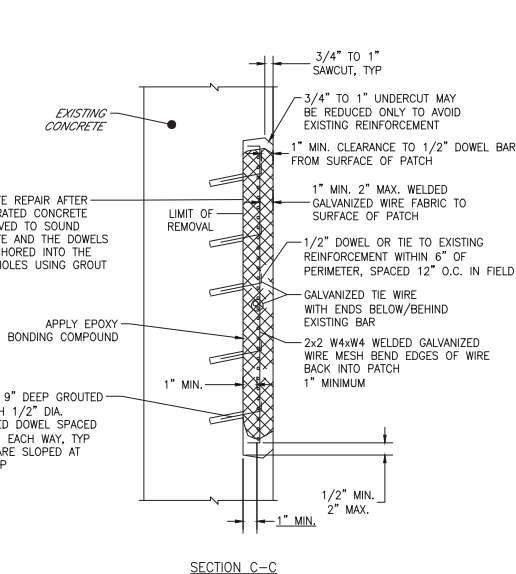
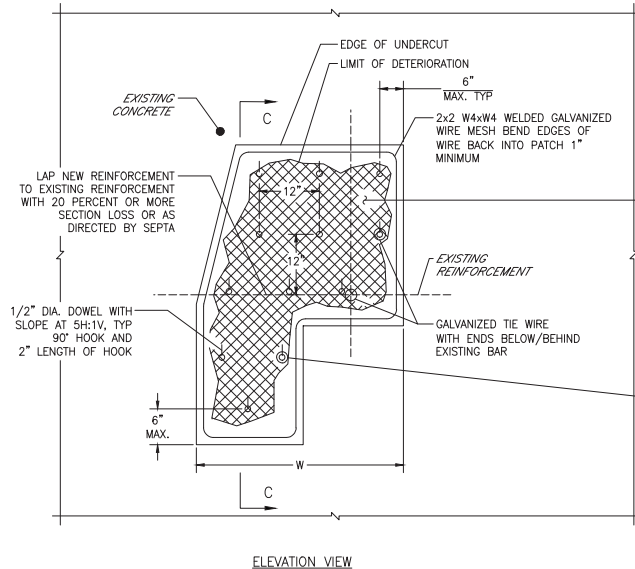
2 CONCRETE REPAIR TYPE 1
S111 SCALE: N.T.S.

NOTE:
REPAIR TYPE 1 IS USED WHEN
DEPTH OF DETERIORATED CONCRETE
IS LESS THAN EQUAL TO 3/4".

1. SQUARE OFF DETERIORATED CONCRETE TO SOUND CONCRETE WITH A SAWCUT OF 3/4" MAXIMUM.
2. REMOVE ALL LOOSE AND DELAMINATED CONCRETE TO PROVIDE A SOUND BOND BETWEEN EXISTING CONCRETE AND PATCHING.
3. APPLY A RAPID HARDENING CONCRETE PATCHING MATERIAL FROM AN APPROVED MANUFACTURER AND IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

 REMOVE DETERIORATED CONCRETE

S111	
DWG. NO.: 12	or 17
SHT. NO.: 48	or 452
ARCHIVE NO.:	
COMPUTER FILE NO.: 17AN-S111	REV. NO.: -



NOTE:
SHALLOW REMOVAL CONDITION IF
PATCH CANNOT ENGAGE
EXISTING REINFORCEMENT.

1 CONCRETE REPAIR TYPE 2A
S112 SCALE: N.T.S.

REINFORCED CONCRETE REPAIR TYPE 2A NOTES:

1. REPAIR TYPE 2A IS USED WHEN DEPTH OF DETERIORATION IS GREATER THAN 3/4" AND EXISTING REINFORCEMENT IS SPACED GREATER THAN 12" ON CENTER.
2. PROVIDE GALVANIZED WIRE TIE TO CONNECT EXISTING REINFORCEMENT AND GALVANIZED 2x2 W4xW4 WELDED WIRE MESH ALONG THE PERIMETER OF THE REMOVAL AREA AT A MAXIMUM SPACING OF 6" FROM THE EDGE OF THE REMOVAL. PROVIDE TIES AT 12" SPACING IN BOTH HORIZONTAL AND VERTICAL DIRECTIONS ALONG THE PERIMETER AND WITHIN THE AREA OF REMOVAL. IF EXISTING REINFORCEMENT IS SPACED AT GREATER THAN 12" SPACING OR NOT LOCATED TO PROVIDE TIE LOCATIONS AS LISTED ABOVE, PROVIDE 1/2" GROUTED DOWELS AS SHOWN ON THE DRAWING TO PROVIDE THE LOCATIONS AT THE SAME SPACINGS.
3. USE ONLY AN APPROVED POLYMER MODIFIED AND SPECIAL CEMENTS, MORTARS AND CONCRETES AS LISTED IN THE SPECIFICATIONS.
4. SQUARE OF DETERIORATED CONCRETE TO SOUND CONCRETE WITH A SAWCUT OF 3/4" MINIMUM TO 1" MAXIMUM BUT NOT TO THE DEPTH OF THE REINFORCEMENT STEEL BACK BEVEL EDGE BEYOND SAWCUT.
5. USE HAND TOOLS TO REMOVE ALL LOOSE AND DELAMINATED CONCRETE TO PROVIDE A SOUND BOND BETWEEN EXISTING CONCRETE AND NEW CONCRETE. PNEUMATIC HAMMER WITH IMPACT RATINGS OF 3 FT-LBS OR LESS MAY BE USED IF REQUIRED.
6. IF DETERIORATED CONCRETE EXTENDS BEYOND THE PRIMARY REINFORCEMENT, REMOVE THE CONCRETE TO AT LEAST 1" BEHIND THE REINFORCEMENT.
7. APPLY AN EPOXY BONDING COMPOUND BETWEEN THE EXISTING AND THE NEW 4000 PSI CONCRETE.
8. "W" REPRESENTS LEAST DIMENSION OF DETERIORATED CONCRETE.
9. USE DOWELS ONLY WHEN "W" DIMENSION OF DETERIORATED CONCRETE IS GREATER THAN 2'-0" AND NEW OR EXISTING REINFORCEMENT CANNOT ADEQUATELY BE DEVELOPED BY LAPPING WITH EXISTING REINFORCEMENT.
10. USE A POLYMER CEMENTER TO LOCATE EXISTING REINFORCEMENT WHEN DRILLING DOWEL HOLES TO AVOID DRILLING THRU EXISTING BARS.
11. AN APPROVED EPOXY ANCHORING SYSTEM IN 90° HOLES MAY REPLACE GROUT IN SLOPED HOLES. USE A 6" MINIMUM EMBEDMENT AND IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
12. A #4 DEFORMED GALVANIZED REINFORCEMENT BENT "L" BAR MAY REPLACE THE 1/2" DIAMETER DOWEL HOOK.
13. ALTERNATIVE WIRE MESH MAY BE SUBSTITUTED FOR 2x2-W4xW4, PROVIDED WIRE SPACING DOES NOT EXCEED 4", AND AN EQUIVALENT STEEL AREA IS PROVIDED. NEW REINFORCEMENT BARS MAY BE OMITTED IF WIRE MESH STEEL EXCEEDS EXISTING REINFORCEMENT.
14. CLEAN EXISTING REINFORCEMENT BY MECHANICAL MEANS AND APPLY EPOXY COATING.
15. LAP EQUIVALENT NEW REINFORCEMENT TO THE EXISTING REINFORCEMENT AS DIRECTED.
16. EXISTING AND NEW REINFORCEMENT BARS AND WELDED WIRE MESH TO BE GALVANIZED.

NOTES:
1. FOR GENERAL STRUCTURAL NOTES SEE DRAWING S100.

- WORK ON THIS DRAWING:
- CONCRETE REPAIRS.

50% SUBMISSION
NOT FOR CONSTRUCTION

DRP NUMBER: 0401
DRP FUNDING OFFICE: 000
DRP RAIL TRUST OFFICE:
PROJECT ID#:
DIRECTOR OF FUNDING: 000
MANAGER ARCH/ENGINEER:
PROJECT NUMBER:

HDR Engineering, Inc.
 Philadelphia, PA
MELIGRA DESIGN
 250 MORGAN STREET
 PHILADELPHIA, PA. 19146-0
 (610) 933-0123

REV	DATE	BY	APP	DESCRIPTION

BROAD
 SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
STRUCTURAL
 CONCRETE REPAIR DETAILS - SHEET 3

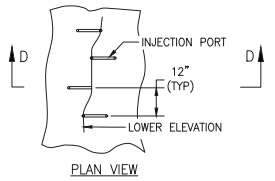
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DATE:	08/22/2025	DESIGNED BY: JAC
PROJECT NUMBER:	276491	CHECKED BY: JAC
SHEET NUMBER:	S113	
DWG. NO.:	14	OF 17
CITY NO.:	50	OF 452
ARCHIVE NO.:		
COMPUTER FILE NO.:	17AN-S113	
FILE NO.:		

50% SUBMISSION
 NOT FOR CONSTRUCTION

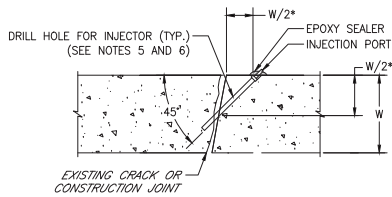
DATE PRINTED: 10/19/2025

STATUS: 50% SUBMISSION

(FOR VERTICAL SURFACES)



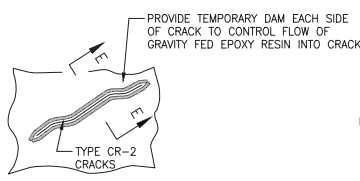
PLAN VIEW



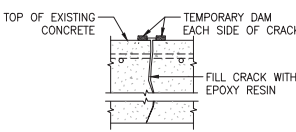
SECTION D-D

1 TYPE 3 CRACK INJECTION REPAIR DETAIL
 S113 SCALE: N.T.S.

(FOR CRACKS UP TO 1/8" WIDE,
 HORIZONTAL SURFACES)

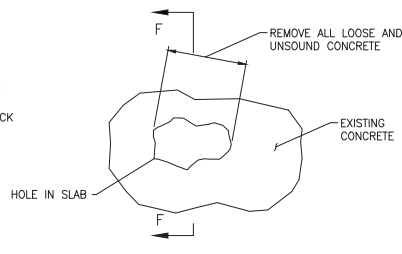


PLAN VIEW

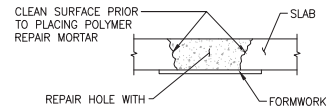


SECTION E-E

2 TYPE 4 GRAVITY CRACK REPAIR DETAIL
 S113 SCALE: N.T.S.



PLAN VIEW



SECTION F-F

3 TYPE 5 CONCRETE HOLE REPAIR DETAIL
 S113 SCALE: N.T.S.

NOTE:

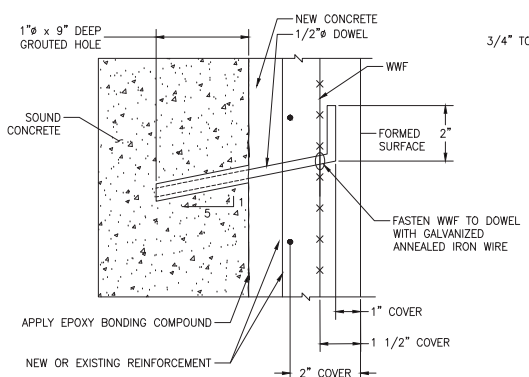
IF THE HOLE EXCEEDS 12" IN ANY DIRECTION DOWEL #5 BARS INTO EXISTING SLAB IN THAT DIRECTION

NOTES:

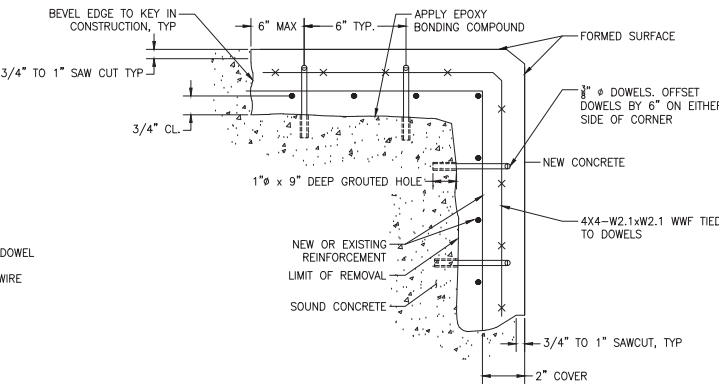
1. FOR GENERAL STRUCTURAL NOTES SEE DRAWING S100.

WORK ON THIS DRAWING:

- CONCRETE REPAIRS.



4 TYPICAL DOWEL DETAIL
 S113 SCALE: N.T.S.



5 TYPICAL CORNER REPAIR DETAIL
 S113 SCALE: N.T.S.

C:\PWORK\KINGPT\10850117AN-S113.DWG

ORF ENGINEER - EMAC

CHIEF ENGINEERING OFFICER - 888

CHIEF RAIL TRANSIT OFFICER

SYSTEM SAFETY

DIRECTOR OF ENGINEERING - 843

SAVAGER - ARCH / ENGINEERING

PROJECT MANAGER

100



HDR Engineering, Inc.
Philadelphia, PA

MELIORA DESIGN
Civil, Water Resources, and Structural Engineering
259 MORGAN STREET
PHOENIXVILLE, PA 19460
(610) 933-0123

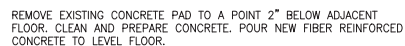
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DATE PRINTED: 10/15/2025

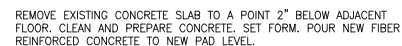
BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
STRUCTURAL
FOUNDATION & PAD DETAILS

SCALE: AS NOTED	SCALE FACTOR: -
DATE 08/22/2025	DRAWN BY: SKT CHECKED BY: JWA
WORK ORDER NO.: 276491	
SHEET NUMBER S114	
DWG. NO.: 15	OF 17
SHT. NO.: 51	OF 452
ARCHIVE NO.:	
COMPUTER FILE NO.: 17AN-S114	REV. NO.: -

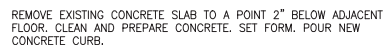
ATTENTION: SUBMISSION



1 **INTERIOR CONCRETE PAD REMOVAL**
S114 **SCALE: N.T.S.**



2 NEW INTERIOR CONCRETE PAD
S114 SCALE: N.T.S.



3 NEW INTERIOR CONCRETE CURB
S114 SCALE: N.T.S.

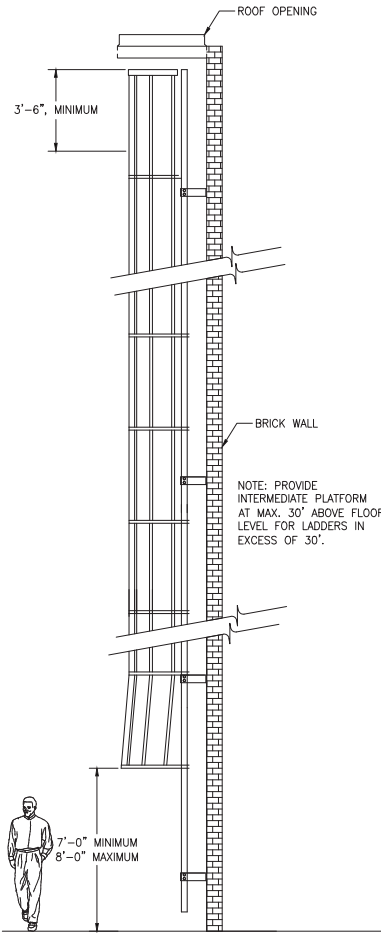
NOTES:
1. FOR GENERAL STRUCTURAL NOTES SEE DRAWING
S100.

WORK ON THIS DRAWING:

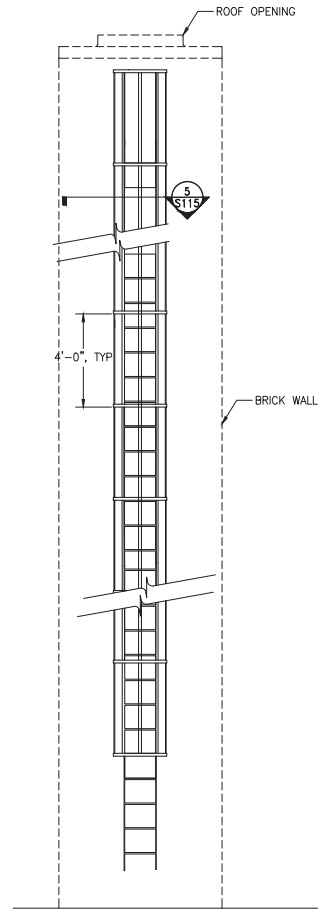
- REMOVAL OF EXISTING CONCRETE EQUIPMENT PADS.
- NEW CONCRETE EQUIPMENT PADS IN EXISTING SLAB.
- NEW CONCRETE CURB IN EXISTING SLAB.

50% SUBMISSION
NOT FOR CONSTRUCTION

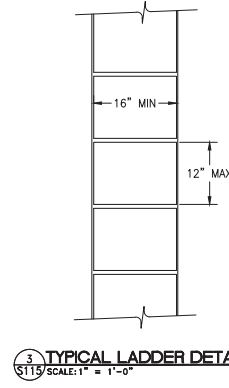
C:\PWORK\KINGPTT\0850117AN\S115.DWG



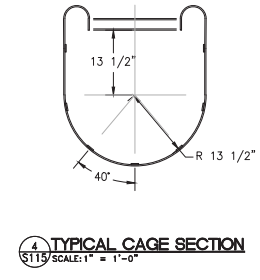
1 LADDER - SIDE ELEVATION
S115 SCALE: 3/8" = 1'-0"



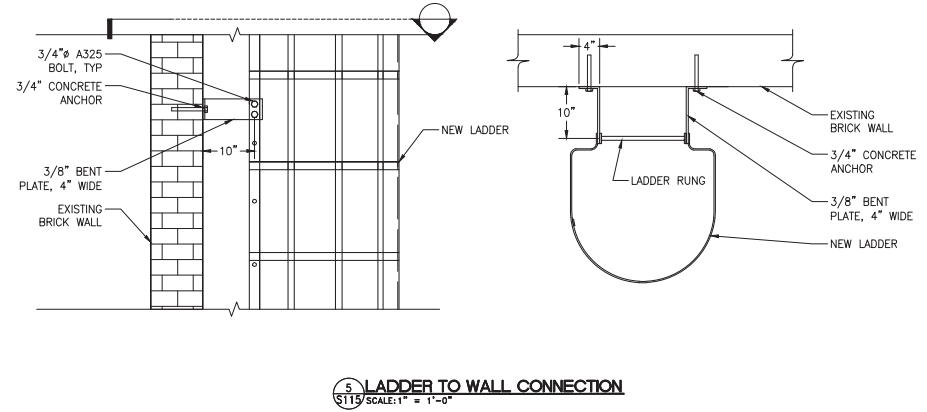
2 LADDER - FRONT ELEVATION
S115 SCALE: 3/8" = 1'-0"



3 TYPICAL LADDER DETAIL
S115 SCALE: 1" = 1'-0"



4 TYPICAL CAGE SECTION
S115 SCALE: 1" = 1'-0"

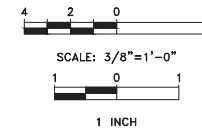


5 LADDER TO WALL CONNECTION
S115 SCALE: 1" = 1'-0"

- NOTES:
1. FOR GENERAL STRUCTURAL NOTES SEE DRAWING S100.
 2. EXISTING ACCESS LADDERS SHALL BE REMOVED AND REPLACED WITH OSHA COMPLIANT LADDERS PER THIS DRAWING.

WORK ON THIS DRAWING:

- NEW LADDER.



50% SUBMISSION
NOT FOR CONSTRUCTION



1324 MARKET ST., 15TH FL.
PHILADELPHIA, PA. 19107

PROJECT NAME:
PROJECT LOCATION:
PROJECT NUMBER:
PROJECT DATE:
PROJECT DESCRIPTION:
PROJECT STATUS:

HDR Engineering, Inc.
Philadelphia, PA
MELIGRA DESIGN
250 MORGAN STREET
PHILADELPHIA, PA. 19146
(610) 933-0123

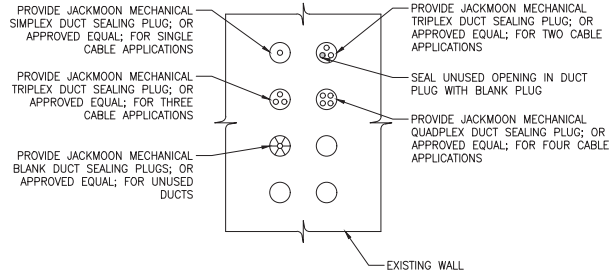
REV	DATE	DESCRIPTION	BY	CHK	APP

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
STRUCTURAL
FALL PROTECTION DETAILS - SHEET 1

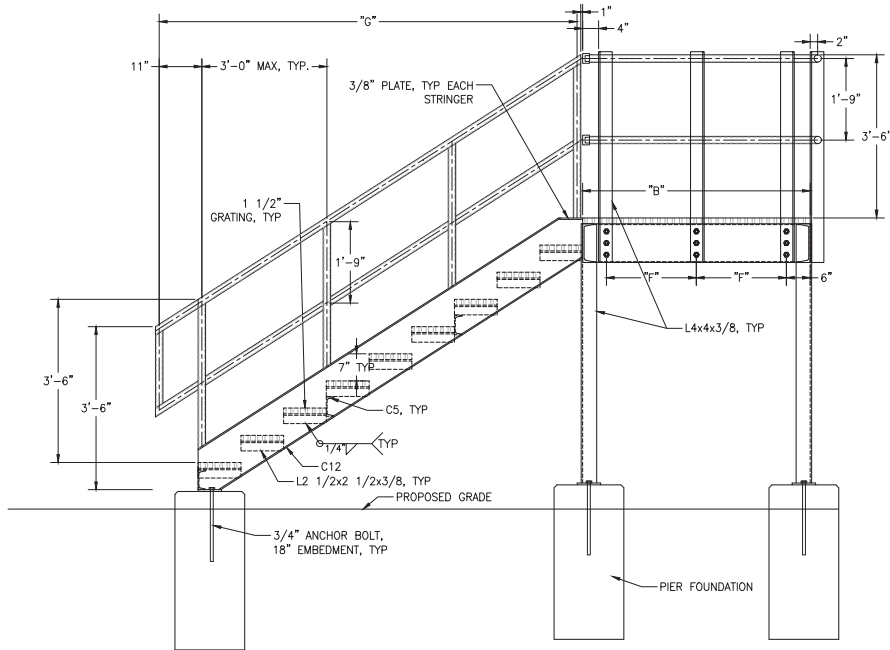
DATE: 08/22/2025
SCALE: 3/8" = 1'-0"
PROJECT NUMBER: 276491
SHEET NUMBER: S115
DRAWING NO.: 16 OF 17
CITY NO.: 52 OF 452
ARCHIVE NO.:
COMPUTER FILE NO.: 17AN-S115
REV NO.:
STATUS: 50% SUBMISSION

NOTES:

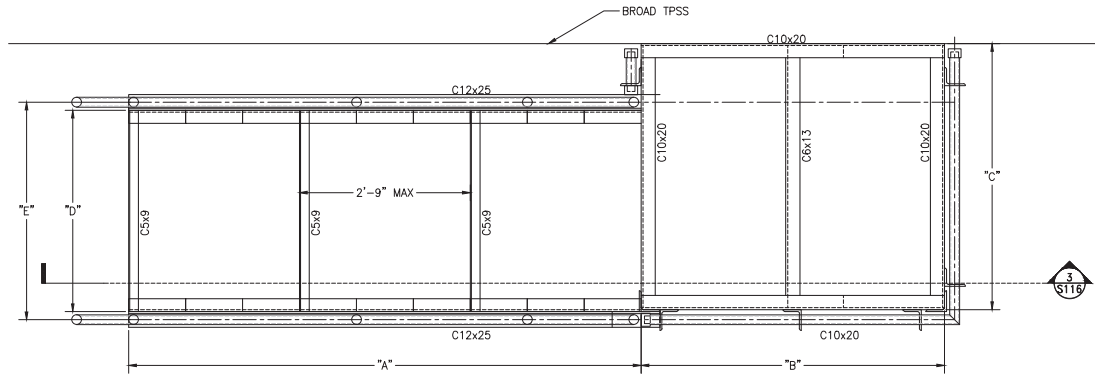
- COORDINATE CABLE SIZES WITH TRACTION POWER DRAWINGS. COORDINATE DUCT INNER DIAMETER SIZE WITH TRACTION POWER DRAWINGS AND VERIFY IN FIELD.
- SEAL UNUSED OPENINGS IN DUCT PLUGS WITH BLANK PLUGS.



1 DUCTBANK SEALING
S116 SCALE: N.T.S.



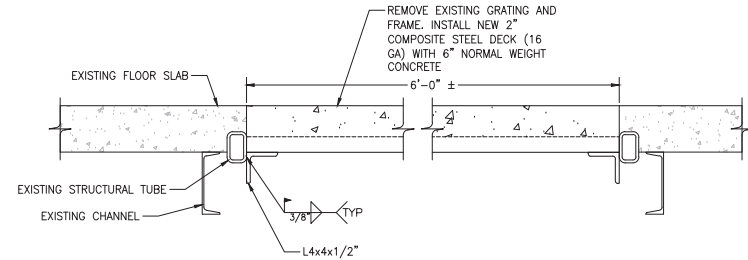
3 METAL STAIRS - SECTION
S119 SCALE: 3/4" = 1'-0"



2 METAL STAIRS - PLAN
S118 SCALE: 1" = 1'-0"

DIMENSION	BROAD TPSS STAIR DIMENSIONS	
	FRONT	REAR
"A"	0'-11"	8'-3"
"B"	5'-8"	4'-11"
"C"	4'-3"	4'-3"
"D"	3'-3"	3'-3"
"E"	3'-6"	3'-6"
"F"	2'-4"	1'-11"
"G"	1'-8"	9'-0"

NOTE: REAR STAIRS SHOWN. FRONT STAIRS SIMILAR.

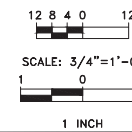


4 NEW CONCRETE FLOOR SLAB AT EXISTING GRATE
S119 SCALE: N.T.S.

NOTES:

- FOR GENERAL STRUCTURAL NOTES SEE DRAWING S100.

- WORK ON THIS DRAWING:
- NEW DUCT BANK SEALS.
 - NEW METAL STAIRS.
 - NEW SLAB INFILL.



50% SUBMISSION
NOT FOR CONSTRUCTION



1324 MARKET ST., 15TH FL.
PHILADELPHIA, PA 19107

DATE: 08/22/2025

BY: [Signature]

CHECKED BY: [Signature]

DESIGNED BY: [Signature]

PROJECT NUMBER: [Number]

PROJECT NAME: [Name]

PROJECT LOCATION: [Location]

PROJECT STATUS: [Status]

PROJECT OWNER: [Owner]

PROJECT MANAGER: [Manager]

PROJECT ENGINEER: [Engineer]

PROJECT ARCHITECT: [Architect]

PROJECT DESIGNER: [Designer]

PROJECT DRAFTER: [Drafter]

PROJECT CHECKER: [Checker]

PROJECT REVIEWER: [Reviewer]

PROJECT APPROVER: [Approver]

PROJECT DATE: [Date]

PROJECT REV: [Revision]

PROJECT DESCRIPTION: [Description]

PROJECT BY: [By]

PROJECT DATE: [Date]

PROJECT REV: [Revision]

PROJECT DESCRIPTION: [Description]

PROJECT BY: [By]

PROJECT DATE: [Date]

PROJECT REV: [Revision]

PROJECT DESCRIPTION: [Description]

PROJECT BY: [By]

PROJECT DATE: [Date]

PROJECT REV: [Revision]

PROJECT DESCRIPTION: [Description]

PROJECT BY: [By]

PROJECT DATE: [Date]

PROJECT REV: [Revision]

PROJECT DESCRIPTION: [Description]

PROJECT BY: [By]

PROJECT DATE: [Date]

PROJECT REV: [Revision]

PROJECT DESCRIPTION: [Description]

PROJECT BY: [By]

PROJECT DATE: [Date]

PROJECT REV: [Revision]

PROJECT DESCRIPTION: [Description]

PROJECT BY: [By]

PROJECT DATE: [Date]

PROJECT REV: [Revision]

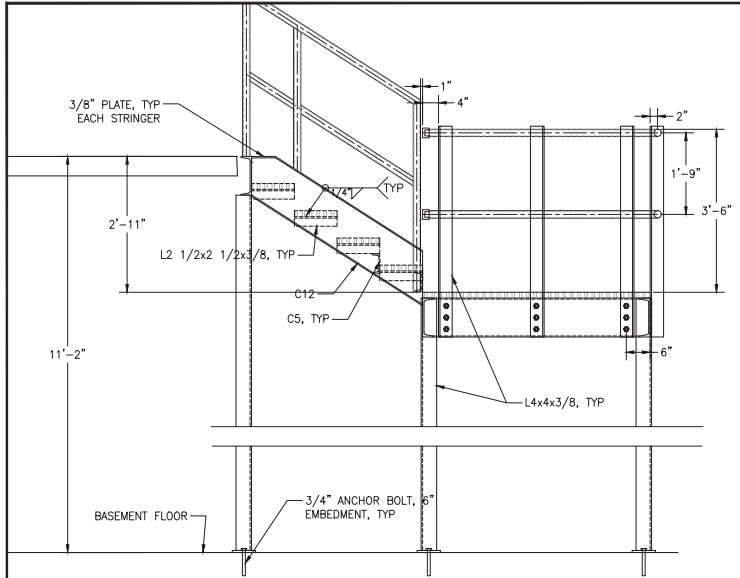
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PROJECT BY: [By]

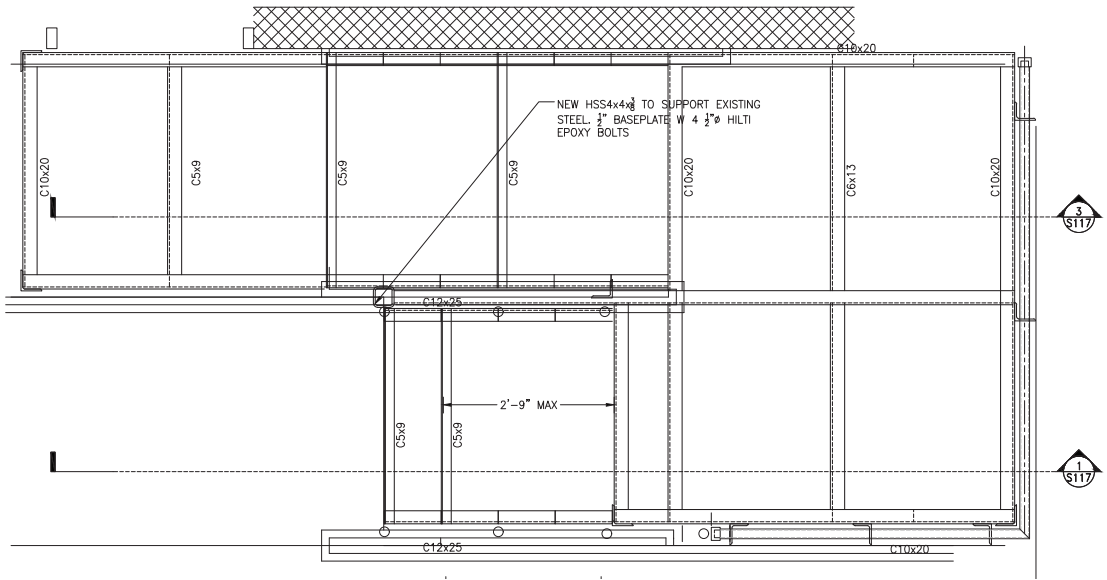
PROJECT DATE: [Date]

PROJECT REV: [Revision]

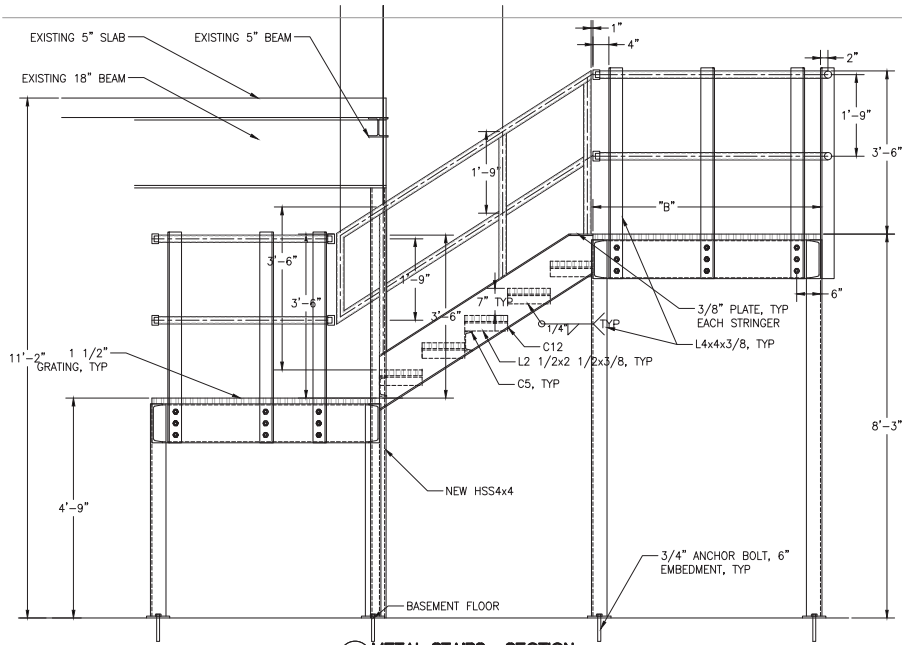
PROJECT DESCRIPTION: [Description]



1 METAL STAIRS - SECTION
S117 SCALE: 3/4" = 1'-0"

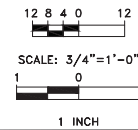


2 METAL STAIRS - PLAN
S117 SCALE: 1" = 1'-0"



3 METAL STAIRS - SECTION
S117 SCALE: 3/4" = 1'-0"

- NOTES:
1. FOR GENERAL STRUCTURAL NOTES SEE DRAWING S100.
WORK ON THIS DRAWING:
• NEW METAL STAIRS.



50% SUBMISSION
NOT FOR CONSTRUCTION



1324 MARKET ST., 15TH FL.
PHILADELPHIA, PA 19107

SEPTA ENGINEER: EACB
SEPTA PROJECTING OFFICE: BBS
SEPTA RAIL TRAVEL OFFICE:
SEPTA PROJECT:
SEPTA PROJECTING OFFICE: BBS
SEPTA RAIL TRAVEL OFFICE:
SEPTA PROJECTING OFFICE: BBS
SEPTA RAIL TRAVEL OFFICE:

HDR
HDR Engineering, Inc.
Philadelphia, PA
MELIGRA DESIGN
250 MORGAN STREET
PHILADELPHIA, PA 19146
(610) 933-0123

REV	DATE	DESCRIPTION	BY	CHK	APP

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
STRUCTURAL
BUILDING DETAILS - SHEET 2

DATE:	AS NOTED	SCALE FACTOR:
DATE:	08/22/2025	DATE:
PROJECT NUMBER:	276491	DATE:
SHEET NUMBER:	S117	DATE:
DATE:	18	OF 18
DATE:	54	OF 453
DATE:	17AN-S117	DATE:

DATE PRINTED: 10/9/2025

STATUS: 50% SUBMISSION

C:\PWORK\KING\PTT\0850117AN-S117.DWG

C:\P\WORK\KINGSPT\10180061\17AN-M100.DWG

LEGEND-SYMBOLS:		ABBREVIATIONS:	GENERAL NOTES:
SYMBOL	DESCRIPTION		
	POINT OF DISCONNECTION FROM EXISTING	Ø	AT
	POINT OF CONNECTION OF NEW TO EXISTING	A	AMPERES
	EQUIPMENT TAG	AC	AIR CONDITIONER
	EQUIP TYPE	AD	ACCESS DOOR
	EQUIP #	ADA	AMERICANS WITH DISABILITIES ACT
	DEMO	AFF	ABOVE FINISHED FLOOR
	NEW WORK	AHU	AIR HANDLING UNIT
	EXISTING TO REMAIN (E)	BOP	BOTTOM OF PIPE
	NEW SANITARY PIPING	BTU	BRITISH THERMAL UNIT
	THERMOSTAT	CD	CONDENSATE DRAIN/CEILING DIFFUSER
	SUPPLY AIR DIFFUSER	CFM	CUBIC FEET PER MINUTE
	RETURN AIR REGISTER	CO	CLEANOUT
	MOTORIZED DAMPER	COP	COEFFICIENT OF PERFORMANCE
	AIRFLOW DIRECTION	CU	CONDENSER UNIT
	BACKDRAFT DAMPER	CW	COLD WATER
	FLOOR DRAIN	DB	DRY BULB
	HYDROGEN DETECTOR	DIA, Ø	DIAMETER
		DN	DOWN
		DW	DOMESTIC WATER
		(E)	EXISTING TO REMAIN
		EA	EXHAUST AIR
		EAT	EXHAUST AIR TEMPERATURE
		EDH	ELECTRIC DUCT HEATER
		EF	EXHAUST FAN
		EQUIP	EQUIPMENT
		(ER)	EXISTING TO BE RELOCATED
		EER	ENERGY EFFICIENCY RATIO
		ERV	ENERGY RECOVERY VENTILATION UNIT
		ETC.	ET CETERA
		ELUH	ELECTRIC UNIT HEATER
		EW	EYE WASH
		EX	EXHAUST, EXTERNAL
		FD	FLOOR DRAIN
		FLA	FULL LOAD AMPS
		FP	FIRE PROTECTION
		FT	FEET
		GAL	GALLON
		GPH	GALLONS PER HOUR
		GPM	GALLONS PER MINUTE
		H	HEIGHT
		HP	HORSEPOWER/HEAT PUMP
		HVAC	HEATING, VENTILATION AND AIR CONDITIONING
		HW	HOT WATER
		HZ	HERTZ (CYCLES PER SECOND)
		IN	INCH
		IRH	INFRARED RADIANT HEATER
		KW	KILOWATT
		L	LENGTH
		LBS	POUNDS
		LAT	LATENT AIR TEMPERATURE
		LV	LOUVER
		MBH	THOUSANDS OF BTUS PER HOUR
		MAX	MAXIMUM
		MCA	MINIMUM CIRCUIT AMPACITY
		MCP	MAIN CONTROL PANEL
		MD	MOTORIZED DAMPER
		MFR	MANUFACTURER
		MIN	MINIMUM
		MOCP	MAXIMUM OVERCURRENT PROTECTION
		(N)	NEW
		NO., #	NUMBER
		OA	OUTSIDE AIR
		Ø	PHASE
		PREP	PREPARE
		PSI	POUNDS PER SQUARE INCH
		QTY	QUANTITY
		(R)	EXISTING TO BE REMOVED
		RA	RETURN AIR
		RD	ROOF DRAIN
		(RE)	RELOCATED EXISTING
		RL	RAIN LEADER
		RM	ROOM
		RPM	REVOLUTIONS PER MINUTE
		SAN	SANITARY
		SA	SUPPLY AIR
		S.F., FT²	SQUARE FEET
		SD	SCUPPER DRAIN
		SP	STATIC PRESSURE
		SR	SUPPLY REGISTER
		T	THERMOSTAT
		TYP	TYPICAL
		U/G	UNDER GROUND
		V	VOLT, VENT
		VD	VOLUME DAMPER
		W	WIDTH
		WB	WET BULB
		WC	WATER CLOSET/WATER COLUMN

1. SEE ARCHITECTURAL DRAWINGS FOR NEW AND EXISTING GENERAL CONSTRUCTION WORK.

2. COMPLY WITH THE PHILADELPHIA PLUMBING CODE AND PHILADELPHIA MECHANICAL CODE IN ADDITION TO THE APPLICABLE MUNICIPAL CODES AND STANDARDS.

3. REVIEW ALL PROJECT DOCUMENTS OF ALL TRADES FOR A THOROUGH UNDERSTANDING OF PROJECT AND ANY CROSS REFERENCING OF WORK. REVIEW ALL PROJECT REQUIREMENTS PRIOR TO BIDDING. DISCREPANCIES BETWEEN DOCUMENTS SHALL BE REPORTED TO SEPTA PROJECT MANAGER PRIOR TO BIDDING.

4. INSTALL ALL EQUIPMENT WITH ADEQUATE CLEARANCES FOR MAINTENANCE AND SERVICING AND IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND APPLICABLE CODES.

5. OBTAIN AND PAY FOR ALL PERMITS AND PAY FOR ALL COSTS OF MATERIALS. HANDLE, STORE AND PROTECT ALL EQUIPMENT TO PREVENT DAMAGE BEFORE AND DURING INSTALLATION IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. PROTECT THE WORK SITE AND NEW AND EXISTING WORK AGAINST ANY DAMAGE, INCLUDING BUT NOT LIMITED TO WATER, DUST, HEAT, FREEZING ETC. UNTIL FINAL COMPLETION AND ACCEPTANCE BY SEPTA.

6. REFER TO SPECIFICATIONS FOR MATERIALS TO BE USED AND METHODS OF INSTALLATION.

7. WHERE UTILITIES AND/OR SERVICES REQUIRE SHUTDOWN FOR THE WORK TO BE PERFORMED, NOTIFY THE SEPTA PROJECT MANAGER. IN WRITING, A MINIMUM OF TWO (2) WEEKS PRIOR TO THE REQUESTED SHUTDOWN.

8. STORAGE OF MATERIALS AND/OR EQUIPMENT SHALL NOT BE ALLOWED OTHER THAN WITHIN THE LIMITS OF THE STAGING AREA OR CONFINES OF THE PROJECT WORK AREA AND AS APPROVED BY THE SEPTA PROJECT MANAGER.

9. PERFORM ALL WORK IN A NEAT AND WORKMANLIKE MANNER TO THE SATISFACTION OF SEPTA STANDARDS.

10. RESTORE ALL EXISTING WORK DISTURBED OR DAMAGED BY THE DEMOLITION AND CONSTRUCTION ACTIVITIES TO MATCH EXISTING ORIGINAL CONDITION OR BETTER.

11. REMOVE, RECYCLE AND DISPOSE OF ALL CONSTRUCTION WASTE AND DEMOLITION DEBRIS IN ACCORDANCE WITH THE APPROVED CONSTRUCTION WASTE MANAGEMENT PLAN.

12. MAINTAIN A COPY OF THE CURRENT SET OF CONTRACT DOCUMENTS WITH THE CONTRACTOR AS-BUILT INFORMATION AT THE JOB SITE AT ALL TIMES.

13. VERIFY ALL DIMENSIONS IN THE FIELD AND REPORT DISCREPANCIES, IF ANY, TO THE SEPTA PROJECT MANAGER FOR CLARIFICATION PRIOR TO STARTING ANY AFFECTED WORK.

14. PATCH AND REPAIR ALL OPENINGS LEFT IN EXISTING WALL SURFACES OR CEILINGS BY THE REMOVAL OF EXISTING SURFACE AND OR SEMI-RECESSED FITTINGS OR PIPING AND FINISH SUCH AREAS TO MATCH ADJACENT SURFACES.

15. PRIOR TO DELIVERY OF ANY MATERIALS TO THE SITE, PROVIDE SAFETY DATA SHEETS FOR ALL REQUIRED ITEMS AND MATERIALS USED IN THE WORK TO THE SEPTA PROJECT MANAGER.

16. COMPLY WITH ALL SEPTA SAFETY STANDARDS AND INCLUDE ALL COSTS TO TRAIN AND QUALIFY CONTRACTOR'S PERSONNEL IN SEPTA SAFETY STANDARDS. SEE GENERAL CONDITIONS OF THE SPECIFICATIONS.

17. REVIEW POTENTIAL ITEMS FOR SALVAGE AND RETENTION BY SEPTA WITH THE SEPTA PROJECT MANAGER PRIOR TO REMOVAL TO DETERMINE DISPOSITION.

18. THESE DRAWINGS SHOW HVAC AND PLUMBING WORK. SEE FPXXX DRAWINGS FOR FIRE SUPPRESSION WORK.

PROJECT: BROAD SUBWAY/ELEVATED TRAINS TRACTION POWER SUBSTATION REHABILITATION MECHANICAL

GENERAL NOTES, SYMBOLS & ABBREVIATIONS

DATE: 08/22/2025

SCALE: 1:1

276491

M100

17AN-M100

50% SUBMISSION
NOT FOR CONSTRUCTION

DATE PRINTED: 10/21/2025

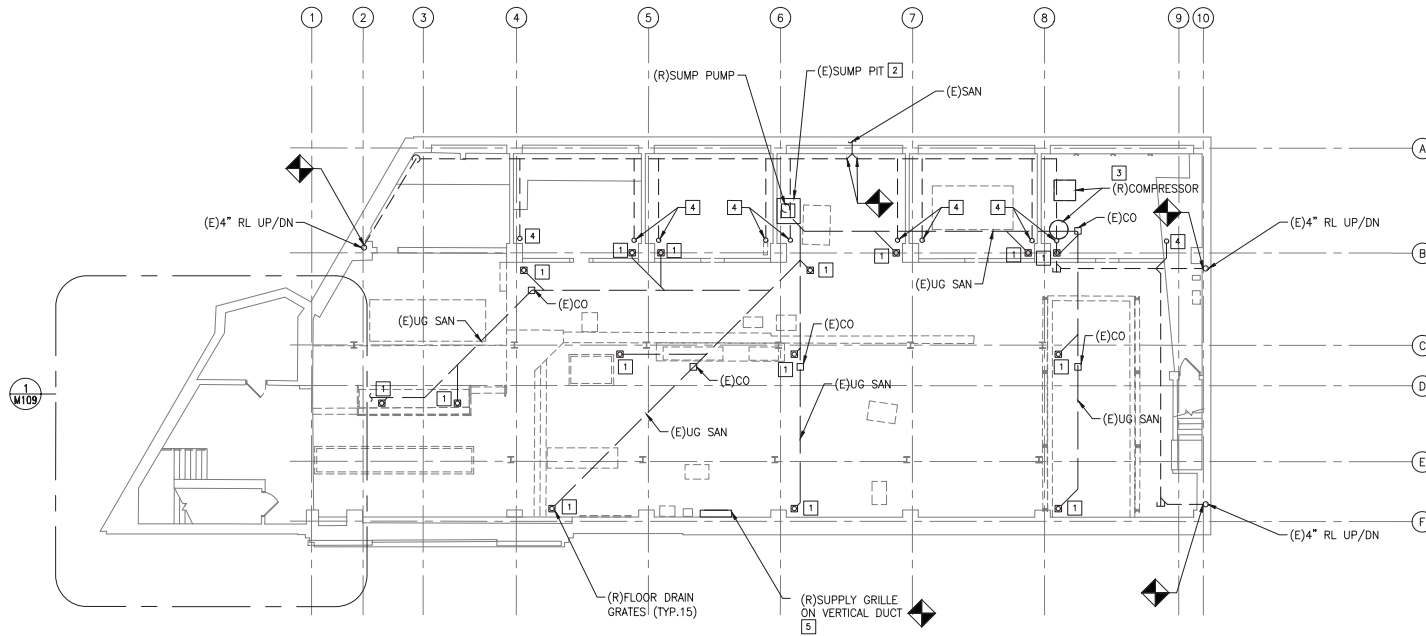
STATUS: 50% SUBMISSION

GENERAL NOTES:

1. REFER TO DRAWING M100 FOR THE GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO DRAWING M110 FOR THE SCHEDULES AND CONTROLS.
3. REFER TO DRAWING M111 FOR THE DETAILS.

KEYED NOTES:

- 1 REMOVE THE FLOOR DRAIN GRATE. FLUSH THE ENTIRE UNDERGROUND SANITARY SYSTEM PRIOR TO INSTALLING A NEW DRAIN GRATE.
- 2 THOROUGHLY CLEAN THE SUMP PIT PRIOR TO INSTALLING A NEW SUMP PUMP.
- 3 THE CONTRACTOR SHALL LOCATE ALL AIR COMPRESSOR PIPING THROUGHOUT THE BUILDING AND REMOVE IT ALONG WITH THE AIR COMPRESSOR AND CONNECTED APPARATUS.
- 4 REMOVE SANITARY PIPE UP TO FLOOR DRAIN.
- 5 BEFORE START OF WORK, MEASURE AND RECORD (E) AIRFLOW RATE.



1 M101 DEMOLITION BASEMENT FLOOR PLAN
SCALE: 1/8" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



PROJECT NUMBER: 0000
PROJECT ENGINEER/DESIGNER: HDR
PROJECT LOCATION: 1200 MARKET ST., 10TH FL., PHILADELPHIA, PA 19107
PROJECT OWNER: SEPTA
PROJECT MANAGER: [Blank]



REV	DATE	DESCRIPTION	BY	CHKD	APPD

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
MECHANICAL
DEMOLITION BASEMENT FLOOR PLAN

SCALE: 1/8" = 1'-0"
DATE: 08/22/2025
DRAWN BY: TGP
CHECKED BY: JLM
PROJECT NUMBER: 276491
M101
SHEET NO.: 2 OF 10
SHEET NO.: 56 OF 453
COMPUTER FILE: 17AN-M101
REV: 1

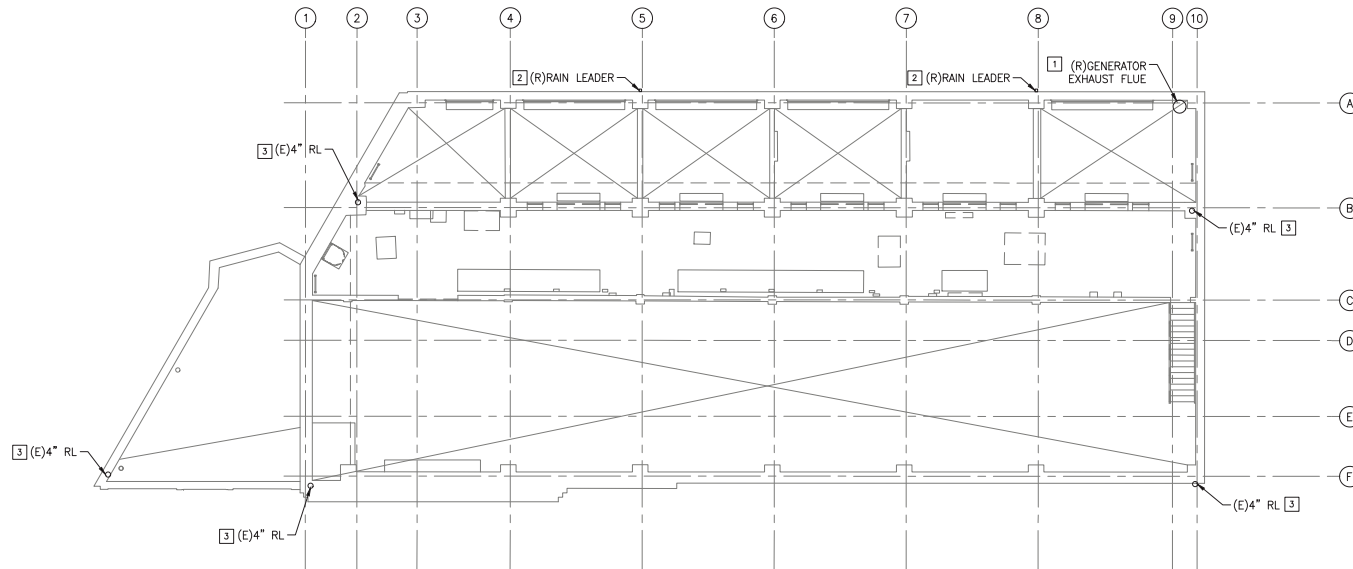
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GENERAL NOTES:

1. REFER TO DRAWING M100 FOR THE GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO DRAWING M110 FOR THE SCHEDULES AND CONTROLS.
3. REFER TO DRAWING M111 FOR THE DETAILS.

KEYED NOTES:

- 1 REMOVE THE GENERATOR EXHAUST FLUE IN ITS ENTIRETY FROM THE GENERATOR.
- 2 THE CONTRACTOR SHALL VERIFY CONDITION OF THE GUTTERS AND DOWNSPOUTS. IF THEY ARE NEWLY INSTALLED AS PART OF THE ROOF REPLACEMENT PROJECT THEN NO WORK NEEDED. OTHERWISE REPLACE BOTH GUTTER AND DOWNSPOUTS TO GRADE LEVEL. THOROUGHLY CLEAN THE UNDERGROUND PIPING PRIOR TO INSTALLING NEW GUTTER AND DOWNSPOUTS.
- 3 THOROUGHLY CLEAN THE RAIN LEADER WITHIN THE WALL PRIOR TO CONNECTING A NEW LEADER IN THE BASEMENT.



1
M103 DEMOLITION MEZZANINE FLOOR PLAN
SCALE: 1/8" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



DRP ENGINEER: EACB
DRP ENGINEERING OFFICE: BEE
DRP RAIL TRAFFIC OFFICE:
PERMITTED BY:
DIRECTOR OF ENGINEERING: BEE
DESIGNER ARCH/ENGINEERING:
PROJECT NUMBER:

HDR
HDR Engineering, Inc.
Philadelphia, PA



REV	DATE	BY	CHK	APP	DESCRIPTION

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
MECHANICAL
DEMOLITION MEZZANINE FLOOR PLAN

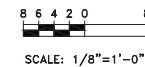
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DRAWN BY: JAW
CHECKED BY: JAW
PROJECT NUMBER: 276491
M103
SHEET NO.: 4 OF 10
JOB NO.: 58 OF 453
ARCHIVE NO.:
COMPUTER FILE NO.: 17AN-M103
SHEET NO.: 1

DATE PRINTED: 10/2/2025

STATUS: 50% SUBMISSION

1. REFER TO DRAWING M100 FOR THE GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO DRAWING M110 FOR THE SCHEDULES AND CONTROLS.
3. REFER TO DRAWING M111 FOR THE DETAILS.

- 1) ANY ITEMS RELATED TO THE ROOF WORK IS ASSUMED TO BE TAKEN CARE OF IN THE ROOF REPLACEMENT PROJECT, WHICH PRESUMABLY INCLUDES REMOVING ALL THE VENTILATORS, REPLACING THE EXHAUST FAN FOR THE GENERATOR AREA, REPLACING ALL THE DAMPERS, CAPPING ALL THE UNUSED OPENINGS, REPLACING ALL VENT PIPING, REPLACING THE EXHAUST FAN, REPLACING THE ROOF COVER FOR THE AIR HANDLING UNIT OUTDOOR INTAKES PRIOR TO STARTING WORK.
- 2) THE CONTRACTOR SHALL VERIFY CONDITION OF THE GUTTERS AND DOWNSPOUTS. IF THEY ARE NEWLY INSTALLED AS PART OF THE ROOF REPLACEMENT PROJECT THEN NO WORK NEEDED. OTHERWISE REPLACE BOTH GUTTER AND DOWNSPOUTS TO GRADE LEVEL.
THOROUGHLY CLEAN THE UNDERGROUND PIPING PRIOR TO INSTALLING NEW GUTTER AND THE DOWNSPOUTS.
- 3) THE CONTRACTOR SHALL VERIFY ALL THE ITEMS DESCRIBED IN KEY NOTE #1 HAVE BEEN TAKEN CARE OF UNDER THE ROOF REPLACEMENT PROJECT. IF THE CONTRACTOR FINDS ANY ITEM MISSING, THEN HE/SHE SHALL REPLACE THE ITEM UNDER THIS PROJECT FOLLOWING ALL APPLICABLE CODES AND REGULATIONS.



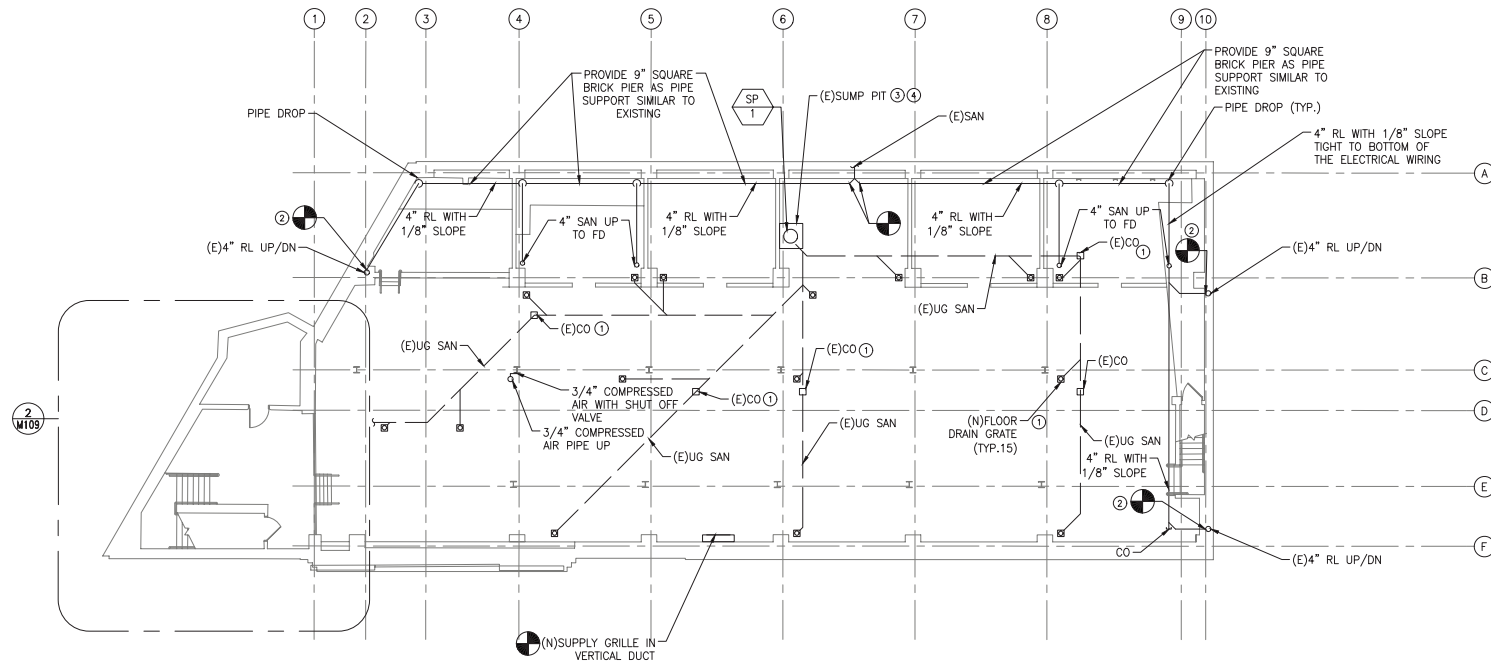
50% SUBMISSION
NOT FOR CONSTRUCTION

GENERAL NOTES:

1. REFER TO DRAWING M100 FOR THE GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO DRAWING M110 FOR THE SCHEDULES AND CONTROLS.
3. REFER TO DRAWING M111 FOR THE DETAILS.

KEYED NOTES:

- ① THOROUGHLY CLEAN THE UNDERGROUND SANITARY PIPING FROM THE FLOOR DRAIN OPENINGS AND THE CLEANOUTS PROVIDED PRIOR TO INSTALLING NEW FLOOR DRAIN GRATES.
- ② THOROUGHLY CLEAN THE RAIN LEADER WITHIN THE WALL PRIOR TO CONNECTING NEW PIPING.
- ③ THOROUGHLY CLEAN THE SUMP PIT AND PIPING WITHIN SUMP PIT PRIOR TO INSTALLING NEW SUMP PUMP.
- ④ PROVIDE DUPLEX SUMP PUMP. BOTH PUMPS SHALL BE SAME MODEL AS DESCRIBED IN THE SCHEDULE.



1
M105 **PROPOSED BASEMENT FLOOR PLAN**
SCALE: 1/8" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



1324 MARKET ST., 19TH FL.
PHILADELPHIA, PA. 19107

SEPTA ENGINEER: SEPTA

SEPTA PROJECTING OFFICE: SEPTA

SEPTA RAIL TRAVEL OFFICE: SEPTA

SEPTA PROJECT: SEPTA

SEPTA PROJECTING OFFICE: SEPTA

SEPTA ARCHITECT: SEPTA

SEPTA ENGINEER: SEPTA

HDR
HDR Engineering, Inc.
Philadelphia, PA



BY: DCD APD

DESCRIPTION

REV DATE

DATE PRINTED: 10/2/2025

PROPOSED BASEMENT FLOOR PLAN

STATUS: 50% SUBMISSION

PROJECT: BROAD SUBWAY/ELEVATED TRAINS

REHABILITATION MECHANICAL

TRACTION POWER SUBSTATION

AS SHOWN

08/22/2025

276491

M105

6 of 10

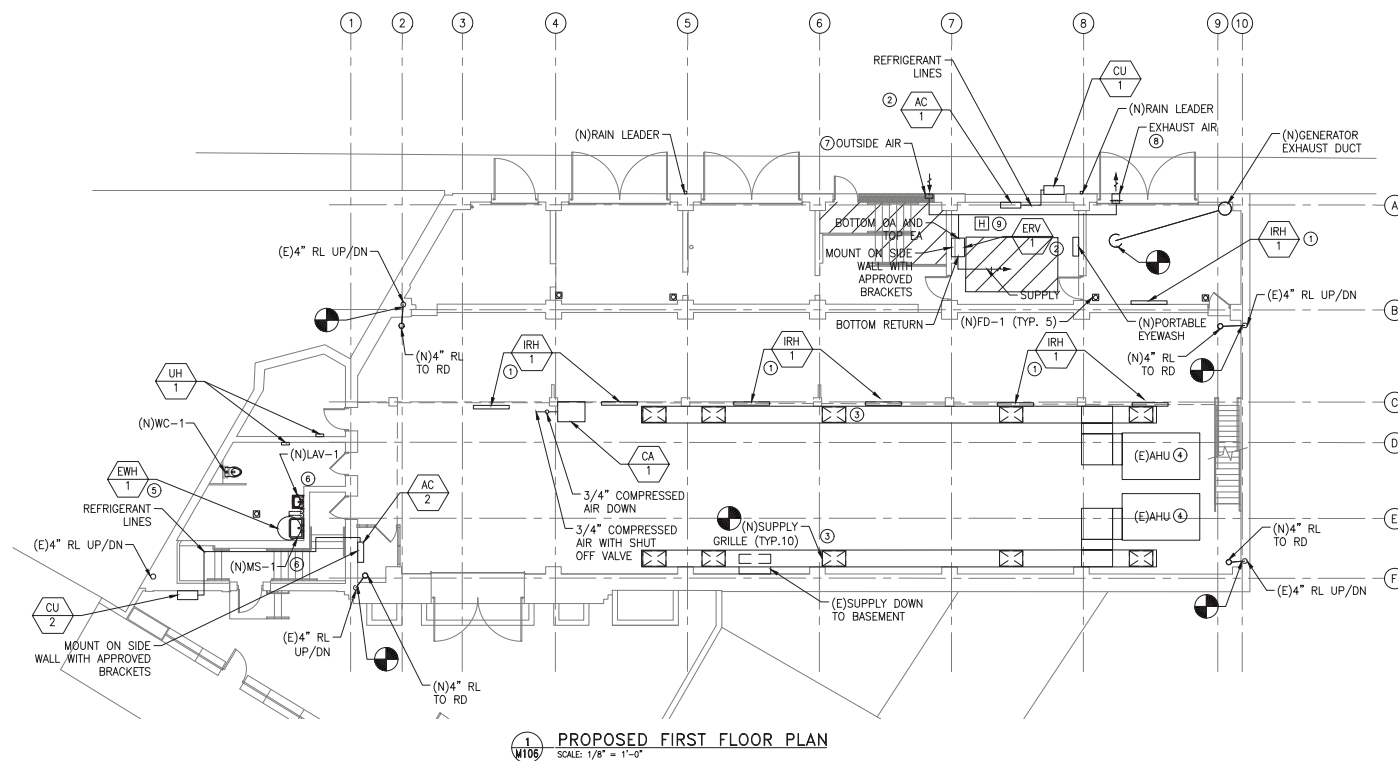
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17AN-M105

1. REFER TO DRAWING M100 FOR THE GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO DRAWING M110 FOR THE SCHEDULES AND CONTROLS.
3. REFER TO DRAWING M111 FOR THE DETAILS.

- ① CONTROL THE INFRARED RADIANT HEATERS WITH A ON/OFF/AUTO CONTROL PANEL. HEATERS SHALL BE ANGLED TOWARDS THE FLOOR.
- ② INTERLOCK THE ENERGY RECOVERY VENTILATOR AND THE SPLIT UNIT WITH A CONTROL PANEL.
- ③ THOROUGHLY CLEAN THE DUCTWORK PRIOR TO INSTALLING NEW SUPPLY GRILLES.
- ④ THOROUGHLY CLEAN THE AIR HANDLING UNIT PRIOR TO INSTALLING NEW FILTER MEDIA AND MOTOR.

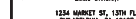
- ⑤ PROVIDE A PLATFORM FOR THE ELECTRIC WATER HEATER TO BE MOUNTED ON THE WALL ABOVE THE MOP SINK.
- ⑥ PROVIDE A THERMOSTATIC MIXING VALVE FOR BOTH THE MOP SINK AND THE LAVATORY.
- ⑦ PROVIDE AN INTAKE LOUVER FOR THE OUTSIDE AIR OPENING.
- ⑧ PROVIDE AN EXHAUST LOUVER WITH A BACKDRAFT DAMPER.
- ⑨ THE CONTRACTOR TO DESIGN A HYDROGEN DETECTION SYSTEM FOR BATTERY ROOM.



8 6 4 2 0

SCALE: 1/8"=1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



CHIEF ENGINEER - EMBG

CHIEF ENGINEERING OFFICER - SBG

CHIEF RAIL TRAMST OFFICER

SYSTEM SAFETY

DIRECTOR OF ENGINEERING - SBG

MANAGER - ARCH. ENGINEERING

PROJECT MANAGER

[illegible]

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
MECHANICAL
PROPOSED FIRST FLOOR PLAN

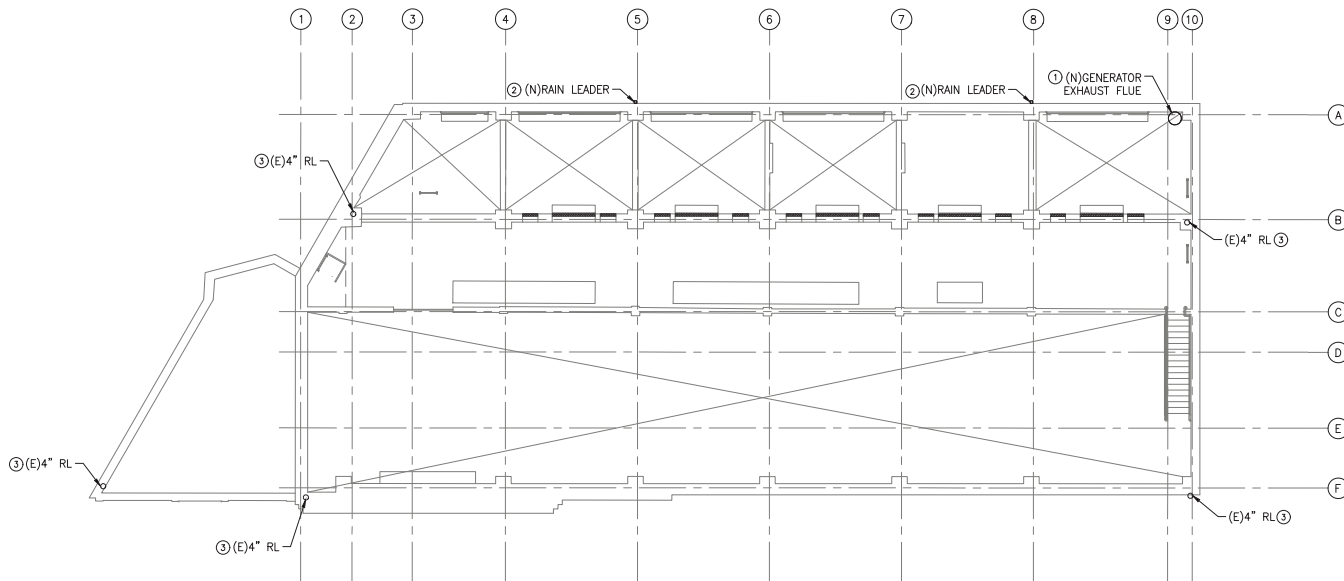
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DATE: 08/22/2025	DRAWN BY: DNF
	CHECKED BY: DM
WORK ORDER NO.: 276491	
SHEET NUMBER: M106	
DWG. NO.: 7	OF 10
SHT. NO.: 61	OF 453
ARCHIVE NO.:	
COMPUTER FILE NO.: 17AN-M106	REV. NO.:

DATE PRINTED: 10/21/2025

ACCEPTED MANUSCRIPT

1. REFER TO DRAWING M100 FOR THE GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO DRAWING M110 FOR THE SCHEDULES AND CONTROLS.
3. REFER TO DRAWING M111 FOR THE DETAILS.

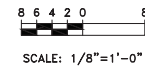
- ① REPLACE THE GENERATOR EXHAUST FLUE IN ITS ENTIRETY FROM THE GENERATOR TO THE ROOF.
- ② THE CONTRACTOR SHALL VERIFY CONDITION OF THE GUTTERS AND DOWNSPOUTS. IF THEY ARE NEWLY INSTALLED AS PART OF THE ROOF REPLACEMENT PROJECT THEN NO WORK NEEDED. OTHERWISE REPLACE BOTH GUTTER AND DOWNSPOUTS TO GRADE LEVEL. THOROUGHLY CLEAN THE UNDERGROUND PIPING PRIOR TO INSTALLING NEW GUTTER AND THE DOWNSPOUTS.
- ③ THOROUGHLY CLEAN THE RAIN LEADER WITHIN THE WALL PRIOR TO CONNECTING NEW LEADER IN THE BASEMENT.



1
M107

PROPOSED MEZZANINE FLOOR PLAN

SCALE: 1/8" = 1'-0"



50% SUBMISSION
NOT FOR CONSTRUCTION



1234 MARKET ST, 13TH FL.
PHILADELPHIA, PA 19107

OF ENGINEER -EMC

OF ENGINEERING OFFICER -BAG

OF FAL TRANSIT OFFICER

TEAM SAFETY

SECTOR OF ENGINEERING - 222

WAZER - ARCH / ENGINEERING

PROJECT MANAGER

[illegible]

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
MECHANICAL
PROPOSED MEZZANINE FLOOR PLAN

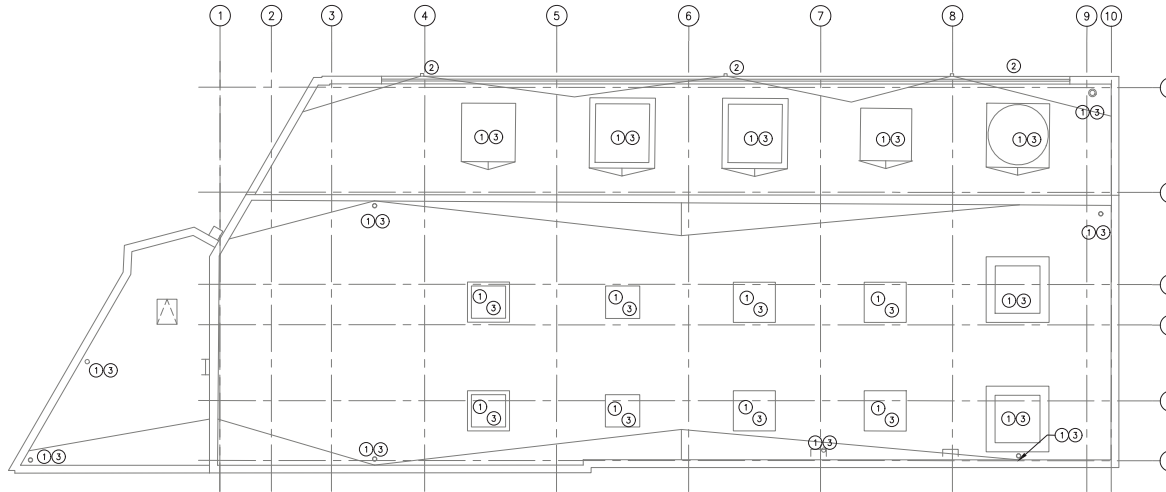
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AS SHOWN	1:1
DATE:	DRAWN BY: NAB
08/22/2025	CHECKED BY: JAM
WORK ORDER NO. 276491	
SHEET NUMBER	
M107	
VG. NO.:	8 of 12
VT. NO.:	61 of 452
CHIVE NO.:	
COMPUTER FILE NO.:	REV. NO.:
7AN-M107	---

GENERAL NOTES:

1. REFER TO DRAWING M100 FOR THE GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO DRAWING M110 FOR THE SCHEDULES AND CONTROLS.
3. REFER TO DRAWING M111 FOR THE DETAILS.

KEYED NOTES:

- ① ANY ITEMS RELATED TO THE ROOF WORK IS ASSUMED TO BE TAKEN CARE OF IN THE ROOF REPLACEMENT PROJECT WHICH PRESUMABLY INCLUDES REMOVING ALL THE VENTILATORS, REPLACING THE EXHAUST FAN FOR THE GENERATOR AREA, REPLACING ALL THE DAMPERS, CAPPING ALL THE UNUSED OPENINGS, REPLACING ALL VENT PIPING, REPLACING THE EXHAUST FLUE, REPLACING ALL THE ROOF DRAINS AND REPLACING THE ROOF COVERS FOR THE AIR HANDLING UNIT OUTDOOR INTAKES PRIOR TO STARTING WORK.
- ② THE CONTRACTOR SHALL VERIFY CONDITION OF THE GUTTERS AND DOWNSPOUTS. IF THEY ARE NEWLY INSTALLED AS PART OF THE ROOF REPLACEMENT PROJECT THEN NO WORK NEEDED. OTHERWISE REPLACE BOTH GUTTER AND DOWNSPOUTS TO GRADE LEVEL. THOROUGHLY CLEAN THE UNDERGROUND PIPING PRIOR TO INSTALLING NEW GUTTER AND DOWNSPOUTS.
- ③ THE CONTRACTOR SHALL VERIFY ALL THE ITEMS DESCRIBED IN KEY NOTE #1 HAS BEEN TAKEN CARE OF UNDER THE ROOF REPLACEMENT PROJECT. IF THE CONTRACTOR FINDS ANY ITEM MISSING THEN HE/SHE SHALL REPLACE THE ITEM UNDER THIS PROJECT FOLLOWING ALL APPLICABLE CODES AND REGULATIONS.



1
M108 **PROPOSED ROOF PLAN**
SCALE: 1/8" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



SEPTA
SOUTHEASTERN
PENNSYLVANIA
TRANSPORTATION
AUTHORITY
DRPA
DELAWARE RIVER
PORT AUTHORITY
1324 MARKET ST., 15TH FL.
PHILADELPHIA, PA. 19107

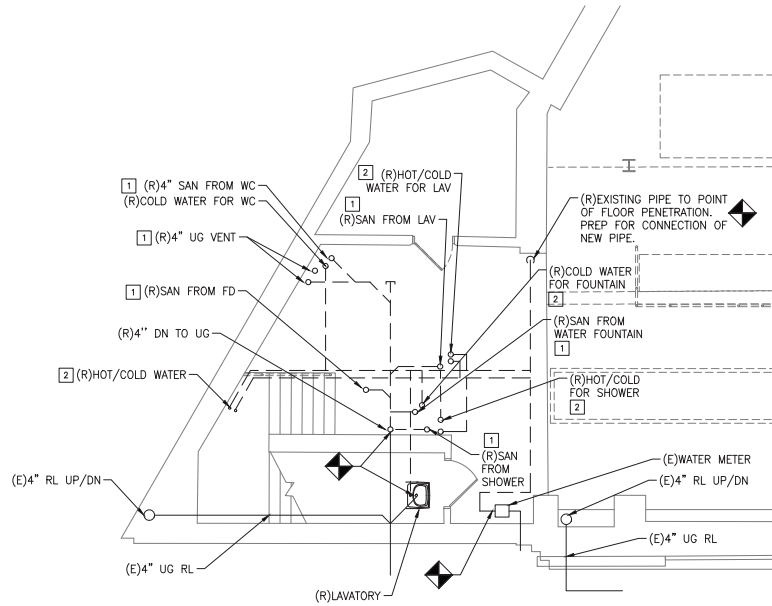
HDR
HDR Engineering, Inc.
Philadelphia, PA



REV	DATE	DESCRIPTION	BY	CHK	APP

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
MECHANICAL
PROPOSED ROOF PLAN

DATE: 08/22/2025
AS SHOWN
SCALE: 1:1
DRAWN BY: JLM
CHECKED BY: JLM
PROJECT NUMBER: 276491
M108
SHEET NUMBER: 10
SHEET TOTAL: 453
COMPUTER FILE NO.: 17AN-M108



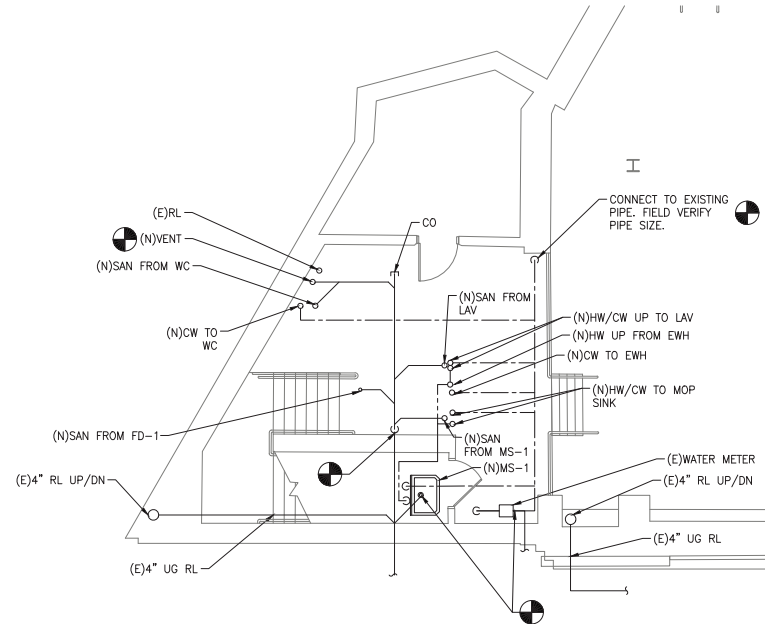
1
M109 ENLARGED DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. REFER TO DRAWING M100 FOR THE GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO DRAWING M110 FOR THE SCHEDULES AND CONTROLS.
3. REFER TO DRAWING M111 FOR THE DETAILS.

DEMOLITION KEYED NOTES:

- 1 REMOVE ALL EXPOSED SANITARY PIPING TO LOCATION SHOWN. THE CONTRACTOR SHALL PROVIDE CLEARANCE ON THE VERTICAL PIPE TO CONNECT NEW PIPING TO THE UNDERGROUND PIPE.
- 2 REMOVE ENTIRE DOMESTIC WATER PIPING TO THE WATER METER. THE CONTRACTOR SHALL REMOVE ALL THE PIPE SUPPORTS.



2
M109 ENLARGED NEW WORK PLAN
SCALE: 1/4" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



SEPTA
1324 MARKET ST., 19104 PHILADELPHIA, PA. 19107
HDR ENGINEER: EACB
SEPTA PROJECT OFFICE: 888
SEPTA MAIL TRAIL OFFICE:
PROJECT ID: 001
DIRECTOR OF PLANNING: 888
SEPTA ARCHITECT: 888
PROJECT NUMBER:

HDR Engineering, Inc.
Philadelphia, PA



REV	DATE	DESCRIPTION	BY	CHK	APP

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
MECHANICAL
ENLARGED PLANS

DATE: 08/22/2025
SCALE: 1:1
PROJECT NUMBER: 276491
M109
SHEET NO.: 9 OF 10
DATE: 08/22/2025
PROJECT NO.: 17AN-M109

C:\PWORK\GSP\TTO\68801\17AN-E100.DWG

ELECTRICAL / LIGHTING SYMBOLS:	
SYMBOL	DESCRIPTION
	PANEL, 208/120V PANEL. REFER TO DRAWING E116 FOR PANEL SCHEDULES.
	INDUSTRIAL LED LUMINAIRE, ENCLOSED/WET LOCATION. 'XX' REPRESENTS DESIGNATION. REFER TO DRAWING E115 FOR LUMINAIRE SCHEDULE.
	INDUSTRIAL LUMINAIRE ENCLOSED/WET LOCATION, CONNECTED TO EMERGENCY CIRCUIT. 'XX' REPRESENTS DESIGNATION. REFER TO DRAWING E115 FOR LUMINAIRE SCHEDULE.
	UP/DOWN COLUMN MOUNTED EXTERIOR LUMINAIRE. 'XX' REPRESENTS DESIGNATION. REFER TO DRAWING E115 FOR LUMINAIRE SCHEDULE.
	WALL MOUNTED LUMINAIRE, TYPE AS NOTED. 'XX' REPRESENTS DESIGNATION. REFER TO DRAWING E115 FOR LUMINAIRE SCHEDULE.
	DOCK LIGHT, 'XX' REPRESENTS DESIGNATION. REFER TO DRAWING E115 FOR LUMINAIRE SCHEDULE.
	EXIT SIGN, SINGLE FACE, WALL MOUNTED. ARROW INDICATES CHEVRON DIRECTION. 'XX' REPRESENTS DESIGNATION. REFER TO DRAWING E115 FOR LUMINAIRE SCHEDULE.
	EXIT SIGN, SINGLE FACE, CEILING MOUNTED. ARROW INDICATES CHEVRON DIRECTION. 'XX' REPRESENTS DESIGNATION. REFER TO DRAWING E115 FOR LUMINAIRE SCHEDULE.
	20A, 120/277V AC, SINGLE POLE TOGGLE SWITCH. α DENOTES SWITCH ZONE.
	20A, 120/277V AC, THREE-WAY SWITCH.
	MANUAL MOTOR STARTER (MATCH VOLTAGE, PHASE AND AMPACITY TO EQUIPMENT SERVED).
	DUPLEX RECEPTACLE, NEMA 5-20R, 20A, 125V.
	DUPLEX RECEPTACLE, NEMA 5-20R, 20A, 125V WITH (GFCI) GROUND FAULT CURRENT INTERRUPTER PROTECTION.
	DUPLEX RECEPTACLE, NEMA 5-20R, 20A, 125V WITH (GFCI) GROUND FAULT CURRENT INTERRUPTER PROTECTION IN A WEATHER-PROOF ENCLOSURE.
	QUADRUPLEX RECEPTACLE, TWO (2) NEMA 5-20R, 20A, 125V.
	SPECIAL RECEPTACLE.
	MOTOR.
	NON-FUSIBLE DISCONNECT SWITCH, 30A/3P, 600V UNLESS OTHERWISE NOTED.
	FUSIBLE DISCONNECT SWITCH, SIZE AS NOTED. WP REPRESENTS WEATHER-PROOF NEMA 3R ENCLOSURE.
	BRANCH CIRCUIT HOMERUN INDICATES PANEL AND CIRCUIT BREAKER NUMBER.
	JUNCTION BOX.
	TRANSFORMER, TYPE AS NOTED.
	SUMP PUMP.
	PECO UTILITY METER.
	PECO UTILITY POLE.
	30A CUTOUT FUSE.
	HYDROGEN DETECTOR
DETAIL CALLOUT SYMBOLS:	
	EQUIPMENT CALLOUT REFER TO MECHANICAL, FIRE PROTECTION AND PLUMBING FOR ADDITIONAL INFORMATION.
	DETAIL # DRAWING #
	SECTION # DRAWING #
LINETYPE CONVENTIONS:	
	ELECTRICAL EQUIPMENT DESIGNATED BY SOLID HEAVY LINE WEIGHT INDICATES NEW WORK TO BE FURNISHED AND INSTALLED.
	ELECTRICAL EQUIPMENT DESIGNATED BY SOLID LIGHT LINE WEIGHT INDICATES EXISTING EQUIPMENT TO REMAIN, UNLESS OTHERWISE INDICATED.
	ELECTRICAL EQUIPMENT DESIGNATED BY DASHED HEAVY LINE WEIGHT REPRESENTS EXISTING EQUIPMENT TO BE REMOVED AND DISPOSED, UNLESS INDICATED TO BE REMOUNTED, RELOCATED OR TURNED OVER TO SEPTA.

SINGLE LINE SYMBOLS:	
SYMBOL	DESCRIPTION
	CIRCUIT BREAKER, RATING AS INDICATED
	DISCONNECT SWITCH, RATING AS INDICATED
	FUSED DISCONNECT SWITCH, RATING AS INDICATED
	FUSE, RATING AS INDICATED
	DRAWOUT CIRCUIT BREAKER, RATING AS INDICATED
	TRANSFORMER, RATING AS INDICATED
	SHIELDED ISOLATION TRANSFORMER, RATING AS INDICATED
	POTENTIAL TRANSFORMER UPPER NUMBER: RATIO LOWER NUMBER: QUANTITY OF XFMR
	EXOTHERMIC WELD
	GROUND
	BATTERIES
	GENERATOR, RATINGS AS INDICATED
	AUTOMATIC TRANSFER SWITCH, RATINGS AS INDICATED
	DROPPING RESISTORS, RATINGS AS INDICATED
	NON-UTILITY CURRENT TRANSFORMER AND METER

STANDARD MOUNTING HEIGHTS:	
12" BELOW FINISH CEILING	BATTERY LIGHTING UNITS AND REMOTE WALL MOUNTED LIGHT HEADS (OR 1'-0" BELOW FINISHED CEILING TO TOP OF UNIT).
9'-0"	PENDANT-HUNG INDUSTRIAL AND STRIP LIGHTING FIXTURES UNLESS OTHERWISE NOTED.
6'-8"	TOP OF BACK-MOUNTED WALL EXIT FIXTURES (NOT MOUNTED ABOVE DOORS).
6'-0"	TOP OF HIGHEST ELECTRICAL SAFETY DISCONNECT SWITCHES, MAGNETIC STARTERS, CONTACTORS.
46"	LIGHT SWITCHES
24"-18"	ELECTRICAL RECEPTACLES, 24" WITHIN MECHANICAL OR ELECTRICAL ROOMS AND WORKSHOPS.
00"	FINISHED FLOOR

- NOTES:
1. MOUNTING HEIGHTS TO CENTER OF OUTLETS UNLESS OTHERWISE NOTED.
 2. THE ABOVE MOUNTING HEIGHTS SHALL BE ADHERED TO UNLESS NOTED OTHERWISE ON THE DRAWINGS OR SPECIFICATION.

ELECTRICAL ABBREVIATIONS:			
(E)	EXISTING WORK – EQUIPMENT TO REMAIN	MTR	MOTOR
(ER)	EXISTING WORK – EQUIPMENT TO BE REMOVED AND RELOCATED/REPLACED	#	NUMBER
(N)	NEW WORK – EQUIPMENT	NEC	NATIONAL ELECTRIC CODE
(R)	EXISTING EQUIPMENT TO BE DISCONNECTED AND REMOVED	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
(RE)	RELOCATED/REPLACED EXISTING WORK	NIC	NOT IN CONTRACT
A, AMPS	AMPERES	NVS	NETWORK VIDEO STORAGE
AC	ALTERNATING CURRENT, AIR CONDITIONER	O	OPEN
AF	AMPERES, FRAME	OVHD	OVERHEAD
AFF	ABOVE FINISHED FLOOR	P	POLE
AFG	ABOVE FINISHED GRADE	PH, ø	PHASE
AS	AMPERES, SWITCH	PT	POTENTIAL TRANSFORMER
AT	AMPERES, TRIP	PWR	POWER
ATS	AUTOMATIC TRANSFER SWITCH	QTY	QUANTITY
AVG	AVERAGE	RMC	RIGID METAL CONDUIT
AWG	AMERICAN WIRE GAUGE	RMS	ROOT-MEAN-SQUARE
BATT	BATTERY	RNC	RIGID NON-METALLIC CONDUIT
BCW	BARE COPPER WIRE	RTU	REMOTE TERMINAL UNIT
BKR	BREAKER	S	SECURITY
C	CLOSED	SC	SECURITY CAMERA
C OR CND	CONDUIT	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
CA	COMPRESSOR	SCCR	SHORT CIRCUIT CURRENT RATING
CALC	CALCULATION	SLC	SIGNALING LINE CIRCUIT
CLG	CEILING, EQUIPMENT MOUNTED EITHER ON OR IN CEILING AREA	SMR	SURFACE METAL RACEWAY
CT	CURRENT TRANSFORMER	SP	SUMP PUMP
CTRL	CONTROL	STP	SHIELDED TWISTED PAIR
CU	CONDENSER	SWGR	SWITCHGEAR
DC	DIRECT CURRENT	SYM.	SYMMETRICAL
ECB	ENCLOSED CIRCUIT BREAKER	TBD	TO BE DETERMINED
EF	EXHAUST FAN	TCOM	TELECOMMUNICATIONS
EMH	ELECTRICAL MANHOLE	TDDE	TIME-DELAY DUAL ELEMENT (FUSES)
EMT	ELECTRICAL METALLIC TUBING	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
EPO	EMERGENCY POWER OFF	TYP	TYPICAL
ERV	ENERGY RECOVERY VENTILATION UNIT	UE	UNDERGROUND ELECTRIC
ETC	ET CETERA	UH	UNIT HEATER
EWB	ELECTRIC WATER HEATER	UON	UNLESS OTHERWISE NOTED
FA	FIRE ALARM	UPS	UNINTERRUPTIBLE POWER SOURCE
FAAP	FIRE ALARM ANNUNCIATOR PANEL	V	VOLTS
FACP	FIRE ALARM CONTROL PANEL	VA	VOLT AMPS
FMC	FLEXIBLE METAL CONDUIT	VIF	VERIFY IN FIELD
FOIC	FIBER OPTIC INTERFACE CABINET	VP	VACUUM PUMP
FP	FIRE PROTECTION	VT	VOLTAGE TRANSFORMER
G OR GND	GROUND	W	WIRE
GFCI OR GFI	GROUND FAULT CIRCUIT INTERRUPTER	WC	WATER COOLER CONNECTION
GRS	GALVANIZED RIGID STEEL	WP	WEATHERPROOF
HOA	HAND/OFF/AUTO	XFMR	TRANSFORMER
HZ	HERTZ		
IRH	INFRARED RADIANT HEATER		
IT	INFORMATION TECHNOLOGY		
IDS	INTRUSION DETECTION SYSTEM		
KA	KILO AMPERES		
KAIC	KILO AMPERES, INTERRUPTING CAPACITY		
KMIL	KILO CIRCULAR MILS		
KV	KILOVOLTS		
KVA	KILOVOLT AMPERES		
KW	KILOWATTS		
L	LINE		
LCD	LIQUID CRYSTAL DISPLAY		
LED	LIGHT EMITTING DIODE		
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT		
LS	LIGHTING STANDARD		
LSIG	LONG-TIME, SHORT-TIME, INSTANTANEOUS AND GROUND FAULT		
MAX	MAXIMUM		
MCB	MAIN CIRCUIT BREAKER		
MIN	MINIMUM		
MLO	MAIN LUGS ONLY		
MOCB	MAXIMUM OVERCURRENT PROTECTION		
MOPD	MAXIMUM OVERCURRENT PROTECTIVE DEVICE		

50% SUBMISSION
NOT FOR CONSTRUCTION

HDR Engineering, Inc.
Philadelphia, PA

NOTES:
AS SHOWN
08/22/2025
DRAWN BY: M8
CHECKED BY: J8
SCALE FACTOR: 1:1
SHEET NUMBER: 276491
PROJECT NUMBER: E100
SHEET TITLE: 1 OF 17
SHEET NO: 65 OF 452
PROJECT NO: 17AN-E100

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ELECTRICAL
NOTES, SYMBOLS & ABBREVIATIONS

DATE PRINTED: 10/21/2025
STATUS: 50% SUBMISSION

DEMOLITION SCOPE OF WORK:

- A. REFER TO DEMOLITION DRAWINGS FOR LIMITS OF DEMOLITION. COORDINATE DISPOSAL OF EQUIPMENT WITH SEPTA. STAGING OF ITEMS FOR DEMOLITION SHALL BE COORDINATED WITH THE SEPTA PROJECT MANAGER TO ENSURE CONTINUITY AND ENSURING SEAMLESS OPERATIONS OF EQUIPMENT.
- B. DEMOLITION OF EXISTING TRANSFORMER AND ASSOCIATED CONDUIT AND CIRCUITRY.
- C. DEMOLITION OF EXISTING PANELS AND ASSOCIATED CONDUIT AND CIRCUITRY.
- D. DEMOLITION OF EXISTING DISCONNECT SWITCHES AND ASSOCIATED CONDUIT AND CIRCUITRY.
- E. DEMOLITION OF EXISTING TRANSFER SWITCH AND ASSOCIATED CONDUIT AND CIRCUITRY.
- F. DEMOLITION OF EXISTING BATTERY CHARGERS AND ASSOCIATED CONDUIT AND CIRCUITRY.
- G. DEMOLITION OF EXISTING BATTERIES AND ASSOCIATED CONDUIT AND CIRCUITRY.
- H. DEMOLITION OF EXISTING BATTERY RESISTOR AND ASSOCIATED CONDUIT AND CIRCUITRY.
- I. DEMOLITION OF EXISTING BATTERY SELECTOR PANEL AND ASSOCIATED CONDUIT AND CIRCUITRY.
- J. DEMOLITION OF EXISTING CONDUIT AND CIRCUITRY TO MECHANICAL ITEMS.
- K. DEMOLITION OF EXISTING RECEPTACLES AND ASSOCIATED CONDUIT AND CIRCUITRY.

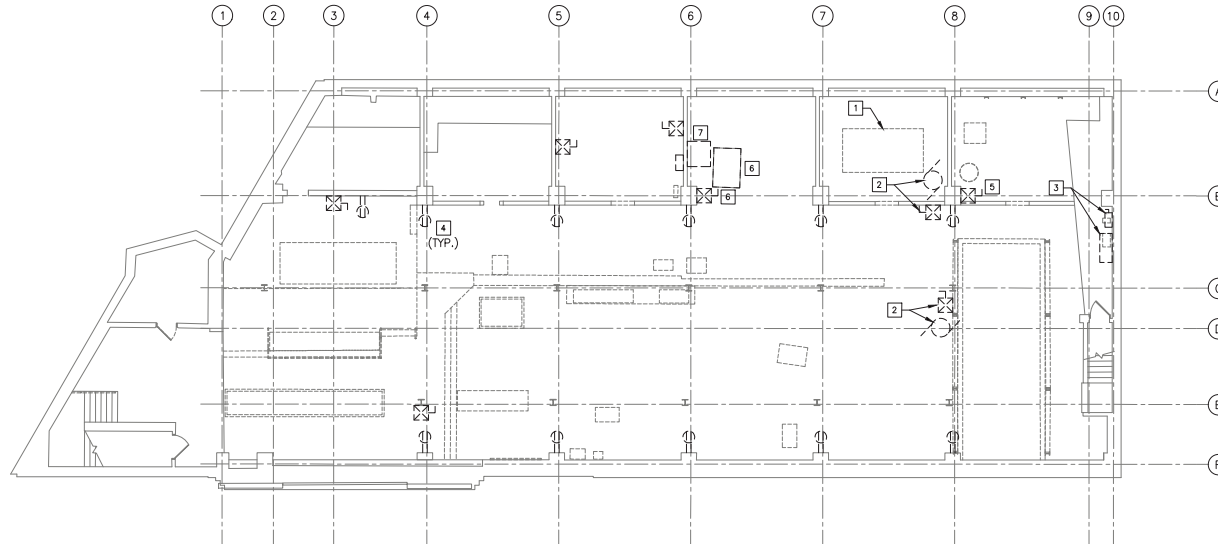
GENERAL NOTES:

1. FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS REFER TO DRAWING E100.
2. DEMOLITION PLAN IS DIAGRAMMATIC. FIELD VERIFY EXACT LOCATIONS AND DIMENSIONS.
3. DISCUSS AND COORDINATE ALL UTILITY WORK WITH PECO PRIOR TO COMMENCING ANY UTILITY WORK.
4. OBTAIN AND ADHERE TO PECO'S INSTALLATION GUIDELINES.
5. THE CONTRACTOR SHALL NOT INTERRUPT EXISTING POWER DISTRIBUTION SYSTEMS.
6. CONTACT THE SEPTA PROJECT MANAGER IF ISSUES ARISE IN THE FIELD THAT MAY DISRUPT EXISTING SYSTEMS.
7. REMOVE ALL DEVICES, WIRING, JUNCTION BOXES AND ASSOCIATED APPURTENANCES WITHIN SCOPE OF DEMOLITION.
8. LEGALLY DISPOSE OF DEVICES INDICATED TO BE REMOVED. OFFER EQUIPMENT TO SEPTA AND DISPOSE OF THE EQUIPMENT THAT SEPTA DOES NOT WISH TO RETAIN.
9. COORDINATE WORK CONCERNING EXISTING EQUIPMENT AND SERVICES IN THE BUILDING. COORDINATE REQUIRED POWER INTERRUPTIONS WITH SEPTA PER DIVISION 1 SPECIFICATIONS.

10. EQUIPMENT, PANELS OR DISCONNECT SWITCHES INDICATED TO BE REMOVED SHALL INCLUDE THE REMOVAL OF ALL CONDUCTORS, INCLUDING CONDUIT AND WIRING, SHALL BE REMOVED BACK TO SOURCE.

KEYED NOTES:

- 1 DE-ENERGIZE AND REMOVE TANK LEVEL INDICATOR, LEAK DETECTION, FUEL PUMPS, ETC. COORDINATE REMOVAL WITH SEPTA SYSTEM SAFETY ENVIRONMENTAL DEPARTMENT. REFER TO TRACTION POWER DRAWINGS FOR FUEL TANK REMOVAL.
- 2 DE-ENERGIZE AND REMOVE DIESEL FUEL OIL PUMP AND ASSOCIATED CONTROLS. COORDINATE REMOVAL WITH SEPTA SYSTEM SAFETY ENVIRONMENTAL DEPARTMENT. REFER TO TRACTION POWER DRAWINGS FOR FUEL TANK REMOVAL.
- 3 DE-ENERGIZE AND REMOVE EMERGENCY PANEL AND FUSED DISCONNECT.
- 4 REMOVE ALL RECEPTACLES AND ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE.
- 5 DE-ENERGIZE AND REMOVE AIR COMPRESSOR CIRCUIT.
- 6 DE-ENERGIZE AND REMOVE 600V BATTERY CHARGER.
- 7 DE-ENERGIZE AND REMOVE SUMP PUMP CIRCUIT.



1
E101 ELECTRICAL DEMOLITION POWER BASEMENT FLOOR PLAN
SCALE: 1/8" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



1324 MARKET ST., 19TH FL.
PHILADELPHIA, PA. 19107

SEPTA PROJECT: E101

SEPTA PROJECT: E101

SEPTA PROJECT: E101

SEPTA PROJECT: E101

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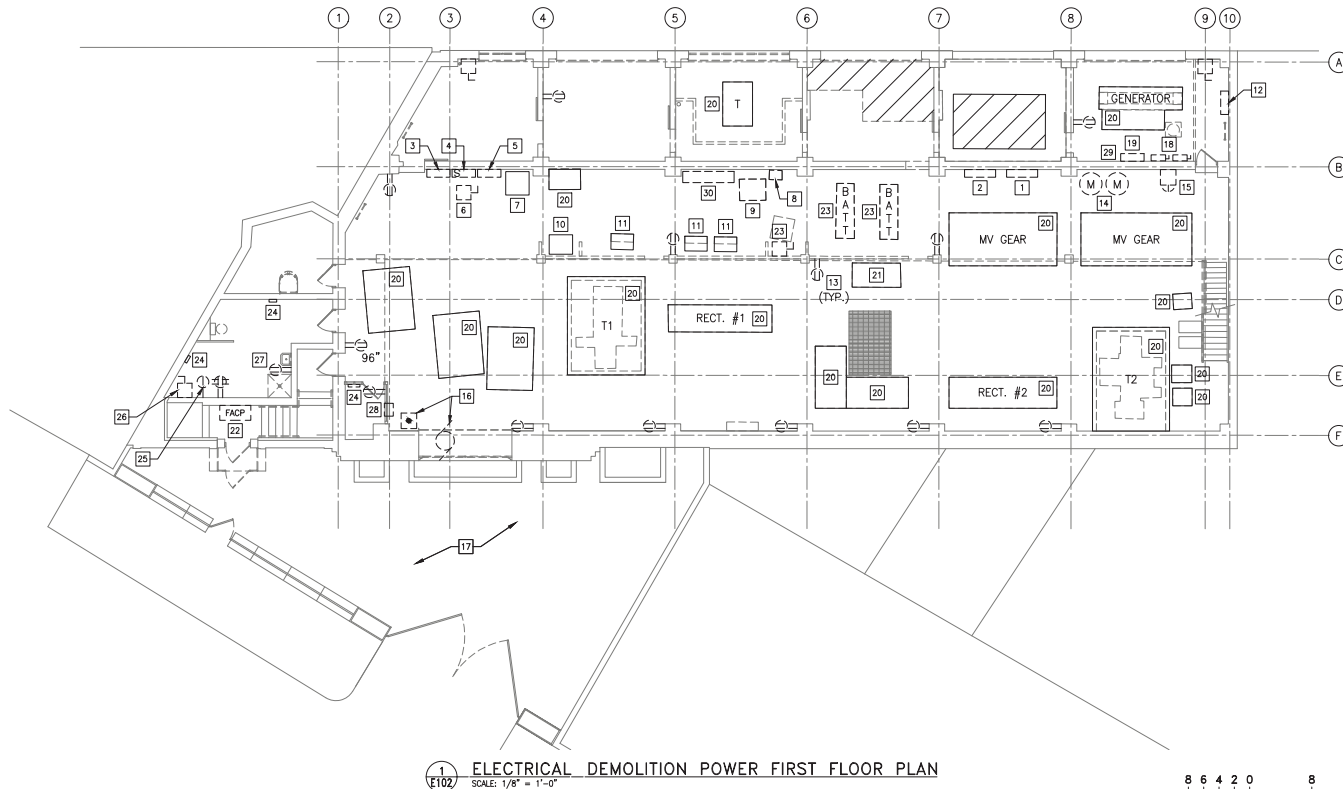
- A. REFER TO DEMOLITION DRAWINGS FOR LIMITS OF DEMOLITION. COORDINATE DISPOSAL OF EQUIPMENT WITH SEPTA. STAGING OF ITEMS FOR DEMOLITION SHALL BE COORDINATED WITH THE SEPTA PROJECT MANAGER TO ENSURE CONTINUITY AND ENSURING SEAMLESS OPERATIONS OF EQUIPMENT.
- B. DEMOLITION OF EXISTING TRANSFORMER AND ASSOCIATED CONDUIT AND CIRCUITRY.
- C. DEMOLITION OF EXISTING PANELS AND ASSOCIATED CONDUIT AND CIRCUITRY.
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- E. DEMOLITION OF EXISTING TRANSFER SWITCH AND ASSOCIATED CONDUIT AND CIRCUITRY.
- F. DEMOLITION OF EXISTING BATTERY CHARGERS AND ASSOCIATED CONDUIT AND CIRCUITRY.
- G. DEMOLITION OF EXISTING BATTERIES AND ASSOCIATED CONDUIT AND CIRCUITRY.
- H. DEMOLITION OF EXISTING DROPPING RESISTORS AND ASSOCIATED CONDUIT AND CIRCUITRY.
- I. DEMOLITION OF EXISTING BATTERY TRANSFER PANEL AND ASSOCIATED CONDUIT AND CIRCUITRY.
- J. DEMOLITION OF EXISTING CONDUIT AND CIRCUITRY TO MECHANICAL ITEMS.
- K. DEMOLITION OF EXISTING RECEPTACLES AND ASSOCIATED CONDUIT AND CIRCUITRY.

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3. DISCUSS AND COORDINATE ALL UTILITY WORK WITH PECO PRIOR TO COMMENCING ANY UTILITY WORK.
4. OBTAIN AND ADHERE TO PECO'S INSTALLATION GUIDELINES.
5. THE CONTRACTOR SHALL NOT INTERRUPT EXISTING POWER DISTRIBUTION SYSTEMS.
6. CONTACT THE SEPTA PROJECT MANAGER IF ISSUES ARISE IN THE FIELD THAT MAY DISRUPT EXISTING SYSTEMS.

7. REMOVE ALL DEVICES, WIRING, JUNCTION BOXES AND ASSOCIATED APPURTENANCES WITHIN SCOPE OF DEMOLITION.
8. LEGALLY DISPOSE OF DEVICES INDICATED TO BE REMOVED. OFFER EQUIPMENT TO SEPTA AND DISPOSE OF THE EQUIPMENT THAT SEPTA DOES NOT WISH TO RETAIN.
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10. EQUIPMENT, PANELS OR DISCONNECT SWITCHES INDICATED TO BE REMOVED SHALL INCLUDE REMOVAL OF ALL CONDUCTORS, INCLUDING CONDUIT AND WIRING, SHALL BE REMOVED BACK TO SOURCE.
11. THE DEMOLITION OF THE EXISTING FIRE ALARM SYSTEM WILL NOT COMMENCE UNTIL THE NEW FIRE ALARM SYSTEM IS FULLY INSTALLED AND ACCEPTED BY THE AUTHORITY HAVING JURISDICTION AND SEPTA.

1	DE-ENERGIZE AND REMOVE "LIGHTING PANEL 2", 208/120V 3ø, 4W 100A MCB.	10	SCADA TERMINATION CABINET. REFER TO TRACTION POWER WORKSCOPE
2	DE-ENERGIZE AND REMOVE PANEL "PP-2" 208/120V 400A MCB.	11	SCADA CABINET, REFER TO TRACTION POWER WORKSCOPE
3	DE-ENERGIZE AND REMOVE "BATTERY DISTRIBUTION PANEL 2" 225A.	12	DE-ENERGIZE AND REMOVE GENERATOR PANEL.
4	DE-ENERGIZE AND REMOVE "LIGHTING PANEL 1", 208/120V, 3ø, 4W, 100A MCB.	13	DE-ENERGIZE AND REMOVE ALL RECEPTACLES AND ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE.
5	DE-ENERGIZE AND REMOVE PANEL "PP-1" 208/120V, 3ø, 4W, 400A MCB.	14	DE-ENERGIZE AND REMOVE ELECTRICITY METERS.
6	DE-ENERGIZE AND REMOVE FIRE ALARM DISCONNECT SWITCH.	15	DE-ENERGIZE AND REMOVE E.P.O. SWITCH.
7	LOCAL SUPERVISORY CABINET. REFER TO TRACTION POWER WORKSCOPE.	16	DE-ENERGIZE AND REMOVE OVERHEAD DOOR MOTOR AND CONTROL.
8	DE-ENERGIZE AND REMOVE 130V BATTERY CHARGER RECTIFIER, 50A DC.	17	DE-ENERGIZE AND REMOVE ALL DEVICES, EQUIPMENT, WIRE AND CONDUIT IN THIS AREA.
9	DE-ENERGIZE AND REMOVE BATTERY TRANSFER PANEL.	18	DE-ENERGIZE AND REMOVE DISCONNECT SWITCHES.

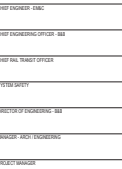
- 19 DE-ENERGIZE AND REMOVE GENERATOR BATTERY CHARGER.
- 20 EQUIPMENT TO BE REMOVED. REFER TO TRACTION POWER WORKSCOPE.
- 21 EXISTING TABLE TO BE REMOVED.
- 22 DE-ENERGIZE AND REMOVE POWER TO FIRE ALARM CONTROL PANEL.
- 23 DE-ENERGIZE AND REMOVE BATTERIES AND 200A BATTERY DISCONNECT SWITCH.
- 24 DE-ENERGIZE AND REMOVE HEATER CIRCUIT.
- 25 DE-ENERGIZE AND REMOVE WATER COOLER CIRCUIT.
- 26 DE-ENERGIZE AND REMOVE WATER HEATER CIRCUIT.
- 27 DE-ENERGIZE AND REMOVE WATER FOUNTAIN CIRCUIT.
- 28 DE-ENERGIZE AND REMOVE WINDOW AC UNIT CIRCUIT.
- 29 DE-ENERGIZE AND REMOVE RADIANT HEATER CIRCUIT.
- 30 DE-ENERGIZE AND REMOVE DROPPING RESISTORS.



8 6 4 2 0 8

SCALE: $1/8" = 1'-0"$

50% SUBMISSION
NOT FOR CONSTRUCTION

[illegible]

DATE PRINTED: 10/21/2025

**BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ELECTRICAL
DEMOLITION POWER FIRST FLOOR PLAN**

SCALE:	SCALE FACTOR:
AS SHOWN	1:1
DRAWN BY: WAE	CHECKED BY: CM
DATE: 08/22/2025	
WORK ORDER NO: 276491	
SHEET NUMBER	
E102	
OWG. NO: 3	or 17
HT. NO: 68	or 452
ARCHIVE NO:	
COMPUTER FILE NO:	REV. NO:
17AN-E102	---

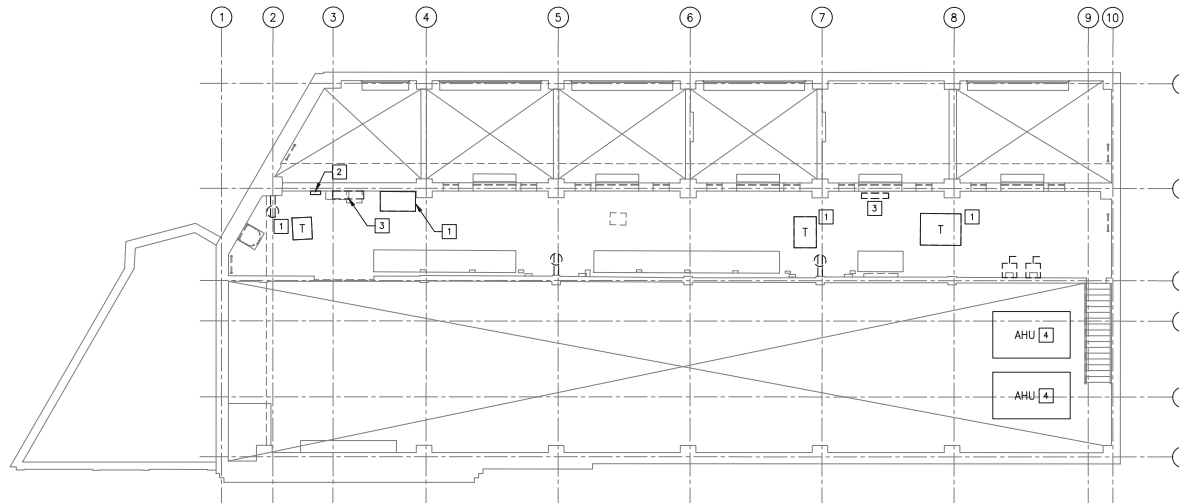
STATISTICS: 50% SUBMISSION

- A. REFER TO DEMOLITION DRAWINGS FOR LIMITS OF DEMOLITION. COORDINATE DISPOSAL OF EQUIPMENT WITH SEPTA. STAGING OF ITEMS FOR DEMOLITION SHALL BE COORDINATED WITH THE SEPTA PROJECT MANAGER TO ENSURE CONTINUITY AND ENSURING SEAMLESS OPERATIONS OF EQUIPMENT.
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- G. DEMOLITION OF EXISTING BATTERIES AND ASSOCIATED CONDUIT AND CIRCUITRY.
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- J. DEMOLITION OF EXISTING CONDUIT AND CIRCUITRY TO MECHANICAL ITEMS.
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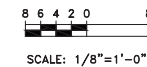
1. FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS REFER TO DRAWING E100.
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5. THE CONTRACTOR SHALL NOT INTERRUPT EXISTING POWER DISTRIBUTION SYSTEMS.

6. CONTACT THE SEPTA PROJECT MANAGER IF ISSUES ARISE IN THE FIELD THAT MAY DISRUPT EXISTING SYSTEMS.
7. REMOVE ALL DEVICES, WIRING, JUNCTION BOXES AND ASSOCIATED APPURTENANCES WITHIN SCOPE OF DEMOLITION.
8. LEGALLY DISPOSE OF DEVICES INDICATED TO BE REMOVED, OFFER EQUIPMENT TO SEPTA AND DISPOSE OF THE EQUIPMENT THAT SEPTA DOES NOT WISH TO RETAIN.
9. COORDINATE WORK CONCERNING EXISTING EQUIPMENT AND SERVICES IN THE BUILDING. COORDINATE REQUIRED POWER INTERRUPTIONS WITH SEPTA PER DIVISION 1 SPECIFICATIONS.
10. EQUIPMENT, PANELS OR DISCONNECT SWITCHES INDICATED TO BE REMOVED SHALL INCLUDE REMOVAL OF ALL CONDUCTORS, INCLUDING CONDUIT AND WIRING, SHALL BE REMOVED BACK TO SOURCE.

- 1 EQUIPMENT TO BE REMOVED. REFER TO TRACTION POWER WORKSCOPE.
- 2 DE-ENERGIZE AND REMOVE 400A ENCLOSED CIRCUIT BREAKER.
- 3 DE-ENERGIZE AND REMOVE 400A ATS #1 AND #2.
- 4 DE-ENERGIZE AND REMOVE AIR HANDLING UNIT CIRCUIT.



1
E103 ELECTRICAL DEMOLITION POWER MEZZANINE FLOOR PLAN
SCALE: 1/8" = 1'-0"



50% SUBMISSION
NOT FOR CONSTRUCTION



PROJECT MANAGER



DATE PRINTED: 10/21/2025

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ELECTRICAL
DEMOLITION POWER MEZZANINE FLOOR PLAN

SCALE:	SCALE FACTOR:
AS SHOWN	1:1
DATE:	DRAWN BY: WAB
08/22/2025	CHECKED BY: CM
WORK ORDER NO:	
276491	
SHEET NUMBER	
E103	
OWING NO:	4 of 17
SWT. NO:	69 of 452
ARCHIVE NO:	
COMPUTER FILE NO:	REV. NO:
17AN-E103	---

STATUS: 50% SUBMISSION

DEMOLITION SCOPE OF WORK:

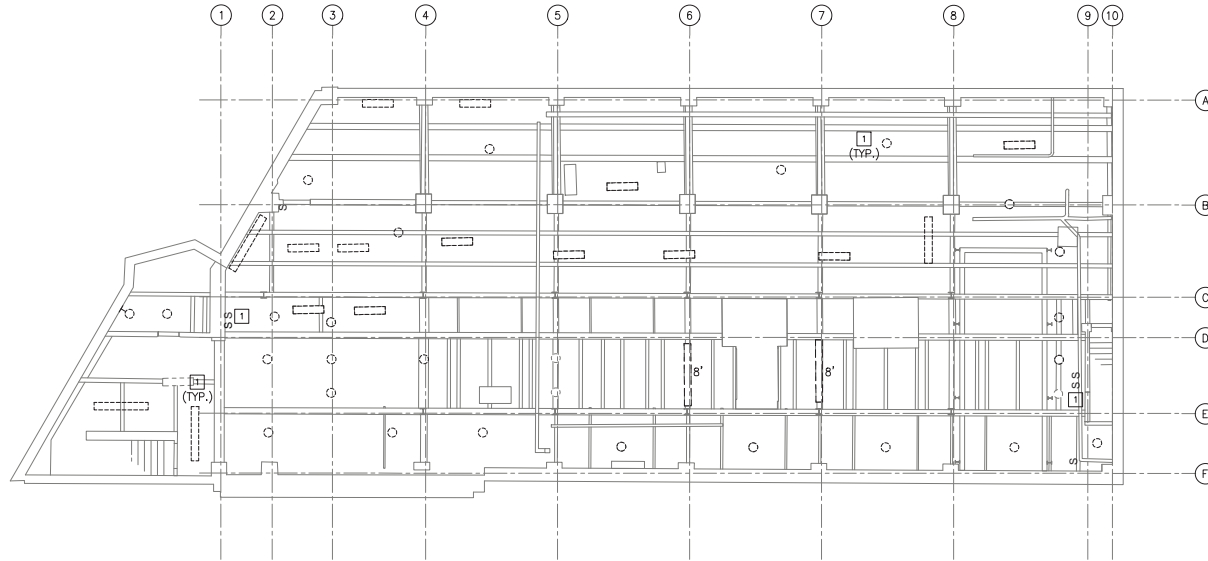
- A. REFER TO DEMOLITION DRAWINGS FOR LIMITS OF DEMOLITION. COORDINATE DISPOSAL OF EQUIPMENT WITH SEPTA. STAGING OF ITEMS FOR DEMOLITION SHALL BE COORDINATED WITH THE SEPTA PROJECT MANAGER TO ENSURE CONTINUITY AND ENSURING SEAMLESS OPERATIONS OF EQUIPMENT.
- B. DEMOLITION OF EXISTING INTERIOR LIGHTING AND ASSOCIATED SWITCHING AND CONDUIT AND CIRCUITRY.
- C. DEMOLITION OF EXISTING EXTERIOR LIGHTING AND ASSOCIATED SWITCHING AND CONDUIT AND CIRCUITRY.

GENERAL NOTES:

- FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS REFER TO DRAWING E100.
- DEMOLITION PLAN IS DIAGRAMMATIC. FIELD VERIFY EXACT LOCATIONS AND DIMENSIONS.
- DISCUSS AND COORDINATE ALL UTILITY WORK WITH PECO PRIOR TO COMMENCING ANY UTILITY WORK.
- OBTAIN AND ADHERE TO PECO'S INSTALLATION GUIDELINES.
- THE CONTRACTOR SHALL NOT INTERRUPT EXISTING POWER DISTRIBUTION SYSTEMS.
- CONTACT THE SEPTA PROJECT MANAGER IF ISSUES ARISE IN THE FIELD THAT MAY DISRUPT EXISTING SYSTEMS.
- REMOVE ALL DEVICES, WIRING, JUNCTION BOXES AND ASSOCIATED APPURTENANCES WITHIN SCOPE OF DEMOLITION.
- LEGALLY DISPOSE OF DEVICES INDICATED TO BE REMOVED. OFFER EQUIPMENT TO SEPTA AND DISPOSE OF THE EQUIPMENT THAT SEPTA DOES NOT WISH TO RETAIN.

KEYED NOTES:

- 1 DE-ENERGIZE AND REMOVE LIGHTING FIXTURES AND SWITCHES. REMOVE ALL WIRE AND CONDUIT BACK TO SOURCE.



1 ELECTRICAL DEMOLITION LIGHTING BASEMENT FLOOR PLAN
E104 SCALE: 1/8" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8"=1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION

1324 MARKET ST., 19TH FL.
PHILADELPHIA, PA 19107

DRP NUMBER: E104
DRP PROJECTING OFFICE: HDR
DRP RAIL TRACT OFFICE:
PROJECT ID: 17AN-E104
DIRECTOR OF PROJECTING: HDR
DESIGN ARCHITECT/ENGINEER:
PROJECT MANAGER:

HDR Engineering, Inc.
Philadelphia, PA

AMBA
ASSOCIATION OF METRO AREA
BUSINESS AND MUNICIPAL
ADMINISTRATORS

REV	DATE	DESCRIPTION	BY	CHK	APPD

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ELECTRICAL
DEMOLITION LIGHTING BASEMENT FLOOR PLAN

DATE:	AS SHOWN	SCALE/FACITON:	1:1
DATE:	08/22/2025	DESIGNED BY:	
		CONFERRED BY:	

PROJECT NUMBER:
E104

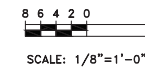
DRG NO.:	5	OF	17
DTG NO.:	69	OF	453
ARCHIVE NO.:			
COMPUTER FILE NO.:			
	17AN-E104		

DATE PRINTED: 10/2/2025
STATUS: 50% SUBMISSION

- A. REFER TO DEMOLITION DRAWINGS FOR LIMITS OF DEMOLITION. COORDINATE DISPOSAL OF EQUIPMENT WITH SEPTA. STAGING OF ITEMS FOR DEMOLITION SHALL BE COORDINATED WITH THE SEPTA PROJECT MANAGER TO ENSURE CONTINUITY AND ENSURING SEAMLESS OPERATIONS OF EQUIPMENT.
- B. DEMOLITION OF EXISTING INTERIOR LIGHTING AND ASSOCIATED SWITCHING AND CONDUIT AND CIRCUITRY.
- C. DEMOLITION OF EXISTING EXTERIOR LIGHTING AND ASSOCIATED SWITCHING AND CONDUIT AND CIRCUITRY.

1. FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS REFER TO DRAWING E100.
2. DEMOLITION PLAN IS DIAGRAMMATIC. FIELD VERIFY EXACT LOCATIONS AND DIMENSIONS.
3. DISCUSS AND COORDINATE ALL UTILITY WORK WITH PECO PRIOR TO COMMENCING ANY UTILITY WORK.
4. OBTAIN AND ADHERE TO PECO'S INSTALLATION GUIDELINES.
5. THE CONTRACTOR SHALL NOT INTERRUPT EXISTING POWER DISTRIBUTION SYSTEMS.
6. CONTACT THE SEPTA PROJECT MANAGER IF ISSUES ARISE IN THE FIELD THAT MAY DISRUPT EXISTING SYSTEMS.
7. REMOVE ALL DEVICES, WIRING, JUNCTION BOXES AND ASSOCIATED APPURTENANCES WITHIN SCOPE OF DEMOLITION.
8. LEGALLY DISPOSE OF DEVICES INDICATED TO BE REMOVED. OFFER EQUIPMENT TO SEPTA AND DISPOSE OF THE EQUIPMENT THAT SEPTA DOES NOT WISH TO RETAIN.

- 1 DE-ENERGIZE AND REMOVE LIGHTING FIXTURES AND SWITCHES. REMOVE ALL WIRE AND CONDUIT BACK TO SOURCE.
- 2 DE-ENERGIZE AND REMOVE ALL LIGHTS, SWITCHES, WIRE AND CONDUIT IN THIS AREA.



50% SUBMISSION
NOT FOR CONSTRUCTION

[illegible]

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ELECTRICAL
DEMOLITION LIGHTING FIRST FLOOR PLAN

SCALE:	SCALE FACTOR:
AS SHOWN	1:1
DATE:	DRAWN BY: JMB
08/22/2025	CHECKED BY: CAM
FORM ORDER NO:	
276491	
REVISION:	
E105	
WG. NO.:	6 of 17
WT. NO.:	71 of 452
REV. NO.:	
COMPUTER FILE NO.:	REV. NO.:
7AN-E105	----

DEMOLITION SCOPE OF WORK:

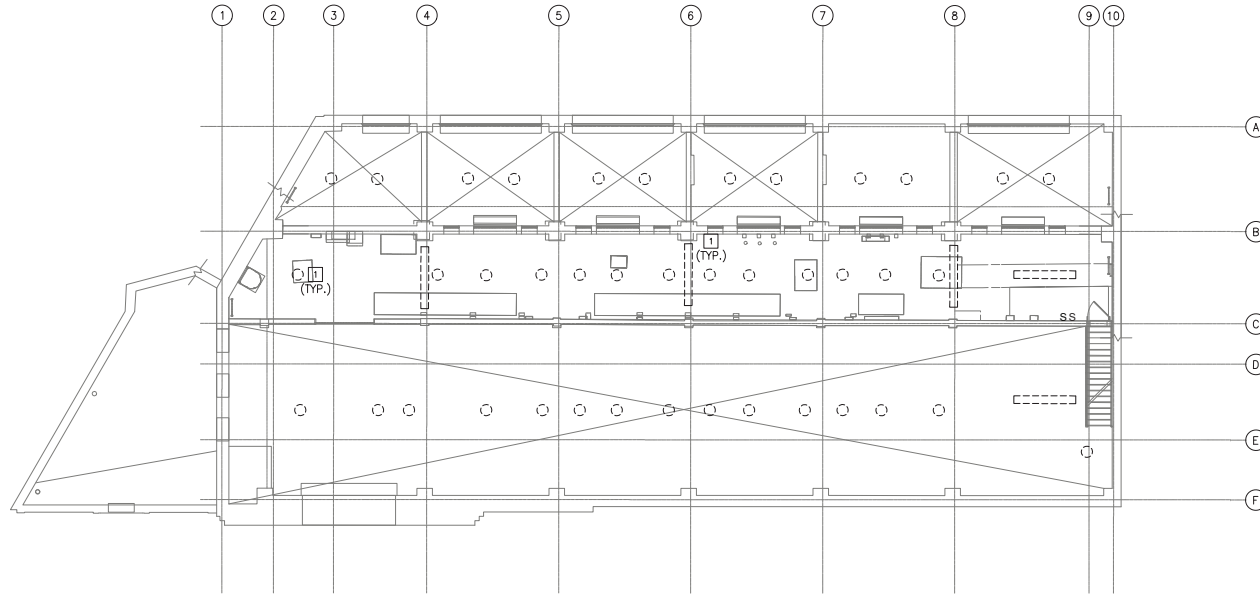
- A. REFER TO DEMOLITION DRAWINGS FOR LIMITS OF DEMOLITION. COORDINATE DISPOSAL OF EQUIPMENT WITH SEPTA. STAGING OF ITEMS FOR DEMOLITION SHALL BE COORDINATED WITH THE SEPTA PROJECT MANAGER TO ENSURE CONTINUITY AND ENSURING SEAMLESS OPERATIONS OF EQUIPMENT.
- B. DEMOLITION OF EXISTING INTERIOR LIGHTING AND ASSOCIATED SWITCHING AND CONDUIT AND CIRCUITRY.
- C. DEMOLITION OF EXISTING EXTERIOR LIGHTING AND ASSOCIATED SWITCHING AND CONDUIT AND CIRCUITRY.

GENERAL NOTES:

1. FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS REFER TO DRAWING E100.
2. DEMOLITION PLAN IS DIAGRAMMATIC. FIELD VERIFY EXACT LOCATIONS AND DIMENSIONS.
3. DISCUSS AND COORDINATE ALL UTILITY WORK WITH PECO PRIOR TO COMMENCING ANY UTILITY WORK.
4. OBTAIN AND ADHERE TO PECO'S INSTALLATION GUIDELINES.
5. THE CONTRACTOR SHALL NOT INTERRUPT EXISTING POWER DISTRIBUTION SYSTEMS.
6. CONTACT THE SEPTA PROJECT MANAGER IF ISSUES ARISE IN THE FIELD THAT MAY DISRUPT EXISTING SYSTEMS.
7. REMOVE ALL DEVICES, WIRING, JUNCTION BOXES AND ASSOCIATED APPURTENANCES WITHIN SCOPE OF DEMOLITION.
8. LEGALLY DISPOSE OF DEVICES INDICATED TO BE REMOVED. OFFER EQUIPMENT TO SEPTA AND DISPOSE OF THE EQUIPMENT THAT SEPTA DOES NOT WISH TO RETAIN.

KEYED NOTES:

- 1 DE-ENERGIZE AND REMOVE LIGHTING FIXTURES AND SWITCHES. REMOVE ALL WIRE AND CONDUIT BACK TO SOURCE.



1 ELECTRICAL DEMOLITION LIGHTING MEZZANINE FLOOR PLAN
E106 SCALE: 1/8" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8"=1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



1324 MARKET ST., 19TH FL.
PHILADELPHIA, PA. 19107

SEPTA PROJECT MANAGER:
SEPTA PROJECT OFFICE: 800
SEPTA PROJECT OFFICE: 800
SEPTA PROJECT OFFICE: 800
SEPTA PROJECT OFFICE: 800
SEPTA PROJECT OFFICE: 800
SEPTA PROJECT OFFICE: 800

HDR Engineering, Inc.
Philadelphia, PA



REV	DATE	DESCRIPTION	BY	CHK	APP

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ELECTRICAL
DEMOLITION LIGHTING MEZZANINE FLOOR PLAN

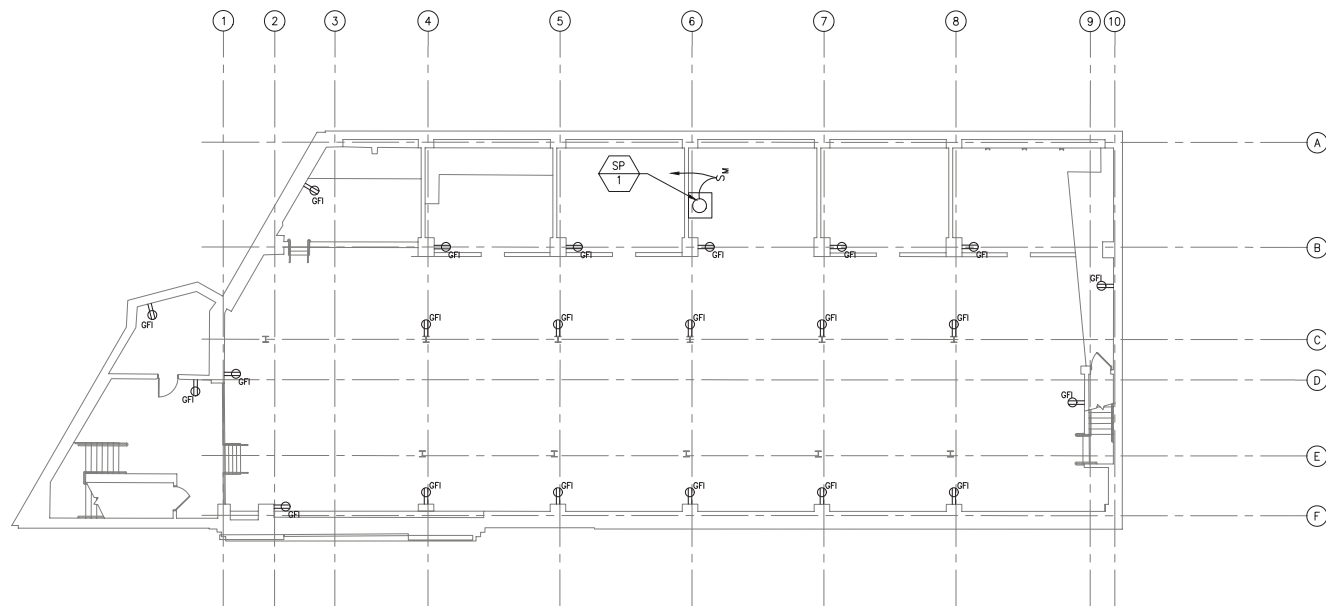
DATE: 08/22/2025
SCALE: 1/8" = 1'-0"
PROJECT NO.: 276491
SHEET NO.: E106
SHEET TOTAL: 7 OF 17
DATE: 08/22/2025
SCALE: 1/8" = 1'-0"
PROJECT NO.: 276491
SHEET NO.: E106
SHEET TOTAL: 7 OF 17
DATE: 08/22/2025
SCALE: 1/8" = 1'-0"
PROJECT NO.: 276491
SHEET NO.: E106
SHEET TOTAL: 7 OF 17

DATE PRINTED: 10/2/2025

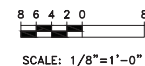
STATUS: 50% SUBMISSION

- A. REFER TO PROPOSED DRAWINGS FOR NEW WORK. STAGING OF NEW WORK SHALL BE COORDINATED WITH THE SEPTA PROJECT MANAGER TO ENSURE CONTINUITY AND ENSURING SEAMLESS OPERATIONS OF EQUIPMENT.
- B. NEW TRANSFORMER AND ASSOCIATED CIRCUITRY.
- C. NEW PANELS AND ASSOCIATED CIRCUITRY.
- D. NEW DISCONNECT SWITCHES AND ASSOCIATED CIRCUITRY.
- E. NEW TRANSFER SWITCHES AND ASSOCIATED CIRCUITRY.
- F. NEW BATTERY CHARGERS AND ASSOCIATED CIRCUITRY.
- G. NEW BATTERIES AND ASSOCIATED CIRCUITRY.
- H. NEW CIRCUITRY TO MECHANICAL ITEMS.
- I. NEW RECEPTACLES AND ASSOCIATED CIRCUITRY.

1. FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS REFER TO DRAWING E100.
2. PLAN IS DIAGRAMMATIC. FIELD VERIFY EXACT LOCATIONS AND DIMENSIONS.
3. THE CONTRACTOR SHALL NOT INTERRUPT EXISTING POWER DISTRIBUTION SYSTEMS.
4. EXISTING DISTRIBUTION GEAR SHALL REMAIN ENERGIZED UNTIL ALL NEW FEEDERS ARE READY FOR CUT OVER.
5. REFER TO PANEL SCHEDULES ON DRAWING E116 FOR ADDITIONAL REQUIREMENTS.
6. PROVIDE COMPLETE AND ACCURATE CIRCUIT DIRECTORIES FOR ALL NEW PANELS AFTER NEW WORK IS COMPLETE.
7. COORDINATE ALL INTERCONNECTIONS TO MECHANICAL EQUIPMENT WITH TRADE CONTRACTOR PRIOR TO COMMENCING WORK.
8. ALL INTERIOR RECEPTACLES SHALL BE GFCI TYPE AND MOUNTED AT 36" AFF UNLESS OTHERWISE INDICATED.
9. ALL EXTERIOR RECEPTACLES SHALL BE GFCI TYPE MOUNTED IN A WEATHERPROOF GANG BOX, AND MOUNTED AT 48" AFG UNLESS OTHERWISE INDICATED.



1
E107 ELECTRICAL PROPOSED POWER BASEMENT FLOOR PLAN
SCALE: 1/8" = 1'-0"



50% SUBMISSION
NOT FOR CONSTRUCTION



CHIEF ENGINEER - SMC
CHIEF ENGINEERING OFFICER - SMC
CHIEF HALL STANDST OFFICER
SYSTEM SAFETY
DIRECTOR OF ENGINEERING - SMC
MANAGER - ARCH/ENGINEERING
PROJECT MANAGER



BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ELECTRICAL
PROPOSED POWER BASEMENT FLOOR PLAN

SCALE: AS SHOWN	SCALE FACTOR: 1:1
DATE: 08/22/2025	DRAWN BY: WSE CHECKED BY: CJB
WORK ORDER NO.: 276491	
SHEET NUMBER: E107	
DWG. NO.: 8	OF 17
SHT. NO.: 72	OF 453
ARCHIVE NO.:	
COMPUTER FILE NO.: 17AN-E107	REV. NO.

DATE PRINTED: 10/21/2025

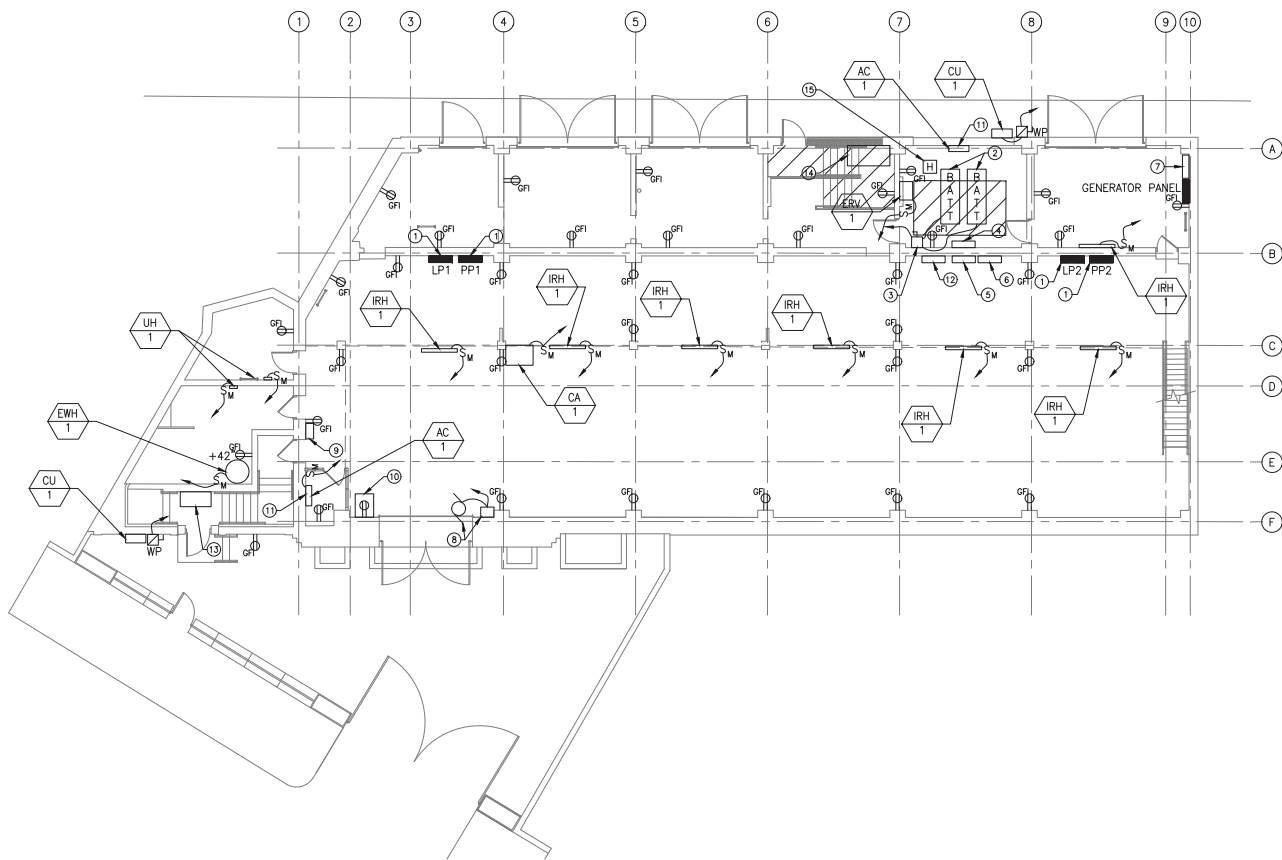
STATUS: 50% SUBMISSION

- A. REFER TO PROPOSED DRAWINGS FOR NEW WORK. STAGING OF NEW WORK SHALL BE COORDINATED WITH THE SEPTA PROJECT MANAGER TO ENSURE CONTINUITY AND ENSURING SEAMLESS OPERATIONS OF EQUIPMENT.
- B. NEW TRANSFORMER AND ASSOCIATED CIRCUITRY.
- C. NEW PANELS AND ASSOCIATED CIRCUITRY.
- D. NEW DISCONNECT SWITCHES AND ASSOCIATED CIRCUITRY.
- E. NEW TRANSFER SWITCHES AND ASSOCIATED CIRCUITRY.
- F. NEW BATTERY CHARGERS AND ASSOCIATED CIRCUITRY.
- G. NEW BATTERIES AND ASSOCIATED CIRCUITRY.
- H. NEW CIRCUITRY TO MECHANICAL ITEMS.
- I. NEW RECEPTACLES AND ASSOCIATED CIRCUITRY.

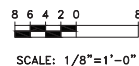
1. FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS REFER TO DRAWING E100.
2. PLAN IS DIAGRAMMATIC. FIELD VERIFY EXACT LOCATIONS AND DIMENSIONS.
3. THE CONTRACTOR SHALL NOT INTERRUPT EXISTING POWER DISTRIBUTION SYSTEMS.
4. EXISTING DISTRIBUTION GEAR SHALL REMAIN ENERGIZED UNTIL ALL NEW FEEDERS ARE READY FOR CUT OVER.
5. REFER TO PANEL SCHEDULES ON DRAWING E116 FOR ADDITIONAL REQUIREMENTS.
6. PROVIDE COMPLETE AND ACCURATE CIRCUIT DIRECTORIES FOR ALL NEW PANELS AFTER NEW WORK IS COMPLETE.

- ① FURNISH AND INSTALL PANELS. REFER TO PANEL SCHEDULES ON DRAWING E116.
- ② FURNISH AND INSTALL BATTERIES AND BATTERY RACKS.
- ③ FURNISH AND INSTALL BATTERY FUSED DISCONNECT SWITCH.
- ④ FURNISH AND INSTALL 125V DC PANEL.
- ⑤ FURNISH AND INSTALL BATTERY TRANSFER PANEL.
- ⑥ FURNISH AND INSTALL BATTERY CHARGER.
- ⑦ FURNISH AND INSTALL GENERATOR BATTERY CHARGER.
- ⑧ FURNISH AND INSTALL OVERHEAD DOOR AND CONTROLLER.

- 9 INTRUSION DETECTION SYSTEM PANEL. REFER TO COMMUNICATIONS WORKSCOPE.
- 10 FIBER OPTIC INTERCONNECTION CABINET. REFER TO COMMUNICATIONS WORKSCOPE.
- 11 AC-1 IS POWERED FROM CIRCUIT SUPPLYING CU-1.
- 12 FURNISH AND INSTALL DROPPING RESISTORS.
- 13 FURNISH AND INSTALL 1P/20A 120V CIRCUIT TO FIRE ALARM CONTROL PANEL.
- 14 FURNISH AND INSTALL WORKBENCH.
- 15 FURNISH AND INSTALL HYDROGEN GAS DETECTION SYSTEM.



1 ELECTRICAL PROPOSED POWER FIRST FLOOR PLAN
E108 SCALE: 1/8" = 1'-0"



50% SUBMISSION
NOT FOR CONSTRUCTION



CHIEF ENGINEER - ENBC

CHIEF ENGINEERING OFFICER-S&B

OFFICIAL TRAVEL OFFICER

SYSTEM SAFETY

DIRECTOR OF ENGINEERING-888

MANAGER - ARCH/ENGINEERING

PROJECT MANAGER



DATE PRINTED: 10/21/2025

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ELECTRICAL
PROPOSED POWER FIRST FLOOR PLAN

SCALE: AS SHOWN	SCALE FACTOR: 1:1
DATE: 08/22/2025	DRAWN BY: WMS
WORK ORDER NO.: 276491	CHECKED BY: CJM
SHEET NUMBER E108	
DWG. NO.: 9	OF 17
SHT. NO.: 73	OF 453
ARCHIVE NO.:	
COMPUTER FILE NO.: 17AN-E108	REV. NO.

STATUS: 50% SUBMISSION

PROPOSED SCOPE OF WORK:

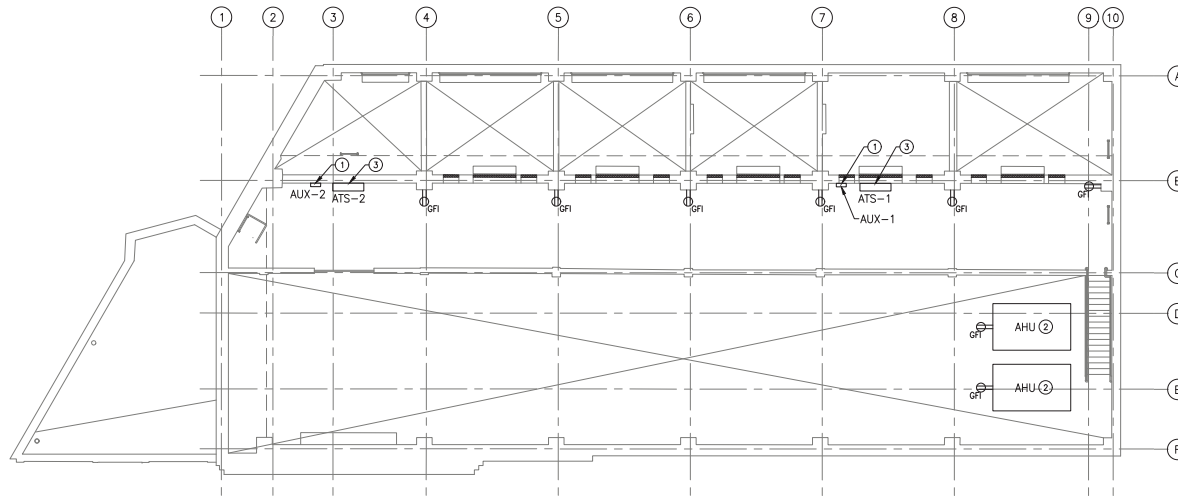
- REFER TO PROPOSED DRAWINGS FOR NEW WORK. STAGING OF NEW WORK SHALL BE COORDINATED WITH THE SEPTA PROJECT MANAGER TO ENSURE CONTINUITY AND ENSURING SEAMLESS OPERATIONS OF EQUIPMENT.
- NEW TRANSFORMER AND ASSOCIATED CIRCUITRY.
- NEW PANELS AND ASSOCIATED CIRCUITRY.
- NEW DISCONNECT SWITCHES AND ASSOCIATED CIRCUITRY.
- NEW TRANSFER SWITCHES AND ASSOCIATED CIRCUITRY.
- NEW BATTERY CHARGERS AND ASSOCIATED CIRCUITRY.
- NEW BATTERIES AND ASSOCIATED CIRCUITRY.
- NEW CIRCUITRY TO MECHANICAL ITEMS.
- NEW RECEPTACLES AND ASSOCIATED CIRCUITRY.

GENERAL NOTES:

- FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS REFER TO DRAWING E100.
- PLAN IS DIAGRAMMATIC. FIELD VERIFY EXACT LOCATIONS AND DIMENSIONS.
- THE CONTRACTOR SHALL NOT INTERRUPT EXISTING POWER DISTRIBUTION SYSTEMS.
- EXISTING DISTRIBUTION GEAR SHALL REMAIN ENERGIZED UNTIL ALL NEW FEEDERS ARE READY FOR CUT OVER.
- REFER TO PANEL SCHEDULES ON DRAWING E116 FOR ADDITIONAL REQUIREMENTS.
- PROVIDE COMPLETE AND ACCURATE CIRCUIT DIRECTORIES FOR ALL NEW PANELS AFTER NEW WORK IS COMPLETE.
- COORDINATE ALL INTERCONNECTIONS TO MECHANICAL EQUIPMENT WITH TRADE CONTRACTOR PRIOR TO COMMENCING WORK.
- ALL INTERIOR RECEPTACLES SHALL BE GFCI TYPE AND MOUNTED AT 36" AFF UNLESS OTHERWISE INDICATED.
- ALL EXTERIOR RECEPTACLES SHALL BE GFCI TYPE MOUNTED IN A WEATHERPROOF GANG BOX, AND MOUNTED AT 48" AFF UNLESS OTHERWISE INDICATED.

KEYED NOTES:

- FURNISH AND INSTALL SECONDARY 400A, 208V, 3Ø ENCLOSED CIRCUIT BREAKER.
- FURNISH AND INSTALL CONNECTIONS TO TWO (2) EXISTING AIR HANDLING UNITS SUSPENDED FROM ROOF. FURNISH AND INSTALL 3P/100A DISCONNECT AT EACH UNIT. PROVIDE 120V/20A DUPLEX RECEPTACLE AT EACH UNIT.
- FURNISH AND INSTALL 400A AUTOMATIC TRANSFER SWITCH.



E109 ELECTRICAL PROPOSED POWER MEZZANINE FLOOR PLAN
SCALE: 1/8" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



PROJECT NUMBER: 17AN-E109
PROJECT LOCATION: 17TH STREET STATION
PROJECT OWNER: SEPTA
PROJECT MANAGER: [Name]
DATE: 08/22/2025

HDR
HDR Engineering, Inc.
Philadelphia, PA



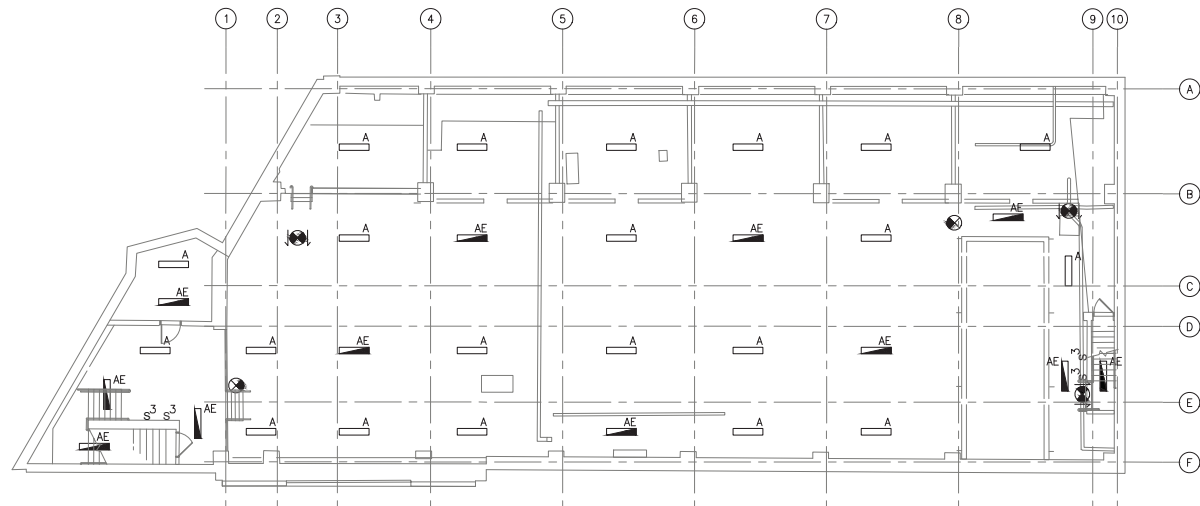
REV	DATE	DESCRIPTION	BY	CHKD	APPD

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ELECTRICAL
PROPOSED POWER MEZZANINE FLOOR PLAN

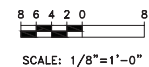
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DATE: 08/22/2025
DRAWN BY: [Name]
CHECKED BY: [Name]
PROJECT NUMBER: 276491
SHEET NUMBER: **E109**
TOTAL SHEETS: 10 OF 17
SHEET NO.: 75 OF 452
COMPUTER FILED: 17AN-E109
STATUS: 50% SUBMISSION

- A. REFER TO PROPOSED DRAWINGS FOR NEW WORK. STAGING OF NEW WORK SHALL BE COORDINATED WITH THE SEPTA PROJECT MANAGER TO ENSURE CONTINUITY AND ENSURING SEAMLESS OPERATIONS OF EQUIPMENT.
- B. NEW INTERIOR LIGHTING AND ASSOCIATED SWITCHING AND CIRCUITRY.
- C. NEW EXTERIOR LIGHTING AND ASSOCIATED SWITCHING AND CIRCUITRY.

1. FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS REFER TO DRAWING E100.
2. PLAN IS DIAGRAMMATIC. FIELD VERIFY EXACT LOCATIONS AND DIMENSIONS.
3. THE CONTRACTOR SHALL NOT INTERRUPT EXISTING POWER DISTRIBUTION SYSTEMS.
4. REFER TO PANEL SCHEDULES ON DRAWING E116 FOR ADDITIONAL REQUIREMENTS.
5. PROVIDE COMPLETE AND ACCURATE CIRCUIT DIRECTORIES FOR ALL NEW PANELS AFTER NEW WORK IS COMPLETE.
6. REFER TO LUMINAIRE SCHEDULE ON DRAWING E115.



1 ELECTRICAL PROPOSED LIGHTING BASEMENT FLOOR PLAN
E110 SCALE: 1/8" = 1'-0"



50% SUBMISSION
NOT FOR CONSTRUCTION



CHIEF ENGINEER - CMC

CHIEF ENGINEERING OFFICER - S&B

CHIEF BAL TRANSIT OFFICER

CHIEF SAFETY

CHIEF DIRECTOR OF ENGINEERING - S&B

CHIEF ENGINEER - ARCH/ENGINEERING

PROJECT MANAGER



DATE PRINTED: 10/21/2025

**BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ELECTRICAL
PROPOSED LIGHTING BASEMENT FLOOR PLAN**

SCALE:	SCALE FACTOR:
AS SHOWN	1:1
DATE:	DRAWN BY: WSE
08/22/2025	CHECKED BY: CJE
WORK ORDER NO.	
276491	
REIT NUMBER	
E110	
WG. NO.:	11 OF 17
HT. NO.:	76 OF 452
REVIEW NO.:	
COMPUTER FILE NO.:	REVIEW NO.:
7AN-E110	----

STATUS: 50% SUBMISSION

PROPOSED SCOPE OF WORK:

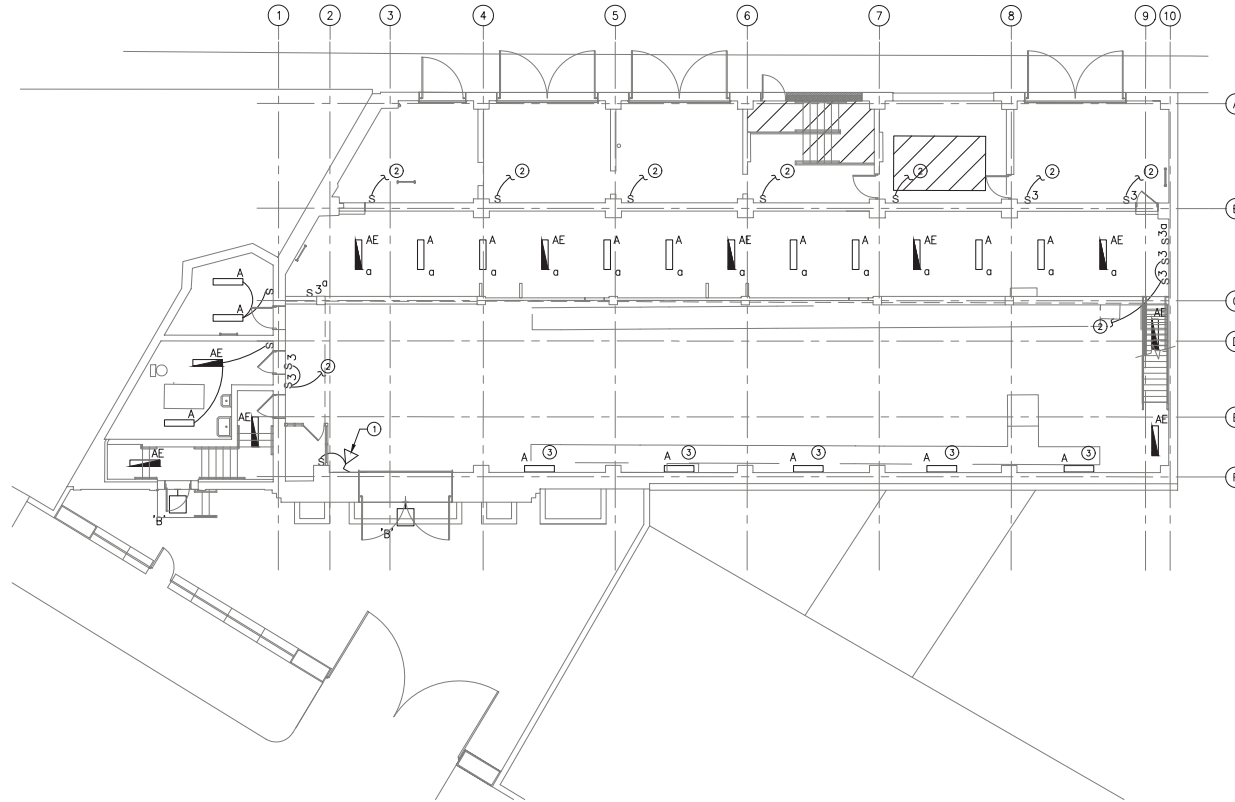
- A. REFER TO PROPOSED DRAWINGS FOR NEW WORK. STAGING OF NEW WORK SHALL BE COORDINATED WITH THE SEPTA PROJECT MANAGER TO ENSURE CONTINUITY AND ENSURING SEAMLESS OPERATIONS OF EQUIPMENT.
- B. NEW INTERIOR LIGHTING AND ASSOCIATED SWITCHING AND CIRCUITRY.
- C. NEW EXTERIOR LIGHTING AND ASSOCIATED SWITCHING AND CIRCUITRY.

GENERAL NOTES:

1. FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS REFER TO DRAWING E100.
2. PLAN IS DIAGRAMMATIC. FIELD VERIFY EXACT LOCATIONS AND DIMENSIONS.
3. THE CONTRACTOR SHALL NOT INTERRUPT EXISTING POWER DISTRIBUTION SYSTEMS.
4. REFER TO PANEL SCHEDULES ON DRAWING E116 FOR ADDITIONAL REQUIREMENTS.
5. PROVIDE COMPLETE AND ACCURATE CIRCUIT DIRECTORIES FOR ALL NEW PANELS AFTER NEW WORK IS COMPLETE.
6. REFER TO LUMINAIRE SCHEDULE ON DRAWING E115.

KEYED NOTES:

- ① FURNISH AND INSTALL LOADING DOCK LIGHT.
- ② TO LIGHT FIXTURES ABOVE. REFER TO DRAWING E112.
- ③ WALL MOUNT AT 8'-0" AFF.



1 E111 ELECTRICAL PROPOSED LIGHTING FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION

SEPTA
SOUTHEASTERN
PENNSYLVANIA
TRANSPORTATION
AUTHORITY
DMS DIVISION
1229 MARKET ST., 15TH FL.
PHILADELPHIA, PA 19107

DATE: 08/22/2025
DRAWN BY: TMB
CHECKED BY: JMB
PROJECT NO: 276491
SHEET NUMBER: E111
TOTAL SHEETS: 12 OF 17
SHEET NO: 77 OF 452
PROJECT NO: 17AN-E111

HDR
HDR Engineering, Inc.
Philadelphia, PA

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ELECTRICAL
PROPOSED LIGHTING FIRST FLOOR PLAN

DATE PRINTED: 10/2/2025
STATUS: 50% SUBMISSION

PROPOSED SCOPE OF WORK:

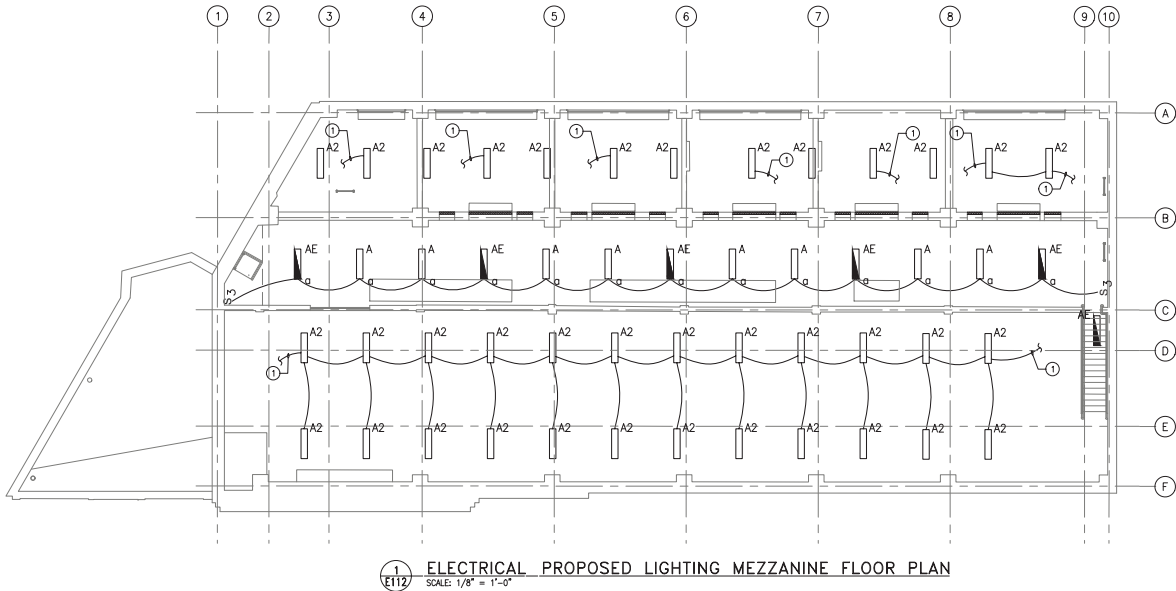
- A. REFER TO PROPOSED DRAWINGS FOR NEW WORK. STAGING OF NEW WORK SHALL BE COORDINATED WITH THE SEPTA PROJECT MANAGER TO ENSURE CONTINUITY AND ENSURING SEAMLESS OPERATIONS OF EQUIPMENT.
- B. NEW INTERIOR LIGHTING AND ASSOCIATED SWITCHING AND CIRCUITRY.
- C. NEW EXTERIOR LIGHTING AND ASSOCIATED SWITCHING AND CIRCUITRY.

GENERAL NOTES:

1. FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS REFER TO DRAWING E100.
2. PLAN IS DIAGRAMMATIC. FIELD VERIFY EXACT LOCATIONS AND DIMENSIONS.
3. THE CONTRACTOR SHALL NOT INTERRUPT EXISTING POWER DISTRIBUTION SYSTEMS.
4. REFER TO PANEL SCHEDULES ON DRAWING E116 FOR ADDITIONAL REQUIREMENTS.
5. PROVIDE COMPLETE AND ACCURATE CIRCUIT DIRECTORIES FOR ALL NEW PANELS AFTER NEW WORK IS COMPLETE.
6. REFER TO LUMINAIRE SCHEDULE ON DRAWING E115.

KEYED NOTES:

- ① CONTROLLED BY SWITCH BELOW. REFER TO DRAWING E111.



1
E112 ELECTRICAL PROPOSED LIGHTING MEZZANINE FLOOR PLAN
SCALE: 1/8" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



SEPTA
SOUTHEASTERN
PENNSYLVANIA
TRANSPORTATION
AUTHORITY
DMS DIVISION
1200 MARKET ST., 17TH FL.
PHILADELPHIA, PA 19107

PROJECT NUMBER: 0000

PROJECT ENGINEERING OFFICE: 000

PROJECT NAME: PROJECT 0000

UNIVERSITY:

DIRECTOR OF ENGINEERING: 000

MANAGER: 000-00000000

PROJECT MANAGER:



HDR
HDR Engineering, Inc.
Philadelphia, PA



REV	DATE	DESCRIPTION	BY	CHKD	APPD

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ELECTRICAL
PROPOSED LIGHTING MEZZANINE FLOOR PLAN

SCALE: AS SHOWN

DATE: 08/22/2025

WORK ORDER NO: 276491

E112

DRG NO: 13 OF 17
SHEET NO: 78 OF 452
PROJECT NO:

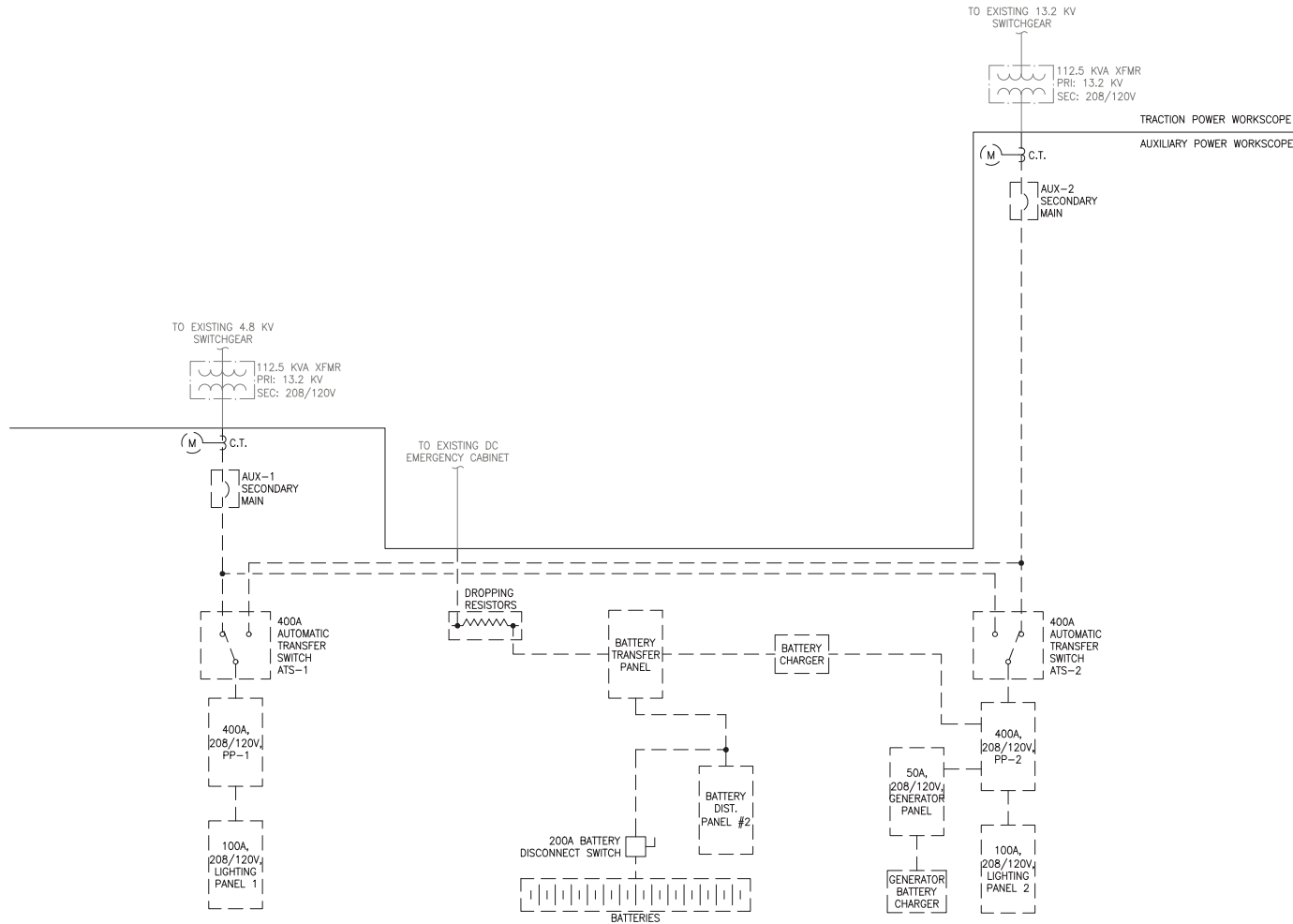
COMPUTER FILED:
17AN-E112

REV: 01

DATE PRINTED: 10/21/2025

STATUS: 50% SUBMISSION

C:\PWORKS\SP17\106800\17AN-E113.DWG



1
E113
ELECTRICAL DEMOLITION SINGLE LINE DIAGRAM
SCALE: NONE

GENERAL NOTES:

1. FOR ELECTRICAL SYMBOLS AND ABBREVIATION REFER TO DRAWING E100.



DATE PREPARED: DATE
DATE ENGINEERING REVIEW: DATE
DATE FOR TRANSMISSION
DESIGNED BY: NAME
DIRECTOR OF ENGINEERING: NAME
BRIDGE: NAME/NUMBER
PROJECT NUMBER

HDR
HDR Engineering, Inc.
Philadelphia, PA



REV	DATE	DESCRIPTION	BY	CHKD	APPD

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ELECTRICAL
DEMOLITION SINGLE LINE DIAGRAM

SCALE	AS SHOWN	SCALE FACTOR	1:1
DATE	08/22/2025	DRAWN BY: NAME	CHECKED BY: NAME
WORK ORDER NO.	276491		
SHEET NUMBER	E113		
TOTAL NO.	14	OF	17
SHEET NO.	79	OF	452
PROJECT NO.			
COMPUTER FILE NO.	17AN-E113		

50% SUBMISSION
NOT FOR CONSTRUCTION

STATUS 50% SUBMISSION

A. REFER TO PROPOSED DRAWINGS FOR NEW WORK. STAGING OF NEW WORK SHALL BE COORDINATED WITH THE SEPTA PROJECT MANAGER TO ENSURE CONTINUITY OF CIRCUITRY AND ENSURING SEAMLESS OPERATION OF EQUIPMENT.

1. FOR ELECTRICAL SYMBOLS AND ABBREVIATION REFER TO DRAWING E100.
2. EXISTING DISTRIBUTION GEAR SHALL REMAIN ENERGIZED UNTIL ALL NEW FEEDERS ARE READY FOR CUT OVER.
3. THE CONTRACTOR SHALL PROVIDE COMPLETE AND ACCURATE CIRCUIT DIRECTORIES FOR ALL NEW PANELS AFTER NEW WORK IS COMPLETED.

FEEDER NUMBER	QUANTITY OF SETS	QUANTITY OF CONDUCTORS	600 VOLT COPPER CONDUCTOR SIZE	600 VOLT COPPER GROUND CONDUCTOR SIZE	CONDUIT TRADE SIZE	NOTES
①	-	-	-	-	-	-
②	-	-	-	-	-	-
③	-	-	-	-	-	-
④	-	-	-	-	-	-
⑤	-	-	-	-	-	-
⑥	-	-	-	-	-	-
⑦	-	-	-	-	-	-
⑧	-	-	-	-	-	-
⑨	-	-	-	-	-	-



**SOUTHEASTERN
PENNSYLVANIA
TRANSPORTATION
AUTHORITY**
EM&C DIVISION

1234 MARKET ST., 13TH FL.,
PHILADELPHIA, PA 19107

AMORA THE AMERICAN
COUNCIL ON
COUNCILS, 1107
FIFTH AVENUE
NEW YORK
NY 10017

REV

3

TIC AM

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ST.
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ROAD VEHICLE LITIGATION TRIANGLE

B

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|
DSE

RO

TABLE 1

SCALE:	SCALE FACTOR:
AS SHOWN	1.1

DATE: 08/22/2025	CREATED BY: WAG
------------------	-----------------

276491

E114

IT. NO.: 80 of 452

7AN-E114	---
----------	-----

PROJECT MANAGER

[illegible]

**BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ELECTRICAL
ELECTRICAL SCHEDULES**

SCALE: AS SHOWN	SCALE FACTOR: 1:1
DATE: 08/22/2025	DRAWN BY: WBE CHECKED BY: CJE
WORK ORDER NO.: 276491	
SHEET NUMBER: E115	
DWG. NO.: 16	OF 17
SHT. NO.: 81	OF 452
ARCHIVE NO.:	
COMPUTER FILE NO.: 17AN-E115	REV. NO.:

50% SUBMISSION
NOT FOR CONSTRUCTION

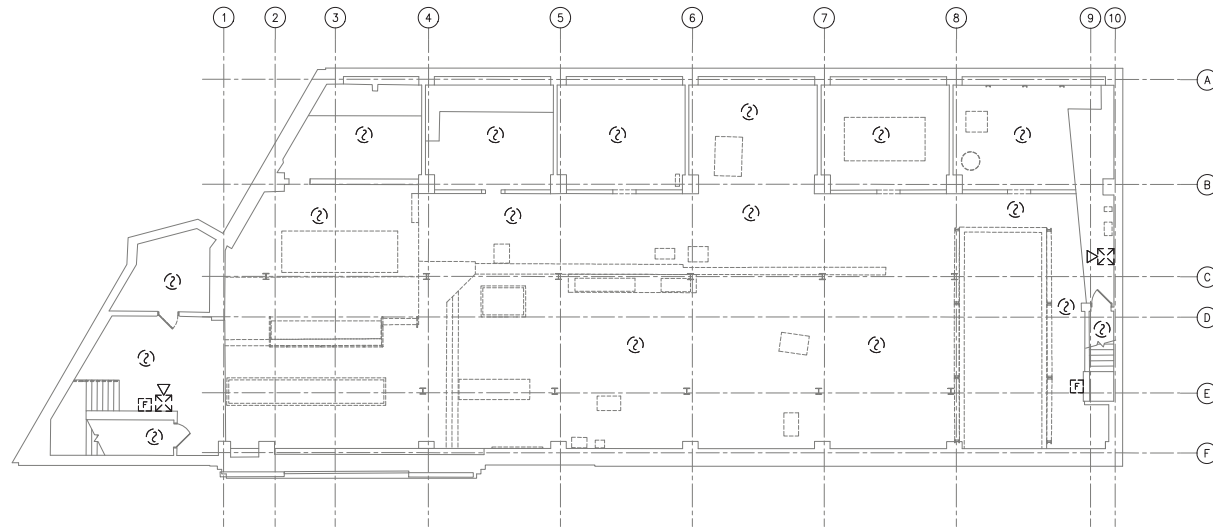
LUMINAIRE SCHEDULE								
TYPE	DESCRIPTION	MOUNTING	MANUFACTURER	CATALOG NO.	LAMP INFORMATION			
					TYPE	LAMP QTY	WATTS EACH	VOLTS
'A'	CEILING OR WALL MOUNTED ROUGH SERVICE FIXTURE 4000K, 80CRI, CLEAR POLYCARBONATE LENS, WIDE DISTRIBUTION, INJECTION MOLDED, IMPACT RESISTANT POLYCARBONATE HOUSING	CEILING OR WALL	LITHONIA	VAP-4000LM-PCL-WD-120-GZ10-40K-80CRI-QMB	LED	-	42	120
'AE'	CEILING OR WALL MOUNTED ROUGH SERVICE FIXTURE 4000K, 80CRI, CLEAR POLYCARBONATE LENS, WIDE DISTRIBUTION, INJECTION MOLDED, IMPACT RESISTANT POLYCARBONATE HOUSING, EMERGENCY BATTERY LED DRIVER	CEILING OR WALL	LITHONIA	VAP-4000LM-PCL-WD-120-GZ10-40K-80CRI-QMB-BZL722	LED	-	42	120
'AB'	CEILING MOUNTED ROUGH SERVICE FIXTURE 4000K, 80CRI, CLEAR POLYCARBONATE LENS, WIDE DISTRIBUTION, INJECTION MOLDED, IMPACT RESISTANT POLYCARBONATE HOUSING, HIGH LUMEN OUTPUT	CEILING	LITHONIA	VAP-12000LM-PCL-WD-120-GZ10-40K-80CRI-QMB	LED	-	107	120
'B'	DIE-CAST ALUMINUM LED WALLPACK FIXTURE, 5000K, GLASS LENS WITH WIRE GUARD, TYPE 3 MEDIUM DISTRIBUTION, INTEGRAL PHOTOCCELL	WALL	LITHONIA	TWH LED-20C-1000-50K-TM-120-PE-TP-WG-DDBXD	LED	20	72	120
'D'	DOCK LIGHT	WALL	TBD	TBD	-	1	ALL	120
'X'	THERMOPLASTIC EXIT SIGN, EMERGENCY OPERATION, NICKEL-CADMIUM BATTERY, UNIVERSAL MOUNTING KIT, SELF-DIAGNOSTICS, 90-MINUTE CAPACITY FOR EMERGENCY LAMPS	UNIVERSAL	LITHONIA	LDM S W 3 R 120/277 EL N SD	LED	-	.92	120

C:\PW\WORKING\PTT\101899042\17 AN-FA 100.DWG

C:\P\WORKING\PTTD\1850A217AN-FA101.DWG

GENERAL NOTES:

1. REFER TO DRAWING FA100 FOR NOTES, SYMBOLS & ABBREVIATIONS.
2. SEE FIRE ALARM DETAILS ON DRAWING FA107.



1
FA101
FIRE ALARM DEMOLITION BASEMENT FLOOR PLAN
SCALE: 1/8" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



DIST. PROVIDED: DATE: _____
DIST. ENGINEERING OFFICE: NAME: _____
DIST. ELEC. PROJECT OFFICE: _____
DIST. SAFETY: _____
DIRECTOR OF ENGINEERING: NAME: _____
BRANCH: NAME: _____
PROJECT MANAGER: _____

HDR
HDR Engineering, Inc.
Philadelphia, PA



REV	DATE	DESCRIPTION	BY	CHKD	APPD

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
FIRE ALARM
DEMOLITION BASEMENT FLOOR PLAN

SCALE	SCALE FACTOR
AS SHOWN	1:1
DATE	08/22/2025
DESIGNED BY	NAME
CHECKED BY	NAME
WORK ORDER NO.	276491
SHEET NUMBER	FA101
DWG. NO.	2 OF 8
SPR. NO.	83 OF 452
PROJECT NO.	
COMPUTER FILED:	17AN-FA101
REV. NO.	1

DATE PRINTED: 10/21/2025

STATUS: 50% SUBMISSION

C:\P\WORKING\PTTD 0850421\17AN-FA102.DWG

GENERAL NOTES:

1. REFER TO DRAWING FA100 FOR NOTES, SYMBOLS & ABBREVIATIONS.
2. SEE FIRE ALARM DETAILS ON DRAWING FA107.

KEYED NOTES:

- 1 DEVICE LOCATED BELOW PLATFORM.



DIST PROJECT NO.:
DIST PROJECT OFFICE:
DIST DISTRICT OFFICE:
DISTRICT:
DIRECTOR OF ENGINEERING:
BRIDGE: HIGHWAY:

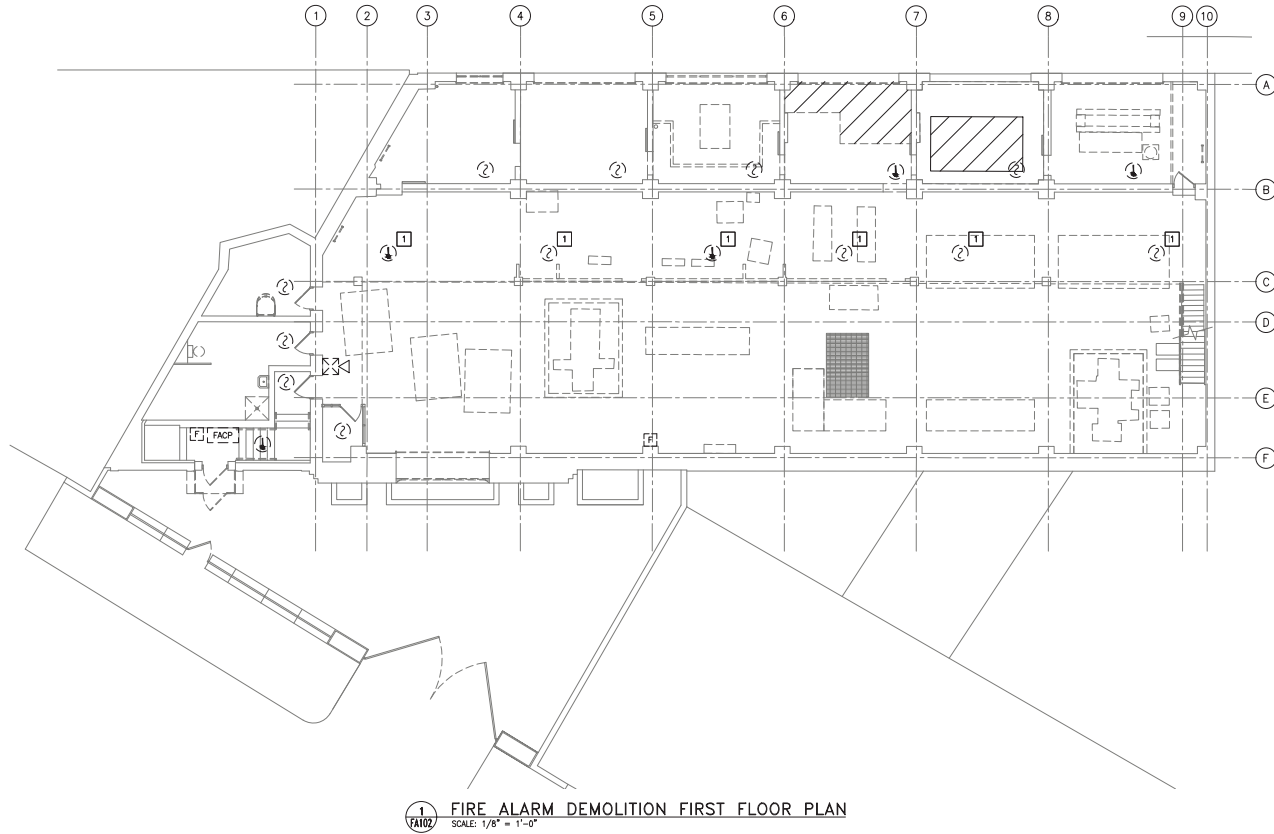
HDR
HDR Engineering, Inc.
Philadelphia, PA



REV	DATE	DESCRIPTION	BY	CHKD	APPD

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
FIRE ALARM
DEMOLITION FIRST FLOOR PLAN

SCALE	SCALE FACTOR
AS SHOWN	1:1
DATE: 08/22/2025	DRAWN BY: TMB
WORK ORDER NO: 276491	CHECKED BY: JMB
SHEET NUMBER	
FA102	
DWG NO: 3	OF 8
SHT NO: 84	OF 452
PROJECT NO:	
COMPUTER FILE NO: 17AN-FA102	
REV: 1	



8 6 4 2 0 8
SCALE: 1/8"=1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION

DATE PRINTED: 10/21/2025
STATUS: 50% SUBMISSION

2. SEE FIRE ALARM DETAILS ON DRAWING FA107.



OBJECT MANAGER

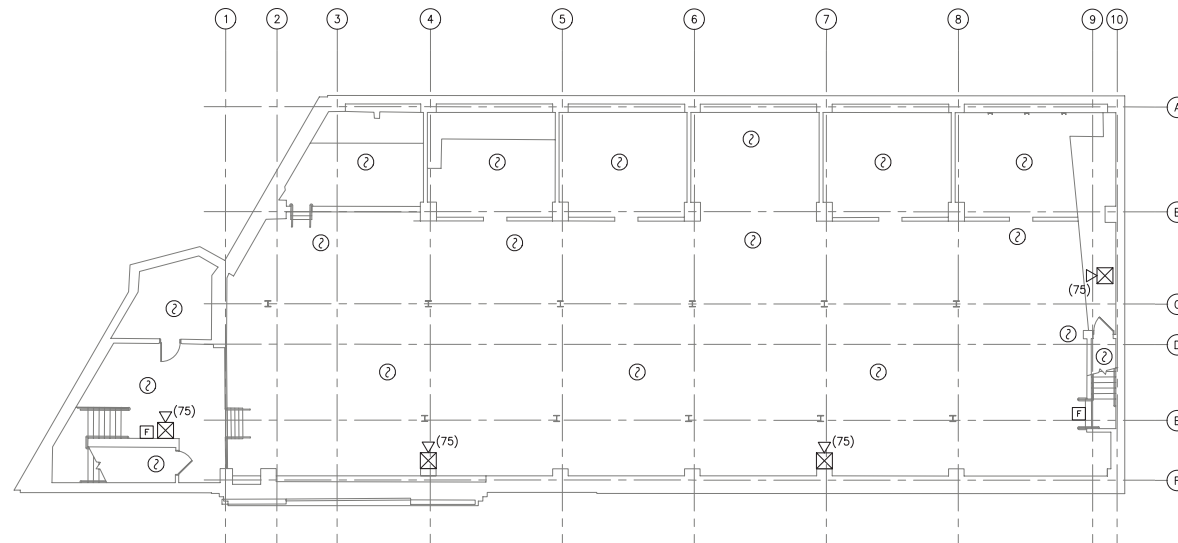
[illegible]

DATE PRINTED: 10/21/2025

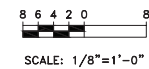
BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
FIRE ALARM
PROPOSED BASEMENT FLOOR PLAN

SCALE:	SCALE FACTOR:
AS SHOWN	1:1
DATE:	DRAWN BY: WMS
08/22/2025	CHECKED BY: CAM
WORK ORDER NO:	
276491	
KEY NUMBER	
FA104	
WG. NO.:	5 OF 8
HT. NO.:	86 OF 452
REVIEW NO.:	
COMPUTER FILE NO.:	
7AN-FA104	
REVIEW NO.:	

STATUS: 50% SUBMISSION



1 FIRE ALARM PROPOSED BASEMENT FLOOR PLAN
FA104 SCALE: 1/8" = 1'-0"



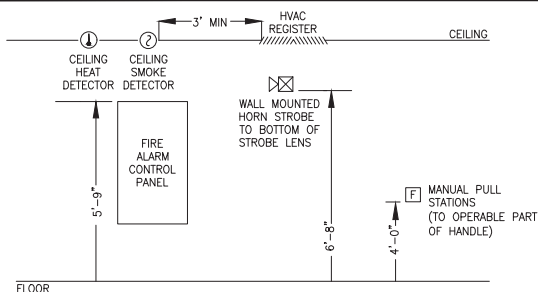
50% SUBMISSION
NOT FOR CONSTRUCTION

STATUS: 50% SUBMISSION



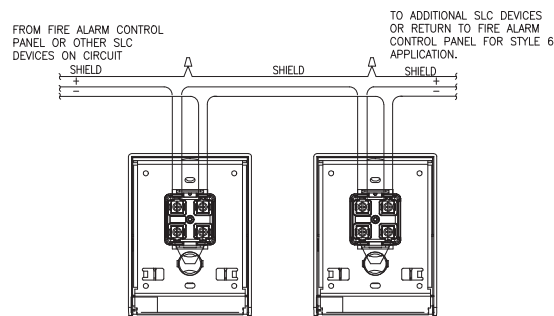
8 6 4 2 0
SCALE: $1/8" = 1'-0"$

50% SUBMISSION
NOT FOR CONSTRUCTION

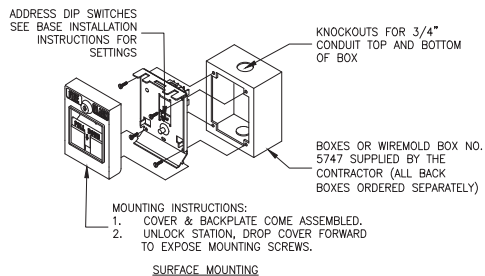


NOTE: COORDINATE WITH OTHER TRADE PLANS AND ELEVATIONS FOR SPECIFIC LOCATIONS OF FIRE ALARM DEVICES.

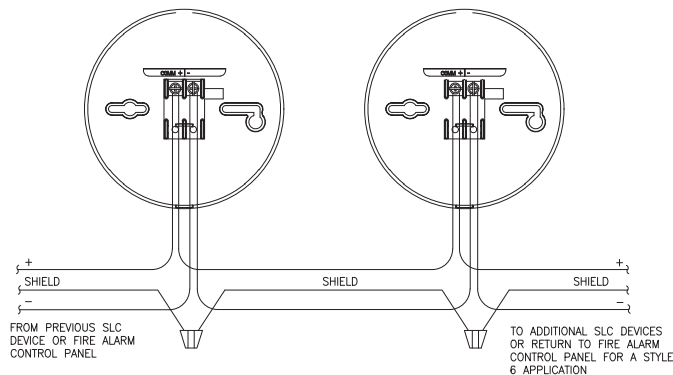
1 TYPICAL FIRE ALARM DEVICE AND EQUIPMENT MOUNTING HEIGHTS
SCALE: NOT TO SCALE



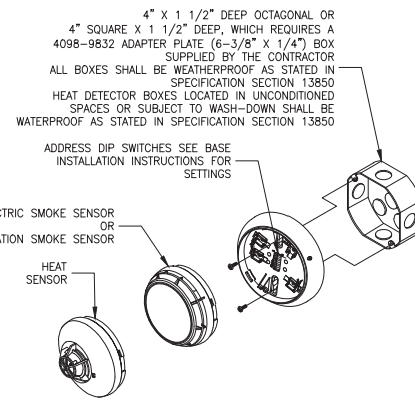
2 TYPICAL FIRE ALARM SLC MODULE DEVICE CIRCUITING AND CONNECTION
SCALE: NOT TO SCALE



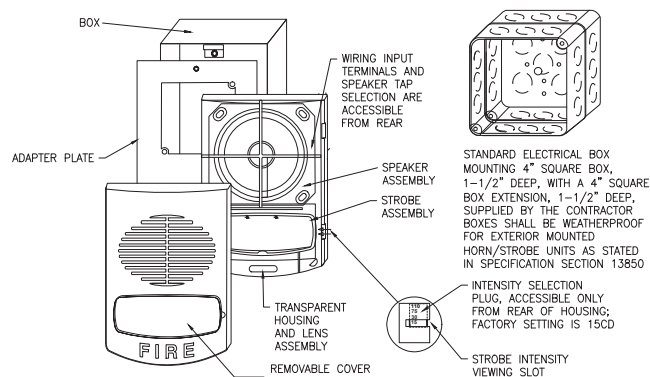
3 TYPICAL MANUAL PULL STATION MOUNTING
SCALE: NOT TO SCALE



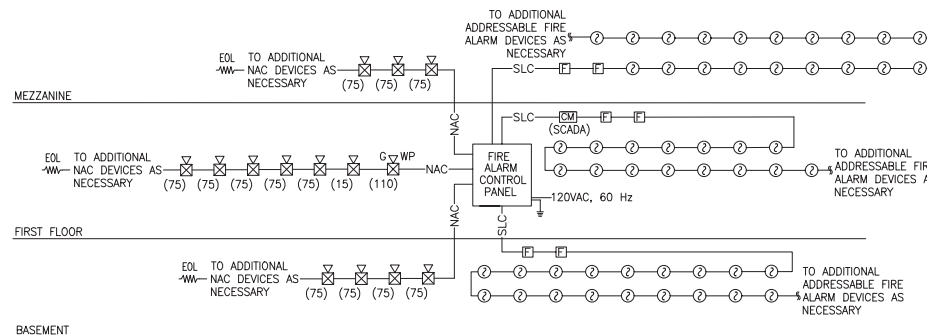
4 TYPICAL FIRE ALARM SLC SENSOR DEVICE CIRCUITING AND CONNECTION
SCALE: NOT TO SCALE



5 TYPICAL SMOKE OR HEAT DETECTOR MOUNTING
SCALE: NOT TO SCALE



6 TYPICAL HORN/STROBE MOUNTING
SCALE: NOT TO SCALE



7 TYPICAL FIRE ALARM RISER DIAGRAM
SCALE: NOT TO SCALE

GENERAL NOTES:

- EXISTING CONDITIONS SHOWN ARE BASED ON HISTORICAL DOCUMENTS, CIVIL SURVEYS AND SITE OBSERVATIONS. ALL DIMENSIONS AND CONDITIONS ARE TO BE VERIFIED IN THE FIELD.
- REFER TO DRAWING FA100 FOR NOTES, SYMBOLS & ABBREVIATIONS.



PROJECT NAME:	
PROJECT LOCATION:	
PROJECT NUMBER:	
PROJECT DATE:	
PROJECT STATUS:	



NO.	DESCRIPTION	DATE	BY	CHKD	APPD
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

BROAD SUBWAY/ELEVATED TRAINS TRACTION POWER SUBSTATION REHABILITATION FIRE ALARM DETAILS

DATE:	AS SHOWN	SCALE:	1:1
DATE:	08/22/2025	DESIGNED BY:	TOB
DATE:		CHECKED BY:	CLB
PROJECT NUMBER:	276491		
PROJECT NAME:	FA107		
PROJECT LOCATION:			
PROJECT STATUS:			

50% SUBMISSION
NOT FOR CONSTRUCTION

COMPUTER FILED: 17AN-FA107

STATUS: 50% SUBMISSION

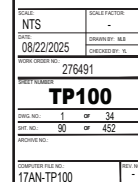
CP:\WORKING\PTT\1080421\17AN-FA107.DWG

E	E	EAST
	EB	EASTBOUND
	EL, ELEV	ELEVATION
	EMG	EMERGENCY
	EMH	ELECTRIC MANHOLE
	EPR	ETHYLENE PROPYLENE RUBBER
	EQ	EQUAL

M	MAX	MAXIMUM
	MAN, MNL	MANUAL
	MCB	MAIN CIRCUIT BREAKER
	MCM	MILLION CIRCULAR MILLIMETERS
	MFR-M	MULTI-FUNCTION RELAY METERING
	MH	MANHOLE
	MIN	MINIMUM
	MMFO	MULTIMODE FIBER OPTIC CABLE
	MPR	MOTOR PROTECTION RELAY
	MR	MULTI-RATIO
	MV	MILLIVOLT

S	SECTION, SOUTH, SUPERVISORY
SA	SURGE ARRESTOR
SB	SOUTHBOUND
SC	SHORT CIRCUIT, SURGE CAPACITOR
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SE	STORED ENERGY
SEC	SECOND
SEPTA	SOUTHEASTERN PENNSYLVANIA TRANSPORTATION AUTHORITY
SS	SUBSTATION
ST	STREET
STA	STATIONING
STD	STANDARD

7	ZL	ZIP LINE, POLY PULL LINE
---	----	--------------------------



STATISTICS FOR SUBMISSION

30E
CLF

30E = CLEARING RATING FUSE
CLF = CURRENT LIMITING FUSE

TRANSFORMER

15KV-120V
2

POTENTIAL TRANSFORMER
UPPER = NO. RATIO
LOWER = NO. QTY OF XFMR

100/5
3

CURRENT TRANSFORMER
UPPER = NO. RATIO
LOWER = NO. QTY OF XFMR

3 PHASE DELTA CONNECTION

3 PHASE WYE CONNECTION

3 PHASE WYE CONNECTION
(GROUNDED)

OPEN DELTA CONNECTION
(GROUNDED / UN-GROUNDED)

BUS DUCT

52

MEDIUM VOLTAGE DRAWOUT
CIRCUIT BREAKER

FUSE DISCONNECT SWITCH

MANHOLE DESIGNATIONS

EMH #30

ELECTRIC MANHOLE NO. 30

TMH #1

TELEPHONE MANHOLE NO. 1

MH MA01E

MANHOLE AT GRADE

EXISTING MANHOLE

2
TP130

SECTION "2" AS SHOWN ON DRAWING TP130

DEVICE DISCONNECT CONTACTS

50

RELAY OPERATING COIL NUMBER
DESIGNATES RELAY TYPE

DC CIRCUIT BREAKER

FUNCTIONAL INTERCONNECTION AMONG
CONTROL PROTECTIVE AND POWER
DEVICES (ARROW DENOTES DIRECTION
OF CONTROL)

DIODE/DIODE RECTIFIER

DC CURRENT SHUNT

NL

NEON HIGH VOLTAGE INDICATORS
(CABLE ALIVE INDICATION)

WITHDRAWABLE SINGLE POLE
DC CIRCUIT BREAKER
WITH DIRECT ACTING TRIP ELEMENT

NORMALLY OPEN CONTACT

NORMALLY CLOSED CONTACT

SA

SURGE ARRESTER

LA

LIGHTNING ARRESTER

GENERATOR

BATTERY

GROUND

GROUND ROD

CABLE ROUTE THROUGH FLOOR

CABLE ROUTE THROUGH CEILING

M-A

MANUAL-AUTOMATIC
TRANSFER MODE
SELECTOR SWITCH

CS

CONTROL SWITCH

SE

STORED ENERGY DEVICE

MULTI
FUNCTION
METER/IED

A V KW

MULTIFUNCTION RELAY/IED
A = AMMETER
V = VOLTMETER
KWH = KILOWATT-HOUR METER

CABLE TERMINATION SEALING END

KWH

KILO-WATTHOUR METER

WH
D

WATTHOUR METER DEMAND

A
XD

CURRENT TRANSDUCER

V
XD

VOLTAGE TRANSDUCER

A

AMMETER

AS

AMMETER SWITCH

V

VOLTMETER

VS

VOLTMETER SWITCH

TS

TEST SWITCH

NLTC

NO LOAD TAP CHANGER

PHASING RECEPTACLE

THREE-POLE SINGLE THROW SWITCH

N.O.

DISCONNECT SWITCH, 1-POLE
N.O. = NORMALLY OPEN
N.C. = NORMALLY CLOSED

DISCONNECT SWITCH
2-POLE

B
O

BLUE INDICATING LAMP
(HEATER AMMETER)

G
O

GREEN INDICATING LAMP
(BREAKER OPEN)

R
O

RED INDICATING LAMP
(BREAKER CLOSED)

W
O

WHITE INDICATING LAMP
(SPRINGS CHARGED)

A
O

AMBER INDICATING LAMP

K

KEY INTERLOCK

43

LOCAL/SUPERVISORY CONTROL SWITCH

GDR

GROUND DETECTION RELAY

S

CONNECTION TO SCADA



1324 MARKET ST., 15TH FL.
PHILADELPHIA, PA 19107

DRP ENGINEER: EAC

DRP ENGINEERING OFFICE: BBS

DRP RAIL TRAFFIC OFFICER:

PERFORMED BY:

DIRECTOR OF ENGINEERING: BBS

DESIGNER: ACH: ENGINEERING

PROJECT NUMBER:

HDR Engineering, Inc.
Philadelphia, PA

REV	DATE	DESCRIPTION	BY	APP

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
LEGENDS & SYMBOLS

DATE: NTS
SCALE: 1:1
DATE: 08/22/2025
DRAWN BY: BBS
CHECKED BY: A
PROJECT NUMBER: 276491
SHEET NUMBER: **TP101**
SHEET NO.: 2 OF 34
SHEET NO.: 92 OF 448
COMPUTER FILE NO.: 17AN-TP101

50% SUBMISSION
NOT FOR CONSTRUCTION

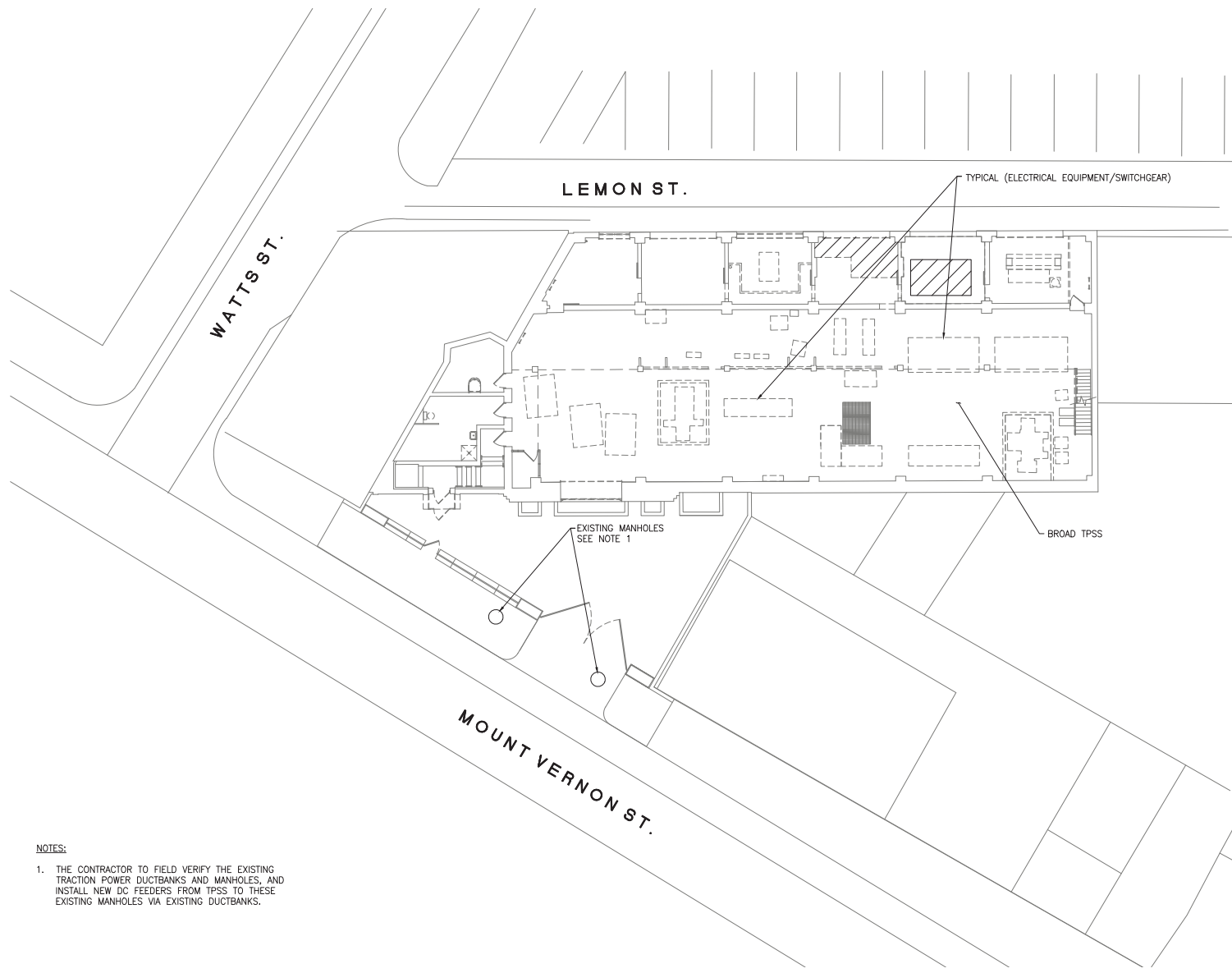
DEVICE	DESCRIPTION
01	AC CIRCUIT BREAKER LOCAL CONTROL SWITCH
01-R	RECTIFIER 15KV AC CIRCUIT BREAKER REMOTE CONTROL SWITCH
04	RECTIFIER MASTER CONTROL RELAY
11	MULTI-FUNCTION RELAY – HEALTHY / FAILED
25	SYNCHRONISM CHECK RELAY
26RA	RECTIFIER HEAT SINK OVER-TEMPERATURE STAGE 1 – ALARM
26RX	AUXILIARY RELAY FOR DEVICE 26R
26RT	RECTIFIER HEAT SINK OVER-TEMPERATURE STAGE 2 – TRIP
26RHX	AUXILIARY RELAY FOR DEVICE 26RH
26A	TRANSFORMER OIL OVER-TEMPERATURE STAGE 1 – ALARM
26T	TRANSFORMER OIL OVER-TEMPERATURE STAGE 2 – TRIP
27	UNDERVOLTAGE RELAY
27A	LOSS OF DC AUXILIARY SUPPLY – ALARM
27T	LOSS OF DC AUXILIARY SUPPLY – TRIP
30	ANNUNCIATOR RELAY
32	RECTIFIER MAIN DC CIRCUIT BREAKER DIRECTIONAL INST O.C. TRIP DEVICE (REVERSE CURRENT)
33R	RECTIFIER COMPARTMENT DOOR SAFETY INTERLOCK
33T	TRANSFORMER COMPARTMENT DOOR SAFETY INTERLOCK
43 L/S	CONTROL MODE SELECTOR SWITCH
47	PHASE SEQUENCE RELAY
48	RECTIFIER INCOMPLETE SEQUENCE
49A	TRANSFORMER WINDING OVER-TEMPERATURE STAGE 1 – ALARM
49T	TRANSFORMER WINDING OVER-TEMPERATURE STAGE 2 – TRIP & LOCKOUT
50/51	INSTANTANEOUS AND TIME OVER-CURRENT – PHASE
50N/51N	INSTANTANEOUS AND TIME OVER-CURRENT – GROUND
51	TIME OVERCURRENT RELAY – PHASE
51C	TIME OVERCURRENT RELAY – CABLE OVERLOAD
51N	TIME OVERCURRENT RELAY – GROUND
51R	TIME OVERCURRENT RELAY – RECTIFIER OVERLOAD
52	AC CIRCUIT BREAKER
52-BT	AC CIRCUIT BREAKER – BUS TIE
52-F	AC CIRCUIT BREAKER – FEEDER
52-L	AC CIRCUIT BREAKER – INCOMING LINE
52-T	AC CIRCUIT BREAKER – RECTIFIER
58A	RECTIFICATION FAILURE RELAY – ALARM
58T	RECTIFICATION FAILURE RELAY – TRIP
64P	RECTIFIER GROUND RELAY – STRUCTURE HOT (TRIP)
64N	RECTIFIER GROUND RELAY – STRUCTURE GROUNDED (ALARM)
67	DIRECTIONAL OVERCURRENT RELAY – PHASE
67N	DIRECTIONAL OVERCURRENT RELAY – GROUND
69	PERMISSIVE CONTROL DEVICE

DEVICE	DESCRIPTION
71A	TRANSFORMER LOW OIL LEVEL – ALARM
71T	TRANSFORMER LOW OIL LEVEL – TRIP
72–R	DC CIRCUIT BREAKER – RECTIFIER MAIN DC
74	ALARM RELAY
86	LOCKOUT RELAY
86B	LOCKOUT RELAY – BUS DIFFERENTIAL
86X	LOCKOUT RELAY – RECTIFIER CONDITIONAL
84	BLOWN FUSE INDICATION
87B	DIFFERENTIAL RELAY – BUS ZONE
89	LOAD INTERRUPTER SWITCH
89N	RECTIFIER NEGATIVE LEAD DISCONNECT SWITCH
94	TRIPPING RELAY
98	RECTIFIER LOSS OF DIODE
99	RECTIFIER LOSS OF DIODE
101	DC CIRCUIT BREAKER – LOCAL CONTROL (TRIP/CLOSE) SWITCH
111	MULTI-FUNCTION RELAY – HEALTHY / FAILED
143	DC CIRCUIT BREAKER – CONTROL MODE SELECTOR (LOCAL/REMOTE/HMI) SWITCH
150F	DC TRACTION FEEDER – RATE OF RISE RELAY
164S	DC SWITCHGEAR – GROUND RELAY – STRUCTURE HOT (TRIP)
164SX	DC SWITCHGEAR – GROUND RELAY – STRUCTURE GROUNDED (ALARM)
169	DC TRACTION FEEDER – PERMISSIVE SETUP RELAY
172	DC TRACTION FEEDER CIRCUIT BREAKER
176	DC FEEDER CIRCUIT BREAKER – INSTANTANEOUS SERIES TRIP (DIRECT ACTING)
176F	DC FEEDER CIRCUIT BREAKER– INSTANTANEOUS OVERCURRENT RELAY
201C	SUPERVISORY INTERPOSING RELAY – CLOSE
201T	SUPERVISORY INTERPOSING RELAY – TRIP
GDR	GROUND DETECTION RELAY

50% SUBMISSION
NOT FOR CONSTRUCTION

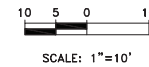
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NOTES:

1. THE CONTRACTOR TO FIELD VERIFY THE EXISTING TRACTION POWER DUCTBANKS AND MANHOLES, AND INSTALL NEW DC FEEDERS FROM TPSS TO THESE EXISTING MANHOLES VIA EXISTING DUCTBANKS.



50% SUBMISSION
NOT FOR CONSTRUCTION



SEPTA PROJECT TEAM
SEPTA PROJECT MANAGER
SEPTA PROJECT ENGINEER
SEPTA PROJECT DESIGNER
SEPTA PROJECT CHECKER
SEPTA PROJECT APPROVER
SEPTA PROJECT REVIEWER
SEPTA PROJECT SUBMITTER

HDR Engineering, Inc.
Philadelphia, PA

REV	DATE	DESCRIPTION	BY	CHKD	APPD

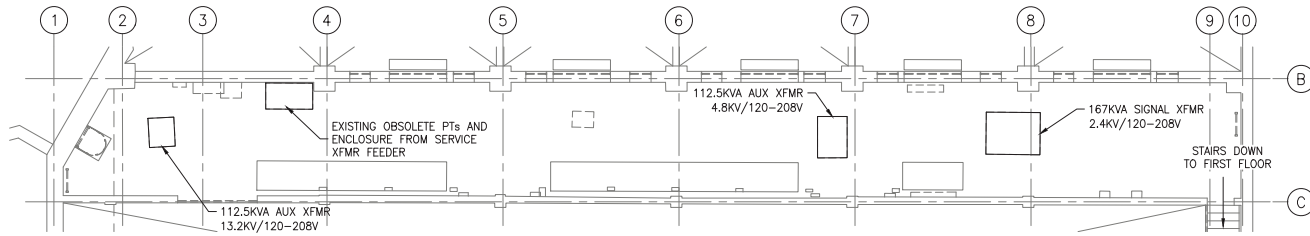
BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
SUBSTATION SITE PLAN

SCALE:	AS SHOWN	SCALE FACTOR:	1:1
DATE:	08/22/2025	DESIGNED BY:	
PROJECT NUMBER:	276491	CHECKED BY:	
SHEET NUMBER:	TP105	APPROVED BY:	
NO. OF SHEETS:	4	OF	34
SHEET NO.:	34	OF	448
PROJECT NO.:			
PROJECT NAME:	17AN-TP105		

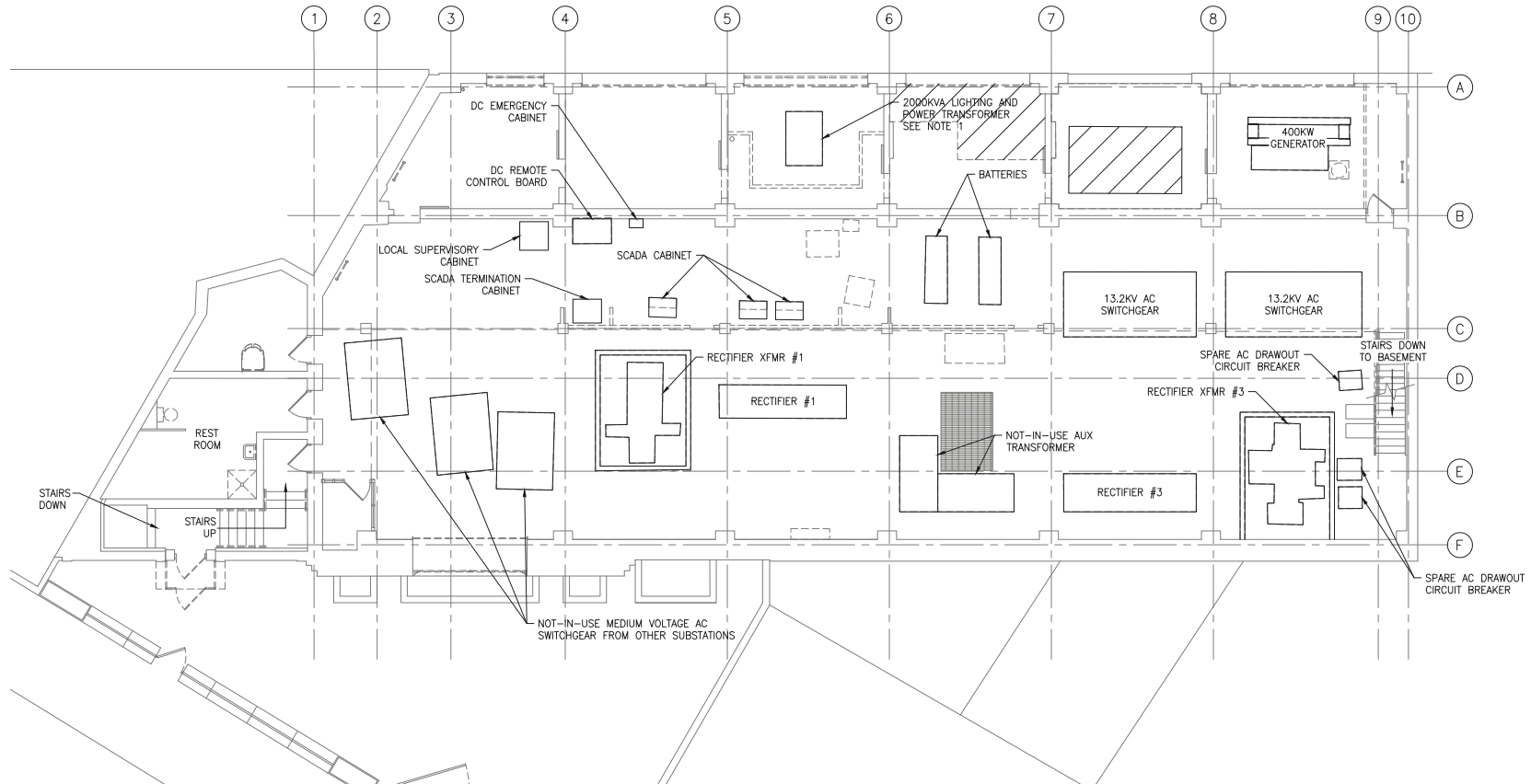
DATE PRINTED: 10/21/2025

STATUS: 50% SUBMISSION

- NOTES:
1. THE 4.8KV TRANSFORMER IS CURRENTLY OUT OF SERVICE.
 2. BOLD ITEMS ON THIS DRAWING TO BE DEMOLISHED.



1 EXISTING MEZZANINE EQUIPMENT PLANS
TP107 SCALE: 1" = 6'



2 EXISTING FLOOR PLAN EQUIPMENT PLANS
TP107 SCALE: 1" = 6'

6 3 0 6
SCALE: 1" = 6'

50% SUBMISSION
NOT FOR CONSTRUCTION



1324 MARKET ST., 15TH FL.
PHILADELPHIA, PA 19107

PROJECT NUMBER: 276491
PROJECT NAME: BROAD SUBWAY/ELEVATED TRAINS TRACTION POWER SUBSTATION REHABILITATION
PROJECT LOCATION: 1324 MARKET ST., 15TH FL., PHILADELPHIA, PA 19107

HDR Engineering, Inc.
Philadelphia, PA

NO.	DATE	BY	CHK	APP	DESCRIPTION
1	08/22/2025				AS SHOWN

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
EXISTING MEZZANINE & FIRST FLOOR EQUIPMENT PLANS

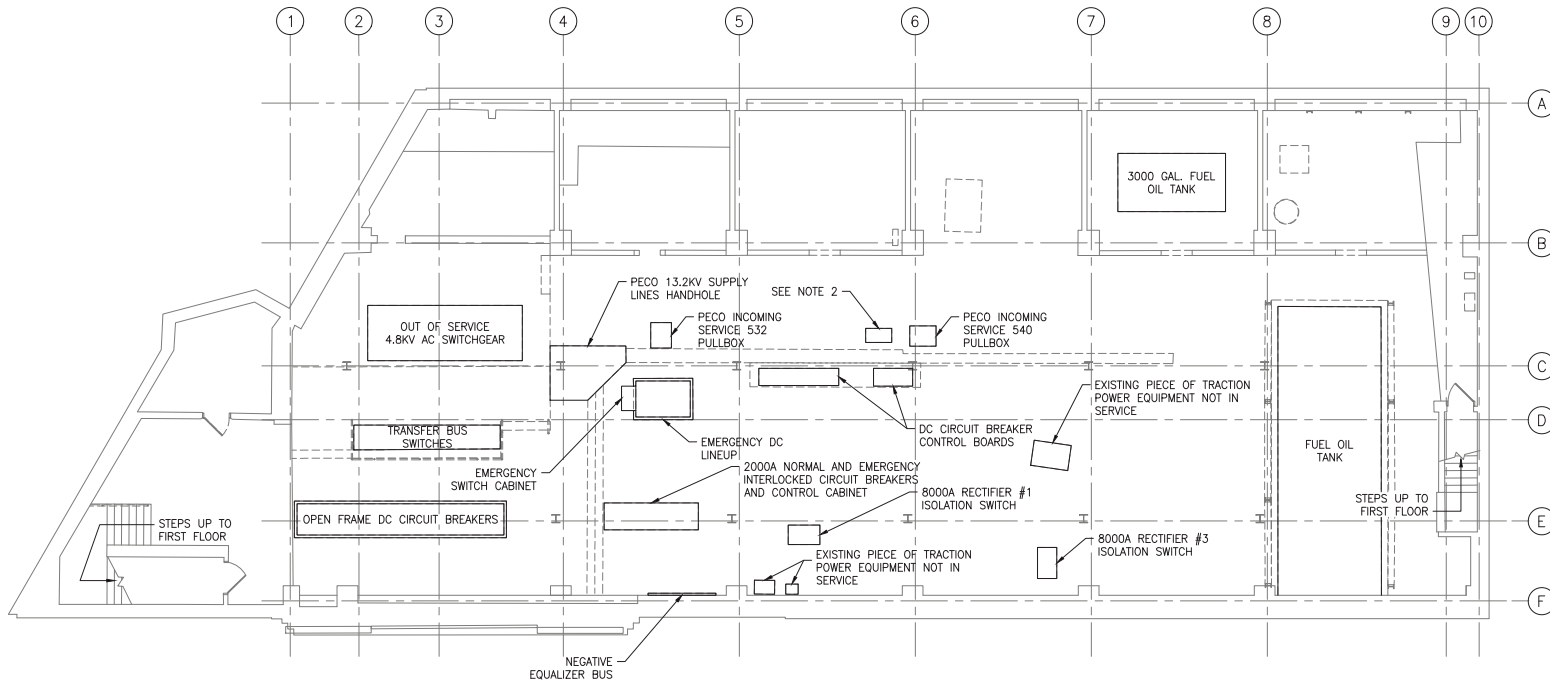
DATE: 08/22/2025
SCALE: AS SHOWN
PROJECT NUMBER: 276491
SHEET NUMBER: TP107
SHEET TOTAL: 34
DATE: 08/22/2025
SCALE: 1" = 6'

DATE PRINTED: 10/2/2025

STATUS: 50% SUBMISSION

NOTES:

1. BOLD ITEMS ON THIS DRAWING TO BE DEMOLISHED.
2. EXISTING EXPOSED PECO FEED 540 13.2KV SPLICE SUPPORTED ON CONCRETE BLOCKS.



1 EXISTING BASEMENT EQUIPMENT PLAN
SCALE: 1" = 6'

6 3 0 6
SCALE: 1"=6'

50% SUBMISSION
NOT FOR CONSTRUCTION



PROJECT TITLE:
PROJECT NUMBER:
PROJECT LOCATION:
PROJECT DATE:
PROJECT DESCRIPTION:
PROJECT MANAGER:

HDR
HDR Engineering, Inc.
Philadelphia, PA

NO.	DATE	DESCRIPTION	BY	CHKD	APPD

BROAD
SUBWAY RELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
EXISTING BASEMENT EQUIPMENT PLAN

SCALE: AS SHOWN
DATE: 08/22/2025
PROJECT NUMBER: 276491
TP108
SHEET NO.: 7 OF 34
SHEET NO.: 97 OF 448
PROJECT NO.: 17AN-TP108

OUTAGE TYPES:

1. SHORT TERM OUTAGES
- a. "RUSH TO RUSH" OUTAGES:
THESE OUTAGES WILL OCCUR AS NEEDED BETWEEN 0900-1500.
- b. OVERNIGHT OUTAGES:
OVERNIGHT OUTAGES WILL TAKE PLACE BETWEEN 0030-0430
MONDAY THROUGH FRIDAY.

STAGING NOTES:

1. REHABILITATION OF THE TPSS SHALL PROCEED IN STAGES. REMOVAL OF EXISTING EQUIPMENT AND INSTALLATION OF NEW EQUIPMENT SHALL BE SEQUENCED SO PART OF THE SUBSTATION SHALL BE AVAILABLE TO PROVIDE TRACTION POWER TO THE SYSTEM.
2. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ALL REQUIRED TEMPORARY CONTROL, BATTERY, AND POWER CABLE CONNECTIONS, AND ANY EQUIPMENT AND WORK NEEDED FOR THE SEAMLESS TRANSFER OF OPERATIONS FROM EXISTING TO NEW EQUIPMENT AT NO ADDITIONAL COST TO SEPTA.
3. WORKERS CANNOT WORK WITHIN 15 FEET OF ENERGIZED CONDUCTORS UNLESS A PROTECTIVE BARRIER IS IN PLACE.
4. STAGING DRAWINGS ARE INTENDED TO COMPLEMENT THIS DRAWING SET. ALL WORK IS NOT NECESSARILY DISCUSSED IN THE STAGING PLANS. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN ON THE DRAWINGS AND SPECIFICATIONS.
5. SURFACE PREPARATION AND PAINTING CAN BE PERFORMED AT ANY TIME UNLESS ELECTRICAL CLEARANCES REQUIRE OUTAGES. THE CONTRACTOR SHALL SUBMIT A PAINTING PLAN TO SEPTA FOR APPROVAL PRIOR TO SCHEDULING WORK. IN GENERAL, PAINTING IN THE VICINITY OF ELECTRICAL EQUIPMENT MUST BE COORDINATED WITH PLANNED ACTIVITIES IN AND AROUND THESE ITEMS. IT IS ANTICIPATED THAT "RUSH TO RUSH" AND WEEKEND OUTAGES WILL BE USED REGULARLY FOR PAINTING ACTIVITIES. IT IS SEPTA'S INTENT THAT PAINTING AROUND AND ABOVE EQUIPMENT SHALL TAKE PLACE PRIOR TO EQUIPMENT REPLACEMENT.
6. THE CONTRACTOR IS ENCOURAGED TO MODIFY OUTAGE SCHEDULE TO OPTIMIZE WORK. ANY REVISIONS MUST BE APPROVED BY SEPTA.

STAGING COORDINATION WITH BROAD STREET
LINE TRACTION POWER SUBSTATIONS:

1. THE CONTRACTOR SHALL COORDINATE STAGING PLAN WITH OVERALL STAGING IN THIS CONTRACT. COORDINATION SHALL BE THROUGH SEPTA.

OPERATIONAL CONSTRAINTS DURING CONSTRUCTION:

1. AT LEAST ONE RECTIFIER UNIT SHALL REMAIN IN SERVICE AT ALL TIMES DURING REHABILITATION WORK, EXCEPT DURING SHORT TERM OUTAGES AS SHOWN ON THIS DRAWING.

STAGING ACTIVITIES:

STAGE 1 (DRAWINGS TP111 THRU TP113):

1. REMOVE OUT OF SERVICE EQUIPMENT.
2. INSTALL TEMPORARY PROTECTIVE BARRIERS AROUND EXISTING DC SWITCHGEAR.
3. REMOVE CONCRETE ENCASED FUEL OIL TANK IN PIECES USING THE EXISTING ACCESS POINTS.
4. CUT AND REINFORCE WALL TO ACCOMMODATE NEW RECTIFIER TRANSFORMER LAYOUT.
5. REMOVE EXISTING RECTIFIER TRANSFORMER SET #1. REMOVE EXISTING 8000A RECTIFIER #1 ISOLATION SWITCH IN THE BASEMENT.
6. INSTALL NEW RTU/HMI EQUIPMENT. INSTALL CONTROL POWER AND RTU/HMI INTERCONNECTIONS. TRANSFER CONTROL OF EXISTING TP EQUIPMENT STILL IN OPERATION TO NEW RTU/HMI, TEST THE OPERATION. REMOVE EXISTING RTU AND SCADA CABINETS.
7. INSTALL NEW BATTERY SET, DISCONNECT SWITCH, CHARGER, AND 125V DC DISTRIBUTION PANEL. ENERGIZE THE NEW BATTERY SYSTEM FROM EXISTING POWER DISTRIBUTION PANEL ON THE TEMPORARY BASIS. TIE-IN ON THE TEMPORARY BASIS NEW AND EXISTING 125V DC BATTERY DISTRIBUTION PANELS. REMOVE EXISTING BATTERY SET WITH ASSOCIATED EQUIPMENT. THE EXISTING 125V DC BATTERY DISTRIBUTION PANEL SHALL REMAIN UNTIL ALL CONTROL CIRCUITS ARE TRANSFERRED TO NEW 125V DC PANEL.
8. REMOVE EXISTING EMERGENCY SWITCH CABINET AND EMERGENCY DC LINEUP (BASEMENT). REMOVE EXISTING DC EMERGENCY CABINET, EXISTING 400KW RECTIFIER, EXISTING 400KW GENERATOR SET AND EXISTING ENCLOSURE WITH INTERLOCKED 2000A CIRCUIT BREAKERS CONNECTING 400KW RECTIFIER TO EXISTING EMERGENCY DC LINEUP.
9. INSTALL INSULATED FLOOR COVERING, BUS WORK, AND NEW DC SWITCHGEAR LINEUP IN THE BASEMENT. INSTALL NEW DC CIRCUIT BREAKER TEST CABINET.

STAGE 2 (DRAWINGS TP114 THRU TP116):

1. OPEN EXISTING MW DRAWOUT CIRCUIT BREAKER AND DISCONNECT CONDUCTORS TO EXISTING TRANSFORMER RECTIFIER SET #3. REMOVE EXISTING TRANSFORMER RECTIFIER SET #3, EXISTING 8000A RECTIFIER #3 ISOLATION SWITCH.
2. INSTALL NEW 13.2KV AC MV SWITCHGEAR LINEUP.
3. INSTALL TWO (2) NEW 150KVA, 13.2KV/120-208V AUXILIARY TRANSFORMERS AND CONNECT TRANSFORMERS TO NEW 13.2KV SWITCHGEAR.
4. DISCONNECT PECO FEEDER 532 FROM THE EXISTING 13.2KV AC SWITCHGEAR, TRANSFER THE FEEDER TO THE NEW 13.2KV AC SWITCHGEAR AND ENERGIZE IT.
5. PLACE IN SERVICE BOTH 150KVA, 13.2KV/120-208V AUXILIARY TRANSFORMERS AND REMOVE EXISTING AUXILIARY TRANSFORMERS.
6. INSTALL NEW TRANSFORMER RECTIFIER SET #2 (IN PLACE OF SET #3) WITH CONNECTIONS TO NEW 13.2KV AC SWITCHGEAR, NEW 700V DC BREAKER 72-R2 AND NEGATIVE EQUALIZER BUS.

10. INSTALL NEW TRANSFORMER RECTIFIER SET #1 AND TEMPORARY FEED IT FROM EXISTING 13.2KV AC SWITCHGEAR.
11. CONNECT NEW TRANSFORMER RECTIFIER SET #1 TO NEW DC CIRCUIT BREAKER 72-R1.
12. INSTALL NEW NEGATIVE EQUALIZER BUS WITH NEW DRAINAGE SWITCHBOARD. CONNECT NEW TRANSFORMER RECTIFIER SET #1 TO NEW NEGATIVE SYSTEM.
13. TEMPORARY CONNECT EXIST TRANSFORMER RECTIFIER SET #3 TO NEW NEGATIVE SYSTEM. REMOVE EXISTING NEGATIVE EQUALIZER BUS.
14. INSTALL NEW 500KW RECTIFIER AND NEW 500KW GENERATOR SET. CONNECT NEW RECTIFIER TO NEW 2000A DC BREAKER WHICH IS PART OF NEW DC SWITCHGEAR LINEUP. CONNECT RECTIFIER TO NEW NEGATIVE SYSTEM.
15. INSTALL NEW EMERGENCY SWITCH CABINET AND NEW DC EMERGENCY CABINET.
16. INSTALL NEW FEEDER CABLES FROM NEW 700V DC SWITCHGEAR ONE TRUCK AT A TIME. EXISTING FEEDERS NEED TO BE REMOVED FIRST TO MAKE ROOM IN THE EXISTING DUCT BANK TO INSTALL NEW FEEDER. COORDINATE WITH SEPTA FOR APPROVAL.
17. DE-ENERGIZE AND DISCONNECT 4.8KV FEEDERS. DE-ENERGIZE AND DISCONNECT 2000KVA LIGHTING AND POWER TRANSFORMER, 167KVA SIGNAL TRANSFORMER, AND 4.8KV/120-208 AUXILIARY TRANSFORMER. REMOVE THESE TRANSFORMERS AND 4.8KV SWITCHGEARS.
18. FIELD SURVEY AND PROVIDE FINAL DESIGN FOR THE REPLACEMENT OF THE DC REMOTE CONTROL PANEL (CABINET).

7. AFTER TRANSFORMER RECTIFIER SET #2 IS IN SERVICE, DISCONNECT PECO FEEDER 540 FROM THE EXISTING 13.2KV AC SWITCHGEAR, TRANSFER THE FEEDER TO THE NEW 13.2KV AC SWITCHGEAR AND ENERGIZE IT.
8. DISCONNECT THE TRANSFORMER RECTIFIER SET #1 FROM EXISTING 13.2KV AC SWITCHGEAR AND RECONNECT THE SET TO THE NEW 13.2KV AC SWITCHGEAR.
9. REMOVE EXISTING 13.2KV AC SWITCHGEARS.
10. REMOVE EXISTING 3000 GAL. AND INSTALL NEW FUEL OIL TANK FOR NEW GENERATOR.

NOTES:

1. REMOVE INDICATES REMOVAL AND PROPER DISPOSAL OF EQUIPMENT AFTER SEPTA HAS SALVAGED PARTS THROUGHOUT CONTRACT.

50% SUBMISSION
NOT FOR CONSTRUCTION



REF ENGINEER - E98C

REF ENGINEERING OFFICER - E8B

REF AAL TRANSIT OFFICER

STEM SAFETY

RECTOR OF ENGINEERING - E8B

MANAGER - ARCHITECTING

PROJECT MANAGER



HDR Engineering, Inc.
Philadelphia, PA

[illegible]

DATE PRINTED: 10/21/2025

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
STAGING ACTIVITIES & NOTES

SCALE:	SCALE FACTOR:
UNITS	-
DATE	DRAWN BY: ABC
08/22/2025	CHECKED BY: CL
WORK ORDER NO.	
276491	
SHEET NUMBER	
TP110	
WG. NO.	9 of 34
OF NO.	99 of 448
REVIEW NO.	
COMPUTER FILE NO.	REV. NO.
7AN-TP110	-

STATUS: 50% SUBMISSION

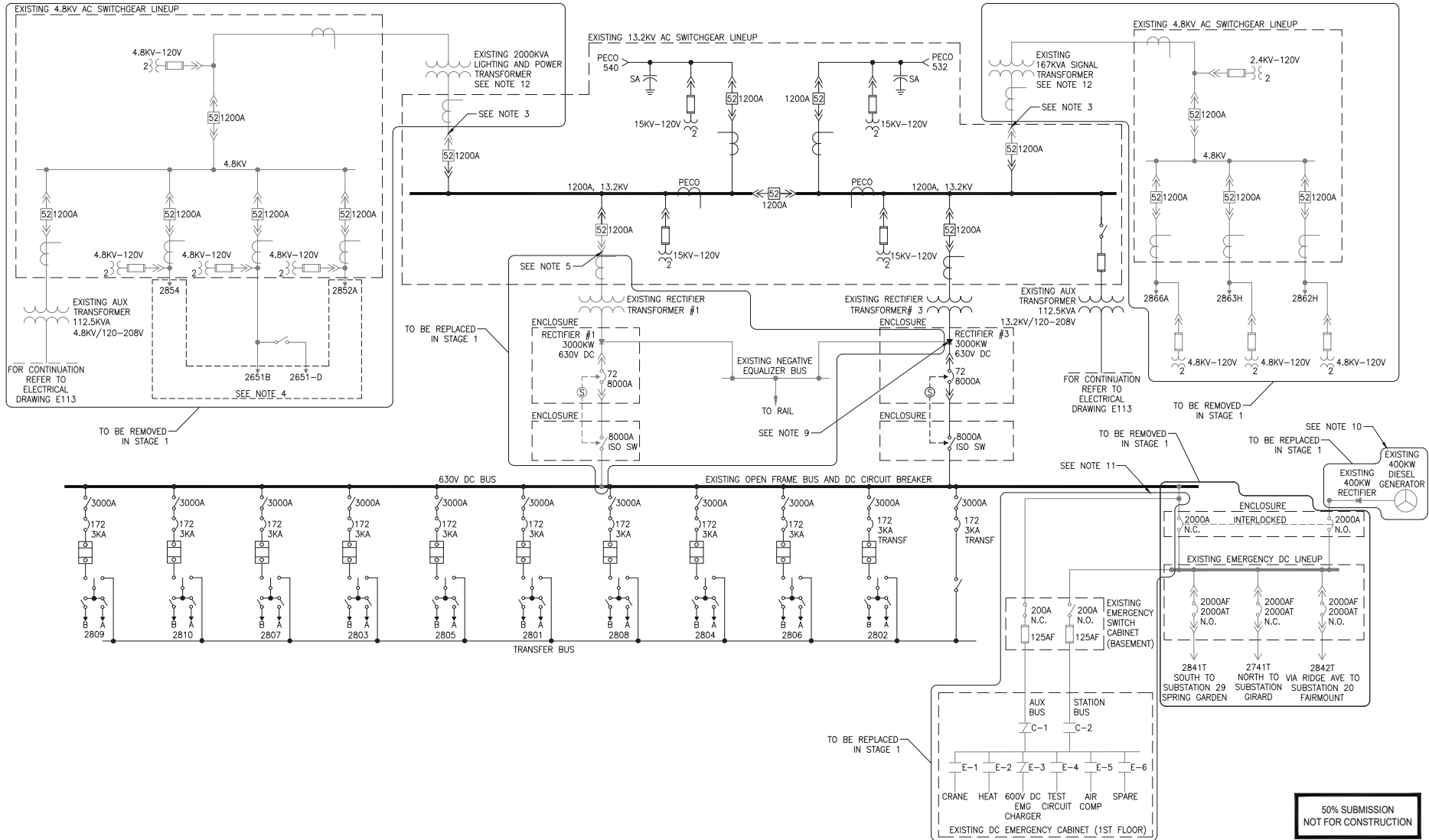
1. BOLD ITEMS ON THIS DRAWING TO BE ENERGIZED DURING STAGE 1.
2. GRAYSCALE ITEMS ON THIS DRAWING TO BE DE-ENERGIZED DURING STAGE 1.
3. OPEN EXISTING MEDIUM VOLTAGE DRAWOUT CIRCUIT BREAKER AND DISCONNECT CONDUCTORS FROM LOAD SIDE OF CIRCUIT BREAKER.

4. DE-ENERGIZE AND DISCONNECT EXISTING CONDUCTORS FROM EXISTING 4.8 KV SWITCHGEAR.
5. OPEN EXISTING MEDIUM VOLTAGE CIRCUIT BREAKER AND DISCONNECT CONDUCTORS FROM LOAD SIDE OF THIS CIRCUIT BREAKER. REMOVE TRANSFORMER RECTIFIER SET #1. REMOVE 8000A RECTIFIER #1 ISOLATION SWITCH.
6. INSTALL NEW TRANSFORMER RECTIFIER SET #1 AND TEMPORARY CONNECT THIS SET TO EXISTING 13.2KV AC SWITCHGEAR.

7. INSTALL NEW 700V DC SWITCHGEAR LINEUP IN THE BASEMENT. CONNECT NEW RECTIFIER TRANSFORMER SET #1 TO NEW 700V DC SWITCHGEAR.
8. INSTALL NEW NEGATIVE EQUALIZER BUS WITH NEW DRAINAGE SWITCHBOARD. CONNECT NEW RECTIFIER TRANSFORMER SET #1 TO NEW NEGATIVE SYSTEM.
9. DISCONNECT NEGATIVE CONDUCTORS FROM EXISTING RECTIFIER #3. TEMPORARY CONNECT EXISTING RECTIFIER #3 TO NEW NEGATIVE AND DRAINAGE SWITCHBOARD.

10. DISCONNECT CONDUCTORS FROM EXISTING 400KW GENERATOR SET. REMOVE EXISTING 400KW RECTIFIER AND 400KW GENERATOR SET. INSTALL NEW 500KW RECTIFIER AND 500KW GENERATOR SET. INTERCONNECT WITH NEW 700V DC SWITCHGEAR AND NEGATIVE EQUALIZER BUS.
11. REMOVE EXISTING AND INSTALL NEW EMERGENCY SWITCH CABINET AND DC EMERGENCY CABINET.
12. REMOVE EXISTING 2000KVA LIGHTING AND POWER XFMR, 167KVA SIGNAL XFMR, AND 4.8KV SWITCHGEARS.

13. REFER TO DRAWING TP101 FOR LEGENDS AND SYMBOLS AND DRAWING TP102 FOR DEVICE TABLES.
14. REFER TO DRAWING TP110 FOR OVERALL STAGING PLAN.



50% SUBMISSION
NOT FOR CONSTRUCTION



BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
STAGE 1 SINGLE LINE DIAGRAM

SCALE:	SCALE FACTOR:
UNITS	-
DATE:	DRAWN BY: MB
08/22/2025	CHECKED BY: VS
WORK ORDER NO:	
276491	
ITEM NUMBER	
TP111	
WG. NO:	10 or 34
WT. NO:	100 or 448
RECEIVE NO:	
COMPUTER FILE NO:	REV. NO:
7AN-TP111	-

DATE PRINTED: 10/21/2025

STATUS: 50% SUBMISSION

1. GRAYSCALE ITEMS ON THIS DRAWING TO BE DE-ENERGIZED DURING STAGE 1.
2. BOLD ITEMS ON THIS DRAWING TO BE ENERGIZED DURING STAGE 1.
3. REMOVE EQUIPMENT AFTER SEPTA HAS SALVAGED PARTS.
4. REMOVE EXISTING DC REMOTE CONTROL BOARD AND INSTALL NEW DC REMOTE CONTROL BOARD.
5. REMOVE EXISTING RECTIFIER TRANSFORMER SET #1. INSTALL NEW RECTIFIER TRANSFORMER SET #1 AND CONNECT TO NEW 700V DC SWITCHGEAR IN BASEMENT.
6. INSTALL NEW BATTERIES ON FIRST FLOOR.
7. REMOVE EXISTING LOCAL SUPERVISORY CABINET, INSTALA TERMINATION CABINET AND SCADA CABINETS. CONNECT NEW AND EXISTING EQUIPMENT TO NEW INTERFACE CABINET AND RTU/HMI.
8. REMOVE EXISTING DC EMERGENCY CABINET AND INSTALL NEW DC EMERGENCY CABINET.
9. REMOVE EXISTING 400KW GENERATOR SET AND INSTALL NEW 500KW GENERATOR SET.
10. REFER TO DRAWING TP110 FOR OVERALL STAGING PLAN.
11. REMOVE EXISTING INSULATED FLOOR COVERING. PROVIDE NEW INSULATED FLOOR COVERING CONFORMING TO THE SPECIFICATIONS.

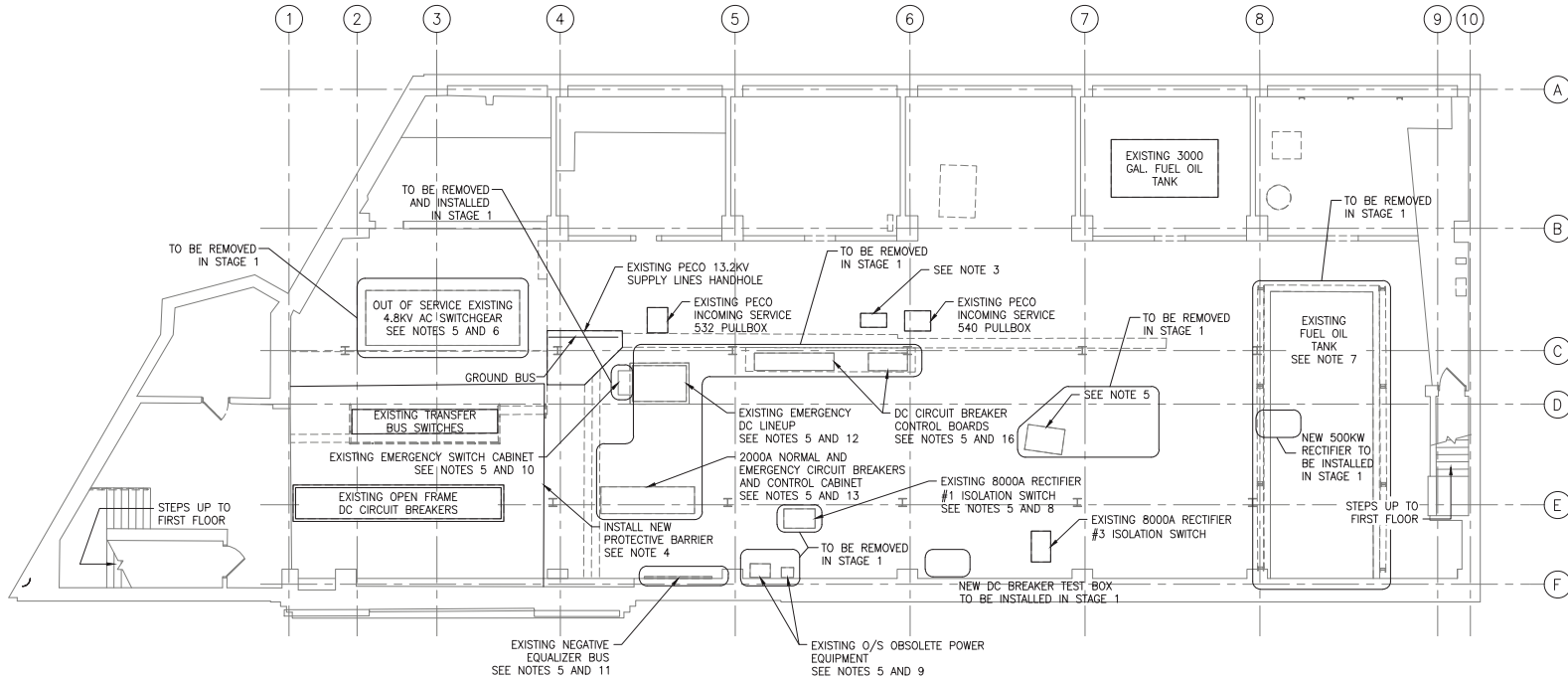


50% SUBMISSION
NOT FOR CONSTRUCTION

STATUS: 50% SUBMISSION

NOTES:

1. GRAYSCALE ITEMS ON THIS DRAWING TO BE DE-ENERGIZED DURING STAGE 1.
2. BOLD ITEMS ON THIS DRAWING TO BE ENERGIZED DURING STAGE 1.
3. PROTECT EXISTING EXPOSED PECO FEED 540 13.2KV SPLICE SUPPORTED ON CONCRETE BLOCKS.
4. INSTALL TEMPORARY PROTECTIVE BARRIERS AROUND EXISTING DC EQUIPMENT.
5. REMOVE EQUIPMENT AFTER SEPTA HAS SALVAGED PARTS.
6. REMOVE 4.8KV AC SWITCHGEAR.
7. REMOVE CONCRETE ENCASED FUEL OIL TANK IN PILES USING THE EXISTING ACCESS POINTS. FILL IN AND RESTORE FLOOR. COORDINATE REMOVAL WITH SEPTA SYSTEM SAFETY ENVIRONMENTAL DEPARTMENT.
8. REMOVE EXISTING 8000A RECTIFIER #1 ISOLATION SWITCH.
9. REMOVE EXISTING O/S OBSOLETE POWER EQUIPMENT.
10. REMOVE EXISTING EMERGENCY SWITCH CABINET AND INSTALL NEW EMERGENCY SWITCH CABINET.
11. INSTALL NEW NEGATIVE AND DRAINAGE SWITCHBOARD. TEMPORARY CONNECT EXISTING RECTIFIER SET #3 TO NEW NEGATIVE SYSTEM. CONNECT NEW TRANSFORMER RECTIFIER SET #1 AND NEW 500KVA EMERGENCY RECTIFIER TO NEW NEGATIVE SYSTEM. REMOVE EXISTING NEGATIVE EQUALIZER BUS.
12. REMOVE EXISTING EMERGENCY DC LINEUP.
13. REMOVE EXISTING 2000A NORMAL AND EMERGENCY CIRCUIT BREAKERS AND CONTROL CABINET.
14. REMOVE EXISTING EMERGENCY RECTIFIER AND INSTALL NEW 500KW EMERGENCY RECTIFIER.
15. INSTALL NEW 700V DC SWITCHGEAR. REMOVE DC FEEDER CONNECTIONS FROM EXISTING 630V DC EQUIPMENT AND MAKE NEW CONNECTIONS TO NEW 700V DC SWITCHGEAR.
16. REMOVE EXISTING DC CIRCUIT BREAKER CONTROL BOARDS.
17. REMOVE EXISTING INSULATED FLOOR COVERING. PROVIDE NEW INSULATED FLOOR COVERING CONFORMING TO THE SPECIFICATIONS.
18. REFER TO DRAWING TP110 FOR OVERALL STAGING PLAN.



1 STAGE 1 BASEMENT EQUIPMENT PLAN
TP113 SCALE: 1" = 6'

6 3 0 6
SCALE: 1" = 6'

50% SUBMISSION
NOT FOR CONSTRUCTION



DRP NUMBER: 0401
DRP FUNDING OFFICE: 001
DRP RAIL TRAIL OFFICE:
PROJECT ID: 001
DIRECTOR OF TRANSPORTATION: 001
MANAGER: 001
PROJECT MANAGER:

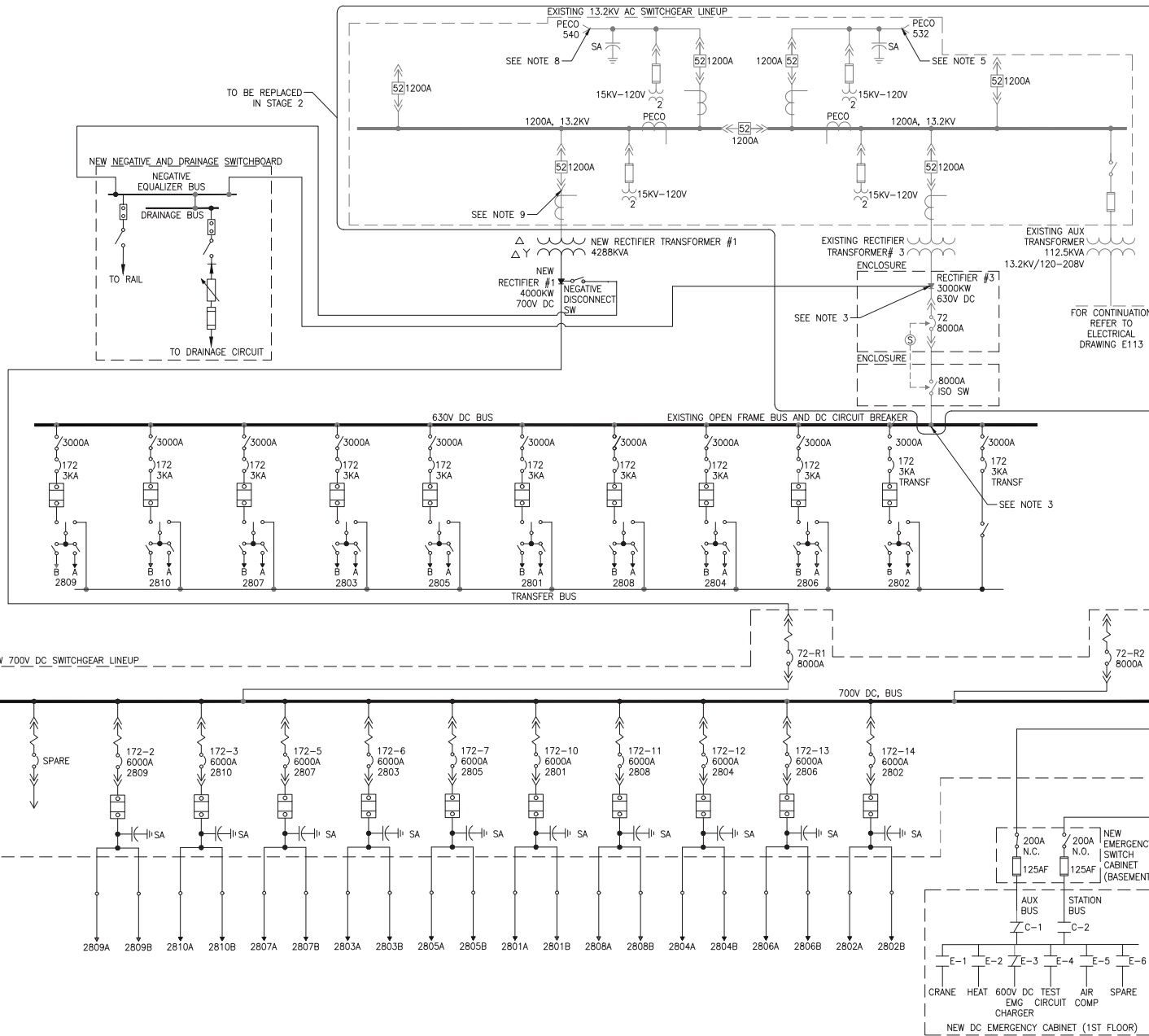
HDR
HDR Engineering, Inc.
Philadelphia, PA

REV	DATE	DESCRIPTION	BY	CHK	APP

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
STAGE 1 BASEMENT EQUIPMENT PLAN

DATE: 08/22/2025
DRAWN BY: 001
CHECKED BY: 001
PROJECT NUMBER: 276491
TP113
SHEET NO.: 12 OF 33
CITY NO.: 102 OF 448
ARCHIVE NO.:
COMPUTER FILE NO.: 17AN-TP113
STATUS: 50% SUBMISSION

CP:\WORK\GPTT\095483\17AN-TP114.DWG



NOTES:

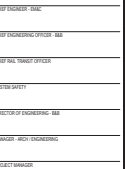
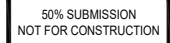
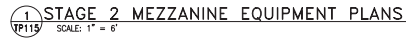
1. BOLD ITEMS ON THIS DRAWING TO BE ENERGIZED DURING STAGE 2.
2. GRAYSCALE ITEMS ON THIS DRAWING TO BE DE-ENERGIZED DURING STAGE 2.
3. DE-ENERGIZE AND REMOVE TRANSFORMER RECTIFIER SET #3 WITH 8000A ISOLATION SWITCH.
4. INSTALL NEW 13.2KV AC MV SWITCHGEAR LINEUP.
5. DISCONNECT PECO FEEDER 532 FROM EXISTING 13.2KV SWITCHGEAR AND TRANSFER THE FEEDER TO NEW SWITCHGEAR.
6. INSTALL AND ENERGIZE TWO NEW 150KVA, 13.2KV/120-208V AUXILIARY TRANSFORMERS BY CONNECTING TRANSFORMERS TO NEW 13.2KV SWITCHGEAR BREAKERS. REMOVE EXISTING AUXILIARY TRANSFORMERS.
7. INSTALL NEW TRANSFORMER RECTIFIER SET #2 AND CONNECT IT TO NEW 13.2KV SWITCHGEAR, NEW DC CATHODE CIRCUIT BREAKER 72-R2, AND NEW NEGATIVE SYSTEM.
8. AFTER TRANSFORMER RECTIFIER SET #2 IS IN SERVICE, DISCONNECT PECO FEEDER 540 FROM EXISTING 13.2KV SWITCHGEAR AND RECONNECT THE FEEDER TO NEW 13.2KV SWITCHGEAR.
9. CONNECT NEW TRANSFORMER RECTIFIER SET #1 TO NEW 13.2KV SWITCHGEAR.
10. REMOVE EXISTING 13.2KV SWITCHGEAR FROM THE SUBSTATION.
11. REFER TO DRAWING TP101 FOR LEGENDS AND SYMBOLS AND DRAWING TP102 FOR DEVICE TABLES.
12. REFER TO DRAWING TP110 FOR OVERALL STAGING PLAN.

PHILADELPHIA TRANSPORTATION AUTHORITY 1325 MARKET ST., 15TH FL. PHILADELPHIA, PA 19107	
PROJECT NUMBER:	
PROJECT OWNER:	
PROJECT MANAGER:	
DESIGNER:	
DATE:	
BY:	
CHKD:	
DESCRIPTION:	
DATE:	
REV:	
BROAD SUBWAY/ELEVATED TRAINS TRACTION POWER SUBSTATION REHABILITATION POWER STAGE 2 SINGLE LINE DIAGRAM	
DATE:	08/22/2025
SCALE:	1"=100'
PROJECT NUMBER:	276491
TP114	
DATE:	08/22/2025
SCALE:	1"=100'
PROJECT NUMBER:	276491
TP114	
DATE:	08/22/2025
SCALE:	1"=100'
PROJECT NUMBER:	276491
TP114	

50% SUBMISSION
NOT FOR CONSTRUCTION

DATE PRINTED: 10/21/2025 STATUS: 50% SUBMISSION

1. GRAYSCALE ITEMS ON THIS DRAWING TO BE DE-ENERGIZED DURING STAGE 2.
2. BOLD ITEMS ON THIS DRAWING TO BE ENERGIZED DURING STAGE 2.
3. REMOVE EQUIPMENT AFTER SEPTA HAS SALVAGED PARTS.
4. REMOVE EXISTING RECTIFIER TRANSFORMER SET #3.
5. INSTALL NEW 13.2KV AC SWITCHGEAR. TRANSFER PECO FEEDER 532 TO NEW SWITCHGEAR.
6. INSTALL NEW RECTIFIER TRANSFORMER SET #2.
7. INSTALL TWO (2) NEW 150KVA AUXILIARY TRANSFORMERS. REMOVE EXISTING AUXILIARY TRANSFORMER FROM MEZZANINE.
8. AFTER NEW TRANSFORMER RECTIFIER SET #2 IS IN SERVICE, TRANSFER PECO FEEDER 540 TO NEW 13.2KV SWITCHGEAR.
9. REMOVE EXISTING 13.2KV SWITCHGEAR.
10. REFER TO DRAWING TP110 FOR OVERALL STAGING PLAN.
11. REMOVE EXISTING INSULATED FLOOR COVERING. PROVIDE NEW INSULATED FLOOR COVERING CONFORMING TO THE SPECIFICATIONS.



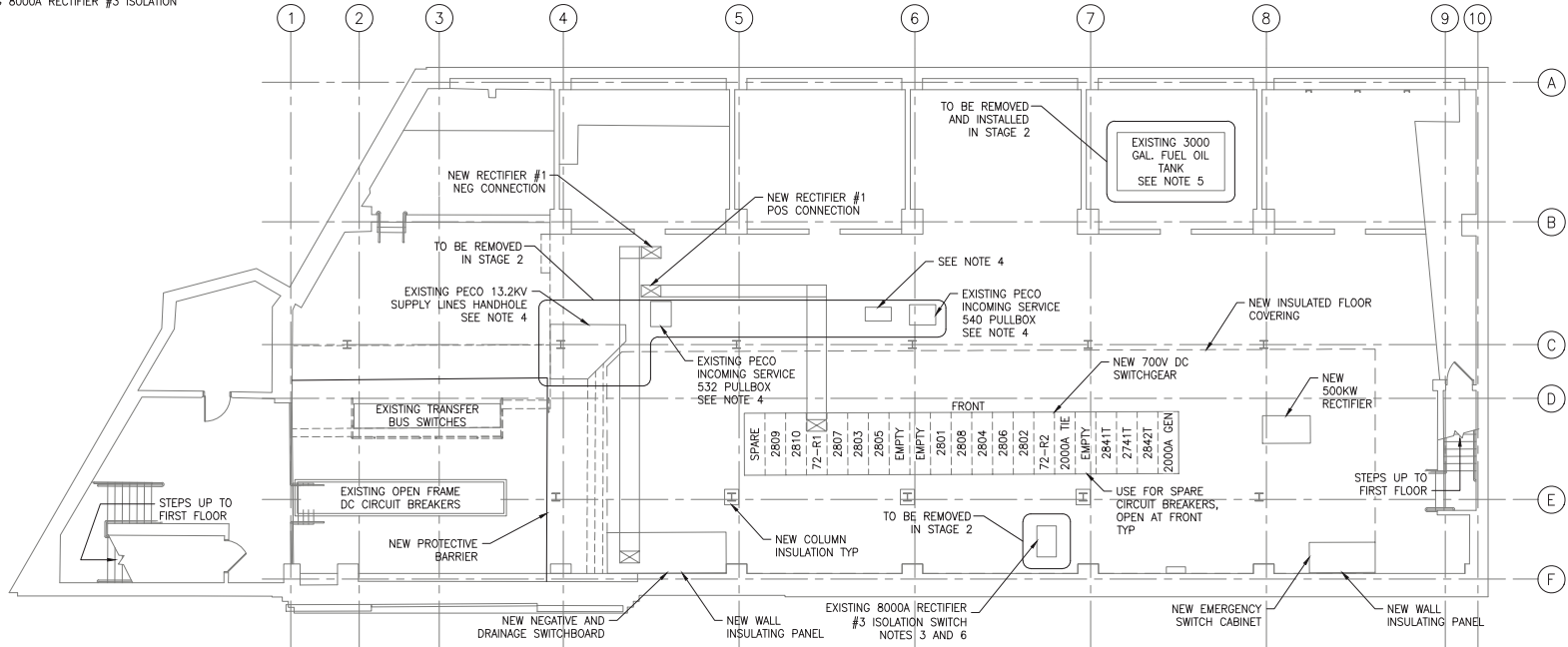
BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
2 MEZZANINE & FIRST FLOOR EQUIPMENT

SCALE:	SCALE FACTOR:
AS SHOWN	-
DATE	DRAWN BY: YL
08/22/2025	CHECKED BY: YL
WORK ORDER NO:	
276491	
SHEET NUMBER	
TP115	
FIG. NO.:	14 or 34
DET. NO.:	104 or 453
REVIEW NO.:	
-	
COMPUTER FILE NO.:	
7AN-TP115	

NOTES:

1. GRAYSCALE ITEMS ON THIS DRAWING TO BE DE-ENERGIZED DURING STAGE 2.
2. BOLD ITEMS ON THIS DRAWING TO BE ENERGIZED DURING STAGE 2.
3. REMOVE EQUIPMENT AFTER SEPTA HAS SALVAGED PARTS.
4. REMOVE EXISTING PECO HANDHOLE, PULLBOXES AND EXPOSED CABLE SPLICE. INSTALL NEW PULLBOXES AND CONDUITS TO SUPPLY NEW 13.2KV AC SWITCHGEAR ON FIRST FLOOR.
5. REMOVE EXISTING GENERATOR FUEL OIL TANK AND INSTALL A NEW GENERATOR FUEL OIL TANK. COORDINATE REMOVAL WITH SEPTA SYSTEM SAFETY ENVIRONMENTAL DEPARTMENT.
6. REMOVE EXISTING 8000A RECTIFIER #3 ISOLATION SWITCH.

7. REFER TO DRAWING TP110 FOR OVERALL STAGING PLAN.



1 STAGE 2 BASEMENT EQUIPMENT PLAN
TP116 SCALE: 1" = 6'

6 3 0 6
SCALE: 1"=6'

50% SUBMISSION
NOT FOR CONSTRUCTION



HDR ENGINEER: [blank]
SEPTA PROJECT OFFICE: [blank]
SEPTA RAIL TRAVEL OFFICE: [blank]
PROJECT ID: [blank]
SEPTA PROJECT OFFICE: [blank]
SEPTA PROJECT OFFICE: [blank]
PROJECT NUMBER: [blank]

HDR Engineering, Inc.
Philadelphia, PA

REV	DATE	DESCRIPTION	BY	CHK	APP

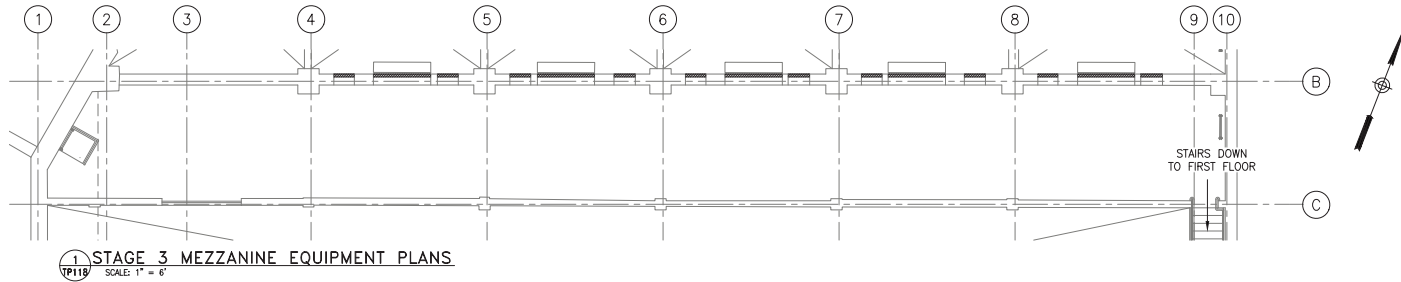
BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
STAGE 2 BASEMENT EQUIPMENT PLAN

DATE: 08/22/2025
SCALE: 1"=6'
PROJECT NUMBER: 276491
TP116
SHEET NO.: 15 OF 34
SHEET NO.: 105 OF 448
COMPUTER FILE NO.: 17AN-TP116

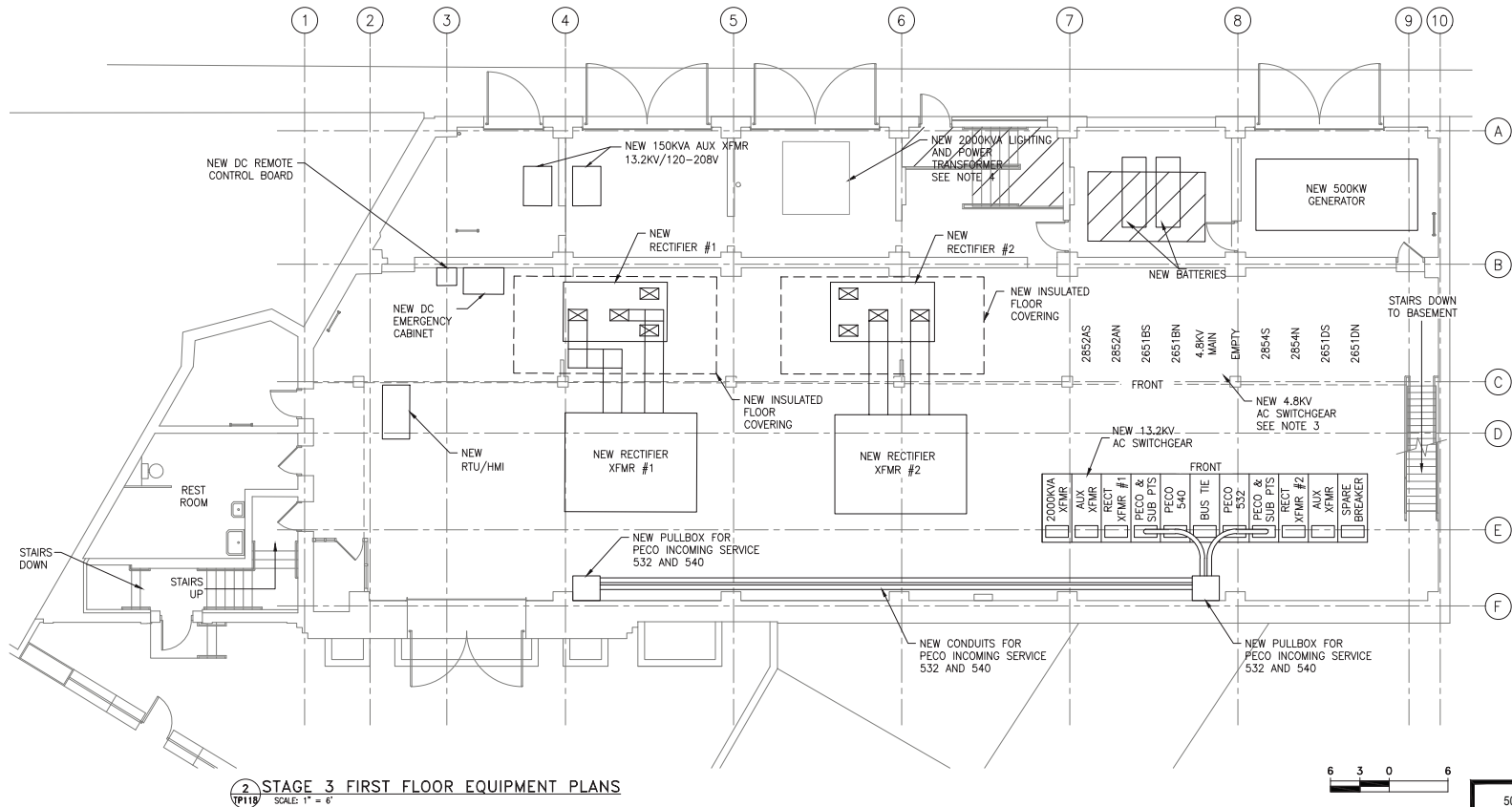
STATUS: 50% SUBMISSION

NOTES:

1. GRAYSCALE ITEMS ON THIS DRAWING TO BE DE-ENERGIZED DURING STAGE 3.
2. BOLD ITEMS ON THIS DRAWING TO BE ENERGIZED DURING STAGE 3.
3. INSTALL NEW 4.8KV AC SWITCHGEAR.
4. INSTALL NEW 2000KVA LIGHTING AND POWER TRANSFORMER.
5. REFER TO DRAWING TP110 FOR OVERALL STAGING PLAN.



1 STAGE 3 MEZZANINE EQUIPMENT PLANS
TP118 SCALE: 1" = 6'



2 STAGE 3 FIRST FLOOR EQUIPMENT PLANS
TP118 SCALE: 1" = 6'

6 3 0 6
SCALE: 1"=6'

50% SUBMISSION
NOT FOR CONSTRUCTION

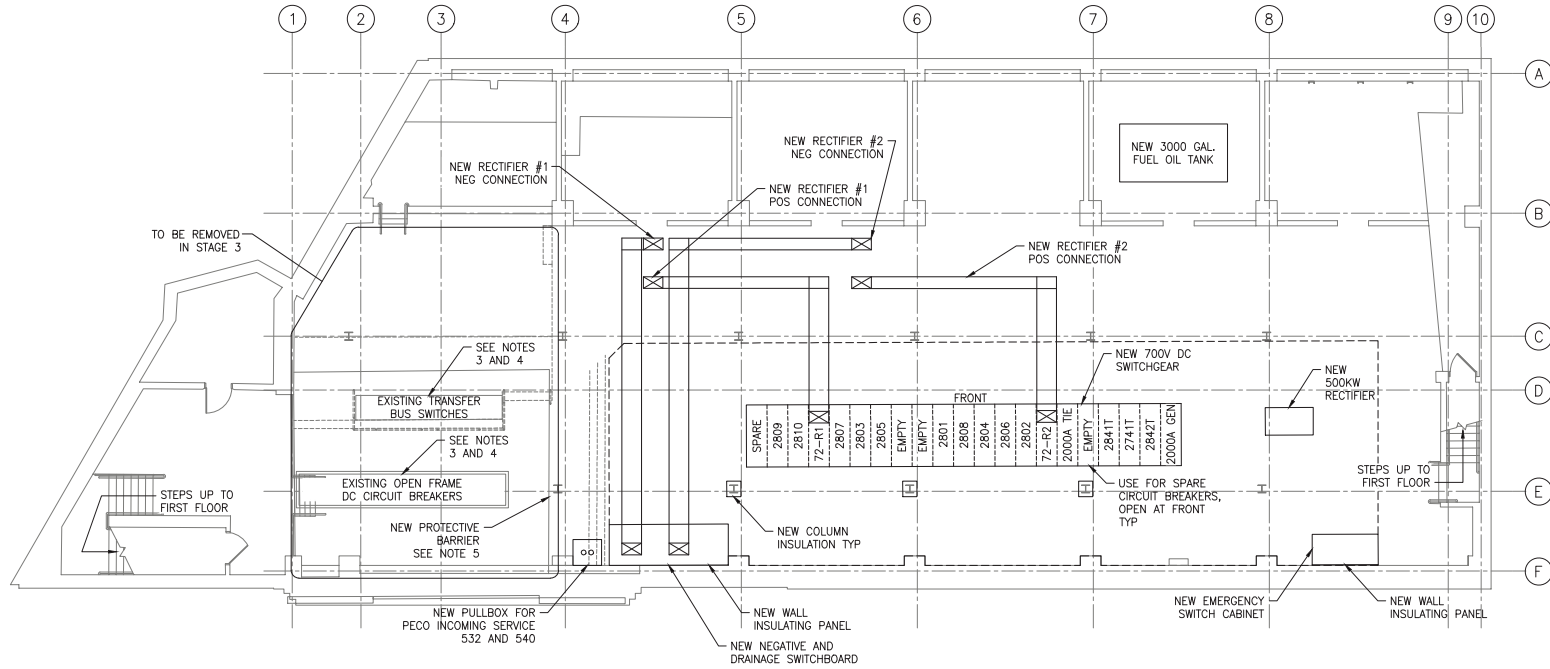
NO.	DATE	BY	CHKD	APPD	DESCRIPTION

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
STAGE 3 MEZZANINE & FIRST FLOOR EQUIPMENT PLANS

DATE: 08/22/2025	SCALE: 1"=6'
BY: [Signature]	CHECKED BY: [Signature]
PROJECT NUMBER: 276491	PROJECT TITLE: TP118
PROJECT LOCATION: 17AN-TP118	PROJECT OWNER: [Signature]
PROJECT MANAGER: [Signature]	PROJECT ENGINEER: [Signature]
PROJECT DESIGNER: [Signature]	PROJECT CHECKER: [Signature]
PROJECT APPROVER: [Signature]	PROJECT REVIEWER: [Signature]
PROJECT SUBMITTER: [Signature]	PROJECT REVISION: [Signature]
PROJECT DATE: 08/22/2025	PROJECT SCALE: 1"=6'
PROJECT NO: 107	PROJECT REV: 448
PROJECT FILE NO: 17AN-TP118	PROJECT STATUS: 50% SUBMISSION

NOTES:

1. GRAYSCALE ITEMS ON THIS DRAWING TO BE DE-ENERGIZED DURING STAGE 3.
2. BOLD ITEMS ON THIS DRAWING TO BE ENERGIZED DURING STAGE 3.
3. REMOVE EQUIPMENT AFTER SEPTA HAS SALVAGED PARTS.
4. REMOVE EXISTING TRANSFER BUS SWITCHES AND EXISTING OPEN FRAME DC CIRCUIT BREAKERS.
5. REMOVE NEW PROTECTIVE BARRIER.
6. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LIMITS OF EXISTING BASEMENT FLOOR THAT IS TO BE LEVELLED.
7. REFER TO DRAWING TP110 FOR OVERALL STAGING PLAN.



1 STAGE 3 BASEMENT EQUIPMENT PLAN
TP119 SCALE: 1" = 6'

6 3 0 6
SCALE: 1" = 6'

50% SUBMISSION
NOT FOR CONSTRUCTION



SEPTA
1324 MARKET ST., 15TH FL.
PHILADELPHIA, PA. 19107

SEPTA ENGINEER: SEPTA
SEPTA PROJECTING OFFICE: SEPTA
SEPTA RAIL TRAVEL OFFICE: SEPTA
SEPTA STATION: SEPTA
SEPTA PROJECTING OFFICE: SEPTA
SEPTA ARCHITECT/ENGINEER: SEPTA
SEPTA OWNER: SEPTA

HDR
HDR Engineering, Inc.
Philadelphia, PA

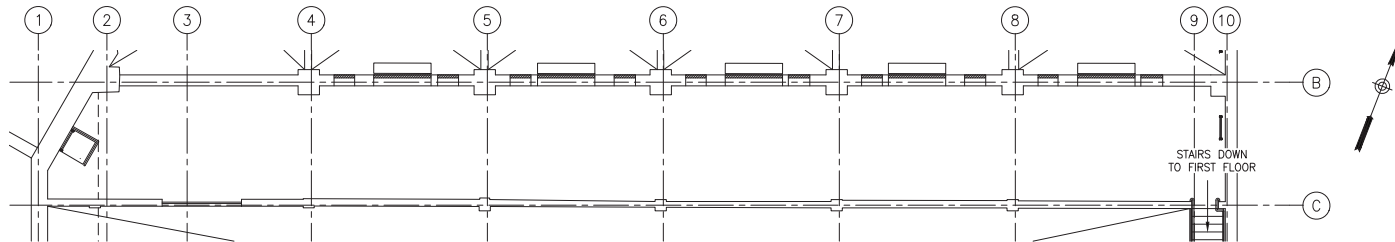
REV	DATE	DESCRIPTION	BY	CHK	APP

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
STAGE 3 BASEMENT EQUIPMENT PLAN

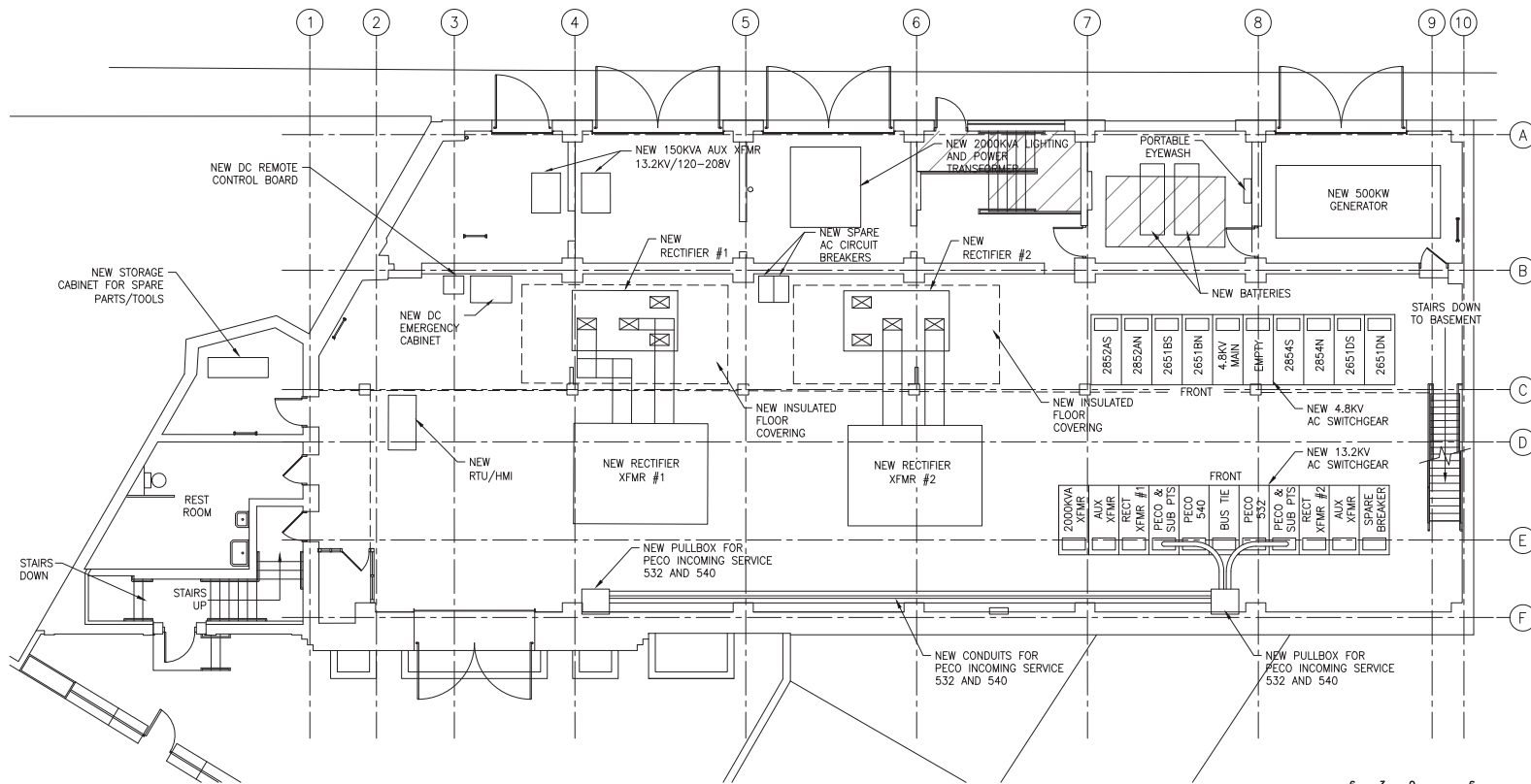
DATE: 08/22/2025
SCALE: AS SHOWN
PROJECT: 276491
TP119
SHEET NO.: 18 OF 34
SHEET NO.: 108 OF 448
ARCHITECT: 17AN-TP119

NOTES:

1. THIS DRAWING REFLECTS THE FINAL CONFIGURATION OF TPSS EQUIPMENT BASED UPON THE CONSTRUCTION STAGING. REFER TO DRAWING TP110 FOR STAGING NOTES.



1 PROPOSED MEZZANINE EQUIPMENT PLANS
TP120 SCALE: 1" = 6'



2 PROPOSED FIRST FLOOR EQUIPMENT PLANS
TP120 SCALE: 1" = 6'

6 3 0 6
SCALE: 1"=6'

50% SUBMISSION
NOT FOR CONSTRUCTION



PROJECT NUMBER: 17AN-TP120
PROJECT NAME: PROPOSED MEZZANINE & FIRST FLOOR EQUIPMENT PLANS
PROJECT LOCATION: 1224 MARKET ST., 10TH FLOOR, PHILADELPHIA, PA 19107
PROJECT OWNER: HDR Engineering, Inc.
PROJECT MANAGER: HDR Engineering, Inc.
PROJECT ENGINEER: HDR Engineering, Inc.
PROJECT ARCHITECT: HDR Engineering, Inc.
PROJECT ELECTRICAL: HDR Engineering, Inc.
PROJECT MECHANICAL: HDR Engineering, Inc.
PROJECT PLUMBING: HDR Engineering, Inc.
PROJECT HVAC: HDR Engineering, Inc.
PROJECT FIRE PROTECTION: HDR Engineering, Inc.
PROJECT LIFE SAFETY: HDR Engineering, Inc.
PROJECT SPECIALTIES: HDR Engineering, Inc.

HDR Engineering, Inc.
Philadelphia, PA

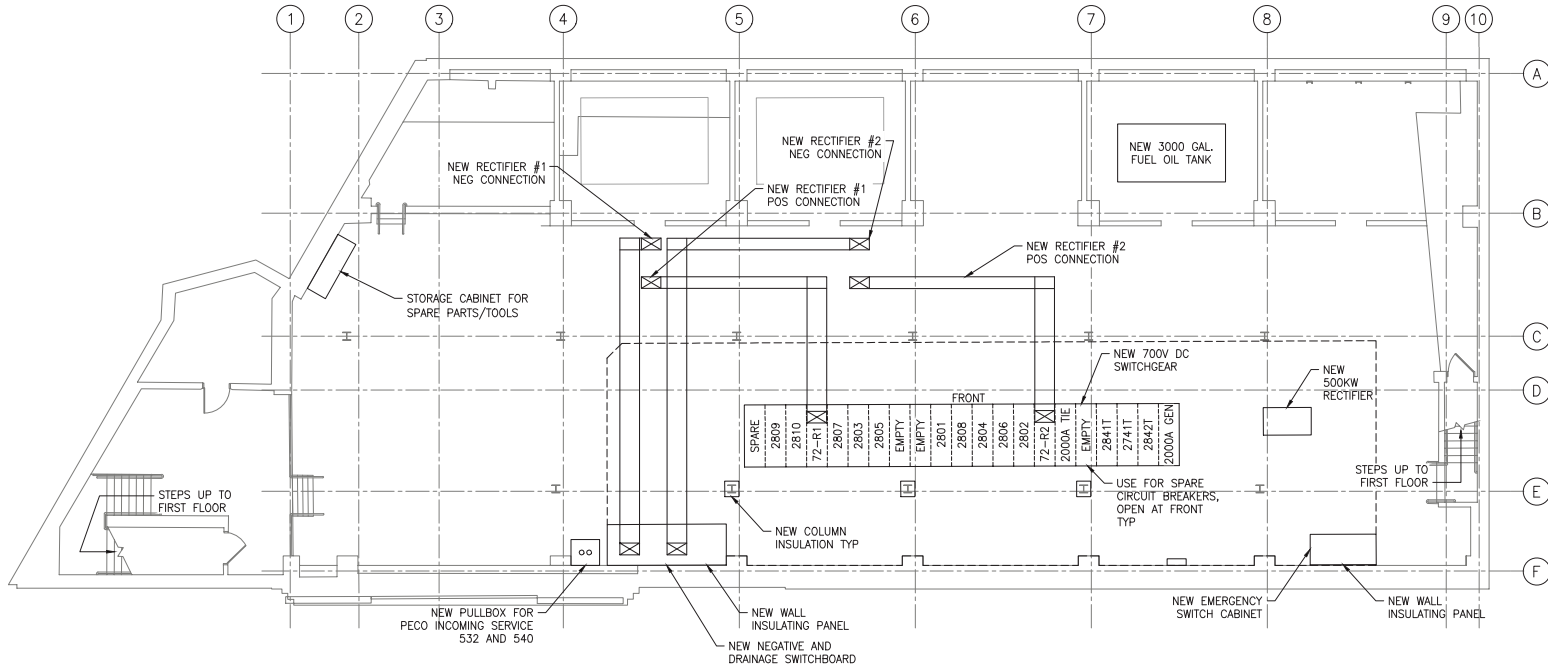
NO.	DATE	BY	CHKD	APPD	DESCRIPTION
1	08/22/2025				AS SHOWN

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
PROPOSED MEZZANINE & FIRST FLOOR EQUIPMENT PLANS

AS SHOWN
DATE: 08/22/2025
DRAWN BY: HDR
CHECKED BY: HDR
PROJECT NUMBER: 276491
SHEET NUMBER: TP120
SHEET TOTAL: 19 OF 34
SHEET NO: 109 OF 448
PROJECT NO: 17AN-TP120

NOTES:

1. THIS DRAWING REFLECTS THE FINAL CONFIGURATION OF TPSS EQUIPMENT BASED UPON THE CONSTRUCTION STAGING. REFER TO DRAWING TP110 FOR STAGING NOTES.



1 PROPOSED BASEMENT EQUIPMENT PLAN
TP121 SCALE: 1" = 6'

6 3 0 6
SCALE: 1" = 6'

50% SUBMISSION
NOT FOR CONSTRUCTION

**SOUTHEASTERN
PENNSYLVANIA
TRANSPORTATION
AUTHORITY**
DMC DIVISION
1124 MARKET ST., 15TH FL.
PHILADELPHIA, PA. 19107

DRP ENGINEER: EACB
DRP ENGINEERING OFFICE: BEE
DRP RAIL TRAFFIC OFFICE:
PETER SPARTY
DIRECTOR OF ENGINEERING: BEE
DESIGNER: ARCH. ENGINEERING
PROJECT MANAGER:

HDR
HDR Engineering, Inc.
Philadelphia, PA

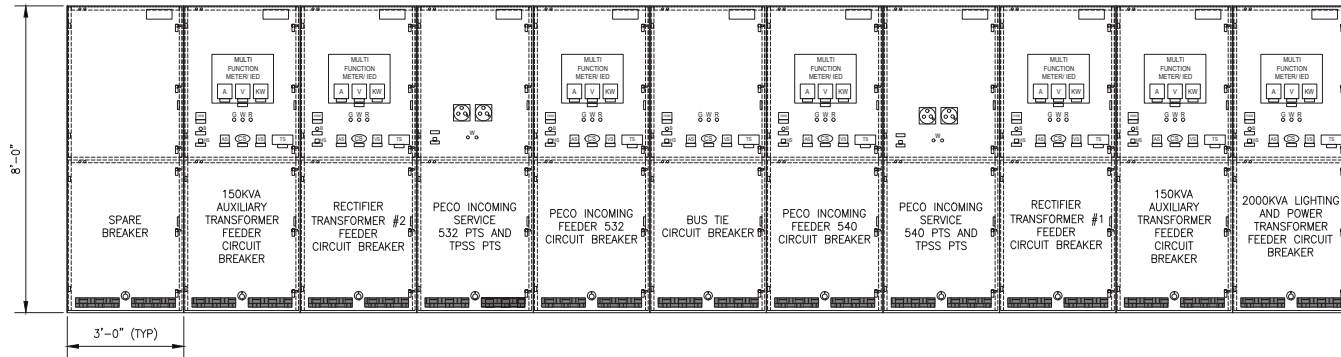
REV	DATE	DESCRIPTION	BY	CHK	APP

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
PROPOSED BASEMENT EQUIPMENT PLAN

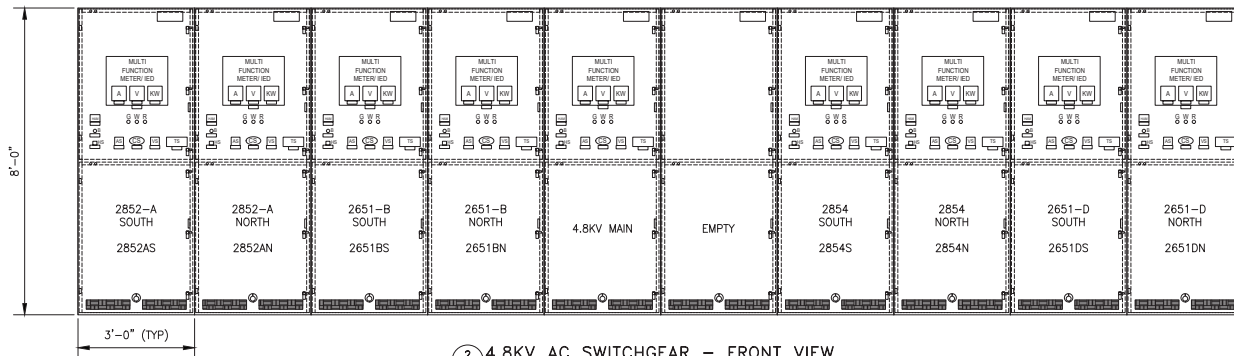
DATE: 08/22/2025
SCALE FACTOR: 1.00
DRAWN BY: BEE
CHECKED BY: BEE
PROJECT NUMBER: 276491
TP121
SHEET NUMBER:
SHEET TOTAL: 34
SHEET NO.: 110 OF 448
ARCHITECT NO.:
COMPUTER FILE NO.: 17AN-TP121
SHEET NO.: -

DATE PRINTED: 10/2/2025
STATUS: 50% SUBMISSION

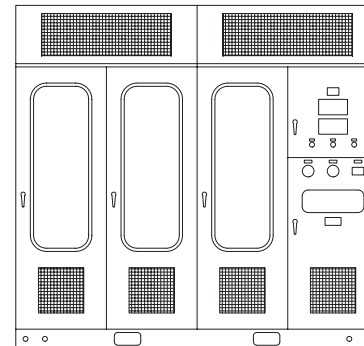
CPW\WORKING\PTTD\0948317\AN-TP126.DWG



1 13.2KV AC SWITCHGEAR - FRONT VIEW
TP126 SCALE: N.T.S.



2 4.8KV AC SWITCHGEAR - FRONT VIEW
TP126 SCALE: N.T.S.



3 700V DC 4000KW RECTIFIER - FRONT VIEW
TP126 SCALE: N.T.S.

NOTES:

1. FOR DETAIL REQUIREMENTS, SEE CONTRACT SPECIFICATIONS.
2. ALL DIMENSIONS AND LAYOUTS SHOWN ARE TYPICAL AND WILL VARY BY MANUFACTURER.
3. REFER TO DRAWING TP120 FOR FINAL FIRST FLOOR EQUIPMENT LAYOUT PLAN.



1324 MARKET ST., 15TH FL.
PHILADELPHIA, PA. 19107

SEPTA PROJECT NAME:

SEPTA PROJECT LOCATION:

SEPTA PROJECT OFFICE:

SEPTA PROJECT:

SEPTA PROJECT NUMBER:

SEPTA PROJECT NUMBER:

SEPTA PROJECT NUMBER:

SEPTA PROJECT NUMBER:

SEPTA PROJECT NUMBER:

SEPTA PROJECT NUMBER:

SEPTA PROJECT NUMBER:

SEPTA PROJECT NUMBER:

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SEPTA PROJECT NUMBER:

SEPTA PROJECT NUMBER:

SEPTA PROJECT NUMBER:

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
PROPOSED FIRST FLOOR EQUIPMENT ELEVATIONS

SCALE: N.T.S.

DATE: 08/22/2025

PROJECT NUMBER: 276491

PROJECT NUMBER: TP126

DATE: 08/22/2025

PROJECT NUMBER: 276491

PROJECT NUMBER: TP126

DATE: 08/22/2025

PROJECT NUMBER: 276491

PROJECT NUMBER: TP126

DATE: 08/22/2025

PROJECT NUMBER: 276491

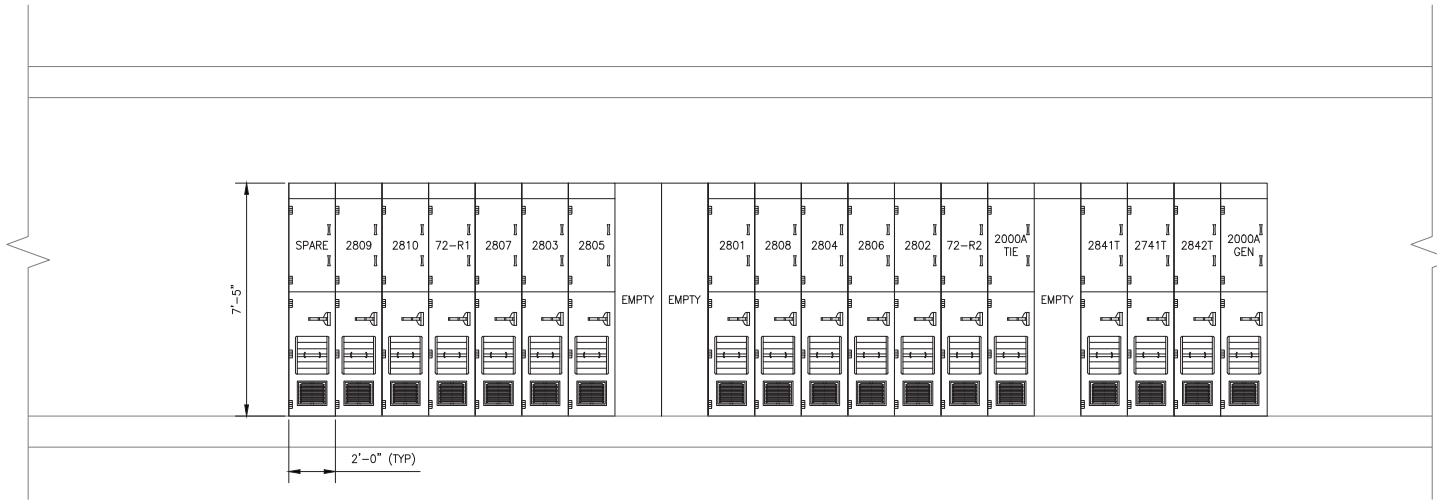
PROJECT NUMBER: TP126

50% SUBMISSION
NOT FOR CONSTRUCTION

DATE PRINTED: 10/2/2025

STATUS: 50% SUBMISSION

CP:\WORKING\PTTD\68483\17AN-TP127.DWG



1 700V DC SWITCHGEAR FRONT ELEVATION
TP127 SCALE: N.T.S.

NOTES:

1. REFER TO DRAWING TP121 FOR FINAL BASEMENT EQUIPMENT LAYOUT PLAN.

50% SUBMISSION
NOT FOR CONSTRUCTION



SEPTA ENGINEER: DMG
SEPTA ENGINEERING OFFICE: DMG
SEPTA RAIL TRANSIT OFFICE:
PROJECT OFFICE:
DIRECTOR OF ENGINEERING: DMG
MANAGER: ARCHITECT/ENGINEERING:
PROJECT MANAGER:

HDR Engineering, Inc.
Philadelphia, PA

REV	DATE	DESCRIPTION	BY	CHK	APP

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
PROPOSED BASEMENT EQUIPMENT ELEVATIONS

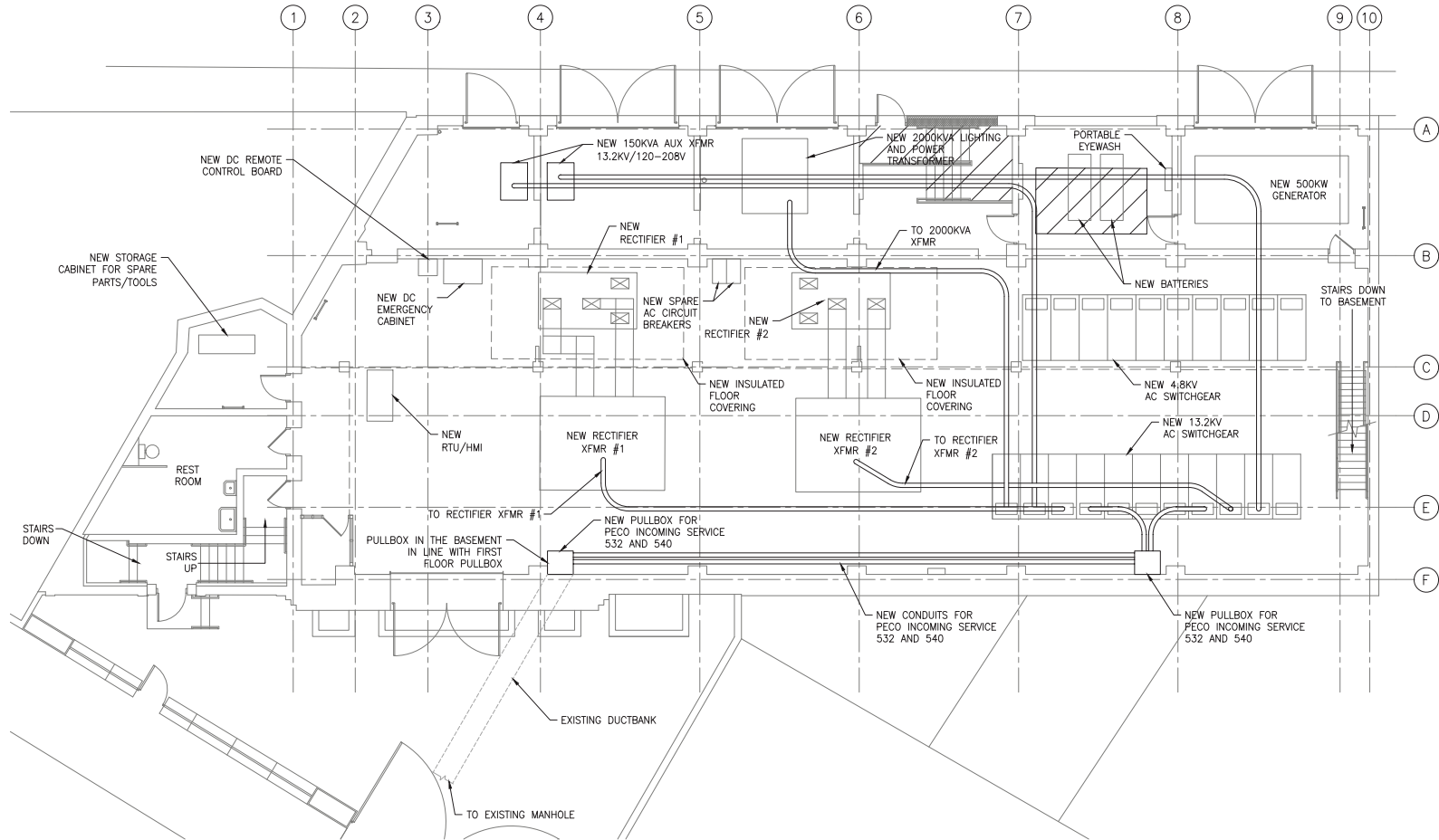
DATE: NTS	SCALE: FACTOR:
DATE: 08/22/2025	DESIGNED BY: -
PROJECT NUMBER: 276491	CHECKED BY: -
DWG NUMBER: TP127	
DWG NO.: 22 OF 34	
SHEET NO.: 112 OF 448	
COMPUTER FILE NO.: 17AN-TP127	

DATE PRINTED: 10/2/2025

STATUS: 50% SUBMISSION

NOTES:

1. EXACT LOCATION, SUPPORT AND SPACING OF CONDUITS TO BE DETERMINED BY FIELD CONDITIONS.
2. REFER TO DRAWING TP120 AND DRAWING TP121 FOR FINAL EQUIPMENT LAYOUT PLANS.



6 3 0 6
SCALE: 1"=6'

50% SUBMISSION
NOT FOR CONSTRUCTION



PROJECT NUMBER: _____
SHEET NUMBER: _____
DATE: _____
BY: _____
CHECKED BY: _____
APPROVED BY: _____

HDR
HDR Engineering, Inc.
Philadelphia, PA

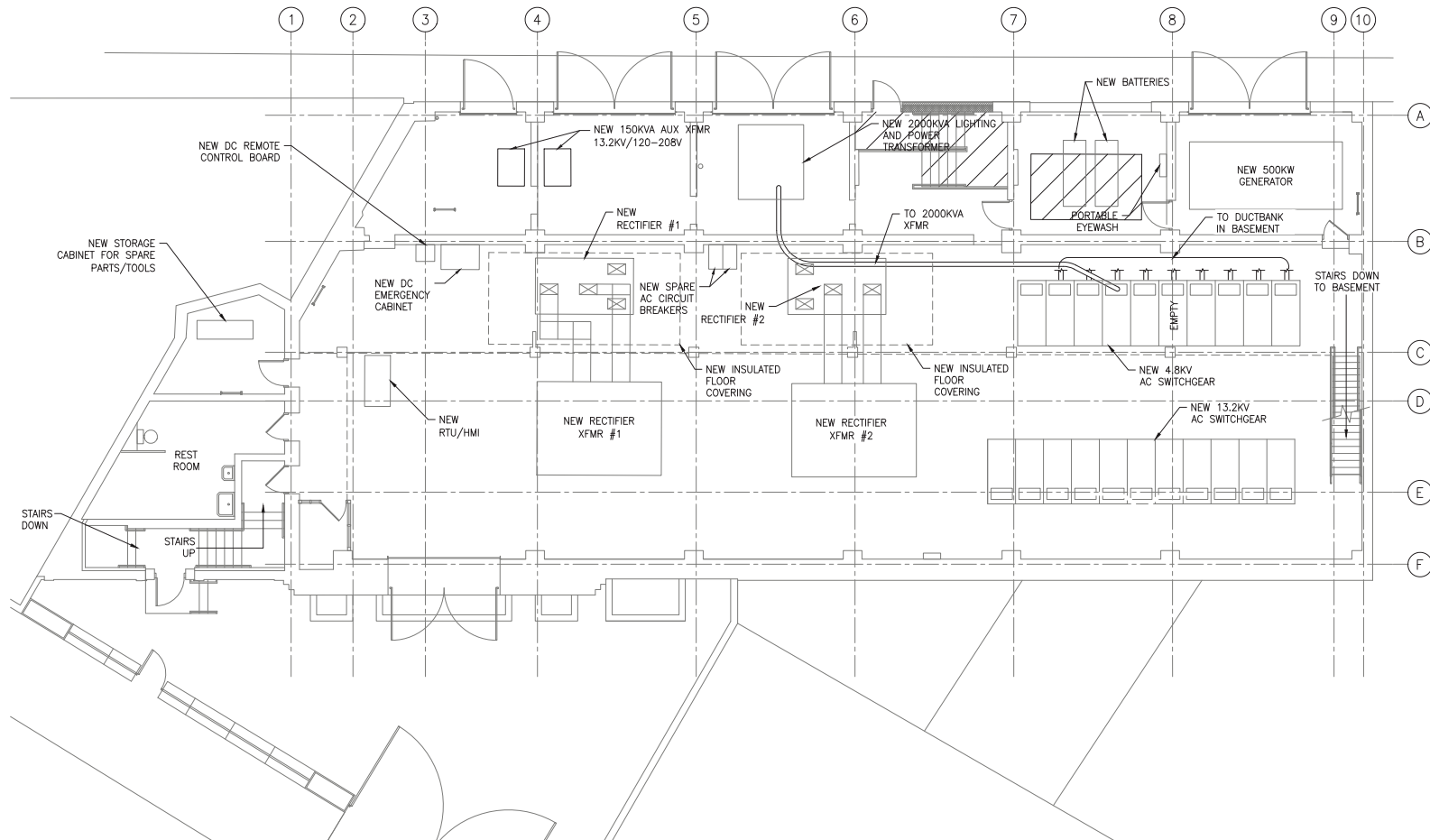
NO.	DESCRIPTION	DATE	BY	CHKD	APPD

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
13.2 KV CABLE & DUCT BANK

DATE: 08/22/2025
SCALE: 1"=6'
SHEET NUMBER: 276491
TP132
SHEET NO: 23 OF 34
SHEET NO: 113 OF 448
COMPUTER FILE NO: 17AN-TP132
DATE: 08/22/2025
STATUS: 50% SUBMISSION

NOTES:

1. EXACT LOCATION, SUPPORT AND SPACING OF CONDUITS TO BE DETERMINED BY FIELD CONDITIONS.
2. REFER TO DRAWING TP120 AND DRAWING TP121 FOR FINAL EQUIPMENT LAYOUT PLANS.



6 3 0 6
SCALE: 1"=6'

50% SUBMISSION
NOT FOR CONSTRUCTION

PENNSYLVANIA
DEPARTMENT OF
TRANSPORTATION
AUTORITY
EMC DIVISION
1201 MARKET ST., 15TH FL.
PHILADELPHIA, PA 19107

PROJECT NUMBER: _____

PROJECT ENGINEER/OWNER: _____

PROJECT DATE: _____

PROJECT SAFETY: _____

DIRECTOR OF ENGINEERING: _____

MANAGER: _____

PROJECT MANAGER: _____

HDR Engineering, Inc.
Philadelphia, PA

REV	DATE	DESCRIPTION	BY	CHKD	APPD

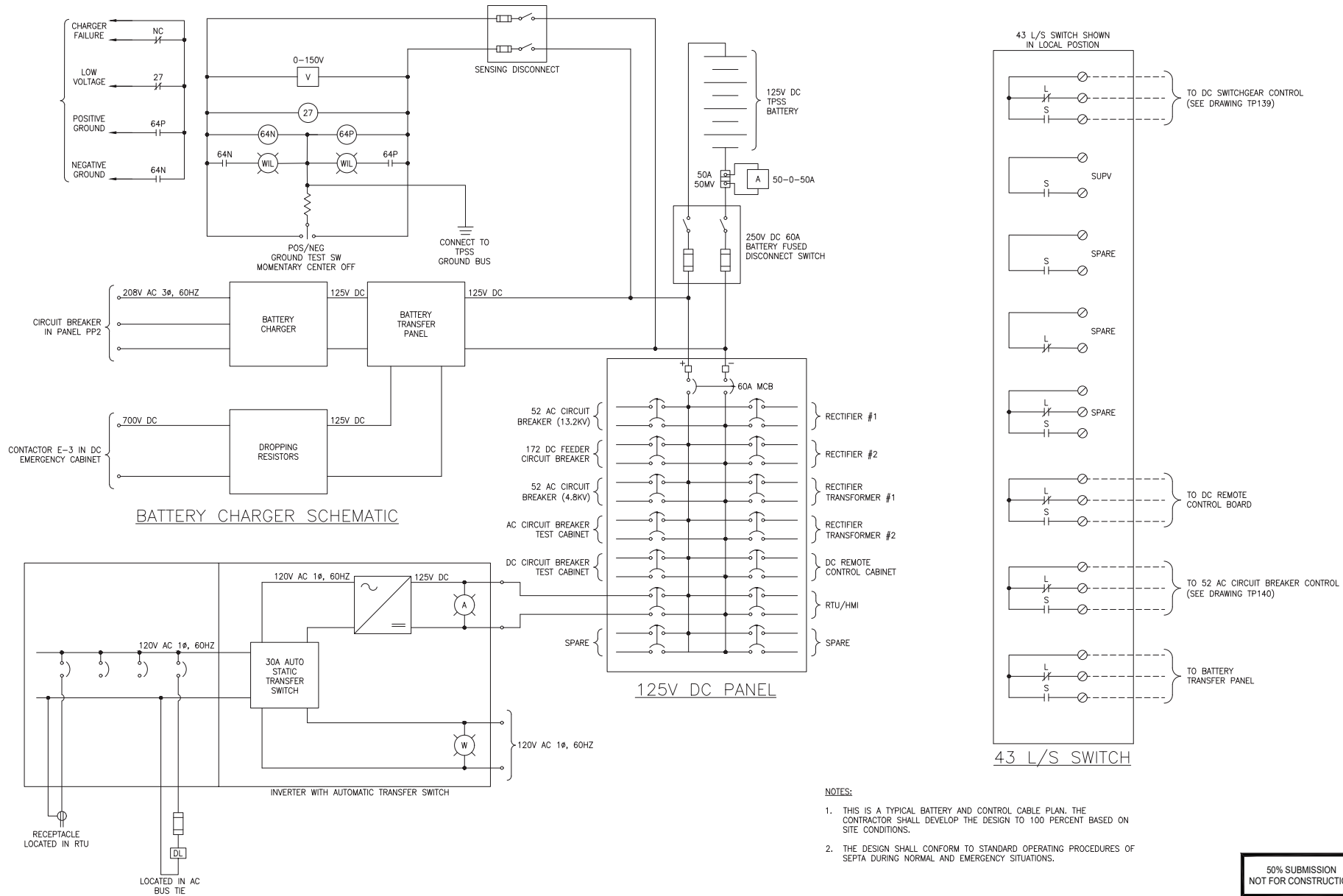
BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
4.8 KV CABLE & DUCT PLAN

DATE:	NTS	SCALE FACTOR:	1
DATE:	08/22/2025	DRAWN BY:	AKS
DATE:	08/22/2025	CHECKED BY:	AKS
WORK ORDER NO.:	276491		
SHEET NUMBER:	TP133		
DATE:	08/22/2025	DATE:	08/22/2025
DATE:	08/22/2025	DATE:	08/22/2025
DATE:	08/22/2025	DATE:	08/22/2025

COMPUTER FILE NO.: 17AN-TP133

STATUS: 50% SUBMISSION

CPW\WORKING\PTTD\169483\17AN-TP134.DWG



1324 MARKET ST., 15TH FL.
PHILADELPHIA, PA 19107

DATE: 08/22/2025
BY: [Signature]
CHECKED BY: [Signature]
APPROVED BY: [Signature]

PROJECT NUMBER: 276491
PROJECT NAME: TP134

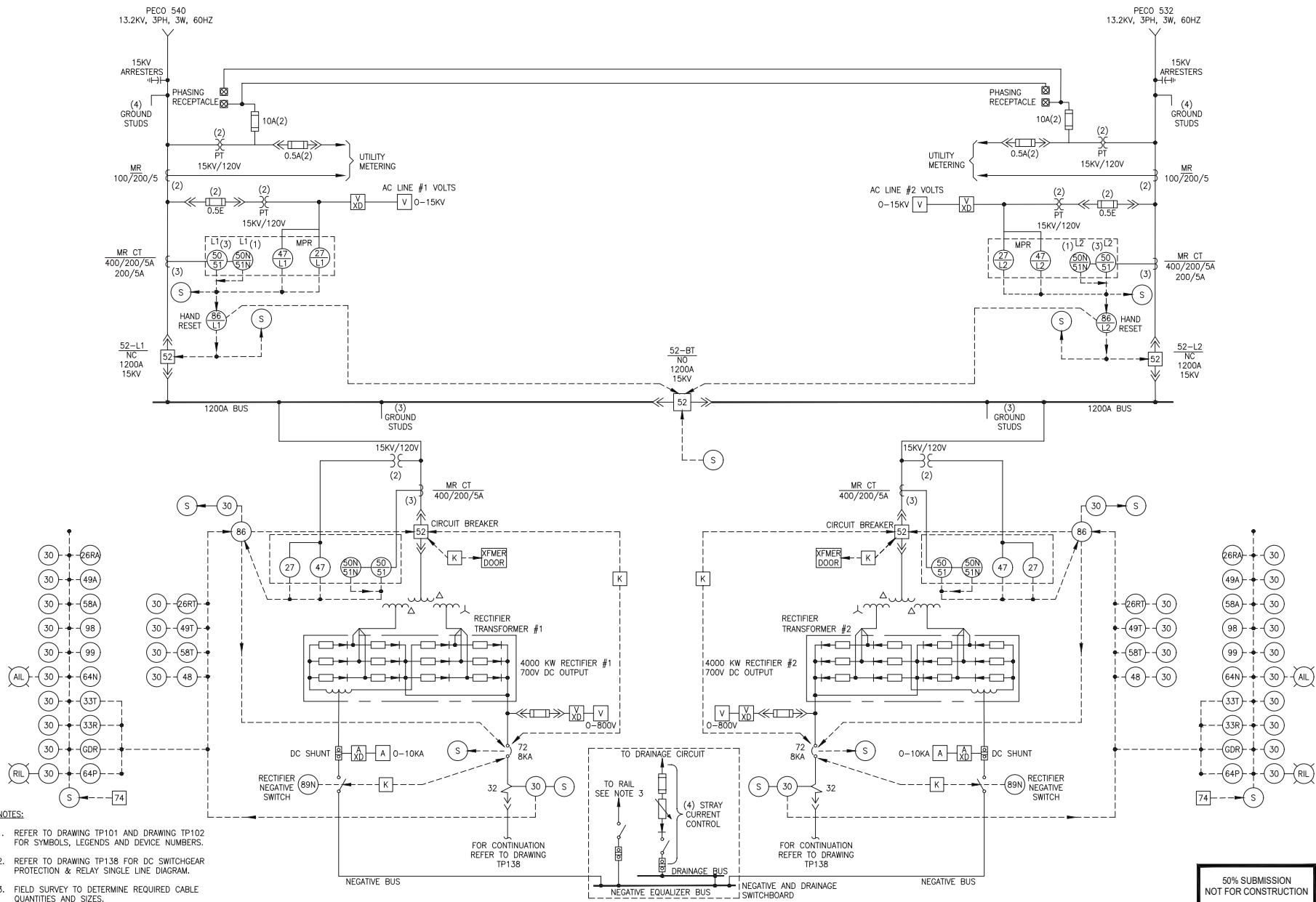
REV	DATE	DESCRIPTION	BY	APP

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
BATTERY & CONTROL DIAGRAM

SCALE: NTS
DATE: 08/22/2025
DRAWING NO.: 276491
SHEET NUMBER: TP134
SHEET NO.: 25 OF 34
SHEET NO.: 115 OF 452
ARCHIVE NO.: 17AN-TP134

STATUS: 50% SUBMISSION

CPW\WORKING\PT101\6948317AN-TP137.DWG



NOTES:

1. REFER TO DRAWING TP101 AND DRAWING TP102 FOR SYMBOLS, LEGENDS AND DEVICE NUMBERS.
2. REFER TO DRAWING TP138 FOR DC SWITCHGEAR PROTECTION & RELAY SINGLE LINE DIAGRAM.
3. FIELD SURVEY TO DETERMINE REQUIRED CABLE QUANTITIES AND SIZES.



1324 MARKET ST., 15TH FL.
PHILADELPHIA, PA. 19107

PROJECT NUMBER: 0401
DATE: 08/22/2025
PROJECT LOCATION: 276491
PROJECT DESCRIPTION: TP137

HDR Engineering, Inc.
Philadelphia, PA

REV	DATE	BY	CHK	APP	DESCRIPTION

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
PROTECTION & RELAY SINGLE LINE DIAGRAM - SHEET 1

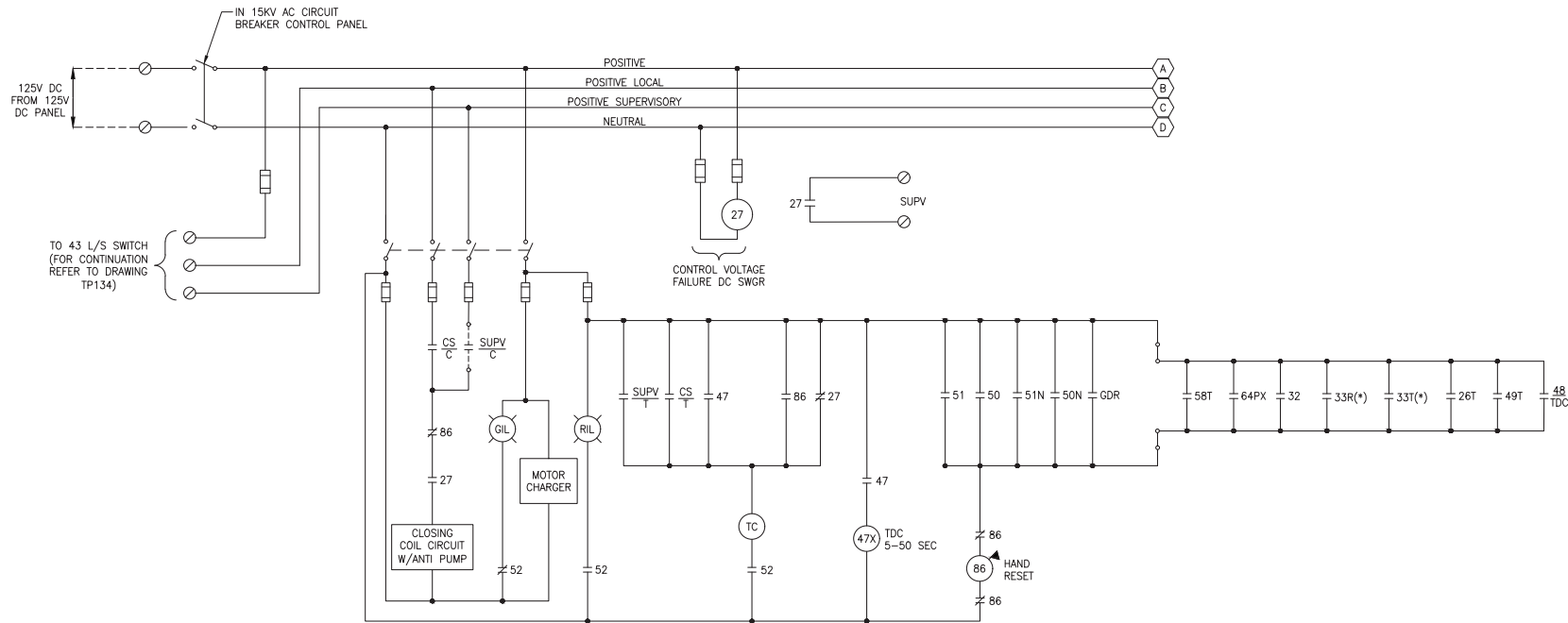
DATE: 08/22/2025
DRAWN BY: JH
CHECKED BY: JH
PROJECT NUMBER: 276491
PROJECT DESCRIPTION: TP137
DATE: 08/22/2025
DRAWN BY: JH
CHECKED BY: JH
PROJECT NUMBER: 276491
PROJECT DESCRIPTION: TP137

50% SUBMISSION
NOT FOR CONSTRUCTION

DATE PRINTED: 10/2/2025

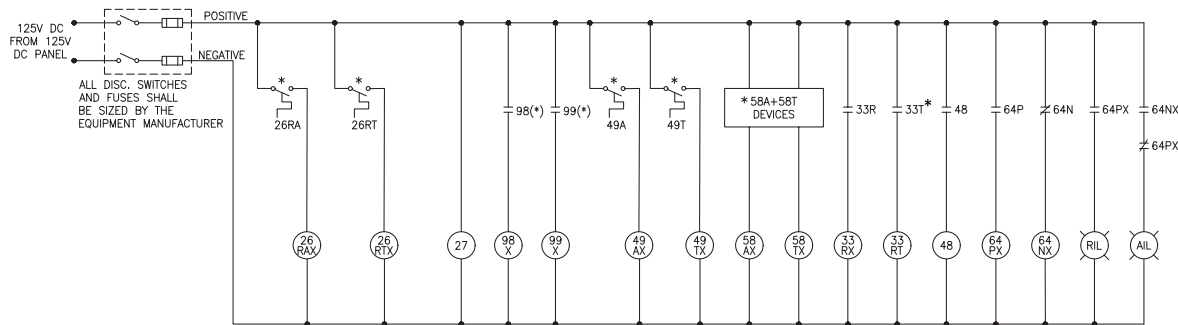
STATUS: 50% SUBMISSION

CP:\WORKING\BTTD\169483\17AN-TP140.DWG



* NUMBER OF DEVICES TO BE DETERMINED BY THE MANUFACTURER

1 52 AC CIRCUIT BREAKER CONTROL
TP140



* NUMBER OF DEVICES TO BE DETERMINED BY THE MANUFACTURER

2 RECTIFIER CONTROL
TP140

NOTES:

1. REFER TO DRAWING TP101 AND DRAWING TP102 FOR SYMBOLS, LEGENDS AND DEVICE NUMBERS.
2. THESE ARE TYPICAL CONTROL DIAGRAMS. THE CONTRACTOR SHALL DEVELOP THE DESIGN TO 100 PERCENT BASED ON SITE CONDITIONS.
3. THE CONTRACTOR SHALL ESTABLISH CURRENT TRANSFORMER AND POTENTIAL TRANSFORMER RATIOS TO MEET THE PROTECTIVE RELAYING REQUIREMENTS AND SHALL COORDINATE RELAYING WITH THE UTILITY COMPANY.
4. REFER TO DRAWING TP139 FOR ADDITIONAL CONTROL DIAGRAMS.

50% SUBMISSION
NOT FOR CONSTRUCTION



1324 MARKET ST., 15TH FL.
PHILADELPHIA, PA 19107

PREPARED BY: HDR
CHECKED BY: HDR
DESIGNED BY: HDR
DIRECTOR OF ENGINEERING: HDR
PROJECT MANAGER: HDR

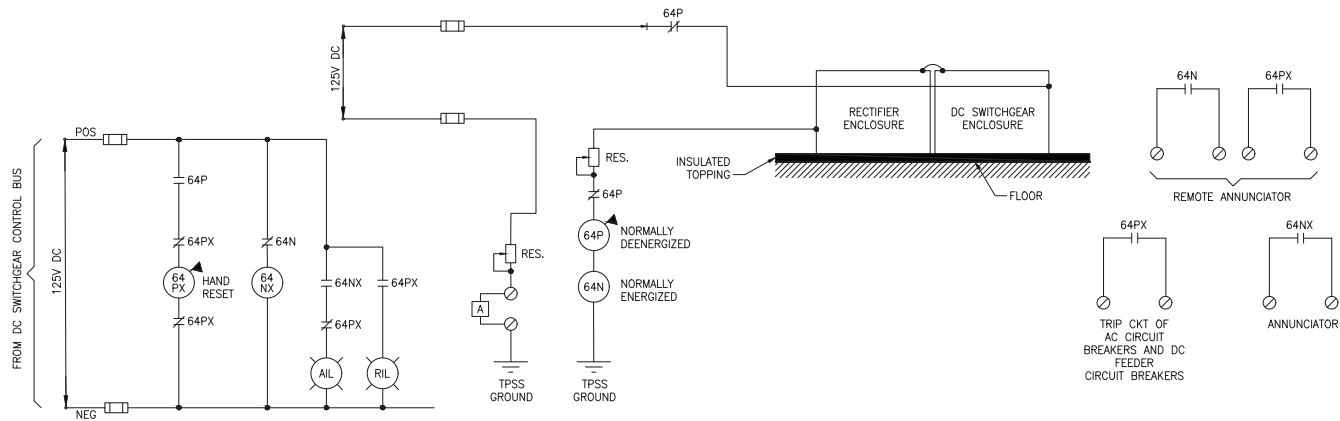
HDR Engineering, Inc.
Philadelphia, PA

REV	DATE	DESCRIPTION	BY	APP

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
DC RECTIFIER CONTROL SCHEMATIC

DATE: 08/22/2025
SCALE: 1/8" = 1'-0"
DRAWN BY: HDR
CHECKED BY: HDR
PROJECT NUMBER: 276491
SHEET NUMBER: TP140
SHEET TOTAL: 29 OF 34
APP. NO.: 119 OF 448
COMPUTER FILE NO.: 17AN-TP140

STATUS: 50% SUBMISSION



TP141 RECTIFIER AND DC SWITCHGEAR POTENTIAL MONITORING CIRCUIT (TYPICAL)

NOTES:

1. REFER TO DRAWING TP101 AND DRAWING TP102 FOR SYMBOLS, LEGENDS AND DEVICE NUMBERS.
2. THIS IS A TYPICAL DC GROUND FAULT PROTECTION SCHEME. THE CONTRACTOR SHALL DEVELOP THE DESIGN TO 100 PERCENT BASED ON SITE CONDITIONS.

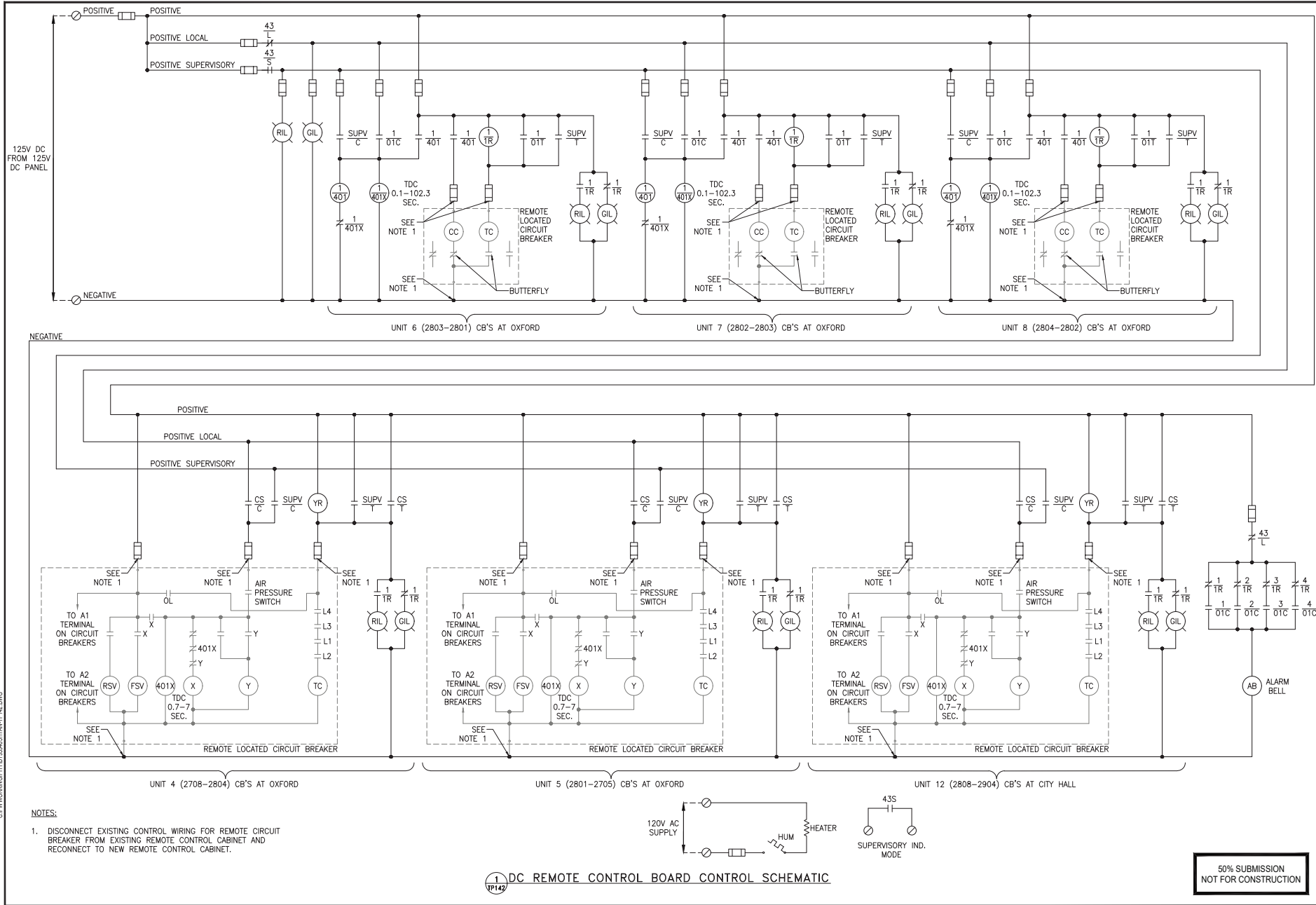
50% SUBMISSION
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	CHK	APP

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
DC GROUND FAULT PROTECTION SCHEME

DATE:	NTS	SCALE FACTOR:	1
DATE:	08/22/2025	DESIGNED BY:	DMC
PROJECT NUMBER:	276491	CONSTRUCTED BY:	DMC
DRAWING NUMBER:	TP141		
DATE:	30	OF	34
DATE:	120	OF	448
ARCHITECT NO.:			
COMPUTER FILE NO.:	17AN-141		
DATE:			

CPW\WORKING\PTTD\69483\17AN-TP142.DWG



1 DC REMOTE CONTROL BOARD CONTROL SCHEMATIC

50% SUBMISSION
NOT FOR CONSTRUCTION

1324 MARKET ST., 15TH FL.
PHILADELPHIA, PA. 19107

DATE	08/22/2025	BY	DDG	APP'D
REV	DATE	DESCRIPTION	BY	DDG

BROAD

SUBWAY/ELEVATED TRAINS

TRACTION POWER SUBSTATION

REHABILITATION

TRACTION POWER

DC REMOTE CONTROL BOARD CONTROL SCHEMATIC

DATE	08/22/2025	BY	DDG	APP'D
REV	DATE	DESCRIPTION	BY	DDG

TP142

DATE: 08/22/2025

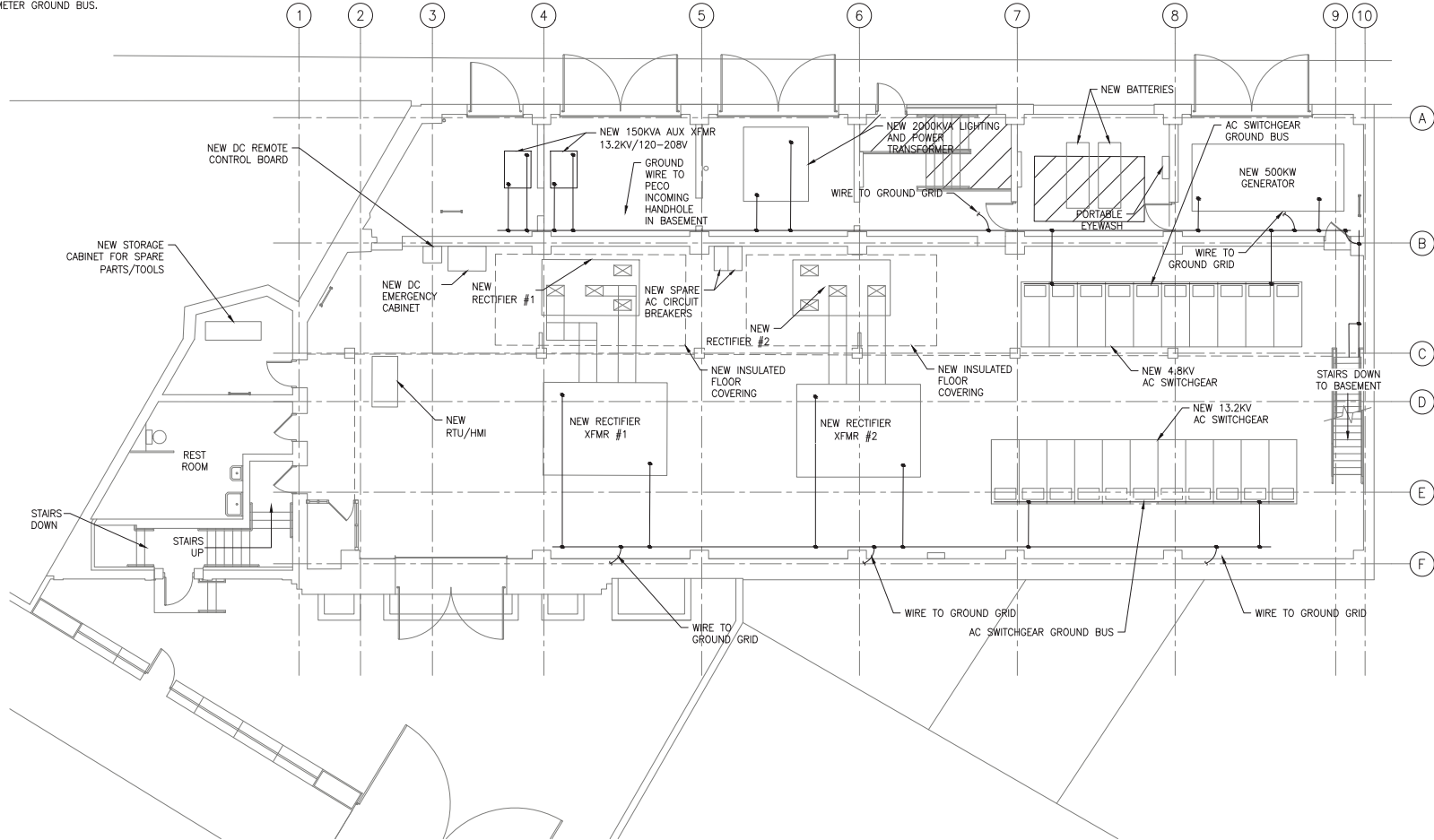
BY: DDG

APP'D: DDG

STATUS: 50% SUBMISSION

NOTES:

1. GROUND CABLES SHALL, IN GENERAL, RUN PARALLEL TO OR AT RIGHT ANGLES TO FLOORS, WALLS AND STRUCTURAL MEMBERS.
2. THIS DRAWING IS DIAGRAMMATIC ONLY. REFER TO SPECIFICATIONS FOR DETAIL.
3. GROUND CABLE PASSING THROUGH CONCRETE INTO EXPOSED AREAS SHALL BE PROTECTED AGAINST ABRASION AT POURED IN PLACE CONCRETE SLABS.
4. ALL ELECTRICAL PANELS, CABINETS, AND PULL BOXES (EXCEPT RECTIFIERS AND DC SWITCHGEAR) SHALL BE CONNECTED TO SUBSTATION'S PERIMETER GROUND BUS.



6 3 0 6
SCALE: 1"=6'

50% SUBMISSION
NOT FOR CONSTRUCTION



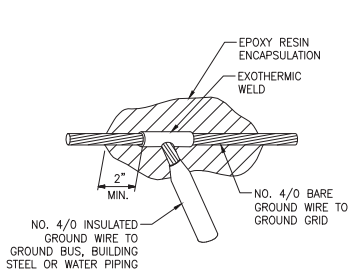
PROJECT NUMBER: _____
DATE: _____
BY: _____
CHECKED BY: _____
APPROVED BY: _____
PROJECT MANAGER: _____

HDR
HDR Engineering, Inc.
Philadelphia, PA

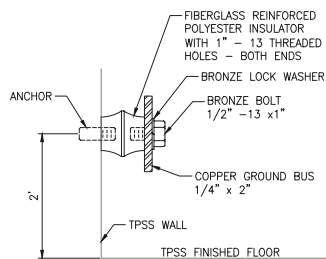
REV	DATE	DESCRIPTION	BY	CHKD	APPD

BROAD BRANCH
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
GROUNDING PLAN

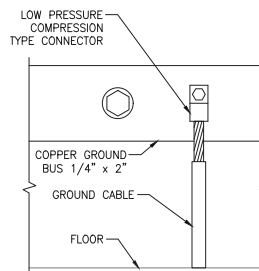
DATE: AS SHOWN
SCALE: 1:1
DATE: 08/22/2025
DRAWN BY: TL
CHECKED BY: HL
PROJECT NUMBER: 276491
SHEET NUMBER: **TP145**
SHEET TOTAL: 33 OF 34
SHEET TOTAL: 122 OF 448
COMPUTER FILE NO.: 17AN-TP145
DATE: _____
STATUS: 50% SUBMISSION



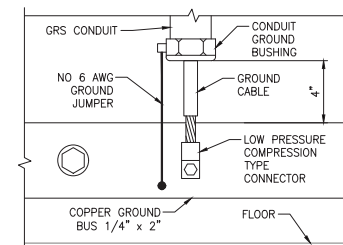
1 GROUND GRID EXOTHERMIC WELD
CONNECTION WITH MOISTURE SEAL
SCALE: NONE



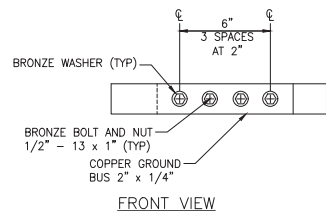
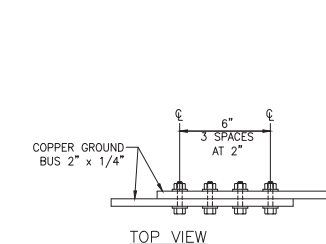
2 GROUND BUS MOUNTING
SCALE: NONE



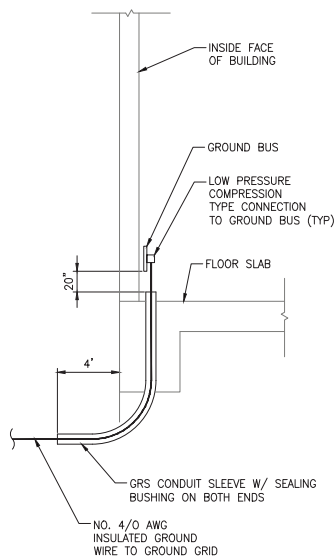
3 GROUND BUS CONNECTION FOR CAST IN
CONCRETE SLAB GROUND WIRE AT AC
SWITCHGEAR, RECTIFIER TRANSFORMER
SCALE: NONE



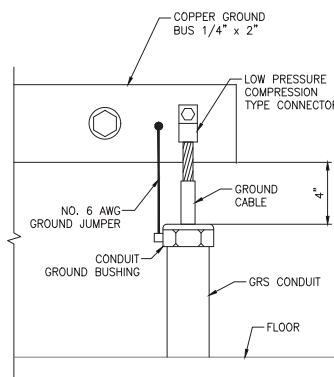
4 GROUND BUS CONNECTION IN EXPOSED GRS
CONDUIT FOR EQUIPMENT GROUNDING
SCALE: NONE



5 GROUND BUS SPLICE JOINT
SCALE: NONE



6 GROUND WIRE ROUTING FROM
GROUND GRID TO GROUND BUS
SCALE: NONE



7 GROUND BUS CONNECTIONS
FROM GROUND GRID
SCALE: NONE

NO.	DESCRIPTION	BY	CHKD	APPD

**BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
TRACTION POWER
GROUNDING DETAILS**

PROJECT:	SCALE:
NTS	-
DATE:	DRAWN BY:
08/22/2025	DMC
WORK ORDER NO:	CHECKED BY:
276491	NA
SHEET NUMBER:	
TP146	
DWG NO:	OF
34	34
SHT NO:	OF
123	448
REVISION NO:	
COMPUTER FILE NO:	REV. NO:
17AN-TP146	-

50% SUBMISSION
NOT FOR CONSTRUCTION

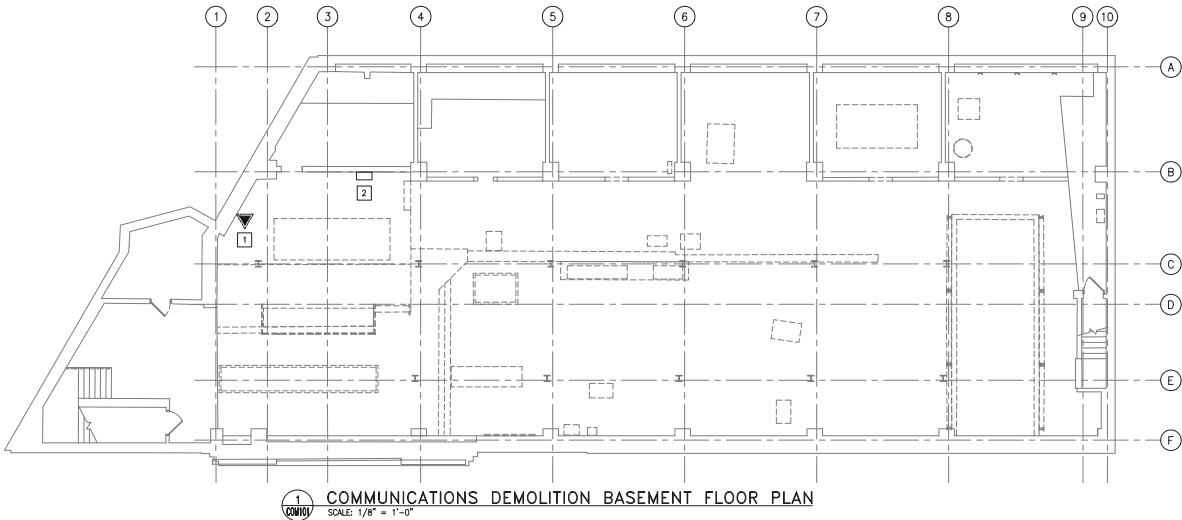
C:\WORKING\PTD\16808817\17AN\COM101.DWG

GENERAL NOTES:

1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS REFER TO DRAWING COM100.
2. REMOVE ALL CONDUITS, CABLES, STATION JACKS AND BOXES RELATED TO TELECOMMUNICATIONS TO SOURCE.
3. DISCARD ALL REMOVED EQUIPMENT.

KEYED NOTES:

- 1 REMOVE PHONE, CABLE AND ASSOCIATED APPURTENANCES TO SOURCE.
- 2 EXISTING FIBER OPTIC CABLE SPLICE ENCLOSURE TO REMAIN.



1 COMMUNICATIONS DEMOLITION BASEMENT FLOOR PLAN
SCALE: 1/8" = 1'-0"

8 6 4 2 0 8
SCALE: 1/8"=1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION

1201 MARKET ST., 15TH FL.
PHILADELPHIA, PA 19107

SEPTA PROJECT: _____

SEPTA ENGINEERING OFFICE: _____

SEPTA RAIL PROJECT OFFICE: _____

DESIGNER: _____

DIRECTOR OF ENGINEERING: _____

BRANCH: _____

PROJECT MANAGER: _____

HDR Engineering, Inc.
Philadelphia, PA

REV	DATE	DESCRIPTION	BY	CHKD	APPD

BROAD

SUBWAY/ELEVATED TRAINS

TRACTION POWER SUBSTATION

REHABILITATION

COMMUNICATIONS

DEMOLITION BASEMENT FLOOR PLAN

SCALE

AS SHOWN

DATE

08/22/2025

WORK ORDER NO.

276491

SHEET NUMBER

COM101

DWG NO.

2

OF

8

SHT NO.

125

OF

452

PROJECT NO.

COMPUTER FILED:

17AN-COM101

REV

1

DATE

DATE PRINTED: 10/21/2025

STATUS: 50% SUBMISSION

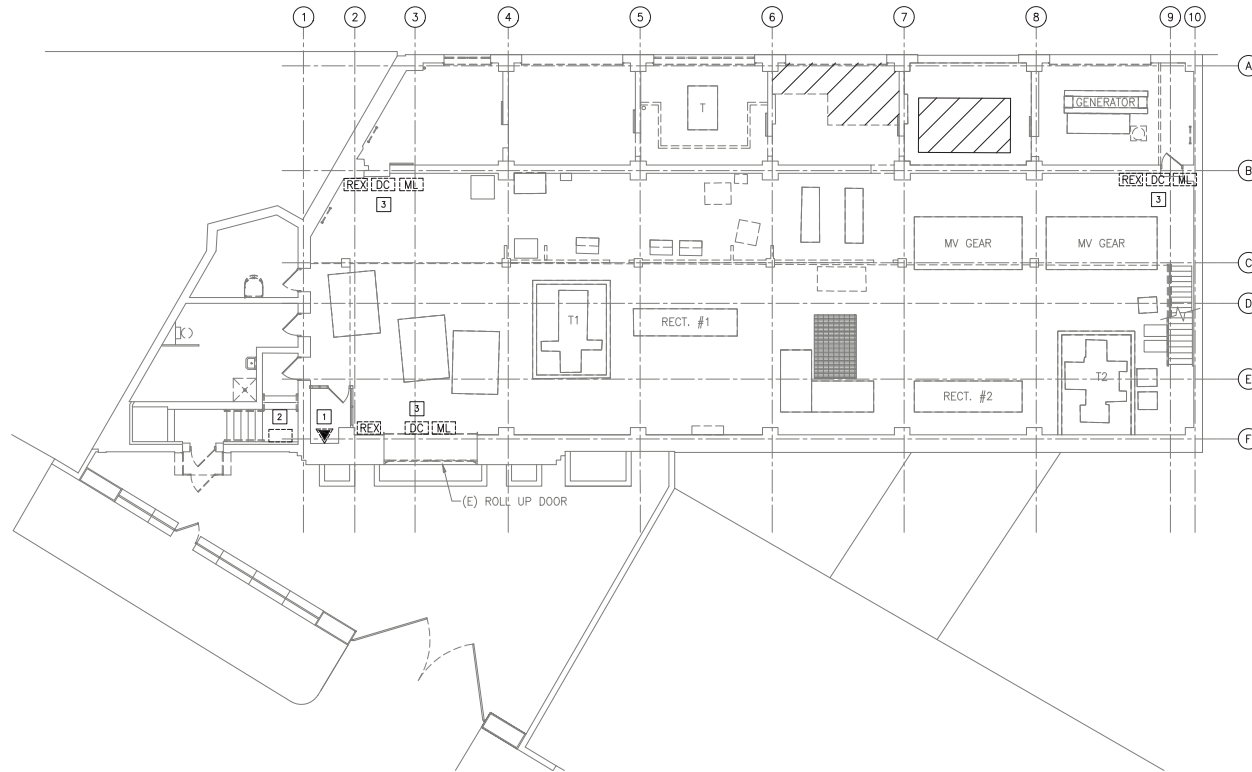
C:\WORKING\PTD\16808817\17AN-COM102.DWG

GENERAL NOTES:

1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS REFER TO DRAWING COM100.
2. REMOVE ALL CONDUITS, CABLES, STATION JACKS AND BOXES RELATED TO TELECOMMUNICATIONS TO SOURCE.
3. DISCARD ALL REMOVED EQUIPMENT.

KEYED NOTES:

- 1 REMOVE PHONE, CABLE AND ASSOCIATED APPURTENANCES TO SOURCE.
- 2 EXISTING DOOR INTRUSION ALARM PANEL AND ASSOCIATED EQUIPMENT AND WIRING TO BE REMOVED.
- 3 REMOVE DOOR CONTACT, CONDUIT AND WIRING BACK TO SOURCE.



1 COMMUNICATIONS DEMOLITION FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"

8 6 4 2 0 8

SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



PROJECT NUMBER: 16808817
PROJECT LOCATION: 1325 MARKET ST., 10TH FL., PHILADELPHIA, PA 19107
PROJECT OWNER: SEPTA
PROJECT MANAGER: [Blank]
DATE: 08/22/2025
DRAWN BY: [Blank]
CHECKED BY: [Blank]
SCALE: 1/8" = 1'-0"

HDR
HDR Engineering, Inc.
Philadelphia, PA



REV	DATE	DESCRIPTION	BY	CHKD	APPD

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
COMMUNICATIONS
DEMOLITION FIRST FLOOR PLAN

SCALE: AS SHOWN
DATE: 08/22/2025
DRAWN BY: [Blank]
CHECKED BY: [Blank]
SCALE: 1/8" = 1'-0"

COM102

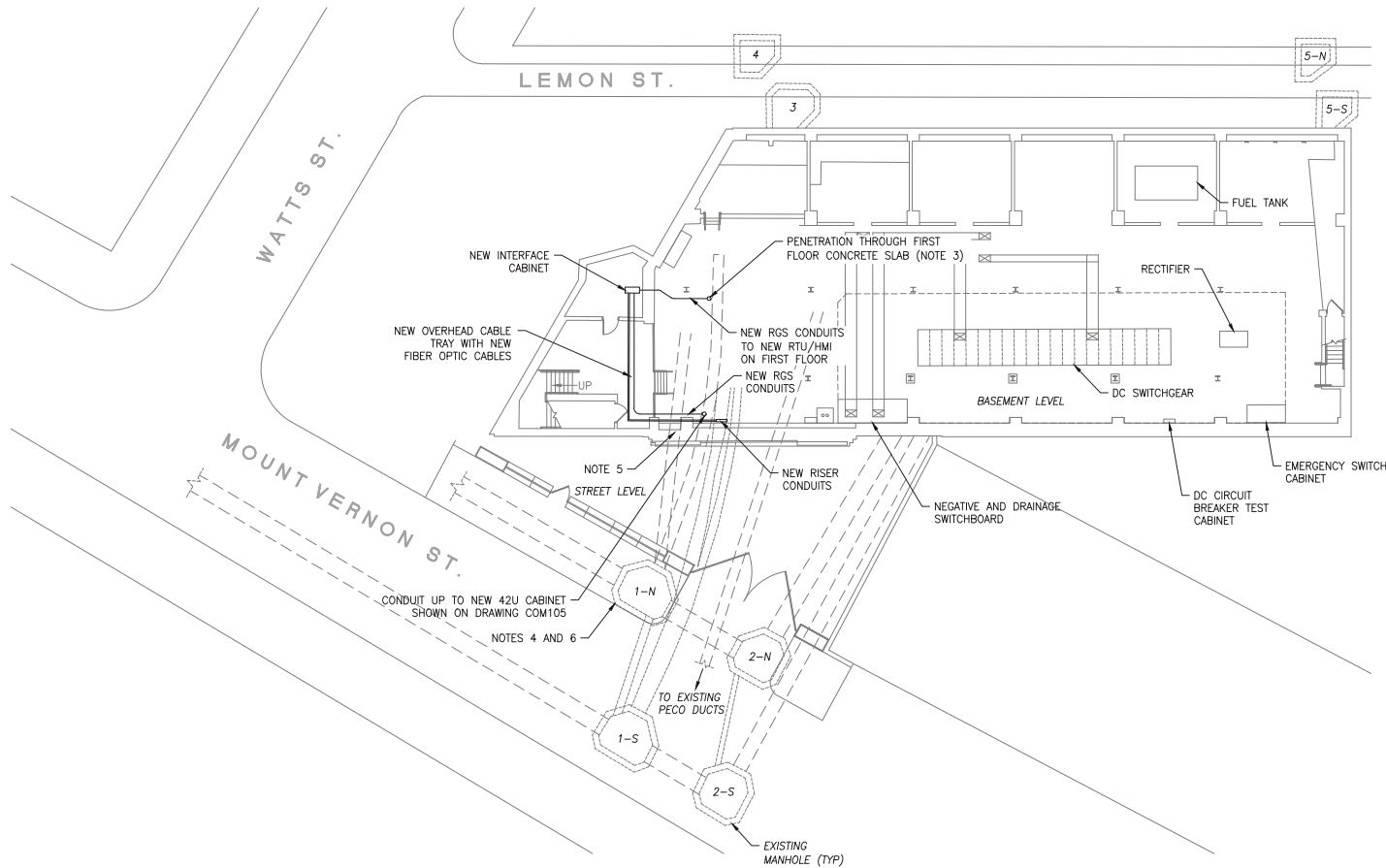
SCALE: 1/8" = 1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION

COMPUTER FILE: 17AN-COM102

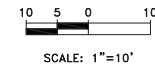
STATUS: 50% SUBMISSION

C:\PWORKING\PTT\168808017\AN-COM103.DWG



NOTES:

1. GRAYSCALE ITEMS ON THIS DRAWING TO REMAIN.
2. BOLD ITEMS ON THIS DRAWING ARE NEW.
3. REFER TO DRAWING TP120 FOR LOCATION OF NEW RTU/HMI ON FIRST FLOOR.
4. INSPECT EXISTING MANHOLES WITH SEPTA SUPERVISION AND DETERMINE EXACT COMMUNICATION CABLE PATHS INTO THE BUILDING.
5. REMOVE EXISTING COMMUNICATION CABLES, CONDUITS AND EQUIPMENT ONCE NEW PRODUCTS ARE INSTALLED AND TESTED AS FUNCTIONAL. PULL INTO THE TPSS NEW FIBER OPTIC CABLE (BY SEPTA) FROM AN EXISTING MANHOLE OFF MT. VERNON STREET.
6. REFER TO CITY OF PHILADELPHIA REFERENCE DRAWINGS: CONTRACT NO. 224 SHEET 25803, CONTRACT NO 147 SHEETS 23187, 23206, AND 23207.
7. REMOVE FROM THE TPSS EACH INDIVIDUAL ABANDONED COMMUNICATION CABLE OUT TO MANHOLES 1-N, 1-S, 2-N, 2-S IN COORDINATION WITH EXISTING TPSS EQUIPMENT REMOVALS.



50% SUBMISSION
NOT FOR CONSTRUCTION

 HDR Engineering, Inc. 1336 MARKET ST., 15TH FL. PHILADELPHIA, PA 19107	
PROJECT NUMBER:	
PROJECT ENGINEER:	
PROJECT ENGINEER (OFFICE):	
PROJECT MANAGER:	
PROJECT SAFETY:	
DIRECTOR OF ENGINEERING:	
BRANCH:	
PROJECT MANAGER:	

 HDR Engineering, Inc. Philadelphia, PA	
--	--

REV	DATE	DESCRIPTION	BY	CHKD	APPD

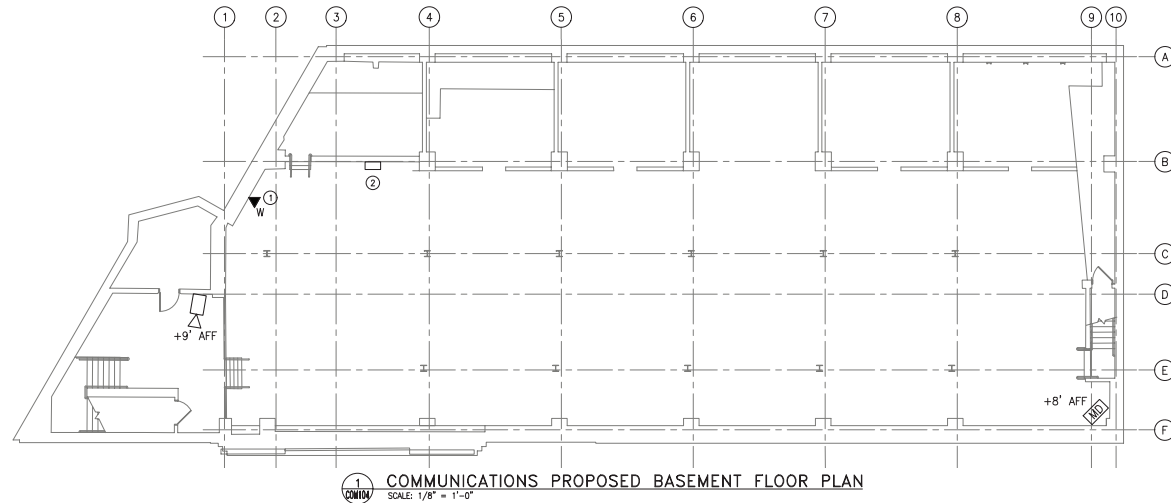
BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
COMMUNICATIONS
INTERFACE CABINET & CABLE PLANS

NOTES		SCALE FACTOR	
AS SHOWN		-	
DATE	08/22/2025	DRAWN BY	MLB
WORK ORDER NO.	276491	CHECKED BY	ML
SHEET NUMBER		COM103	
DESIGN NO.	4	OF	8
REV NO.	127	OF	452
PROJECT NO.			
COMPUTER FILE NO.	17AN-COM103		
REV NO.			

DATE PRINTED: 10/21/2025
STATUS: 50% SUBMISSION

1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS REFER TO DRAWING COM100.
2. COORDINATE ALL FINAL LOCATIONS, MOUNTING HEIGHTS AND DETAILS, EQUIPMENT QUANTITIES WITH SEPTA C&S. ENSURE CAMERA LINE OF SIGHT.

- ① NEW TELEPHONE SHALL UTILIZE THE EXISTING INCOMING SERVICE CONNECTION. ALL CABLE SHALL BE IN MINIMUM 3/4" RGS CONDUIT. INSTALL (N) CAT6 CABLE TO (N) TERMINATION 110 BLOCK IN (N) COMMUNICATIONS CABINET.
- ② EXISTING FIBER OPTIC CABLE SPLICE ENCLOSURE.



1 COMMUNICATIONS PROPOSED BASEMENT FLOOR PLAN
CONTINUED SCALE: 1/8" = 1'-0"

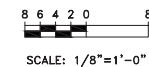
SCALE: $1/8" = 1'-0"$

50% SUBMISSION
NOT FOR CONSTRUCTION

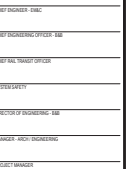
1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS REFER TO DRAWING COM100.
2. COORDINATE ALL FINAL LOCATIONS, MOUNTING HEIGHTS AND DETAILS, EQUIPMENT QUANTITIES WITH SEPTA C&S. ENSURE CAMERA LINE OF SIGHT.

- ① INTRUSION DETECTION PANEL. ALL COMPONENT CABLEING SHALL BE IN MINIMUM OF 3/4" RGS CONDUIT. PROGRAM SYSTEM PER SPECIFICATION 13700.
- ② ALL AUDIO VISUAL STROBES SHALL ALARM AFTER 60 SECONDS IF ANY OF THE DOOR CONTACTS ARE BROKEN AND THE ALARM IS NOT DISARMED AND THE PANEL SHALL AUTOMATICALLY SIGNAL THE SEPTA MONITORING STATION VIA THE RTU CONNECTION.
- ③ FURNISH AND INSTALL A 12 POSITION TERMINAL BLOCK HOUSED IN A LOCKABLE 8" X 8" X 4" NEMA 3R ENCLOSURE. EXTEND SIGNAL CABLE FROM THE IDS PANEL AND TERMINATE ON TERMINAL BLOCK FOR IDS MONITORING. COORDINATE FINAL CONNECTION TO THE RTU.
- ④ CCTV CAMERA SHALL BE MOUNTED TO THE BUILDING FACADE 15 FEET ABOVE FINISHED GRADE TO MONITOR ENTRANCE. TWO (2) CAT6 CABLES IN 1" RGS CONDUIT SHALL BE ROUTED TO SURGE PROTECTOR DEVICES BEFORE LANDING ON THE NEW PATCH PANEL LOCATED IN EQUIPMENT CABINET. CABLE TYPE SHALL BE CMX OUTDOOR RATED.

- 5) NEW TELEPHONE SHALL UTILIZE THE EXISTING INCOMING SERVICE CONNECTION. ALL CABLE SHALL BE IN MINIMUM 3/4" RGS CONDUIT. INSTALL (N) CAT6 CABLE TO (N) TERMINATION 110 BLOCK IN (N) COMMUNICATIONS CABINET.
- 6) FURNISH AND INSTALL NEW 42U, LOCKABLE CABINET. FURNISH AND INSTALL FOLLOWING COMPONENTS PER SPECIFICATION:
1. CCTV LCD/KEYBOARD CONSOLE.
 2. RIGID PC.
 3. LIGHTNING PROTECTION.
 4. 110 TELEPHONE BLOCK.
 5. CAT6 PATCH PANEL.
 6. SHELF MOUNTED MEDIA CONVERTER.
 7. 2200VA UPS.
- COORDINATE FINAL EQUIPMENT LIST WITH SEPTA C&S.
- 7) RTU/HMI. REFER TO TRACTION POWER DRAWINGS FOR DETAILED DRAWINGS.



50% SUBMISSION
NOT FOR CONSTRUCTION

[illegible]

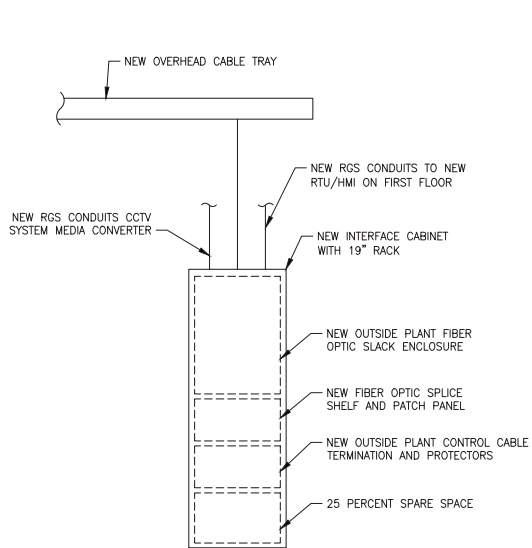
DATE PRINTED: 10/21/2025

BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
COMMUNICATIONS
PROPOSED FIRST FLOOR PLAN

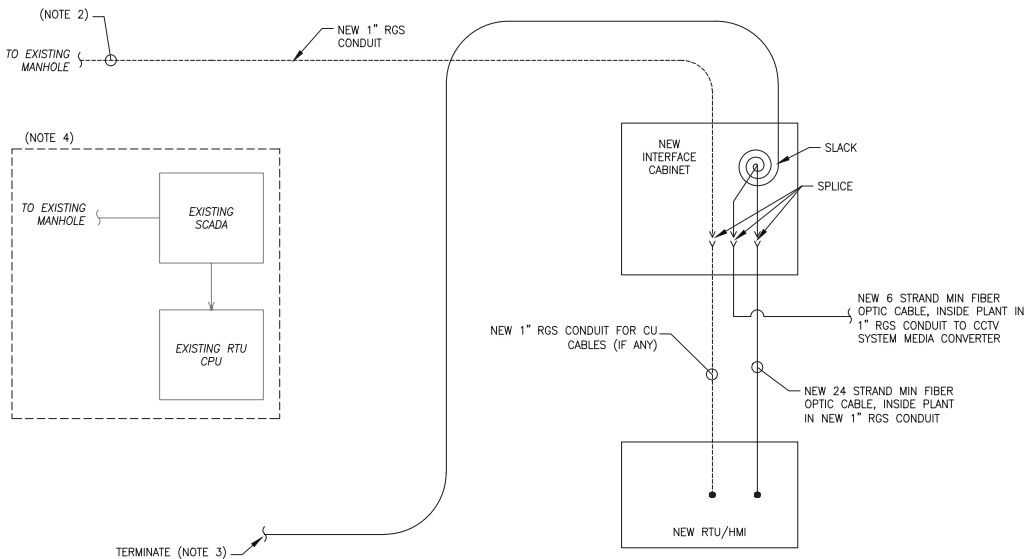
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AS SHOWN	1:1
DATE	DRAWN BY: GC
08/22/2025	CHECKED BY: GH
WORK ORDER NO.	
276491	
KEY NUMBER	
COM105	
WG. NO.	OF
6	8
HT. NO.	OF
129	452
REVIEW NO.	
COMPUTER FILE NO.	REV. NO.
7AN-COM105	----

STATUS: 50% SUBMISSION

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1
COM107
COMM/INTERFACE CABINETS DETAIL
ELEVATION VIEW
N.T.S.



2
COM107
FIBER NODE DIAGRAM
N.T.S.

NOTES:

1. CABINET ARRANGEMENT TO BE FRONT ACCESS ONLY FOR ENCLOSED TIA/EIA 19" RACK.
2. THE CONTRACTOR TO INSTALL NEW CONTROL CABLE FROM AN EXISTING MANHOLE ON MT. VERNON STREET TO NEW INTERFACE CABINET.
3. THE CONTRACTOR TO TRANSFER OVER FROM EXISTING FIBER TO NEW CONTROL ROOM.
4. REMOVE EXISTING COMMUNICATION CABLES, CONDUITS AND EQUIPMENT ONCE NEW PRODUCTS ARE INSTALLED AND TESTED AS FUNCTIONAL.
5. BOLD ITEMS ON THIS DRAWING ARE NEW.
6. GRAYSCALE ITEMS ON THIS DRAWING TO REMAIN.



PROJECT NUMBER: 276491
PROJECT ENGINEER: [REDACTED]
SECT. ENG. TARGET OFFICE: [REDACTED]
DESIGN OFFICE: [REDACTED]
DIRECTOR OF ENGINEERING: [REDACTED]
BRIDGE: ARCH. ENGINEERING
PROJECT MANAGER: [REDACTED]

HDR
HDR Engineering, Inc.
Philadelphia, PA

REV	DATE	DESCRIPTION	BY	CHKD	APPD

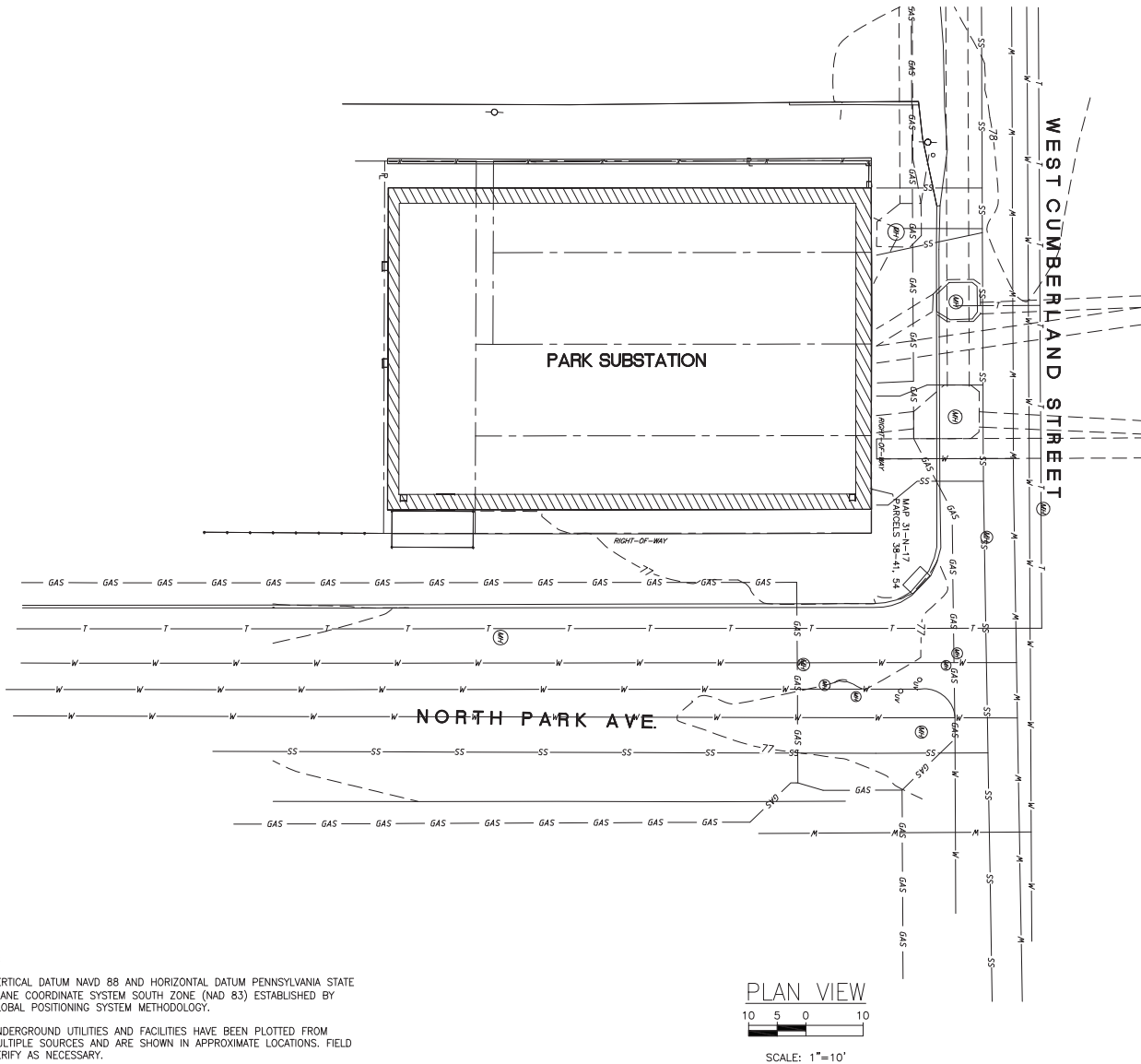
BROAD
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
COMMUNICATIONS
FIBER NODE DIAGRAM

PROJECT: NTS	SCALE FACTOR: 1
DATE: 08/22/2025	DRAWN BY: [REDACTED]
WORK ORDER NO: 276491	CHECKED BY: [REDACTED]
COM107	
DESIGN NO: 8	REV: 8
REV NO: 131	REV: 452
PROJECT NO:	
COMPUTER FILE NO: 17AN-COM107	REV: [REDACTED]

50% SUBMISSION
NOT FOR CONSTRUCTION

DATE PRINTED: 10/21/2025
STATUS: 50% SUBMISSION

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NOTES:

1. VERTICAL DATUM NAVD 88 AND HORIZONTAL DATUM PENNSYLVANIA STATE PLANE COORDINATE SYSTEM SOUTH ZONE (NAD 83) ESTABLISHED BY GLOBAL POSITIONING SYSTEM METHODOLOGY.
2. UNDERGROUND UTILITIES AND FACILITIES HAVE BEEN PLOTTED FROM MULTIPLE SOURCES AND ARE SHOWN IN APPROXIMATE LOCATIONS. FIELD VERIFY AS NECESSARY.
3. PROPERTY LINE INFORMATION HEREON SHOULD BE CONSIDERED APPROXIMATE AND IS SHOWN FOR INFORMATION ONLY, BASED ON THE PHILADELPHIA DEPARTMENT OF RECORDS TAX MAP 31-N-17.

PLAN VIEW
10 5 0 10
SCALE: 1"=10'

LEGEND:

- W — EXISTING WATER LINE
- EU — EXISTING UNDERGROUND ELECTRIC
- GAS — EXISTING GAS LINE
- T — EXISTING UNDERGROUND COMMUNICATIONS
- — — EXISTING DUCT BANK
- SS — EXISTING SANITARY SEWER
- x — EXISTING FENCE
- PL — PROPERTY LINE
- (MH) — EXISTING MANHOLE



CALL BEFORE YOU DIG
PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS
NOTICE FOR CONSTRUCTION PHASE AND 10
WORKING DAYS IN DESIGN STAGE - STOP
CALL 1-800-242-1776
WWW.PA1CALL.ORG
DESIGN # 2016 342 1682
CONSTRUCTION #

50% SUBMISSION
NOT FOR CONSTRUCTION



DIST PROJECT: 0000
DIST ENGINEERING OFFICE: 000
DIST BUL. PROJECT: 0000
UNIVERSITY:
DIRECTOR OF ENGINEERING: 000
BRANCH: 000-000000
PROJECT NUMBER:

HDR Engineering, Inc.
Philadelphia, PA

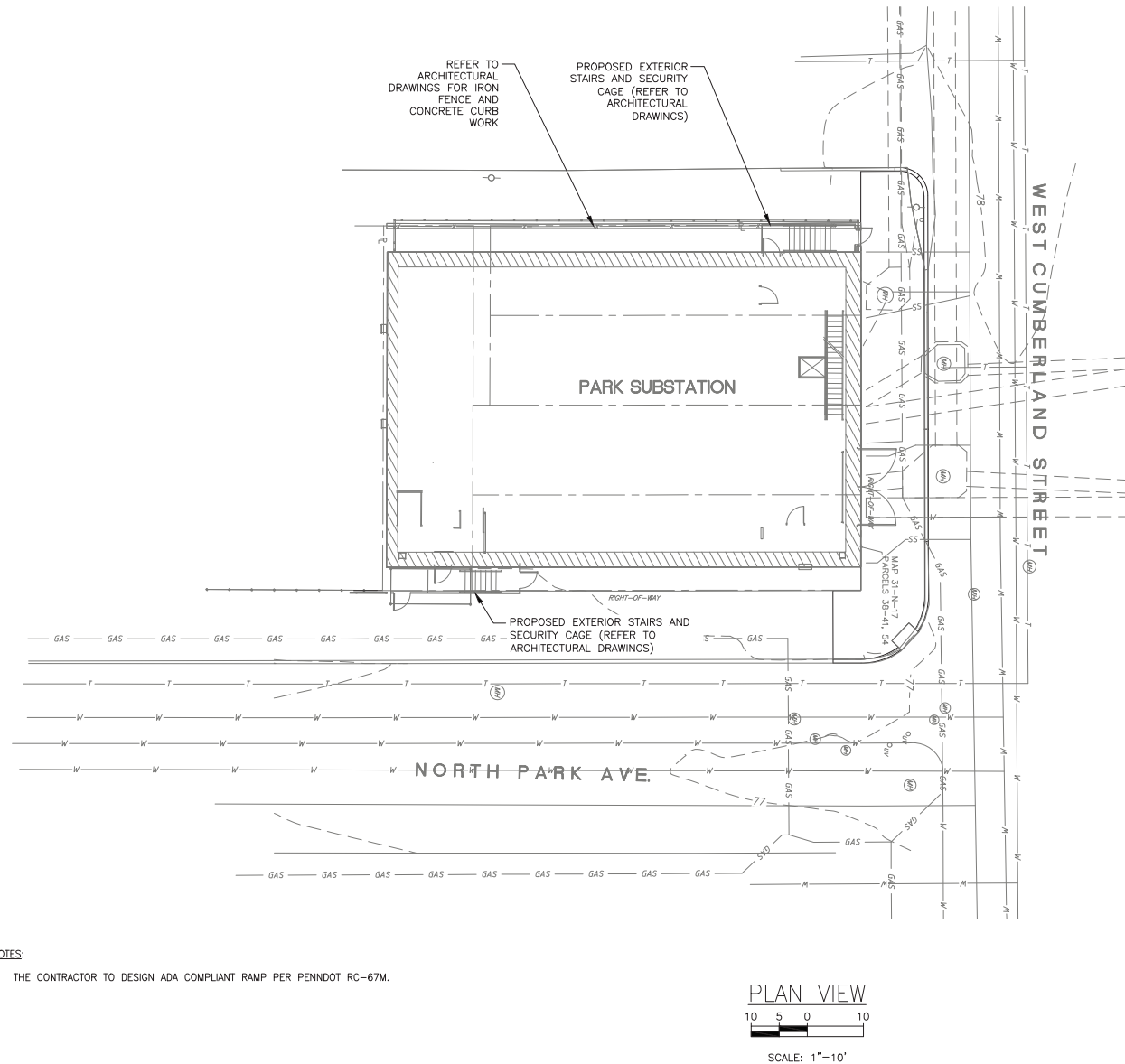
REV	DATE	DESCRIPTION	BY	CHKD	APPD

PARK
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
CIVIL
EXISTING CONDITIONS

SCALE: AS SHOWN	SCALE: 1"=10'
DATE: 08/22/2025	DRAWN BY: ARL
WORK ORDER NO: 276482	CHECKED BY: ARL
SHEET NUMBER: C200	
DWG NO: 1	SHEET NO: 3
SHT NO: 132	OF 452
PROJECT NO:	
COMPUTER FILE NO: 17AN-C200	REV: 0

DATE PRINTED: 10/21/2025

STATUS: 50% SUBMISSION



NOTES:

1. THE CONTRACTOR TO DESIGN ADA COMPLIANT RAMP PER PENNDOT RC-67M.



CALL BEFORE YOU DIG
 PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS
 NOTICE FOR CONSTRUCTION PHASE AND 10
 WORKING DAYS IN DESIGN STAGE - STOP
 CALL 1-800-242-1776
 WWW.PA1CALL.ORG
 DESIGN # 2016 342 1682
 CONSTRUCTION #

LEGEND:

— W —	EXISTING WATER LINE
— EU —	EXISTING UNDERGROUND ELECTRIC
— E —	EXISTING OVERHEAD ELECTRIC
— T —	EXISTING UNDERGROUND COMMUNICATIONS
— — — — —	EXISTING DUCT BANK
— SS —	EXISTING SANITARY/SEWER
— X —	EXISTING FENCE
— PL —	PROPERTY LINE
⊙	EXISTING MANHOLE
■	PROPOSED CONCRETE SIDEWALK REPLACEMENT

50% SUBMISSION
 NOT FOR CONSTRUCTION

DEPT PROJECT: 0000
 DEPT ENGINEERING/SECTION: 000
 DEPT RAIL TRAFFIC/SECTION: 000
 UNIVERSITY:
 DIRECTOR OF ENGINEERING: 000
 MANAGER: 000/ENGINEERING
 PROJECT MANAGER:

HDR
 HDR Engineering, Inc.
 Philadelphia, PA

REV	DATE	DESCRIPTION	BY	CHKD	APPD

PARK
 SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
CIVIL
 SITE PLAN

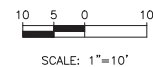
SCALE: AS SHOWN	SCALE FACTOR: -
DATE: 08/22/2025	DRAWN BY: HRS
WORK ORDER NO: 276482	CHECKED BY: HRS
SHEET NUMBER: C201	
DWG NO: 2	OF 3
SHT NO: 133	OF 452
PROJECT NO:	
COMPUTER FILE NO: 17AN-C201	REV: 001



N.T.S.



1. 8 PERCENT MAXIMUM CHANGE IN GRADE BETWEEN ROAD SURFACE AND DRIVEWAY.
2. REFER TO CITY OF PHILADELPHIA DEPARTMENT OF STREETS STANDARD DRIVEWAY DETAIL SC0105 AND PENNDOT RC-67M.
3. MAINTAIN A 6' WALKING ZONE WITH CROSS SLOPE NOT TO EXCEED 2 PERCENT.
4. MAINTAIN A MINIMUM CURB REVEAL OF 4".



50% SUBMISSION
NOT FOR CONSTRUCTION



The diagram illustrates the cross-section of a sidewalk and its connection to a street. Key components and dimensions include:

- 2" GUTTER:** The depth of the gutter on the street side.
- APRON:** The section of the sidewalk directly adjacent to the gutter.
- SIDEWALK:** The main body of the sidewalk.
- MAXIMUM 2% GRADE:** The slope of the sidewalk surface.
- LIGHT DUTY 6":** The thickness of the concrete layer for light-duty use.
- HEAVY DUTY 8":** The thickness of the concrete layer for heavy-duty use.

DRIVEWAY AND DEPRESSED CURB
N.T.S.

[illegible]

50% SUBMISSION
NOT FOR CONSTRUCTION

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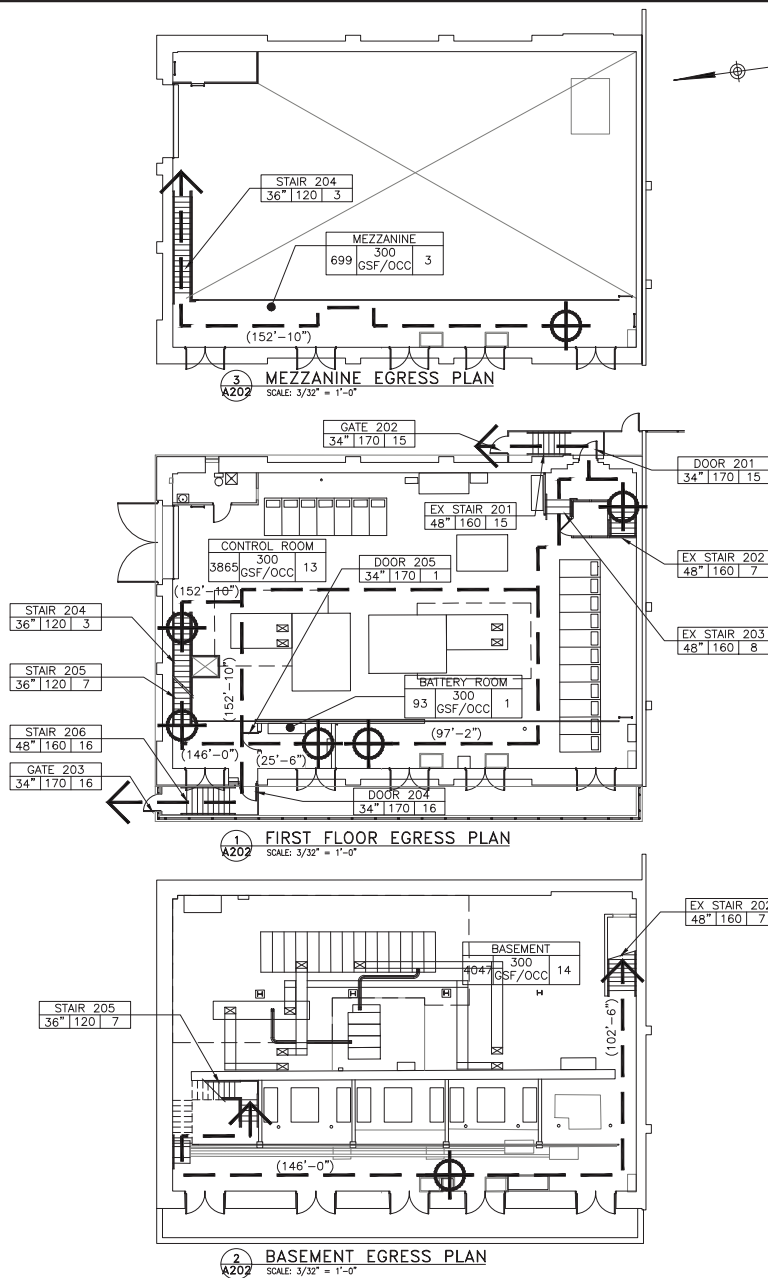
ABBREVIATIONS:

ABV	ABOVE	ELEV	ELEVATION	MH	MAN HOLE	SHY	SHEET
A/C	AIR CONDITIONING	ELEV	ELEVATOR	MID	MEDIA INFORMATION DISPLAY	SI	INTERNATIONAL SYSTEM OF UNITS
ACST	ACOUSTIC	ELEC	ELECTRIC/ELECTRICAL	ML	MILITARY	SM	SIMILAR
ADOL	ADDITIONAL	EMER	EMERGENCY	MIN	MINIMUM	SKY	SKYLIGHT
ADA	AMERICANS WITH DISABILITIES ACT	ENCL	ENCLOSURE	MISC	MISCELLANEOUS	SLDR	SLIDING DOOR
ADJ	ADJACENT	ENG	ENGINEER	ML	METAL LATH	SMLS	SEAMLESS
AFF	ABOVE FINISHED FLOOR	ENT	ENTRANCE	MLDG	MOLDING	SPEC	SPECIFICATION
AGGR	AGGREGATE	EQ	EQUAL	MLP	METAL LATH AND PLASTER	SPKLR	SPRINKLER
ALUM	ALUMINUM	EQUIP	EQUIPMENT	MO	MASONRY OPENING	SPKR	SPEAKER
ALT	ALTERNATE	ETC	ET CETERA	MOD	MODULAR	SQ	SQUARE
ANOD	ANODIZED	EW	ELECTRIC WATER COOLER	MOD	MOTOR OPERATED DAMPER	SS	STAINLESS STEEL
APPROX	APPROXIMATELY	EXH	EXHAUST	MRL	MACHINE ROOM LESS ELEVATOR	ST	STORY
ARCH	ARCHITECTURAL	EX	EXISTING	MTG	MOUNTING	ST	STREET
ASB	ASBESTOS	EXIST	EXISTING	MTL	METAL	STD	STANDARD
ASPH	ASPHALT	EXP	EXPANSION	N	NORTH	STOR	STORAGE
ASPHRS	ASPHALT ROOF SHINGLES	EXT	EXTERIOR	N/A	NOT APPLICABLE	STL	STEEL
ASSN	ASSOCIATION	FAB	FABRICATE	N.I.C.	NOT IN CONTRACT	STRUCT	STRUCTURAL
ASST	ASSISTANT	FBD	FIBERBOARD	NO.	NUMBER	STWY	STAIRWAY
ASSY	ASSEMBLY	FDR	FLOOR DRAIN	NOM	NOMINAL	STWY	SUPERINTENDENT
AVE	AVENUE	FDR	FIRE DOOR	NRC	NOISE-REDUCTION COEFFICIENT	SUPVR	SUPERVISOR
AVG	AVERAGE	FE	FIRE EXTINGUISHER	NTS	NOT TO SCALE	SUR	SURFACE
AVPA	AUDIO/VISUAL PUBLIC ADDRESS	FEC	FIRE EXTINGUISHER & CABINET	OA	OVERALL	SUSP	SUSPENDED/SUSPENSION
BALC	BALCONY	FHY	FIRE HYDRANT	OCC	ON CENTER	SYS	SYSTEM
BC	BOTTOM OF CURB	FIN	FINISH/FINISHED	OCC	OCCUPANT	T/O	TOP OF
BD	BOARD	FL	FLASHING	OD	OUTSIDE DIAMETER	T&B	TOP AND BOTTOM
BETW	BETWEEN	FLEX	FLEXIBLE	OFD	OVERFLOW DRAIN	T&G	TONGUE AND GROOVE
BLDG	BUILDING	FLG	FLANGE	OFF	OFFICE	TAN	TANGENT
BLK'G	BLOCKING	FLR	FLOOR	OH	OPPOSITE HAND	TC	TOP OF CURB
BLR	BOILER	FLRG	FLOORING	OHDR	OVERHEAD DOOR	TDD	TELECOMMUNICATIONS DISPLAY DEVICE
BM	BEAM	FND	FOUNDATION	OPNG	OPENING	TEL	TELEPHONE
BM	BENCHMARK	FNTN	FOUNTAIN	OPP	OPPOSITE	TEMP	TEMPORARY
BP	BASEPLATE	FP	FIREPROOF	OSHA	OCCUPATIONAL SAFETY AND HEALTH	THERM	THERMAL
BRDG	BRIDGING	FRP	FIBERGLASS REINFORCED PANELING	ADMINISTRATION		THK	THICK/THICKNESS
BRG	BEARING	FRT	FIRE RETARDANT TREATED	OVHD	OVERHEAD	THRU	THROUGH
BS	BOTH SIDES	FT	FEET/FOOT	OZ	OUNCE	TR	TREAD
BSMT	BASEMENT	FTG	FOOTING	P/L	PROPERTY LINE	TRANS	TRANSFORMER
BTM	BOTTOM	FURN	FURNITURE	PASS	PASSENGER	TRTD	TREATED
BTU	BRITISH THERMAL UNIT	FVD	FARE VENDING DEVICE	PC	PRE-CAST	TYP.	TYPICAL
BTWN	BETWEEN	GA	GAUGE	PERF	PERFORATED	UNO	UNLESS NOTED OTHERWISE
BUR	BUILT-UP ROOFING	GAR	GARAGE	PI	PERSONS PER INCH PER MINUTE	UTIL	UTILITY
C/C	CENTER TO CENTER	CALV	CALVANIZED	PP	POURED-IN-PLACE	VAT	VINYL ASBESTOS TILE
CAB	CABINET	GEN	GENERATOR	PL	PLATE	VCT	VINYL COMPOSITE TILE
CAP	CAPACITY	GFI	GROUND FAULT INTERRUPTOR	PLAS	PLASTER	VERT	VERTICAL
CARP	CARPET	GL	GLASS	PLBG	PLUMBING	VIF	VERIFY IN FIELD
CDR	CEILING DOOR	GOVT	GOVERNMENT	PLYWD	PLYWOOD	VOL	VOLUME
CER	CERAMIC TILE	GR	GRADE	PNL	PANEL	VTR	VENT THRU ROOF
C	CAST IRON	GRD	GROUND	PNT	PAINT	WEST	WEST
CIP	CAST IRON PIPE	GSF	GROSS SQUARE FEET	PORC	PORCELAIN	W	WIDE
OP	CAST-IN-PLACE	GVL	GRAVEL	PP	PER PERSON	W/	WITH
CJ	CENTER JOINT	GWB	GYPSPUM WALLBOARD	PPM	PERSONS PER MINUTE	W/O	WITHOUT
CL	CENTER LINE	GYP	GYPSPUM	PPS	PARKING PAY STATION	WBD	WALLBOARD
CLG	CEILING	H	HIGH	PREFAB	PRE-FABRICATED	WC	WATER CLOSET
CLR	CLEAR/CLEARANCE	HDWE	HARDWARE	PR	PAIR	WD	WOOD
CLOS	CLOSET	HM	HOLLOW METAL	PROJ	PROJECT	WDR	WATER DOOR
CMU	CONCRETE MASONRY INSULATED UNIT	HMD	HOLLOW METAL DOOR	PROP	PROPERTY	WESS	WAYSIDE ENERGY STORAGE SYSTEM
CMU	CONCRETE MASONRY UNIT	HMI	HUMAN MACHINE INTERFACE	PROP LN	PROPERTY LINE	WH	WATER HEATER
CNCL	CONCEALED	HORIZ	HORIZONTAL	PSF	POUNDS PER SQUARE FOOT	WIN	WINDOW
CO	CLEANOUT	HPT	HIGH POINT	PSI	POUNDS PER SQUARE INCH	WT	WEIGHT
CO	COMPANY	HR	HOUR	PT	POINT	WTRPRF	WATERPROOFING
COL	COLUMN	HT	HEIGHT	PT	PRESSURE TREATED	WWF	WELDED WIRE FABRIC
COMP	COMPOSITION	HTR	HEATER	PTD	PAINTED	WESS	WAYSIDE ENERGY STORAGE SYSTEM
CONC	CONCRETE	HVAC	HEATING/VENTILATION/AIR CONDITIONING	PIN	PARTITION	XFMR	TRANSFORMER
CONSTR	CONSTRUCTION	HHW	HOT WATER HEATER	PV	PHOTOVOLTAIC	YD	YARD
CONT	CONTINUOUS	ID	INSIDE DIAMETER	PVC	POLYVINYL CHLORIDE		
CONTR	CONTRACTOR	IE	FOR EXAMPLE	QLTY	QUALITY		
CRV	CURVED	IH	INTAKE HOOD	QTY	QUANTITY		
CSK	COUNTERSINK	IN	INCH/INCHES	QTF	QUARRY-TILE FLOOR		
CTD	COATED	INCL	INCLUDING	R	RISER		
CTR	CENTER	INSUL	INSULATION	RAD	RADIUS		
CTRL	CONTROL	INT	INTERIOR	RCP	REFLECTED CEILING PLAN		
CUH	CABINET UNIT HEATER	JB	JUNCTION BOX	RD	ROOF DRAIN		
D	DEPTH	JST	JOIST	REBAR	REINFORCING BAR		
DBL	DOUBLE	JT	JOINT	REF	REFERENCE		
DEG	DEGREE	LAB	LABORATORY	REFR	REFRIGERATOR		
DEMO	DEMOLISH/DEMOLITION	LAM	LAMINATE	REG	REGISTER		
DEPT	DEPARTMENT	LAV	LAVATORY	REINF	REINFORCED		
DIA.	DIAMETER	LF	LINEAR FEET	REQ'D	REQUIRED		
DIAG	DIAGONAL	LG	LENGTH	RET	RETURN		
DIM	DIMENSION	LH	LEFT HAND	REV	REVISION		
DIST	DISTANCE	LIB	LIBRARY	RFG	ROOFING		
DIV	DIVISION	LIN	LINEAR	RH	RIGHT HAND		
DL	DEAD LOAD	LL	LIVE LOAD	RM	ROOM		
DMPF	DAMPPOOFING	LLH	LONG LEG HORIZONTAL	RND	ROUND		
DN	DOWN	LLV	LONG LEG VERTICAL	ROW	ROUGH OPENING		
DPM	DEMOUNTABLE PARTITION MANUFACTURER	LPT	LOW POINT	RWC	RAIN WATER CONDUCTOR		
DR	DOOR	LT	LIGHT	RWL	RAIN WATER LEADER		
DS	DOWNSPOUT	LVL	LEVEL	RTU	REMOTE TERMINAL UNIT		
DTL	DETAIL	LWC	LIGHTWEIGHT CONCRETE	S	SOUTH		
DW	DISHWASHER	MAINT	MAINTENANCE	SAPC	SUSPENDED ACOUSTICAL PANEL CEILING		
DWG	DRAWING	MANF	MANUFACTURER	SCHED	SCHEDULE		
E	EAST	MAS	MASONRY	SDG	SIDING		
EA	EACH	MAT	MATERIAL	SECT	SECTION		
EF	EXHAUST FAN	MAX	MAXIMUM	SF	SQUARE FOOT/FEET		
EGEN	EMERGENCY GENERATOR	MECH	MECHANICAL	SGFT	STRUCTURAL GLAZED FACING TILE		
EFS	EXTERIOR INSULATION & FINISH SYSTEM	MEMB	MEMBRANE	SH	SHOWER		
EJ	EXPANSION JOINT	MEZZ	MEZZANINE	SHLV	SHELF/SHELVING		
		MGR	MANAGER				

50% SUBMISSION
NOT FOR CONSTRUCTION

 HDR Engineering, Inc. Philadelphia, PA	
PROJECT NUMBER: 276482	
PROJECT LOCATION: 1200 MARKET ST., 17TH FL., PHILADELPHIA, PA 19107	
PROJECT OWNER: HDR	
PROJECT MANAGER: HDR	
PROJECT ENGINEER: HDR	
PROJECT ARCHITECT: HDR	
PROJECT CONSULTANT: HDR	
PROJECT SUBMITTER: HDR	
PROJECT DATE: 08/22/2025	
PROJECT SCALE: 1:1	
PROJECT SHEET: 276482	
PROJECT STATUS: 50% SUBMISSION	
PROJECT TITLE: PARK SUBWAY/ELEVATED TRAINS TRACTION POWER SUBSTATION REHABILITATION ARCHITECTURAL A201 ABBREVIATIONS	

DATE PRINTED: 10/21/2025

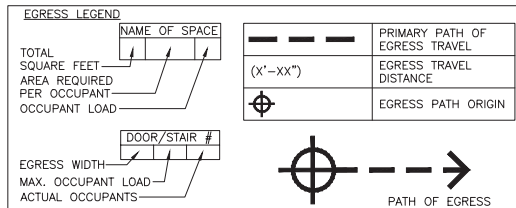


12 8 4 0 12
SCALE: 3/32"=1'-0"

2018 INTERNATIONAL EXISTING BUILDING CODE
CHAPTER 6 - CLASSIFICATION OF WORK
603.1 ALTERATION LEVEL 2

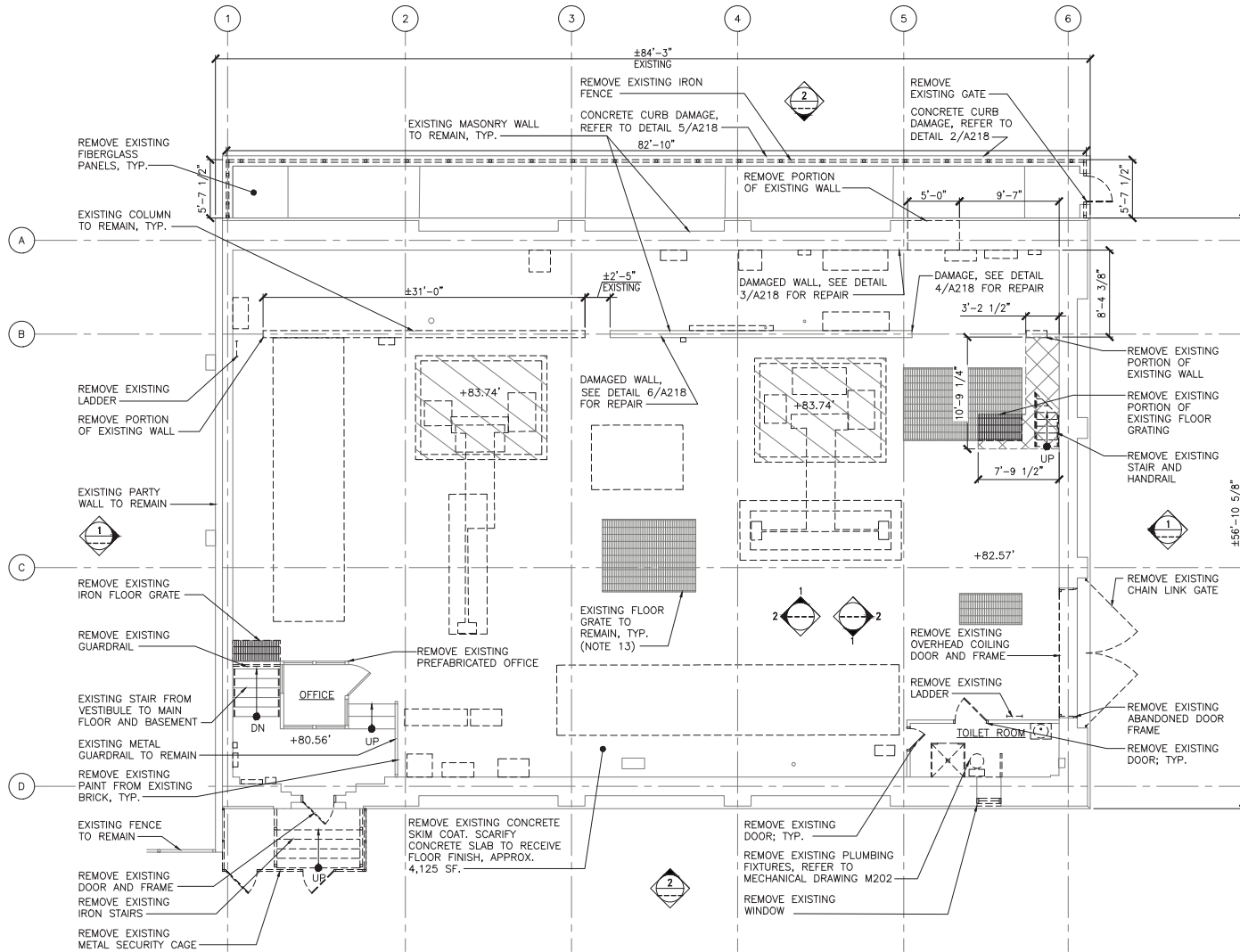
2018 INTERNATIONAL BUILDING CODE	CODE REQUIREMENT	EXISTING	PROVIDED	REMARKS
CHAPTER 3 - USE AND OCCUPANCY CRITERIA				
306 USE GROUP	F-1	F-1	F-1	BUILDING IS UNMANNED AND TYPICALLY UNOCCUPIED
CHAPTER 5 - USE AND OCCUPANCY CLASSIFICATION				
TABLES 504.3, 504.4, AND 506.2	HEIGHT/AREA 2 ST (55 FT) 15,500 SF	2 ST (51.5 FT) 8,778 SF	2 ST (51.5 FT) 8,778 SF	
CHAPTER 6 - TYPES OF CONSTRUCTION				
TABLE 601	FIRE RESISTANCE RATING			
	PRIMARY STRUCTURE	IIB	IIB	
	BEARING WALLS EXTERIOR	0	0	
	BEARING WALLS INTERIOR	0	0	
	NON-BEARING WALLS EXT.	SEE TABLE 602		
	NON-BEARING WALLS INT.	0	0	
	FLOOR CONSTRUCTION	0	0	
	ROOF CONSTRUCTION	0	0	
CHAPTER 7 - FIRE AND SMOKE PROTECTION FEATURES				
713.4	SHAFT ENCLOSURE, LESS THAN 4 STORIES	1 HOUR RATED	N/A	N/A
CHAPTER 8 - INTERIOR FINISHES				
TABLE 803.13	INTERIOR WALL AND CEILING FINISHES (NOT SPRINKLERED)			
	ROOMS AND ENCLOSED SPACES	CLASS C	N/A	CLASS C
	CORRIDORS	CLASS C	N/A	CLASS C
	EXIT PASSAGEWAYS	CLASS B	N/A	CLASS B
CHAPTER 9 - FIRE PROTECTION SYSTEMS				
903.2.4	GROUP F-1			
	AREA EXCEEDS	12,000 SF	8,778 SF	8,778 SF
	FIRE AREA LOCATED MORE THAN 3 STORIES ABOVE GRADE	3 STORIES	2 STORY	2 STORY
	COMBINED FIRE AREA	24,000 SF	8,778 SF	8,778 SF
CHAPTER 10 - MEANS OF EGRESS				
TABLE 1004.5	OCCUPANT LOAD			
	ACCESSORY STORAGE AREA/ MECHANICAL EQUIPMENT ROOM	300 SF/PER PERSON	31 PERSONS	31 PERSONS
1005.3	MINIMUM REQUIRED EGRESS WIDTH			
	STAIRS	0.3" PER PERSON	34"	68"
	OTHER EGRESS COMPONENTS	0.2" PER PERSON	48"	78"
NOTE				
1. AUTOMATIC SPRINKLER SYSTEM NOT REQUIRED IF ALL THREE CRITERIA ARE MET PER 903.2.4.				
2. AUTOMATIC SPRINKLER SYSTEM IS NOT REQUIRED.				
3. BUILDING IS UNMANNED AND TYPICALLY UNOCCUPIED.				

2018 - INTERNATIONAL PLUMBING CODE	CODE REQUIREMENT	EXISTING	PROVIDED	REMARKS
CHAPTER 403.1	MINIMUM NUMBER OF PLUMBING FIXTURES			
	WATER CLOSET (MALE/FEMALE)	1 PER 100 PERSONS=1	1	1
	LAVATORY (MALE/FEMALE)	1 PER 100 PERSONS=1	1	1
	INKING FOUNTAIN	1 PER 400 PERSONS=1	1	1
	SERVICE SINK	1 PER 100 PERSONS=1	1	1
NOTE				
1. BUILDING IS UNMANNED AND TYPICALLY UNOCCUPIED.				



50% SUBMISSION
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1 FIRST FLOOR REMOVAL PLAN
SCALE: 3/16" = 1'-0"

NOTES:

1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
3. DRAWINGS INDICATE THE VARIOUS TYPES OF REPAIRS REQUIRED AT THE MOST SEVERE LOCATIONS. DRAWINGS SHOW THE INTENT OF THE SCOPE OF WORK BUT DO NOT INCLUDE EVERY SMALL AREA REQUIRING REPAIR, RESTORATION OR REFINISH.
4. WORK SITE IS AN ACTIVE TRACTION POWER SUBSTATION (TPSS). FOLLOW ALL SEPTA SAFETY RULES.
5. WORK SHALL BE PERFORMED IN STAGES ACCORDING TO OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN. SOME WORK MAY ONLY BE PERFORMED DURING POWER OUTAGE.
6. FLOOR WILL BE MADE AVAILABLE IN STAGES AS THE EXISTING EQUIPMENT IS REMOVED PER OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN.
7. LEVEL EXISTING BASEMENT FLOOR. REMOVE ALL CURBS, HOUSEKEEPING PADS, AND ELEVATED FLOOR AREAS INDICATED. FLOOR SHALL BE LEVEL WITH ADJACENT EXISTING FLOOR AT ELEVATION 82.57'. FLOOR AREA TO BE LEVELED IS APPROXIMATELY 278.5 SQUARE FEET. REFER TO STRUCTURAL DRAWINGS.
8. REMOVE APPROXIMATELY 32.5 SQUARE FEET OF FLOOR AT NORTHWEST CORNER. REFER TO STRUCTURAL DRAWINGS.
9. SEAL ALL ABANDONED PENETRATIONS PER DETAIL 5/A219.
10. REPAIR ALL ACTIVE PENETRATIONS PER DETAIL 6/A219.
11. REMOVE EXISTING LIGHT FIXTURES, REFER TO ELECTRICAL DRAWING E205, TYPICAL.
12. REMOVE ALL TRACTION POWER EQUIPMENT. REFER TO TRACTION POWER DRAWINGS TP211 THROUGH TP219, TYPICAL.
13. THE CONTRACTOR TO PROVIDE A DESIGN FOR A REDUCED SIZE GRATE IN ORDER FOR THE INSTALLATION OF NEW RECTIFIER TRANSFORMER SET #1 AND INSULATED FLOOR COVERING.

LEGEND

- AREA OF FLOOR TO BE REMOVED, APPROX. 45 SF.
- AREA OF FLOOR TO BE LOWERED, APPROX. 275 SF.

6 4 2 0 6
SCALE: 3/16"=1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION

DATE PREPARED: DATE

DATE REVISION: OFFICE NAME

DATE REVISION: OFFICE NAME

DATE REVISION: OFFICE NAME

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DATE REVISION: OFFICE NAME

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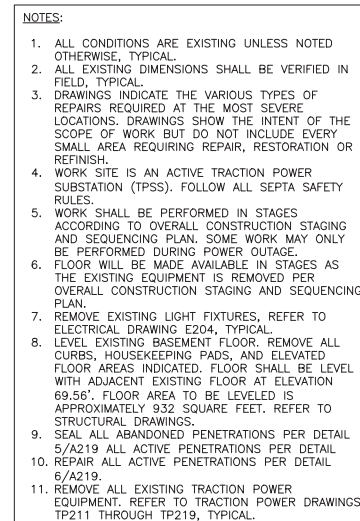
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LEGEND

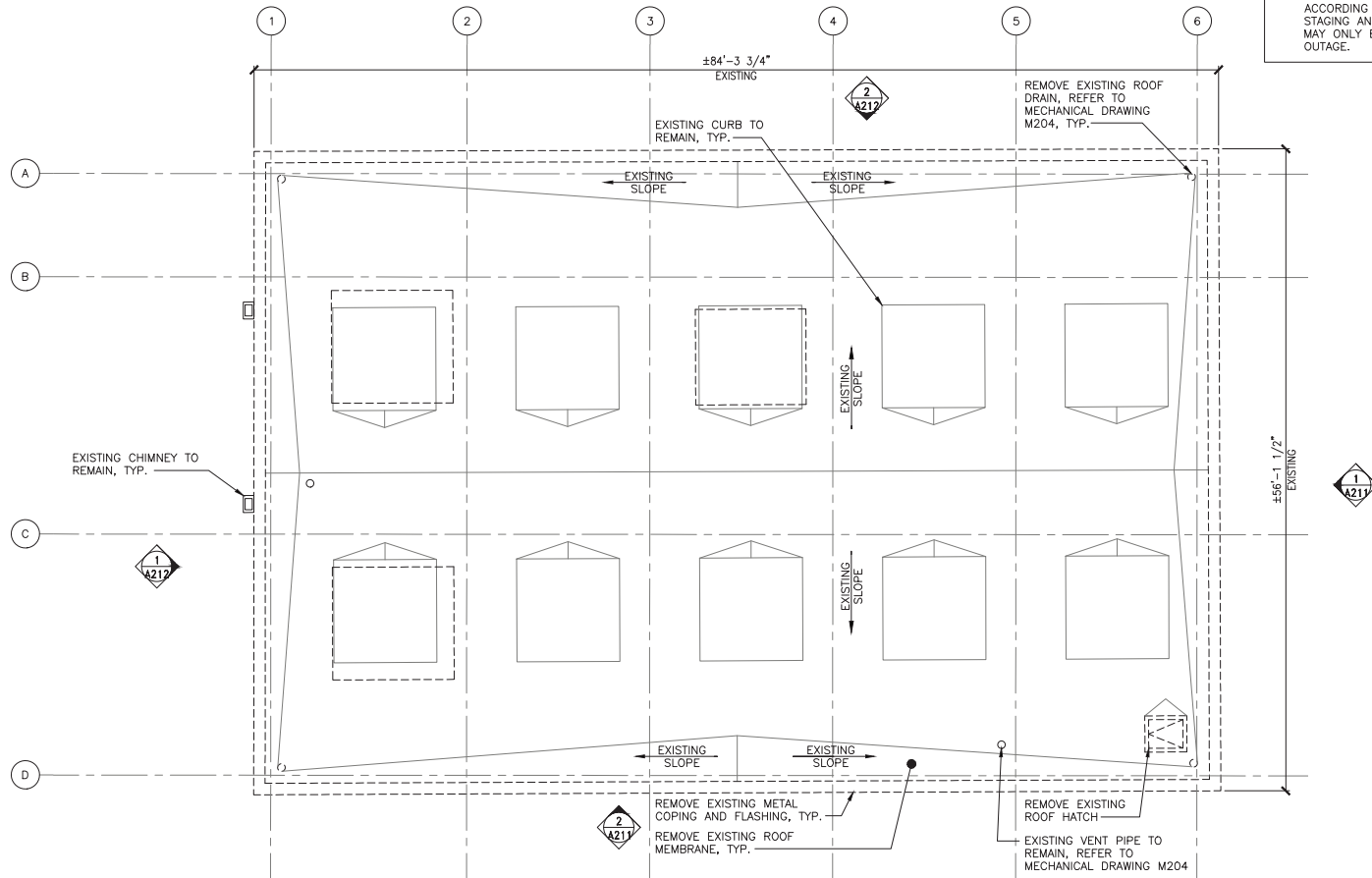
 AREA OF FLOOR TO BE LOWERED, APPROX. 1000 SF

1 BASEMENT REMOVAL PLAN
A205 SCALE: 3/16" = 1'-0"



50% SUBMISSION
NOT FOR CONSTRUCTION

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1 ROOF REMOVAL PLAN
SCALE: 3/16" = 1'-0"

NOTES:

1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
3. DRAWINGS INDICATE THE VARIOUS TYPES OF REPAIRS REQUIRED AT THE MOST SEVERE LOCATIONS. DRAWINGS SHOW THE INTENT OF THE SCOPE OF WORK BUT DO NOT INCLUDE EVERY SMALL AREA REQUIRING REPAIR, RESTORATION OR REFINISH.
4. WORK SITE IS AN ACTIVE TRACTION POWER SUBSTATION (TPSS). FOLLOW ALL SEPTA SAFETY RULES.
5. WORK SHALL BE PERFORMED IN STAGES ACCORDING TO OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN. SOME WORK MAY ONLY BE PERFORMED DURING POWER OUTAGE.

6 4 2 0 6
SCALE: 3/16"=1'0"

50% SUBMISSION
NOT FOR CONSTRUCTION



PROJECT NUMBER: 0000
PROJECT ENGINEER/PROJECT MANAGER:
PROJECT ARCHITECT/DESIGNER:
DESIGN/CONSTRUCTION:
DIRECTOR OF ENGINEERING: HDR
BRANDED: HDR/ENGINEERING
PROJECT MANAGER:

HDR
HDR Engineering, Inc.
Philadelphia, PA

SOWINSKI SULLIVAN

REV	DATE	DESCRIPTION	BY	CHKD	APPD

PARK
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ARCHITECTURAL
A206 ROOF REMOVAL PLAN

SCALE: AS SHOWN
DATE: 08/22/2025
DRAWN BY: JC
CHECKED BY: JC
PROJECT NUMBER: 276482
SHEET NUMBER: 1 OF 21
SHEET NO: 141 OF 448
PROJECT NO:
COMPUTER FILE NO: 17AN-A206
REV: 1

DATE PRINTED: 10/21/2025

STATUS: 50% SUBMISSION



1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
3. DRAWINGS INDICATE THE VARIOUS TYPES OF REPAIRS REQUIRED AT THE MOST SEVERE LOCATIONS. DRAWINGS SHOW THE INTENT OF THE SCOPE OF WORK BUT DO NOT INCLUDE EVERY SMALL AREA REQUIRING REPAIR, RESTORATION OR REFINISH.
4. WORK SITE IS AN ACTIVE TRACTION POWER SUBSTATION (TPSS). FOLLOW ALL SEPTA SAFETY RULES.
5. WORK SHALL BE PERFORMED IN STAGING ACCORDING TO OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN. SOME WORK MAY ONLY BE PERFORMED DURING POWER OUTAGE.
6. FLOOR WILL BE MADE AVAILABLE IN STAGES AS THE EXISTING EQUIPMENT IS REMOVED PER OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN.
7. SURFACE, PREPARE, PRIME, AND PAINT ENTIRE SURFACE OF EXISTING CONCRETE CEILING AND ALL CONCRETE BEAMS.
8. SCRAPE, PREPARE, PRIME AND PAINT ALL EXISTING STRUCTURAL STEEL FRAMING, TYP.
9. THE CONTRACTOR TO PROVIDE A DESIGN FOR A REDUCED SIZE GRATE IN ORDER FOR THE INSTALLATION OF NEW RECTIFIER TRANSFORMER SET #1 AND INSULATED FLOOR COVERING.
10. ALL LADDER ARE TO COMPLY WITH REQUIREMENTS, PER OSHA 1910.23, TYPICAL.

[illegible]

PARK
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ARCHITECTURAL
A207 GROUND FLOOR PLAN

SCALE:	AS SHOWN	SCALE FACTOR:	1:1
DATE:	08/22/2025	DRAWN BY:	AC
		CHECKED BY:	ZH
WORK ORDER NO.:	276482		
SHEET NUMBER	*****		
DWG. NO.:	8	OF	21
SHIT NO.:	142	OF	452
ARCHIVE NO.:			
COMPUTER FILE NO.:	17AN-A207		
REV. NO.	-		

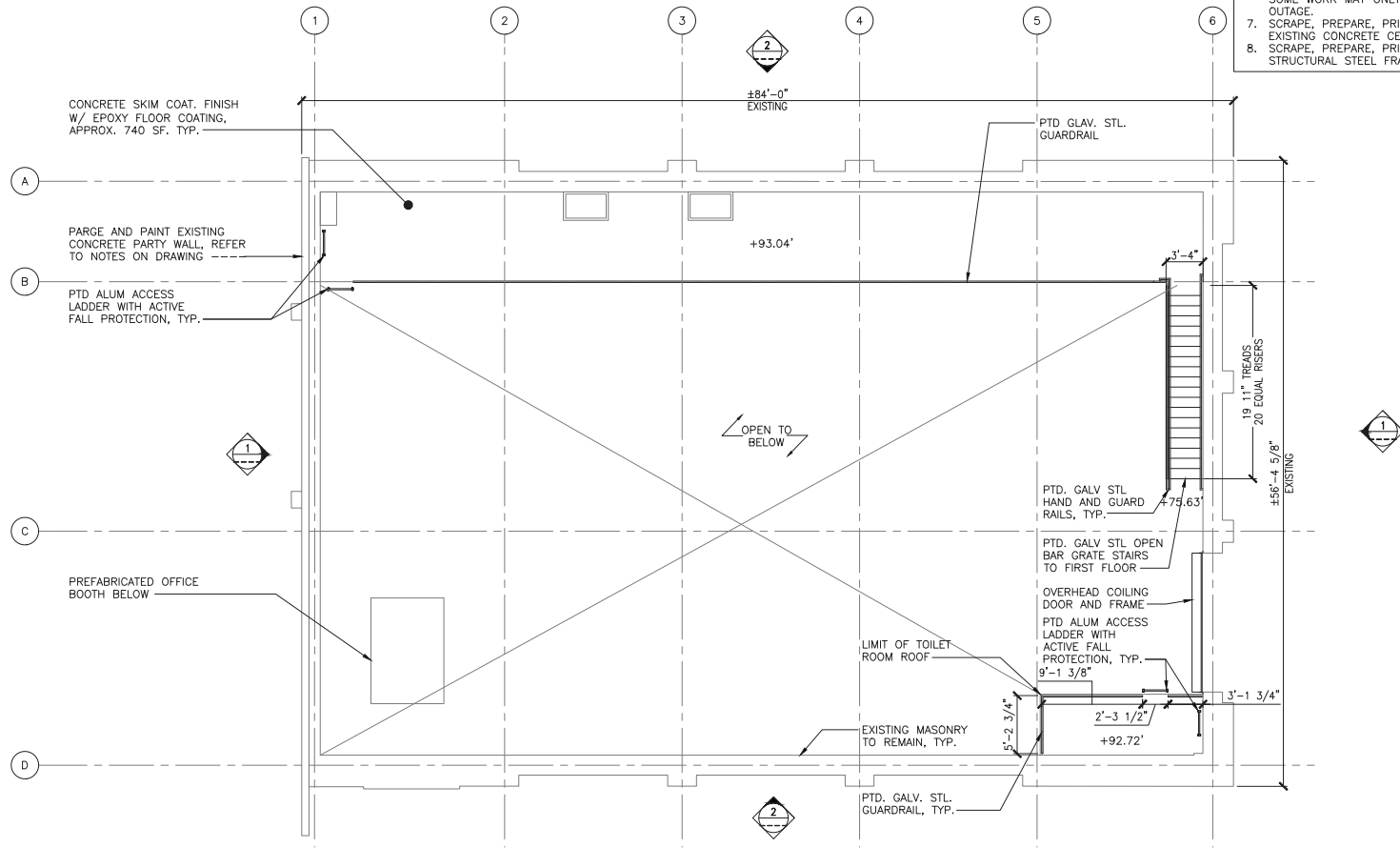
STATISTICS: 50% SUBMISSION

1 FIRST FLOOR PLAN
SCALE: 3/16" = 1'-0"



50% SUBMISSION
NOT FOR CONSTRUCTION

C:\PW\WORKSP\1707\1707\17AN-A208.DWG



NOTES:

1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
3. DRAWINGS INDICATE THE VARIOUS TYPES OF REPAIRS REQUIRED AT THE MOST SEVERE LOCATIONS. DRAWINGS SHOW THE INTENT OF THE SCOPE OF WORK BUT DO NOT INCLUDE EVERY SMALL AREA REQUIRING REPAIR, RESTORATION OR REFINISH.
4. WORK SITE IS AN ACTIVE TRACTION POWER SUBSTATION (TPSS). FOLLOW ALL SEPTA SAFETY RULES.
5. WORK SHALL BE PERFORMED IN STAGES ACCORDING TO OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN. SOME WORK MAY ONLY BE PERFORMED DURING POWER OUTAGE.
6. SCRAPE, PREPARE, PRIME, AND PAINT ENTIRE SURFACE OF EXISTING CONCRETE CEILING AND ALL CONCRETE BEAMS
7. SCRAPE, PREPARE, PRIME AND PAINT ALL EXTERNAL STRUCTURAL STEEL FRAMING, TYPICAL.

1 MEZZANINE FLOOR PLAN
SCALE: 3/16" = 1'-0"

6 4 2 0 6
SCALE: 3/16"=1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



PROJECT NUMBER: 1707
PROJECT NAME: A208 MEZZANINE FLOOR PLAN
PROJECT LOCATION: 1201 MARKET ST., 10TH FL., PHILADELPHIA, PA 19107
PROJECT OWNER: SEPTA
PROJECT MANAGER: [Blank]

HDR Engineering, Inc.
Philadelphia, PA
SOWINSKI SULLIVAN

REV	DATE	DESCRIPTION	BY	CHKD	APPD

PARK
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ARCHITECTURAL
A208 MEZZANINE FLOOR PLAN

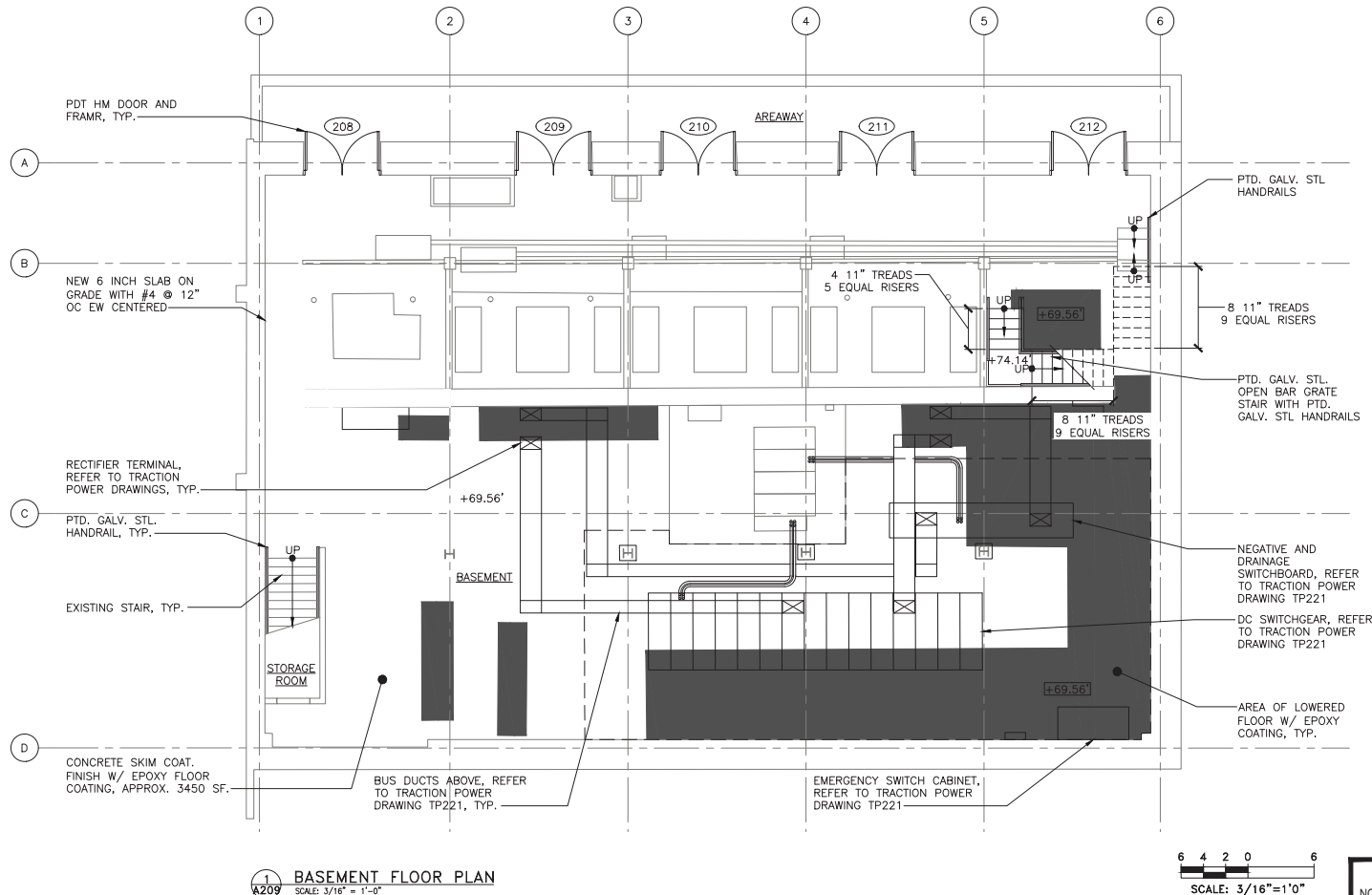
SCALE: 3/16" = 1'-0"
DATE: 08/22/2025
DRAWN BY: JC
CHECKED BY: JC
PROJECT NUMBER: 276482
SHEET NUMBER: 17AN-A208
STATUS: 50% SUBMISSION

C:\PWORKING\PTT\17017\17AN-A209.DWG



NOTES:

1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
3. DRAWINGS INDICATE THE VARIOUS TYPES OF REPAIRS REQUIRED AT THE MOST SEVERE LOCATIONS. DRAWINGS SHOW THE INTENT OF THE SCOPE OF WORK BUT DO NOT INCLUDE EVERY SMALL AREA REQUIRING REPAIR, RESTORATION OR REFINISH.
4. WORK SITE IS AN ACTIVE TRACTION POWER SUBSTATION (TPSS). FOLLOW ALL SEPTA SAFETY RULES.
5. WORK SHALL BE PERFORMED IN STAGES ACCORDING TO OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN. SOME WORK MAY ONLY BE PERFORMED DURING POWER OUTAGE.
6. FLOOR WILL BE MADE AVAILABLE IN STAGES AS THE EXISTING EQUIPMENT IS REMOVED PER OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN.
7. SCRAPE, PREPARE, PRIME, AND PAINT ENTIRE SURFACE OF CONCRETE CEILING AND CONCRETE BEAMS.



SEPTA PROJECT: DATE: _____
SEPTA ENGINEERING OFFICE: NAME: _____
SEPTA RAIL PROJECT: SECTION: _____
UNIVERSITY: _____
DIRECTOR OF ENGINEERING: NAME: _____
BRANCH: NAME: _____
PROJECT MANAGER: _____



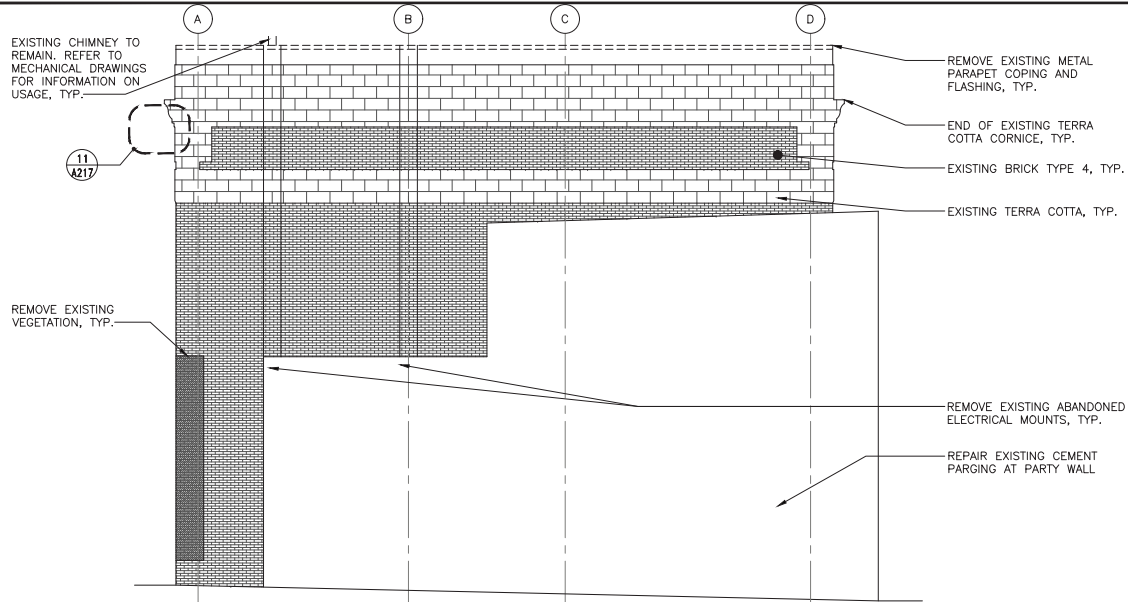
REV	DATE	DESCRIPTION	BY	CHKD	APPD

PARK
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ARCHITECTURAL
BASEMENT FLOOR PLAN

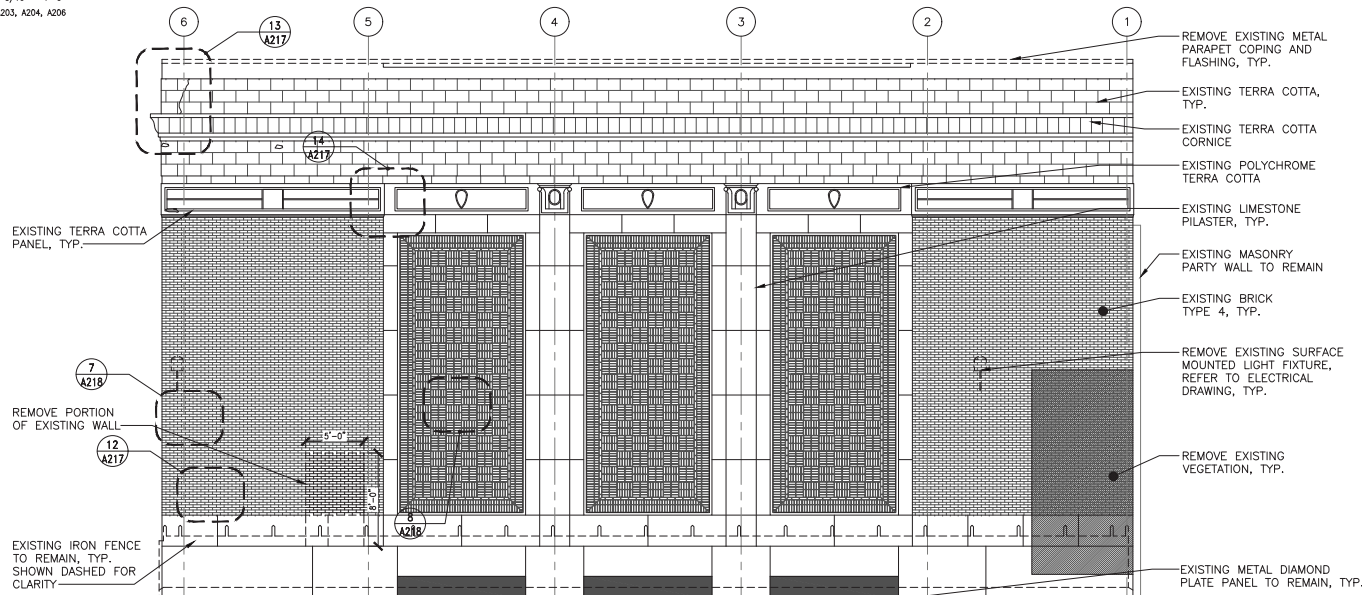
SCALE: AS SHOWN
DATE: 08/22/2025
DRAWN BY: JCL
CHECKED BY: JCL
SHEET NUMBER: 276482
A209
SHEET NO: 10 OF 21
SHEET NO: 144 OF 448
PROJECT NO: _____
COMPUTER FILE NO: 17AN-A209
REV: 1

STATUS: 50% SUBMISSION

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1 EXISTING SOUTH ELEVATION
SCALE: 3/16" = 1'-0"
REF: A203, A204, A206



2 EXISTING WEST ELEVATION
SCALE: 3/16" = 1'-0"
REF: A203, A204, A206

NOTES:

1. ALL CONDITIONS ARE EXISTING UNLESS NOTED OTHERWISE, TYPICAL.
2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN FIELD, TYPICAL.
3. DRAWINGS INDICATE THE VARIOUS TYPES OF REPAIRS REQUIRED AT THE MOST SEVERE LOCATIONS. DRAWINGS SHOW THE INTENT OF THE SCOPE OF WORK BUT DO NOT INCLUDE EVERY SMALL AREA REQUIRING REPAIR, RESTORATION OR REFINISH.
4. RAKE AND REPOINT DAMAGED MORTAR JOINTS, EACH ELEVATION.
5. CLEAN ENTIRE FACADE, EACH ELEVATION.
6. WORK SITE IS AN ACTIVE TRACTION POWER SUBSTATION (TPSS). FOLLOW ALL SEPTA SAFETY RULES.
7. WORK SHALL BE PERFORMED IN STAGES ACCORDING TO OVERALL CONSTRUCTION STAGING AND SEQUENCING PLAN. SOME WORK MAY ONLY BE PERFORMED DURING POWER OUTAGE.
8. CLOSE INSPECTION OF PORTIONS OF THE FACADE WAS NOT POSSIBLE DUE TO RESTRICTED ACCESS AT PRIVATE PROPERTY. DUE TO THIS, NOT ALL AREAS REQUIRING REPAIR, RESTORATIONS OR REFURBISHING ARE INCLUDED ON DRAWINGS. THE CONTRACTOR SHALL INSPECT ENTIRE BUILDING AND REPAIR ALL DAMAGE.

BRICK LEGEND:

1. BRICK TYPE 1 = HY-TEX BRICK
2. BRICK TYPE 2 = ENAMELED BRICK - "GREEN"
3. BRICK TYPE 3 = ENAMELED BRICK - "GRANITE MARBLE"
4. BRICK TYPE 4 = FACE BRICK

6 4 2 0 6
SCALE: 3/16"=1'-0"

50% SUBMISSION
NOT FOR CONSTRUCTION



DATE PREPARED: DATE:

DATE REVISION: OFFICE: NAME:

DATE: NAME: POSITION:

DESIGNER: DATE:

DIRECTOR OF ENGINEERING: NAME:

BRAND: NAME: ADDRESS:

PROJECT: NAME:

HDR Engineering, Inc.
Philadelphia, PA

SOWINSKI
SULLIVAN

REV	DATE	DESCRIPTION	BY	CHKD	APPD

PARK
SUBWAY/ELEVATED TRAINS
TRACTION POWER SUBSTATION
REHABILITATION
ARCHITECTURAL
A212 ELEVATIONS II

SCALE: AS SHOWN	SCALE: 1:1
DATE: 08/22/2025	DRAWN BY: JC
WORK ORDER NO: 276482	CHECKED BY: JC
SHEET NUMBER: 276482	DATE: 08/22/2025
NO. OF SHEETS: 13	OF: 21
SHEET NO: 147	OF: 448
PROJECT NO:	
COMPUTER FILE: 17AN-A212	REV: 01

DATE PRINTED: 10/21/2025

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