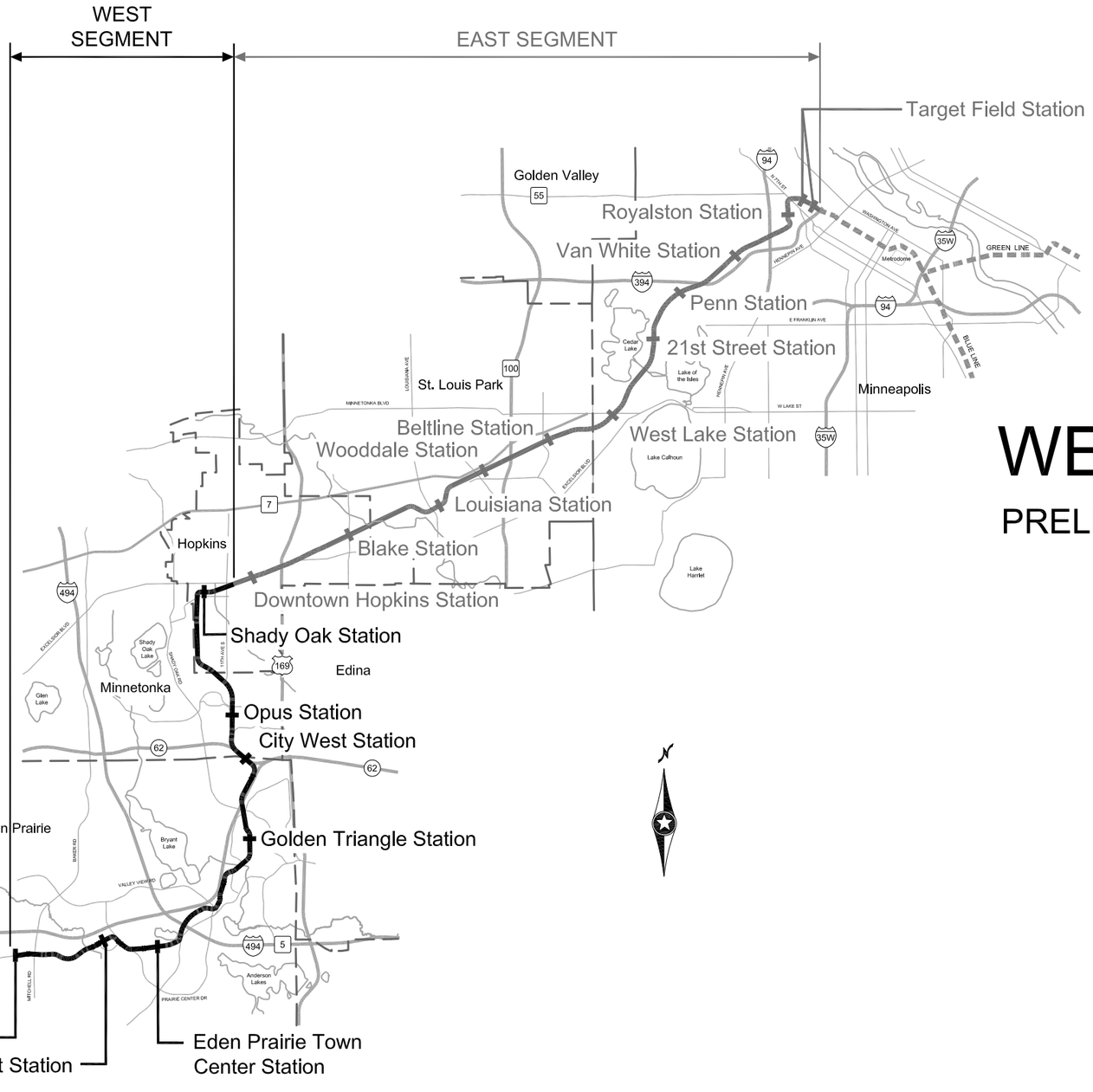
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SOUTHWEST
Green Line LRT Extension

METROPOLITAN COUNCIL

WEST - VOLUME 4 (OMF)

PRELIMINARY ENGINEERING (SEPTEMBER 2014)

INDEX

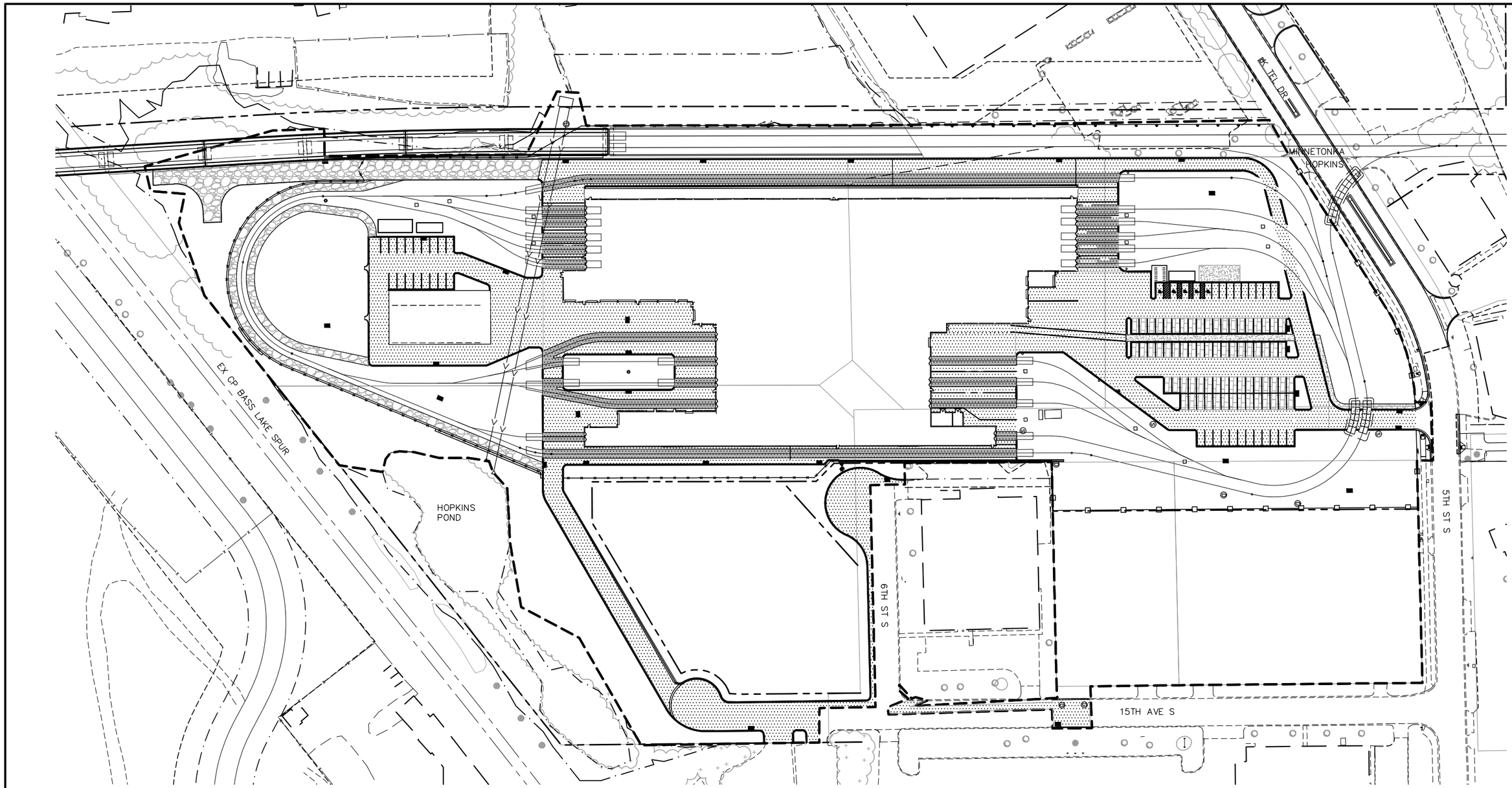
OMF DRAWINGS

1-19	CIVIL
20-35	LANDSCAPE
36-84	TRACK
85-127	ARCHITECTURAL
128-164	STRUCTURAL
165-179	INDUSTRIAL
180-237	MECHANICAL
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VOLUME 3	TRACTION POWER
VOLUME 3	RAIL SIGNALS
VOLUME 3	RAIL COMMUNICATIONS

AECOM

PRELIMINARY - NOT FOR CONSTRUCTION

Aug, 27 2014 01:40 pm C:\Users\geyer\Desktop\My Files_Projects\19128A - Minneapolis\Submittals\2014 Sept\WOMF-GEN-CVR.dwg By: geyer



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AECOM PARSONS BRINCKERHOFF

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
CIVIL
SITE PLAN - OVERALL

DISCIPLINE: CIVIL

SHEET NAME: C-001

SHEET 1 OF 288

Jun. 26 2014 10:24 am T:\19128A\3200_PEC-W\CAD\OMF\PLAN SHEET\CIVIL\OMF-001-CIV-SITE.dwg By: dayt

EROSION CONTROL NOTES

1. INSTALL PERIMETER EROSION CONTROL AT THE LOCATIONS SHOWN ON THE PLANS PRIOR TO BEGINNING CONSTRUCTION. (HAY BALES ARE NOT AN ACCEPTABLE PERIMETER CONTROL)
2. BEFORE BEGINNING CONSTRUCTION, INSTALL A TEMPORARY ROCK CONSTRUCTION ENTRANCE AT EACH POINT WHERE VEHICLES EXIT THE CONSTRUCTION SITE. USE TWO INCH OR GREATER DIAMETER ROCK IN A LAYER AT LEAST TWELVE INCHES THICK ACROSS THE ENTIRE WIDTH OF THE ENTRANCE. EXTEND THE ROCK ENTRANCE AT LEAST 50 FEET INTO THE CONSTRUCTION ZONE. USE A GEOTEXTILE FABRIC BENEATH THE AGGREGATE IN ORDER TO PREVENT MIGRATION OF SOIL INTO THE ROCK FROM BELOW
3. REMOVE ALL SOILS AND SEDIMENTS TRACKED OR OTHERWISE DEPOSITED ONTO PUBLIC AND PRIVATE PAVEMENT AREAS. REMOVAL SHALL BE ON A DAILY BASIS WHEN TRACKING OCCURS. SWEEPING MAY BE ORDERED BY AT ANY TIME IF CONDITIONS WARRANT. SWEEPING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION AND DONE IN A MANNER TO PREVENT DUST BEING BLOWN TO ADJACENT PROPERTIES.
4. INSTALL INLET PROTECTION AT ALL PUBLIC AND PRIVATE CATCH BASIN INLETS, WHICH RECEIVE RUNOFF FROM THE DISTURBED AREAS. CATCH BASIN INSERTS ARE REQUIRED IN UNDISTURBED AREAS THAT RECEIVE RUNOFF FROM DISTURBED AREAS. STAKED SILT FENCE OR OTHER APPROVED BMP'S IN DISTURBED AREAS NOT SUBJECT TO PUBLIC VEHICLE TRAFFIC MAY BE ACCEPTABLE. NOTE: HAY BALES OR FILTER FABRIC WRAPPING THE GRATES ARE NOT EFFECTIVE OR AN ACCEPTABLE FORM OF INLET PROTECTION.
5. LOCATE SOIL OR DIRT STOCKPILES NO LESS THAN 25 FEET FROM ANY PUBLIC OR PRIVATE ROADWAY OR DRAINAGE CHANNEL. IF REMAINING FOR MORE THAN SEVEN DAYS, STABILIZE THE STOCKPILES BY MULCHING, VEGETATIVE COVER, TARPS, OR OTHER MEANS. CONTROL EROSION FROM ALL STOCKPILES BY PLACING SILT BARRIERS AROUND THE PILES. TEMPORARY STOCKPILES LOCATED ON PAVED SURFACES MUST BE NO LESS THAN TWO FEET FROM THE DRAINAGE/GUTTER LINE AND SHALL BE COVERED IF LEFT MORE THAN 24 HOURS.
6. MAINTAIN ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES IN PLACE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED. INSPECT TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ON A DAILY BASIS AND REPLACE DETERIORATED, DAMAGED, OR ROTTED EROSION CONTROL DEVICES IMMEDIATELY.
7. TEMPORARILY OR PERMANENTLY STABILIZE ALL DENUDED AREAS WHICH HAVE BEEN FINISH-GRADED, AND ALL DENUDED AREAS IN WHICH GRADING OR SITE BUILDING CONSTRUCTION OPERATIONS ARE NOT ACTIVELY UNDERWAY AGAINST EROSION DUE TO RAIN, WIND AND RUNNING WATER WITHIN 14 DAYS. USE SEEDING AND MULCHING, EROSION CONTROL MATTING, AND/OR SODDING AND STAKING IN GREEN SPACE AREAS. USE EARLY APPLICATION OF GRAVEL BASE ON AREAS TO BE PAVED.
8. REMOVE ALL TEMPORARY SYNTHETIC, STRUCTURAL, NON-BIODEGRADABLE EROSION AND SEDIMENT CONTROL DEVICES AFTER THE SITE HAS UNDERGONE FINAL STABILIZATION AND PERMANENT VEGETATION HAS BEEN ESTABLISHED. MINIMUM VEGETATION ESTABLISHMENT IS 70% COVER, MAINTAIN ALL TEMPORARY EROSION CONTROL DEVICES UNTIL 70% ESTABLISHED COVER IS ACHIEVED.
9. READY MIXED CONCRETE AND CONCRETE BATCH PLANTS PROHIBITED WITHIN THE PUBLIC RIGHT OF WAY. UNDER NO CIRCUMSTANCES MAY WASHOUT WATER DRAIN ONTO THE PUBLIC REIGHT OF WAY OR INTO THE PUBLIC STORM SEWER
10. CONTRACTOR TO PREVENT DIRT AND/OR DEBRIS FROM ENTERING STORM SEWER OR BEING TRANSPORTED OFF-SITE IN AN UNCONTROLLED MANNER. CONTRACTOR TO VERIFY AT PROJECT CLOSEOUT THAT STORM SEWER SYSTEM IS CLEAR OF SEDIMENT AND/OR DEBRIS AND IS FULLY FUNCTIONAL.
11. ALL EROSION CONTROL ELEMENTS ARE TEMPORARY. CONTRACTOR TO INSTALL EROSION CONTROL ELEMENTS PRIOR TO START OF LAND DISTURBING ACTIVITIES, MAINTAIN IN GOOD CONDITION DURING CONSTRUCTION AND REMOVE FROM THE SITE UPON COMPLETION OF FINAL PAVING AND TURF ESTABLISHMENT.
12. CONTRACTOR TO PROVIDE TEMPORARY SEED AND MULCH ON ALL NON-PAVED AREAS WITHIN 7 DAYS AFTER ROUGH GRADING IS COMPLETED. SEED WITH ANNUAL RYE SEED AT 60 LBS PER ACRE AND WOOD MULCH FIBER AT 45 LBS PER 1,000 SF.

GENERAL NOTES

1. THE INVERTS AND DEPTHS OF EXISTING UTILITIES ARE SHOWN AT ASSUMED ELEVATIONS ON THE PROFILES AND MAY ACTUALLY BE DEEPER OR SHALLOWER THAN SHOWN. NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE SURVEY.
2. DRAWINGS INDICATE AREAS OF TEMPORARY SUPPORT SYSTEMS. THE INTENT OF THE DRAWINGS IS TO INDICATE AREAS WHERE THE DESIGNER HAS ASSUMED THE WIDTH OF THE TRENCH EXCAVATION WILL BE LIMITED IN ORDER TO PROJECT EXISTING IMPROVEMENTS. THE CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND THE METHODS AND WILL HAVE TOTAL CONTROL OVER THE TYPES AND DESIGN OF ALL SHORING, SHEETING, BRACING, ANCHORAGES, EXCAVATION SUPPORT WALLS, DIRECTIONAL BORING, AUGER JACKING, SOIL STABILIZATION AND OTHER METHODS OF PROTECTING EXISTING IMPROVEMENTS. SEE SPECIFICATIONS FOR SUBMITTAL REQUIREMENTS.
3. STORAGE AND PROTECTION OF EXISTING SITE FEATURES WHICH NEED TO BE REMOVED AND REPLACED FOR CONSTRUCTION OF PROJECT ARE THE RESPONSIBILITY OF THE CONTRACTOR. STORAGE SHALL BE WITHIN THE LIMITS OF STAGING AREA AS SHOWN ON SHEET. CONTRACTOR TO PREVENT DAMAGE OR THEFT OF THESE ITEMS AND TO REPLACE AT OWN EXPENSE.
4. CONTRACTOR TO RECORD EXISTING CONDITIONS AS NEEDED (PHOTOGRAPHS, VIDEO PHOTOGRAPHY, FIELD SURVEYING, ETC.) TO ENABLE RECONSTRUCTION TO MATCH EXISTING CONDITIONS. CONTRACTOR TO DOCUMENT EXISTING CONDITIONS SO THAT RECONSTRUCTED AREAS WILL HAVE POSITIVE DRAINAGE SIMILAR TO EXISTING. SEE SPECIFICATIONS.
5. ANY REDESIGN OF DEMOLISHED STRUCTURAL ELEMENTS WILL NEED TO BE DESIGNED AND CERTIFIED BY A REGISTERED ENGINEER.
6. WHERE DEMOLITION, EXCAVATION, UNDERPINNING, PILE DRIVING OR SIMILAR WORK IS TO BE PERFORMED ADJACENT TO OR IN THE IMMEDIATE VICINITY OF EXISTING STRUCTURES, THE CONTRACTOR WILL PROVIDE BUILDING SURVEYS AND SEISMIC MONITORING.
7. ALL BUILDING EXITS SHALL REMAIN UNOBSTRUCTED AND USABLE AT ALL TIMES. IF THERE ARE UNAVOIDABLE EXCEPTIONS, THEN CONTRACTOR SHALL PROVIDE TEMPORARY EXIT PLANS.

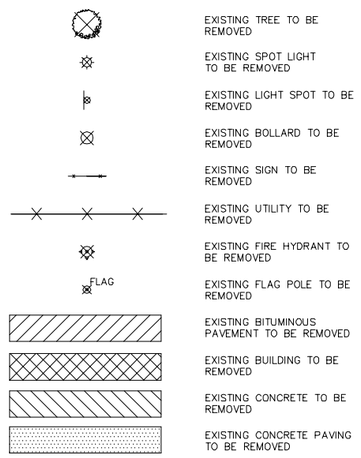
PLAN NOTES

1. ALL EXISTING INFORMATION TAKEN FROM SURVEY BY RANI ENGINEERING DATED 4/2014.
2. SUBSURFACE GEOTECHNICAL INVESTIGATION BY BRAUN INTERTEC PROJECT BL-13-00213, DATED 08/07/2013.
3. CONTRACTOR TO PREVENT DIRT AND/OR DEBRIS FROM ENTERING STORM SEWER OR BEING TRANSPORTED OFF-SITE IN AN UNCONTROLLED MANNER. CONTRACTOR TO VERIFY AT PROJECT CLOSEOUT THAT STORM SEWER SYSTEM IS CLEAR OF SEDIMENT AND/OR DEBRIS AND IS FULLY FUNCTIONAL.
4. ALL AREAS DISTURBED BY CONSTRUCTION WHICH ARE OUTSIDE THE LIMITS OF PAVING ARE TO BE RESTORED AND REVEGETATED.
5. CONTRACTOR TO INSTALL SILT FENCE OR STRAWBALES AROUND ALL EXISTING CATCH BASINS AND MANHOLES PRIOR TO THE START OF DEMOLITION AND AROUND ALL NEW CATCH BASINS AND MANHOLES AFTER THEY ARE INSTALLED.
6. CONTRACTOR TO PROTECT FROM DAMAGE ALL EXISTING IMPROVEMENTS, LANDSCAPING, STRUCTURES AND UTILITIES THAT ARE TO REMAIN. CONTRACTOR TO REPAIR ANY DAMAGE AT OWN EXPENSE.
7. PROVIDE PERMANENT SEEDING AND FERTILIZING OF ALL DISTURBED AREAS OUTSIDE THE LIMITS OF PAVING PER MNDOT SPECIFICATION SECTION 2575. PROVIDE MULCH PER MNDOT SPECIFICATION SECTION 2575.
8. ALL WORK TO CONFORM WITH CITY OF HOPKINS AND STATE OF MINNESOTA STANDARDS AND REGULATIONS.
9. ALL ELECTRICAL POLE AND LIGHT REMOVAL SHALL BE COORDINATED WITH THE CITY OF HOPKINS PRIOR TO DEMOLITION.

UTILITY NOTES

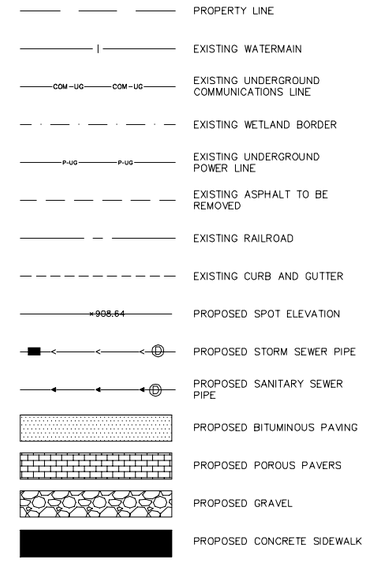
1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS INCLUDING LOCATIONS OF EXISTING UTILITIES, AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING CONSTRUCTION.
2. ALL UTILITY DEMOLITION AND/OR ABANDONMENT TO BE PERFORMED IN ACCORDANCE WITH CITY OF HOPKINS AND STATE OF MINNESOTA REGULATIONS AND STANDARDS.
3. EXISTING UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS. CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WHICH MAY INCLUDE BUT IS NOT LIMITED TO: ELECTRIC, TELEPHONE, GAS, CABLE TV, COMPUTER CABLE, FIBER OPTIC CABLE, SANITARY SEWER, STORM SEWER AND WATERMAIN. CONTRACTOR TO CONTACT GOPHER ONE-CALL BEFORE EXCAVATING.
4. ALL EXISTING UTILITIES AND OTHER IMPROVEMENTS ARE TO REMAIN UNLESS NOTED OTHERWISE.
5. CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION AND ELEVATION OF EXISTING STORM AND SANITARY SEWER PRIOR TO THE START OF CONSTRUCTION.
6. PROVIDE THE FOLLOWING MINIMUM COVER OVER THE TOP OF PIPE AS FOLLOWS:
   A. 8' OVER WATERMAIN
   B. 5' OVER SANITARY SEWER
   C. 1' OVER STORM SEWER
7. SANITARY SEWER PIPE AND FITTINGS TO BE POLYVINYL CHLORIDE (PVC), SDR 35 MINIMUM AND COMPLY WITH ASTM D3034. JOINTS TO BE SOLVENT CEMENT OR FLEXIBLE WATERTIGHT.
8. STORM SEWER PIPE TO BE REINFORCED CONCRETE PIPE (RCP), ASTM C76, CLASS 5, WITH GASKETED JOINTS.
9. WATERMAIN TO BE DUCTILE IRON PIPE (DIP), ANSI A-21.51, 150 PSI WORKING PRESSURE MINIMUM.
10. ALL EXCAVATIONS MUST COMPLY WITH THE REQUIREMENTS OF OSHA 29 CFR, PART 1926, SUBPART P "EXCAVATIONS AND TRENCHES". THIS DOCUMENT STATES THAT EXCAVATION SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
11. CATCH BASINS AND MANHOLES ARE SHOWN ON PLAN LARGER THAN ACTUAL SIZE. COORDINATE LOCATION OF MANHOLE COVER AND CASTING SO THAT IT IS PROPERLY LOCATED AT THE BACK OF CURBLINE FOR THE CURB INLETS OR CENTERED IN THE AREA AS SHOWN ON THE PLAN FOR THE AREA DRAINS AND MANHOLE COVERS.
12. SITE UTILITY CONTRACTOR TO FURNISH AND INSTALL ALL WATERMAIN, SANITARY SEWER AND STORM SEWER FACILITIES AND APPURTENANCES TO WITHIN FIVE FEET OUTSIDE THE BUILDING. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION AND DEPTH OF CONNECTION WITHIN BUILDING.

LEGEND



EXISTING TREE TO BE REMOVED
EXISTING SPOT LIGHT TO BE REMOVED
EXISTING LIGHT SPOT TO BE REMOVED
EXISTING BOLLARD TO BE REMOVED
EXISTING SIGN TO BE REMOVED
EXISTING UTILITY TO BE REMOVED
EXISTING FIRE HYDRANT TO BE REMOVED
EXISTING FLAG POLE TO BE REMOVED
EXISTING BITUMINOUS PAVEMENT TO BE REMOVED
EXISTING BUILDING TO BE REMOVED
EXISTING CONCRETE TO BE REMOVED
EXISTING CONCRETE PAVING TO BE REMOVED

LEGEND



PROPERTY LINE
EXISTING WATERMAIN
EXISTING UNDERGROUND COMMUNICATIONS LINE
EXISTING WETLAND BORDER
EXISTING UNDERGROUND POWER LINE
EXISTING ASPHALT TO BE REMOVED
EXISTING RAILROAD
EXISTING CURB AND GUTTER
PROPOSED SPOT ELEVATION
PROPOSED STORM SEWER PIPE
PROPOSED SANITARY SEWER PIPE
PROPOSED BITUMINOUS PAVING
PROPOSED POROUS PAVERS
PROPOSED GRAVEL
PROPOSED CONCRETE SIDEWALK

DRAWING LIST

# of TOTAL	SHEET NUMBER	SHEET NAME
1	C-001	SITE PLAN
2	C-002	NOTES & LEGENDS
3	C-100	EXISTING CONDITIONS
4	C-101	DEMOLITION PLAN - SECTOR 1
5	C-102	DEMOLITION PLAN - SECTOR 2
6	C-103	DEMOLITION PLAN - SECTOR 3
7	C-104	DEMOLITION PLAN - SECTOR 4
8	C-200	GRADING PLAN - OVERALL
9	C-201	GRADING PLAN - SECTOR 1
10	C-202	GRADING PLAN - SECTOR 2
11	C-203	GRADING PLAN - SECTOR 3
12	C-204	GRADING PLAN - SECTOR 4
13	C-300	UTILITY AND PAVING PLAN - OVERALL
14	C-301	UTILITY AND PAVING PLAN - SECTOR 1
15	C-302	UTILITY AND PAVING PLAN - SECTOR 2
16	C-303	UTILITY AND PAVING PLAN - SECTOR 3
17	C-304	UTILITY AND PAVING PLAN - SECTOR 4
18	C-401	CIVIL DETAILS
19	C-402	CIVIL DETAILS

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AECOM PARSONS BRINCKERHOFF

PRELIMINARY ENGINEERING

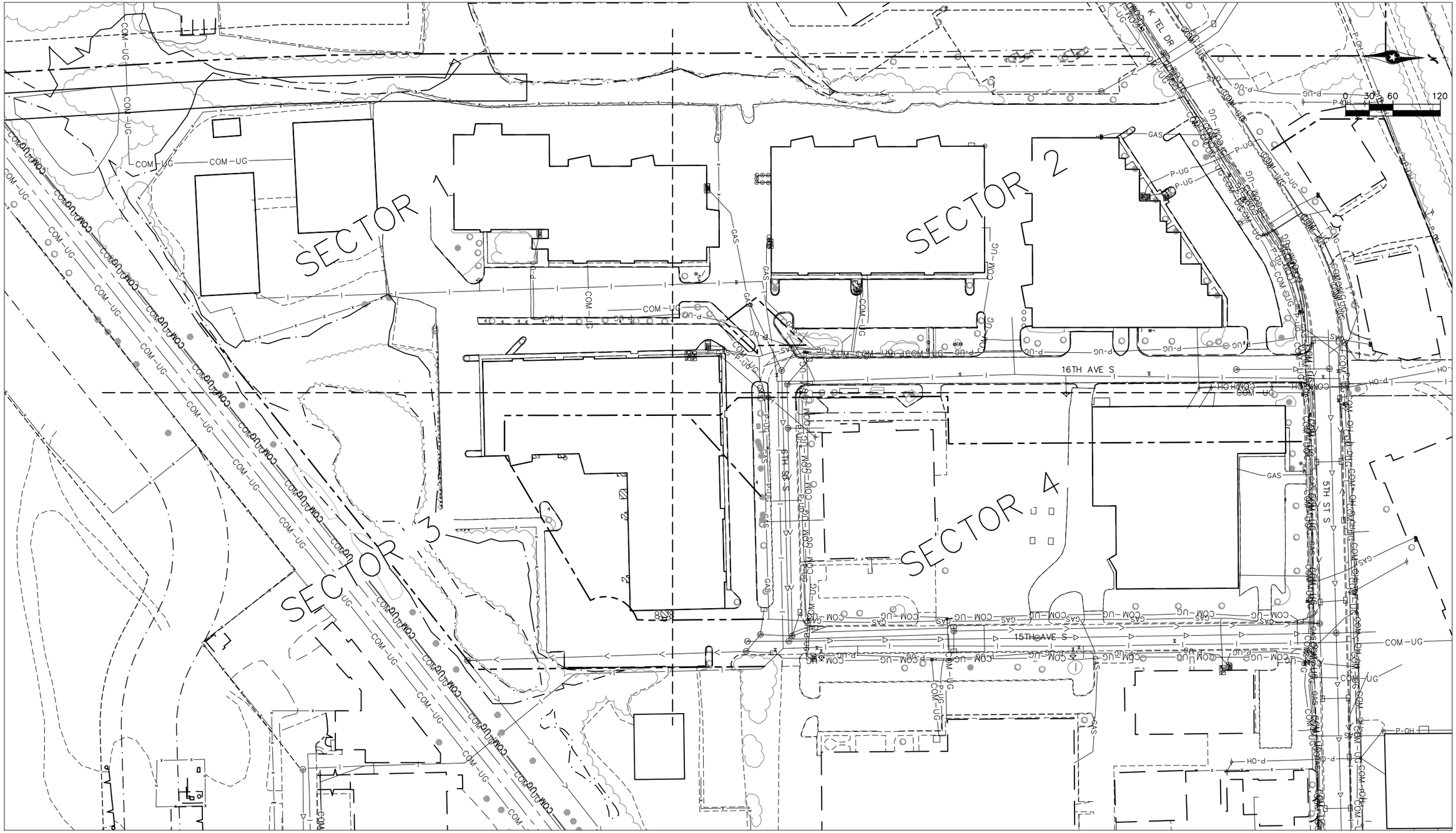
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-SEGMENT 4 (OMF)
CIVIL
NOTES & LEGENDS

DISCIPLINE: CIVIL
SHEET NAME: C-002

SHEET 2 OF 288

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
CIVIL
EXISTING CONDITIONS

DISCIPLINE: CIVIL

SHEET NAME: C-100

SHEET 3 OF 288

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CONSTRUCTION LIMITS

REMOVE EXISTING FENCE

REMOVE EXISTING BUILDING, TYPICAL

OFFICE/INDUSTRIAL BUILDING

OFFICE/INDUSTRIAL BUILDING

OFFICE/INDUSTRIAL BUILDING

REMOVE EXISTING BITUMINOUS PAVING, TYPICAL

REMOVE EXISTING TREES

REMOVE EXISTING TREE, TYPICAL

REMOVE EXISTING WATER MAIN

REMOVE EXISTING CONCRETE SIDEWALK, TYPICAL

REMOVE EXISTING CURB AND GUTTER, TYPICAL

REMOVE EXISTING FIRE HYDRANT

REMOVAL OF COMMUNICATION LINES BY OTHERS

REMOVE EXISTING SIGN, TYPICAL

REMOVE EXISTING TREES

PROPERTY LINE, TYPICAL

COM-UG

OHT-UG

MATCH LINE - SHEET 5 - SECTOR 2

MATCH LINE - SHEET 6 - SECTOR 3

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LEGEND: SECTORS

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF) DEMOLITION PLAN SECTOR 1

DISCIPLINE: CIVIL

SHEET NAME: C-101

SHEET 4 OF 288

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CONSTRUCTION LIMITS

REMOVE EXISTING BITUMINOUS PAVING, TYPICAL

REMOVE EXISTING BUILDING, TYPICAL

REMOVE EXISTING BOLLARD, TYPICAL

REMOVAL OF EXISTING GAS LINES BY OTHERS,TYPICAL

OFFICE/INDUSTRIAL BUILDING

QUALITY ASSURED ENTERPRISES

REMOVAL OF EXISTING POWER LINES BY OTHERS,TYPICAL

REMOVE EXISTING FLAG POLE

REMOVE EXISTING CONCRETE SIDEWALK, TYPICAL

REMOVE EXISTING CURB AND GUTTER, TYPICAL

REMOVE EXISTING SIGN, TYPICAL

REMOVE EXISTING WATER MAIN, TYPICAL

REMOVAL OF EXISTING COMMUNICATION LINES BY OTHERS,TYPICAL

REMOVE EXISTING TREES

REMOVE EXISTING LIGHTS, TYPICAL

REMOVE EXISTING VEGETATION

REMOVE EXISTING STORM SEWER, TYPICAL

REMOVE EXISTING PICNIC TABLE

REMOVE EXISTING VEGETATION

REMOVE EXISTING CONCRETE PAVING, TYPICAL

REMOVE EXISTING CONCRETE SIDEWALK

REMOVE EXISTING MAN HOLE

MATCH LINE - SHEET 4 - SECTOR 1

MATCH LINE - SHEET 7 - SECTOR 4

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LEGEND: SECTORS

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
DEMOLITION PLAN
SECTOR 2

DISCIPLINE: CIVIL

SHEET NAME: C-102

SHEET 5 OF 288

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REMOVE EXISTING TREE, TYPICAL

REMOVE EXISTING VEGETATION

REMOVE EXISTING CONCRETE SIDEWALK, TYPICAL

MATCH LINE - SHEET 4 - SECTOR 1

REMOVE EXISTING BUILDING, TYPICAL

CONSTRUCTION LIMITS

REMOVE EXISTING CURB AND GUTTER, TYPICAL

REMOVE EXISTING CONCRETE AREA, TYPICAL

REMOVE EXISTING FENCE

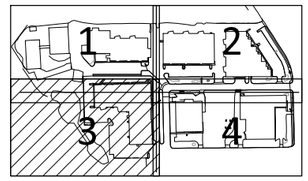
REMOVE EXISTING BITUMINOUS PAVING, TYPICAL

REMOVE EXISTING BOLLARD, TYPICAL

MATCH LINE - SHEET 7 - SECTOR 4

COM-UG

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LEGEND: SECTORS

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
DEMOLITION PLAN
SECTOR 3

SHEET 6 OF 288

DISCIPLINE: CIVIL

SHEET NAME: C-103

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REMOVE EXISTING TREES

REMOVE EXISTING TREES

REMOVE EXISTING WATERMAIN

REMOVE EXISTING BITUMINOUS PAVING, TYPICAL

REMOVE EXISTING CONCRETE PAVING, TYPICAL

REMOVE EXISTING TREES, TYPICAL

REMOVE EXISTING PICNIC TABLE

MATCH LINE - SHEET 5 - SECTOR 2

REMOVE EXISTING VEGETATION

REMOVE EXISTING CURB AND GUTTER, TYPICAL

REMOVE EXISTING BUILDING, TYPICAL

MATCH LINE - SHEET 6 - SECTOR 3

CONSTRUCTION LIMITS

CONSTRUCTION LIMITS

EXISTING TREE TO REMAIN, PROTECT FROM DAMAGE, SEE DETAILS

REMOVE EXISTING STORM SEWER

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LEGEND: SECTORS

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF) DEMOLITION PLAN SECTOR 4

DISCIPLINE: CIVIL

SHEET NAME: C-104

SHEET 7 OF 288

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NWL = 898.00
100 YR HWL = 901.8
CONSTRUCTION LIMITS

0 25 50 100

SECTOR 1

SECTOR 2

SECTOR 3

SECTOR 4

NWL = 894.00
100 YR HWL = 897.4

PROP ROW

CONSTRUCTION LIMITS

EX CP BASS LAKE SPUR

61ST ST S

16TH AVE S

CONSTRUCTION LIMITS

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AECOM PARSONS BRINCKERHOFF

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
GRADING PLAN
OVERALL

DISCIPLINE: CIVIL

SHEET NAME: C-200

SHEET 8 OF 288

Jun. 26 2014 03:10 pm T:\19128A\3200_PEC-W\CAD\OMF\PLAN SHEET\CIVIL\OMF-200-CIV-GRD.dwg By: dayt

PROP ROW

INSTALL SILT FENCE AT LIMITS OF CONSTRUCTION, TYPICAL

T/W: 908.0
B/W: 899.8

CB 24
RIM: 908.0

CB 6
RIM: 908.14

CB 5
RIM: 908.14

908.56

MH 6
RIM: 908.6

MBGF, SEE TRACK TYPICAL SECTION

INLET 1
RIM: 908.24

INLET 2
RIM: 908.24

INLET 3
RIM: 908.24

INLET 4
RIM: 908.24

INSTALL INLET PROTECTION AT ALL CATCH BASINS AND MANHOLES WITHIN AND ADJACENT TO SITE, TYPICAL

FIRST FLOOR ELEVATION
= 908.64

CB 23
RIM: 907.84

CB 7
RIM: 908.08

SEE LS DRAWINGS FOR TURF ESTABLISHMENT

MBGF, SEE TRACK TYPICAL SECTION

CB 20
RIM: 902.2

T/W: 908.6
B/W: 896.7

T/W: 908.6
B/W: 896.3

EX CP BASS LAKE SPUR

CB 22
RIM: 908.17

CB 17
RIM: 906.74

CB 18
RIM: 908.22

CB 19
RIM: 908.25

MH 5
RIM: 908.64

CB 21
RIM: 908.31

CB 20
RIM: 908.42

T/W: 908.6
B/W: 897.6

MATCH LINE - SHEET 11 - SECTOR 3

MATCH LINE - SHEET 10 - SECTOR 2

0 15 30 60

LEGEND: SECTORS

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AECOM PARSONS BRINCKERHOFF

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
GRADING PLAN
SECTOR 1

DISCIPLINE: CIVIL

SHEET NAME: C-201

SHEET 9 OF 288

Jun. 25 2014 03:39 pm T:\19128A\3200_PEC-W\CAD\OMF\PLAN SHEET\CIVIL\OMF-201-CIV-GRD.dwg By: dayt

INSTALL SILT FENCE AT LIMITS OF CONSTRUCTION, TYPICAL

PROP ROW

T/W: 908.6
B/W: 902.8

POTENTIAL FUTURE BACKDOOR CONNECTION

CB 4
RIM: 908.14

908.59

908.64

CB 3
RIM: 908.14

908.14

CB 2
RIM: 908.14

908.57

MBGF, SEE TRACK TYPICAL SECTION

CB 1
RIM: 907.45

908.37

INSTALL INLET PROTECTION AT ALL CATCH BASINS AND MANHOLES WITHIN AND ADJACENT TO SITE, TYPICAL

INLET 12
RIM: 908.60

INLET 11
RIM: 908.60

INLET 10
RIM: 908.60

INLET 9
RIM: 908.60

908.64

908.69

FIRST FLOOR ELEVATION = 908.64

GRADE SHALL BE 2% OR LESS IN ALL DIRECTIONS PER ADA REQUIREMENTS

908.45

908.64

908

908.97

908.64

CB 8
RIM: 907.40

908.64

CB 9
RIM: 907.40

908.83

908.64

MBGF, SEE TRACK TYPICAL SECTION

908.44

INLET 6
RIM: 908.60

908

907.77

907.82

907.42

907.42

907.48

CB 10
RIM: 907.40

907.81

908.64

INLET 7
RIM: 908.60

908.64

908.44

908.44

INLET 5
RIM: 908.60

908

908.81

908.70

908.70

909

908.64

908.64

908.64

910.74

910.26

908.52

PROPOSED BERM. SEE LS DRAWINGS FOR TURF ESTABLISHMENT

INSTALL ROCK CONSTRUCTION ENTRANCE AT ALL LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE, TYPICAL

CB 26
RIM: 907.3

CB 27
RIM: 906.89

905

906

907

908

909

910

MATCH LINE - SHEET 9 - SECTOR 1

MATCH LINE - SHEET 12 - SECTOR 4

0 15 30 60

1 2 3 4

LEGEND: SECTORS

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AECOM PARSONS BRINCKERHOFF

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF) GRADING PLAN SECTOR 2

DISCIPLINE: CIVIL

SHEET NAME: C-202

SHEET 10 OF 288

Jun, 25 2014 03:14 pm T:\19128A\3200_PEC-W\CAD\OMF\PLAN SHEET\CIVIL\OMF-202-CIV-GRD.dwg By: dayt

MATCH LINE - SHEET 10 - SECTOR 1

CB 15
RIM: 908.38

CB 14
RIM: 908.38

CB 16
T/W: 908.6
B/W: 898.3
RIM: 908.37

908.64
908
907
906
905
904
903
902
901
900
899
898
897
896
895

INSTALL INLET PROTECTION AT ALL CATCH BASINS AND MANHOLES WITHIN AND ADJACENT TO SITE, TYPICAL.

SEE LS DRAWINGS FOR TURF ESTABLISHMENT

MATCH LINE - SHEET 12 - SECTOR 4

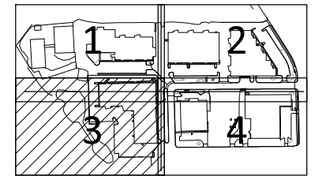
PROP ROW

INSTALL ROCK CONSTRUCTION ENTRANCE AT ALL LOCATION WHERE VEHICLES ENTER AND EXIT THE SITE, TYPICAL

CB 29
RIM: 898.00

INSTALL SILT FENCE AT LIMITS OF CONSTRUCTION, TYPICAL

0 15 30 60



LEGEND: SECTORS

Jun. 24 2014 03:16 pm T:\19128A\3200_PEC-W\CAD\OMF\PLAN SHEET\CIVIL\OMF-203-CIV-GRD.dwg By: dayt

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AECOM PARSONS BRINCKERHOFF

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
GRADING PLAN
SECTOR 3

DISCIPLINE: CIVIL

SHEET NAME: C-203

SHEET 11 OF 288

MATCH LINE - SHEET 10 - SECTOR 2

MATCH LINE - SHEET 11 - SECTOR 3

CB 13
RIM: 908.41

908.64

CB 22
RIM: 901.63

902

901

6TH ST S

MH 3
RIM: 902.63

INLET 8
RIM: 908.60

CB 12
RIM: 907.34

×906.14

907

908

908

907

×903.75

CB 11
RIM: 904.95

904

MH 2
RIM: 908.50

MH 1
RIM: 908.12

PROP ROW

INSTALL INLET PROTECTION AT ALL CATCH BASINS AND MANHOLES WITHIN AND ADJACENT TO SITE, TYPICAL

908

907

SEE LS DRAWINGS FOR TURF ESTABLISHMENT

INSTALL SILT FENCE AT LIMITS OF CONSTRUCTION, TYPICAL

906

905

905

904

MH 4
RIM: 902.20

MH 6
RIM: 901.77

CB 30
RIM: 901.77

15TH AVE S

0 15 30 60

1 2 3 4

LEGEND: SECTORS

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AECOM PARSONS BRINCKERHOFF

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

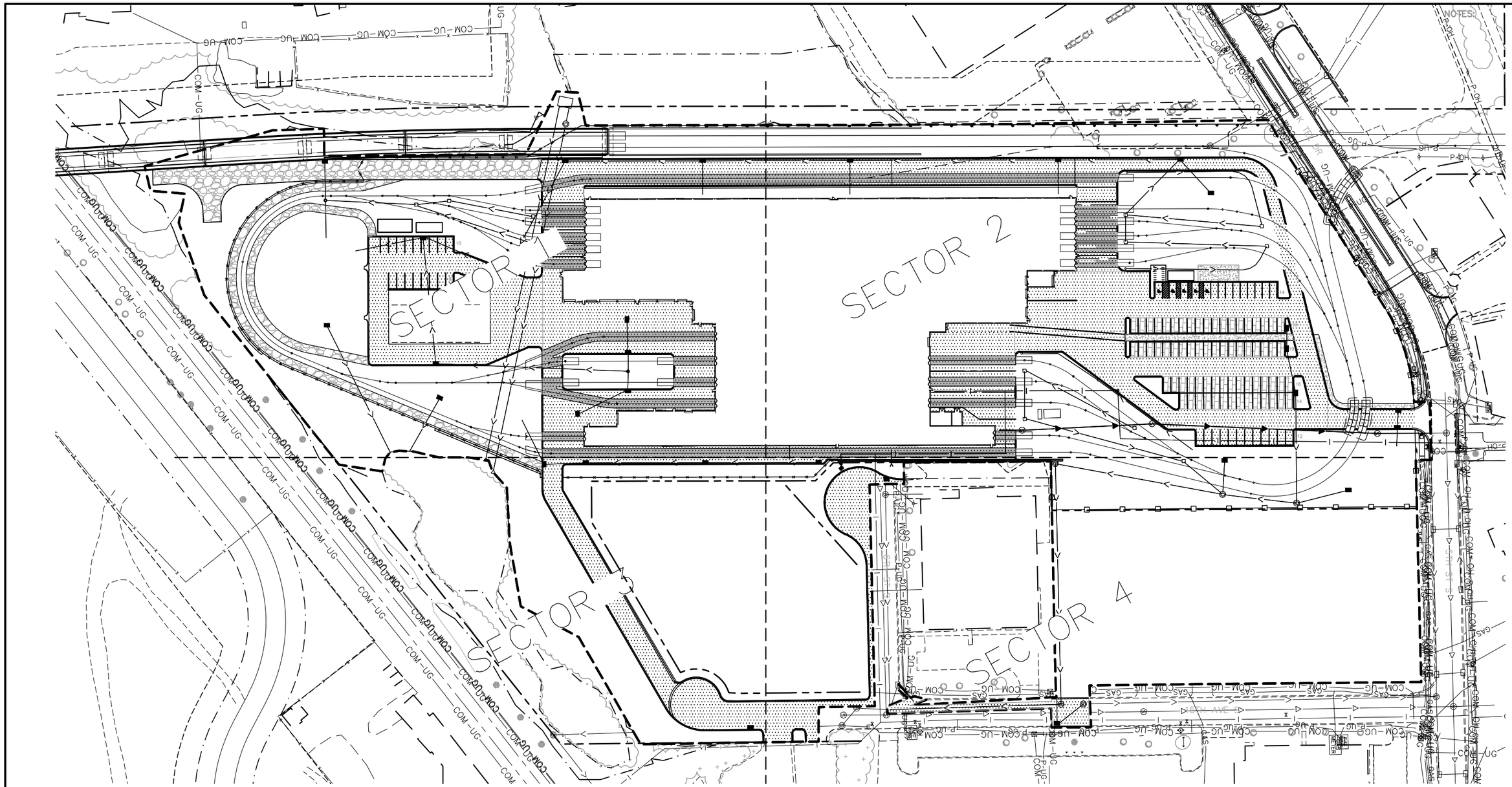
WEST - VOLUME 4 (OMF)
GRADING PLAN
SECTOR 4

DISCIPLINE: CIVIL

SHEET NAME: C-204

SHEET 12 OF 288

Jun. 24 2014 03:31 pm T:\19128A\3200_PEC-W\CAD\OMF\PLAN SHEET\CIVIL\OMF-204-CIV-GRD.dwg By: dayt



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AECOM PARSONS BRINCKERHOFF

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

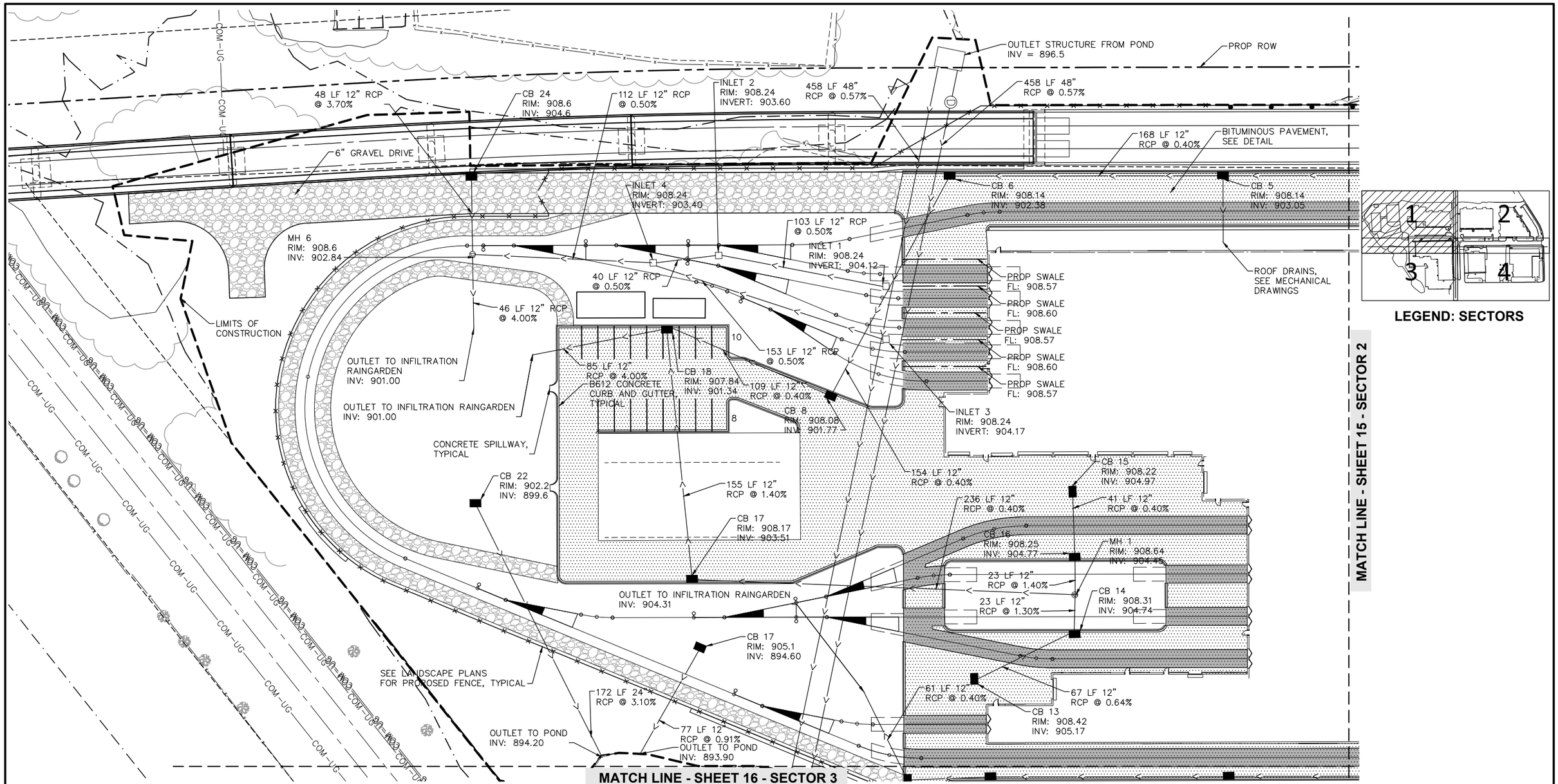
WEST - VOLUME 4 (OMF)
CIVIL
PAVING AND UTILITY PLAN - OVERALL

DISCIPLINE: CIVIL

SHEET NAME: C-300

SHEET 13 OF 288

Jun, 26 2014 10:30 am T:\19128A\3200_PEC-W\CAD\OMF\PLAN SHEET\CIVIL\OMF-300-UTL-SWP.dwg By: dayt



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AECOM PARSONS BRINCKERHOFF

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
PAVING AND UTILITY PLAN
SECTOR 1

SHEET 14 OF 288

DISCIPLINE: CIVIL

SHEET NAME: C-301

Jun, 25 2014 04:01 pm T:\19128A\3200_PEC-W\CAD\OMF\PLAN SHEET\CIVIL\OMF-301-UTL-SWP.dwg By: dayt

SEE LANDSCAPE PLANS FOR PROPOSED FENCE, TYPICAL

PROP ROW

181 LF RCP @ 0.4%

256 LF 12" RCP @ 0.4%

150 LF 12" RCP @ 0.4%

CB 2
RIM: 908.14
INV: 905.39

CB 4
RIM: 908.14
INV: 903.77

CB 3
RIM: 908.14
INV: 904.79

CLEANOUT

56 LF RCP @ 0.4%

95 LF 12" RCP @ 0.5%

168 LF 12" RCP @ 0.5%

CB 1
RIM: 907.45
INV: 905.61

INLET 11
RIM: 908.24
INV: 906.71

INLET 12
RIM: 908.24
INV: 905.87

6" PVC WRAP IN FILTER FABRIC

POTENTIAL FUTURE BACK DOOR

ROOF DRAINAGE, SEE MECHANICAL

PROP SWALE FL: 908.58

PROP SWALE FL: 908.57

PROP SWALE FL: 908.60

PROP SWALE FL: 908.57

PROP SWALE FL: 908.60

34 LF 12" RCP @ 0.5%

174 LF 12" RCP @ 0.5%

INLET 10
RIM: 908.24
INV: 906.24

INLET 9
RIM: 908.24
INV: 907.11

PROP SWALE FL: 908.57

CLEANOUT

BIKE RACKS, SEE LANDSCAPING PLAN

14

ADA PARKING

WHITE PARKING STRIPE, STANDARD

CB 8
RIM: 907.40
INV: 903.80

6" PVC WRAP IN FILTER FABRIC

B612 CONCRETE CURB AND GUTTER TYPICAL

BITUMINOUS PAVEMENT, SEE DETAIL

POROUS PAVERS, TYPICAL

PROP BOLLARD TYPICAL

SOLID WHITE STRIPE, TYPICAL

19

25 LF RCP @ 0.40%

SOLID WHITE STRIPE, TYPICAL

INLET 6
RIM: 908.60
INV: 902.40

CLEANOUT

6" PVC WRAP IN FILTER FABRIC

58 LF 12" RCP @ 0.5%

CONCRETE SIDEWALK, SEE DETAIL

CB 9
RIM: 907.40
INV: 903.70

56 LF RCP @ 0.40%

PROP SWALE FL: 908.49

PROP SWALE FL: 908.49

4" DIP

CLEANOUT

PROP WATER GATE VALVE, TYPICAL

16

CB 26
RIM: 907.35
INV: 904.85

148 LF 12" RCP @ 0.5%

14

INLET 7
RIM: 908.60
INV: 902.11

6" PVC WRAP IN FILTER FABRIC

CB 10
RIM: 907.40
INV: 903.48

25 LF RCP @ 0.40%

135 LF RCP @ 0.40%

25 LF RCP @ 0.40%

PROP SWALE FL: 908.24

28 LF 6" PVC @ 1.50%

193 LF 12" RCP @ 0.5%

159 LF 6" PVC @ 1.50%

12

276 LF 6" PVC @ 1.50%

CB 27
RIM: 906.89
INV: 904.75

25 LF RCP @ 0.40%

OUTLET TO RAINGARDEN
INV: 904.65

SSWR MH 2
RIM: 908.60
INV: 896.21

MATCH LINE - SHEET 17 - SECTOR 4

6" DIP

PROP SWALE FL: 908.43

SSWR MH 1
RIM: 908.60
INV: 898.64

INLET 5
RIM: 908.60
INV: 903.14

INLET 8
RIM: 908.60
INV: 901.14

SSWR MH 3
RIM: 906.90
INV: 892.37

0 15 30 60

1 2 3 4

LEGEND: SECTORS

MATCH LINE - SHEET 14 - SECTOR 1

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AECOM PARSONS BRINCKERHOFF

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
PAVING AND UTILITY PLAN
SECTOR 2

DISCIPLINE: CIVIL

SHEET NAME: C-302

SHEET 15 OF 288

Jun, 25 2014 04:11 pm T:\19128A\3200_PEC-W\CAD\OMF\PLAN SHEET\CIVIL\OMF-302-UTL-SWP.dwg By: doyt

MATCH LINE - SHEET 14 - SECTOR 1

CB 16
RIM: 908.37
INV: 904.55

OUTLET TO POND
INV: 893.90

147 LF RCP
@ 0.40 %

CB 15
RIM: 908.38
INV: 904.76

CB 14
RIM: 908.38
INV: 905.35

139 LF RCP
@ 0.40 %

52 LF RCP
@ 0.40 %

SEE LANDSCAPE PLANS
FOR PROPOSED FENCE, TYPICAL

B612 CONCRETE CURB
AND GUTTER, TYPICAL

BITUMINOUS PAVEMENT,
SEE DETAIL

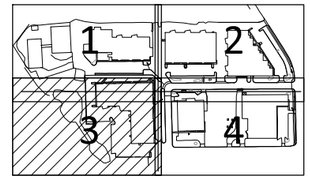
PROP ROW

D412 CONCRETE CURB
AND GUTTER

CB 29
RIM: 898.00
INV: 894.64

MATCH LINE - SHEET 17 - SECTOR 4

COM-UG



LEGEND: SECTORS

0 15 30 60

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AECOM PARSONS BRINCKERHOFF

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST
Green Line LRT Extension

WEST - VOLUME 4 (OMF)
PAVING AND UTILITY PLAN
SECTOR 3

DISCIPLINE: CIVIL

SHEET NAME: C-303

SHEET 16 OF 288

Jun, 24 2014 03:36 pm T:\19128A\3200_PEC-W\CAD\OMF\PLAN SHEET\CIVIL\OMF-303-UTL-SWP.dwg By: dayt

MATCH LINE - SHEET 14 - SECTOR 2

MATCH LINE - SHEET 16 - SECTOR 3

CB 13
RIM: 908.41
INV: 905.91
139 LF 12" RCP
@ 0.40%

CB 28
RIM: 901.63
INV: 897.00

PROP POST
INDICATOR VALVE,
SEE MECHANICAL

PROP FIRE
HYDRANT

BITUMINOUS PAVEMENT,
SEE DETAIL

B612 CONCRETE CURB
AND GUTTER, TYPICAL

MH 3
RIM: 902.63
INV: 900.01

INLET 8
RIM: 908.60
INV: 901.14

CB 12
RIM: 907.34
INV: 902.05

41 LF 12" RCP
@ 3.00%

135 LF 12" RCP
@ 0.40%

60 LF 12" RCP
@ 0.53%

200 LF 12" RCP
@ 0.40%

MH 2
RIM: 908.50
INV: 900.82

MH 1
RIM: 908.12
INV: 901.19

CB 11
RIM: 904.95
INV: 901.45

PROP ROW

PROP FENCE
SEE LANDSCAPE PLANS

92 LF 12" RCP
@ 0.40%

66 LF 12" RCP
@ 0.40%

300 LF 12" RCP
@ 0.40%

EX CB 3
RIM: 899.96
IN PLACE INV: 897.16

EX CB 1
RIM: 901.84
IN PLACE INV: 898.59

MH 4
RIM: 902.20
INV: 898.78

MH 5
RIM: 902.20
INV: 898.25

28 LF 12" RCP
@ 0.40%

210 LF 12" RCP
@ 1.13%

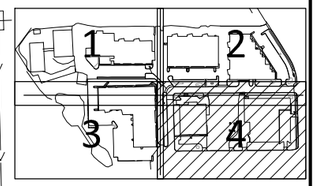
EX MH 1
RIM: 900.73
IN PLACE INV: 896.40

EX CB 2
RIM: 900.18
IN PLACE INV: 897.27

42 LF 12" RCP
@ 0.52%

30 LF 12" RCP
@ 0.40%

CB 30
RIM: 901.77
INV: 898.47



LEGEND: SECTORS

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HORIZONTAL
SCALE IN FEET

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AECOM PARSONS BRINCKERHOFF

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

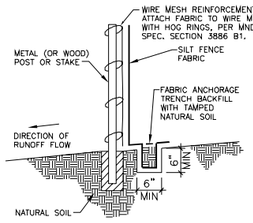
WEST - VOLUME 4 (OMF)
PAVING AND UTILITY PLAN
SECTOR 4

DISCIPLINE: CIVIL

SHEET NAME: C-304

SHEET 17 OF 288

Jun. 24 2014 03:41 pm T:\19128A\3200_PEC-W\CAD\OMF\PLAN SHEET\CIVIL\OMF-304-UTL-SWP.dwg By: doyt



NOTE: SILT FENCE SHALL FOLLOW MNDOT SPEC. SECTION 3886.

FIGURE 1 TYPICAL INSTALLATION FOR SILT FENCE

DESIGN RECOMMENDATIONS

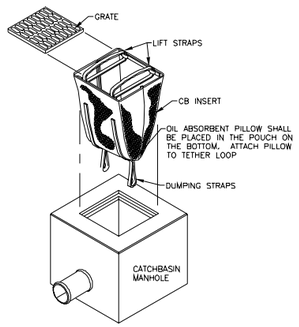
1. SILT FENCES SHOULD BE INSTALLED ON THE CONTOUR (AS OPPOSED TO UP AND DOWN A HILL) AND CONSTRUCTED SO THAT FLOW CANNOT BYPASS THE ENDS.
2. ENSURE THAT THE DRAINAGE AREA IS NO GREATER THAN 1/4 ACRE PER 100 FT OF FENCE.
3. MAKE THE FENCE STABLE FOR THE 10-YEAR PEAK STORM RUNOFF.
4. WHERE ALL RUNOFF IS TO BE STORED BEHIND THE SILT FENCE, ENSURE THAT THE MAXIMUM SLOPE LENGTH BEHIND THE FENCE DOES NOT EXCEED THE SPECIFICATIONS SHOWN IN TABLE 1.

TABLE 1 MAXIMUM SLOPE LENGTH AND SLOPE FOR WHICH SILT FENCE IS APPLICABLE

		BY CALCULATION	BY CALCULATION	BY ACCEPTED DESIGN PRACTICES
SLOPE H:V	PERCENT	SILT FENCE STORAGE EQUALES 2 FT FOR A 100-YEAR EVENT	SILT FENCE STORAGE EQUALS 2 FT FOR A 2-YEAR EVENT OR 3 FT FOR A 100-YEAR EVENT	
100:1	1%	400 FT	900 FT	100 FT
50:1	2%	200 FT	450 FT	75 FT
25:1	4%	100 FT	225 FT	75 FT
20:1	5%	80 FT	180 FT	75-50 FT
17:1	6%	67 FT	150 FT	50 FT
12.5:1	8%	50 FT	112 FT	50 FT
10:1	10%	40 FT	90 FT	50-25 FT
5:1	20%	20 FT	45 FT	25-15 FT
4:1	25%	16 FT	36 FT	15 FT
3:1	33%	12 FT	27 FT	15 FT
2:1	50%	8 FT	18 FT	15 FT

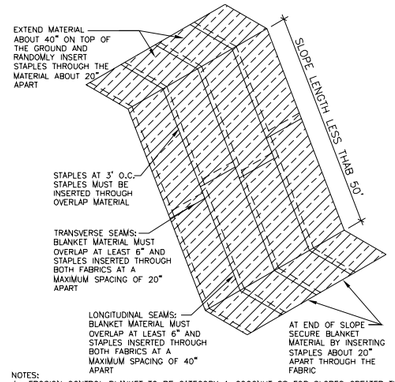
1 C-401 HEAVY DUTY SILT FENCE DETAIL — NO SCALE

CASTING SCHEDULE		
CATCH BASIN/MANHOLE	GRATE TYPE (NEENAH)	REMARKS
	R-2561-A	BEEHIVE
	R-3250-A	CURB INLET
	R-1642-A	STORM MH



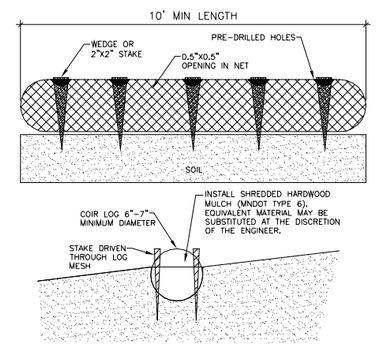
1. OIL ABSORBENT PILLOW SHALL BE REMOVED AND REPLACED WHEN NEAR SATURATION.
2. USE DANDY BAG 18" AS MANUFACTURED BY DANDY PRODUCTS, INC.
3. AN EQUIVALENT CATCHBASIN EROSION CONTROL INSERT METHOD OR PRODUCT MAY BE USED WITH PRIOR APPROVAL FROM ENGINEER.

2 C-401 CB INSERT EROSION CONTROL — NO SCALE

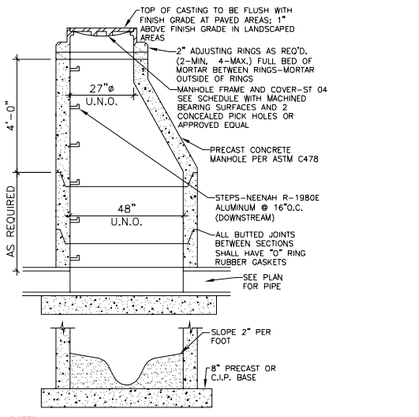


NOTES:
1. EROSION CONTROL BLANKET TO BE CATEGORY 4-COCONUT 2S FOR SLOPES GREATER THAN 5:1 AND SIDES AND BOTTOM OF ALL DRAINAGE SWALES AND PONDING AREAS AND CATEGORY 2-STRAW 2S FOR ALL SLOPES LESS THAN 5:1 PER MNDOT SPEC. SECTION 3885.
2. INSTALL PER MNDOT SPEC. SECTION 2575

3 C-401 EROSION CONTROL BLANKET — NO SCALE

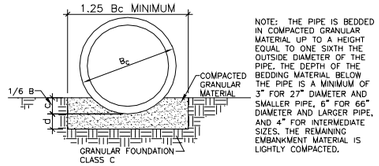


4 C-401 COIR LOG — NO SCALE



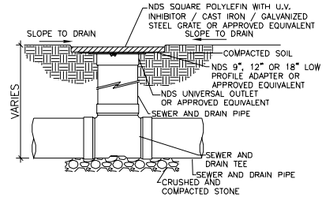
NOTES:
1. MANHOLES 8' OR DEEPER – THE PRECAST SECTION IMMEDIATELY BELOW THE CONCRETE SECTION SHALL BE 1'-0" HIGH.
2. PROVIDE STEPS IN MANHOLES OVER 4-0" IN DEPTH.
3. REINFORCING SHALL BE A MINIMUM OF A SINGLE LINE WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.12 SQ. IN. PER FOOT OF HEIGHT.
4. PROVIDE SNAP-IN BOOT AT ALL SANITARY SEWER CONNECTIONS TO MANHOLES.

8 C-401 STANDARD SEWER MANHOLE — NO SCALE

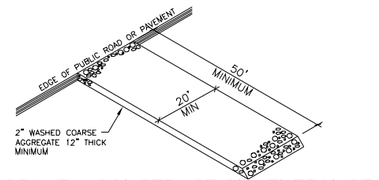


NOTE: THE PIPE IS BEDDED IN COMPACTED GRANULAR MATERIAL UP TO A HEIGHT EQUAL TO ONE SIXTH THE OUTSIDE DIAMETER OF THE PIPE, THE DEPTH OF THE BEDDING MATERIAL BELOW THE PIPE IS A MINIMUM OF 3" FOR 27" DIAMETER AND SMALLER PIPE, 6" FOR 66" DIAMETER AND LARGER PIPE, AND 4" FOR INTERMEDIATE SIZES. THE REMAINING EMBANKMENT MATERIAL IS LIGHTLY COMPACTED.

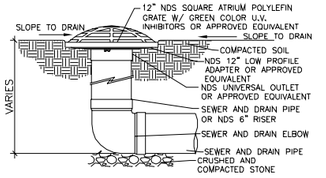
5 C-401 CLASS C PIPE BEDDING — NO SCALE



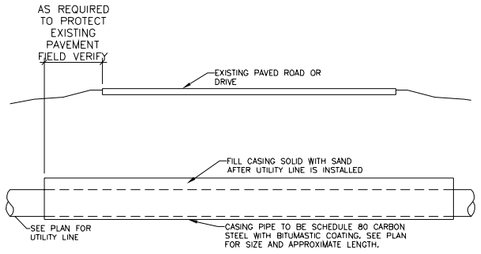
6 C-401 NDS SQUARE GRATE WITH ADAPTER GRATE WITH TEE — NO SCALE



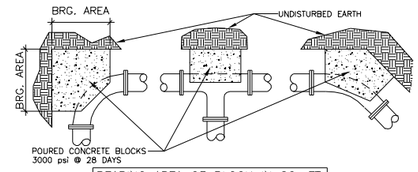
7 C-401 GRAVEL CONSTRUCTION ENTRANCE — NO SCALE



9 C-401 SQUARE ATRIUM GRATE — NO SCALE



10 C-401 CASING DETAIL — NO SCALE



BEARING AREA OF BLOCK IN SQ. FT.			
FITTING SIZE	TEE & END	90° BEND	45° BEND
3"	0.6	0.9	0.5
4"	1.1	1.5	0.8
6"	2.4	3.4	1.9
8"	4.3	6.1	3.3
10"	6.7	9.5	5.2
12"	9.7	13.7	7.4

NOTE:
1. CONTRACTOR MAY PROVIDE "MEGALUG" JOINT RESTRAINT AS AN ALTERNATIVE TO CONCRETE THRUST BLOCKS. TIE MINIMUM 3 JOINTS EACH SIDE OF FITTING.

11 C-401 TYPICAL THRUST BLOCK DETAIL — NO SCALE

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

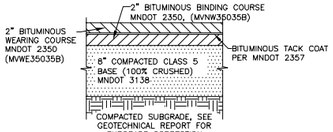
WEST - VOLUME 4 (OMF)
CIVIL DETAILS
OMF

DISCIPLINE: CIVIL

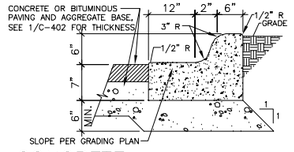
SHEET NAME: C-401

SHEET 18 OF 288

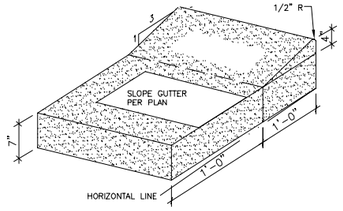
Jun. 25 2014 04:19 pm T:\19128A\3200_PEC-W\CAD\OMF\PLAN SHEET\CIVIL\OMF-801-CIV-DET.dwg By: doyt



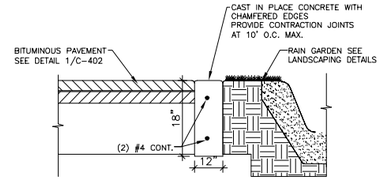
1 C-402 BITUMINOUS PAVEMENT DETAIL — NO SCALE



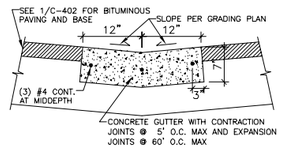
2 C-402 CONCRETE CURB & GUTTER (B612) — NO SCALE



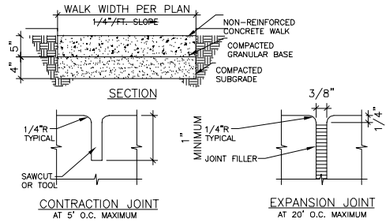
3 C-402 CONCRETE CURB & GUTTER (D412) — NO SCALE



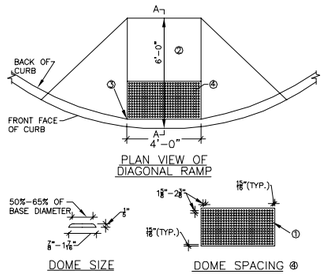
4 C-402 CONCRETE EDGING DETAIL — NO SCALE



5 C-402 CONCRETE THROUGH GUTTER — NO SCALE



6 C-402 CONCRETE WALK & JOINT DETAILS — NO SCALE

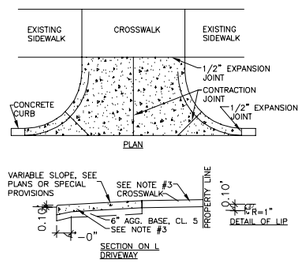


NOTE:

TO COMPLY WITH THE AMERICANS DISABILITIES ACT (ADA), ALL STATE AND LOCAL AGENCIES ARE REQUIRED TO COMPLY WITH THIS STANDARD PLATE.

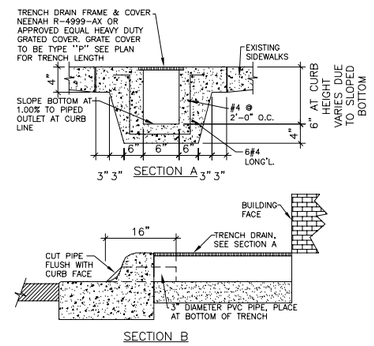
1. ½ INCH PERFORMED JOINT FILLER MATERIAL, AASHTO M213.
2. WHEN POSSIBLE, PROVIDE A CLEAR PATH OF TRAVEL 4'-0" WIDE BEHIND THE PEDESTRIAN RAMP. A RELATIVELY FLAT 4' X 4' WILL ALLOW WHEELCHAIRS TO NAVIGATE AROUND THE PEDESTRIAN RAMP. NO SIGNALS, SIGNS, CABINETS, OR OTHER OBSTRUCTIONS ARE ALLOWED IN THE RAMP OF PATH OF TRAVEL
3. PLACE THE DETECTABLE WARNINGS (TRUNCATED DOMES) AT THE BACK OF CURB. WHEN THE DETECTABLE SHALL BE HAND FORMED TO FILL THE GAP.
4. ADA REQUIRED TRUNCATED DOME AREA SHALL BE 2'-0" MIN. IN DIRECTION OF TRAVEL AND SHALL CONTRAST VISUALLY WITH THE ADJACENT WALKING SURFACE. THE ENTIRE TRUNCATED DOME AREA SHALL BE A LIGHT (GRAY OR BUFF) COLOR WHEN THE ADJACENT SIDEWALK IS A DARK COLOR (RED OR DARK GRAY) WHEN THE ADJACENT SIDEWALK IS A LIGHT GRAY CEMENT COLOR.

7 C-402 PEDESTRIAN CURB RAMP — NO SCALE

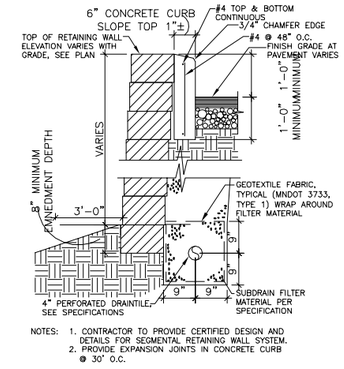


1. PANEL WIDTH SHALL NOT EXCEED 10' WITHOUT A CENTERLINE CONTRACTION JOINT.
2. DRIVEWAY TO BE ONE COURSE CONCRETE PAVEMENT. (SEE SPECIAL PROVISION FOR CLASS OF CONCRETE)
3. 6" THICK FOR RESIDENTIAL, 8" THICK FOR COMMERCIAL DRIVES AND ALLEYS.

8 C-402 CONCRETE DRIVEWAY – TYPE 2 — NO SCALE
PER CITY OF ST. PAUL STANDARD PLATE NO. 1201C

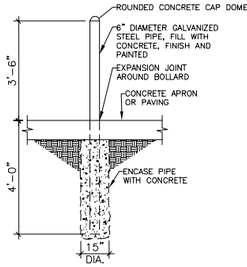


9 C-402 TRENCH DRAIN IN SIDEWALK — NO SCALE

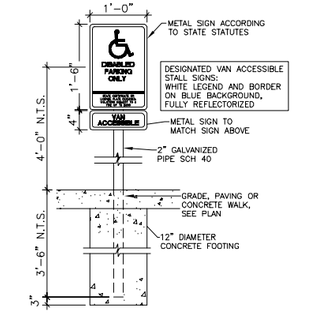


NOTES:
1. CONTRACTOR TO PROVIDE CERTIFIED DESIGN AND DETAILS FOR SEGMENTAL RETAINING WALL SYSTEM.
2. PROVIDE EXPANSION JOINTS IN CONCRETE CURB @ 30' O.C.

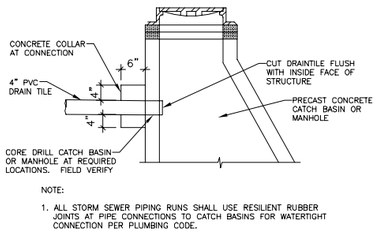
10 C-402 MODULAR RETAINING WALL DETAIL — NO SCALE



11 C-402 BOLLARD DETAIL — NO SCALE



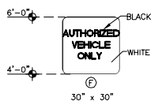
12 C-402 ACCESSIBLE PARKING SIGN — NO SCALE



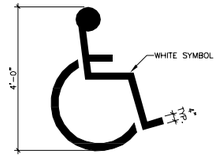
NOTE:

1. ALL STORM SEWER PIPING RUNS SHALL USE RESILIENT RUBBER JOINTS AT PIPE CONNECTIONS TO CATCH BASINS FOR WATERTIGHT CONNECTION PER PLUMBING CODE.

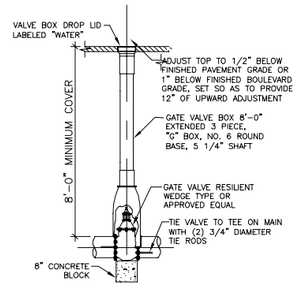
13 C-401 DRAINTILE TO CB/MH CONNECTION — NO SCALE



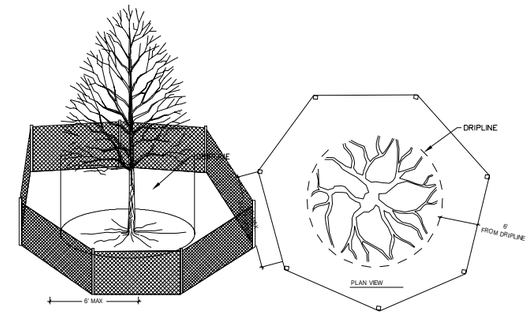
14 C-402 AUTHORIZED VEHICLES ONLY SIGN — NO SCALE



15 C-402 HC PARKING SYMBOL — NO SCALE



16 C-402 GATE VALVE AND BOX — NO SCALE



17 C-402 TREE PROTECTION DETAIL — NO SCALE

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
CIVIL DETAILS
OMF

DISCIPLINE: CIVIL

SHEET NAME: C-402

SHEET 19 OF 288

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LANDSCAPE GENERAL NOTES:

1. SEE TURF ESTABLISHMENT PLANS FOR SOD AND SEEDING.

2. REFER TO PLANT SCHEDULE ON SHEET 34.

5. REFER TO PLANTING DETAILS, SHEET 31 - 35.

3. METAL EDGER SHALL BE INSTALLED TO SEPARATE ALL AREAS OF MULCH AND TURF/NATIVE SEED OR SOD.

4. ALL SHRUB MASS PLANTING BEDS AND INDIVIDUAL TREE LOCATIONS SHALL RECEIVE SHREDDED HARDWOOD MULCH PER THE DETAILS.

LANDSCAPE SHEET INDEX

#	SHEET NAME	SHEET TITLE	SCALE
20	LS-000	LANDSCAPE SHEET INDEX	NA
21	LS-100	LANDSCAPE PLAN - OVERALL	1"=60'
22	LS-101	LANDSCAPE PLAN - SECTOR 1	1"=30'
23	LS-102	LANDSCAPE PLAN - SECTOR 2	1"=30'
24	LS-103	LANDSCAPE PLAN - SECTOR 3	1"=30'
25	LS-104	LANDSCAPE PLAN - SECTOR 4	1"=30'
26	LS-105	TURF ESTABLISHMENT PLAN - OVERALL	1"=60'
27	LS-106	TURF ESTABLISHMENT PLAN - SECTOR 1	1"=30'
28	LS-107	TURF ESTABLISHMENT PLAN - SECTOR 2	1"=30'
29	LS-108	TURF ESTABLISHMENT PLAN - SECTOR 3	1"=30'
30	LS-109	TURF ESTABLISHMENT PLAN - SECTOR 4	1"=30'
31	LS-110	PLANTING DETAILS	NA
32	LS-111	PLANTING DETAILS	NA
33	LS-112	PLANTING DETAILS	NA
34	LS-113	PLANTING DETAILS	NA
35	LS-114	MISC DETAILS	NA

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AECOM SRF Consulting Group, Inc.

PRELIMINARY DESIGN

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

WEST - VOLUME 4 (OMF)
LANDSCAPING
SHEET INDEX

DISCIPLINE: LANDSCAPE

SHEET NAME: LS-000

SHEET 20 OF 288

MINNETONKA POND
END FENCE TYPES B/C
FENCE TYPE B, TYP.
END FENCE TYPE B
FENCE TYPE C, TYP.
GATE, TYP.
FUTURE POTENTIAL ACCESS
END FENCE TYPE A
MINNETONKA
HOPKINS
INFILTRATION BASIN
BERM - SEE GRADING PLAN
INFILTRATION BASIN
5TH STREET SOUTH
BREAK AREA
FENCE TYPE C, TYP.
INFILTRATION BASIN
INFILTRATION BASIN
END FENCE TYPE A
END FENCE TYPES A/C
CP RAIL ROAD
END FENCE TYPE C, WITH GATE
FENCE TYPE C, TYP.
FENCE TYPE A, TYP.
HOPKINS POND
15TH AVE. SOUTH

NOTES:

1. SEE GENERAL NOTES ON SHEET 20.

LEGEND

- SHRUB OR PERENNIAL LANDSCAPE PLANTING
- DECIDUOUS TREE
- ORNAMENTAL TREE
- CONIFEROUS TREE
- FENCE TYPE A (8' SCREENING)
- FENCE TYPE B (6' TRANSITION)
- FENCE TYPE C (6' CHAIN LINK)

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PRELIMINARY DESIGN

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

WEST - VOLUME 4 (OMF)
LANDSCAPING
SITE PLAN - OVERALL

DISCIPLINE: LANDSCAPE

SHEET NAME: LS-100

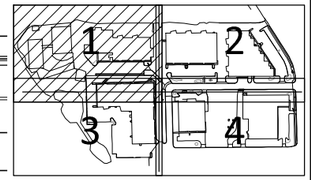
SHEET 21 OF 288

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NOTES:

1. SEE GENERAL NOTES, SHEET 20.

0 15 30 60



LEGEND: SECTORS

END FENCE TYPES C/B

FENCE TYPE B, TYP.

T/W: 908.0
B/W: 899.8

T/W: 908.6
B/W: 899.8

RETAINING WALL, SEE STRUCTURAL PLANS

908.56

INFILTRATION BASIN

907.53

908.08

908.25

907.39

908.64

908.61

908.60

908.55

908.53

907.46

908.54

908.22

908.40

908.24

907.40

908.42

908.64

T/W: 908.6
B/W: 896.7

T/W: 908.6
B/W: 896.3

T/W: 908.6
B/W: 897.6

FENCE TYPE C, TYP.

EX CP RAIL LAKESHORE SPUR

MATCH LINE - SHEET 2 - SECTOR 2

MATCH LINE - SHEET 24 - SECTOR

LEGEND

- SHRUB OR PERENNIAL LANDSCAPE PLANTING
- DECIDUOUS TREE
- ORNAMENTAL TREE
- CONIFEROUS TREE
- FENCE TYPE A (8' SCREENING)
- FENCE TYPE B (6' TRANSITION)
- FENCE TYPE C (6' CHAIN LINK)

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AECOM SRF Consulting Group, Inc.

PRELIMINARY DESIGN

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extention

WEST - VOLUME 4 (OMF) LANDSCAPING SITE PLAN - SECTOR 1

DISCIPLINE: LANDSCAPE

SHEET NAME: LS-101

SHEET 22 OF 288

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RETAINING WALL, SEE STRUCTURAL PLANS

T/W: 908.6
B/W: 902.8

FENCE TYPE B, TYP.

END FENCE TYPE B

LIMITS OF CONST., TYP.

908.59 908.64 908.14 908.57

908.37 908.64 908.64 908.64 908.64 908.44 908.44 908.64 908.64 908.64 908.64 908.44 908.70 908.81 908.52 908.64 908.64

907 908 908 909 908 908 909

906.25

BIKE RACKS

BENCHES

PICNIC TABLES

BREAK AREA CONC. PAD

908.69 908.45

908.97 907.50 907.47 907.83

POROUS PAVERS, TYP.
SEE CIVIL PLANS

907.77 907.82 907.42 907.42 907.81

FLAGPOLE WITH UPLIGHTING

908.81 908.78

906.14

INFILTRATION BASIN

5TH STREET SOUTH

FENCE TYPE A, TYP.

910 910 910

MATCH LINE - SHEET 22 - SECTOR 1

MATCH LINE - SHEET 25 - SECTOR 4

NOTES:
1. SEE GENERAL NOTES, SHEET 20.

0 15 30 60

1 2 3 4

LEGEND: SECTORS

LEGEND

- SHRUB OR PERENNIAL LANDSCAPE PLANTING
- DECIDUOUS TREE
- ORNAMENTAL TREE
- CONIFEROUS TREE
- FENCE TYPE A (8' SCREENING)
- FENCE TYPE B (6' TRANSITION)
- FENCE TYPE C (6' CHAIN LINK)

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AECOM SRF Consulting Group, Inc.

PRELIMINARY DESIGN

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF) LANDSCAPING SITE PLAN - SECTOR 2

DISCIPLINE: LANDSCAPE

SHEET NAME: LS-102

SHEET 23 OF 288

Aug, 29 2014 08:28 am H:\Projects\7984\3200_PEC-W\CAD\OMF\PLAN SHEET\LANDSCAPE\OMF-LANDSCAPE-PLANS.dwg By: sjergens

MATCH LINE - SHEET 22 - SECTOR 1

HOPKINS POND

T/W: 908.6
B/W: 898.3

CONSTRUCTION LIMITS, TYP.

FENCE TYPE C, TYP.

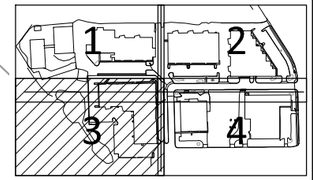
GATE, TYP.

15TH AVENUE SOUTH

MATCH LINE - SHEET 27 - SECTOR 4

NOTES:
1. SEE GENERAL NOTES, SHEET 20.

0 15 30 60



LEGEND: SECTORS

LEGEND

- SHRUB OR PERENNIAL LANDSCAPE PLANTING
- DECIDUOUS TREE
- ORNAMENTAL TREE
- CONIFEROUS TREE
- FENCE TYPE A (8' SCREENING)
- FENCE TYPE B (6' TRANSITION)
- FENCE TYPE C (6' CHAIN LINK)

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AECOM SRF Consulting Group, Inc.

PRELIMINARY DESIGN

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

WEST - VOLUME 4 (OMF) LANDSCAPING SITE PLAN - SECTOR 3

DISCIPLINE: LANDSCAPE

SHEET NAME: LS-103

SHEET 24 OF 288

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MATCH LINE - SHEET 23 - SECTOR 2

MATCH LINE - SHEET 24 - SECTOR 3

908.64

908.64

908.64

END FENCE TYPES A/C

FENCE TYPE C, TYP.

CONSTRUCTION LIMITS, TYP.

INFILTRATION BASIN

×906.14

×903.75

INFILTRATION BASIN

FENCE TYPE A, TYP.

902

901

908.70

909

908

907

906

905

904

903

5TH STREET SOUTH

15TH AVENUE SOUTH

NOTES:
1. SEE GENERAL NOTES, SHEET 20.

0 15 30 60

1 2 3 4

LEGEND: SECTORS

LEGEND

- SHRUB OR PERENNIAL LANDSCAPE PLANTING
- DECIDUOUS TREE
- ORNAMENTAL TREE
- CONIFEROUS TREE
- FENCE TYPE A (8' SCREENING)
- FENCE TYPE B (6' TRANSITION)
- FENCE TYPE C (6' CHAIN LINK)

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AECOM SRF Consulting Group, Inc.

PRELIMINARY DESIGN

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

WEST - VOLUME 4 (OMF) LANDSCAPING SITE PLAN - SECTOR 4

DISCIPLINE: LANDSCAPE

SHEET NAME: LS-104

SHEET 25 OF 288

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MINNETONKA POND

FUTURE POTENTIAL ACCESS

INFILTRATION BASIN

INFILTRATION BASIN

INFILTRATION BASIN

POROUS PAVERS, TYP. SEE CIVIL PLANS

INFILTRATION BASIN

5TH STREET SOUTH

HOPKINS POND

CP RAIL ROAD

15TH AVENUE SOUTH

0 50 100

NOTES:

1. SEE GENERAL NOTES, SHEET 20

LEGEND

- SOD PER MNDOT 2571
- LOW MAINTENANCE TURF MNDOT SEED MIX #25-131
- MESIC PRAIRIE MNDOT SEED MIX #35-241
- NATIVE INFILTRATION BASIN MNDOT SEED MIX #33-261

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AECOM SRF Consulting Group, Inc.

PRELIMINARY DESIGN

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

WEST - VOLUME 4 (OMF)
TURF ESTABLISHMENT
SITE PLAN - OVERALL

DISCIPLINE: LANDSCAPE

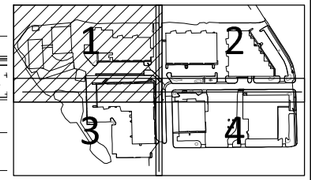
SHEET NAME: LS-105

SHEET 26 OF 288

Aug. 29 2014 08:18 am H:\Projects\7984\3200_PEC-W\CAD\OMF\PLAN SHEET\LANDSACPE\OMF-TURF-EST-PLANS.dwg By: sjergens

NOTES:
1. SEE GENERAL NOTES, SHEET 20.

0 15 30 60



LEGEND: SECTORS

RETAINING WALL, SEE STRUCTURAL PLANS

INFILTRATION BASIN

INFILTRATION BASIN

EX CP RAIL ROAD

CP RAIL ROAD

MATCH LINE - SHEET 28 - SECTOR 2

MATCH LINE - SHEET 29 - SECTOR 3

LEGEND

- SOD PER MNDOT 2571
- LOW MAINTENANCE TURF MNDOT SEED MIX #25–131
- MESIC PRAIRIE MNDOT SEED MIX #35–241
- NATIVE INFILTRATION BASIN MNDOT SEED MIX #33–261

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PRELIMINARY DESIGN

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

WEST - VOLUME 4 (OMF) TURF ESTABLISHMENT SITE PLAN - SECTOR 1

DISCIPLINE: LANDSCAPE

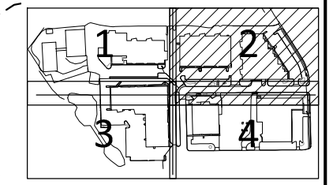
SHEET NAME: LS-106

SHEET 27 OF 288

Aug. 29 2014 08:19 am H:\Projects\7984\3200_PEC-W\CAD\OMF\PLAN SHEET\LANDSCAPE\OMF-TURF-EST-PLANS.dwg By: sjergens

NOTES:
1. SEE GENERAL NOTES, SHEET 20.

0 15 30 60



LEGEND: SECTORS

RETAINING WALL, SEE STRUCTURAL PLANS

POTENTIAL FUTURE ACCESS

1420

2420

K-TEL DRIVE

INFILTRATION BASIN

5TH STREET SOUTH

POROUS PAVERS, TYP.
SEE CIVIL PLANS

PLANTING BED – SEE LANDSCAPE PLANS

INFILTRATION BASIN

LEGEND

- SOD PER MNDOT 2571
- LOW MAINTENANCE TURF MNDOT SEED MIX #25–131
- MESIC PRAIRIE MNDOT SEED MIX #35–241
- NATIVE INFILTRATION BASIN MNDOT SEED MIX #33–261

MATCH LINE - SHEET 27 - SECTOR 1

MATCH LINE - SHEET 30 - SECTOR 4

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AECOM SRF Consulting Group, Inc.

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

PRELIMINARY DESIGN

WEST - VOLUME 4 (OMF) TURF ESTABLISHMENT SITE PLAN - SECTOR 2

DISCIPLINE: **LANDSCAPE**

SHEET NAME: **LS-107**

SHEET **28** OF **288**

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MATCH LINE - SHEET 27 - SECTOR 1

RETAINING WALL, SEE STRUCTURAL PLANS

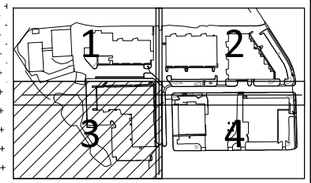
HOPKINS POND

15TH AVENUE SOUTH

MATCH LINE - SHEET 30 - SECTOR 4

NOTES:
1. SEE GENERAL NOTES, SHEET 20.

0 15 30 60



LEGEND: SECTORS

LEGEND

- SOD PER MNDOT 2571
- LOW MAINTENANCE TURF MNDOT SEED MIX #25–131
- MESIC PRAIRIE MNDOT SEED MIX #35–241
- NATIVE INFILTRATION BASIN MNDOT SEED MIX #33–261

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AECOM SRF Consulting Group, Inc.

PRELIMINARY DESIGN

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

WEST - VOLUME 4 (OMF) TURF ESTABLISHMENT SITE PLAN - SECTOR 3

DISCIPLINE: LANDSCAPE

SHEET NAME: LS-108

SHEET 29 OF 288

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MATCH LINE - SHEET 28 - SECTOR 2

MATCH LINE - SHEET 29 - SECTOR 3

INFILTRATION BASIN

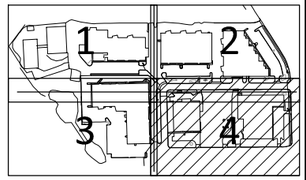
INFILTRATION BASIN

5TH STREET SOUTH

15TH AVENUE SOUTH

NOTES:
1. SEE GENERAL NOTES, SHEET 20.

0 15 30 60



LEGEND: SECTORS

TURF ESTABLISHMENT LEGEND

- SOD PER MNDOT 2571
- LOW MAINTENANCE TURF MNDOT SEED MIX #25–131
- MESIC PRAIRIE MNDOT SEED MIX #35–241
- NATIVE INFILTRATION BASIN MNDOT SEED MIX #33–261

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PRELIMINARY DESIGN

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

WEST - VOLUME 4 (OMF) TURF ESTABLISHMENT SITE PLAN - SECTOR 4

DISCIPLINE: LANDSCAPE

SHEET NAME: LS-109

SHEET 30 OF 288

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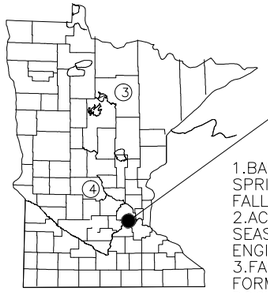
GENERAL NOTES

SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS.	
REFER TO MnDOT SPECIFICATIONS 2571, 3861, AND THE 2014 INSPECTION AND CONTRACT ADMINISTRATION MANUAL FOR MnDOT LANDSCAPE PROJECTS" FOR GENERAL REQUIREMENTS.	
COMPLETE PREPARATORY WORK BEFORE STARTING INITIAL PLANTING OPERATIONS.	
ACCEPT ALL PLANT STOCK IN ACCORDANCE WITH (MnDOT 3861) PRIOR TO PLANTING	
THE CONTRACTOR WILL DEMONSTRATE COMPETENCY FOR SOIL CULTIVATION OPERATIONS IN ACCORDANCE WITH (MnDOT 2571.3D2 STEP 4)	
THE CONTRACTOR WILL DEMONSTRATE COMPETENCY FOR ALL PLANT INSTALLATION OPERATIONS IN ACCORDANCE WITH (MnDOT 2571.3F1)	
RODENT PROTECTION	SEE SPECIAL PROVISIONS AND STANDARD PLANTING DETAILS
FERTILIZER	SEE SPECIAL PROVISIONS
COMPOST	MnDOT 3890 GRADE 2 UNLESS OTHERWISE SPECIFIED.
MULCH MATERIAL	MnDOT 3882 TYPE 6 UNLESS OTHERWISE SPECIFIED.
MASS PLANTING BEDS	PREPARE MASS PLANTING BEDS FOR PLANTS PLACED AT 10 OR LESS, UNLESS OTHERWISE SPECIFIED ON SHEETS. PLANT BEDS IN STAGGERED ROWS ON THE PERIMETER FIRST, THEN UNIFORMLY FILL IN WITH REMAINING PLANTS. USE TRIANGULAR SPACING, UNLESS SPECIFIED OTHERWISE. PROVIDE 5' RADIUS CLEAR OF SHRUBS AROUND EACH DECIDUOUS TREE AND 8' CLEAR RADIUS AROUND EACH CONIFER TREE. RADIUS WILL BE MEASURED FROM THE CENTER OF THE TREE TO THE CENTER OF THE SHRUB. NOTIFY ENGINEER OF GROSS PLANT QUANTITY SURPLUS OR DEFICIENCY IMMEDIATELY. MULCH ENTIRE MASS PLANTING BED. SEE STANDARD PLANTING DETAILS
TREE PAINTING (FROST CRACK PREVENTION)	PAINT OAK, LINDEN, LOCUST, MAPLE, CRABAPPLE AND MOUNTAIN ASH. ONLY UNDILUTED EXTERIOR WHITE LATEX PAINT IS ACCEPTABLE. PAINT TREE CIRCUMFERENCE FROM GROUND LINE TO FIRST MAJOR BRANCH.
PLANTING PLAN DIMENSIONS	STATED DIMENSIONS SUPERCEDE SCALING FROM PLAN.

WATERING GUIDELINES (MnDOT 2571.3G)

PLANT TYPE	AVERAGE GALLONS OF WATER PER APPLICATION
MACHINE TRANSPLANTED TREES	50–100
BALLED AND BURLAPPED TREES	20
BARE ROOT AND CONTAINER TREES	15
BALLED AND BURLAPPED SHRUBS	10
BARE ROOT AND CONTAINER SHRUBS	7
WOODY SEEDLINGS	4
PERENNIALS AND VINES	3

IT IS THE CONTRACTOR'S RESPONSIBILITY TO MONITOR AND MAINTAIN SOIL MOISTURE AT ADEQUATE BUT NOT EXCESSIVE LEVELS. THE AMOUNTS LISTED ABOVE ARE GUIDELINES, NOT REQUIREMENTS.



PROJECT LOCATION

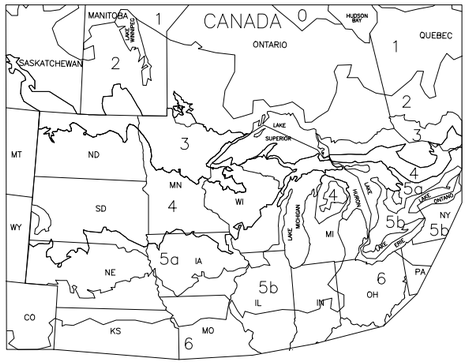
1.BARE ROOT PERENNIALS MUST BE INSTALLED IN THE SPRING NO LATER THAN JUNE 1ST OR FOLLOW THE FALL DECIDUOUS PLANTING DATES.
2.ACTUAL DATES MAY CHANGE DEPENDING UPON SEASONAL CONDITIONS, AS DETERMINED BY THE ENGINEER.
3.FALL PLANTING IS NOT ALLOWED FOR BARE ROOT FORM OF THE FOLLOWING SPECIES: HAWTHORN, DOGWOOD, POPLAR, HACKBERRY, LINDEN, IRONWOOD, HONEYLOCUST, BIRCH, MOUNTAIN ASH, MAPLE, WILLOW, CRABAPPLE, PLUM/CHERRY, OAKS, AND SUMAC.
4.ALL REPLACEMENT PLANTS MUST BE INSTALLED DURING THE MONTH OF MAY DURING THE FIRST YEAR OF THE PLANT ESTABLISHMENT PERIOD.

PLANTING DATES BY ZONE

KEY	SPRING				FALL	
	DECIDUOUS	CONIFEROUS	PERENNIALS	SEEDLINGS	DECIDUOUS	CONIFEROUS
③	APRIL 21 TO JUNE 1	APRIL 21 TO JUNE 1	MAY 1 TO JUNE 15	APRIL 21 TO JUNE 1	OCT. 1 TO NOV. 1	AUG. 25 TO SEPT. 15
④	APRIL 7 TO JUNE 1	APRIL 7 TO MAY 17	MAY 1 TO JUNE 15	APRIL 7 TO MAY 17	OCT. 10 TO NOV. 15	AUG. 25 TO SEPT. 15

PLANT INSTALLATION PERIOD

(MnDOT 2571.3F2)



ACCEPTABLE ZONES

ZONES	LEGEND	MIN. TEMP
3		–34.4 TO –40 F
4		–28.9 TO –34.4 F
5a		–26.1 TO –28.9 F

UNACCEPTABLE ZONES

ZONES	
0, 1, 2, 5b and 6	

FOR ALL PLANT STOCK, DOCUMENT ACCEPTABILITY FOR HARDINESS IN THE MINNESOTA ZONE WHERE THE PROJECT SITE IS LOCATED, AS FOLLOWS:

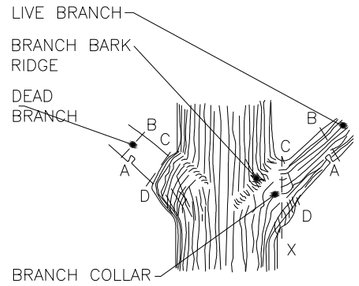
A.PLANT STOCK CONTINUOUSLY GROWN FOR AT LEAST THE LAST TWO YEARS WITHIN THE ACCEPTABLE LIMITS SHOWN.

OR

B.PLANT STOCK, GROWN OUTSIDE THE ACCEPTABLE GROWING RANGE LIMITS, HAVING SEED SOURCE OR ROOT AND GRAFT STOCK ORIGINATING FROM THE ACCEPTABLE LIMITS SHOWN.

ACCEPTABLE PLANT STOCK GROWING RANGE LIMITS

SOURCE: USDA PLANT HARDINESS ZONE MAP (MnDOT 3861.2C)

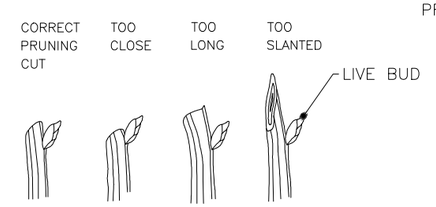


BRANCHES PRUNED AT TRUNK (SHIGO METHOD)

STEPS TO PRUNING WITH PRUNING SAW:
1.CUT PART WAY THROUGH THE BRANCH AT POINT A.
2.CUT COMPLETELY THROUGH BRANCH FROM POINT B TO A.
3.AT BRANCH COLLAR CUT FROM POINT C TO D.

INCORRECT CUT FROM POINT C TO X (TOO CLOSE) WILL RESULT IN DISCONTINUOUS CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

CORRECT CUT FROM POINT C TO D (LEAVING BRANCH COLLAR BUT NOT THE STUB FROM POINT B TO A) WILL RESULT IN CONTINUOUS DOUGHNUT SHAPED CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

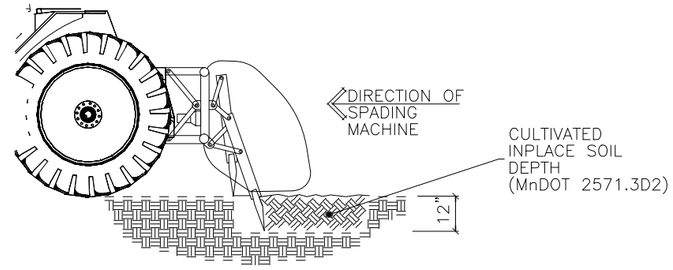


BRANCHES PRUNED TO LIVE BUD

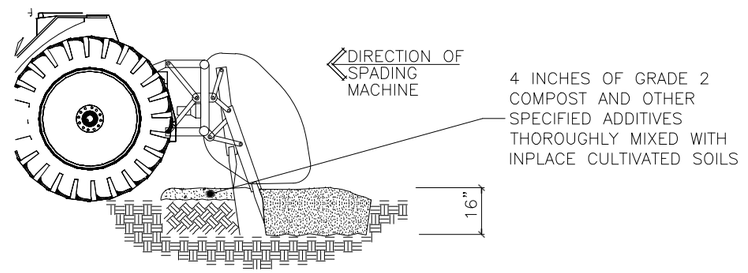
PRUNING NOTES:
1.PRUNE USING CLEAN AND SHARP SCISSOR–TYPE PRUNER OR PRUNING SAW.
2.THE BEST TIME TO PRUNE IS LATE DORMANT SEASON OR EARLY SPRING.
3.AVOID PRUNING OAKS IN APRIL, MAY, JUNE OR JULY.
4.IF PRUNING IS NECESSARY OR IF WOUNDS OCCUR TO OAK TREES IN APRIL, MAY, JUNE OR JULY, IMMEDIATELY PAINT CUT SURFACE OR WOUND WITH LATEX PAINT OR SHELLAC.

PRUNING

(MnDOT 2571.3K2a9 and 2571.3E1)



PRIMARY TILLAGE – PASS 1



INCORPORATION TILLAGE – PASS 2

PLANTING SOIL

(MnDOT 2571.3D2)

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AECOM SRF Consulting Group, Inc.

PRELIMINARY DESIGN

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

WEST - VOLUME 4 (OMF)
LANDSCAPING
PLANTING DETAILS

DISCIPLINE: LANDSCAPE

SHEET NAME: LS-110

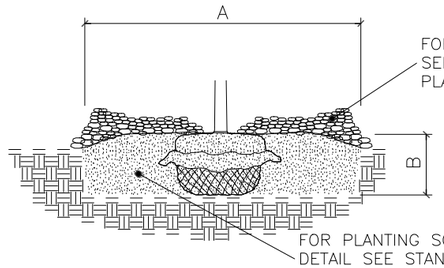
SHEET 31 OF 288

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PLANTING HOLE DIMENSIONS

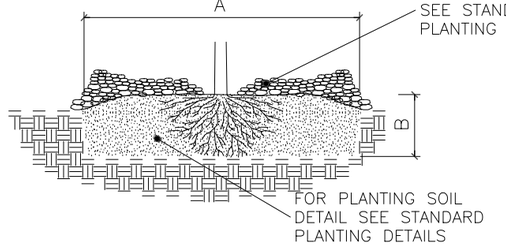
HOLE DEPTH FOR B&B AND CONTAINER PLANTS SHALL NOT EXCEED MEASUREMENT FROM ROOT FLAIR TO BOTTOM OF SOIL BALL.

PLANT TYPE	PLANT SIZE UP TO AND INCLUDING	(A) MINIMUM HOLE WIDTH	(B) APPROXIMATE HOLE DEPTH
DECIDUOUS & ORNAMENTAL TREES	3' B.R.	46"	13"
	4' B.R	46"	14"
	5' B.R.	48"	14"
	6' B.R.	54"	15"
	7' B.R	60"	16"
	8' B.R.	66"	19"
	0.75" B.R.	48"	12"
	1" B.R.	54"	14"
	1.25" B.R.	60"	14"
	1.5 B.R.	66"	15"
	1.75" B.R	72"	16"
	2" B.R.	84"	19"
	4" B.B.	42"	11"
	5' B.B.	48"	12"
	6" B.B.	52"	14"
	8" B.B.	66"	16"
	10' B.B.	66"	16"
	12" B.B.	48"	16"
	1" B.B.	54"	14"
	1.25" B.B.	56"	15"
	1.5" B.B.	61"	15"
	1.75" B.B.	66"	16"
	2" B.B.	72"	16"
	2.5" B.B.	84"	19"
	3" B.B.	96"	20"
	3.5" B.B.	114"	23"
	4" B.B.	126"	25"
DECIDUOUS SHRUBS, ROSES AND PERENNIALS PERENNIAL HOLE DEPTH AND WIDTH SHALL BE BASED UPON ON-CENTER SPACING IN A CONTINUOUS TRENCH	12" B.R.	24"	7"
	15" B.R.	28"	8"
	18" B.R.	30"	8"
	2' B.R.	33"	9"
	3' B.R.	42"	11"
	4' B.B.	48"	12"
	5' B.R.	54"	14"
	6' B.R.	60"	14"
	18" B.B.	27"	7"
	2' B.B.	30"	8"
	3' B.B.	36"	9"
	4' B.B.	42"	11"
	5' B.B.	48"	12"
	6' B.B.	54"	14"



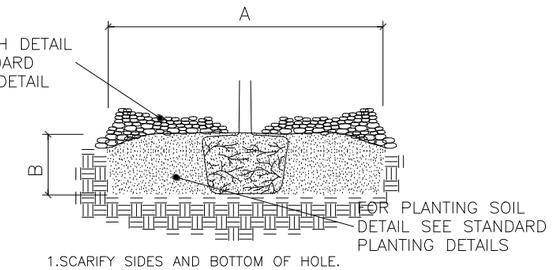
1.SCARIFY SIDES AND BOTTOM OF HOLE.
2.PROCEED WITH CORRECTIVE PRUNING.
3.SET PLANT ON UNDISTURBED NATIVE SOIL OR THOROUGHLY COMPACTED PLANTING SOIL. INSTALL PLANT SO THE ROOT FLARE IS AT OR UP TO 2" ABOVE THE FINISHED GRADE WITH BURLAP AND WIRE BASKET, (IF USED), INTACT.
4.SLIT REMAINING TREATED BURLAP AT 6" INTERVALS.
5.BACKFILL TO WITHIN APPROXIMATELY 12" OF THE TOP OF THE ROOTBALL, THEN WATER PLANT.
6.REMOVE THE TOP 1/3 OF THE BASKET OR THE TOP TWO HORIZONTAL RINGS WHICHEVER IS GREATER. REMOVE ALL BURLAP AND NAILS FROM THE TOP 1/3 OF THE BALL. REMOVE ALL TWINE. REMOVE OR CORRECT STEM GIRDLING ROOTS.
7.PLUMB AND BACKFILL WITH PLANTING SOIL.
8.WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
9.BACK FILL VOIDS AND WATER A SECOND TIME.
10.PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

BALLED & BURLAPPED STOCK



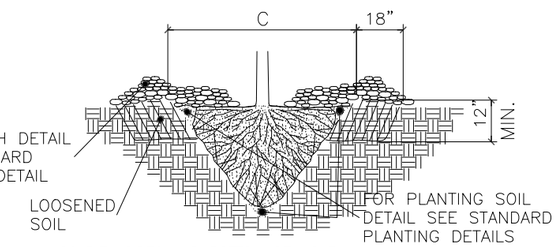
1.SOAK ROOTS IN WATER FOR AT LEAST ONE HOUR BUT NOT MORE THAN 24 HOURS PRIOR TO PLANTING.
2.SCARIFY SIDES AND BOTTOM OF HOLE.
3.PROCEED WITH CORRECTIVE PRUNING OF THE TOP AND ROOTS.
4.TRANSFER PLANT DIRECTLY FROM WATER TO HOLE. SET PLANT SO THE ROOT FLARE IS AT THE FINISHED SOIL ELEVATION. SPREAD ROOTS OUT EVENLY. PLUMB AND IMMEDIATELY BACKFILL WITH PLANTING SOIL.
5.WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
6.BACK FILL VOIDS AND WATER A SECOND TIME.
7.PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

BARE ROOT STOCK



1.SCARIFY SIDES AND BOTTOM OF HOLE.
2.PROCEED WITH CORRECTIVE PRUNING OF TOP AND ROOT.
3.REMOVE CONTAINER AND SCORE OUTSIDE OF SOIL MASS TO REDIRECT AND PREVENT CIRCLING FIBROUS ROOTS. REMOVE OR CORRECT STEM GIRDLING ROOTS.
4.SET PLANT ON UNDISTURBED NATIVE SOIL OR THOROUGHLY COMPACTED PLANTING SOIL. INSTALL PLANT SO THE TOP OF THE ROOT FLARE IS AT OR UP TO 2" ABOVE THE FINISHED GRADE.
5.PLUMB AND BACKFILL WITH PLANTING SOIL.
6.WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANT AND FILL VOIDS.
7.BACK FILL VOIDS AND WATER A SECOND TIME.
8.PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

CONTAINER STOCK



1.SCARIFY SIDES AND BOTTOM OF HOLE.
2.PROCEED WITH CORRECTIVE PRUNING.
3.SET PLANT ON NATIVE SOIL AT SAME DEPTH AS IT WAS PREVIOUSLY GROWN.
4.PLUMB AND BACKFILL WITH PLANTING SOIL.
5.AFTER PLANTING, LOOSEN THE SOIL IMMEDIATELY ADJACENT TO THE ROOT BALL TO A MINIMUM DISTANCE OF 18" AND A MINIMUM DEPTH OF 12".
6.WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANT AND FILL VOIDS.
7.BACK FILL VOIDS AND WATER A SECOND TIME.
8.PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

MINIMUM TREE SPADE SIZE REQUIREMENTS

(C) SPADE DIAMETER SIZE	OAK TREE, CALIPER	DECIDUOUS/ ORNAMENTAL TREE,CALIPER	CONIFEROUS TREE, HEIGHT
42"	1" to 1.5"	2" to 3"	5' to 7'
60"	1.5" to 2.5"	3" to 4"	7' to 9'
78"	2.5" to 3.5"	4" to 6"	9' to 14'
85"	3.5" to 5"	6" to 8"	14' to 18'

MACHINE MOVED STOCK

INSTALLATION OF PLANTS

(MnDOT 2571.3F)

PLANTING HOLE DIMENSIONS

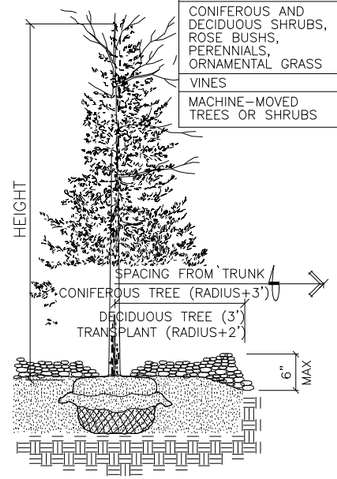
HOLE DEPTH FOR B&B AND CONTAINER PLANTS SHALL NOT EXCEED MEASUREMENT FROM ROOT FLAIR TO BOTTOM OF SOIL BALL.

PLANT TYPE	PLANT SIZE UP TO AND INCLUDING	(A) MINIMUM HOLE WIDTH	(B) APPROXIMATE HOLE DEPTH
CONIFEROUS TREES AT LEAST 2/3 OF ALL CONIFER BRANCHES WILL CONTAIN TERMINAL BUDS	2' B.B	36"	10"
	3' B.B	42"	11"
	4' B.B	51"	13"
	5' B.B	60"	13"
	6' B.B	66"	15"
	7' B.B	72"	16"
	8' B.B	81"	18"
	9' B.B	90"	20"
	10' B.B	102"	21"
	12' B.B	114"	24"
CONIFEROUS SHRUBS (BRANCHED OR BRANCHING)	18" B.B.	24"	7"
	3' B.B.	48"	12"
CONIFEROUS SHRUBS (SPREADING)	18" SPR B.B.	30"	8"
	2' SPR B.B.	36"	9"
CONTAINER GROWN PLANTS	CELLPACKS / PLUGS	6"	2.5"
	2.25" CONT.	7"	3"
	3.5" CONT.	10"	3"
	4" CONT.	11"	4"
	4.5" CONT.	13"	4"
	6"/1 QT CONT.	15"	5.5"
	1# CONT.	18"	6"
	2# CONT.	23"	7.5"
	3# CONT.	29"	8.5"
	5# CONT.	30"	11"
	7# CONT.	37"	11"
	15# CONT.	44"	14"
	10# CONT.	45"	15"
	20# CONT.	60"	16"
	25# CONT.	72"	17"
SEEDLINGS	6" SEEDLING	15"	14"
	9" SEEDLING	18"	14"
	12" SEEDLING	23"	16"
	18" SEEDLING	30"	16"
	2' SEEDLING	36"	18"
VINES	1 YR. MED B.R.	15"	11"
	1 YR. NO. 1 B.R.	17"	14'
	2 YR. MED. B.R.	33"	12"
	2 YR. NO. 1 B.R.	42"	15"

MULCH AREA CALCULATOR

TYPE OF PLANT	SQ. FT. PER PLANT
CONIFEROUS TREES	$\left[\left(\frac{3 / 5 \times \text{HT.}}{2}\right)+3\right]^2 \times \pi$
DECIDUOUS AND ORNAMENTAL TREES	$3^2 \times \pi$
CONIFEROUS AND DECIDUOUS SHRUBS, ROSE BUSHS, PERENNIALS, ORNAMENTAL GRASS	SPACING x SPACING
VINES	SPACING x 2
MACHINE-MOVED TREES OR SHRUBS	$\left[\left(\frac{\text{SPADE DIAM.}}{2}\right)+1\right]^2 \times \pi$

$\pi = 3.1416$



1.PULL MULCH BACK NO LESS THAN 3" AND NO MORE THAN 6" FROM TREES AND SHRUBS AT THE TRUNK OR MAIN STEM.
2.SUBSIDING OR DETERIORATING MULCH IS ACCEPTABLE THROUGHOUT THE ESTABLISHED PERIOD IF THE MULCH DEPTH IS MAINTAINED AT A MINIMUM 3" DEPTH.
3.ADD MULCH WHEN BELOW THE 3" MINIMUM DEPTH, DO NOT EXCEED THE 6" MAXIMUM DEPTH.
4.MULCH CONTAMINATED WITH SOIL MUST BE REMOVED AND REPLACED.

MULCH PLACEMENT

(MnDOT 2571.3H)

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PRELIMINARY DESIGN

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

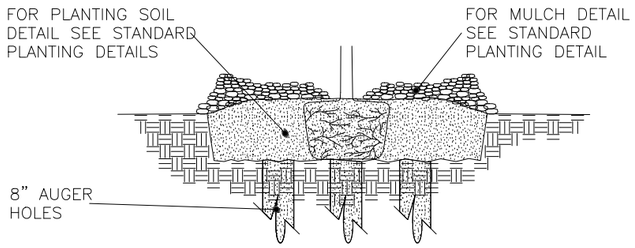
WEST - VOLUME 4 (OMF)
LANDSCAPING
PLANTING DETAILS

DISCIPLINE: LANDSCAPE

SHEET NAME: LS-111

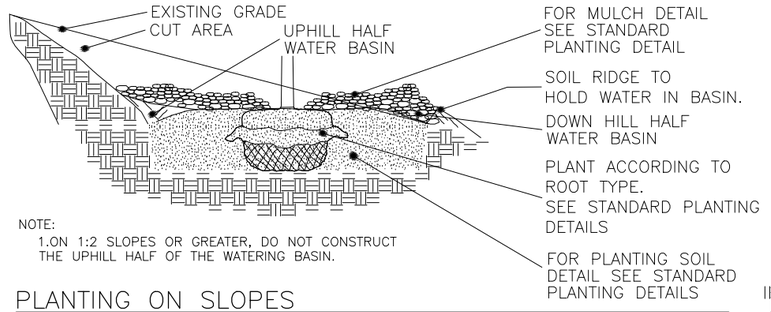
SHEET 32 OF 288

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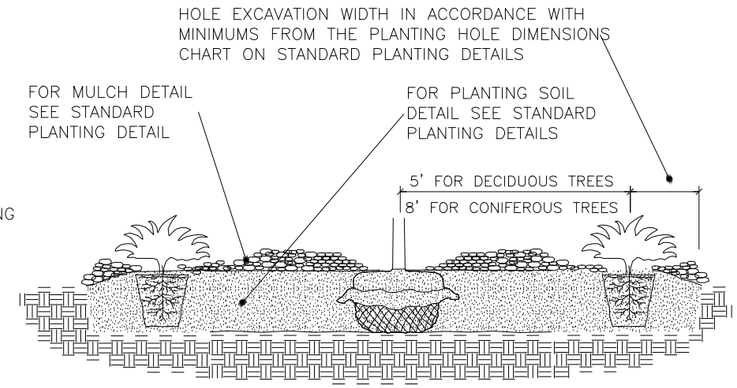
1.EXCAVATE HOLE OR BED TO ALLOW PLACING THE TOP OF ROOT MASS 1"–3" HIGHER THAN FINISHED GRADE.
2.AUGER 8" DIAMETER HOLES ENTIRELY THROUGH IMPERVIOUS OR POORLY DRAINED HARD PAN SOIL LAYER TO ADEQUATELY DRAIN SUBSOIL.
3.TEST FOR POSITIVE DRAINAGE. RE–AUGER AN ADDITIONAL 8" IF NECESSARY FOR POSITIVE DRAINAGE.
4.THOUROUGHLY BACKFILL AUGER HOLES WITH A UNIFORM INCORPORATED MIXTURE OF 50% SAND AND 50% INPLACE SOIL.
5.COMPLETE PLANTING ACCORDING TO ROOT TYPE. SEE STANDARD PLANTING DETAILS.

INSTALL GRANULAR FILTER

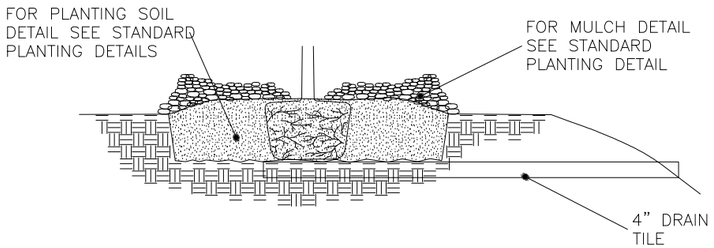


NOTE:
1.ON 1:2 SLOPES OR GREATER, DO NOT CONSTRUCT THE UPHILL HALF OF THE WATERING BASIN.

PLANTING ON SLOPES

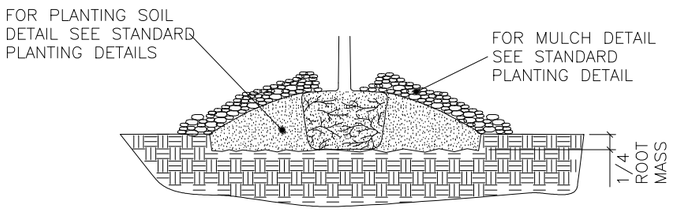


PLANT SPACING IN MASS BEDS



1.EXCAVATE HOLE OR BED TO ALLOW PLACING THE TOP OF THE ROOT MASS 1"–3" HIGHER THAN FINISHED GRADE.
2.INSTALL 4" MINIMUM DIAMETER DRAIN TILE DAYLIGHTING AT A LOWER GRADE.
3.COMPLETE PLANTING ACCORDING TO ROOT TYPE. SEE STANDARD PLANTING DETAILS.

INSTALL TILE DRAINAGE



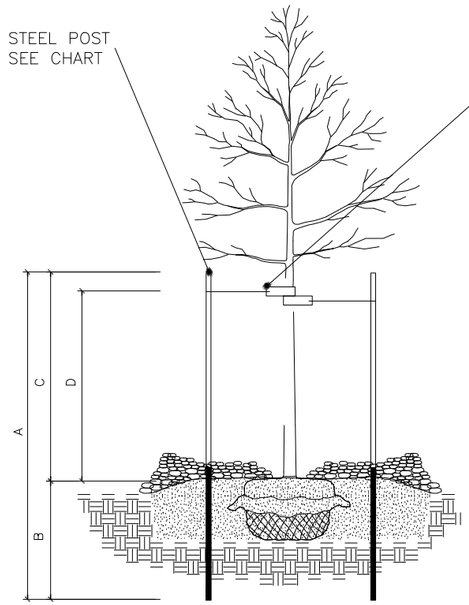
1.EXCAVATE HOLE OR BED 1/4 THE DEPTH OF THE ROOT MASS.
2.SET ROOT MASS IN HOLE.
3.CONSTRUCT BERM WITH PLANTING SOIL. EXTEND THE BERM BASE TO A WIDTH OF 3 TIMES THE BERM HEIGHT.
4.COMPLETE PLANTING ACCORDING ROOT TYPE. SEE STANDARD PLANTING DETAILS.

INSTALL MINI–BERM

NOTE:
1.THE NEED FOR USING PLANTING DETAILS FOR POORLY DRAINED SOILS AND WHICH TYPE TO USE ARE DETERMINED BY THE CONTRACTOR, SUBJECT TO ENGINEER APPROVAL.

PLANTING DETAIL FOR POORLY DRAINED SOILS

(MnDOT 2571.3D2 (STEP 8)



1.STEEL POSTS TO BE NOTCHED OR DRILLED TO RETAIN GUY WIRES. PLACE OUTSIDE OF ROOT BALL. DRIVE PLUMB REGARDLESS OF GROUND SLOPE.

2.REQUESTS TO SUBSTITUTE RUBBER HOSE AND WIRE GUYING SYSTEMS WILL NOT BE APPROVED.

3. TREE STAKING IS NOT REQUIRED UNLESS SPECIFIED OR NECESSARY TO MAINTAIN TREES IN A PLUMB CONDITION WHERE VANDALISM, SOIL, OR WIND CONDITIONS ARE A PROBLEM, OR AS DIRECTED BY THE ENGINEER.

4.REMOVE WITHIN ONE YEAR.

STEEL POST SIZING					
CALIPER	STEEL POST TYPE	A	B	C	D
LESS THEN 4 INCHES	ROLLED STEEL FENCE POST (MnDOT 3403) OR APPROVED EQUAL.	7'–0"	3'–0" MIN.	4'–0"	3'–0"
GREATER THEN 4 INCHES	10', 2.2 LB. FLANGED CHANNEL STEEL SIGN POST (MnDOT 3401) OR APPROVED EQUAL.	10'–0"	4'–0" MIN.	6'–0"	5'–0"

STAKING AND GUYING

(MnDOT 2571.3I1)

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AECOM SRF Consulting Group, Inc. METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

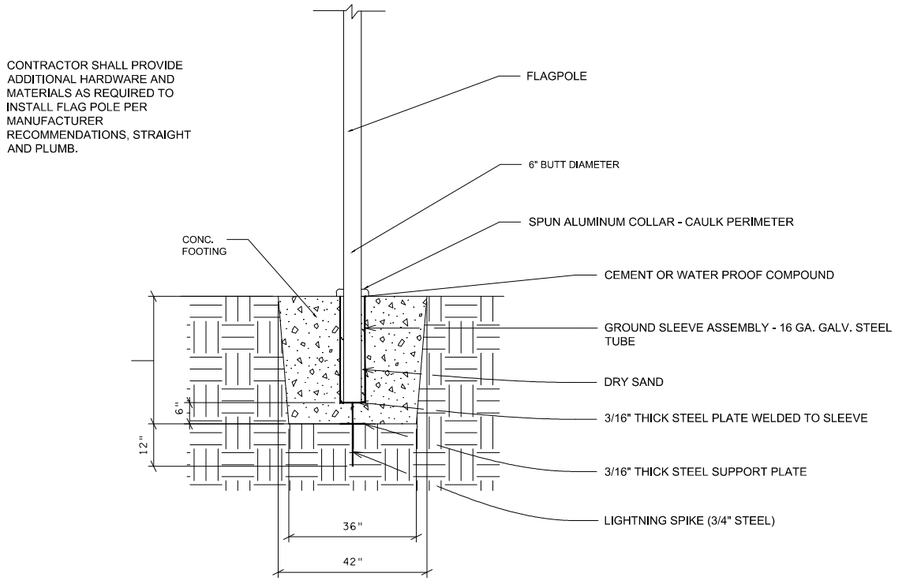
PRELIMINARY DESIGN

WEST - VOLUME 4 (OMF)
LANDSCAPING
PLANTING DETAILS

DISCIPLINE: LANDSCAPE
SHEET NAME: LS-112

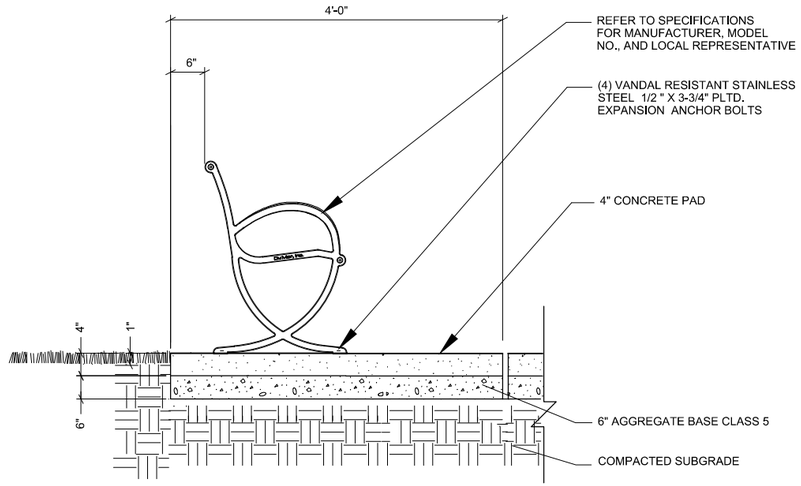
SHEET 33 OF 288

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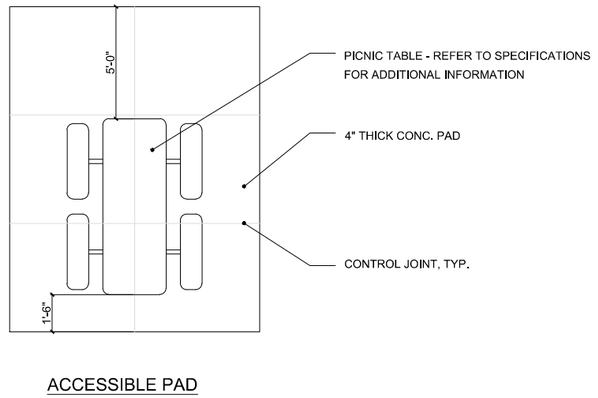
1 FLAGPOLE DETAIL

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2 BENCH DETAIL

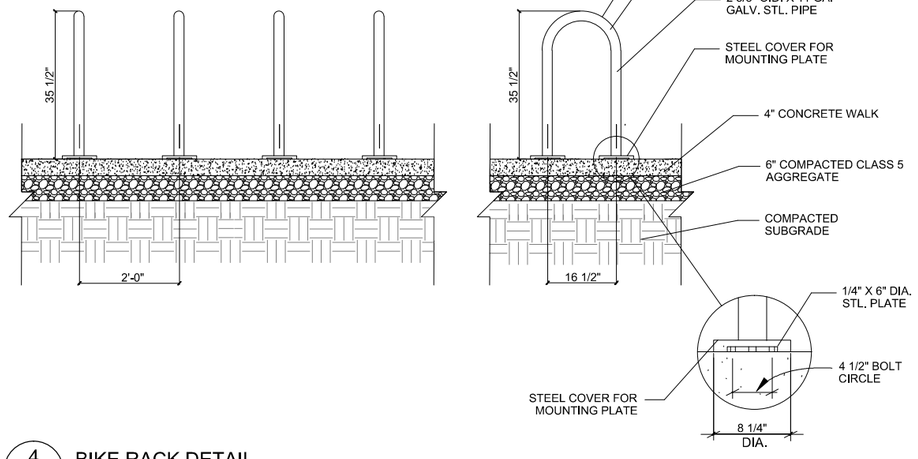
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ACCESSIBLE PAD

3 PICNIC TABLE ON CONCRETE PAD

NOT TO SCALE



4 BIKE RACK DETAIL

NOT TO SCALE

PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	SIZE	ROOT	NOTES
DECIDUOUS TREES				
AR	*Acer rubrum* RED MAPLE	2.5" CAL.	B&B	SINGLE STRAIGHT LEADER
BN	*Betula nigra* RIVER RIRCH	10' HT.	B&B	CLUMP MULTISTEM
CO	*Celtis occidentalis* COMMON HACKBERRY	2.5" CAL.	B&B	SINGLE STRAIGHT LEADER
GT	*Gleditsia tricanthos inermis 'Skycole'* THORNLESS HONEYLOCUST	2.5" CAL.	B&B	SINGLE STRAIGHT LEADER
PT	*Populus tremuloides* QUAKING ASPEN	10' HT.	B&B	CLUMP MULTISTEM
QB	*Quercus bicolor* SWAMP WHITE OAK	2.5" CAL.	B&B	SINGLE STRAIGHT LEADER
QM	*Quercus macrocolor* BUR OAK	2.5" CAL.	B&B	SINGLE STRAIGHT LEADER
CONIFEROUS TREES				
PG	*Picea glauca* BLACK HILLS SPRUCE	8' HT.	B&B	SINGLE STRAIGHT LEADER
PN	*Pinus nigra* AUSTRIAN PINE	8' HT.	B&B	SINGLE STRAIGHT LEADER
ORNAMENTAL TREES				
AB	*Amalenchier 'Autumn Brilliance'* AUTUMN BRILLIANCE SERVICEBERRY	10' HT.	B&B	CLUMP MULTISTEM
CI	*Crataegus crus-galli 'inermis'* THORNLESS COCKSPUR HAWTHORN	2" CAL.	B&B	SINGLE STRAIGHT LEADER
MA	*Malus 'Adams'* ADAMS FLOWERING CRAB	10 HT.	B&B	CLUMP MULTISTEM
PA	*Prunus americana* WILD PLUM	#7	CONT.	SINGLE STRAIGHT LEADER
DECIDUOUS SHRUBS		SIZE	ROOT	NOTES
AA	*Amelanchier alnifolia 'Regent'* REGENT SERVICEBERRY	#5	CONT.	PLANT 4' O.C.
AM	*Aronia melanocarpa* BLACK CHOKEBERRY	#5	CONT.	PLANT 4' O.C.
CS	*Cornus sericea 'Cardinal'* CARDINAL DOGWOOD	#5	CONT.	PLANT 6' O.C.
RT	*Rhus typhina* STAGHORN SUMAC	#5	CONT.	PLANT 8' O.C.
VL	*Viburnum lentago* NANNYBERRY	#5	CONT.	PLANT 8' O.C.

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PRELIMINARY DESIGN

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

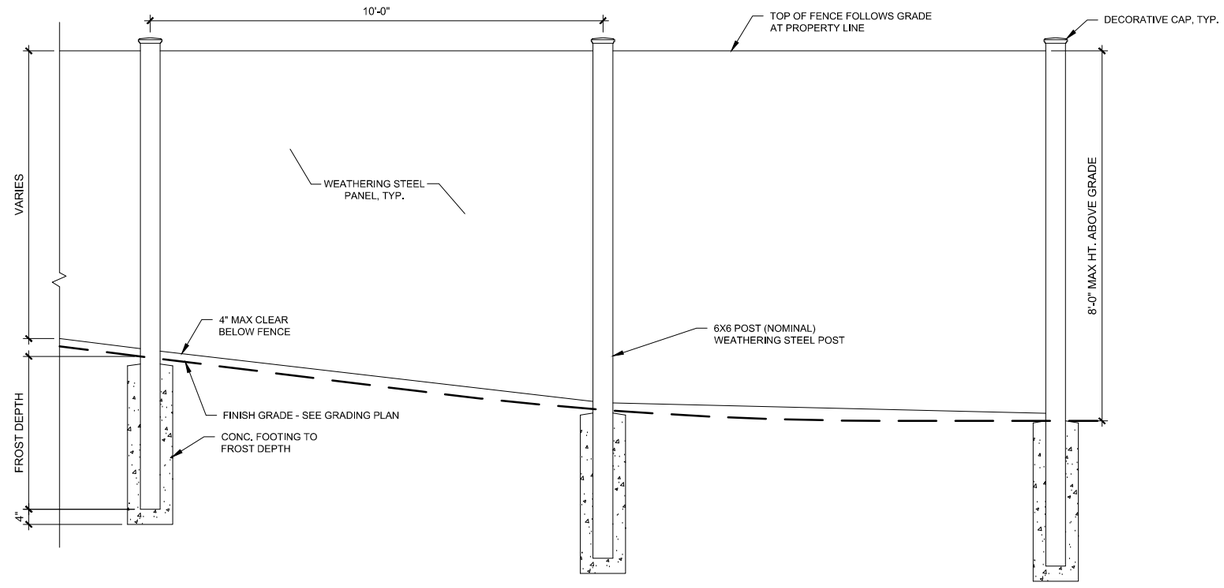
WEST - VOLUME 4 (OMF) LANDSCAPING PLANTING DETAILS

DISCIPLINE: LANDSCAPE

SHEET NAME: LS-113

SHEET 34 OF 288

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ELEVATION VIEW

NOTES:

1. SEE SPECIAL PROVISIONS FOR APPROVED PRODUCTS. INSTALL PER MANUFACTURER'S INSTRUCTIONS.

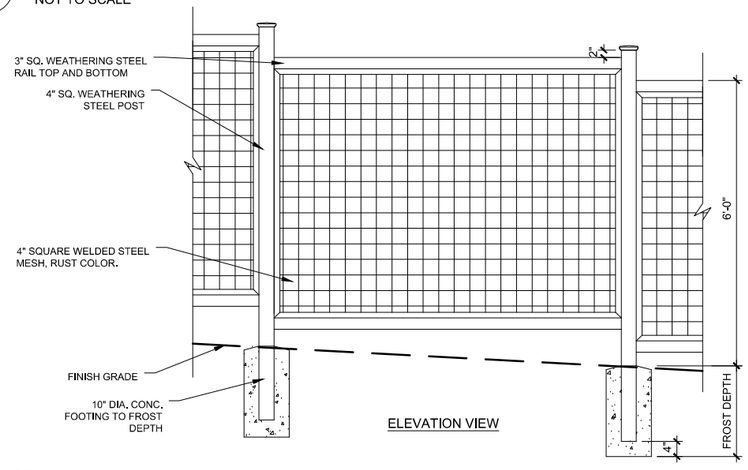
2. ALIGN HORIZONTAL RAILS WITH FINISH GRADE.

3. ALL POSTS SHALL BE PLUMB.

4. SLOPE TOP OF FOOTING TO DRAIN AWAY FROM POST.

1 FENCE TYPE A - DETAIL

NOT TO SCALE



ELEVATION VIEW

NOTES:

1. ALIGN HORIZONTAL RAILS WITH FINISH GRADE.

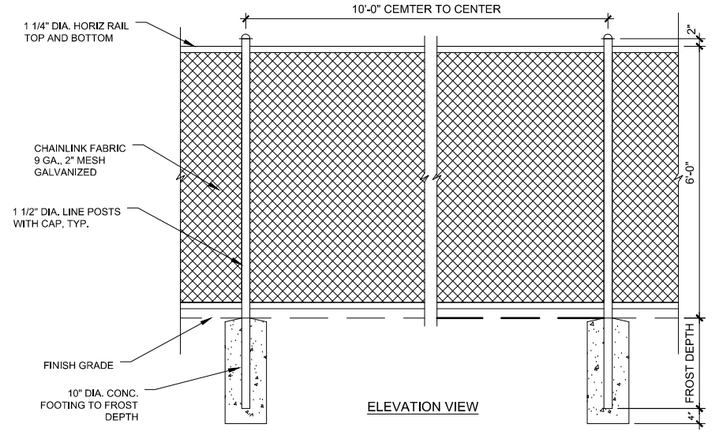
2. ALL POSTS SHALL BE PLUMB.

3. SLOPE TOP OF FOOTING TO DRAIN AWAY FROM POST.

4. MESH SHALL BE McNICHOLS 4" WELDED WIRE MESH OR EQUAL. RUST COLOR.

2 FENCE TYPE B - DETAIL

NOT TO SCALE



ELEVATION VIEW

NOTES:

1. FURNISH AND INSTALL FENCE PER MNDOT STD PLATE 9322K EXCEPT AS MODIFIED HEREIN.

2. ALL FENCE POSTS, RAILS, AND HARDWARE SHALL BE GALVANIZED.

3. VINYL COATED MESH SHALL GALVANIZED.

4. TERMINAL POSTS SHALL BE 2" DIA. SEE STD PLATE FOR REQUIRED BRACING ASSEMBLY.

5. ALL POSTS AND RAILS SHALL BE ROUND.

6. ALIGN HORIZONTAL RAILS WITH FINISH GRADE.

7. ALL POSTS SHALL BE PLUMB.

8. SLOPE TOP OF FOOTING TO DRAIN AWAY FROM POST.

3 FENCE TYPE C - DETAIL

NOT TO SCALE

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AECOM SRF Consulting Group, Inc.

PRELIMINARY DESIGN

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

WEST - VOLUME 4 (OMF)
LANDSCAPING
MISC. DETAILS

DISCIPLINE: LANDSCAPE

SHEET NAME: LS-114

SHEET 35 OF 288

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TRACK LINETYPES

- TRACK ℄
- RETAINING WALL
- TUNNEL WALL
- ROADWAY ℄
- FENCE

TRACK SYMBOLS

- SIGNALIZED INTERSECTION
- EXISTING TRAFFIC SIGNAL
- PROPOSED DIRECTIONAL LANE USE
- EXISTING DIRECTIONAL LANE USE
- AUTOMATIC GATE
- RAIL TURNOUT
- RAIL CROSSOVER (DOUBLE)
- RAIL CROSSOVER (SINGLE)
- POINT OF SWITCH (PS)
- W2–200 RAILROAD CURVE NUMBER

ABBREVIATIONS

AD	ALGEBRAIC DIFFERENCE
BGN	BEGIN
BVCE	BEGINNING VERTICAL CURVE ELEVATION
BVCS	BEGINNING VERTICAL CURVE STATION
CS	CURVE TO SPIRAL
CSAH	COUNTY STATE AID HIGHWAY
DR	DRIVE
Ea	ACTUAL SUPERELEVATION (INCHES)
EB	EAST BOUND
ELEV	ELEVATION
Eu	UNBALANCED SUPERELEVATION (INCHES)
EVCE	ENDING VERTICAL CURVE ELEVATION
EVCS	ENDING VERTICAL CURVE STATION
EX	EXISTING
LH	LEFT HAND
Ls	SPIRAL LENGTH (FEET)
NB	NORTH BOUND
NO	NUMBER
OH	OVERHEAD
PC	POINT OF CURVE
PITO	POINT OF INTERSECTION OF TURNOUT
POT	POINT ON TANGENT
PROP	PROPOSED
PS	POINT OF SWITCH
PT	POINT OF TANGENT
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS (FEET)
r	RATE OF CHANGE VERTICAL CURVE
RH	RIGHT HAND
ROW	RIGHT OF WAY
SB	SOUTH BOUND
SC	SPIRAL TO CURVE
SIG–COMM	SIGNAL COMMUNICATION
ST	STREET
ST	SPIRAL TO TANGENT
STA	STATION
TOR	TOP OF RAIL
TPS	TRACTION POWER SUBSTATION
TRK	TRACK
TS	TANGENT TO SPIRAL
UG	UNDERGROUND
V	DESIGN VELOCITY (MPH)
WB	WEST BOUND

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

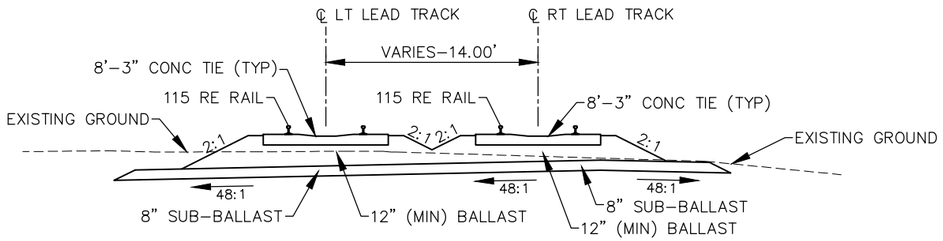
WEST - VOLUME 4 (OMF)
TRACK
NOTES & LEGEND

DISCIPLINE: **TRACK**

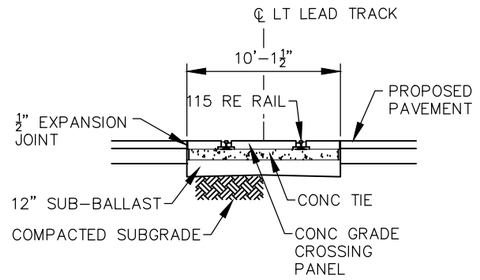
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SHEET **36** OF **288**

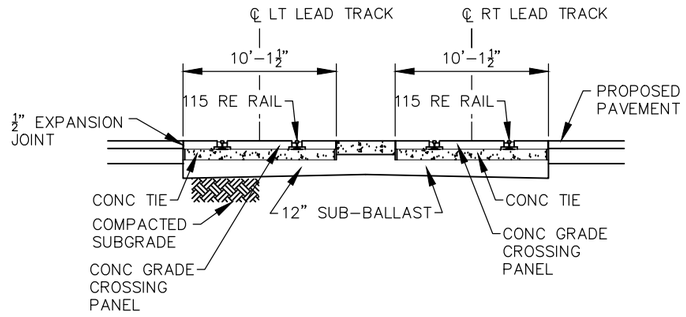
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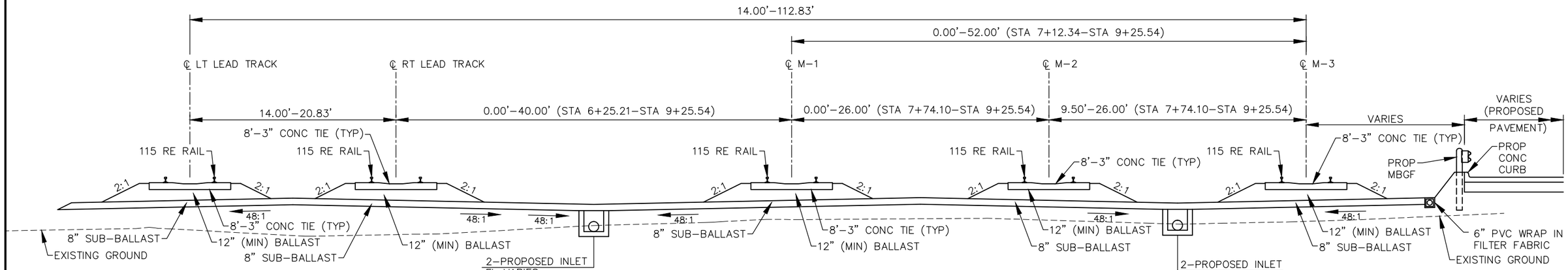
TYPICAL SECTION
STA 0+00.00 TO STA 1+34.46
STA 1+79.22 TO STA 2+36.31
STA 3+87.89 TO STA 4+30.19
STA 4+60.76 TO STA 6+49.34



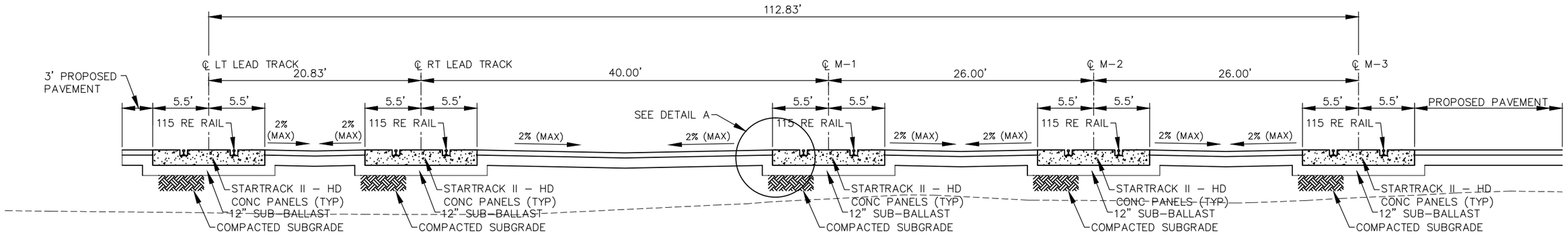
TYPICAL SECTION
STA 1+34.46 TO STA 1+79.22



TYPICAL SECTION
STA 4+30.19 TO STA 4+60.76



TYPICAL SECTION
STA 6+49.34 TO STA 9+25.54



TYPICAL SECTION
STA 9+25.54 TO STA 10+29.87

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

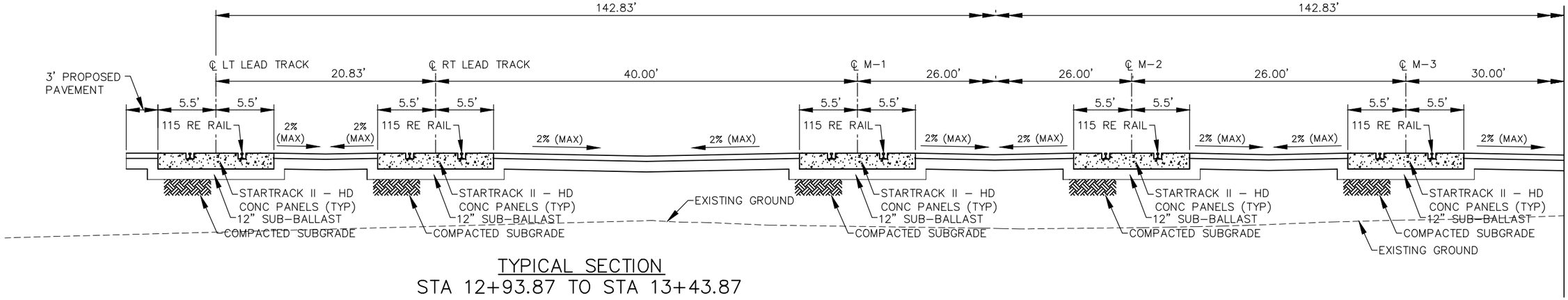
WEST - VOLUME 4 (OMF)
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

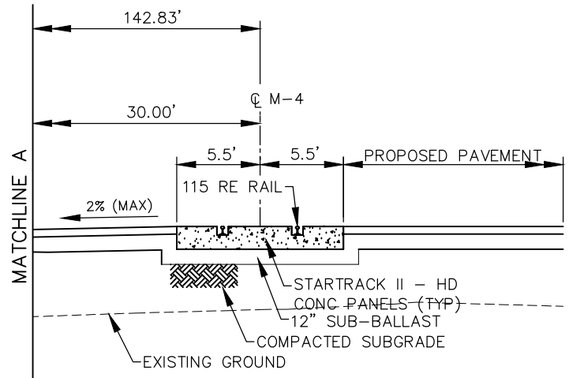
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SHEET 37 OF 288

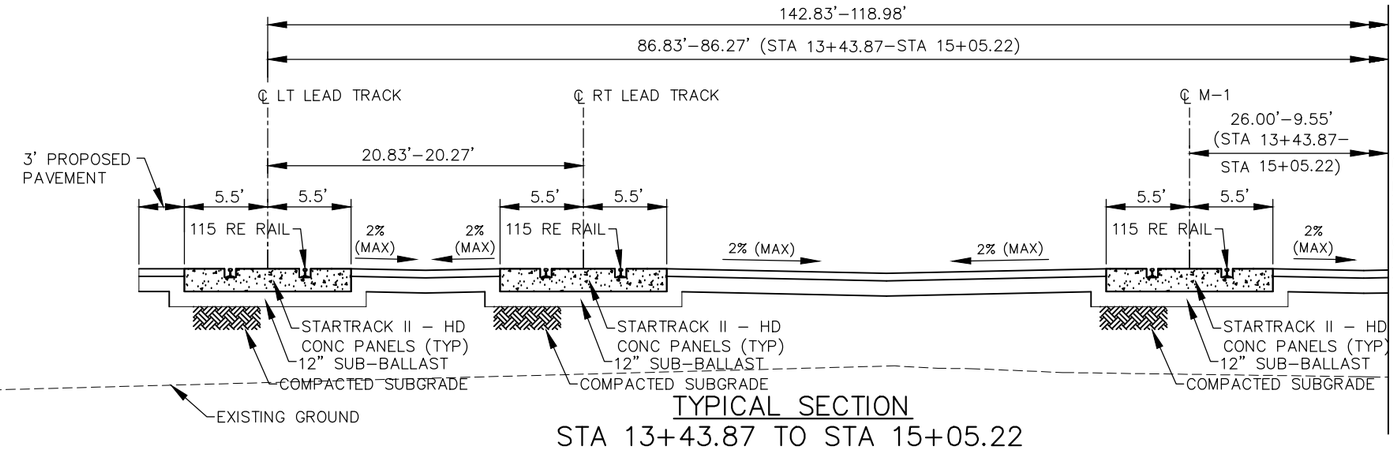
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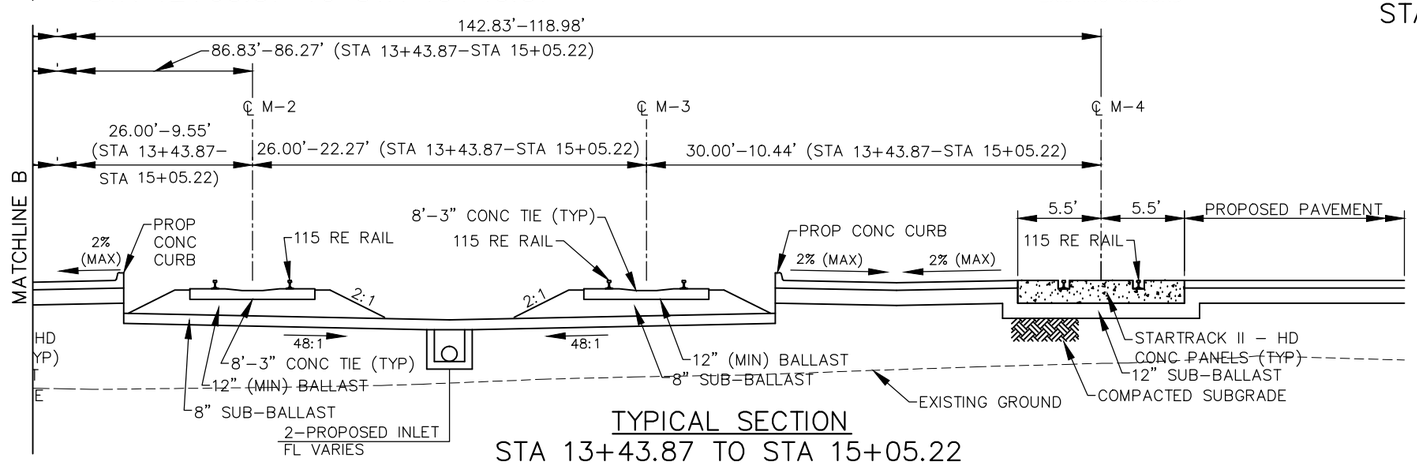
TYPICAL SECTION
STA 12+93.87 TO STA 13+43.87



TYPICAL SECTION
STA 12+93.87 TO STA 13+43.87



TYPICAL SECTION
STA 13+43.87 TO STA 15+05.22



TYPICAL SECTION
STA 13+43.87 TO STA 15+05.22

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST

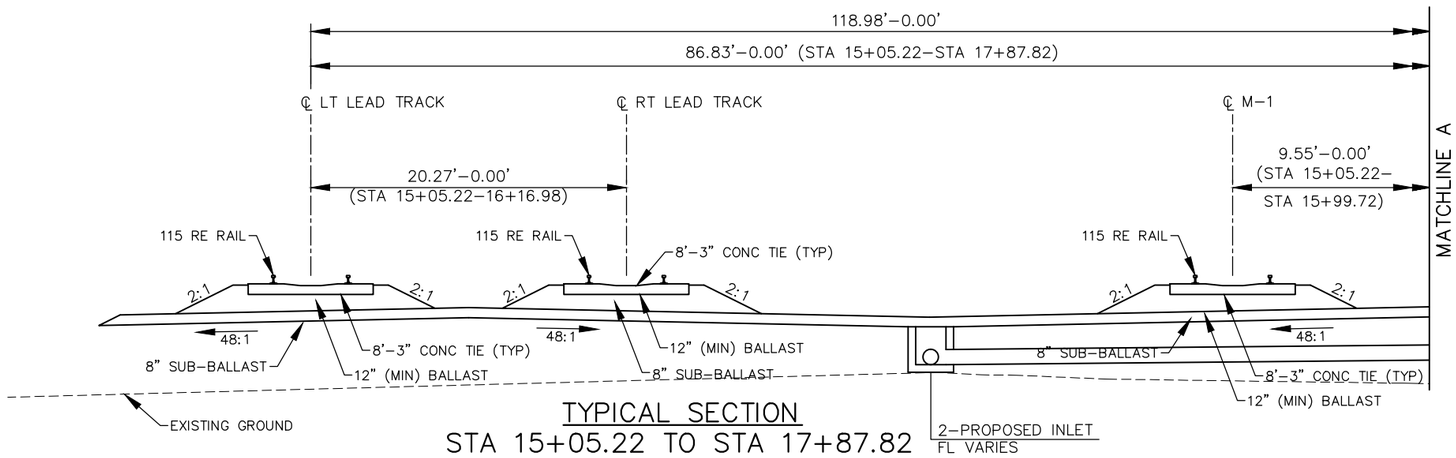
WEST - VOLUME 4 (OMF)
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

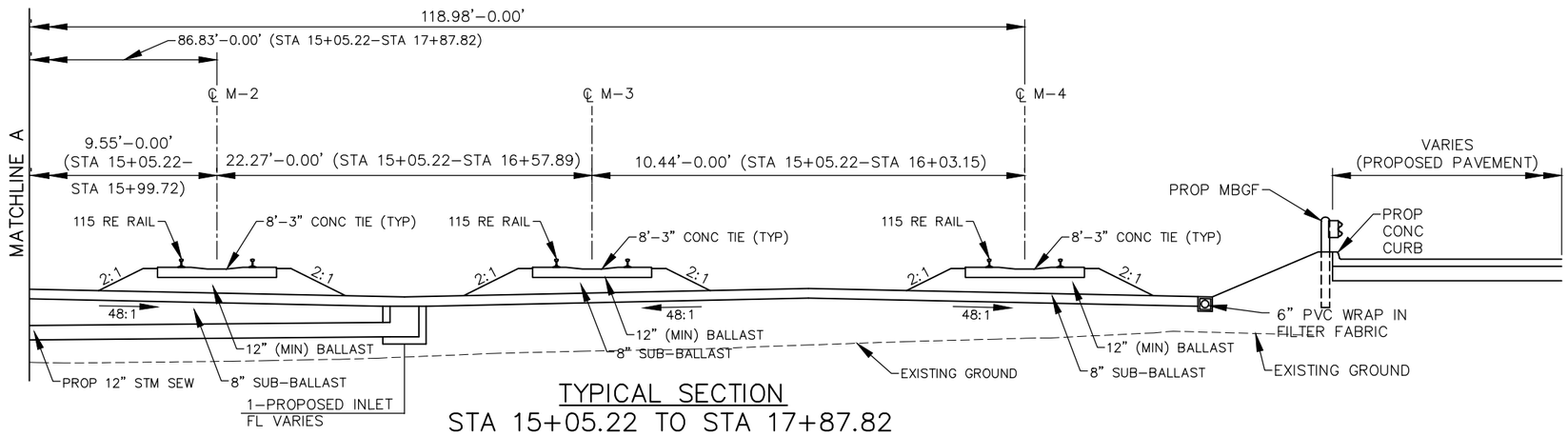
SHEET NAME: T-003

SHEET 38 OF 288

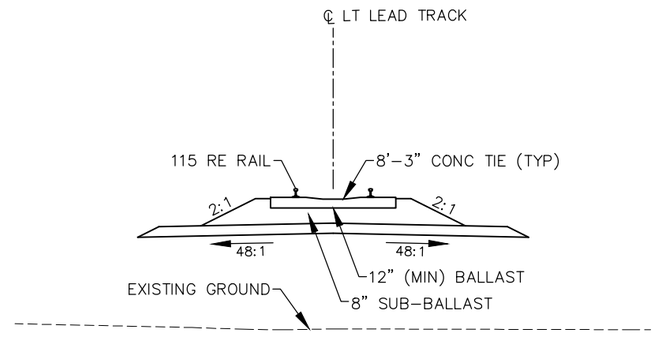
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TYPICAL SECTION
STA 15+05.22 TO STA 17+87.82



TYPICAL SECTION
STA 15+05.22 TO STA 17+87.82



TYPICAL SECTION
STA 17+87.82 TO STA 21+20.48

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

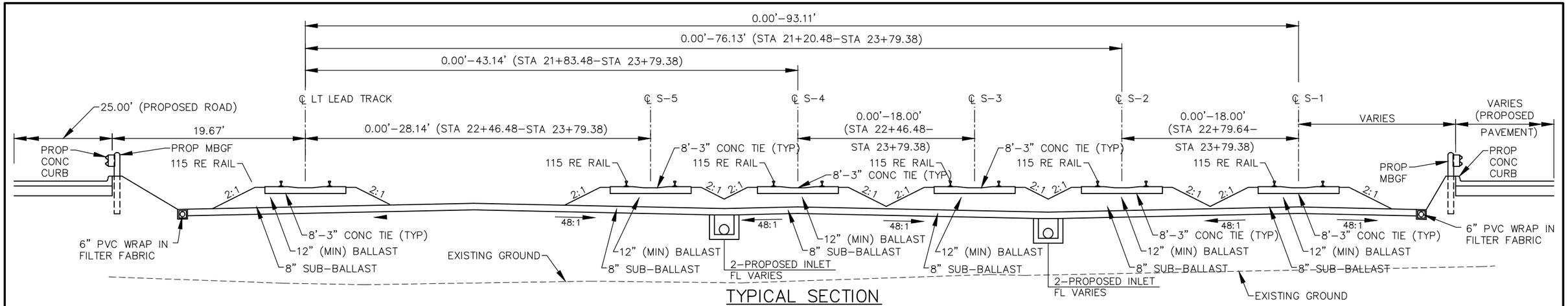
WEST - VOLUME 4 (OMF)
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

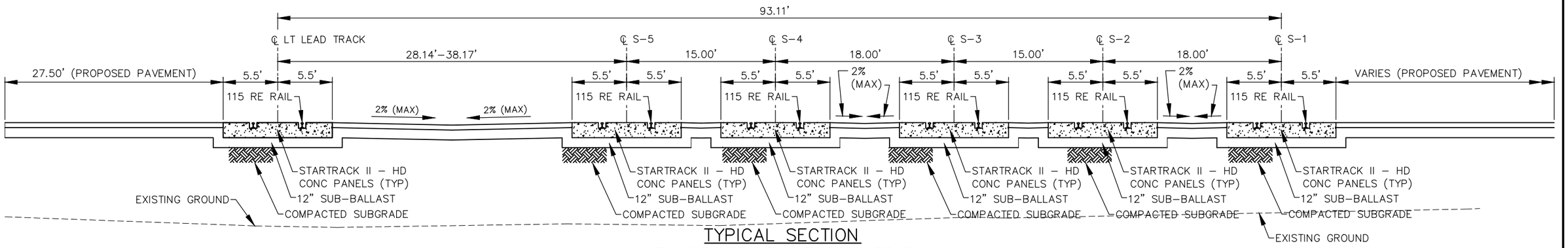
SHEET NAME: T-004

SHEET 39 OF 288

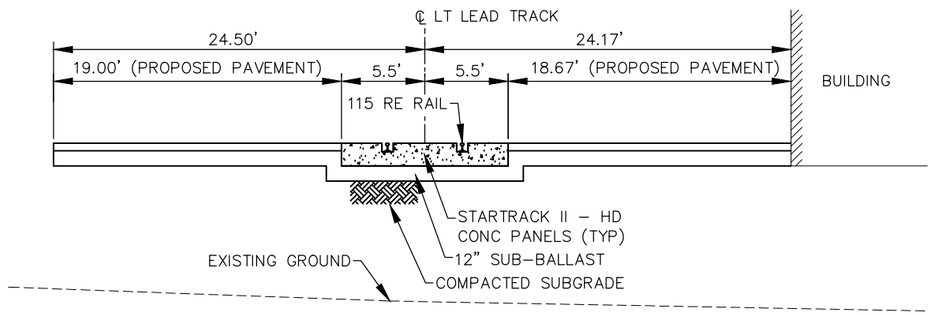
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TYPICAL SECTION
STA 21+20.48–STA 23+79.38



TYPICAL SECTION
STA 23+78.48–STA 24+32.31
STA 30+34.98–STA 30+84.98



TYPICAL SECTION
STA 24+32.31 TO STA 30+34.98

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

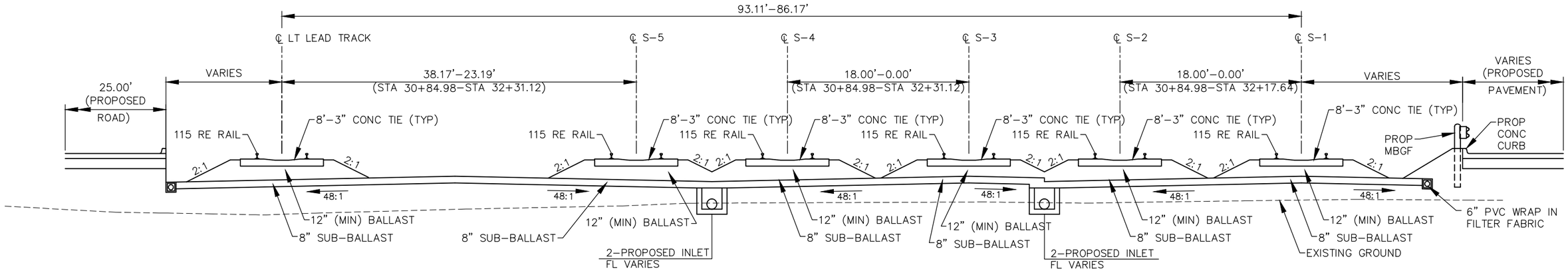
WEST - VOLUME 4 (OMF)
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

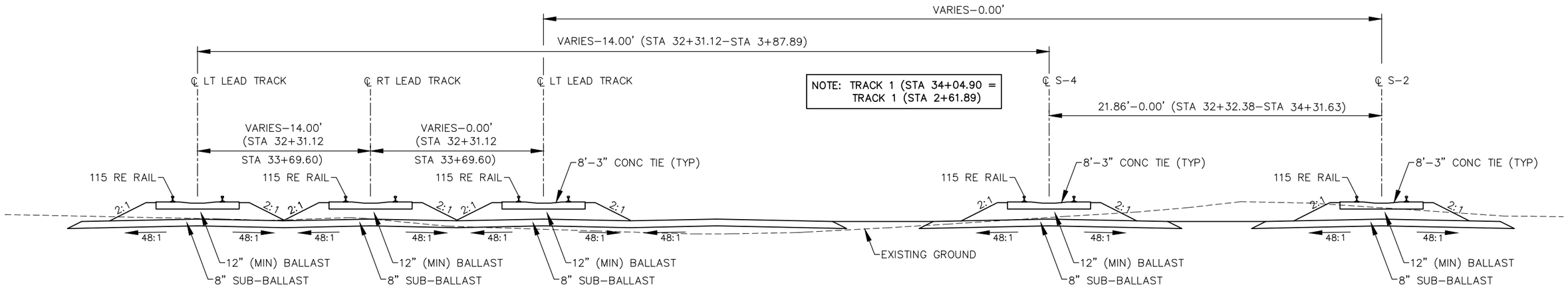
SHEET NAME: T-005

SHEET 40 OF 288

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TYPICAL SECTION
STA 30+84.98 TO STA 32+31.12



TYPICAL SECTION
STA 32+31.12 TO STA 3+87.89

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

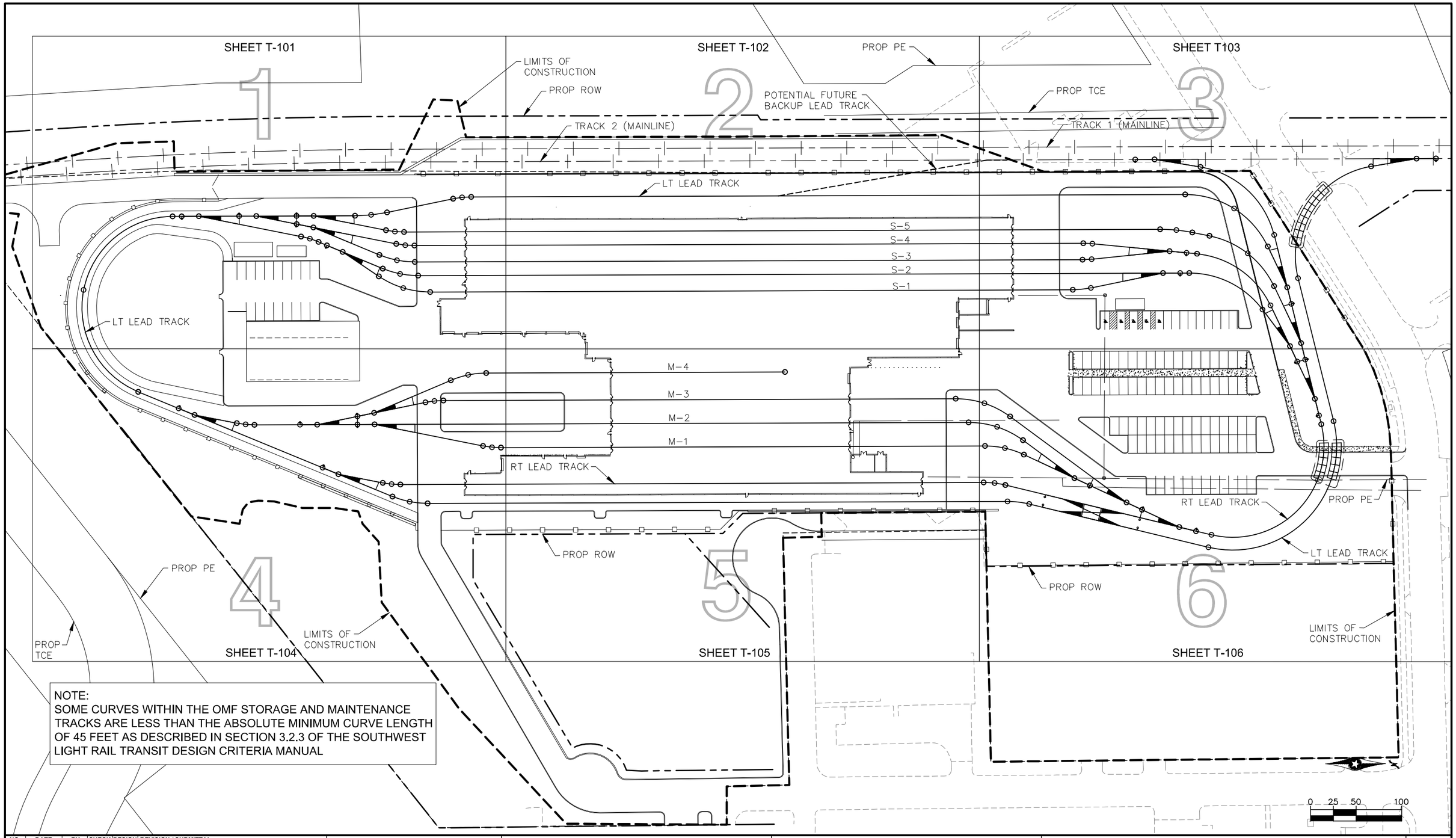
WEST - VOLUME 4 (OMF)
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: T-006

SHEET 41 OF 288

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NOTE:
SOME CURVES WITHIN THE OMF STORAGE AND MAINTENANCE TRACKS ARE LESS THAN THE ABSOLUTE MINIMUM CURVE LENGTH OF 45 FEET AS DESCRIBED IN SECTION 3.2.3 OF THE SOUTHWEST LIGHT RAIL TRANSIT DESIGN CRITERIA MANUAL

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

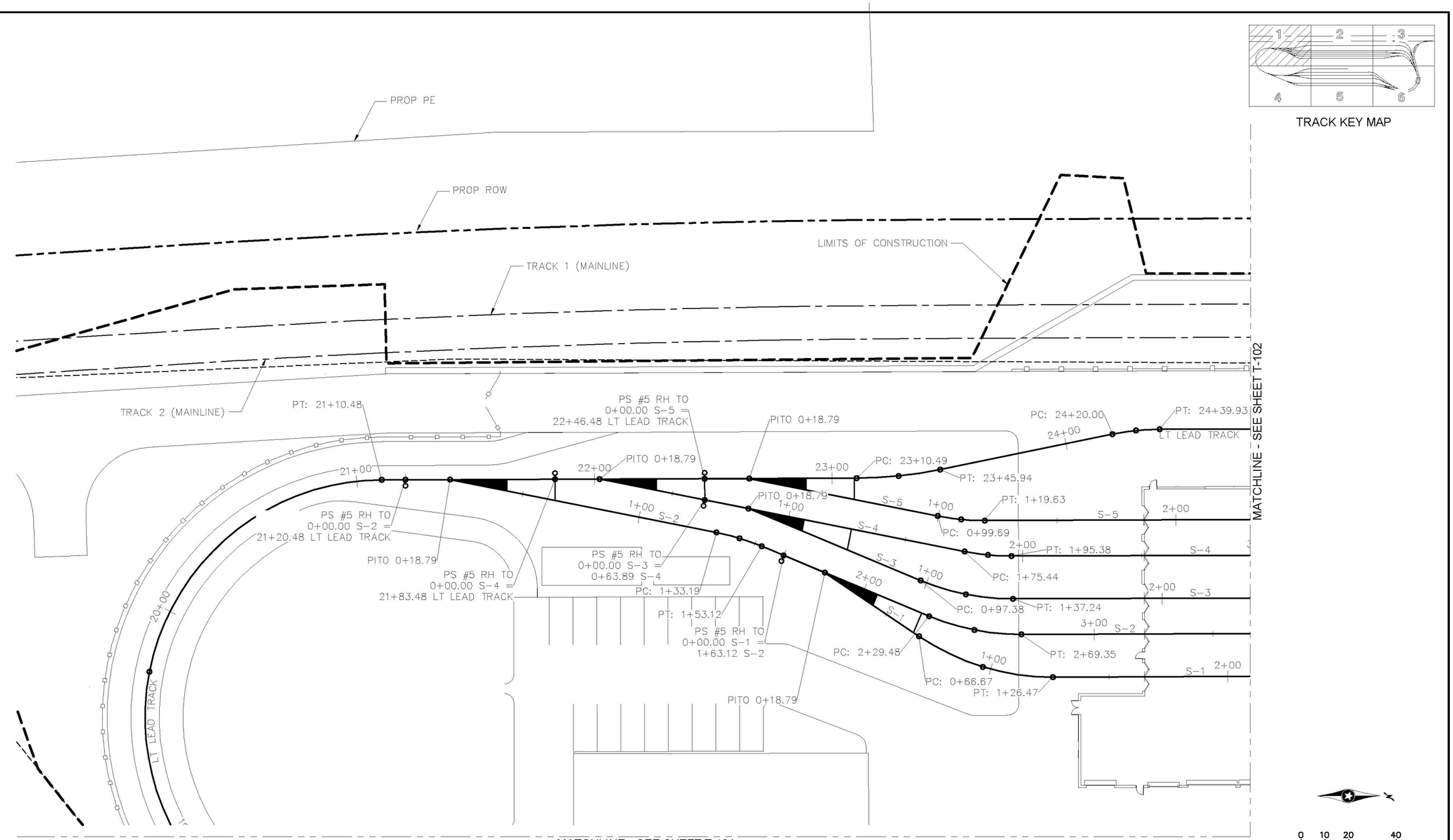
WEST - VOLUME 4 (OMF)
TRACK
PLAN - OVERALL

DISCIPLINE: TRACK

SHEET NAME: T-100

SHEET 42 OF 288

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TRACK KEY MAP

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line Ext Extension

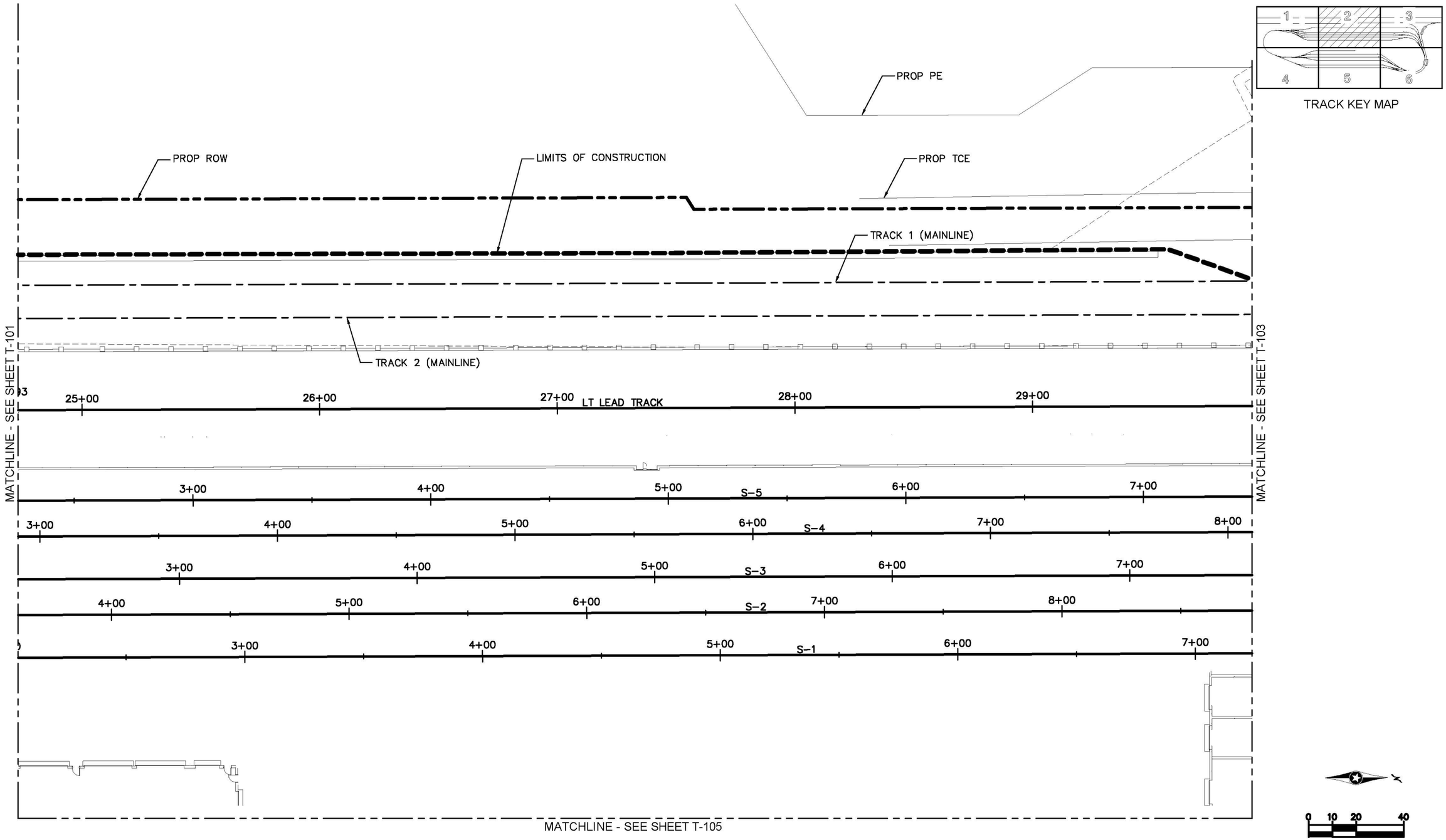
WEST - VOLUME 4 (OMF)
TRACK
PLAN - SHEET 1 OF 6

DISCIPLINE: TRACK

SHEET NAME: T-101

SHEET 43 OF 288

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

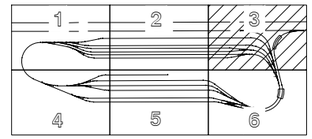
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
TRACK
PLAN - SHEET 2 OF 6

DISCIPLINE: TRACK

SHEET NAME: T-102

SHEET 44 OF 288



TRACK KEY MAP

PROP TCE

PROP ROW

PS #6 RH TO
0+00.00 RT LEAD TRACK
2420+73.94 TRACK 2 (MAINLINE)

TRACK 1 (MAINLINE)

LIMITS OF CONSTRUCTION

TRACK 2 (MAINLINE)

PITO 0+21.24

PC: 0+72.39

1+00

RT LEAD TRACK

PC: 0+71.79

PITO 0+21.24

1+00

LT LEAD TRACK

PS #6 LH TO
0+00.00 LT LEAD TRACK =
2424+03.95 TRACK 2 (MAINLINE)

MATCHLINE - SEE SHEET T-102

)+00

LT LEAD TRACK

31+00

32+00

PC: 32+23.47

PROP 9-10'x8'
CONC PANELS

PROP ROW

SEE EMBEDDED TRACK DETAILS (T-502)
FOR DETAILS OF ROAD CROSSING

33+00

S-5

8+00

9+00

PC: 9+49.32

10+00

PC: 10+03.99

PT: 9+84.77

PT: 1+88.78

2+00

2+00

S-4

9+00

PT: 9+39.39

10+00

PC: 9+29.42

PT: 33+36.56

PC: 10+54.77

S-3

8+00

9+00

S-4

11+00

PT: 10+97.15

PC: 8+69.88

PT: 8+79.85

PITO 9+65.76

9+00

10+00

11+00

S-2

PT: 2+56.31

S-2

9+00

S-1

11+00

S-1

8+00

PT: 8+51.49

PC: 11+15.54

PITO 33+86.11

PITO 9+32.39

12+00

34+00

PC: 8+31.56

PS #5 LH TO
9+51.19 S-1 =
11+05.54 S-2

PT: 12+08.70

PS #5 LH TO
34+04.90 LT LEAD TRACK =
2+66.77 RT LEAD TRACK

PT: 11+57.90

PS #5 LH TO
9+84.55 S-3 =
10+43.19 S-4

3+00

3+00

12+00

PITO 12+58.92

PITO 11+66.24

MATCHLINE - SEE SHEET T-106

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST
Green Line LRT Extension

WEST - VOLUME 4 (OMF)
TRACK
PLAN - SHEET 3 OF 6

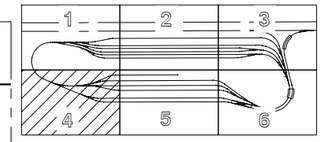
DISCIPLINE: TRACK

SHEET NAME: T-103

SHEET 45 OF 288

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MATCHLINE - SEE SHEET T-101



TRACK KEY MAP

LT LEAD TRACK

PC: 18+35.72

PS #5 LH TO
10+22.04 M-2 =
17+87.72 LT LEAD TRACK

18+00

10+00

PT: 9+56.03

PC: 9+36.56

M-2

9+00

PITO 10+03.24

PITO 9+44.80

PS #5 LH TO
9+63.59 M-3 =
8+86.56 M-2

PS #5 LH TO
4+77.97 M-4 =
8+99.69 M-3

PS #5 RH TO
9+42.10 M-1 =
8+23.56 M-2

9+00

PITO 4+59.18

PITO 9+23.31

4+00

M-4

PC: 3+27.85

PT: 3+67.72

8+00

M-3

PC: 8+03.56

PT: 8+23.49

8+00

7+00

M-2

M-1

8+00

PT: 8+02.01

PC: 7+82.07

17+00

16+00

PS #5 LH TO
15+92.48 RT LEAD TRACK =
16+16.98 LT LEAD TRACK

PITO 15+73.68

PT: 15+24.12

15+00

PC: 15+04.65

RT LEAD TRACK

14+00

PT: 15+33.98

15+00

LT LEAD TRACK

PC: 14+94.58

PROP ROW

PROP ROW

LIMITS OF CONSTRUCTION

PROP PE

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MATCHLINE - SEE SHEET T-105

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST
Green Line LRT Extension

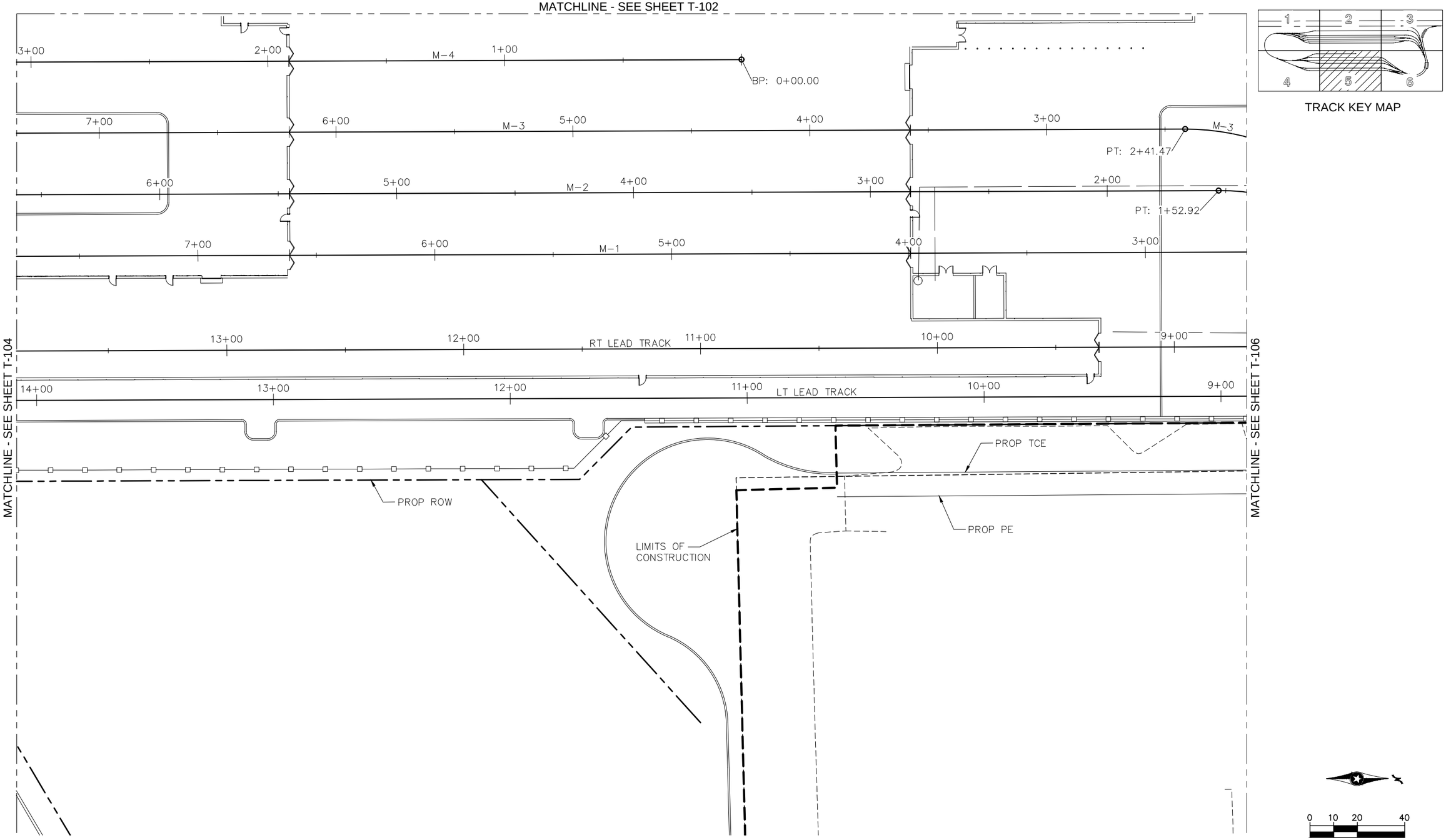
WEST - VOLUME 4 (OMF)
TRACK
PLAN - SHEET 4 OF 6

DISCIPLINE: TRACK

SHEET NAME: T-104

SHEET 46 OF 288

MATCHLINE - SEE SHEET T-102



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
TRACK
PLAN - SHEET 5 OF 6

DISCIPLINE: TRACK

SHEET NAME: T-105

SHEET 47 OF 288

Aug, 27 2014 02:14 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PLN-005.dwg By: scaborad

MATCHLINE - SEE SHEET T-103

MATCHLINE - SEE SHEET T-105

PS #5 LH TO
11+85.03 S-5 =
3+29.77 RT LEAD TRACK

PS #5 LH TO
12+77.71 S-2 =
12+26.15 S-4

PITO 12+71.25

PC: 3+97.89

PS #5 LH TO
12+90.04 S-4 =
3+92.77 RT LEAD TRACK

PC: 4+02.78

2+00

PC: 1+77.52

M-2

1+00

PC: 0+88.98

PT: 2+50.98

M-1

2+00

PC: 2+06.97

1+00

M-3

PS #5 RH TO
0+00.00 M-2 =
1+26.89 M-1

PROP 5-10'x8'
CONC PANELS

PROP 5-10'x8'
CONC PANELS

PT: 8+64.70

RT LEAD TRACK

8+00

PC: 8+40.62

PITO 0+18.79

PITO 0+18.79

PS #5 RH TO
0+00.00 M-3 =
0+63.89 M-1

SEE EMBEDDED TRACK DETAILS (T-502)
FOR DETAILS OF ROAD CROSSING

LT LEAD TRACK

PT: 8+58.20

8+00

PC: 8+34.12

7+00

PITO 0+18.79

PS #5 RH TO
0+00.00 M-1 =
6+25.50 RT LEAD TRACK

RT LEAD TRACK 5+00

LT LEAD TRACK 5+00

6+00

PT: 6+07.99

6+00

7+00

INSTALL #5
DOUBLE
CROSSOVER

PT: 6+31.83

PROP ROW

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LIMITS OF CONSTRUCTION

TRACK KEY MAP

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST
Green Line LRT Extension

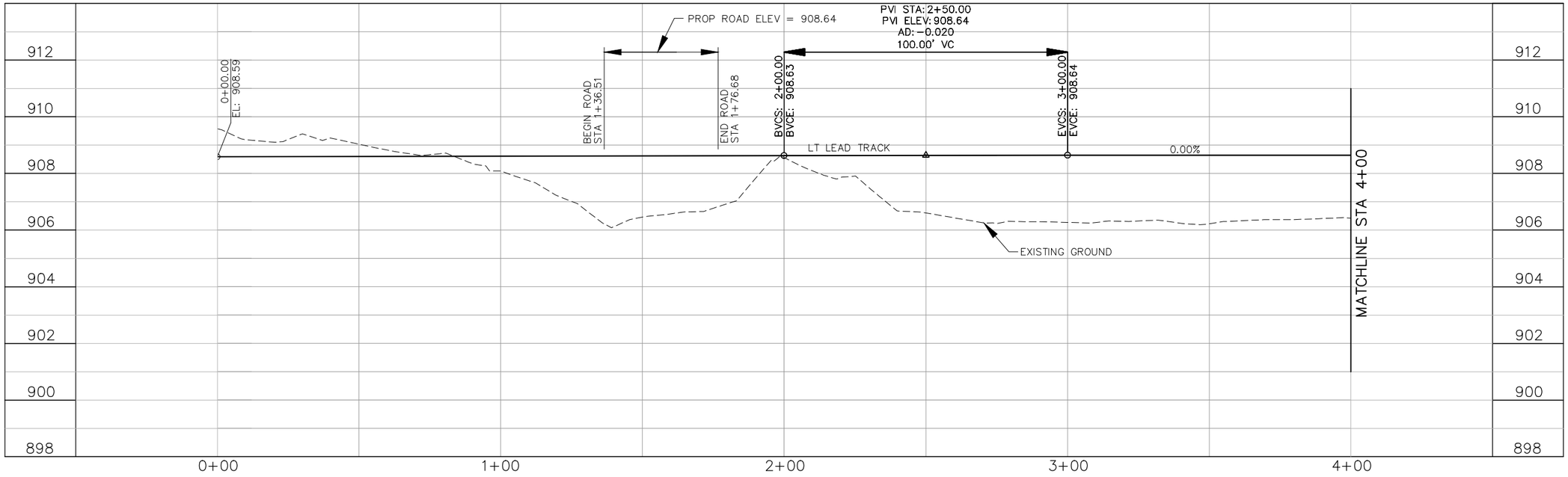
WEST - VOLUME 4 (OMF)
TRACK
PLAN - SHEET 6 OF 6

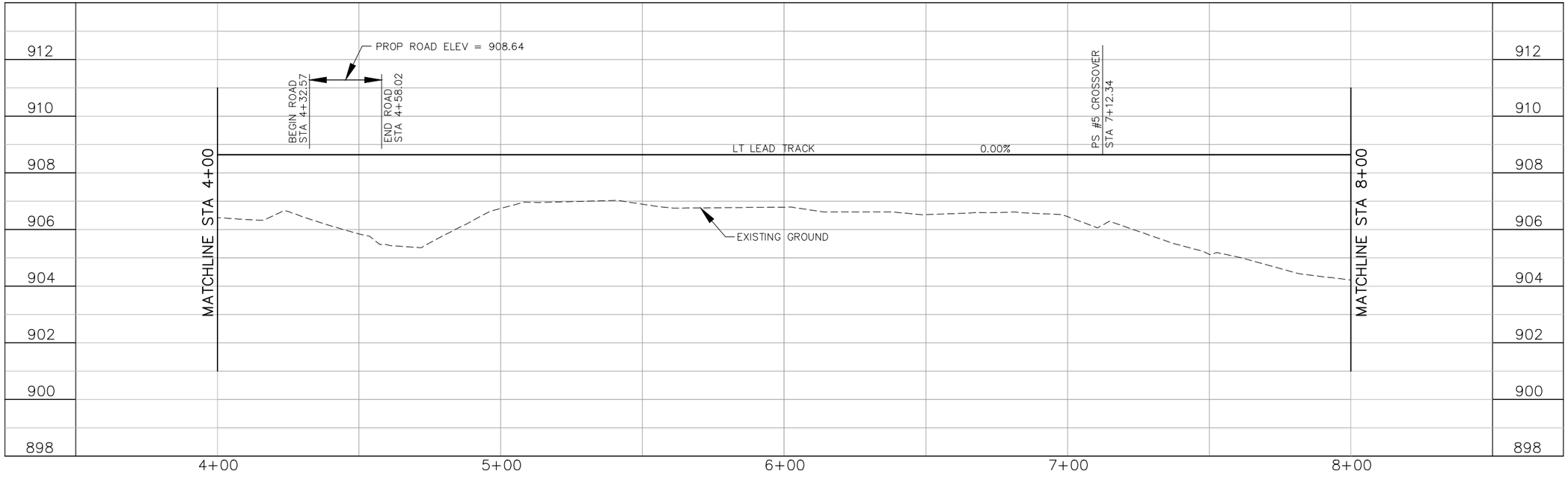
DISCIPLINE: TRACK

SHEET NAME: T-106

SHEET 48 OF 288

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

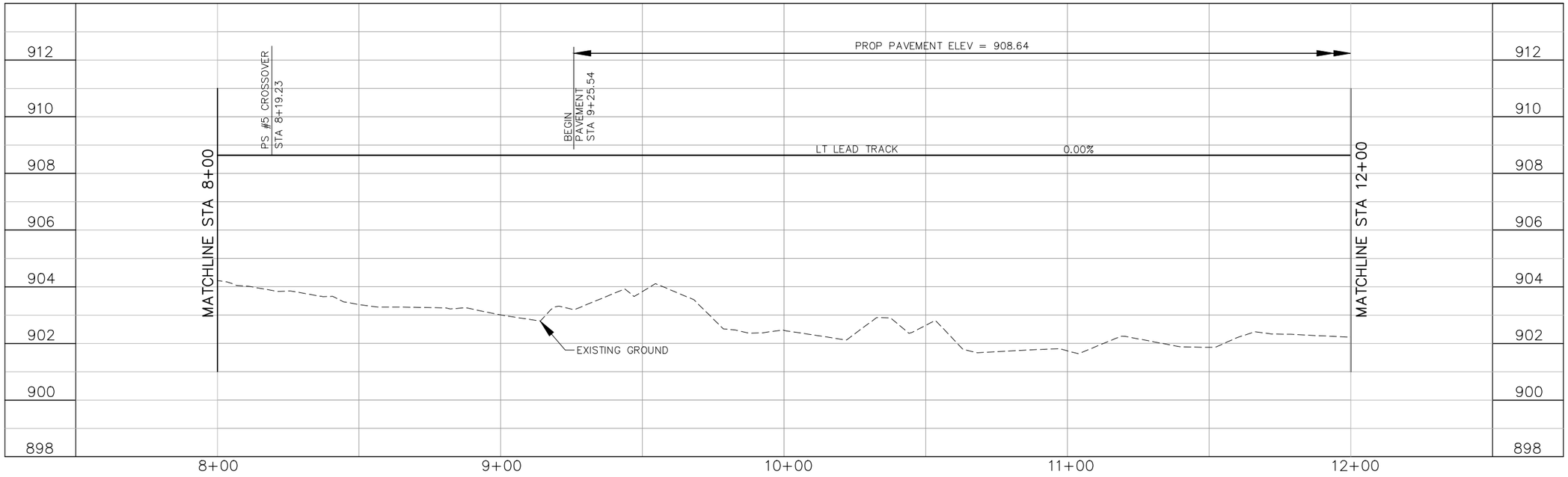
WEST - VOLUME 4 (OMF)
TRACK PROFILE
LT LEAD TRACK - STA 0+00 TO STA 8+00

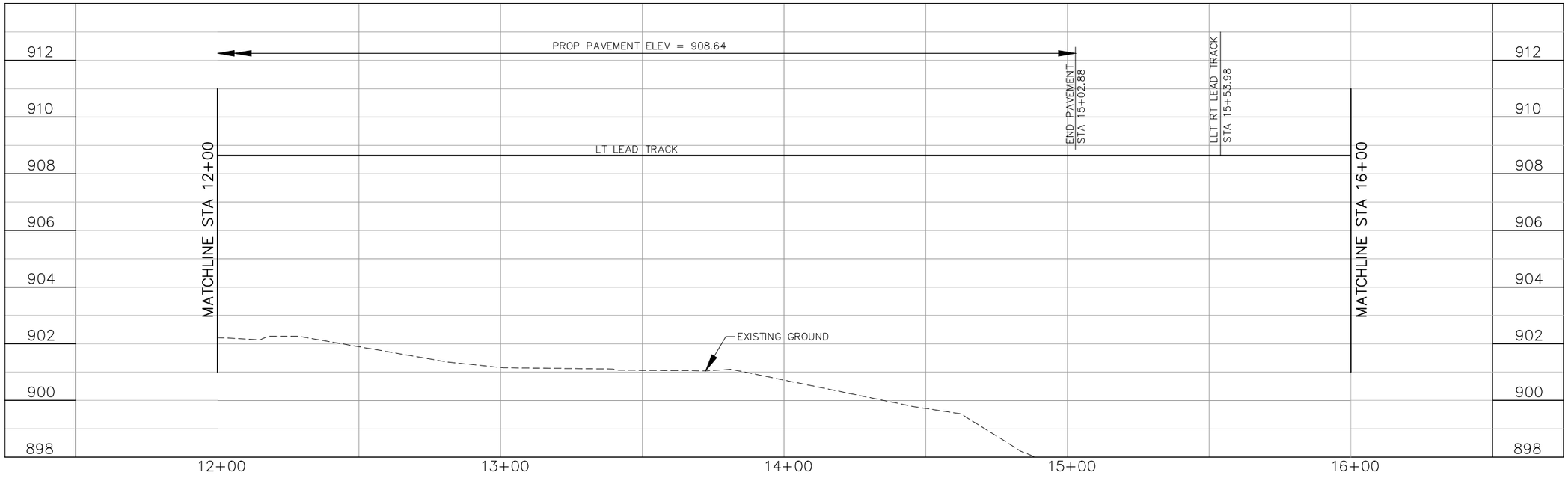
DISCIPLINE: TRACK

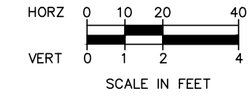
SHEET NAME: T-201

SHEET 49 OF 288

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

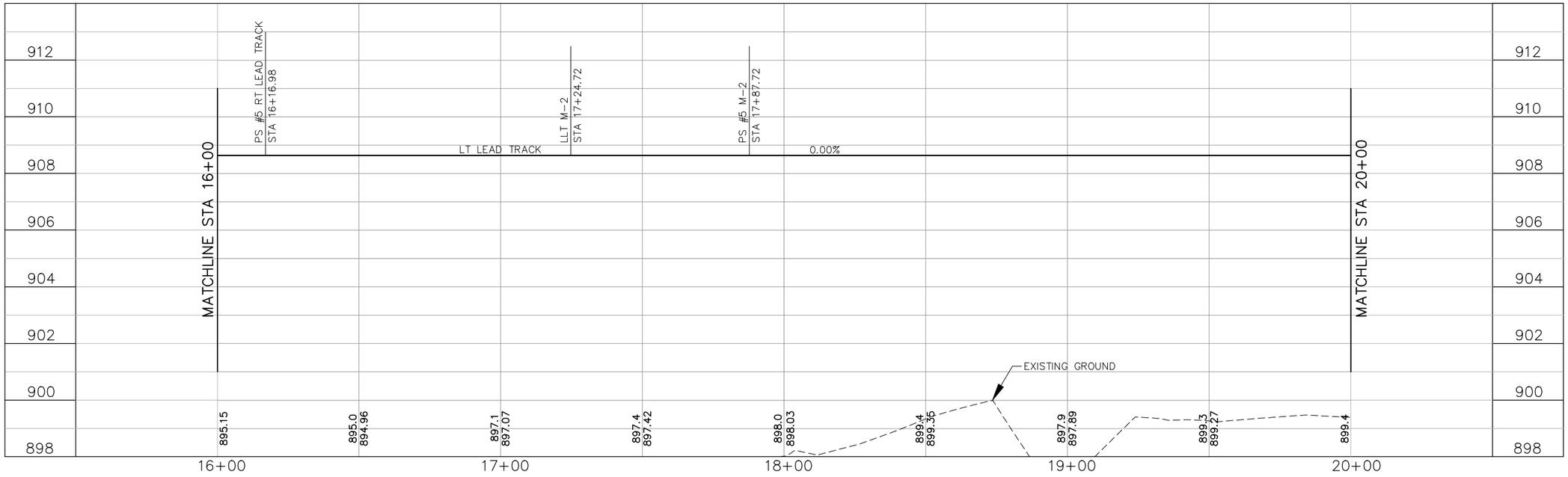
WEST - VOLUME 4 (OMF)
TRACK PROFILE
LT LEAD TRACK - STA 8+00 TO STA 16+00

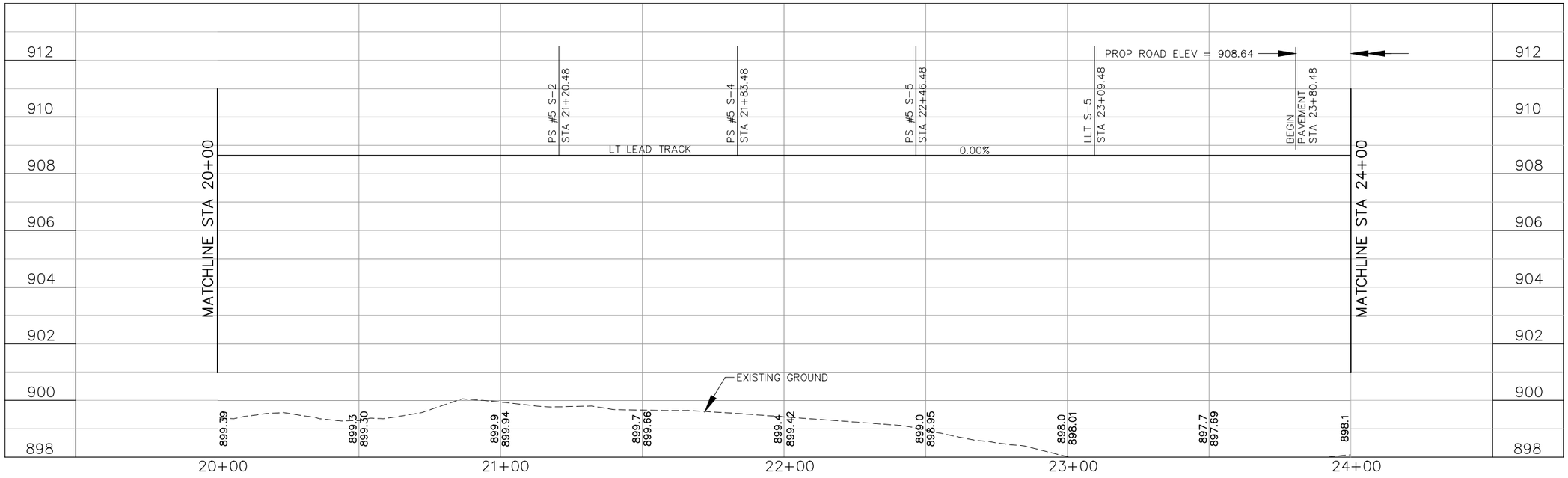
DISCIPLINE: TRACK

SHEET NAME: T-202

SHEET 50 OF 288

Aug, 27 2014 02:16 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-001.dwg By: scaborad





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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

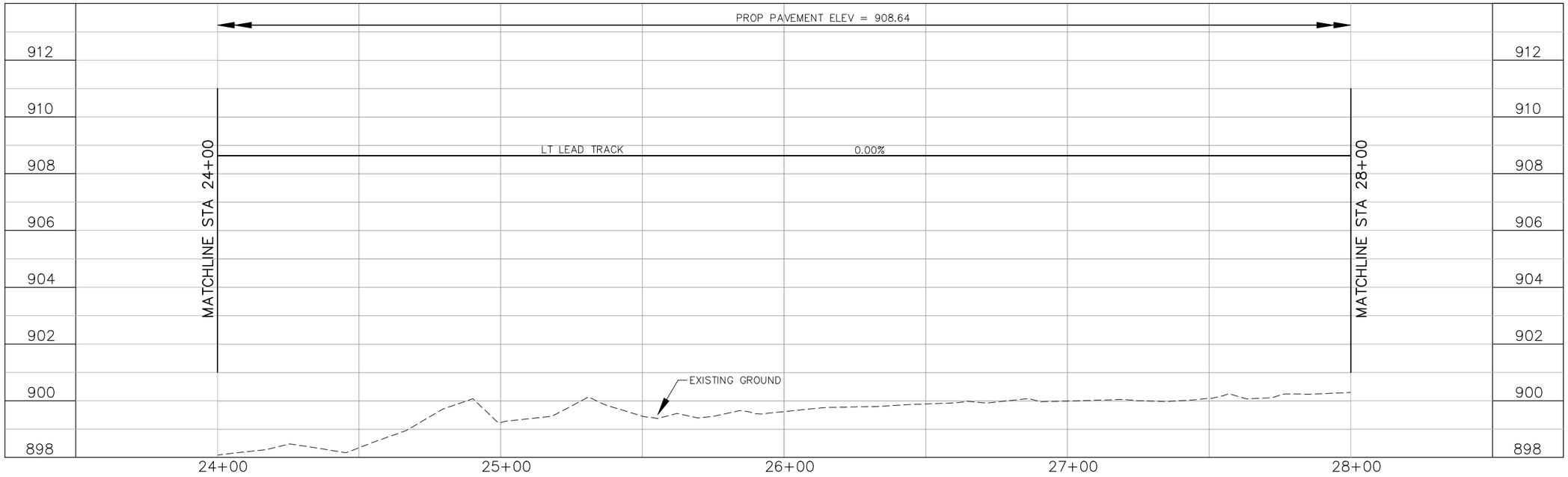
WEST - VOLUME 4 (OMF)
TRACK PROFILE
LT LEAD TRACK - STA 16+00 TO STA 24+00

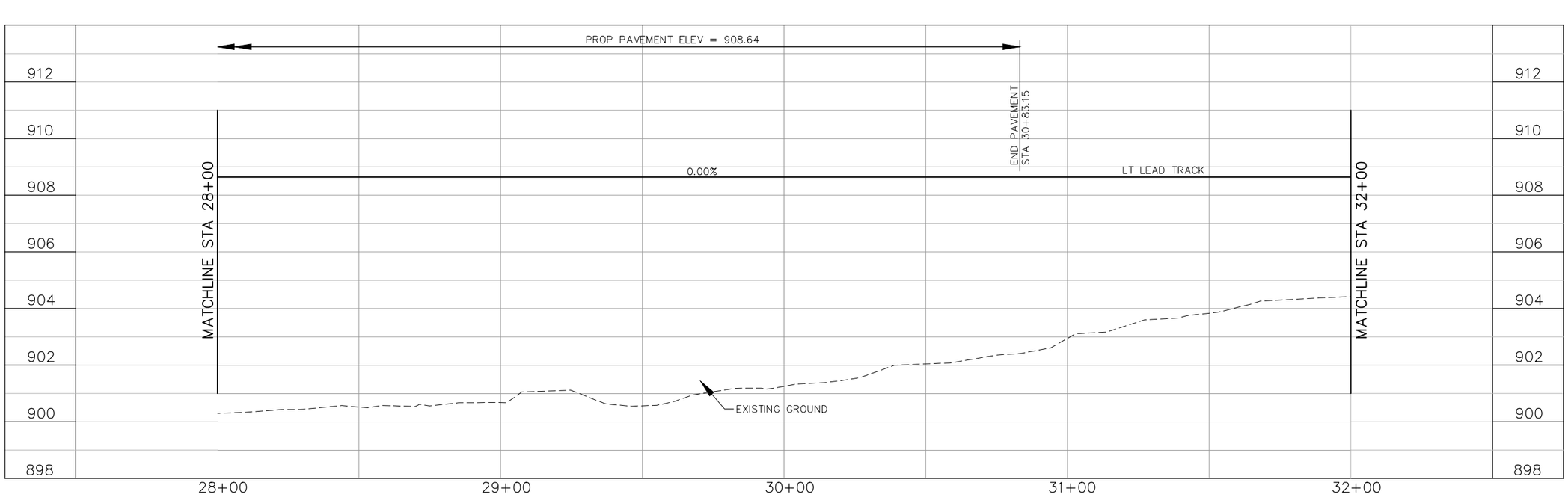
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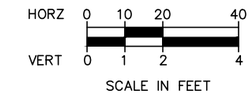
SHEET NAME: T-203

SHEET 51 OF 288

Aug, 27 2014 02:16 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-001.dwg By: scabrad







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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

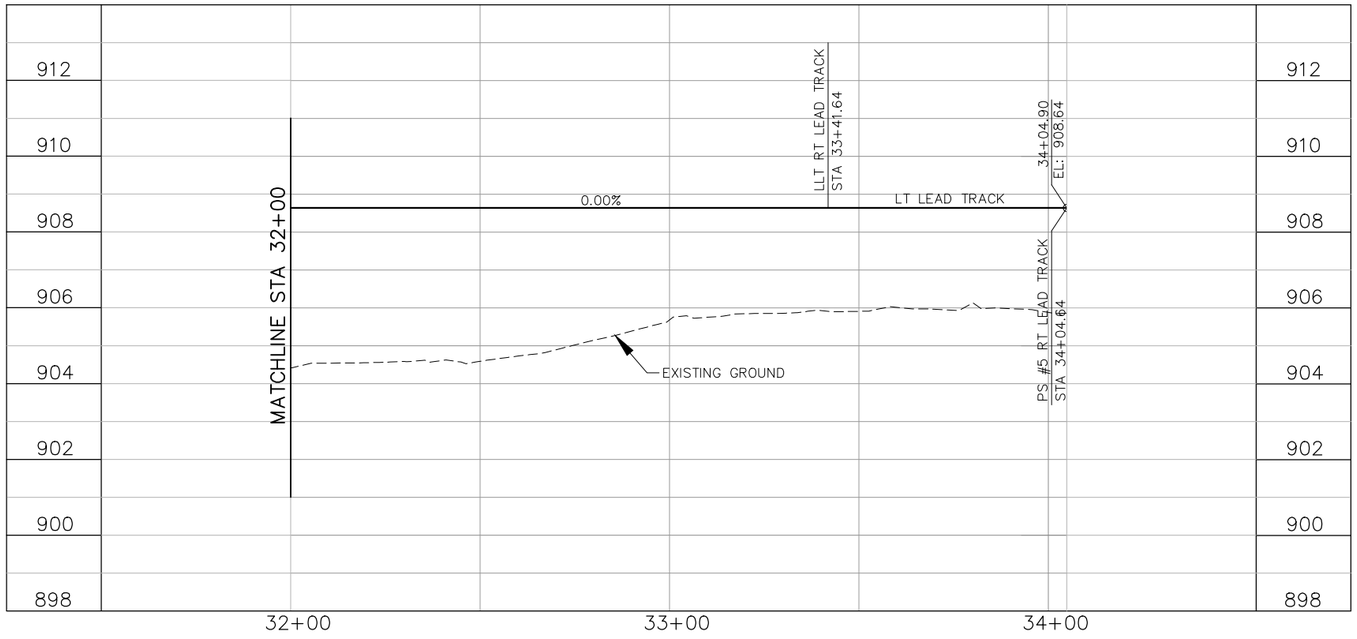
WEST - VOLUME 4 (OMF)
TRACK PROFILE
LT LEAD TRACK - STA 24+00 TO STA 32+00

DISCIPLINE: TRACK

SHEET NAME: T-204

SHEET 52 OF 288

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

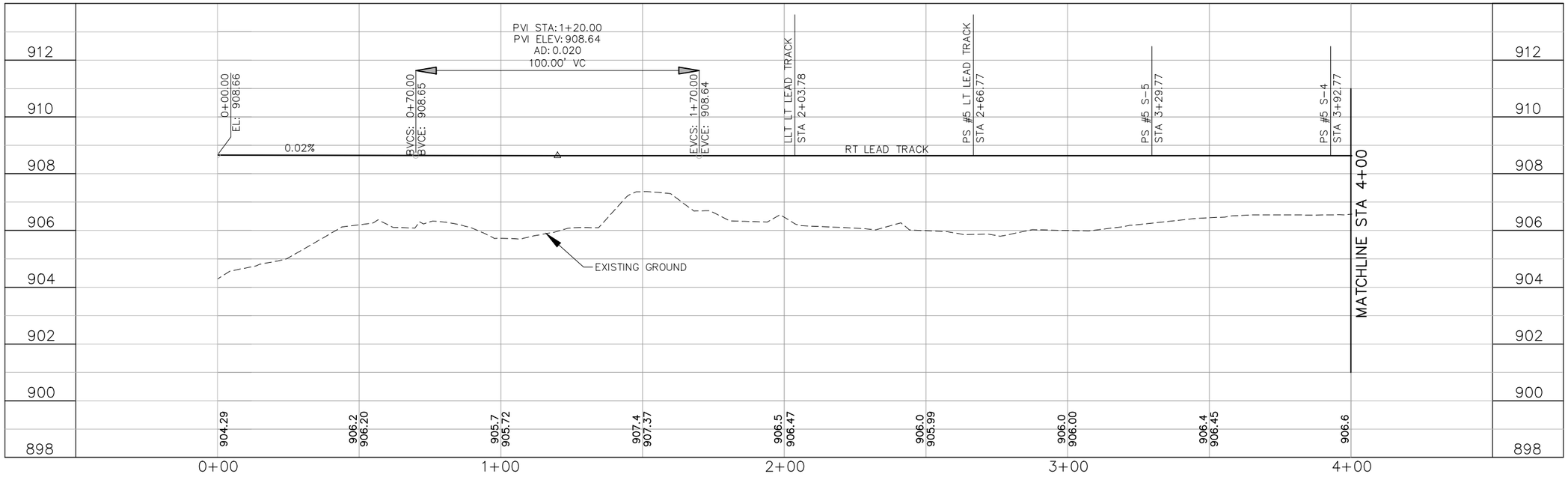
WEST - VOLUME 4 (OMF)
TRACK PROFILE
LT LEAD TRACK - STA 32+00 TO STA 34+04.90

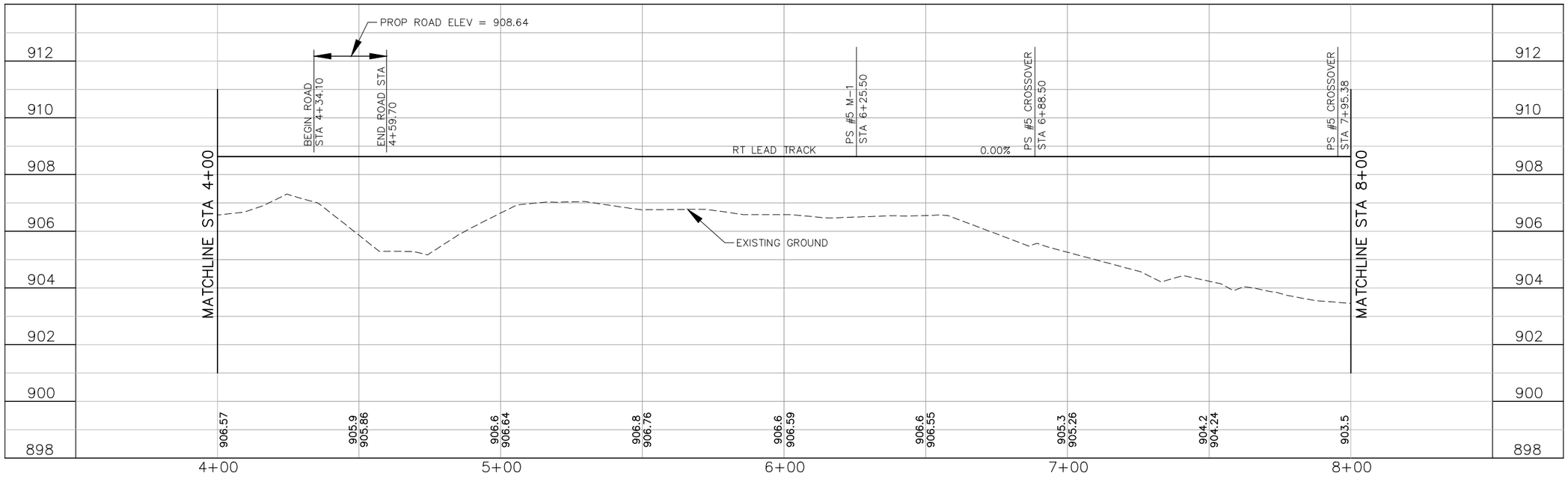
DISCIPLINE: TRACK

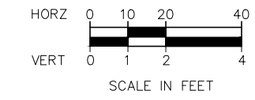
SHEET NAME: T-205

SHEET 53 OF 288

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

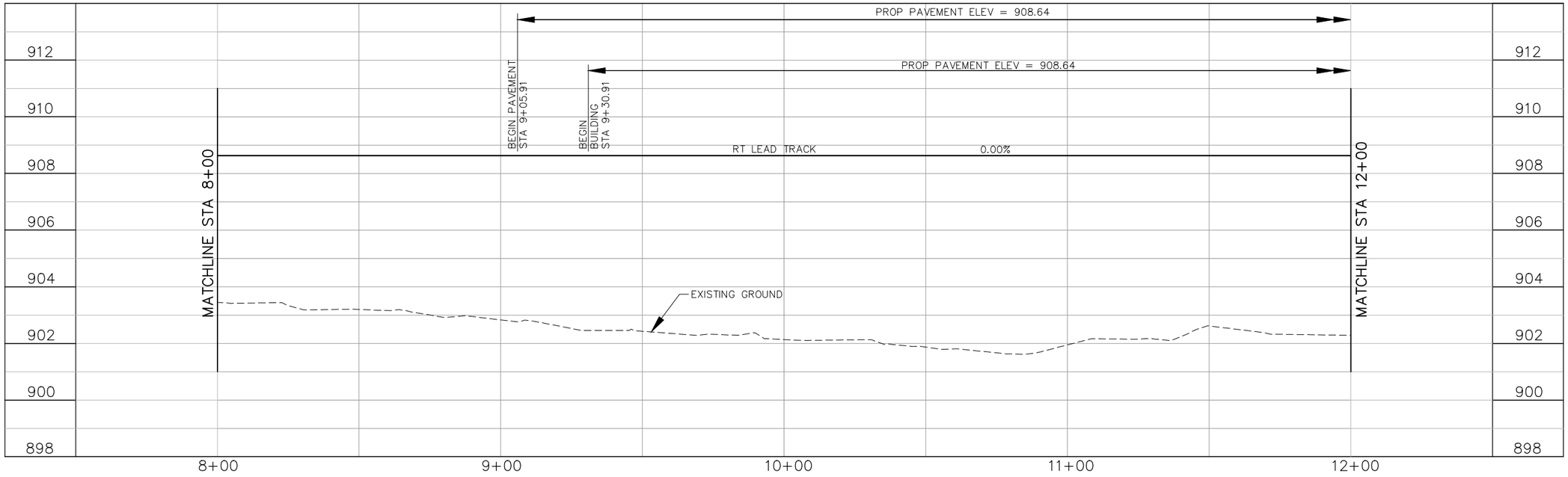
WEST - VOLUME 4 (OMF)
TRACK PROFILE
RT LEAD TRACK - STA 0+00 TO STA 8+00

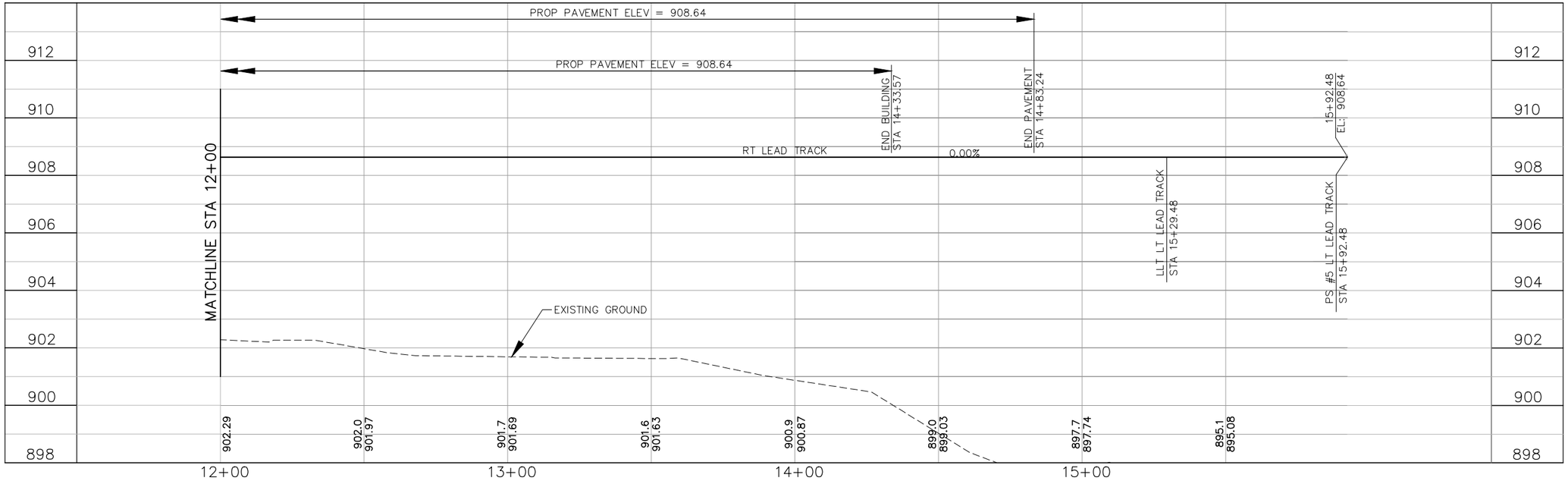
DISCIPLINE: TRACK

SHEET NAME: T-206

SHEET 54 OF 288

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

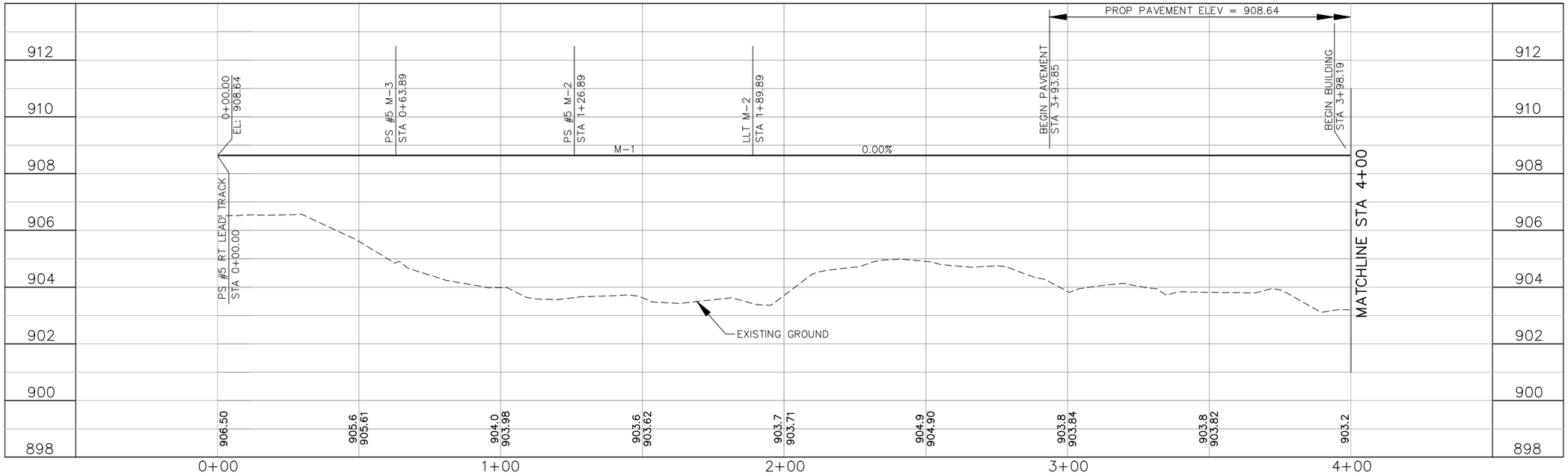
WEST - VOLUME 4 (OMF)
TRACK PROFILE
RT LEAD TRACK - STA 8+00 TO STA 15+92.48

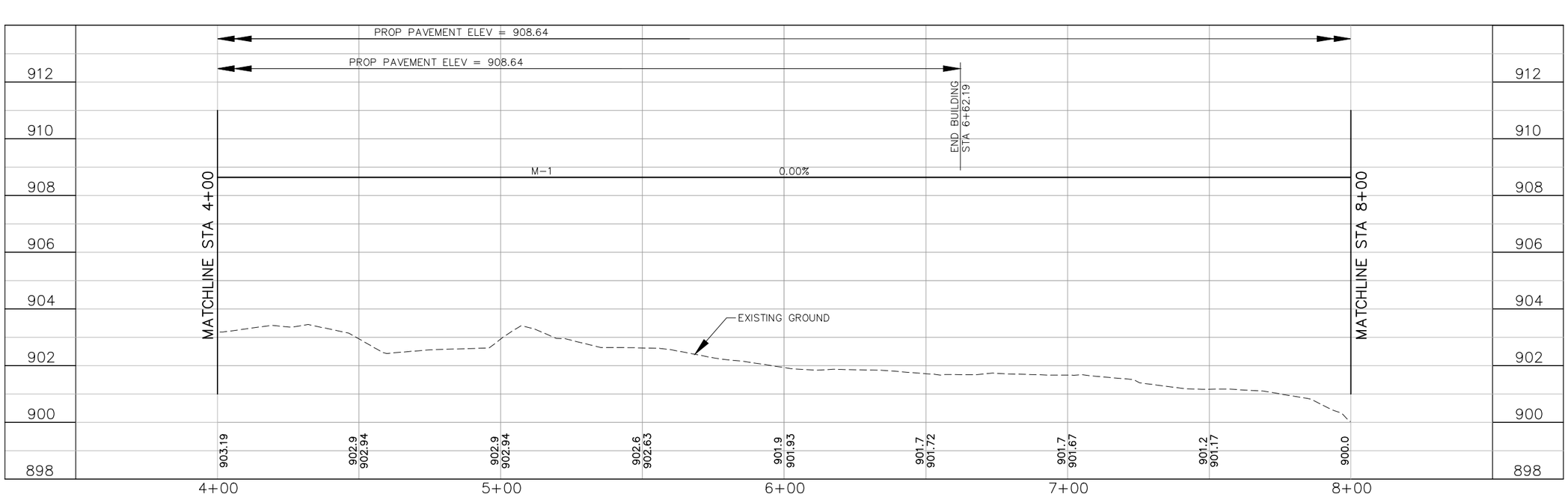
DISCIPLINE: TRACK

SHEET NAME: T-207

SHEET 55 OF 288

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

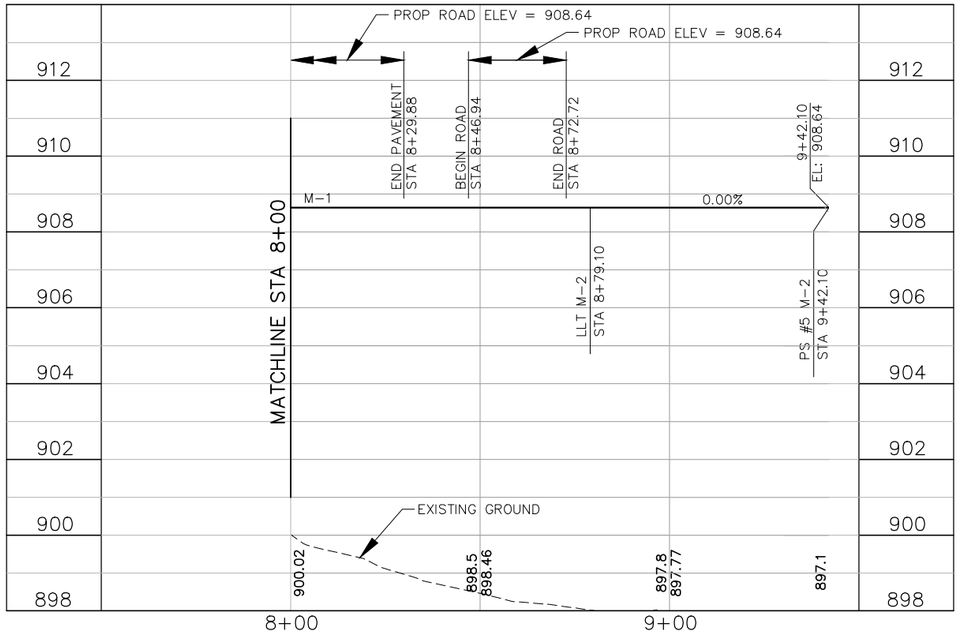
WEST - VOLUME 4 (OMF)
TRACK PROFILE
M-1 TRACK - STA 0+00 TO STA 8+00

DISCIPLINE: TRACK

SHEET NAME: T-208

SHEET 56 OF 288

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

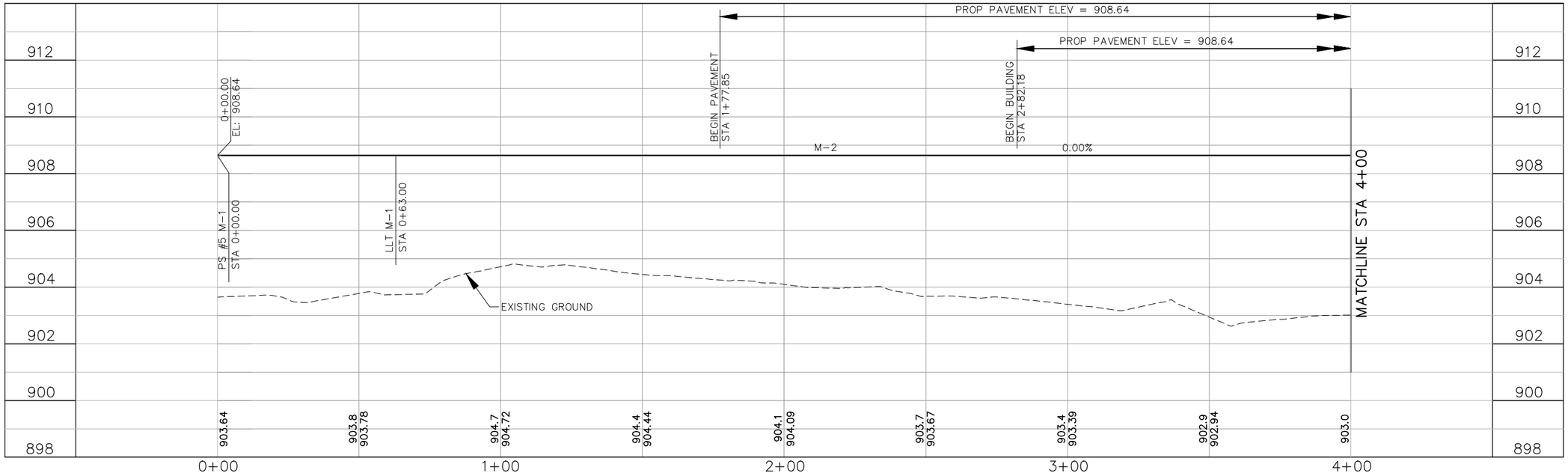
WEST - VOLUME 4 (OMF)
TRACK PROFILE
M-1 TRACK - STA 8+00 TO STA 9+42.10

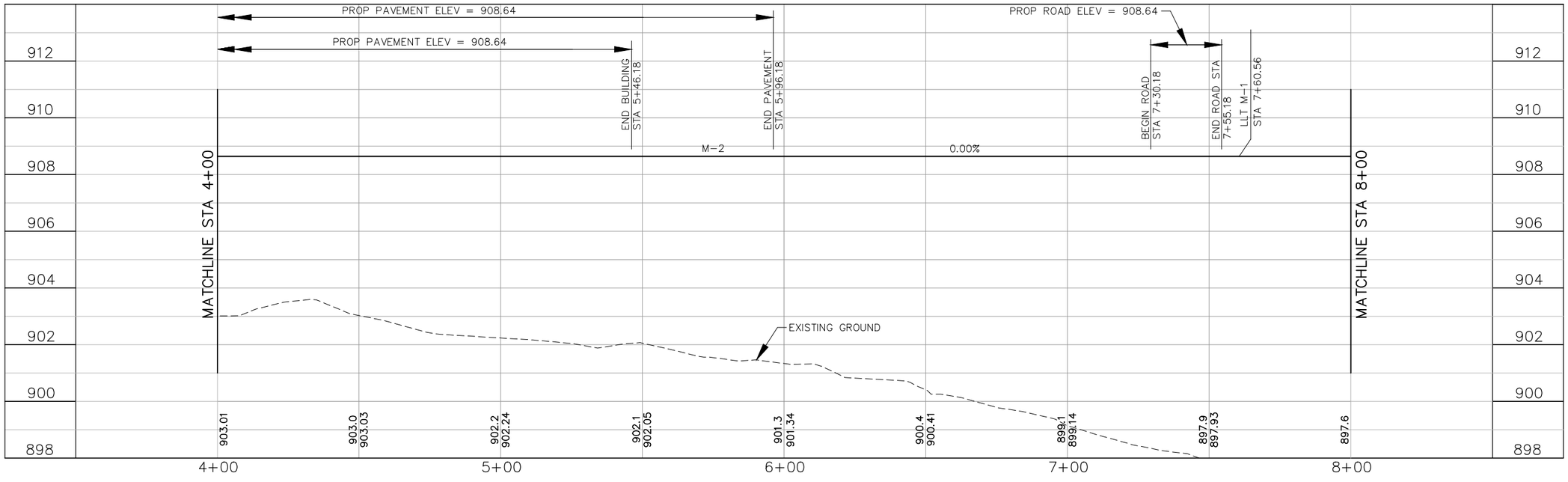
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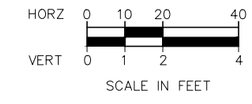
SHEET NAME: T-209

SHEET 57 OF 288

Aug. 27 2014 02:18 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-003.dwg By: scaborad







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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

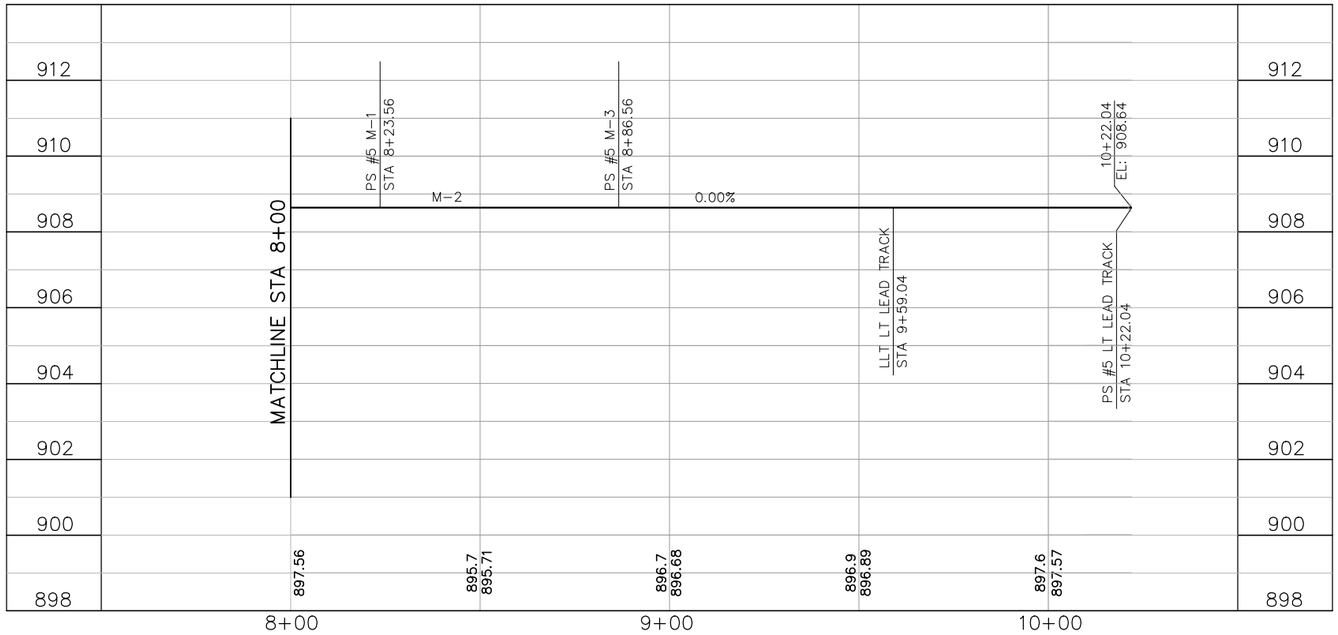
WEST - VOLUME 4 (OMF)
TRACK PROFILE
M-2 TRACK - STA 0+00 TO STA 8+00

DISCIPLINE: TRACK

SHEET NAME: T-210

SHEET 58 OF 288

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

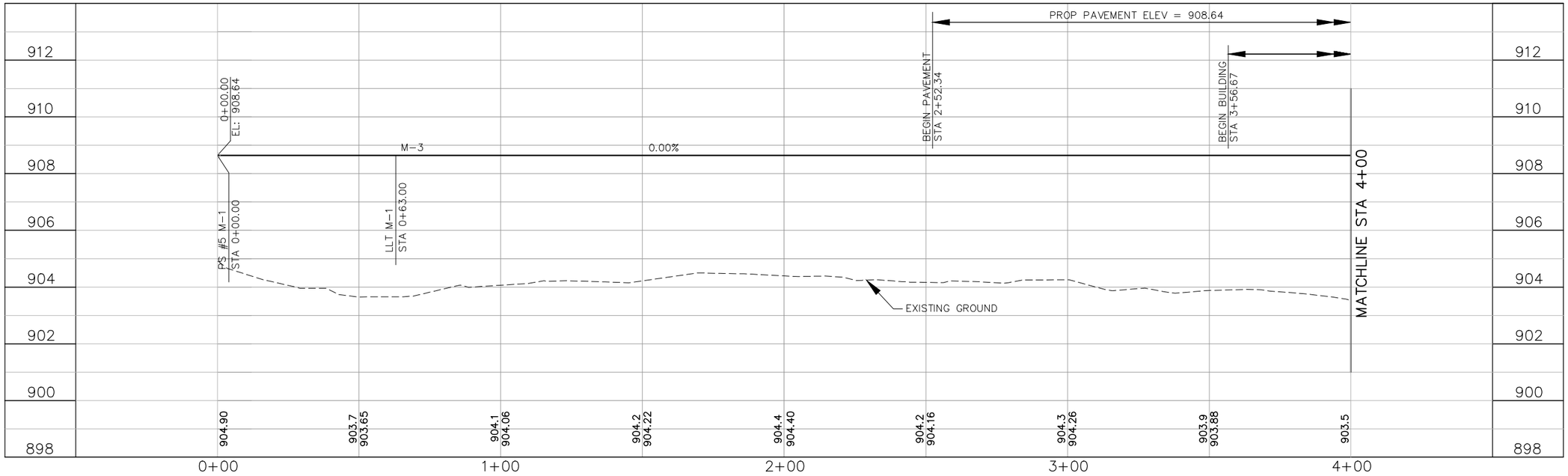
WEST - VOLUME 4 (OMF)
TRACK PROFILE
M-2 TRACK - STA 8+00 TO STA 10+22.04

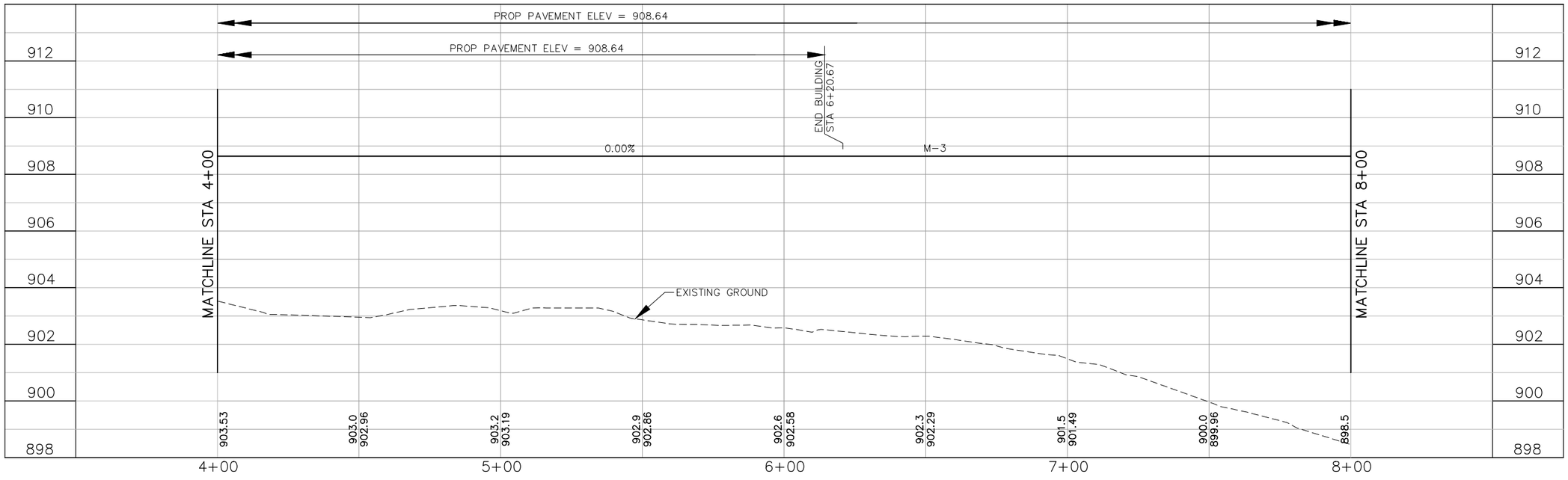
DISCIPLINE: TRACK

SHEET NAME: T-211

SHEET 59 OF 288

Aug. 27 2014 02:19 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-004.dwg By: scaborad





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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

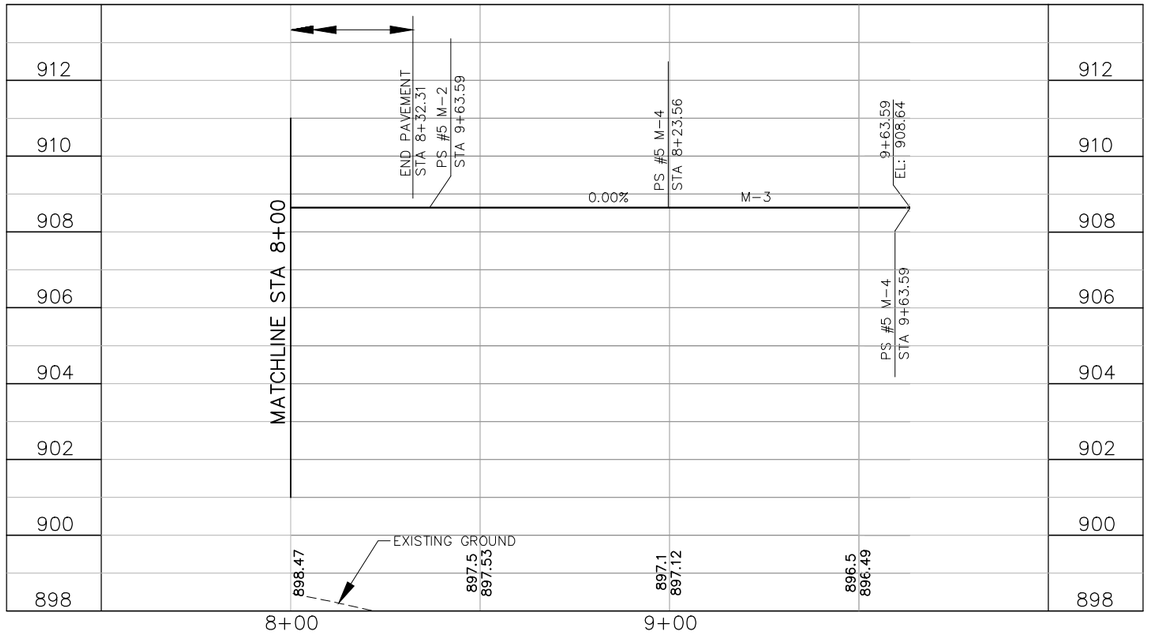
WEST - VOLUME 4 (OMF)
TRACK PROFILE
M-3 TRACK - STA 0+00 TO STA 8+00

DISCIPLINE: TRACK

SHEET NAME: T-212

SHEET 60 OF 288

Aug, 27 2014 02:20 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-005.dwg By: scaborad



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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

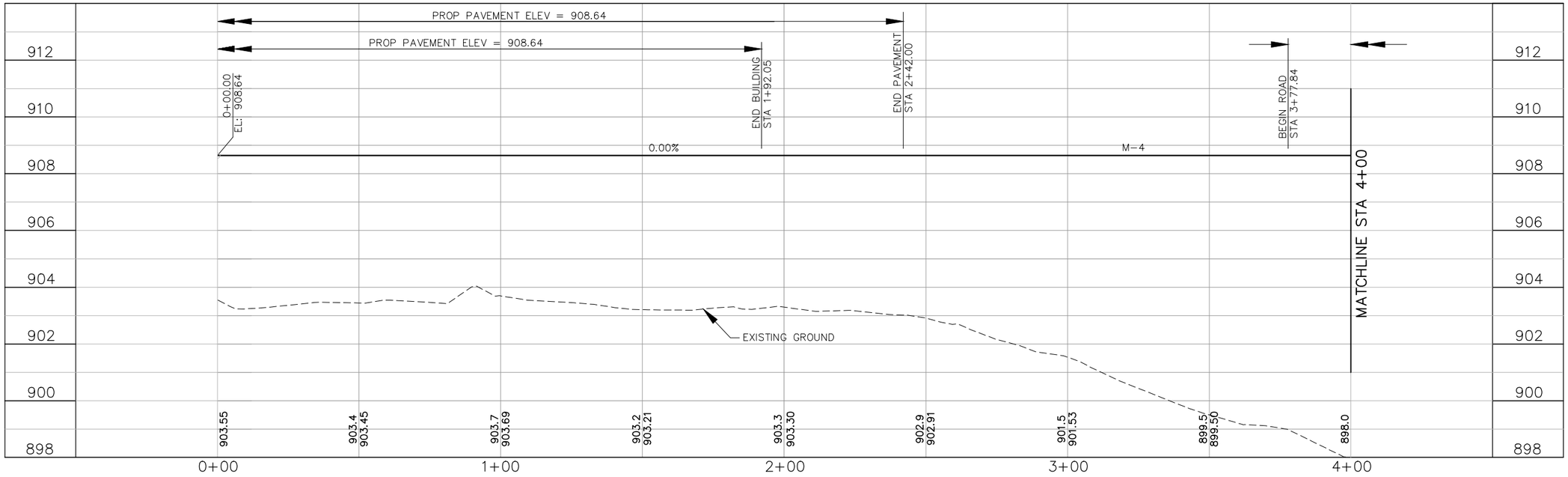
WEST - VOLUME 4 (OMF)
TRACK PROFILE
M-3 TRACK - STA 8+00 TO STA 9+63.59

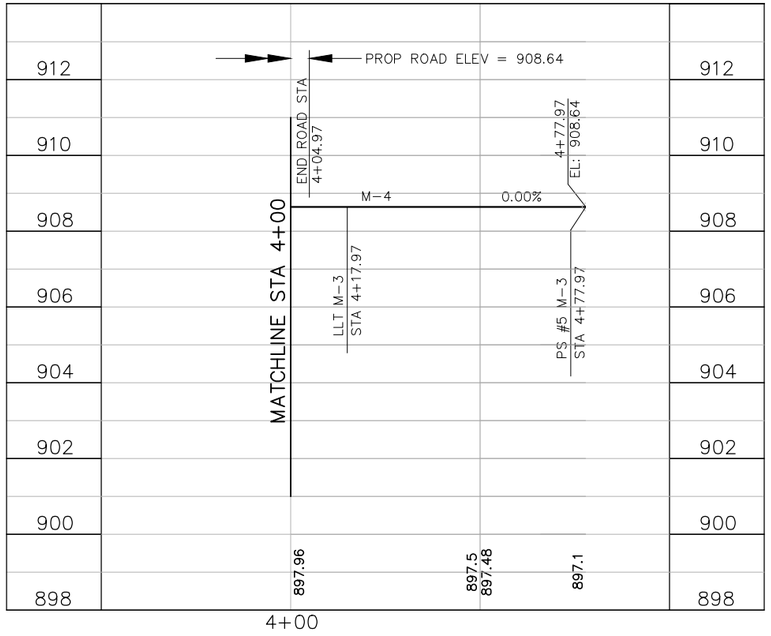
DISCIPLINE: TRACK

SHEET NAME: T-213

SHEET 61 OF 288

Aug. 27 2014 02:20 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-005.dwg By: scaborad





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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

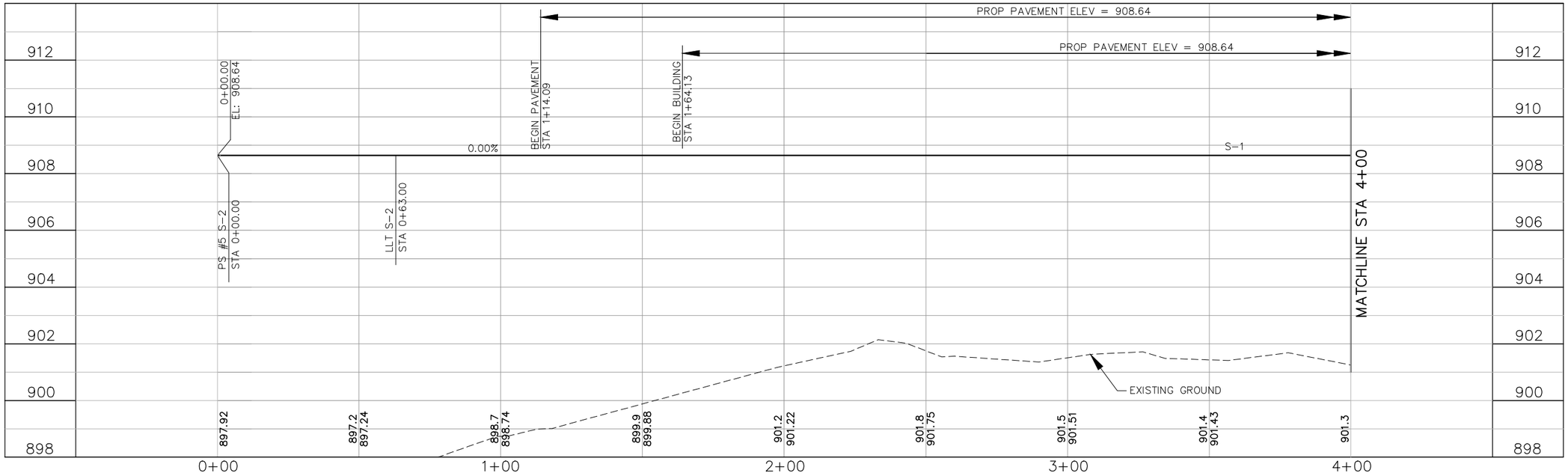
WEST - VOLUME 4 (OMF)
TRACK PROFILE
M-4 TRACK - STA 0+00 TO STA 4+77.97

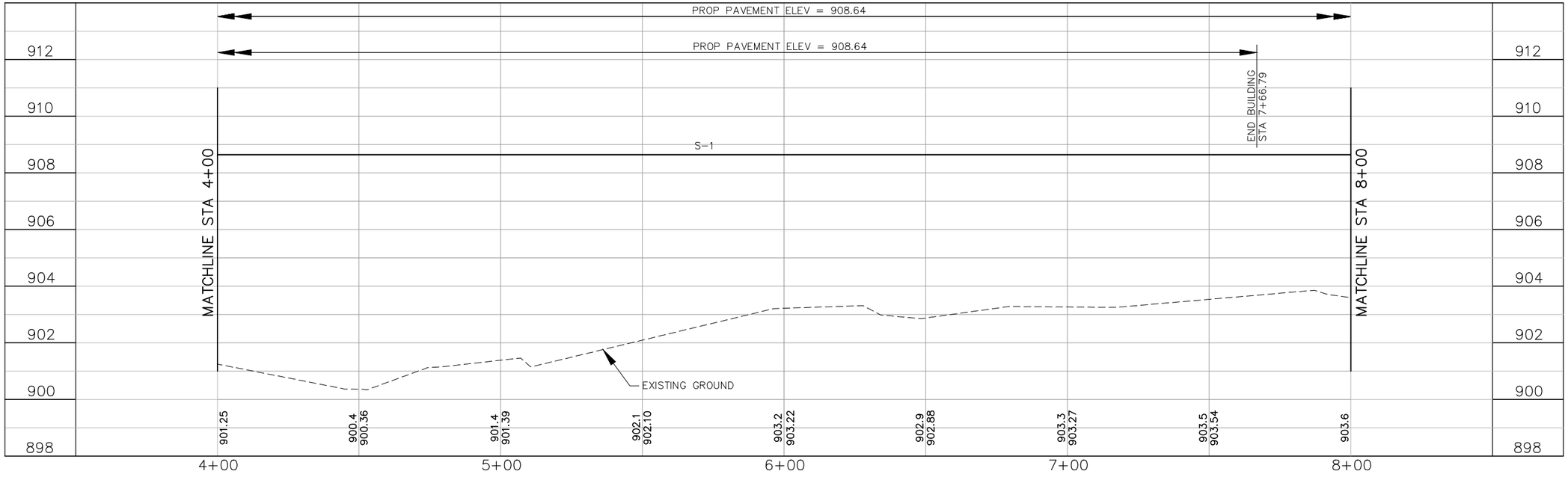
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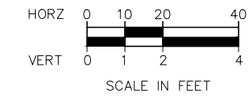
SHEET NAME: T-214

SHEET 62 OF 288

Aug, 27 2014 02:20 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-006.dwg By: scaborad







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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

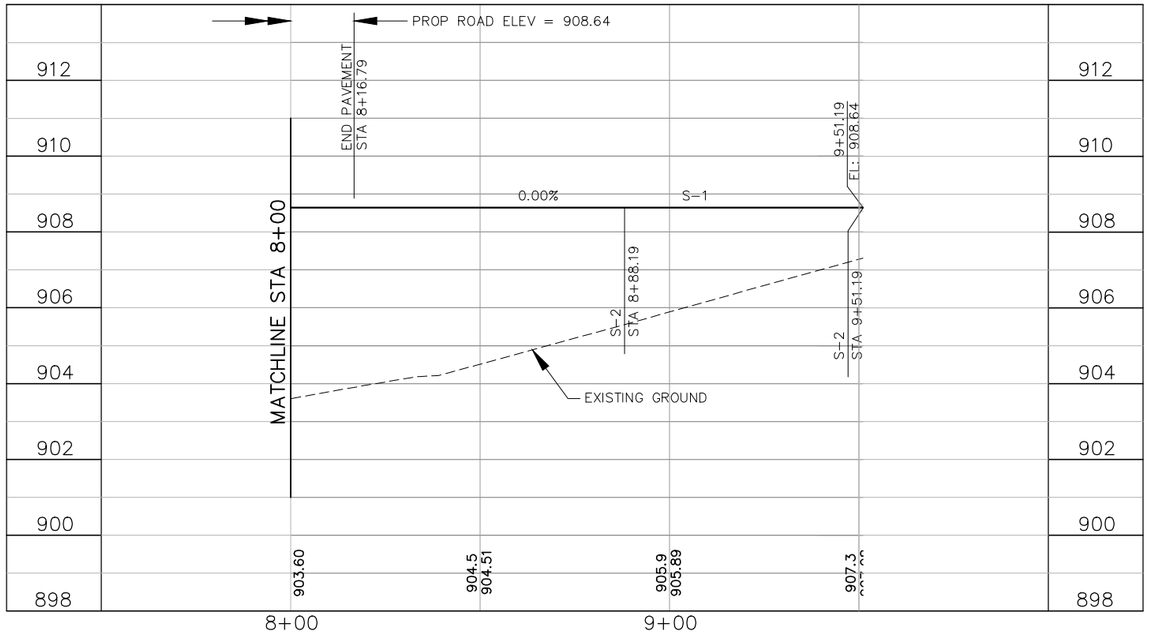
WEST - VOLUME 4 (OMF)
TRACK PROFILE
S-1 TRACK - STA 0+00 TO STA 8+00

DISCIPLINE: TRACK

SHEET NAME: T-215

SHEET 63 OF 288

Aug, 27 2014 02:21 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-011.dwg By: scaborad



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

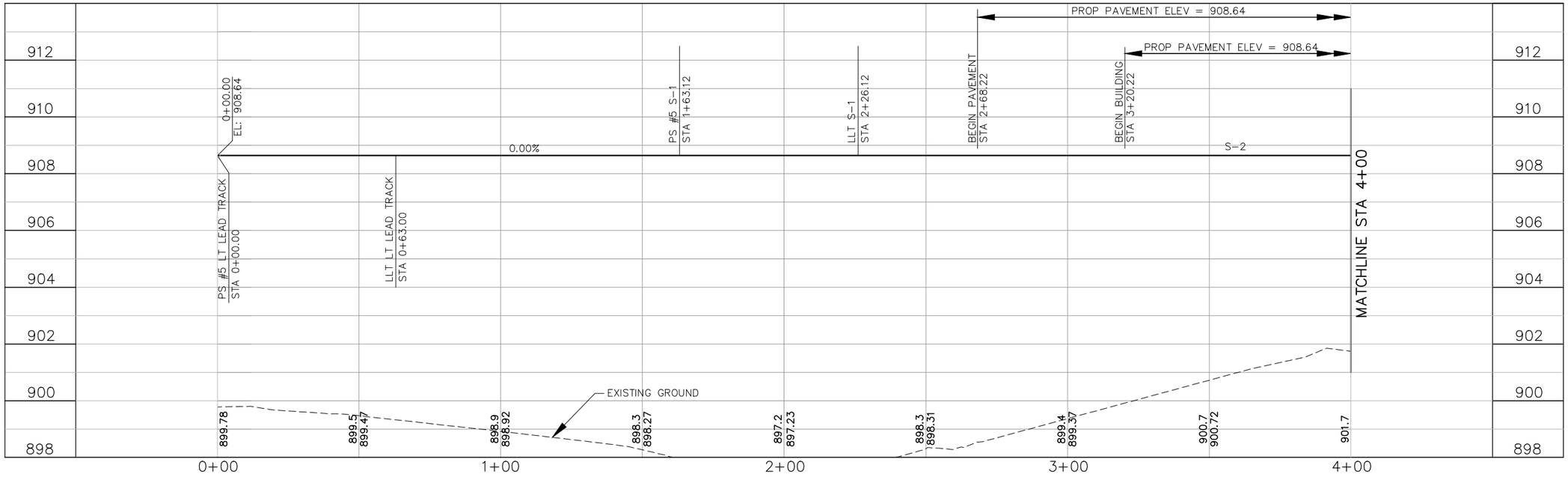
WEST - VOLUME 4 (OMF)
TRACK PROFILE
S-1 TRACK - STA 8+00 TO STA 9+51.19

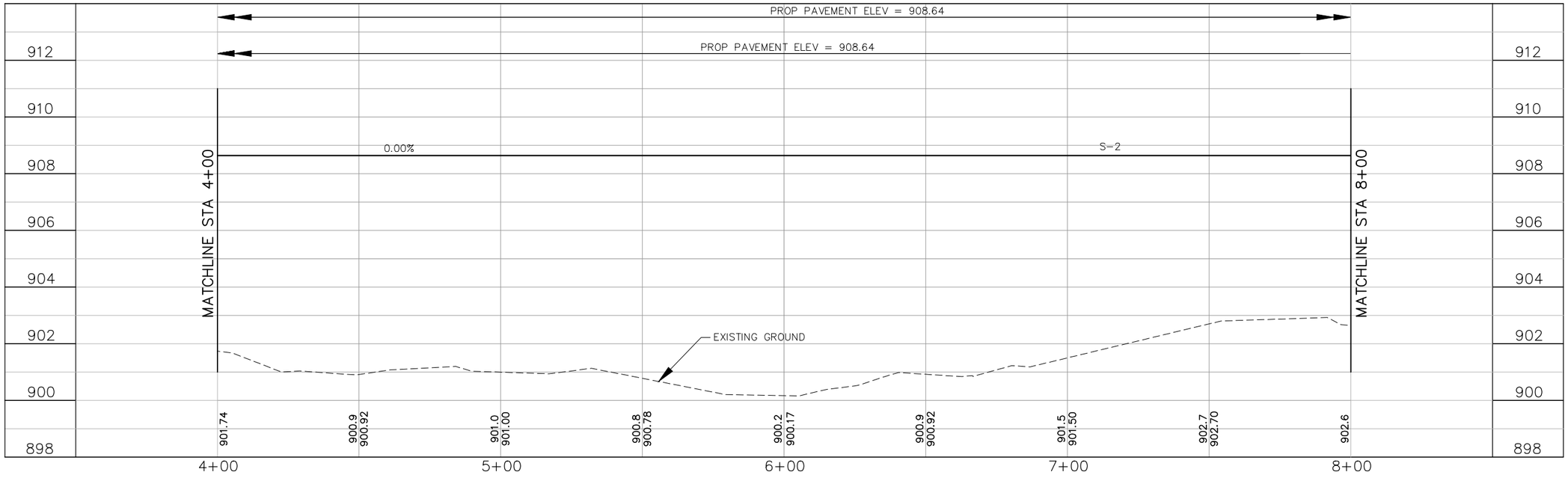
DISCIPLINE: TRACK

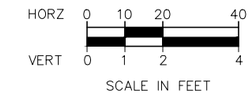
SHEET NAME: T-216

SHEET 64 OF 288

Aug. 27 2014 02:21 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-011.dwg By: scaborad







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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

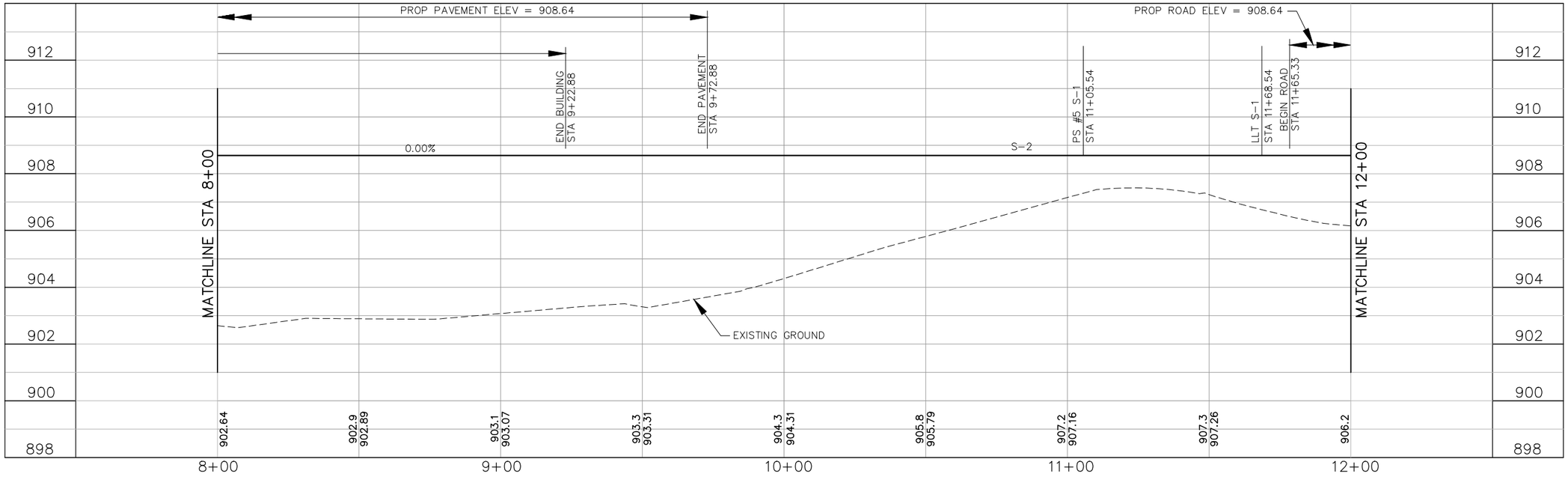
WEST - VOLUME 4 (OMF)
TRACK PROFILE
S-2 TRACK - STA 0+00 TO STA 8+00

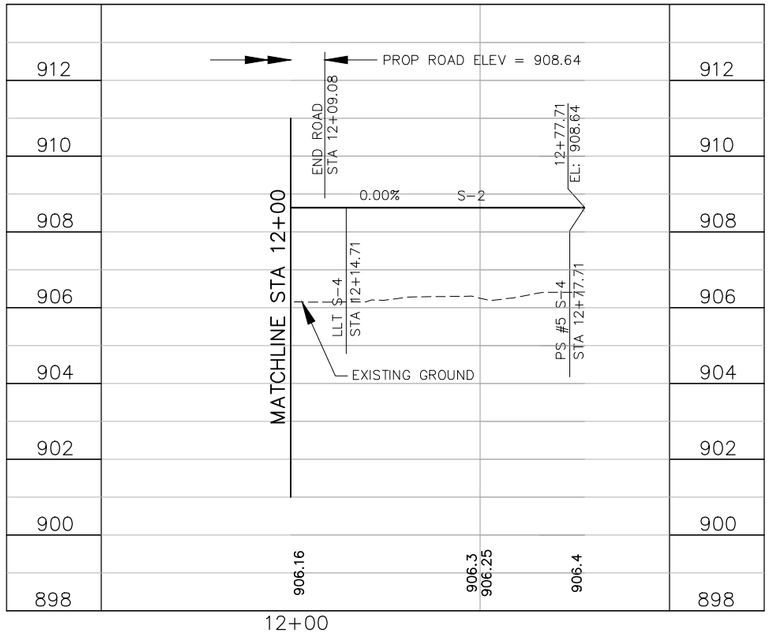
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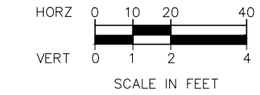
SHEET NAME: T-217

SHEET 65 OF 288

Aug, 27 2014 02:22 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-010.dwg By: scaborad







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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

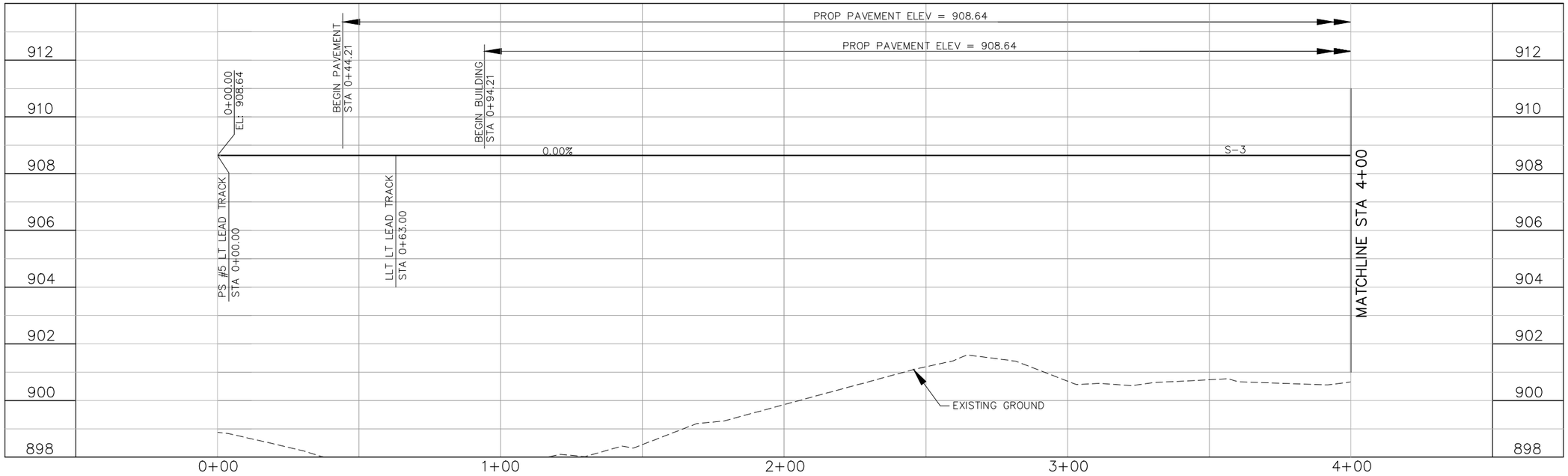
WEST - VOLUME 4 (OMF)
TRACK PROFILE
S-2 TRACK - STA 8+00 TO STA 12+77.71

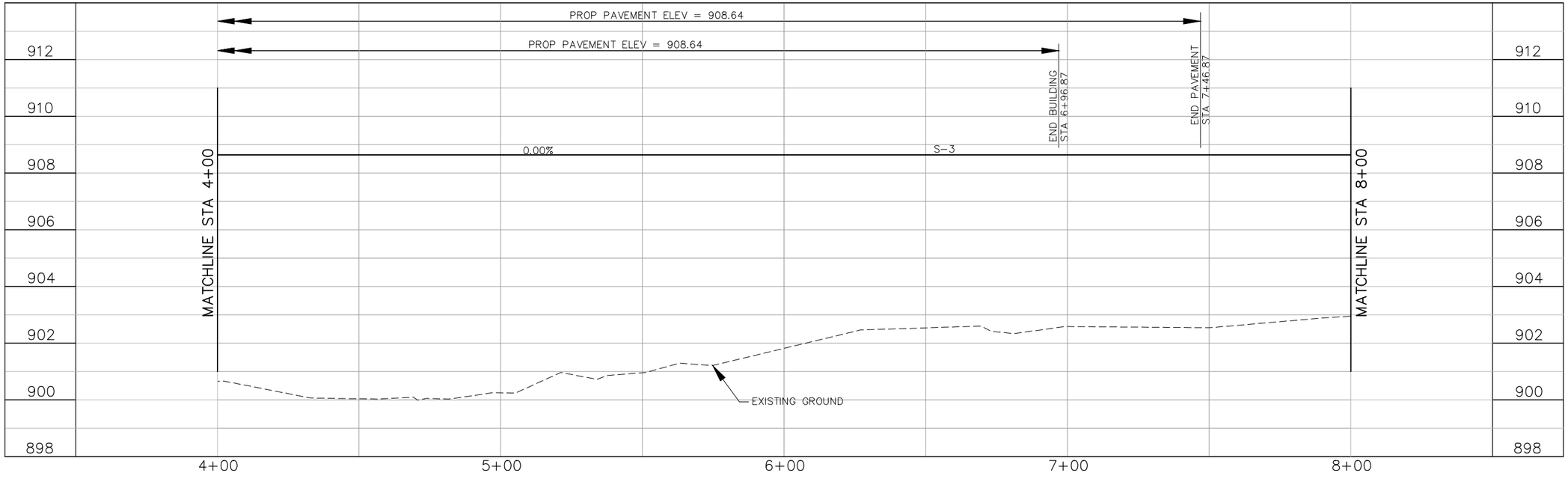
DISCIPLINE: TRACK

SHEET NAME: T-218

SHEET 66 OF 288

Aug, 27 2014 02:22 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-010.dwg By: scaborad





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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

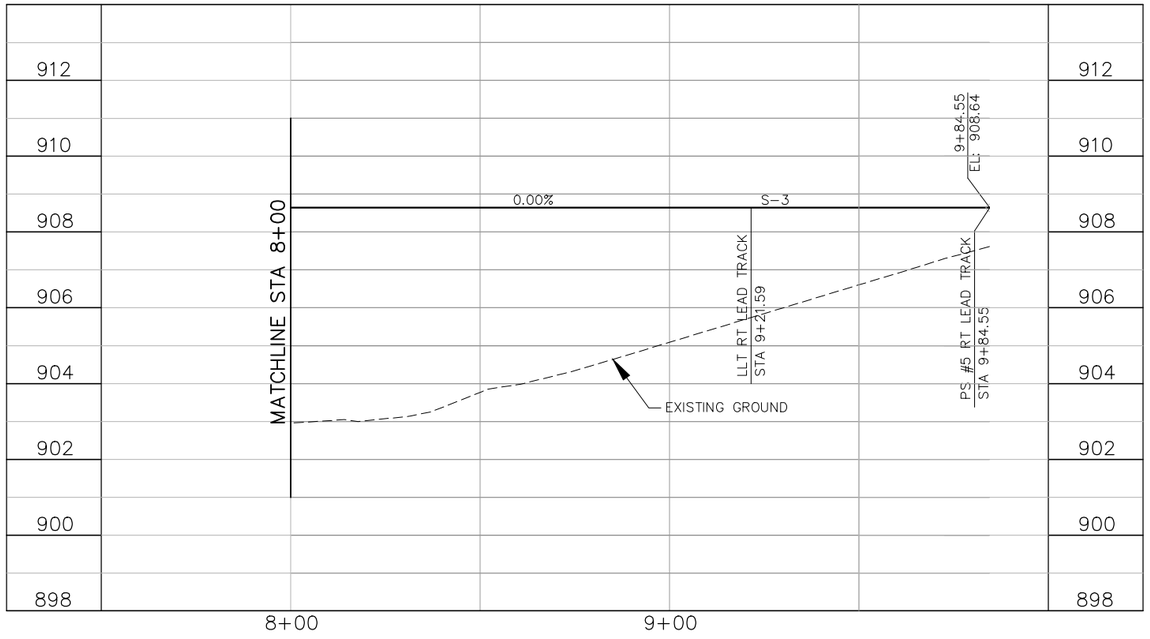
WEST - VOLUME 4 (OMF)
TRACK PROFILE
S-3 TRACK - STA 0+00 TO STA 8+00

DISCIPLINE: TRACK

SHEET NAME: T-219

SHEET 67 OF 288

Aug, 27 2014 02:23 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-009.dwg By: scaborad



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

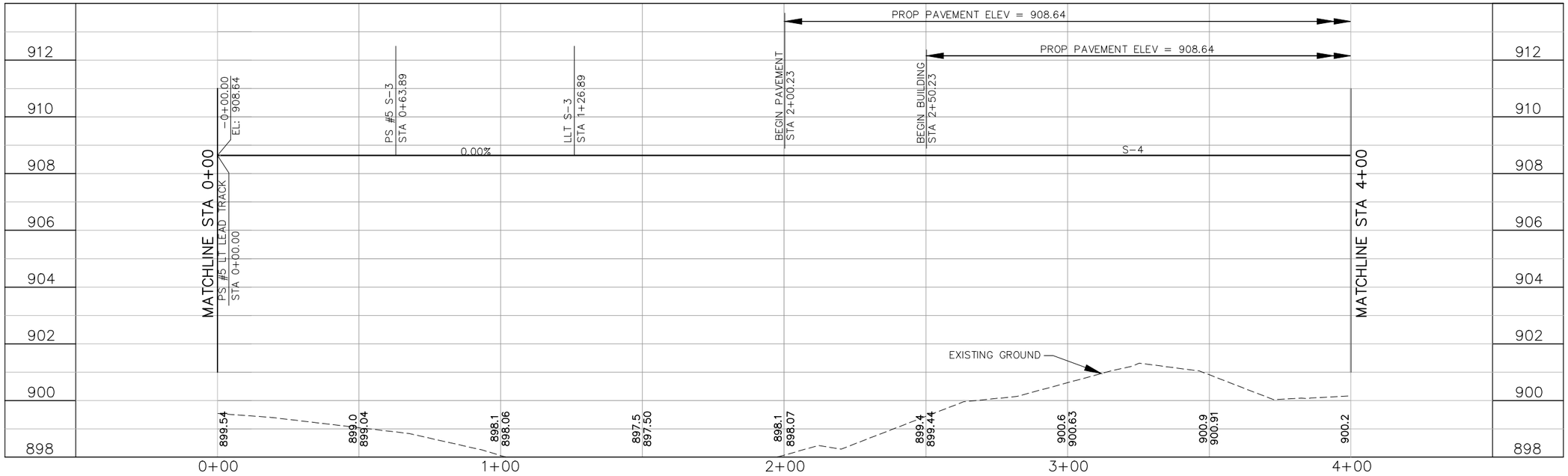
WEST - VOLUME 4 (OMF)
TRACK PROFILE
S-3 TRACK - STA 8+00 TO STA 9+84.55

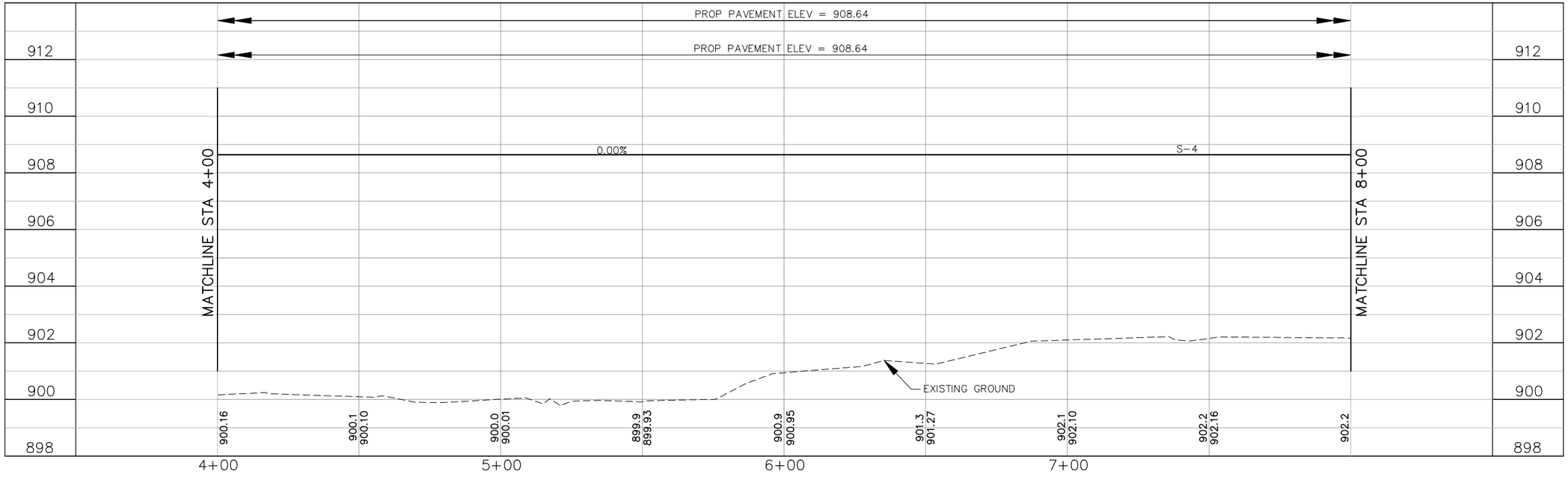
DISCIPLINE: TRACK

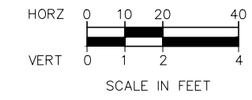
SHEET NAME: T-220

SHEET 68 OF 288

Aug. 27 2014 02:23 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-009.dwg By: scaborad







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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

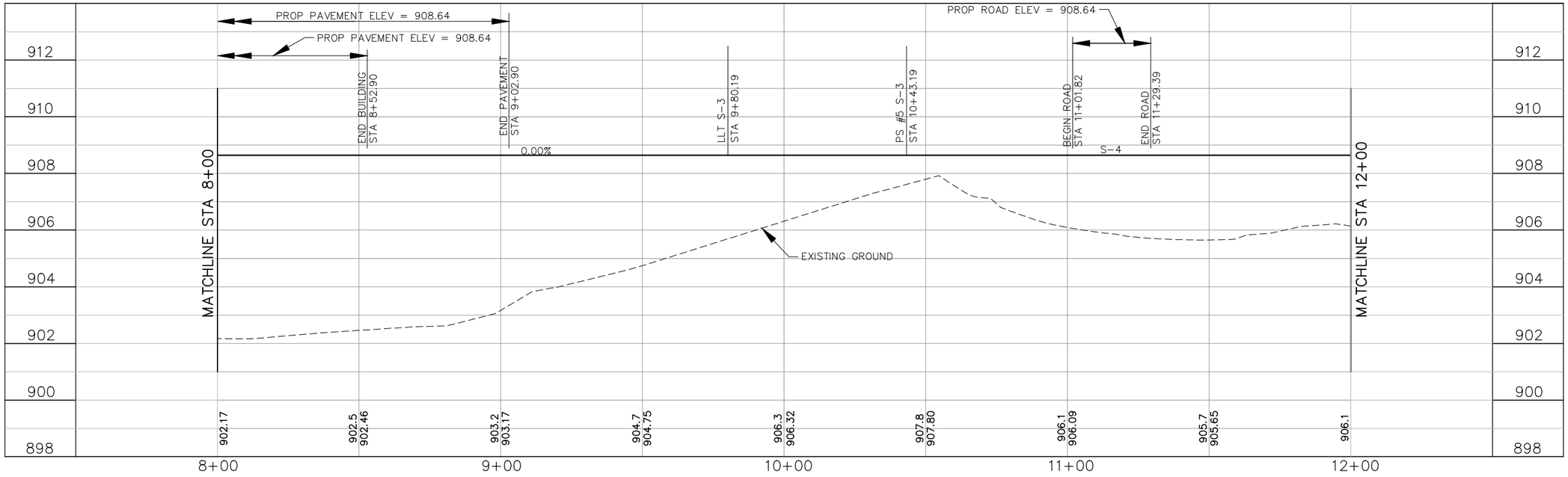
WEST - VOLUME 4 (OMF)
TRACK PROFILE
S-4 TRACK - STA 0+00 TO STA 8+00

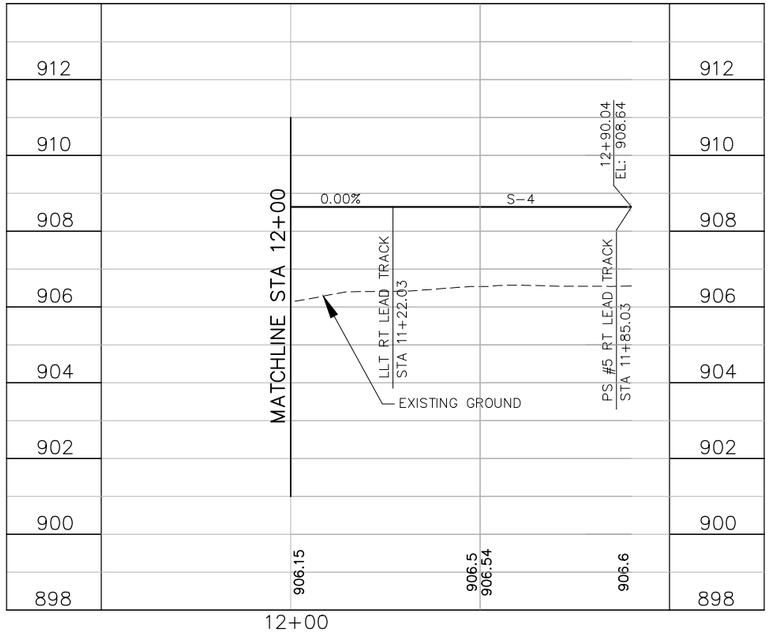
DISCIPLINE: TRACK

SHEET NAME: T-221

SHEET 69 OF 288

Aug, 27 2014 02:24 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-008.dwg By: scaborad







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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

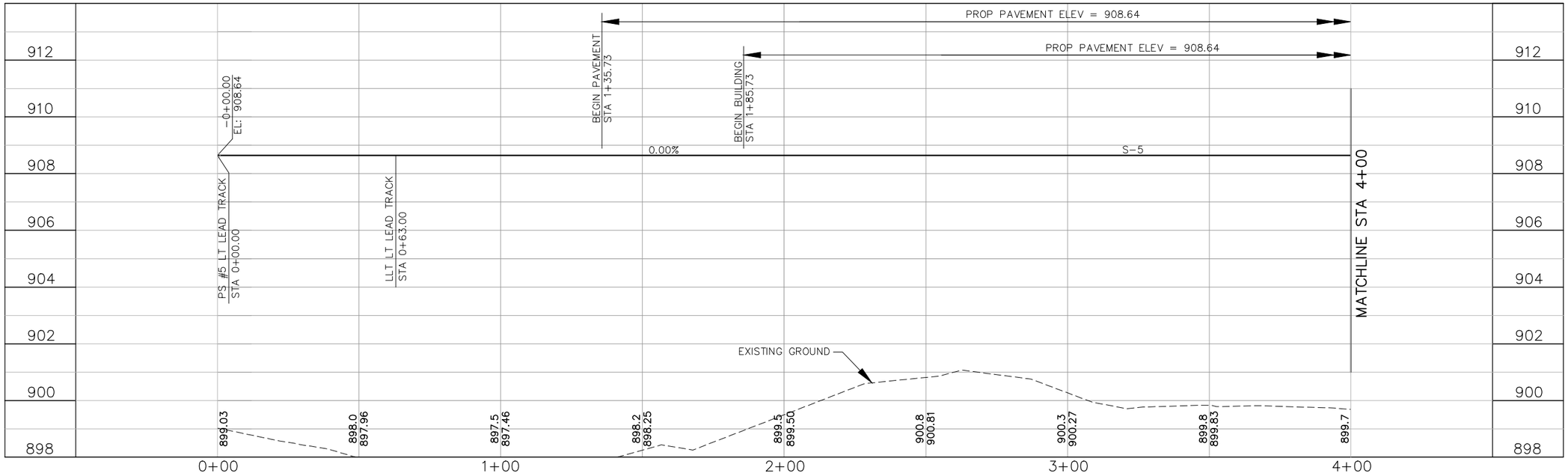
WEST - VOLUME 4 (OMF)
TRACK PROFILE
S-4 TRACK - STA 8+00 TO STA 12+90.04

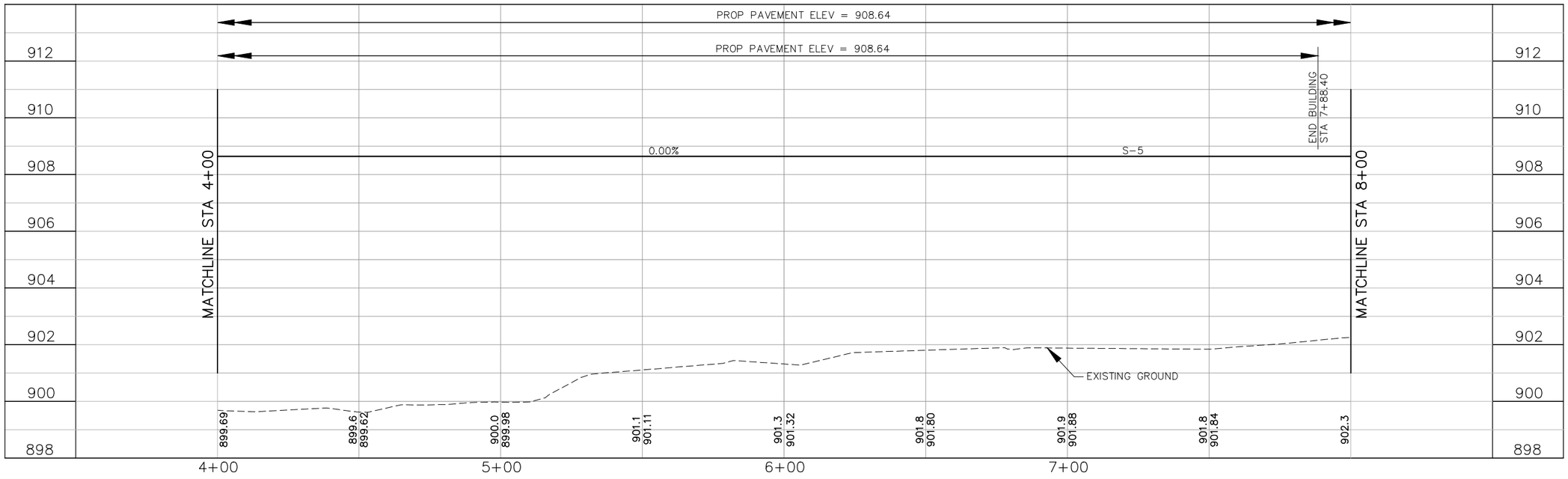
DISCIPLINE: TRACK

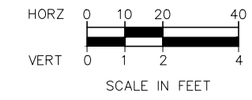
SHEET NAME: T-222

SHEET 70 OF 288

Aug. 27 2014 02:24 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-008.dwg By: scaborad







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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

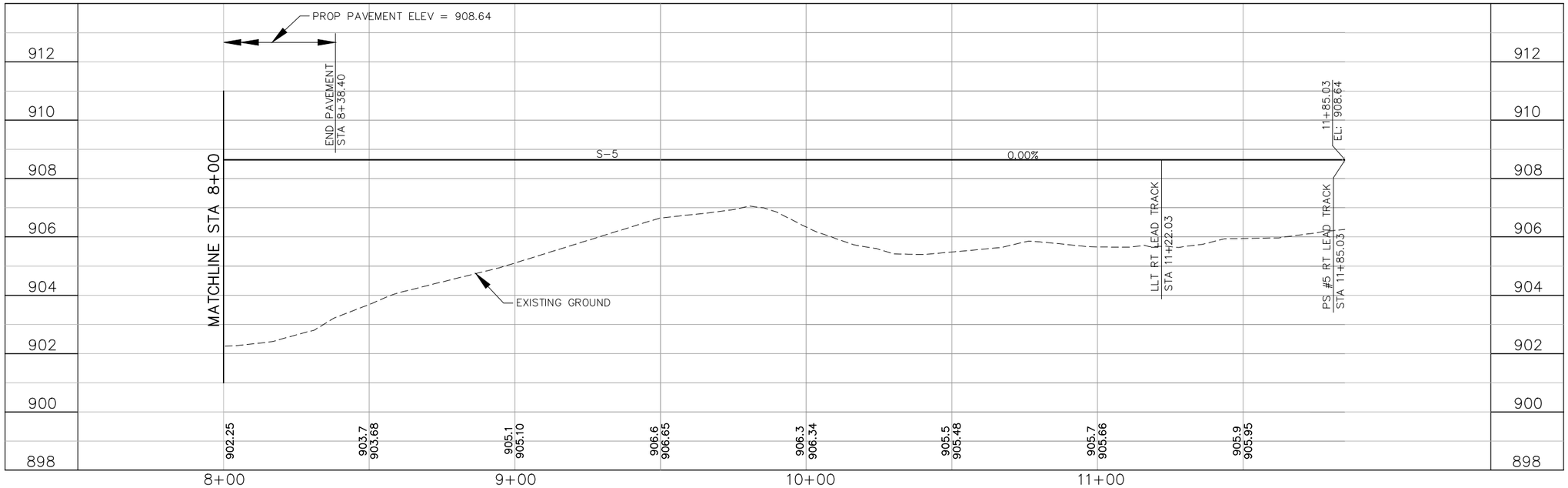
WEST - VOLUME 4 (OMF)
TRACK PROFILE
S-5 TRACK - STA 0+00 TO STA 8+00

DISCIPLINE: TRACK

SHEET NAME: T-223

SHEET 71 OF 288

Aug, 27 2014 02:24 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-007.dwg By: scaborad



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
TRACK PROFILE
S-5 TRACK - STA 8+00 TO STA 11+85.03

DISCIPLINE: TRACK

SHEET NAME: T-224

SHEET 72 OF 288

Aug. 27 2014 02:25 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-007.dwg By: scaborad

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
NOT USED

DISCIPLINE: TRACK

SHEET NAME: T-225

SHEET 73 OF 288

Aug. 27 2014 04:48 pm L:\3378\3200_PEC-W\CAD\OMF\PLAN SHEET\TRACK\OMF-TRK-PRF-BACKDOOR.dwg By: scabarad

Alignment: LT LEAD TRACK

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	145976.358	489944.295
End:	0+21.240	145955.128	489943.634

Tangent Data

Parameter	Value	Parameter	Value
Length:	21.240	Course:	S 01° 47' 00.0000" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+21.240	145955.128	489943.634
End:	0+71.790	145905.039	489950.446

Tangent Data

Parameter	Value	Parameter	Value
Length:	50.550	Course:	S 07° 44' 38.0001" E

Curve Point Data

Description	Station	Northing	Easting
PC:	0+71.790	145905.039	489950.446
RP:		145918.514	490049.534
PT:	2+36.307	145820.701	490070.334

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	94° 15' 41.7359"	Type:	LEFT
Radius:	100.000		
Length:	164.518	Tangent:	107.729
Mid-Ord:	31.967	External:	46.988
Chord:	146.582	Course:	S 54° 52' 28.8681" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	2+36.307	145820.701	490070.334
End:	3+97.891	145854.311	490228.383

Tangent Data

Parameter	Value	Parameter	Value
Length:	161.583	Course:	N 77° 59' 40.2639" E

Curve Point Data

Description	Station	Northing	Easting
PC:	3+97.891	145854.311	490228.383
RP:		145742.804	490252.096
PT:	6+31.833	145712.200	490361.911

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	117° 34' 41.6904"	Type:	RIGHT
Radius:	114.000		
Length:	233.943	Tangent:	188.156
Mid-Ord:	54.926	External:	105.997
Chord:	195.001	Course:	S 43° 12' 58.8909" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	6+31.833	145712.200	490361.911
End:	8+34.120	145517.338	490307.605

Tangent Data

Parameter	Value	Parameter	Value
Length:	202.287	Course:	S 15° 34' 21.9544" W

Curve Point Data

Description	Station	Northing	Easting
PC:	8+34.120	145517.338	490307.605
RP:		145490.495	490403.923
PT:	8+58.196	145493.595	490303.982

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	13° 47' 45.6546"	Type:	LEFT
Radius:	99.989		
Length:	24.076	Tangent:	12.096
Mid-Ord:	0.724	External:	0.729
Chord:	24.018	Course:	S 08° 40' 29.1271" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	8+58.196	145493.595	490303.982
End:	14+94.579	144857.518	490284.251

Tangent Data

Parameter	Value	Parameter	Value
Length:	636.383	Course:	S 01° 46' 36.2998" W

Curve Point Data

Description	Station	Northing	Easting
PC:	14+94.579	144857.518	490284.251
RP:		144860.619	490184.299
PT:	15+33.979	144819.386	490275.403

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	22° 34' 27.1328"	Type:	RIGHT
Radius:	100.000		
Length:	39.399	Tangent:	19.959
Mid-Ord:	1.934	External:	1.972
Chord:	39.145	Course:	S 13° 03' 49.8662" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	15+33.979	144819.386	490275.403
End:	18+35.723	144544.486	490150.986

Tangent Data

Parameter	Value	Parameter	Value
Length:	301.744	Course:	S 24° 21' 03.4326" W

Curve Point Data

Description	Station	Northing	Easting
PC:	18+35.723	144544.486	490150.986
RP:		144585.719	490059.882
PT:	21+10.483	144588.819	489959.931

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	157° 25' 32.8672"	Type:	RIGHT
Radius:	100.000		
Length:	274.760	Tangent:	501.038
Mid-Ord:	80.427	External:	410.920
Chord:	196.132	Course:	N 76° 56' 10.1338" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	21+10.483	144588.819	489959.931
End:	23+10.494	144788.735	489966.132

Tangent Data

Parameter	Value	Parameter	Value
Length:	200.012	Course:	N 01° 46' 36.2998" E

Curve Point Data

Description	Station	Northing	Easting
PC:	23+10.494	144788.735	489966.132
RP:		144794.248	489788.418
PT:	31+32.685	144824.035	489963.705

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	11° 25' 15.9996"	Type:	LEFT
Radius:	177.800		
Length:	35.442	Tangent:	17.780
Mid-Ord:	0.882	External:	0.887
Chord:	35.383	Course:	N 03° 56' 01.7000"W

Tangent Data

Description	PT Station	Northing	Easting
Start:	23+45.936	144824.035	489963.705
End:	24+19.999	144897.051	489951.297

Tangent Data

Parameter	Value	Parameter	Value
Length:	74.063	Course:	N 09° 38' 39.6998" W

Curve Point Data

Description	Station	Northing	Easting
PC:	24+19.999	144897.051	489951.297
RP:		144913.804	490049.883
PT:	24+39.932	144916.904	489949.931

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	11° 25' 15.9995"	Type:	RIGHT
Radius:	100.000		
Length:	19.934	Tangent:	10.000
Mid-Ord:	0.496	External:	0.499
Chord:	19.901	Course:	N 03° 56' 01.7001" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	24+39.932	144916.904	489949.931
End:	32+23.466	145700.062	489974.225

Tangent Data

Parameter	Value	Parameter	Value
Length:	783.534	Course:	N 01° 46' 36.2997" E

Curve Point Data

Description	Station	Northing	Easting
PC:	32+23.466	145700.062	489974.225
RP:		145696.961	490074.177
PT:	33+36.558	145788.718	490034.420

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	64° 47' 47.9659"	Type:	RIGHT
Radius:	100.000		
Length:	113.092	Tangent:	63.458
Mid-Ord:	15.566	External:	18.435
Chord:	107.160	Course:	N 34° 10' 30.2826" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	33+36.558	145788.718	490034.420
End:	33+86.112	145808.420	490079.889

Tangent Data

Parameter	Value	Parameter	Value
Length:	49.554	Course:	N 66° 34' 24.2636" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	33+86.112	145808.420	490079.889
End:	34+04.904	145812.328	490098.270

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	N 77° 59' 40.2672" E

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
TRACK
ALIGNMENT TABLES

DISCIPLINE: TRACK

SHEET NAME: T-301

SHEET 74 OF 288

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Alignment: RT LEAD TRACK

Description:

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	145646.517	489934.026
End:	0+21.240	145667.747	489934.687

Tangent Data

Parameter	Value	Parameter	Value
Length:	21.240	Course:	N 01° 47' 00.0000" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+21.240	145667.747	489934.687
End:	0+72.390	145717.904	489944.719

Tangent Data

Parameter	Value	Parameter	Value
Length:	51.150	Course:	N 11° 18' 38.0000" E

Curve Point Data

Description	Station	Northing	Easting
PC:	0+72.390	145717.904	489944.719
RP:		145698.291	490042.776
PT:	1+88.776	145796.104	490021.976

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	66° 41' 02.2639"	Type:	RIGHT
Radius:	100.000		
Length:	116.385	Tangent:	65.793
Mid-Ord:	16.460	External:	19.702
Chord:	109.927	Course:	N 44° 39' 09.1320" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+88.776	145796.104	490021.976
End:	4+02.776	145840.617	490231.295

Tangent Data

Parameter	Value	Parameter	Value
Length:	214.000	Course:	N 77° 59' 40.2639" E

Curve Point Data

Description	Station	Northing	Easting
PC:	4+02.776	145840.617	490231.295
RP:		145742.804	490252.096
PT:	6+07.988	145715.958	490348.425

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	117° 34' 41.6904"	Type:	RIGHT
Radius:	100.000		
Length:	205.213	Tangent:	165.049
Mid-Ord:	48.181	External:	92.980
Chord:	171.053	Course:	S 43° 12' 58.8909" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	6+07.988	145715.958	490348.425
End:	8+40.623	145491.863	490285.971

Tangent Data

Parameter	Value	Parameter	Value
Length:	232.635	Course:	S 15° 34' 21.9544" W

Curve Point Data

Description	Station	Northing	Easting
PC:	8+40.623	145491.863	490285.971
RP:		145465.017	490382.300
PT:	8+64.702	145468.118	490282.348

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	13° 47' 45.6546"	Type:	LEFT
Radius:	100.000		
Length:	24.079	Tangent:	12.098
Mid-Ord:	0.724	External:	0.729
Chord:	24.020	Course:	S 08° 40' 29.1271" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	8+64.702	145468.118	490282.348
End:	15+04.651	144828.476	490262.507

Tangent Data

Parameter	Value	Parameter	Value
Length:	639.949	Course:	S 01° 46' 36.2998" W

Curve Point Data

Description	Station	Northing	Easting
PC:	15+04.651	144828.476	490262.507
RP:		144831.577	490162.555
PT:	15+24.116	144809.201	490260.019

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	11° 09' 11.1332"	Type:	RIGHT
Radius:	100.000		
Length:	19.466	Tangent:	9.764
Mid-Ord:	0.473	External:	0.476
Chord:	19.435	Course:	S 07° 21' 11.8664" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	15+24.116	144809.201	490260.019
End:	15+73.684	144760.890	490248.928

Tangent Data

Parameter	Value	Parameter	Value
Length:	49.568	Course:	S 12° 55' 47.4330" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	15+73.684	144760.890	490248.928
End:	15+92.476	144743.770	490241.180

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	S 24° 21' 03.4326" W

Alignment: M-1 TRACK

Description:

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	145699.091	490343.724
End:	0+18.792	145680.990	490338.679

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	S 15° 34' 21.9543" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+18.792	145680.990	490338.679
End:	2+06.971	145513.311	490253.266

Tangent Data

Parameter	Value	Parameter	Value
Length:	188.179	Course:	S 26° 59' 37.9540" W

Curve Point Data

Description	Station	Northing	Easting
PC:	2+06.971	145513.311	490253.266
RP:		145467.922	490342.371
PT:	2+50.983	145471.022	490242.419

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	25° 13' 01.6542"	Type:	LEFT
Radius:	100.000		
Length:	44.012	Tangent:	22.368
Mid-Ord:	2.412	External:	2.471
Chord:	43.658	Course:	S 14° 23' 07.1269" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	2+50.983	145471.022	490242.419
End:	7+82.074	144940.187	490225.953

Tangent Data

Parameter	Value	Parameter	Value
Length:	531.091	Course:	S 01° 46' 36.2998" W

Curve Point Data

Description	Station	Northing	Easting
PC:	7+82.074	144940.187	490225.953
RP:		144943.287	490126.001
PT:	8+02.008	144920.456	490223.359

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	11° 25' 15.9996"	Type:	RIGHT
Radius:	100.000		
Length:	19.934	Tangent:	10.000
Mid-Ord:	0.496	External:	0.499
Chord:	19.901	Course:	S 07° 29' 14.2996" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	8+02.008	144920.456	490223.359
End:	9+23.309	144802.359	490195.665

Tangent Data

Parameter	Value	Parameter	Value
Length:	121.301	Course:	S 13° 11' 52.2994" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	9+23.309	144802.359	490195.665
End:	9+42.101	144783.576	490195.082

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	S 01° 46' 36.2998" W

Alignment: M-2 TRACK

Description:

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	145584.665	490289.613
End:	0+18.792	145567.921	490281.083

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	S 26° 59' 37.9540" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+18.792	145567.921	490281.083
End:	0+88.976	145512.930	490237.474

Tangent Data

Parameter	Value	Parameter	Value
Length:	70.184	Course:	S 38° 24' 53.9536" W

Curve Point Data

Description	Station	Northing	Easting
PC:	0+88.976	145512.930	490237.474
RP:		145450.794	490315.827
PT:	1+52.921	145453.895	490215.875

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	36° 38' 17.6538"	Type:	LEFT
Radius:	100.000		
Length:	63.946	Tangent:	33.109
Mid-Ord:	5.068	External:	5.338
Chord:	62.862	Course:	S 20° 05' 45.1267" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+52.921	145453.895	490215.875
End:	9+36.563	144670.630	490191.578

Tangent Data

Parameter	Value	Parameter	Value
Length:	783.641	Course:	S 01° 46' 36.2998" W

Curve Point Data

Description	Station	Northing	Easting
PC:	9+36.563	144670.630	490191.578
RP:		144673.731	490091.627
PT:	9+56.028	144651.355	490189.091

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	11° 09' 11.1332"	Type:	RIGHT
Radius:	100.000		
Length:	19.466	Tangent:	9.764
Mid-Ord:	0.473	External:	0.476
Chord:	19.435	Course:	S 07° 21' 11.8664" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	9+56.028	144651.355	490189.091
End:	10+03.245	144605.336	490178.526

Tangent Data

Parameter	Value	Parameter	Value
Length:	47.216	Course:	S 12° 55' 47.4330" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	10+03.245	144605.336	490178.526
End:	10+22.036	144588.216	490170.778

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	S 24° 21' 03.4326" W

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
TRACK
ALIGNMENT TABLES

DISCIPLINE: TRACK

SHEET NAME: T-302

SHEET 75 OF 288

Alignment: M-3 TRACK

Description:

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	145640.802	490318.208
End:	0+18.792	145624.057	490309.679

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	S 26° 59' 37.9540" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+18.792	145624.057	490309.679
End:	1+77.522	145499.687	490211.051

Tangent Data

Parameter	Value	Parameter	Value
Length:	158.731	Course:	S 38° 24' 53.9536" W

Curve Point Data

Description	Station	Northing	Easting
PC:	1+77.522	145499.687	490211.051
RP:		145437.552	490289.404
PT:	2+41.468	145440.652	490189.452

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	36° 38' 17.6538"	Type:	LEFT
Radius:	100.000		
Length:	63.946	Tangent:	33.109
Mid-Ord:	5.068	External:	5.338
Chord:	62.862	Course:	S 20° 05' 45.1267" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	2+41.468	145440.652	490189.452
End:	8+03.561	144878.829	490172.024

Tangent Data

Parameter	Value	Parameter	Value
Length:	562.093	Course:	S 01° 46' 36.2998" W

Curve Point Data

Description	Station	Northing	Easting
PC:	8+03.561	144878.829	490172.024
RP:		144875.729	490271.976
PT:	8+23.495	144858.975	490173.390

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	11° 25' 15.9996"	Type:	LEFT
Radius:	100.000		
Length:	19.934	Tangent:	10.000
Mid-Ord:	0.496	External:	0.499
Chord:	19.901	Course:	S 03° 56' 01.7000" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	8+23.495	144858.975	490173.390
End:	9+44.796	144739.389	490193.711

Tangent Data

Parameter	Value	Parameter	Value
Length:	121.301	Course:	S 09° 38' 39.6998" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	9+44.796	144739.389	490193.711
End:	9+63.588	144720.606	490193.129

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	S 01° 46' 36.2998" W

Alignment: M-4 TRACK

Description:

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	145254.466	490153.662
End:	3+27.849	144926.774	490143.497

Tangent Data

Parameter	Value	Parameter	Value
Length:	327.849	Course:	S 01° 46' 36.2998" W

Curve Point Data

Description	Station	Northing	Easting
PC:	3+27.849	144926.774	490143.497
RP:		144923.674	490243.449
PT:	3+67.717	144887.730	490150.132

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	22° 50' 31.9992"	Type:	LEFT
Radius:	100.000		
Length:	39.867	Tangent:	20.202
Mid-Ord:	1.980	External:	2.020
Chord:	39.604	Course:	S 09° 38' 39.6998" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	3+67.717	144887.730	490150.132
End:	4+59.180	144802.379	490183.007

Tangent Data

Parameter	Value	Parameter	Value
Length:	91.464	Course:	S 21° 03' 55.6994" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	4+59.180	144802.379	490183.007
End:	4+77.972	144783.853	490186.155

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	S 09° 38' 39.6998" E

Alignment: S-5 TRACK

Description:

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	144724.754	489964.147
End:	0+18.792	144743.537	489964.730

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	N 01° 46' 36.2998" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+18.792	144743.537	489964.730
End:	0+99.692	144822.300	489983.201

Tangent Data

Parameter	Value	Parameter	Value
Length:	80.901	Course:	N 13° 11' 52.2994" E

Curve Point Data

Description	Station	Northing	Easting
PC:	0+99.692	144822.300	489983.201
RP:		144845.132	489885.842
PT:	1+19.626	144842.031	489985.794

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	11° 25' 15.9996"	Type:	LEFT
Radius:	100.000		
Length:	19.934	Tangent:	10.000
Mid-Ord:	0.496	External:	0.499
Chord:	19.901	Course:	N 07° 29' 14.2996" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+19.626	144842.031	489985.794
End:	9+49.323	145671.330	490011.519

Tangent Data

Parameter	Value	Parameter	Value
Length:	829.697	Course:	N 01° 46' 36.2998" E

Curve Point Data

Description	Station	Northing	Easting
PC:	9+49.323	145671.330	490011.519
RP:		145665.817	490189.233
PT:	9+84.765	145706.411	490016.129

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	11° 25' 15.9975"	Type:	RIGHT
Radius:	177.799		
Length:	35.442	Tangent:	17.780
Mid-Ord:	0.882	External:	0.887
Chord:	35.383	Course:	N 07° 29' 14.2985" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	9+84.765	145706.411	490016.129
End:	10+03.994	145725.132	490020.520

Tangent Data

Parameter	Value	Parameter	Value
Length:	19.228	Course:	N 13° 11' 52.2972" E

Curve Point Data

Description	Station	Northing	Easting
PC:	10+03.994	145725.132	490020.520
RP:		145702.301	490117.878
PT:	10+97.152	145794.058	490078.121

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	53° 22' 31.9671"	Type:	RIGHT
Radius:	100.000		
Length:	93.158	Tangent:	50.268
Mid-Ord:	10.653	External:	11.924
Chord:	89.826	Course:	N 39° 53' 08.2808" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	10+97.152	145794.058	490078.121
End:	11+66.237	145821.524	490141.511

Tangent Data

Parameter	Value	Parameter	Value
Length:	69.085	Course:	N 66° 34' 24.2643" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	11+66.237	145821.524	490141.511
End:	11+85.028	145825.433	490159.892

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	N 77° 59' 40.2630" E

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
TRACK
ALIGNMENT TABLES

DISCIPLINE: TRACK

SHEET NAME: T-303

SHEET 76 OF 288

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Alignment: S-4 TRACK

Description:

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	144661.784	489962.194
End:	0+18.792	144680.567	489962.777

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	N 01° 46' 36.2998" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+18.792	144680.567	489962.777
End:	1+75.443	144833.080	489998.542

Tangent Data

Parameter	Value	Parameter	Value
Length:	156.651	Course:	N 13° 11' 52.2994" E

Curve Point Data

Description	Station	Northing	Easting
PC:	1+75.443	144833.080	489998.542
RP:		144855.912	489901.184
PT:	1+95.376	144852.811	490001.135

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	11° 25' 15.9996"	Type:	LEFT
Radius:	100.000		
Length:	19.934	Tangent:	10.000
Mid-Ord:	0.496	External:	0.499
Chord:	19.901	Course:	N 07° 29' 14.2996" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+95.376	144852.811	490001.135
End:	9+29.420	145586.502	490023.895

Tangent Data

Parameter	Value	Parameter	Value
Length:	734.044	Course:	N 01° 46' 36.2998" E

Curve Point Data

Description	Station	Northing	Easting
PC:	9+29.420	145586.502	490023.895
RP:		145583.402	490123.847
PT:	9+39.387	145596.433	490024.699

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	05° 42' 37.9997"	Type:	RIGHT
Radius:	100.000		
Length:	9.967	Tangent:	4.988
Mid-Ord:	0.124	External:	0.124
Chord:	9.963	Course:	N 04° 37' 55.2996" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	9+39.387	145596.433	490024.699
End:	10+54.775	145710.836	490039.735

Tangent Data

Parameter	Value	Parameter	Value
Length:	115.387	Course:	N 07° 29' 14.2995" E

Curve Point Data

Description	Station	Northing	Easting
PC:	10+54.775	145710.836	490039.735
RP:		145697.805	490138.882
PT:	11+57.899	145789.562	490099.125

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	59° 05' 09.9649"	Type:	RIGHT
Radius:	100.000		
Length:	103.125	Tangent:	56.677
Mid-Ord:	13.001	External:	14.944
Chord:	98.615	Course:	N 37° 01' 49.2819" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	11+57.899	145789.562	490099.125
End:	12+71.251	145834.628	490203.133

Tangent Data

Parameter	Value	Parameter	Value
Length:	113.352	Course:	N 66° 34' 24.2643" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	12+71.251	145834.628	490203.133
End:	12+90.043	145838.537	490221.514

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	N 77° 59' 40.2639" E

Alignment: S-3 TRACK

Description:

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	144724.477	489973.074
End:	0+18.792	144742.772	489977.364

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	N 13° 11' 52.2994" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+18.792	144742.772	489977.364
End:	0+97.375	144814.212	490010.101

Tangent Data

Parameter	Value	Parameter	Value
Length:	78.584	Course:	N 24° 37' 08.2990" E

Curve Point Data

Description	Station	Northing	Easting
PC:	0+97.375	144814.212	490010.101
RP:		144855.871	489919.191
PT:	1+37.242	144852.770	490019.143

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	22° 50' 31.9992"	Type:	LEFT
Radius:	100.000		
Length:	39.867	Tangent:	20.202
Mid-Ord:	1.980	External:	2.020
Chord:	39.604	Course:	N 13° 11' 52.2994" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+37.242	144852.770	490019.143
End:	8+69.881	145585.056	490041.858

Tangent Data

Parameter	Value	Parameter	Value
Length:	732.638	Course:	N 01° 46' 36.2998" E

Curve Point Data

Description	Station	Northing	Easting
PC:	8+69.881	145585.056	490041.858
RP:		145588.157	489941.906
PT:	8+79.847	145595.017	490041.671

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	05° 42' 37.9999"	Type:	LEFT
Radius:	100.000		
Length:	9.967	Tangent:	4.988
Mid-Ord:	0.124	External:	0.124
Chord:	9.963	Course:	N 01° 04' 42.7002" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	8+79.847	145595.017	490041.671
End:	9+65.756	145680.723	490035.777

Tangent Data

Parameter	Value	Parameter	Value
Length:	85.908	Course:	N 03° 56' 01.7001" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	9+65.756	145680.723	490035.777
End:	9+84.548	145699.355	490038.226

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	N 07° 29' 14.2995" E

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
TRACK
ALIGNMENT TABLES

DISCIPLINE: TRACK

SHEET NAME: T-304

SHEET 77 OF 288

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Alignment: S-2 TRACK

Description:

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	144598.814	489960.241
End:	0+18.792	144617.597	489960.823

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	N 01° 46' 36.2998" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+18.792	144617.597	489960.823
End:	1+33.190	144728.974	489986.942

Tangent Data

Parameter	Value	Parameter	Value
Length:	114.398	Course:	N 13° 11' 52.2994" E

Curve Point Data

Description	Station	Northing	Easting
PC:	1+33.190	144728.974	489986.942
RP:		144706.142	490084.301
PT:	1+53.123	144747.800	489993.391

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	11° 25' 15.9996"	Type:	RIGHT
Radius:	100.000		
Length:	19.934	Tangent:	10.000
Mid-Ord:	0.496	External:	0.499
Chord:	19.901	Course:	N 18° 54' 30.2992" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+53.123	144747.800	489993.391
End:	2+29.484	144817.219	490025.201

Tangent Data

Parameter	Value	Parameter	Value
Length:	76.360	Course:	N 24° 37' 08.2990" E

Curve Point Data

Description	Station	Northing	Easting
PC:	2+29.484	144817.219	490025.201
RP:		144858.878	489934.291
PT:	2+69.351	144855.777	490034.243

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	22° 50' 31.9992"	Type:	LEFT
Radius:	100.000		
Length:	39.867	Tangent:	20.202
Mid-Ord:	1.980	External:	2.020
Chord:	39.604	Course:	N 13° 11' 52.2994" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	2+69.351	144855.777	490034.243
End:	11+15.544	145701.563	490060.480

Tangent Data

Parameter	Value	Parameter	Value
Length:	846.193	Course:	N 01° 46' 36.2998" E

Curve Point Data

Description	Station	Northing	Easting
PC:	11+15.544	145701.563	490060.480
RP:		145698.463	490160.432
PT:	12+08.702	145780.530	490103.292

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	53° 22' 31.9650"	Type:	RIGHT
Radius:	100.000		
Length:	93.158	Tangent:	50.268
Mid-Ord:	10.653	External:	11.924
Chord:	89.826	Course:	N 28° 27' 52.2822" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	12+08.702	145780.530	490103.292
End:	12+58.923	145809.226	490144.507

Tangent Data

Parameter	Value	Parameter	Value
Length:	50.221	Course:	N 55° 09' 08.2647" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	12+58.923	145809.226	490144.507
End:	12+77.714	145816.697	490161.750

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	N 66° 34' 24.2643" E

Alignment: S-1 TRACK

Description:

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	144756.891	489997.557
End:	0+18.792	144773.975	490005.385

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	N 24° 37' 08.2990" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+18.792	144773.975	490005.385
End:	0+66.668	144812.688	490033.553

Tangent Data

Parameter	Value	Parameter	Value
Length:	47.876	Course:	N 36° 02' 24.2986" E

Curve Point Data

Description	Station	Northing	Easting
PC:	0+66.668	144812.688	490033.553
RP:		144871.523	489952.692
PT:	1+26.468	144868.422	490052.644

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	34° 15' 47.9988"	Type:	LEFT
Radius:	100.000		
Length:	59.801	Tangent:	30.825
Mid-Ord:	4.437	External:	4.643
Chord:	58.914	Course:	N 18° 54' 30.2992" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+26.468	144868.422	490052.644
End:	8+31.559	145573.174	490074.506

Tangent Data

Parameter	Value	Parameter	Value
Length:	705.091	Course:	N 01° 46' 36.2998" E

Curve Point Data

Description	Station	Northing	Easting
PC:	8+31.559	145573.174	490074.506
RP:		145576.275	489974.554
PT:	8+51.493	145593.028	490073.140

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	11° 25' 15.9997"	Type:	LEFT
Radius:	100.000		
Length:	19.934	Tangent:	10.000
Mid-Ord:	0.496	External:	0.499
Chord:	19.901	Course:	N 03° 56' 01.7001" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	8+51.493	145593.028	490073.140
End:	9+32.394	145672.785	490059.587

Tangent Data

Parameter	Value	Parameter	Value
Length:	80.901	Course:	N 09° 38' 39.6999" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	9+32.394	145672.785	490059.587
End:	9+51.185	145691.568	490060.170

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.792	Course:	N 01° 46' 36.2997" E

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

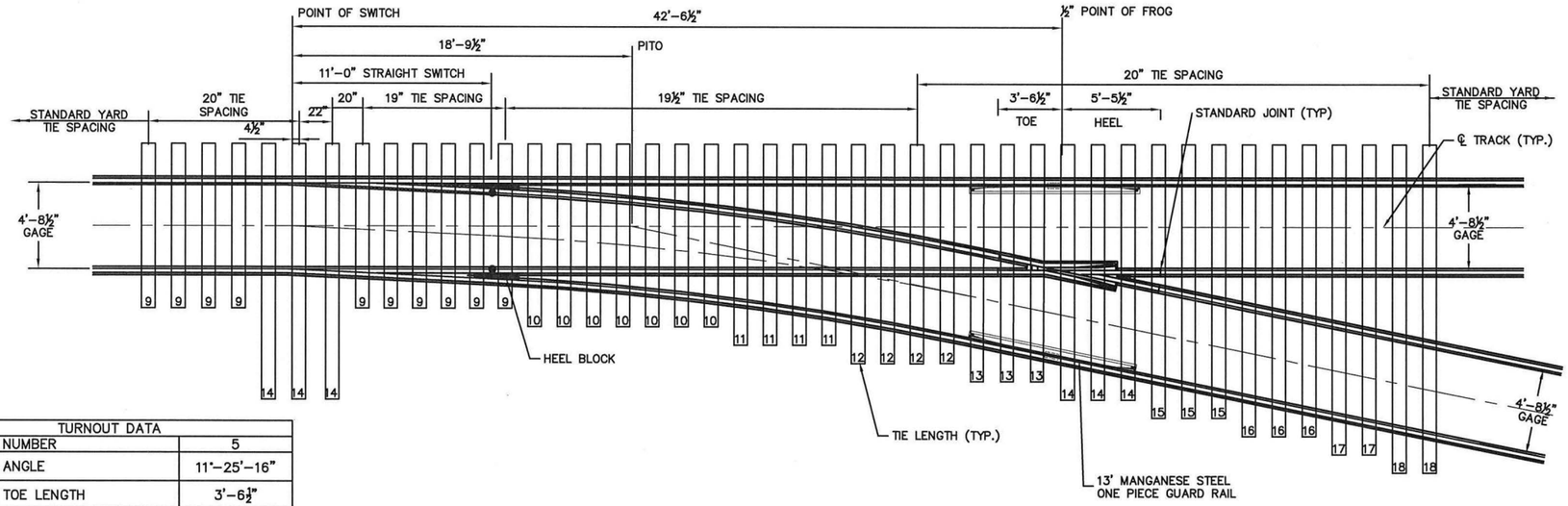
WEST - VOLUME 4 (OMF)
TRACK
ALIGNMENT TABLES

DISCIPLINE: TRACK

SHEET NAME: T-305

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TURNOUT DATA		
FROG	NUMBER	5
	ANGLE	11°-25'-16"
	TOE LENGTH	3'-6½"
	HEEL LENGTH	5'-5½"
	TOTAL LENGTH	9'-0"
	TOE SPREAD	7 31/32"
	HEEL SPREAD	13 17/32"
SWITCH POINTS	LENGTH OF SWITCH RAIL	11'-0"
	HEEL SPREAD	6¼"
	ANGLE AT POINT	2°-39'-34"
	THICKNESS AT POINT	0'-0"
ACTUAL LEAD		42'-6½"
STRAIGHT CLOSURE RAIL DISTANCE		28'-0"
CURVED CLOSURE RAIL DISTANCE		28'-4 1/16"
TURNOUT CURVE	CENTER LINE RADIUS	177'-9 19/32"
	DEGREE OF CURVE	32°-39'-56"
	CENTRAL ANGLE	8°-45'-42"

NO. 5 TURNOUT BALLAST TRACK
1" = 4'

NOTES:

1. TURNOUT GEOMETRY IN ACCORDANCE WITH AREMA PLAN 910, EXCEPT AS MODIFIED HEREIN.
2. RAIL SCHEDULE IN ACCORDANCE WITH AREMA PLAN 911, TABLES B AND D, EXCEPT AS MODIFIED HERE-IN, OR IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS.
3. TIE LAYOUT FOR SCHEMATIC PURPOSES ONLY. CONTRACTOR'S SPECIAL TRACKWORK FABRICATOR TO DEVELOP FINAL PLATE DESIGN / LAYOUT. CONTRACTOR TO ADJUST TIE LAYOUT TO ACCOMMODATE PLATE LAYOUT.
4. ALL JOINTS SHALL BE WELDED.
5. STOCK RAIL, CLOSURE RAILS, AND RAILS AHEAD OF STOCK RAIL, TO THE NEXT JOINT BEYOND THE HEEL OF FROG SHALL BE PREMIUM RAIL.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

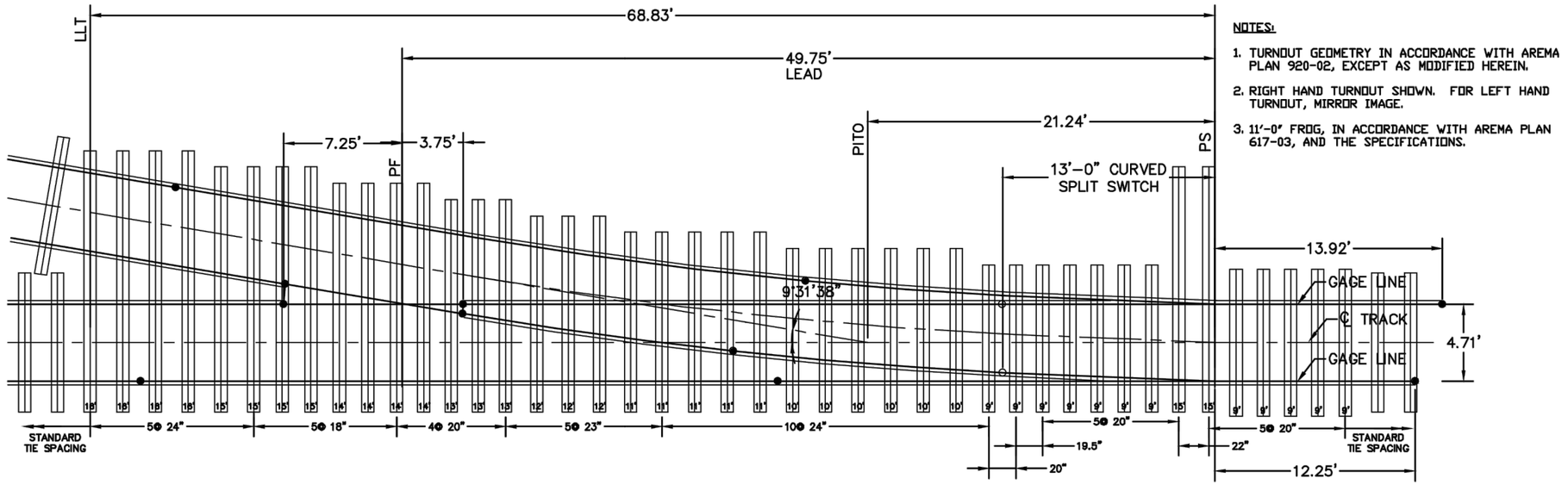
WEST - VOLUME 4 (OMF)
TRACK
DETAILS

DISCIPLINE: TRACK

SHEET NAME: T-401

SHEET 79 OF 288

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NOTES:

1. TURNOUT GEOMETRY IN ACCORDANCE WITH AREMA PLAN 920-02, EXCEPT AS MODIFIED HEREIN.
2. RIGHT HAND TURNOUT SHOWN. FOR LEFT HAND TURNOUT, MIRROR IMAGE.
3. 11'-0" FROG, IN ACCORDANCE WITH AREMA PLAN 617-03, AND THE SPECIFICATIONS.

TURNOUT DATA		
FROG	ANGLE	9°-31'-38"
	TOE LENGTH	3'-9"
	HEEL LENGTH	7'-3"
	TOTAL LENGTH	11'-0"
	TOE SPREAD	6-31/32"
	HEEL SPREAD	14-15/16"
SWITCH POINTS	LENGTH OF POINT	13'-0"
	HEEL SPREAD	6-1/4"
	HEEL ANGLE	2^54'00"
	POINT THICKNESS	0'-0"
	POINT ANGLE	1^41'31"
	CENTERLINE RADIUS	616.55'
ACTUAL LEAD		49'-9"
CLOSURE LENGTH		58' 11-1/6"
CENTERLINE RADIUS		283.88'
DEGREE OF CURVE		20°17'20"

NO 6 TIMBER TURNOUT PLAN
1" = 4'

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

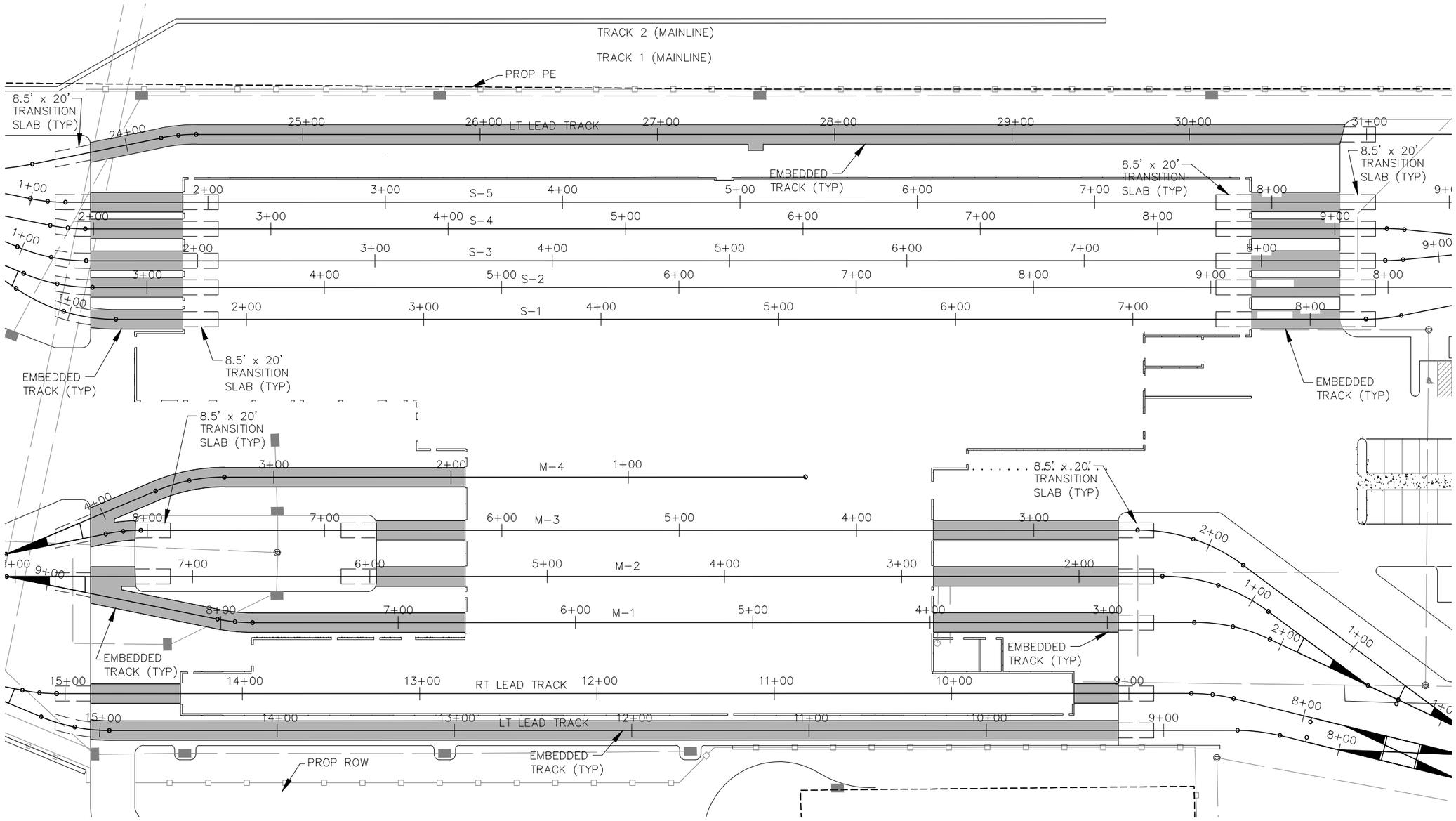
WEST - VOLUME 4 (OMF)
TRACK
DETAILS

DISCIPLINE: TRACK

SHEET NAME: T-402

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

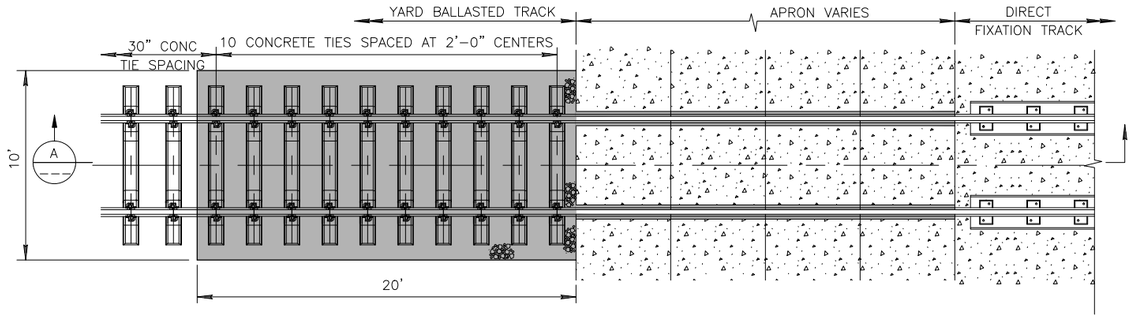
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
TRACK
BUILDING APRON PAVEMENT PLAN

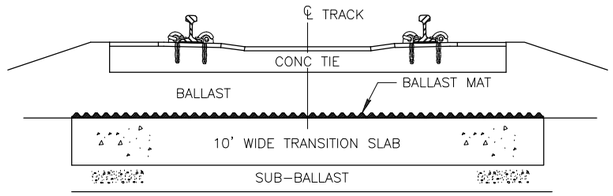
DISCIPLINE: TRACK

SHEET NAME: T-501

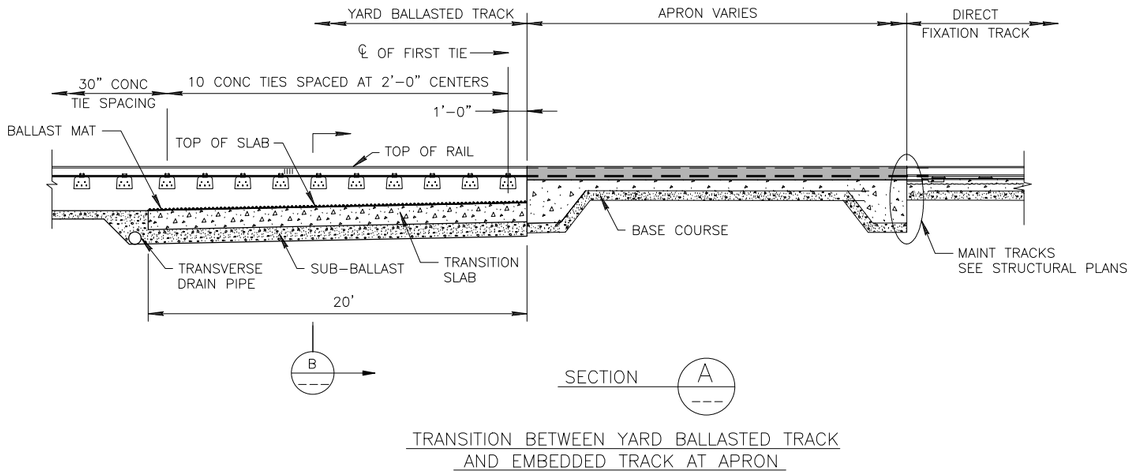
SHEET 81 OF 288



BALLASTED/ EMBEDDED YARD TRACK AT APRON



SECTION B



TRANSITION BETWEEN YARD BALLASTED TRACK AND EMBEDDED TRACK AT APRON

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

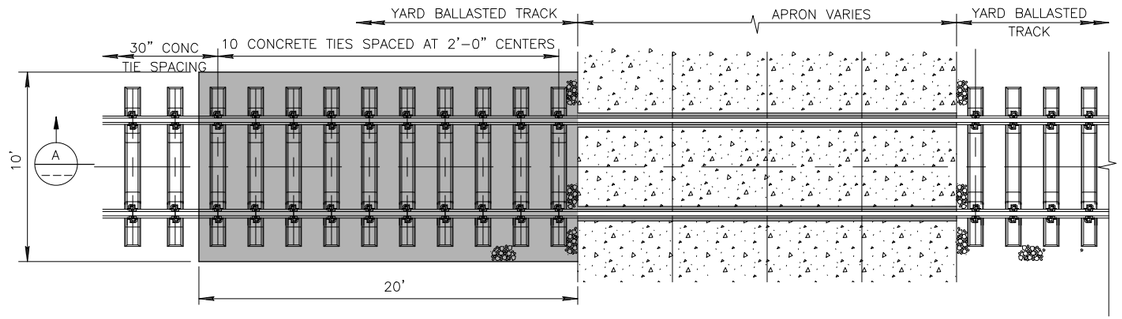
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
TRACK
EMBEDDED TRACK DETAILS

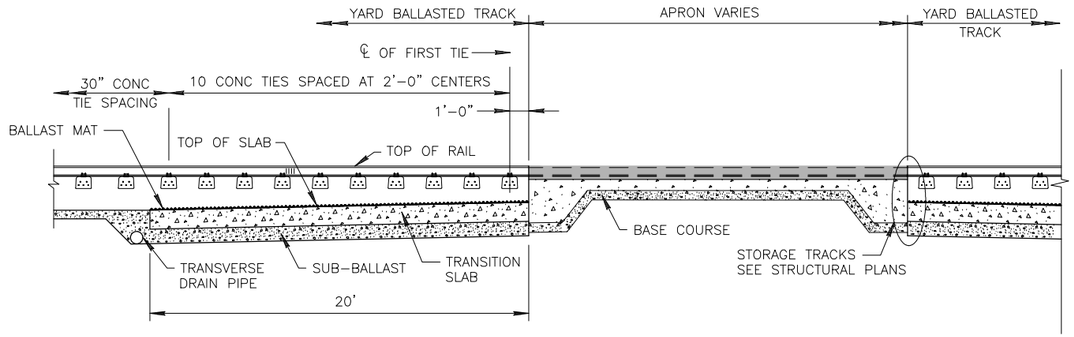
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SHEET NAME: T-502

SHEET 82 OF 288



BALLASTED/ EMBEDDED YARD TRACK AT APRON



SECTION A

TRANSITION BETWEEN YARD BALLASTED TRACK AND EMBEDDED TRACK AT APRON

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

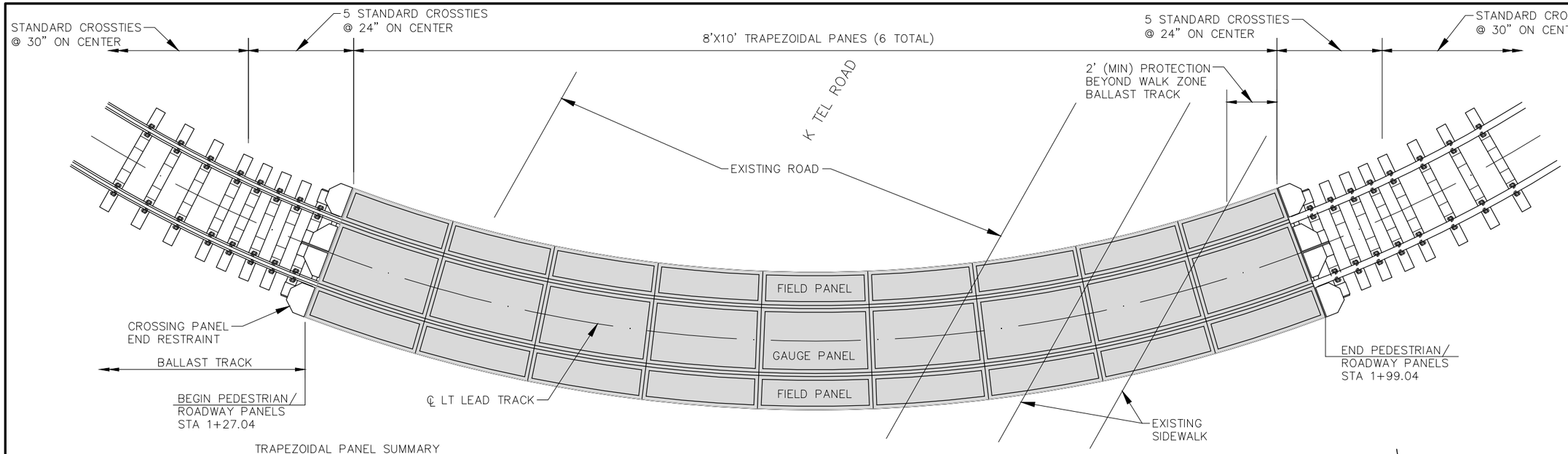
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
TRACK
EMBEDDED TRACK DETAILS

DISCIPLINE: TRACK

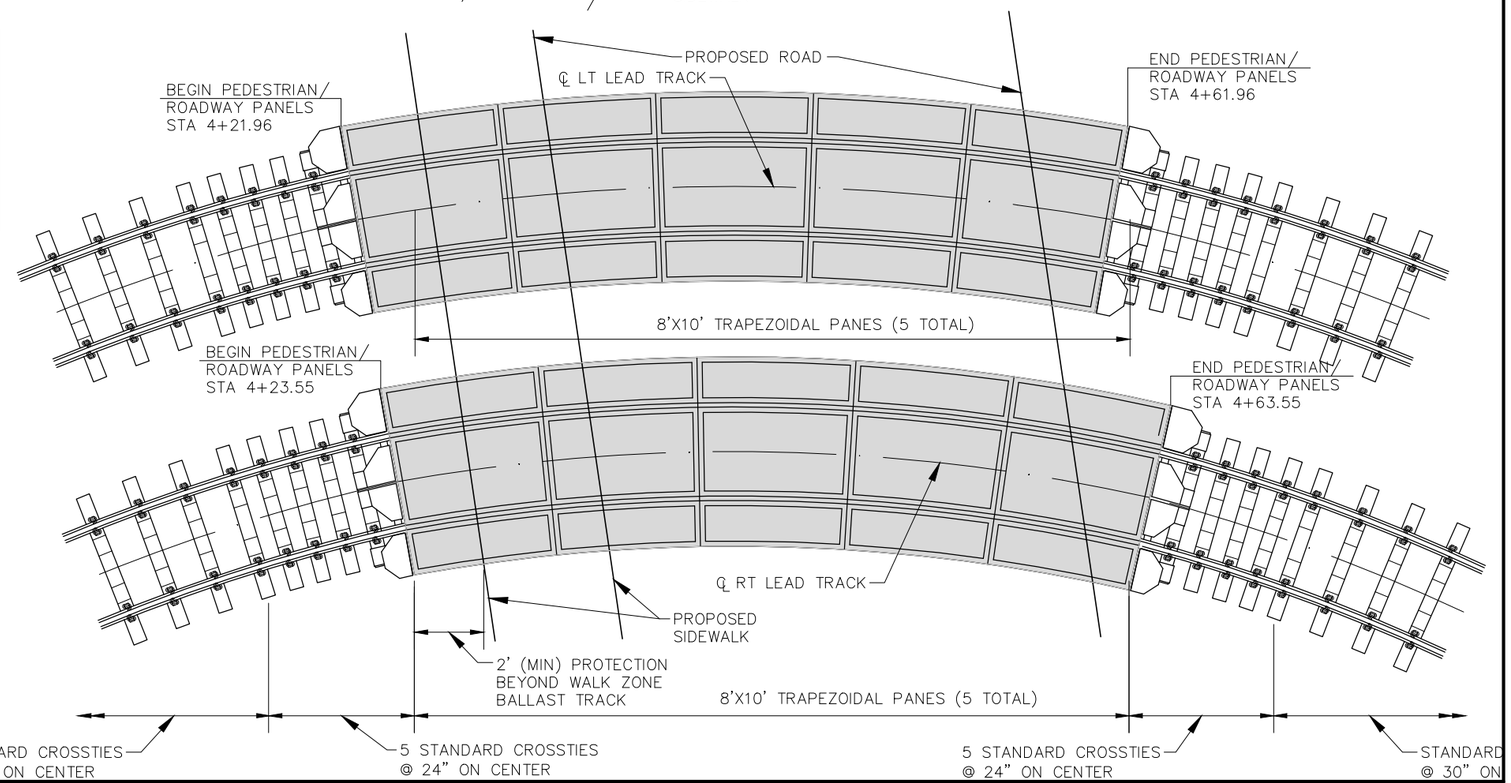
SHEET NAME: T-503

SHEET 83 OF 288



TRAPEZOIDAL PANEL SUMMARY

STREET LOCATION	CROSSING LENGTH	NUMBER OF 8– FT. CURVED PANELS	SITE PARTICULARS
STA 1+63.04 (LT LEAD TRK)	72'	9	STA 1+27.04 TO 1+99.04 (R=100')
STA 4+41.96 (LT LEAD TRK)	40'	5	STA 4+21.96 TO 4+61.96 (R=114')
STA 4+43.55 (RT LEAD TRK)	40'	5	STA 4+23.55 TO 4+63.55 (R=100')
TRAPEZOIDAL PANEL TOTALS		19 PCS.	



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST
Green Line LRT Extension

WEST - VOLUME 4 (OMF)
TRACK
MISC DETAILS

DISCIPLINE: TRACK

SHEET NAME: T-504

SHEET 84 OF 288

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GENERAL NOTES

1. VERIFY ALL DIMENSIONS IN THE FIELD.
2. VERIFY ALL FIELD CONDITIONS.
3. ON ARCHITECTURAL PARTIAL PLANS SEE INDUSTRIAL FOR LAYOUT.
4. FOR INTERIOR WALL REINFORCING REQUIREMENTS SEE STRUCTURAL DRAWING DETAILS.
5. DIMENSIONS
   A - DIMENSIONS SHOWN ON FLOOR PLANS ARE TYPICALLY TO CENTER LINE OF COLUMNS OR FACE OF STUDS, CONCRETE OR MASONRY UNLESS NOTED OTHERWISE.
   B - DO NOT SCALE DRAWINGS.
6. WORK SHALL CONFORM TO ALL STATE AND FEDERAL CODES AND ORDINANCES IN EFFECT. ALL SAFETY PROVISIONS SHALL BE STRICTLY ADHERED TO IN EVERY DETAIL.
7. ALL DISSIMILAR METALS SHALL BE EFFECTIVELY ISOLATED FROM EACH OTHER TO PREVENT GALVANIC ACTION.
8. WHERE A SPECIFIC CONDITION IS DETAILED, IT SHALL BE UNDERSTOOD THAT ALL LIKE OR SIMILAR CONDITIONS ARE THE SAME UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE.
9. PROVIDE ACCESS PANELS TO ALL CONCEALED MECHANICAL AND PLUMBING ITEMS WHICH REQUIRE SERVICE OR ACCESS TO VALVES, FIRE DAMPERS, BALANCING, DUCT HEATERS, ETC. ACCESS PANELS IN RATED CEILINGS AND PARTITIONS SHALL HAVE THE APPROPRIATE U.L. LABEL.
10. FOR EXTERIOR BOLLARD AND GUARDRAIL LOCATIONS SEE CIVIL DRAWINGS - ARCHITECTURAL DRAWINGS ONLY SHOWEXTERIOR BOLLARDS AT EXTERIOR DOOR LOCATIONS.
11. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS INCLUDING THE TECHNICAL PROVISIONS AND THESE DRAWINGS. "CONTRACT" ABOVE INCLUDES BUT NOT LIMITED TO -THE INFORMATION FOR BIDDERS,THE CONTRACTOR'S PROPOSAL, THE CONTRACT TERMS AND CONDITIONS, ALL ADDENDA ISSUED, THE FORMS OF BONDS, THE NOTICE OF AWARD, AND ANY AND ALL CHANGE ORDERS AS APPLICABLE.
12. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
13. THE DRAWINGS INDICATE A SPECIFIC DESIGN INTENT. THIS INTENT IS NOT SUBJECT TO SUBSTITUTION. WHERE SPECMATERIALS ARE IDENTIFIED AND ARCHITECTURAL STYLES SHOWN, THESE SHALL BE PROVIDED UNLESS APPROVED OTHERWISE.
14. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED WRITTEN APPROVAL OF THE ENGINEER.
15. CONTRACTOR IS TO PROTECT ALL AREAS IN SUCH MANNER AS TO ELIMINATE HAZARDS TO PERSONS AND PROPERTY; TO MINIMIZE INTERFERENCE WITH USE OF ADJACENT AREAS, UTILITIES AND STRUCTURES OR INTERRUPTION OF USE OF SUCH UTILITIES.
16. CONTRACTOR SHALL TAKE REASONABLE CARE TO MAINTAIN A SAFE AND SECURE WORK AREA AT ALL TIMES THROUGH THE USE OF, AMONG OTHER THINGS, SAFETY EQUIPMENT, AND FALL PROTECTION.
17. ELEVATIONS NOTED ARE BASED ON TOP OF RAIL IN MAIN SHOP of 908.64' AND EQUALING 100'.

FIRE PROTECTION NOTES

1. ALL FIRE PROTECTION SYSTEM INSTALLATIONS SHALL BE DONE IN ACCORDANCE WITH NFPA STANDARDS 13, 14, & 24
2. ALL SPRINKLER AND STANDPIPE WORK SHALL BE DONE BY A LICENSED FIRE SPRINKLER CONTRACTOR.
3. ALL FIRE HYDRANTS SHALL BE PROPERLY PROTECTED WITH APPROVED BARRICADES AND IN ACCORDANCE WITH LOCAL FIRE DEPARTMENT REQUIREMENTS.
4. ALL STANDPIPE SYSTEM OUTLETS SHALL BE PROPERLY PROTECTED.
5. FIRE DEPARTMENT CONNECTIONS SHALL BE PROVIDED WITH APPROVED SIGNAGE PER LOCAL FIRE DEPARTMENT REQUIREMENTS.
6. ALL FIRE ROADS SHALL BE PROPERLY IDENTIFIED WITH APPROVED MARKING AND SIGNAGE PER LOCAL CODE.
8. PROVIDE A PORTABLE FIRE EXTINGUISHER WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF EACH BUILDING ON EACH FLOOR. FIRE EXTINGUISHERS SIGNAGE TO BE MOUNTED AT EACH EXTINGUISHER LOCATION IN ACCORDANCE WITH CODE.
9. ANY/ALL SYSTEMS INCORPORATATED INTO THE FACILITY SHALL REQUIRE A CERTIFICATE INDICATING THE SYSTEM HAS BEEN INSTALLED, TESTED AND IS READY FOR SERVICE.

ABBREVIATIONS

ABV	ABOVE
AC	AIR CONDITIONER
ACT	ACOUSTIC
ADDL	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISH FLOOR
AGGR	AGGREGATE
AL	ALUMINUM
ALT	ALTERNATE
ARCH	ARCHITECTURAL
ASPH	ASPHALT
ASSY	ASSEMBLY
AVE	AVENUE
AVG	AVERAGE
B	BOTTOM
BD	BOARD
BETW	BETWEEN
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BP	BASE PLATE
BRDG	BRIDGING
BRG	BEARING
BSMT	BASEMENT
CAB	CABINET
CARP	CARPET
CDR	COILING DOOR
CER	CERAMIC
CER TILE	CERAMIC TILE
CI	CAST IRON
CL	CENTERLINE
CLG	CEILING
CLO	CLOSET
CLR	CLEAR
CMIU	CONCRETE MASONRY INSULATED UNIT
CMU	CONCRETE MASONRY UNIT
CNCL	CONCEALED
CO	COMPANY
COL	COLUMN
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CRV	CURVED
CTR	CENTER
D	DEPTH
DBL	DOUBLE
DEG	DEGREE
DEPT	DEPARTMENTDETAIL
DET	DETAIL
DGL	DIAGONAL
DIA	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DW	DISHWASHER
DWG	DRAWING
E	EAST
EA	EACH
EGEN	EMERGENCY GENERATOR
EF	EXHAUST FAN
EL	ELEVATION
ELEC	ELECTRICAL
ELEC	ELEVATOR
ENTR	ENTRANCE
EQ	EQUAL
EQUIP	EQUIPMENT
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPANSION
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
FAB	FABRICATE
FBD	FIBERBOARD
FD	FLOOR DRAIN
FDN	FOUNDATION
FDR	FIRE DOOR
FE	FIRE EXTINGUISHER
FHY	FIRE HYDRANT
FIN	FINISH
FLR	FLOOR
FP	FIREPROOF
FRP	FIBERGLASS REINFORCED PLASTICS
FT	FOOT
FTG	FOOTING
FURN	FURNITURE
GA	GAUGE
GALV	GALVANIZED
GEN	GENERATOR
GL	GLASS
GR	GRADE
GRID	GROUND
GVL	GRAVEL
GWB	GYPSUM WALLBOARD
H	HIGH
HDWE	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT
HT	HEIGHT
HTR	HEATER
HVAC	HEATING. VENTILATING, & AIR CONDITIONING
IH	INSIDE DIAMETER
INC	INCLUDING
INSUL	INSULATION
INTR	INTERIOR
JST	JOIST
JT	JOINT
LAM	LAMINATE
LAV	LAVATORY
LG	LENGTH
LH	LEFT HAND
LIN	LINEAR
LL	LIVE LOAD
LP	LOW POINT
LT	LIGHT
LWC	LIGHTWEIGHT CONCRETE
MAINT	MAINTENANCE
MAS	MASONRY
MATL	MATERIAL
MECH	MECHANICAL
MEMB	MEMBRANE
MEZZ	MEZZANINE
MFR	MANUFACTURER
MGR	MANAGER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANIOUS
MET	METAL
MLDG	MOLDING
MO	MASONRY OPENING
MTG	MOUNTING
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFF	OFFICE
OHDR	OVERHEAD DOOR
OMF	OPERATIONS MAINTENANCE FACILITY
OPNG	OPENING
OPP	OPPOSITE
P/L	PROPERTY LINE
PERF	PERFORATED
PL	PLATE
PLBG	PLUMBING
PLYWD	PLYWOOD
PNL	PANEL
PNT	PAINT
PORC	PORCELAIN
PREFAB	PREFABRICATED
PROJ	PROJECT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT
PTD	PAINTED
PTN	PARTITION
PV	PHOTOVOLTAIC
QTF	QUARRY-TILE FLOOR
R	RADIUS
R	RISER
RD	ROOF DRAIN
REFR	REFRIGERATOR
REINF	REINFORCE
REQD	REQUIRED
RET	RETURN
REV	REVISION
RFG	ROOFING
RH	RIGHT HSMD
RM	ROOM
S	SOUTH
SAPC	SUSPENDED ACOUSTICAL PANEL CEILING
SCHED	SCHEDULE
SEC	SECTION
SF	SQUARE FOOT
SGFT	STRUCTURAL GLAZED
SH	SHOWER
SHT	SHEET
SIM	SIMILAR
SKY	SKYLIGHT
SLDR	SLIDING DOOR
SMLS	SEAMLESS
SPEC	SPECIFICATION
SPKLR	SPRINKLER
SPKR	SPEAKER
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURE / STRUCTURAL
STWY	STAIRWAY
SUPT	SUPERINTENDENT
SUPVR	SUPERVISOR
SUSP	SUSPENDED / SUSPENSION
SWLRT	SOUTH WEST LIGHT RAIL TRANSIT
SYS	SYSTEM
T	TREAD
T/O	TOP OF
T&B	TOP & BOTTOM
TEMP	TEMPORARY
THRU	THROUGH
TLT	TOILET
T.O.R.	TOP OF RAIL
TRTD	TREATED
TYP	TYPICAL
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VLM	VERTICAL LIFT MACHINE
VTR	VENT THROUGH ROOF
W	WEST
W	WIDE
W/	WITH
W/O	WITHOUT
WBD	WALLBOARD
WC	WATER CLOSET
WD	WOOD
WTRPRF	WATERPROOFING

MATERIALS LEGEND

NOT ALL MATERIALS DEPICTED ON THIS LEGEND ARE USED IN THE ARCHITECTURAL DRAWINGS.

- FIRE RATED (SEE WALL TYPES)
- CMU
- ACOUSTICAL CMU
- CMIU
- CONCRETE
- GYP BD / GROUT
- BATT INSULATION
- RIGID INSULATION
- COARSE AGGREGATE / BALLAST
- STEEL
- ALUMINUM
- FINISH LUMBER
- DIMENSIONAL LUMBER
- SHIM
- PLYWOOD
- ACOUSTICAL PANEL
- TILE
- EARTH

SYMBOLS LEGEND

NOT ALL SYMBOLS DEPICTED ON THIS LEGEND ARE USED IN THE ARCHITECTURAL DRAWINGS

- Room name / 101 - ROOM NUMBER REFERENCE
- A - COLUMN REFERENCE
- N - NORTH ARROW REFERENCE
- EL. X.XX' - FLOOR ELEVATION REFERENCE
- 1 - REVISION REFERENCE
- LARGE SCALE PLAN REFERENCE
- TRENCH DRAIN
- 0'-0" - SPOT ELEVATION REFERENCE
- FD - FLOOR DRAIN
- 1 / A201 - EXTERIOR ELEVATION REFERENCE - DRAWING ON WHICH IT APPEARS
- 1 / A301 - WALL SECTION REFERENCE - DRAWING ON WHICH IT APPEARS
- 1 / A301 - SECTION REFERENCE - DRAWING ON WHICH IT APPEARS

LIST OF DRAWINGS

# OF TOTAL	Sheet Number	Sheet Name
ARCHITECTURE		
85	A-001	GENERAL NOTES, ABBREVIATIONS, LEGEND, & SYMBOLS
86	A-002	CODE DATA
87	A-003	CODE DATA
88	A-004	1ST FLOOR EGRESS PLAN
89	A-005	MEZZANINE EGRESS PLAN
90	A-006	2ND FLOOR EGRESS PLAN
91	A-007	SITE PLAN
92	A-008	NOT USED - PERSPECTIVES
93	A-009	NOT USED - PERSPECTIVES
94	A-010	NOT USED - PERSPECTIVES
95	A-101	1ST FLOOR PLAN
96	A-102	MEZZANINE FLOOR PLAN
97	A-103	2ND FLOOR PLAN
98	A-104	ROOF PLAN
99	A-110	1ST FLOOR PARTIAL PLAN- 1
100	A-111	1ST FLOOR PARTIAL PLAN - 2
101	A-112	1ST FLOOR PARTIAL PLAN - 3
102	A-113	1ST FLOOR PARTIAL PLAN - 4
103	A-114	1ST FLOOR PARTIAL PLAN - 5
104	A-115	1ST FLOOR PARTIAL PLAN - 6
105	A-116	1ST FLOOR PARTIAL PLAN - 7
106	A-117	1ST FLOOR PARTIAL PLAN - 8
107	A-118	1ST FLOOR PARTIAL PLAN - 9
108	A-119	1ST FLOOR PARTIAL PLAN - 10
109	A-120	1ST FLOOR PARTIAL PLAN - 11
110	A-121	MEZZANINE PARTIAL PLAN - 4
111	A-122	MEZZANINE PARTIAL PLAN - 5
112	A-123	MEZZANINE PARTIAL PLAN - 7
113	A-124	MEZZANINE PARTIAL PLAN - 8
114	A-130	2ND FLOOR PARTIAL PLAN - 4
115	A-131	2ND FLOOR PARTIAL PLAN - 5
116	A-140	3RD FLOOR PARTIAL PLAN - 4
117	A-201	BUILDING ELEVATIONS-WEST
118	A-202	BUILDING ELEVATIONS-SOUTH
119	A-203	BUILDING ELEVATIONS-NORTH
120	A-204	BUILDING ELEVATIONS-EAST
121	A-301	BUILDING SECTIONS I & II
122	A-302	BUILDING SECTIONS III & IV
123	A-303	BUILDING SECTIONS-V
124	A-304	BUILDING SECTIONS-VI
125	A-401	WALL SECTIONS
125.1	A-402	WALL SECTIONS
126	A-501	COLD STORAGE - PLAN & SECTIONS
127	A-502	COLD STORAGE - ELEVATIONS

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST-VOLUME 4 (OMF)
ARCHITECTURE
NOTES - GENERAL

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-001

SHEET 85 OF 288

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BUILDING CODE REVIEW

SWLRT OPERATIONS MAINTENANCE FACILITY

PROJECT DATA:

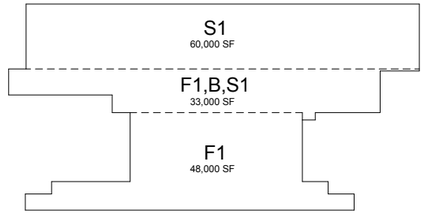
APPLICABLE CODES, STANDARDS AND REGULATIONS:
1. BUILDING: MINNESOTA STATE BUILDING CODE, 2007 EDITION
2. BUILDING: INTERNATIONAL BUILDING CODE, 2006
3. ELECTRICAL: NATIONAL ELECTRICAL CODE (NFPA 70) -2005
4. MECHANICAL: INTERNATIONAL MECHANICAL CODE, 2006
5. PLUMBING: MINNESOTA STATE PLUMBING CODE, 2003 (MN RULE 4715)
6. OTHER: -INTERNATIONAL FIRE CODE, 2006
-NFPA 13 - INSTALLATION OF FIRE SPRINKLERS, 2002
-MN RULE 7510 - MINNESOTA STATE FIRE CODE, 2007
-ANSI/ ASHRAE 90.1 COMMERCIAL BUILDING ENERGY CODE, 2004
-MN RULE 1346 - MINNESOTA MECHANICAL CODE, 2007
-ICC A117.1 ACCESSIBILITY CODE, 2003

OPERATIONS MAINTENANCE FACILITY
F-1 FACTORY/ INDUSTRIAL- MODERATE HAZARD
A-2 ASSEMBLY
S-1 MODERATE HAZARD STORAGE
B OFFICE

BUILDING TO BE CLASSIFIED AS NON-SEPERATED MIXED-USE, PER SECTION 508.3.3

ALLOWABLE FLOOR AREA (SECTION 506 & TABLE 503)

OMF'S AREA AS A NON-SEPERATED MIXED-USE BUILDING



MAX ALLOWABLE SQUARE FOOT PER OCCUPANCY/ FLOOR

TYPE 1B CONSTRUCTION
F1, B,= UNLIMITED
S1 = 48,000, AUTOMATIC SPRINKLER SYSTEM = 48,000 + (48,000 x 2) = 144,000sf

AREA MODIFICATIONS (SECTION 506)
AN ADDITIONAL 75% TO THE S1 = 48,000 * 75% = 36,000sf
TOTAL = 180,000sf

ALLOWABLE FLOOR AREA PER FLOOR

TOTAL ALLOWABLE MAX. BUILDING PER FLOOR = 180,000 SF

PROPOSED FLOOR AREA

FIRST FLOOR = 143,300 SF
SECOND FLOOR = 27,350 SF
THIRD FLOOR = 1,350 SF
TOTAL PROPOSED BUILDING AREA = 172,000 SF

ALLOWABLE BUILDING HEIGHT PER TABLE 503 AND SECTION 504.2

TOTAL ALLOWABLE HEIGHT = 11 STORIES AT 160'-0" MAX

PROPOSED BUILDING HEIGHT

PROPOSED HEIGHT =3 STORIES/ 45'-0"
-SECTION 504.3 ALLOWS THE STAIR TOWERS TO PROJECT AN ADDITIONAL 20' ABOVE BUILDING HEIGHT
-LIMITATION 0F 45'-0" DUE TO HOPKINS ZONING.

MEZZANINES (SECTION 505):

SECTION 505.2 - AREA LIMITATION

MEZZANINES IN BUILDINGS OF TYPE I & II CONSTRUCTION WITH AN AUTOMATIC SPRINKLER SYSTEM SHALL NOT EXCEED 1/3 THE AREA OF THE ROOM

SECTION 505.5 - EQUIPMENT PLATFORMS
WITHIN A BUILDING THE EQUIPMENT PLATFORM SHALL NOT BE CONSIDERED A PART OF THE FLOOR BELOW. AS PER SECTION 503.1 THE EQUIPMENT PLATFORM DOES NOT FOLLOW REGULATIONS OF THE SECTION SUCH AS TO CONTRIBUTE TO THE BUILDING AREA OR NUMBER OF STORIES.

TABLE 508.3.3

REQUIRED SEPARATION OF OCCUPANCIES (HOURS) WITH AN AUTOMATIC SPRINKLER SYSTEM	
OCCUPANCY	F-1, B, S-1
F-1, B, S-1	N= NO SEPARATION REQUIREMENT

CONSTRUCTION TYPE: IB, NONCOMBUSTIBLE (CHAPTER 6)

FIRE RESISTANT REQUIREMENTS :(PER TABLE 601 & 602)

- TYPE IB CONSTRUCTION

EXTERIOR WALLS
BEARING WALLS 2 HRS
NON BEARING WALLS
-FIRE SEPARATION DISTANCE <5 FEET
-OCCUPANCY GROUPS F-1,S-1 2 HRS
-OCCUPANCY GROUPS A-2, B 2 HRS
-FIRE SEPARATION DISTANCE >/=5 FEET<10 FEET
-ALL OCCUPANCY GROUPS PRESENT 1 HR
-FIRE SEPARATION DISTANCE </=10 FEET<30 FEET
-ALL OCCUPANCY GROUPS PRESENT 1 HR
-FIRE SEPARATION DISTANCE >/=30 FEET
-ALL OCCUPANCY GROUPS PRESENT 0 HRS
- INTERIOR BEARING WALLS 2 HRS
- INTERIOR NONBEARING WALLS AND PARTITIONS 0 HR
- STRUCTURAL FRAMING 2 HRS
- FLOOR CONSTRUCTION INC. SUPPORTING BEAMS & JOIST 2 HRS
- ROOF CONSTRUCTION INC. SUPPORT BEAMS AND JOIST 1 HR*

* EXCEPTION C- ROOF ABOVE 20'-0" CLEAR HEIGHT FIRE PROTECTION IS NOT REQUIRED.

EXTERIOR WALL OPENINGS (TABLE 704.8)

FIRE SEPARATION DISTANCE	PERCENTAGE OF ALLOWABLE AREA PROTECTED OPENINGS
0-3 FT.	NONE PERMITTED
3-5 FT.	15%
5-10 FT.	25%
10-15 FT.	45%
15-20 FT.	75%

FIRE/SMOKE DAMPERS

PROVIDE PER THE INTERNATIONAL BUILDING CODE 716

INTERIOR FINISHES:

(PER TABLE 803.5)

	SPRINKLED BUILDINGS		
USE GROUP	VERTICAL EXITS AND EXIT PASSAGEWAYS	EXIT ACCESS CORRIDORS AND OTHER WALKWAYS	ROOMS AND ENCLOSED SPACES
S-1	C	C	C
F-1	C	C	C
B	B	C	C
A-2	B	B	C

WALL AND CEILING FINISHES 803.1 (IN ACCORDANCE WITH ASTM E84)

CLASS A: FLAME SPREAD 0-25; SMOKE DEVELOPED 0-450
CLASS B: FLAME SPREAD 26-75; SMOKE DEVELOPED 0-450
CLASS C: FLAME SPREAD 76-200; SMOKE DEVELOPED 0-450

OCCUPANT LOAD (TABLE 1004.1.1)

INDUSTRIAL AREAS (FACTORY F-1) 100 GROSS
ASSEMBLY (BREAK ROOM) (A-2) 15 NET
OFFICES (B) 100 GROSS
LOCKER ROOMS 50 GROSS
CLASSROOMS 20 NET
LIBRARY 50 NET
MECHANICAL EQUIPMENT ROOMS & ACCESSORY STORAGE AREAS 300 GROSS

MEZZANINE (1004.6)

MEZZANINE LEVELS.
THE OCCUPANT LOAD OF A MEZZANINE LEVEL WITH EGRESS ONTO A ROOM OR AREA BELOW SHALL BE ADDED TO THAT ROOM OR AREA'S OCCUPANT LOAD

MINIMUM EGRESS WIDTH REQUIRED (TABLE 1005.1)

ALL USE GROUPS PRESENT
NEEDED
STAIRS = .2" PER OCC.
STAIR OCCUPANCY FOR THE 2ND AND 3RD FLOOR = 374 OCC.
374/.2 = 74.8" STAIR WIDTH NEEDED FOR STAIRS
PROVIDED
OMF HAS 3 STAIRS AT 60" EACH = 180" STAIR WIDTH PROVIDED

OTHER EGRESS COMPONENTS = .15"

DOORS PROVIDED
SINGLE DOOR 3'-0" PROVIDES EGRESS OF (2'-10" X .15")=
226 X 18 DOORS = 4,068 OCC.
DOUBLE DOORS 6'-0" WIDE PROVIDES EGRESS OF (5'-8" X .15")=
453 X 2 DOORS = 906 OCC.
TOTAL ALLOWABLE OCCUPANCY PER DOORS PROVIDED = 4,974

EXITS

- MINIMUM CLEAR DOOR WIDTH (PER SECTION 1008.1.1) 32"
- MAXIMUM DOOR WIDTH (PER SECTION 1008.1.1) 48"
- MINIMUM HEIGHT (PER SECTION 1008.1.1) 80"
- MINIMUM CORRIDOR WIDTH (PER SECTION 1017.2) 44"
- HANDRAILS (1 1/4" DIAMETER TO 2" DIAMETER) (PER SECTION 1012.2) 34" T0 38" HIGH
- PANIC HARDWARE (PER SECTION 1008.1.9) REQUIRED FOR USE ONLY

AREA OF REFUGE FOR (SECTION 1007.6.1)

A 30" X 48" SPACE WILL ACCOMMODATE ONE WHEELCHAIR AND NOT BE IN THE PATH OF REQUIRED EGRESS. THIS IS REQUIRED AS ONE PER 200 OCCUPANTS.

PROPOSED AREA OF REFUGE

3 SPACES FOR 369 OCCUPANTS ON THE SECOND FLOOR.

COMMON PATH OF EGRESS TRAVEL (SECTION 1014.3)

OCCUPANCY B, F-1, S-1 100' MAX.
A-2 75' MAX.

FIRE PROTECTION SYSTEM:

-FIRE AND SMOKE DETECTION SYSTEM (PER 907) REQUIRED
-FIRE ALARM SYSTEM (PER 907) REQUIRED
-SPRINKLER SYSTEM (PER 903.2.3) REQUIRED
-STANDPIPE SYSTEM (PER 905.3.1) REQUIRED
-PORTABLE FIRE EXTINGUISHERS REQUIRED

EXIT ACCESS TRAVEL DISTANCE (TABLE 1016.1)

OCCUPANCY A-2, F-1, S-1
MAXIMUM ALLOWED WITH SPRINKLER SYSTEM = 250'
OCCUPANCY B
MAXIMUM ALLOWED WITH SPRINKLER SYSTEM = 300'

MAXIMUM DEAD END CORRIDOR DISTANCE 20'-0"
(PER SECTION 1016.3 EXCEPTION NO.2 FOR GROUP F & B) 50'-0"

MINIMUM NUMBER OF EXITS REQUIRED (SECTION 1019)

2 EXITS REQUIRED AT A MINIMUM FOR AN OCCUPANT LOAD BETWEEN 1-500 PER FLOOR (SECOND FLOOR 369)

4 EXITS REQUIRED AT MINIMUM FOR AN OCCUPANT LOAD OF MORE THAN 1,000 PER FLOOR (FIRST FLOOR 1023)

PROPOSED EXITS

3 EXITS PROVIDED FOR AN OCCUPANT LOAD OF 369 ON THE SECOND FLOOR

22 EXITS PROVIDED FOR AN OCCUPANT LOAD OF 1,023 ON THE FIRST FLOOR.

2 EXITS REQUIRED IN BOILER, INCINERATOR AND FURNACE ROOMS OVER 500 SQUARE FEET AS PER SECTION 1015.3.

EGRESS AND EXITS

(SECTION 1020.8-9) WHEN AN AUTOMATIC SPRINKLER SYSTEM IS PROVIDED THE BUILDING IS ONLY REQUIRED TO HAVE MAX 50% OF ITS EGRESS STAIRS ENCLOSED. PROVIDED AT LEAST TWO ENCLOSED MEANS OF EGRESS STAIRS ARE SUPPLIED FROM THE TWO FLOORS SERVED BY THE UNENCLOSED EGRESS STAIR.

WATER CLOSETS AND SHOWERS (SECTION 2902.4.1 AND TABLE 2902.1)

THE TOILET FACILITIES SHALL NOT EXCEED TRAVEL DISTANCE OF 500'.

MIN NUMBER OF FIXTURES PER OCCUPANTS

100 OCCUPANTS = 1 TOILET
FOR THE MENS ROOM URINALS SHALL NOT SUBSTITUTE MORE THAN 50% OF REQUIRED TOILETS.

MIN NUMBER OF FIXTURES REQUIRED PER OCCUPANTS

1ST FLOOR = 1,023 OCCUPANTS, 11 FIXTURES
2ND FLOOR = 369 OCCUPANTS, 4 FIXTURES
15 TOTAL

NUMBER OF FIXTURES PROVIDED

1ST FLOOR = 11 FIXTURES
2ND FLOOR = 15 FIXTURES
25 TOTAL

PER SECTION 2902.4.1 THE REQUIRED FACILITIES MAY BE LOCATED 1 STORY ABOVE OR BELOW THE SPACE, PROVIDED THE TOILET FACILITIES ARE WITHIN THE TRAVEL DISTANCE OF 500'.

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

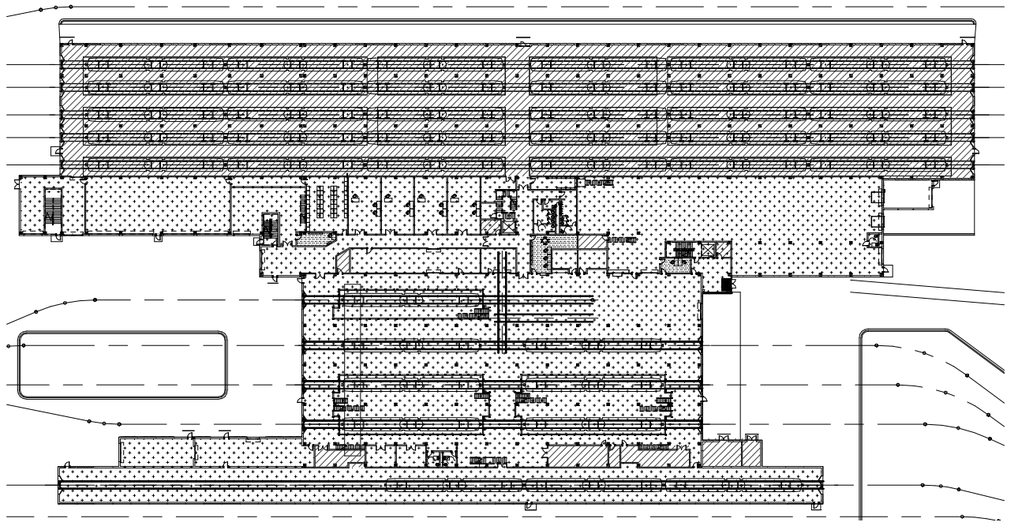
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ARCHITECTURE
CODE REVIEW-GENERAL

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-002

SHEET 86 OF 288

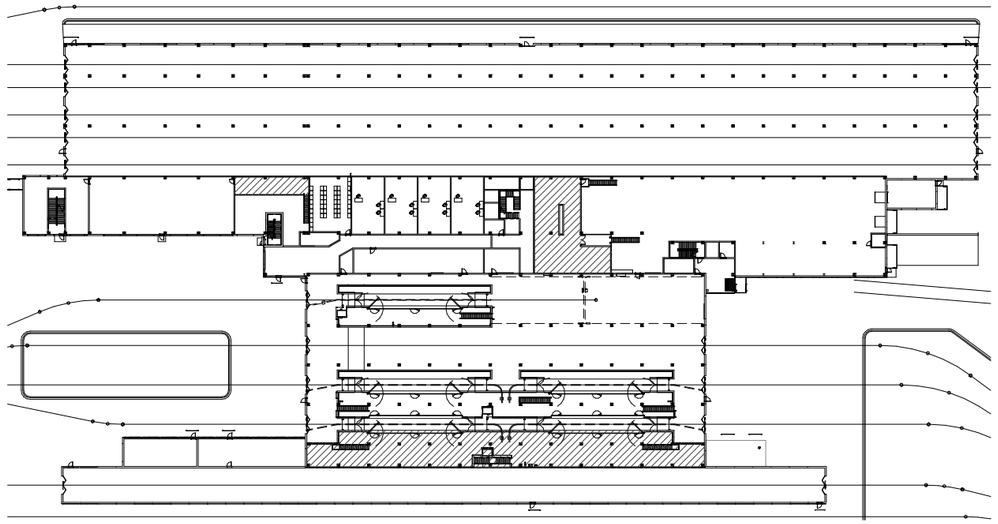
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1ST FLOOR FLOOR PLAN

INDUSTRIAL AREAS (FACTORY F-1)	100 SF GROSS / PERSON	77,484 SF / 100 = 775
OFFICES (B)	100 SF GROSS / PERSON	733 SF / 100 = 8
MECHANICAL EQUIPMENT ROOMS & MODERATE HAZARD STORAGE (S-1)	300 SF GROSS / PERSON	71,916 SF / 300 = 240

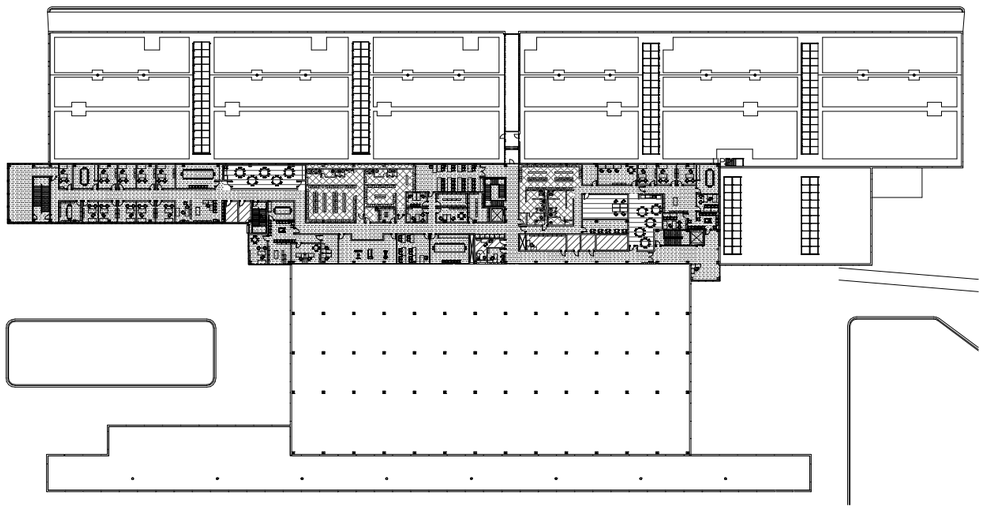
OCCUPANCY = 1,023



MEZZANINE FLOOR PLAN

MECHANICAL EQUIPMENT ROOMS & MODERATE HAZARD STORAGE (S-1)	300 SF GROSS / PERSON	71,297 SF / 300 = 58

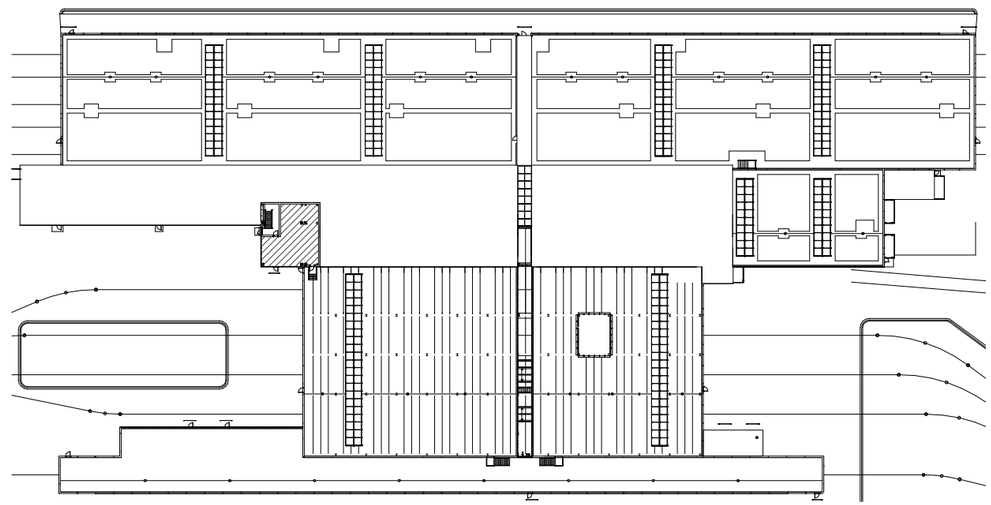
(SEE SECTION 1004.6) OCCUPANCY =58



SECOND FLOOR PLAN

ASSEMBLY (BREAKROOM) (A-2)	15 NET	1,326 SF / 15 = 89
OFFICES (B)	100 SF GROSS / PERSON	9,058 SF / 100 = 191
LOCKER ROOMS	50 SF GROSS / PERSON	4,226 SF / 50 = 85
MECHANICAL EQUIPMENT ROOMS & ACCESSORY STORAGE AREAS	300 SF GROSS / PERSON	1,076 SF / 300 = 4

OCCUPANCY = 369



THIRD FLOOR PLAN

MECHANICAL EQUIPMENT ROOMS	300 SF GROSS / PERSON	1,350 SF / 300 = 5

OCCUPANCY = 5

TOTAL MAX ALLOWABLE OCCUPANCY: 1,455
OPERATIONS MAINTENANCE FACILITY

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

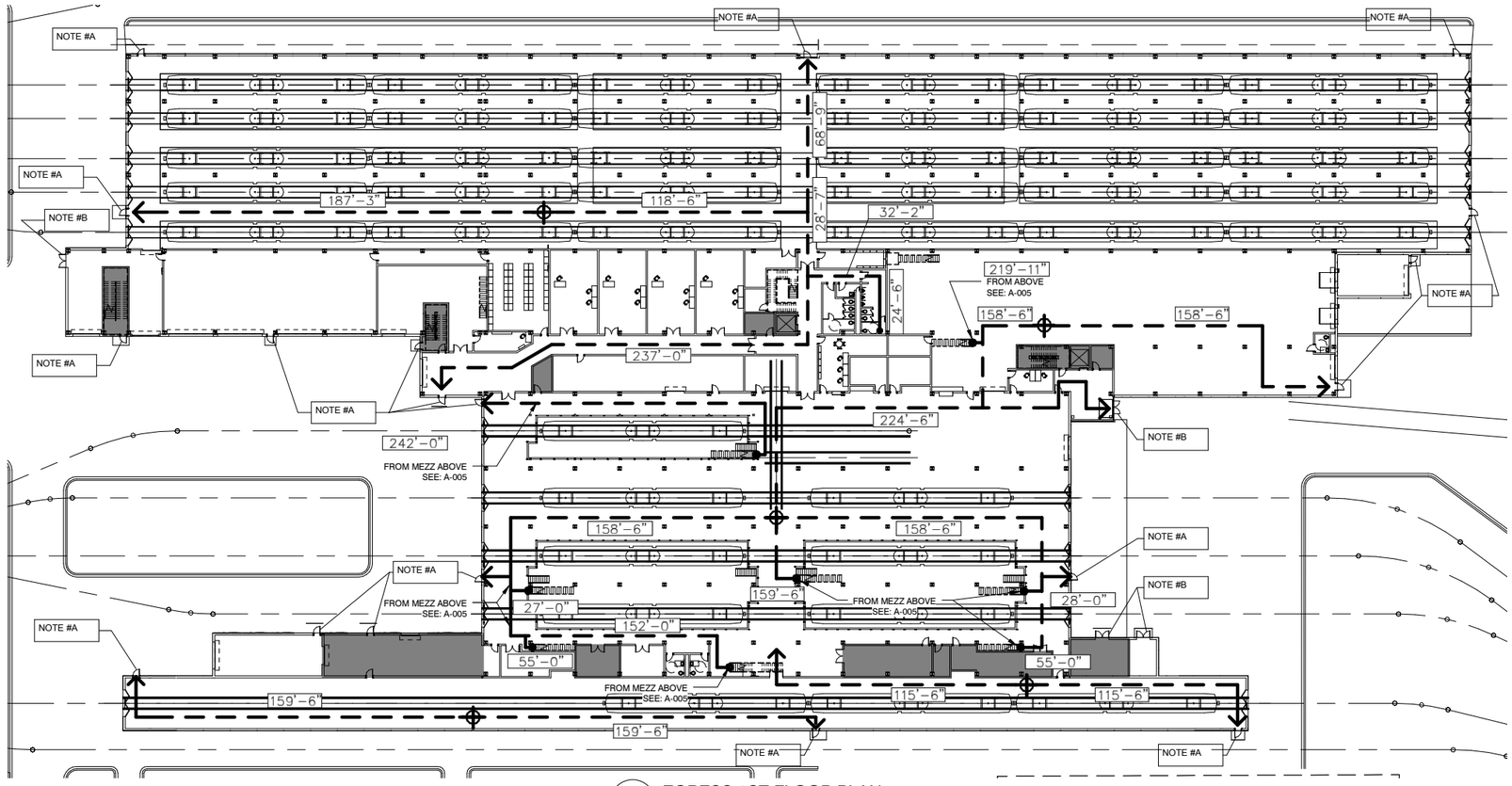
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DISCIPLINE: ARCHITECTURE

SHEET NAME: A-003

SHEET 87 OF 288

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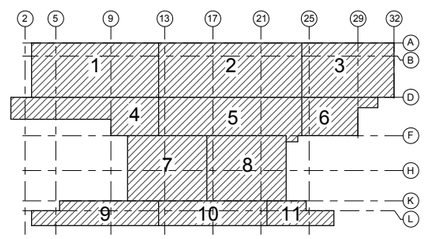


1 A-004 EGRESS 1ST FLOOR PLAN
SCALE: 1/32" = 1'-0"

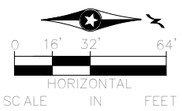
EGRESS CAPACITY LEGEND
NOTE #A:
SINGLE DOOR LEAF TYPICAL UNLESS NOTED OTHERWISE:
EGRESS CAPACITY
2'-10" CLEAR OPENING (34"/.15 - 226 OCCUPANTS)
NOTE #B:
DOUBLE DOOR LEAF TYPICAL UNLESS NOTED OTHERWISE:
EGRESS CAPACITY
5'-8" CLEAR OPENING (68"/.15 - 453 OCCUPANTS)

EGRESS PLAN LEGEND	
SYMBOL	DESCRIPTION
	1 HOUR FIRE RATED ENCLOSURES
	EGRESS TRAVEL ROUTE

NOTES:
1. ALL EXIT ENCLOSURES, SHAFT ENCLOSURES, AND BOILER ROOMS TO HAVE ONE (1) HOUR FIRE RATED ASSEMBLY PARTITIONS
2. BUILDING DESIGNED FOR MIXED USE NON-SEPERATED USE.
3. TRAVEL DISTANCE TO FIRE EXTINGUISHER MUST BE LESS THAN 75 FEET.



KEY PLAN
SCALE: N.T.S.



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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

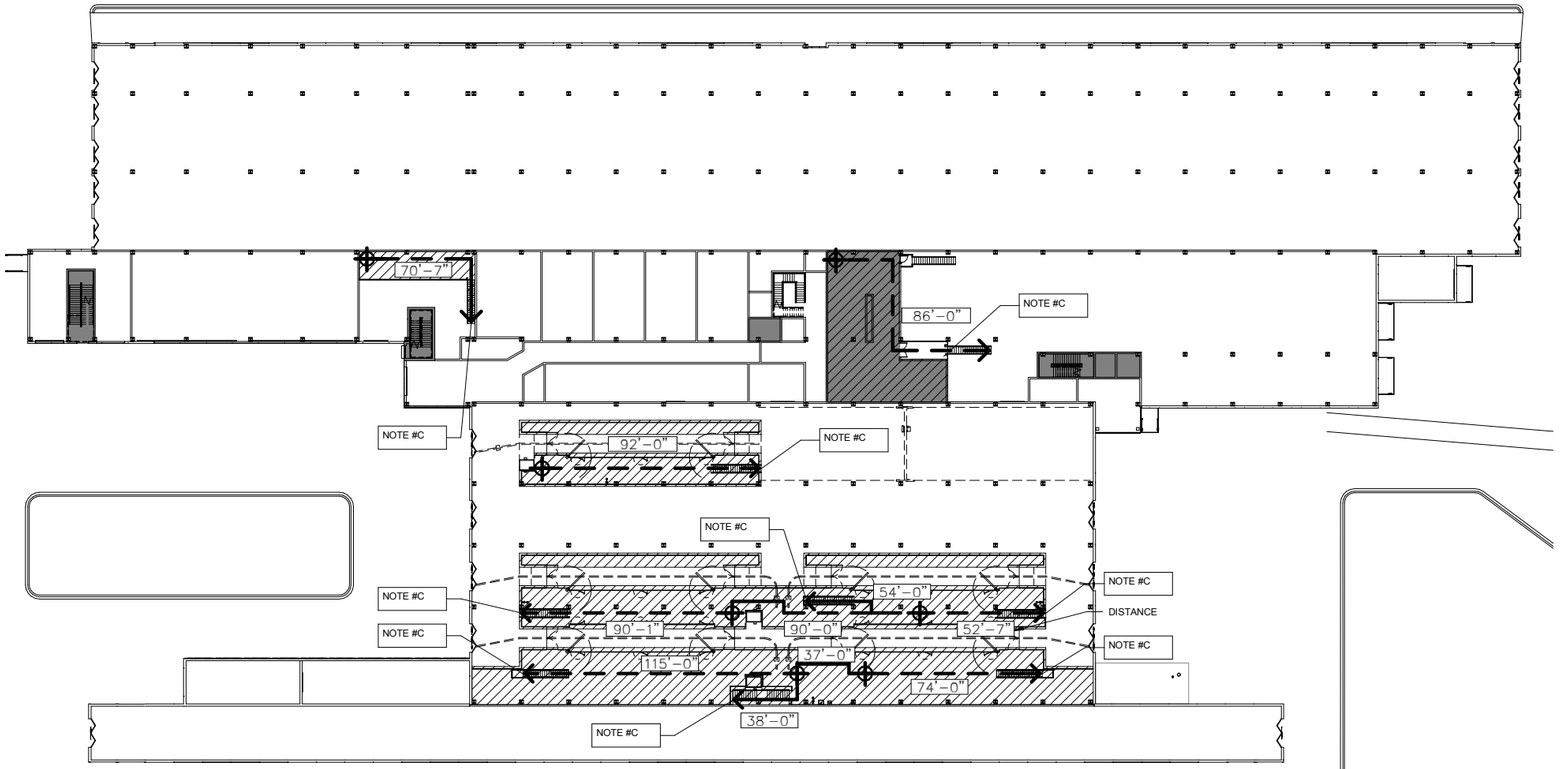
WEST-VOLUME 4 (OMF)
ARCHITECTURE
1ST FLOOR - EGRESS PLANS

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-004

SHEET 88 OF 288

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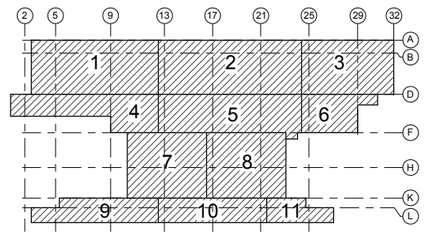
1 / A-005 EGRESS OVERALL MEZZANINE & EQUIPMENT FLOOR PLAN

SCALE: 1/32" = 1'-0"

EGRESS CAPACITY LEGEND
NOTE #C:
STAIR EGRESS CAPACITY, NO 2ND FLOOR EGRESS PATH DOEN STAIRS
40" EGRESS WIDTH (40"/.2 = 200 OCCUPANTS)
MAX OCCUPANT LOAD: 200 PEOPLE
- MEZZ LEVEL - HATCH FOR CLARITY PURPOSES

NOTES:
1. ALL EXIT ENCLOSURES, SHAFT ENCLOSURES, AND BOILER ROOMS TO HAVE ONE (1) HOUR FIRE RATED ASSEMBLY PARTITIONS
2. BUILDING DESIGNED FOR MIXED USE NON-SEPERATED USE.
3. TRAVEL DISTANCE TO FIRE EXTINGUISHER MUST BE LESS THAN 75 FEET.

EGRESS PLAN LEGEND	
SYMBOL	DESCRIPTION
	1 HOUR FIRE RATED ENCLOSURES
	EGRESS TRAVEL ROUTE



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

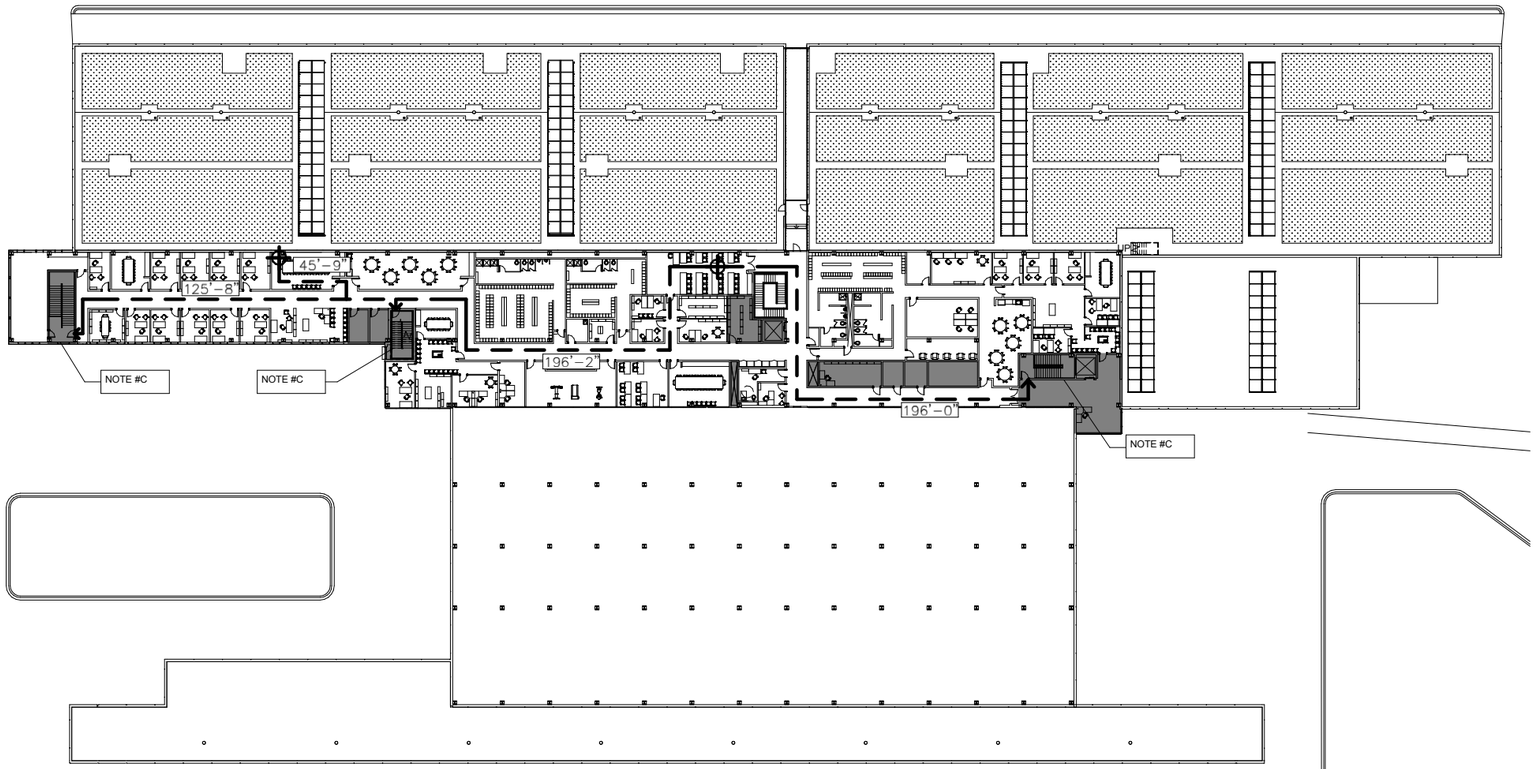
WEST-VOLUME 4 (OMF)
ARCHITECTURE
MEZZANINE FLOOR - EGRESS PLANS

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-005

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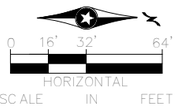


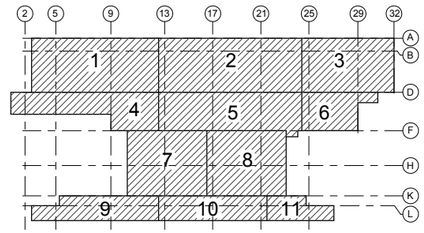
1 A-006 EGRESS OVERALL SECOND FLOOR PLAN
SCALE: 1/32" = 1'-0"

NOTES:
1. ALL EXIT ENCLOSURES, SHAFT ENCLOSURES, AND BOILER ROOMS TO HAVE ONE (1) HOUR FIRE RATED ASSEMBLY PARTITIONS
2. BUILDING DESIGNED FOR MIXED USE NON-SEPERATED USE.
3. TRAVEL DISTANCE TO FIRE EXTINGUISHER MUST BE LESS THAN 75 FEET.

EGRESS CAPACITY LEGEND
NOTE #1:
STAIR EGRESS CAPACITY
60" EGRESS WIDTH (60"/.2 = 300 OCCUPANTS)
MAX OCCUPANT LOAD: 300 PEOPLE

EGRESS PLAN LEGEND	
SYMBOL	DESCRIPTION
	1 HOUR FIRE RATED ENCLOSURES
	EGRESS TRAVEL ROUTE





KEY PLAN
SCALE: N.T.S.

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

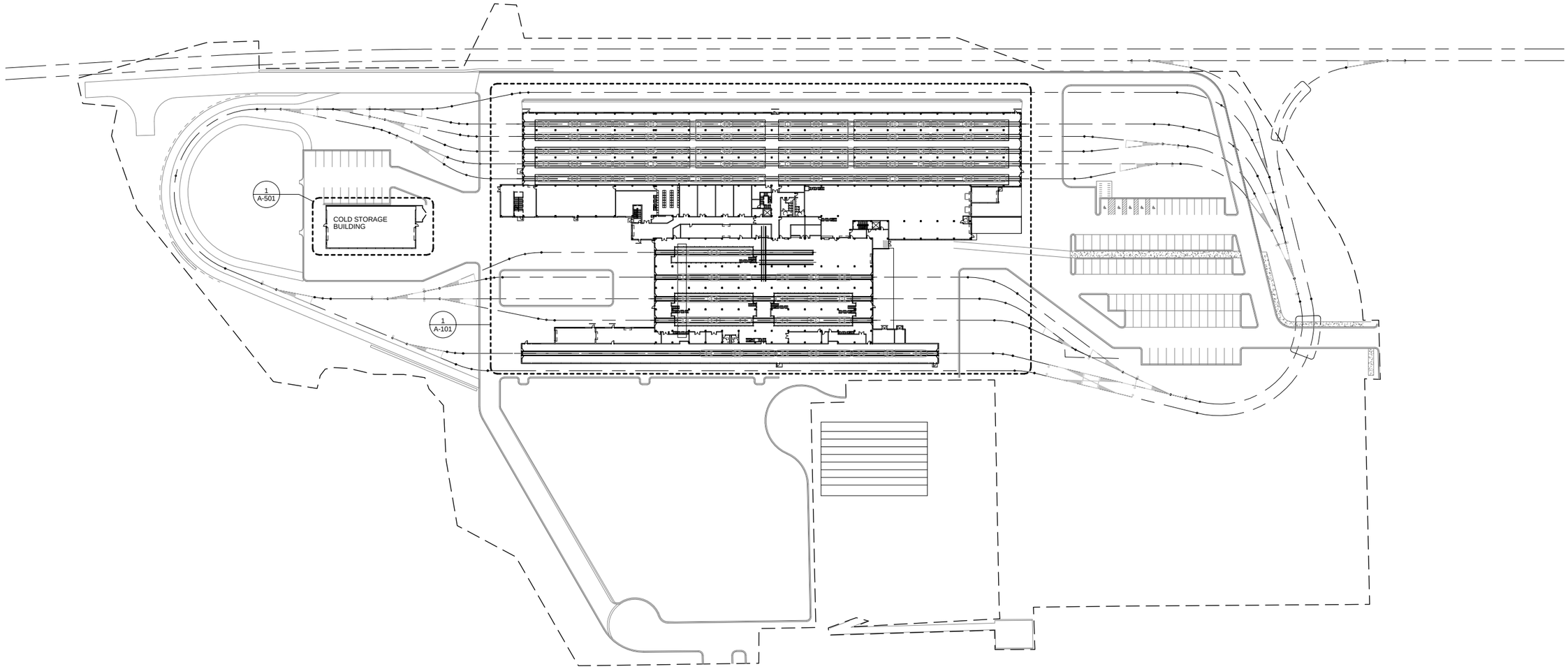
WEST-VOLUME 4 (OMF) ARCHITECTURE 2ND FLOOR - EGRESS PLANS

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-006

SHEET 90 OF 288

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1 A-007 SITE PLAN
SCALE: 1/64" = 1'-0"

NOTE: SEE CIVIL DRAWINGS
FOR SITE INFORMATION

0 32' 64' 128'
1/64" = 1'-0"

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST-VOLUME 4 (OMF)
ARCHITECTURE
SITE PLAN

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-007

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) ARCHITECTURE PERSPECTIVES

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-008

SHEET 92 OF 288

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
ARCHITECTURE
PERSPECTIVES

DISCIPLINE: **ARCHITECTURE**

SHEET NAME: **A-009**

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

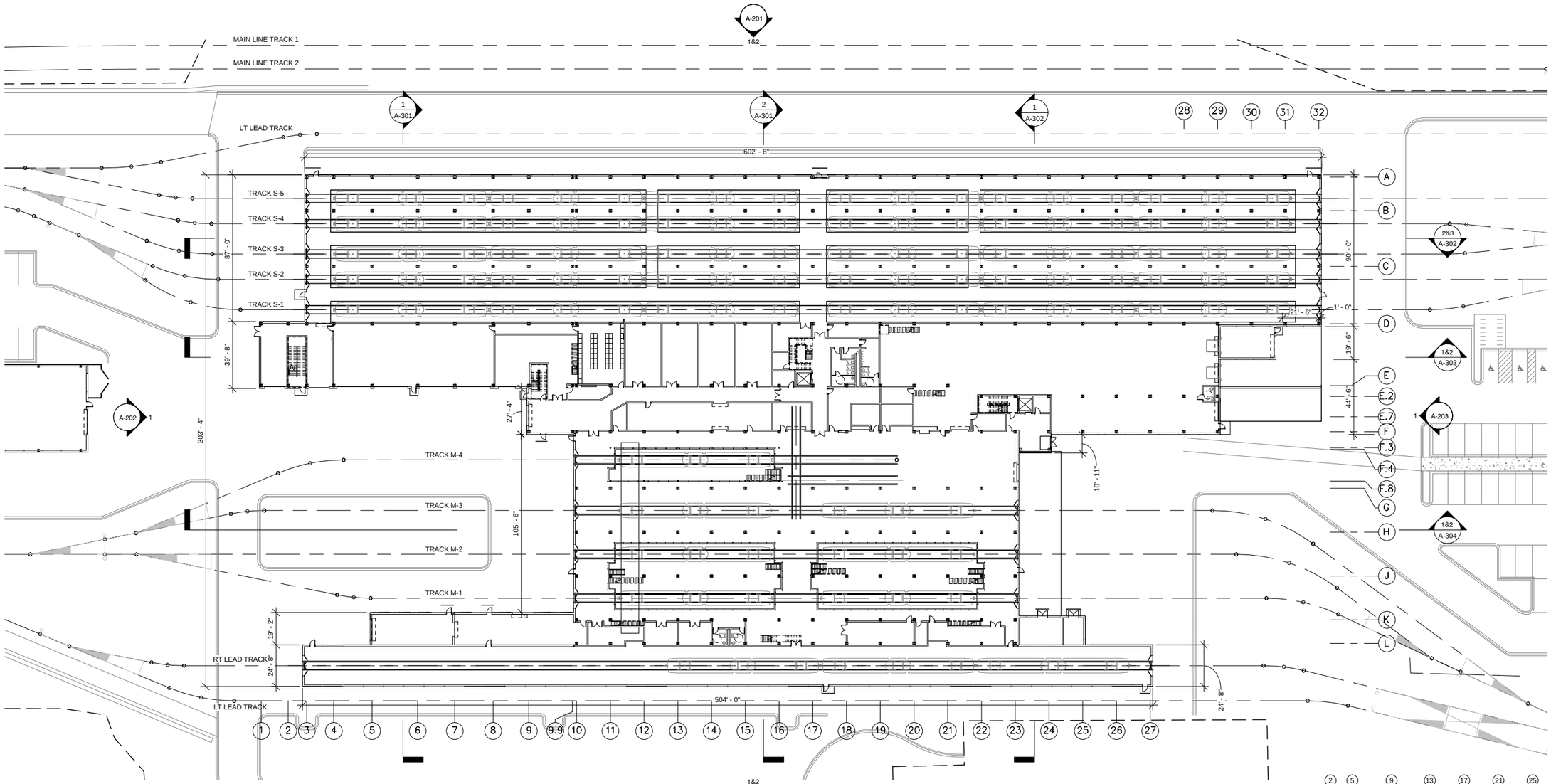
METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
ARCHITECTURE
PERSPECTIVES

DISCIPLINE: **ARCHITECTURE**

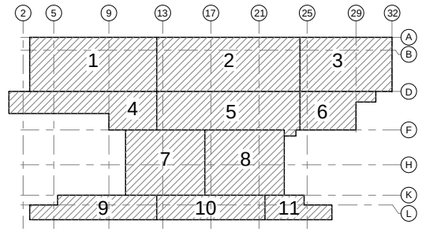
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SHEET 94 OF 288



1 / A-101 OVERALL 1ST FLOOR PLAN
SCALE: 1/32" = 1'-0"

NOTE:
1. SEE PLUMBING DRAWINGS FOR FLOOR DRAINS.
2. SEE ELEVATIONS FOR WINDOW AND TRANSLUCENT PANEL LOCATIONS.



KEY PLAN
SCALE: N.T.S.

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

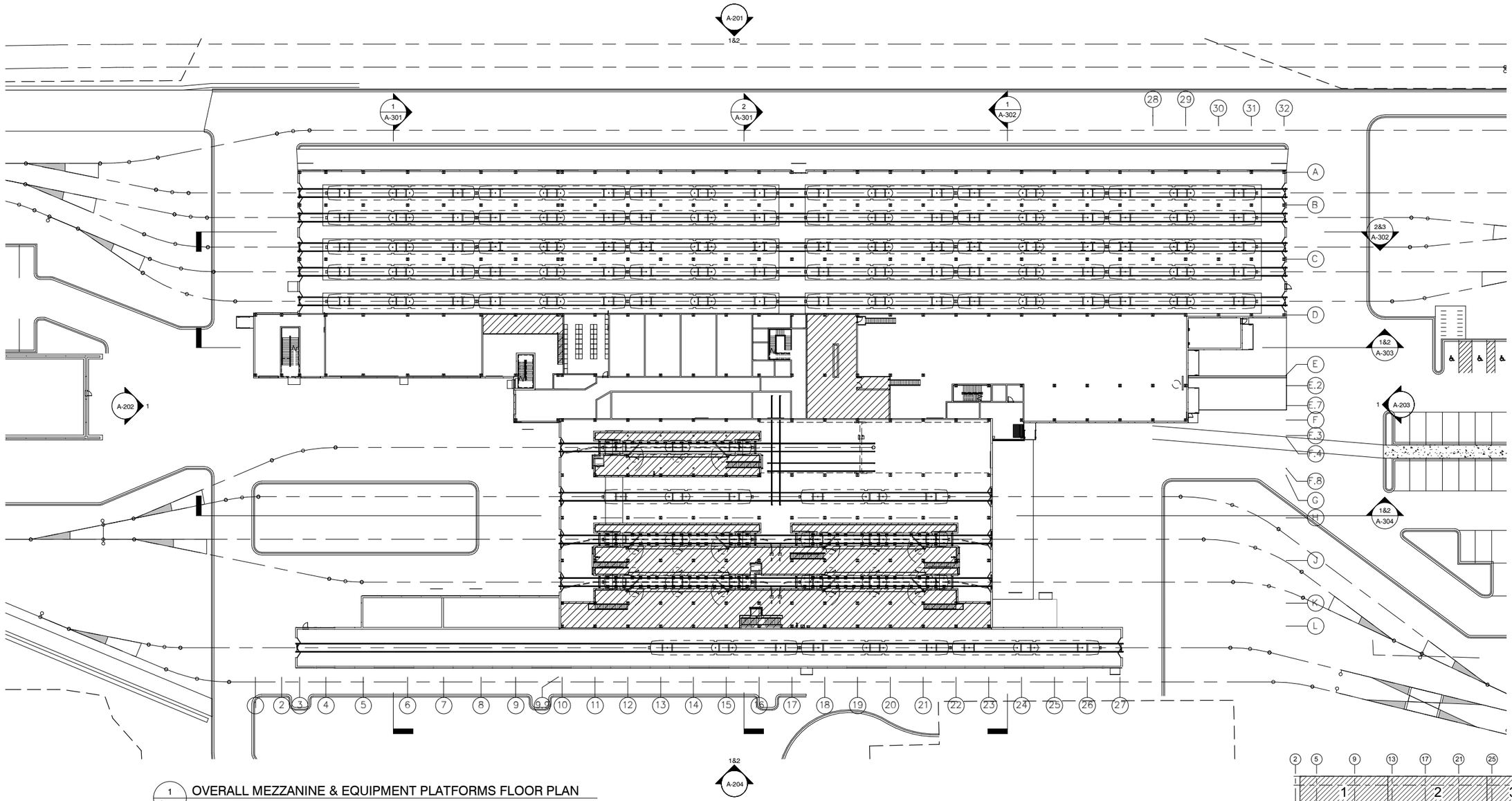
METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST-VOLUME 4 (OMF)
ARCHITECTURE
1ST FLOOR - OVERALL PLAN

DISCIPLINE: ARCHITECTURE
SHEET NAME: A-101

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1 / A-102 OVERALL MEZZANINE & EQUIPMENT PLATFORMS FLOOR PLAN
SCALE: 1/32" = 1'-0"

KEY PLAN
SCALE: N.T.S.

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

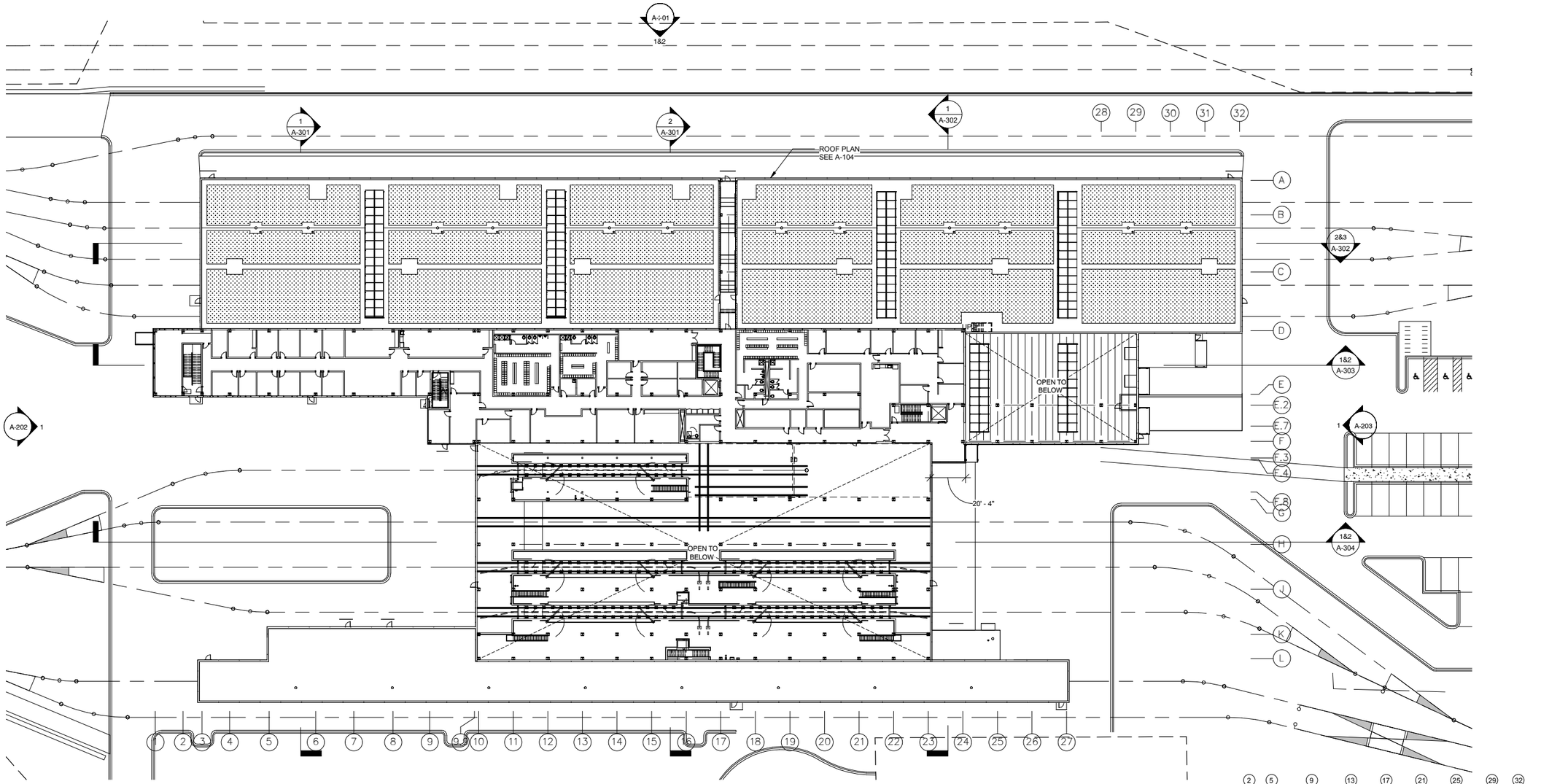
WEST-VOLUME 4 (OMF)
ARCHITECTURE
MEZZANINE FLOOR - OVERALL PLAN

DISCIPLINE: ARCHITECTURE

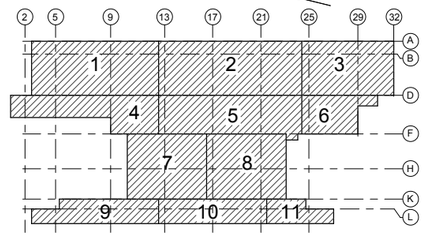
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1 A-103 OVERALL SECOND FLOOR PLAN
SCALE: 1/32" = 1'-0"



KEY PLAN
SCALE: N.T.S.

0 16' 32' 64'
HORIZONTAL
SCALE IN FEET

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

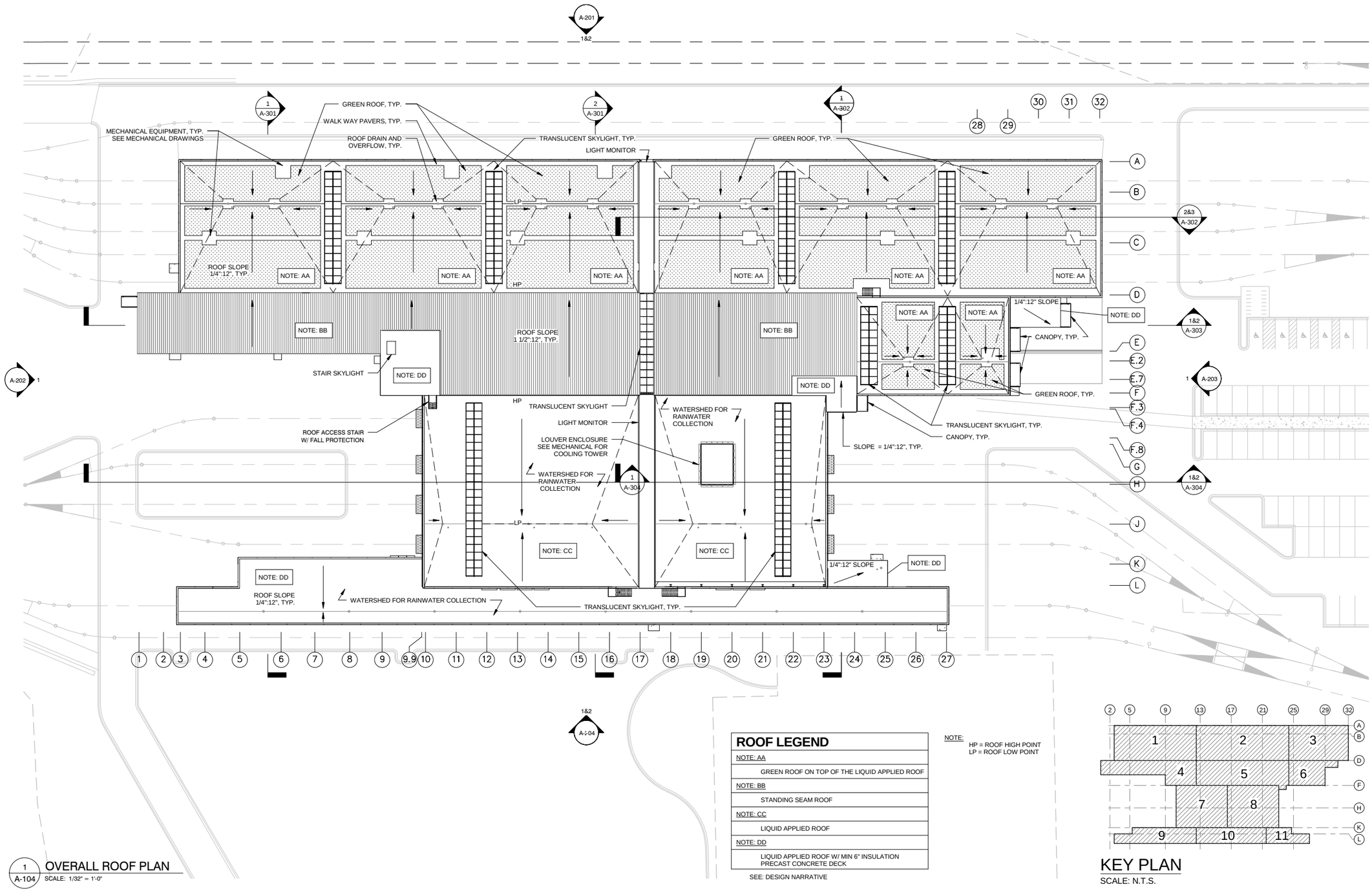
WEST-VOLUME 4 (OMF)
ARCHITECTURE
2ND FLOOR - OVERALL PLAN

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-103

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0 16' 32' 64'
HORIZONTAL
SCALE IN FEET

1 A-104 OVERALL ROOF PLAN
SCALE: 1/32" = 1'-0"

ROOF LEGEND
NOTE: AA
GREEN ROOF ON TOP OF THE LIQUID APPLIED ROOF
NOTE: BB
STANDING SEAM ROOF
NOTE: CC
LIQUID APPLIED ROOF
NOTE: DD
LIQUID APPLIED ROOF W/ MIN 6" INSULATION PRECAST CONCRETE DECK

SEE: DESIGN NARRATIVE

NOTE:
HP = ROOF HIGH POINT
LP = ROOF LOW POINT

KEY PLAN
SCALE: N.T.S.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM
sowinskisullivan ARCHITECTS
PRELIMINARY ENGINEERING

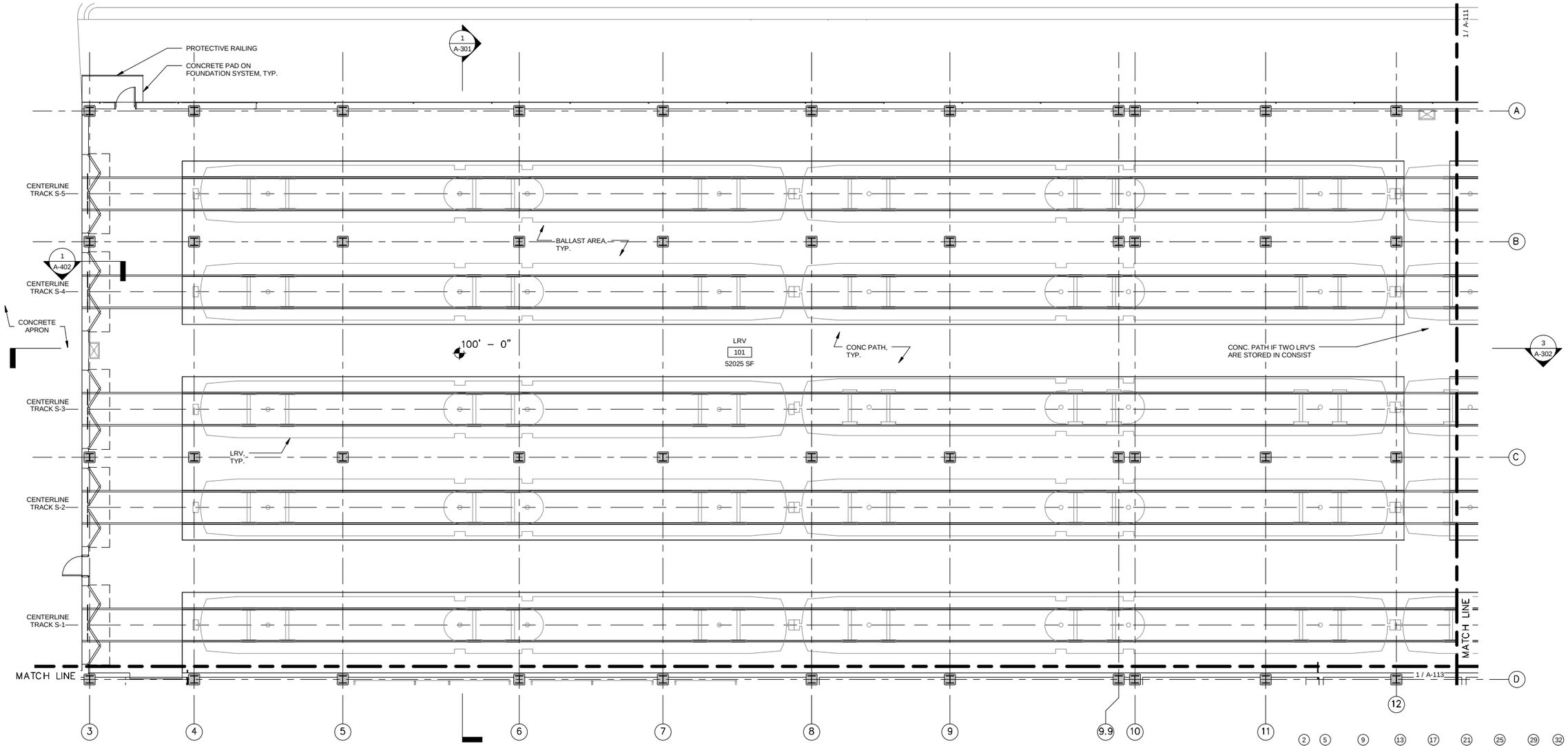
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 4 (OMF) ARCHITECTURE
ROOF PLAN - OVERALL PLAN

DISCIPLINE: ARCHITECTURE
SHEET NAME: A-104

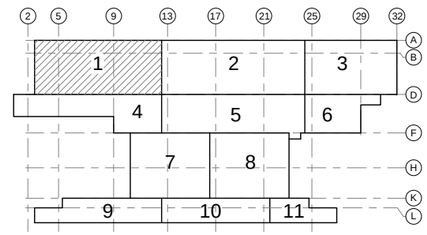
SHEET 98 OF 288

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1 A-110 ENLARGED 1ST FLOOR PLAN - 1

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



KEY PLAN

SCALE: N.T.S.

0 4' 8' 16'

HORIZONTAL

SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

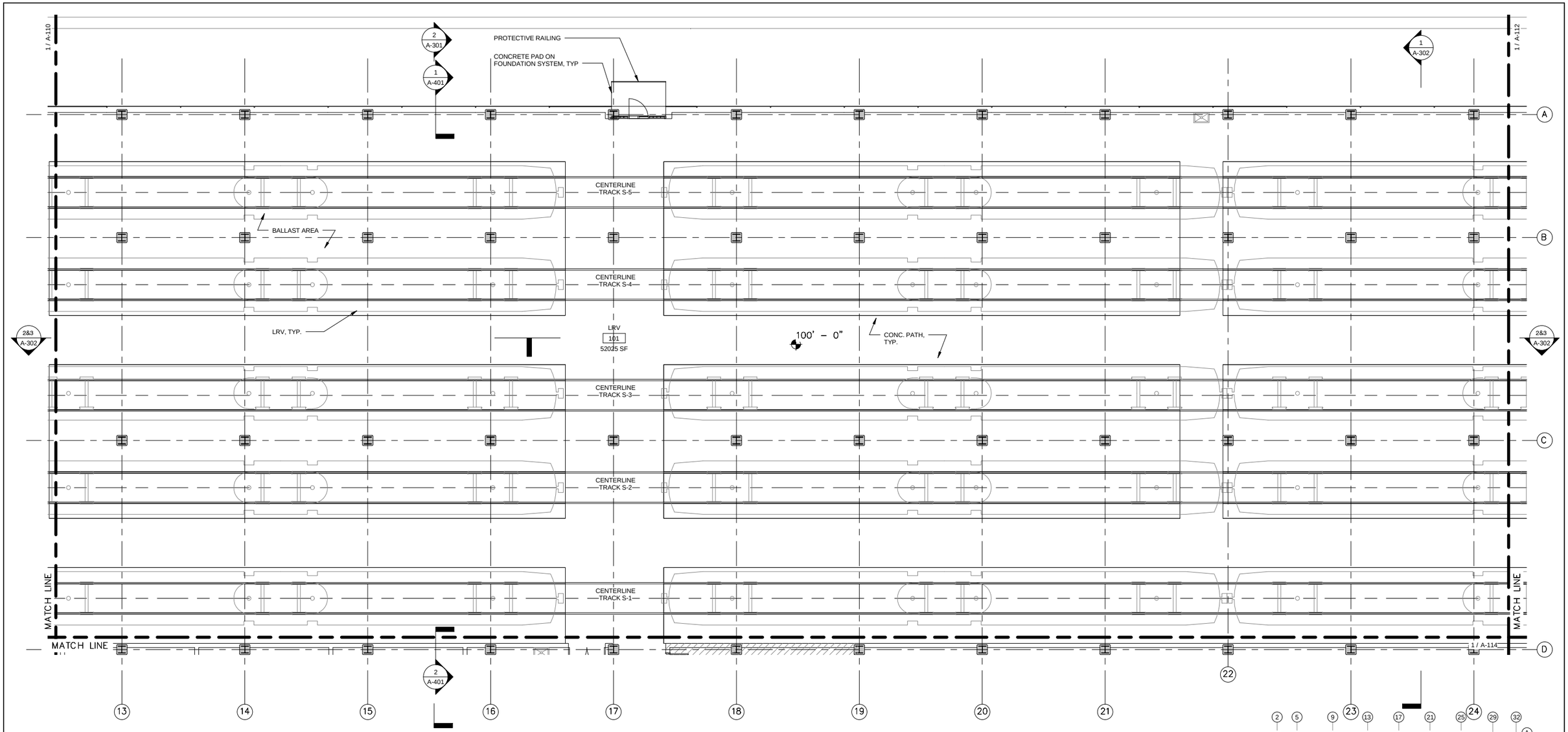
WEST-VOLUME 4 (OMF) ARCHITECTURE 1ST FLOOR - AREA 1

DISCIPLINE: ARCHITECTURE

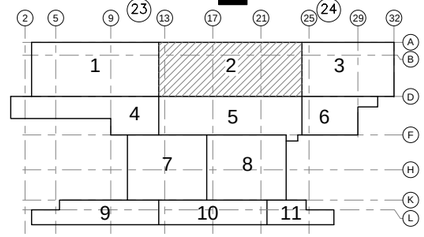
SHEET NAME: A-110

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1 ENLARGED 1ST FLOOR PLAN - 2
A-111 SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

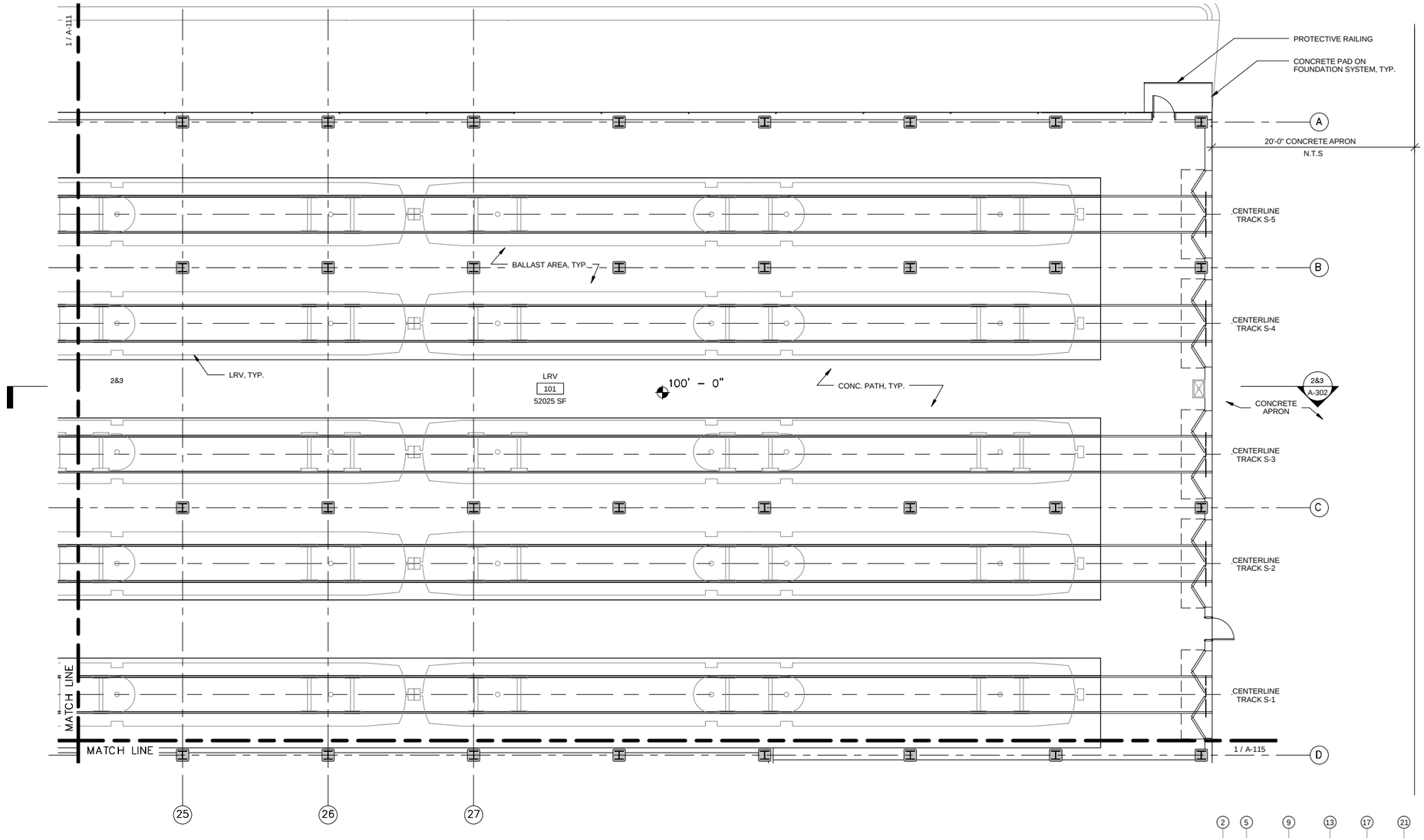
WEST-VOLUME 4 (OMF) ARCHITECTURE 1ST FLOOR- AREA 2

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-111

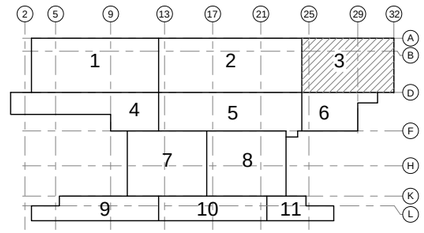
SHEET 100 OF 288

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1 A-112 ENLARGED 1ST FLOOR PLAN - 3

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



KEY PLAN

SCALE: N.T.S.

0 4' 8' 16'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

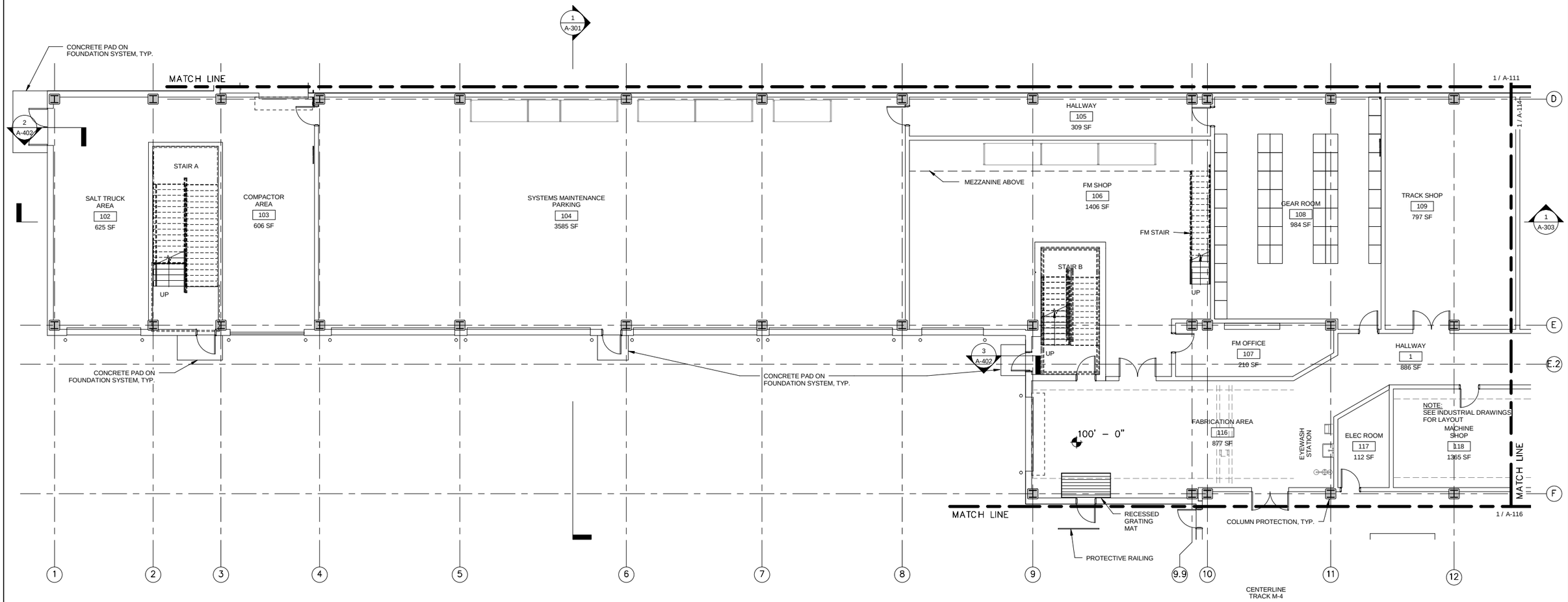
WEST-VOLUME 4 (OMF)
ARCHITECTURE
1ST FLOOR- AREA 3

DISCIPLINE: ARCHITECTURE

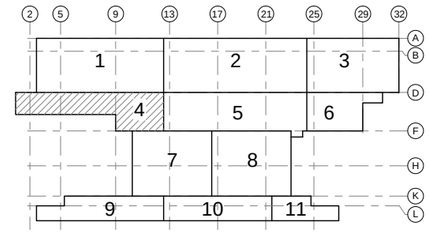
SHEET NAME: A-112

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1 A-113 ENLARGED 1ST FLOOR PLAN - 4
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

0 4' 8' 16'
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

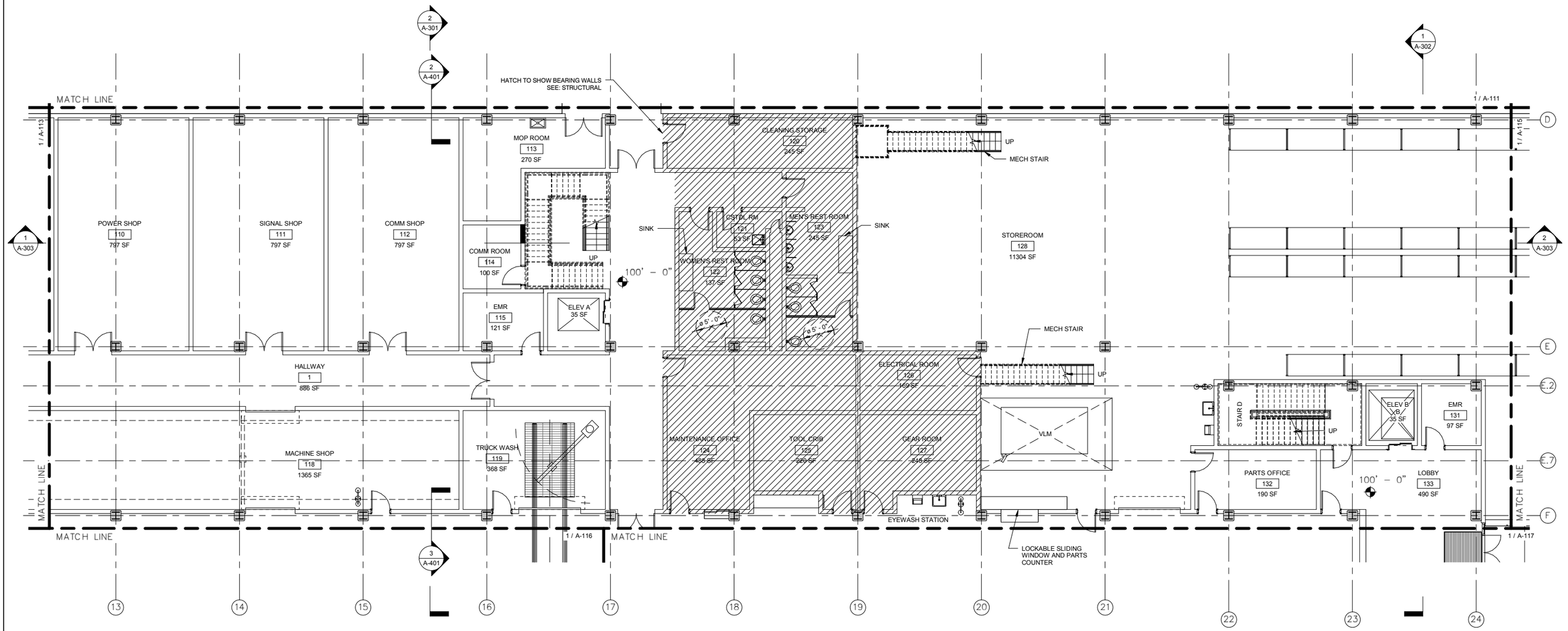
WEST-VOLUME 4 (OMF) ARCHITECTURE
1ST FLOOR- AREA 4

DISCIPLINE: ARCHITECTURE

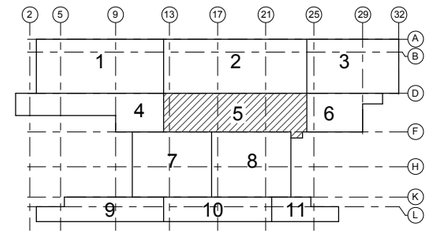
SHEET NAME: A-113

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1 A-114 ENLARGED 1ST FLOOR PLAN - 5
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

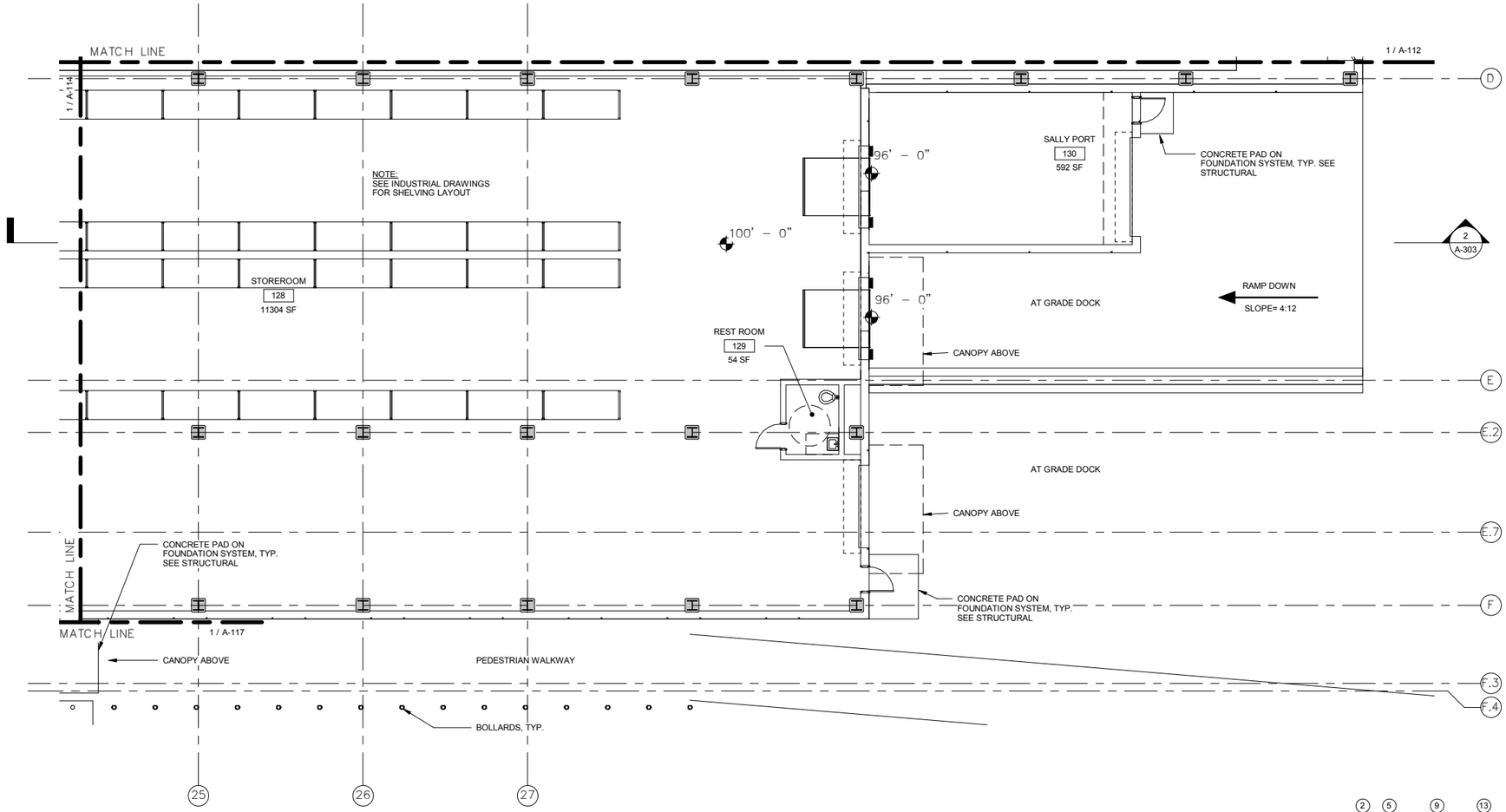
WEST-VOLUME 4 (OMF) ARCHITECTURE 1ST FLOOR- AREA 5

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-114

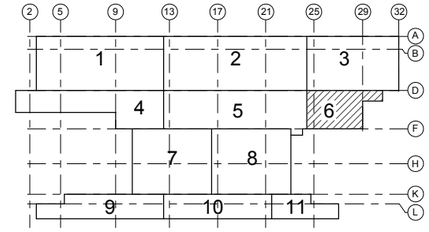
SHEET 103 OF 288

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1 / A-115 ENLARGED 1ST FLOOR PLAN - 6

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



KEY PLAN

SCALE: N.T.S.

0 4' 8' 16'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

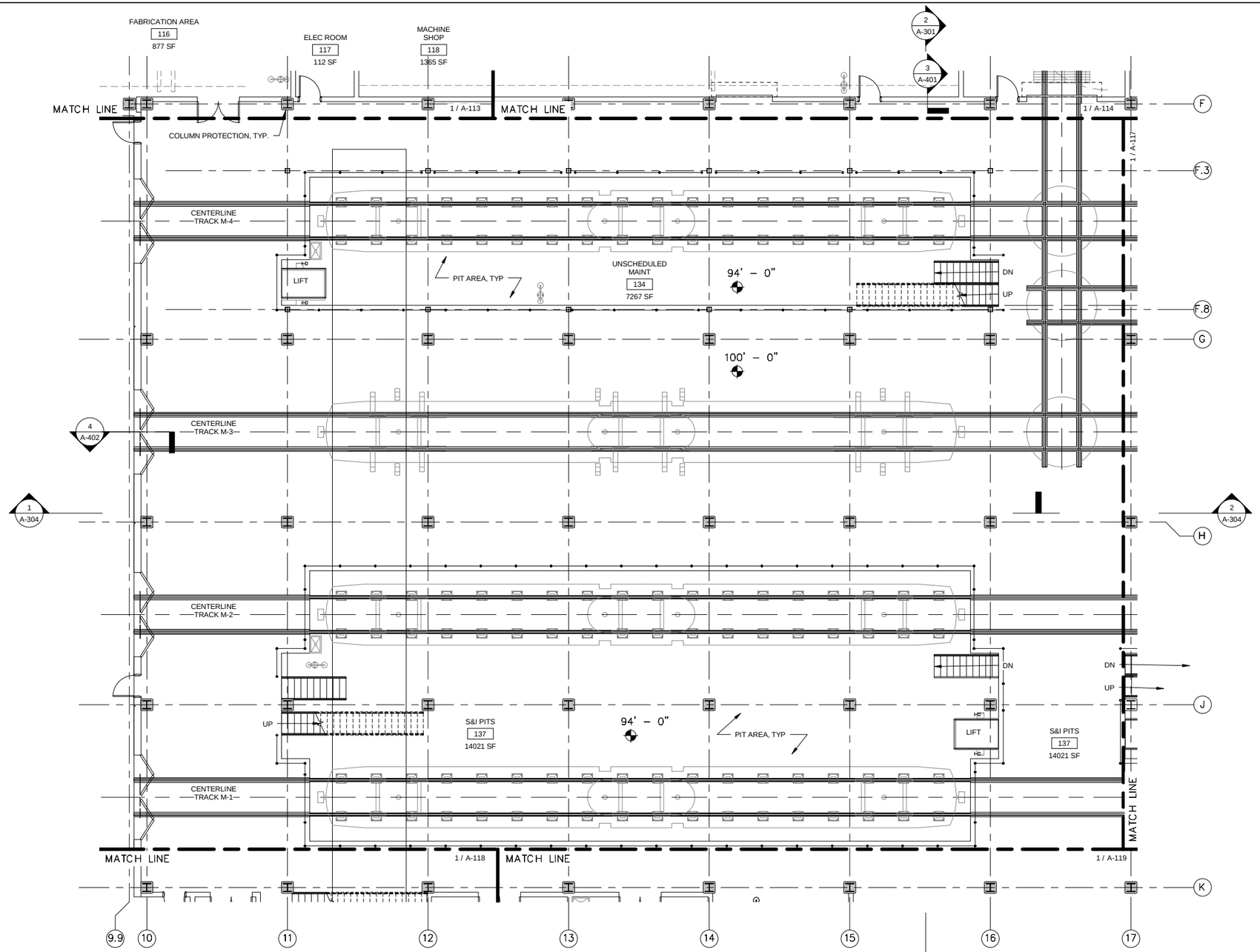
WEST-VOLUME 4 (OMF) ARCHITECTURE 1ST FLOOR- AREA 6

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-115

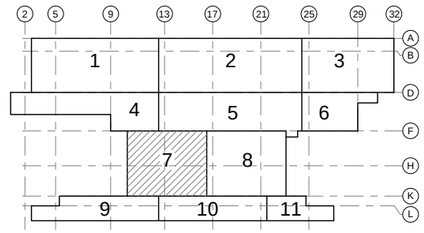
SHEET 104 OF 288

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1 / A-116 ENLARGED 1ST FLOOR PLAN - 7
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
HORIZONTAL SCALE IN FEET



KEY PLAN
SCALE: N.T.S.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

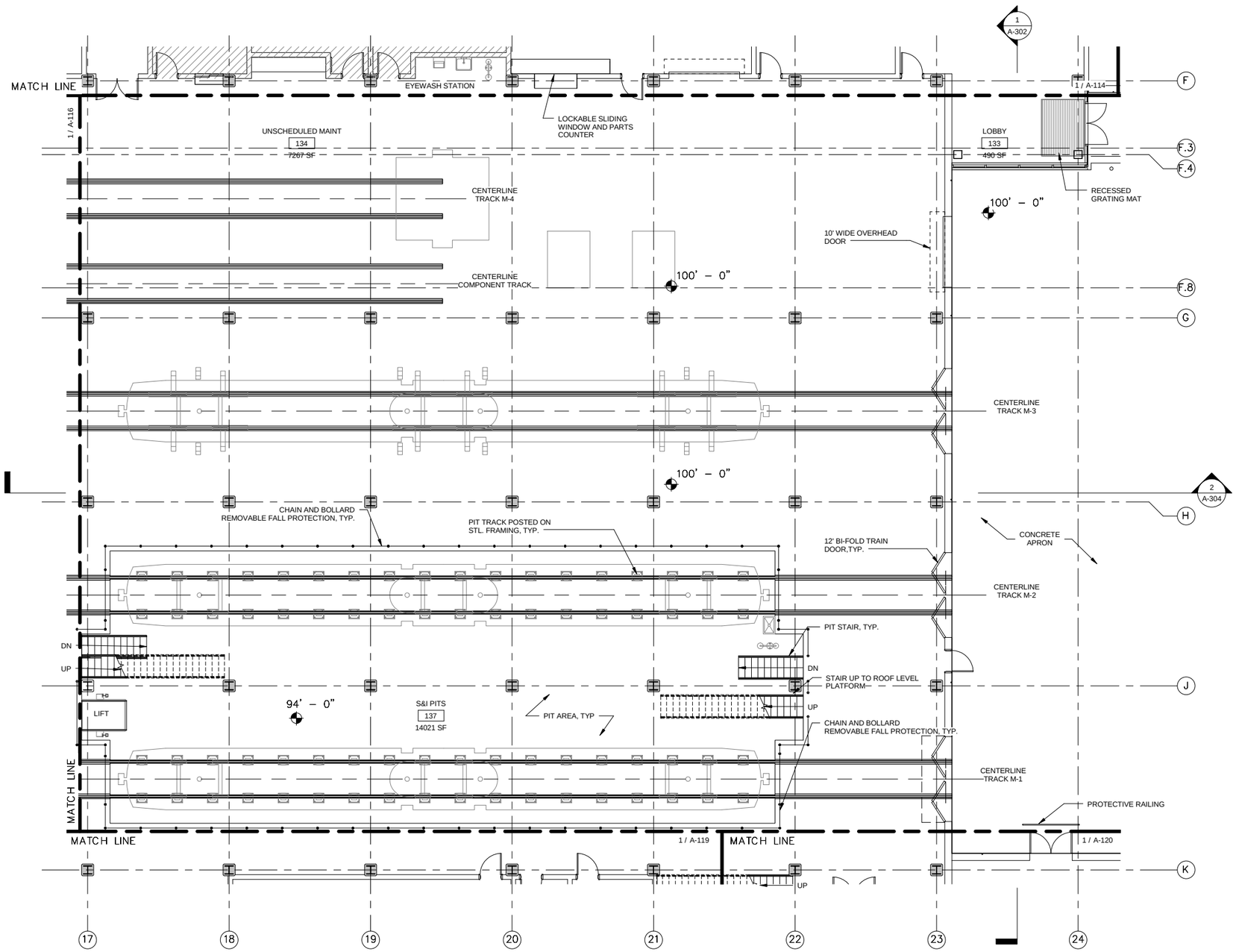
WEST-VOLUME 4 (OMF) ARCHITECTURE
1ST FLOOR- AREA 7

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-116

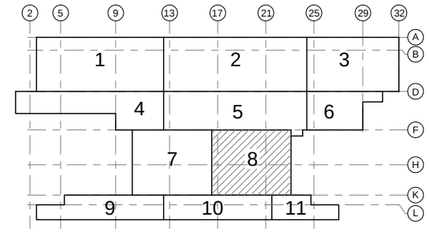
SHEET 105 OF 288

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1 A-117 ENLARGED 1ST FLOOR PLAN - 8
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET



KEY PLAN
SCALE: N.T.S.

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AECOM
sowinskisullivan ARCHITECTS
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

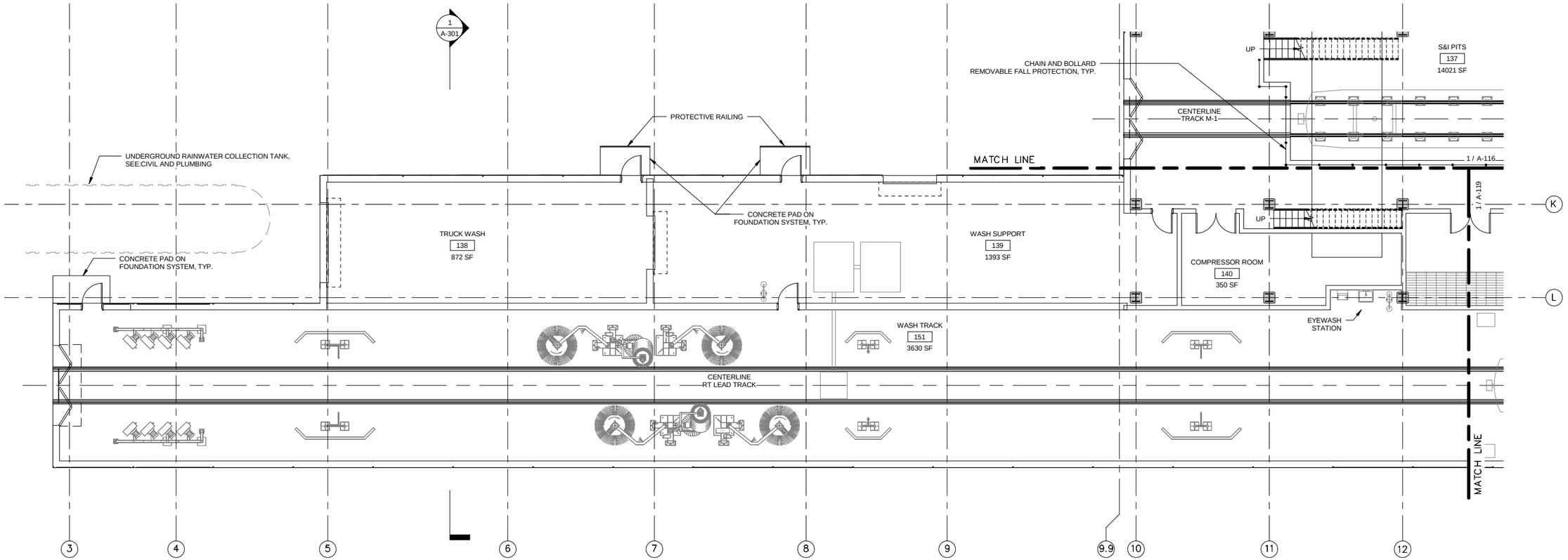
PRELIMINARY ENGINEERING

WEST-VOLUME 4 (OMF) ARCHITECTURE
1ST FLOOR- AREA 8

DISCIPLINE: ARCHITECTURE
SHEET NAME: A-117

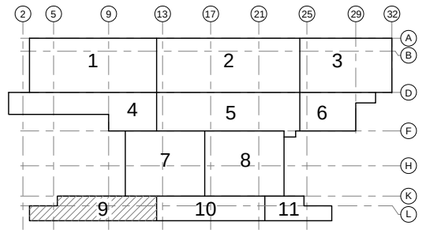
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1 / A-118 ENLARGED 1ST FLOOR PLAN - 9

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



KEY PLAN

SCALE: N.T.S.

0 4' 8' 16'

HORIZONTAL SCALE IN FEET

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

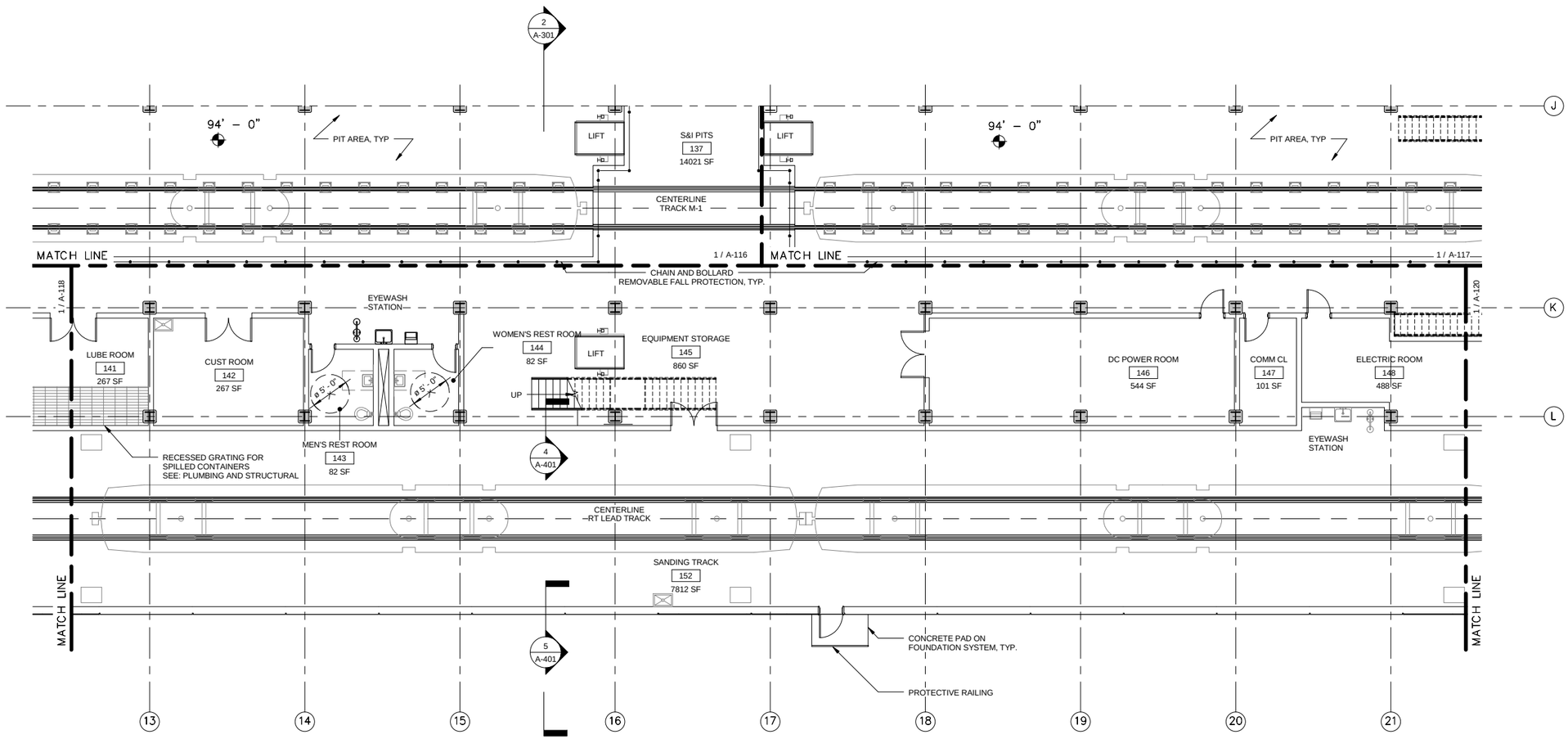
WEST-VOLUME 4 (OMF) ARCHITECTURE
1ST FLOOR- AREA 9

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-118

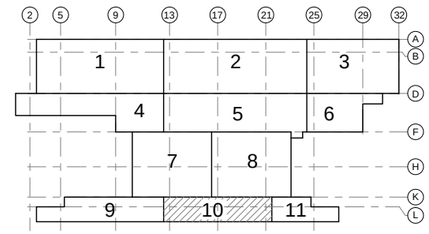
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1 A-119 ENLARGED 1ST FLOOR PLAN - 10

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



KEY PLAN

SCALE: N.T.S.

0 4' 8' 16'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

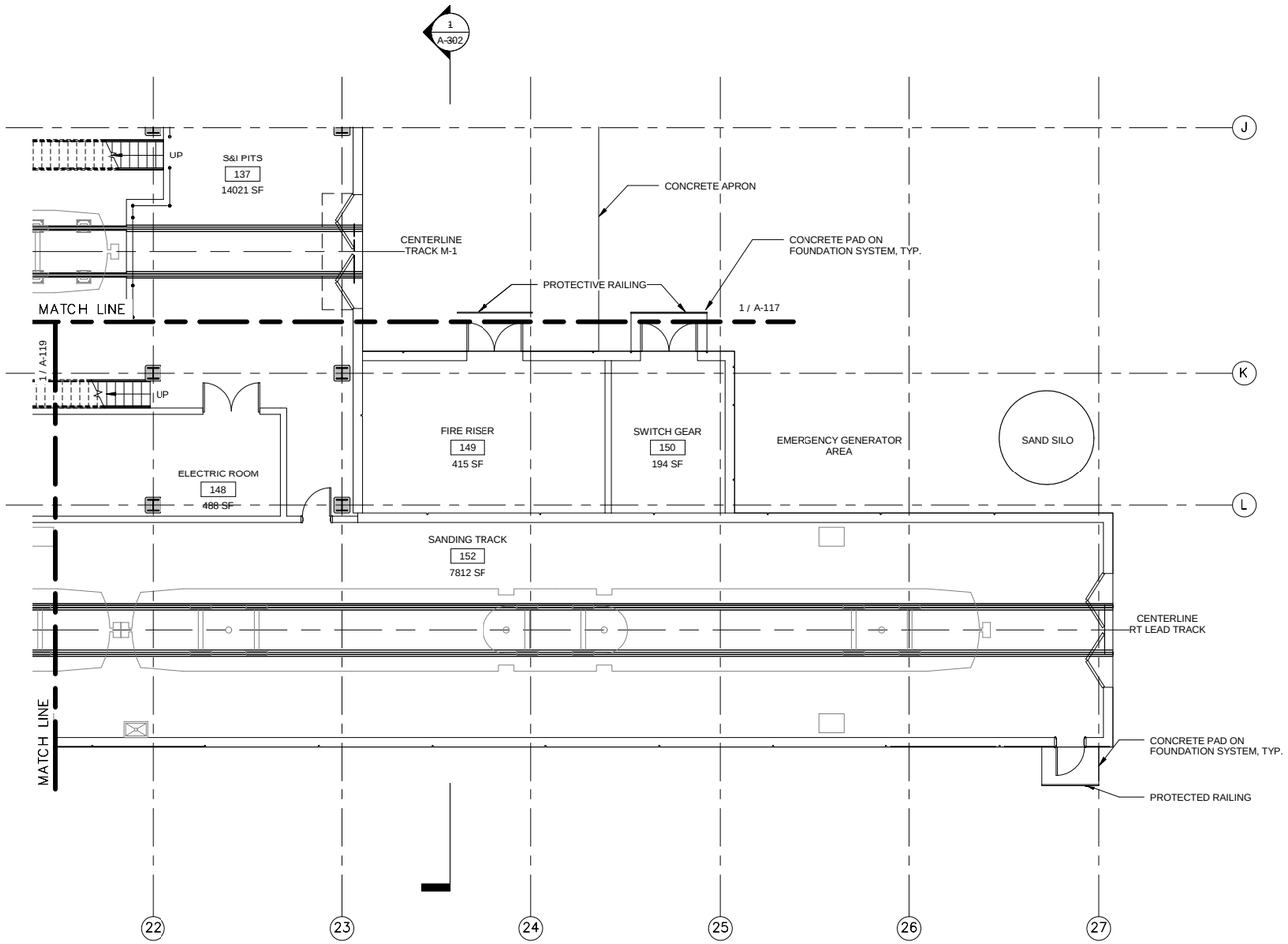
WEST-VOLUME 4 (OMF) ARCHITECTURE
1ST FLOOR- AREA 10

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-119

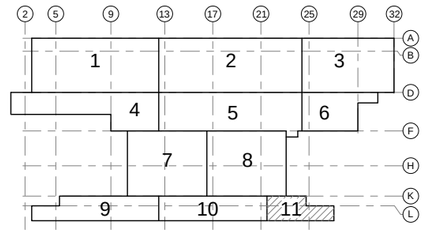
SHEET 108 OF 288

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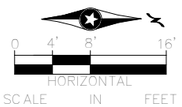
1 / A-120 ENLARGED 1ST FLOOR PLAN - 11

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



KEY PLAN

SCALE: N.T.S.



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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

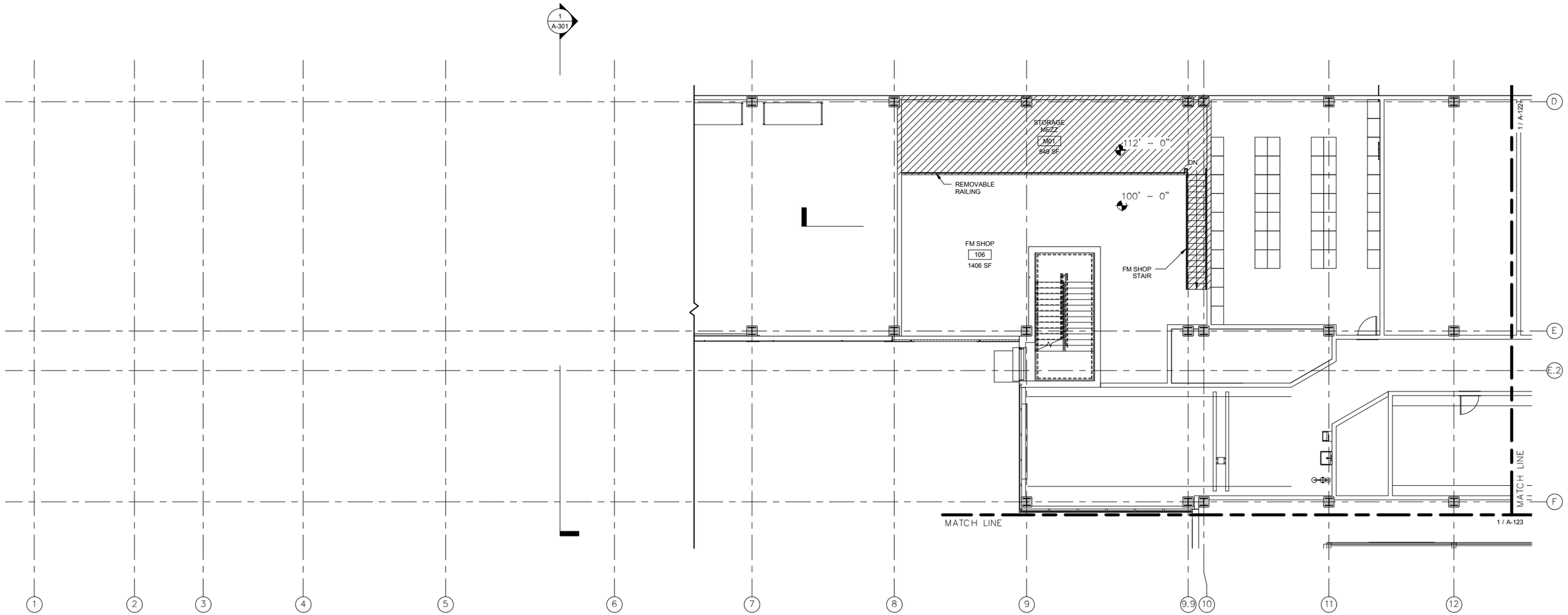
WEST-VOLUME 4 (OMF) ARCHITECTURE
1ST FLOOR- AREA 11

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-120

SHEET 109 OF 288

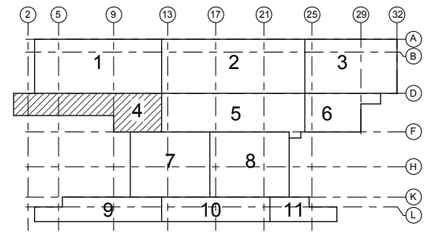
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1 / A-121 ENLARGED MEZZANINE FLOOR PLAN - 4

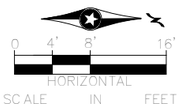
SCALE: 1/8" = 1'-0"

MEZZANINE AREA CALCULATIONS
MEZZ AREA = 549 SF FM SHOP = 1702 SF THE MEZZ PERCENTAGE OF THE FM SHOP = %32



KEY PLAN

SCALE: N.T.S.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

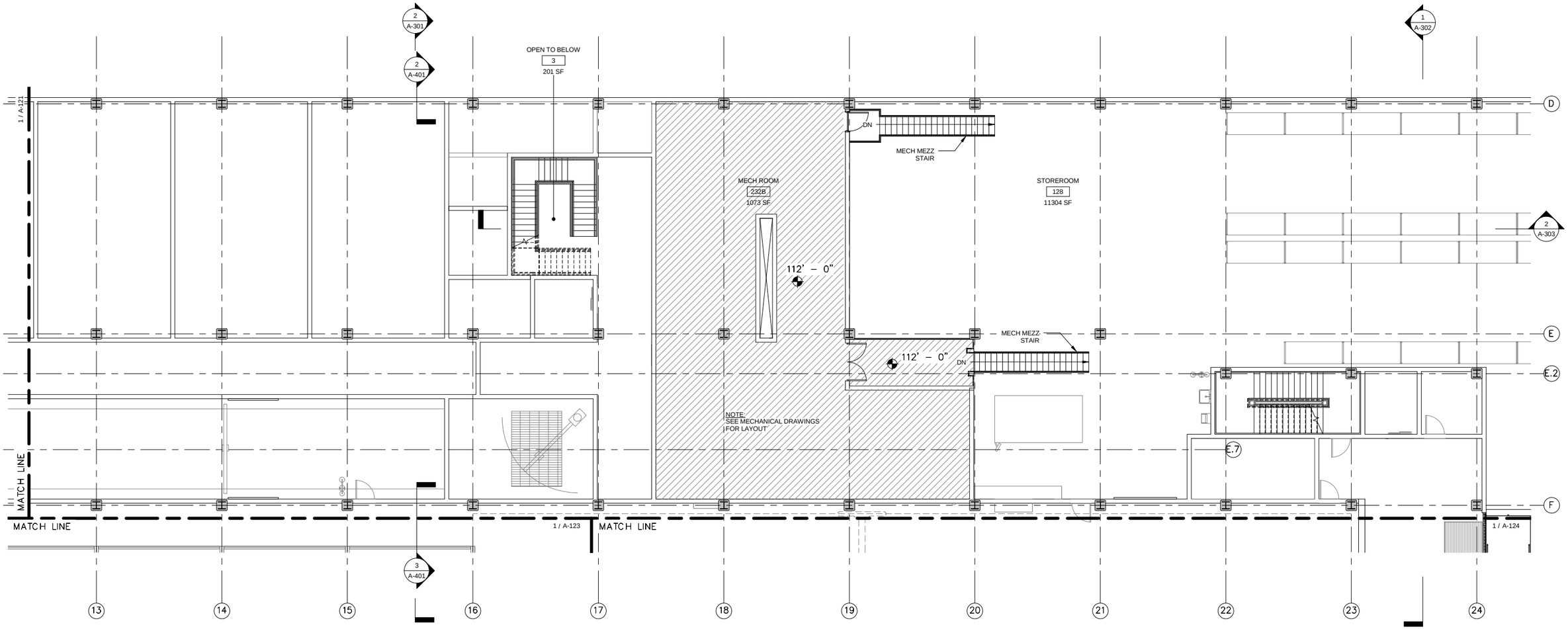
WEST-VOLUME 4 (OMF) ARCHITECTURE
MEZZ FLOOR- AREA 4

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-121

SHEET 110 OF 288

6/30/2014 4:32:42 PM C:\Users\kkrozser\Documents\OMF_kkrozser.rvt



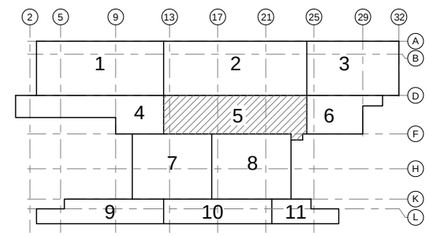
1 / A-122 ENLARGED MEZZANINE FLOOR PLAN - 5

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

0 4' 8' 16'

HORIZONTAL

SCALE IN FEET



KEY PLAN

SCALE: N.T.S.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

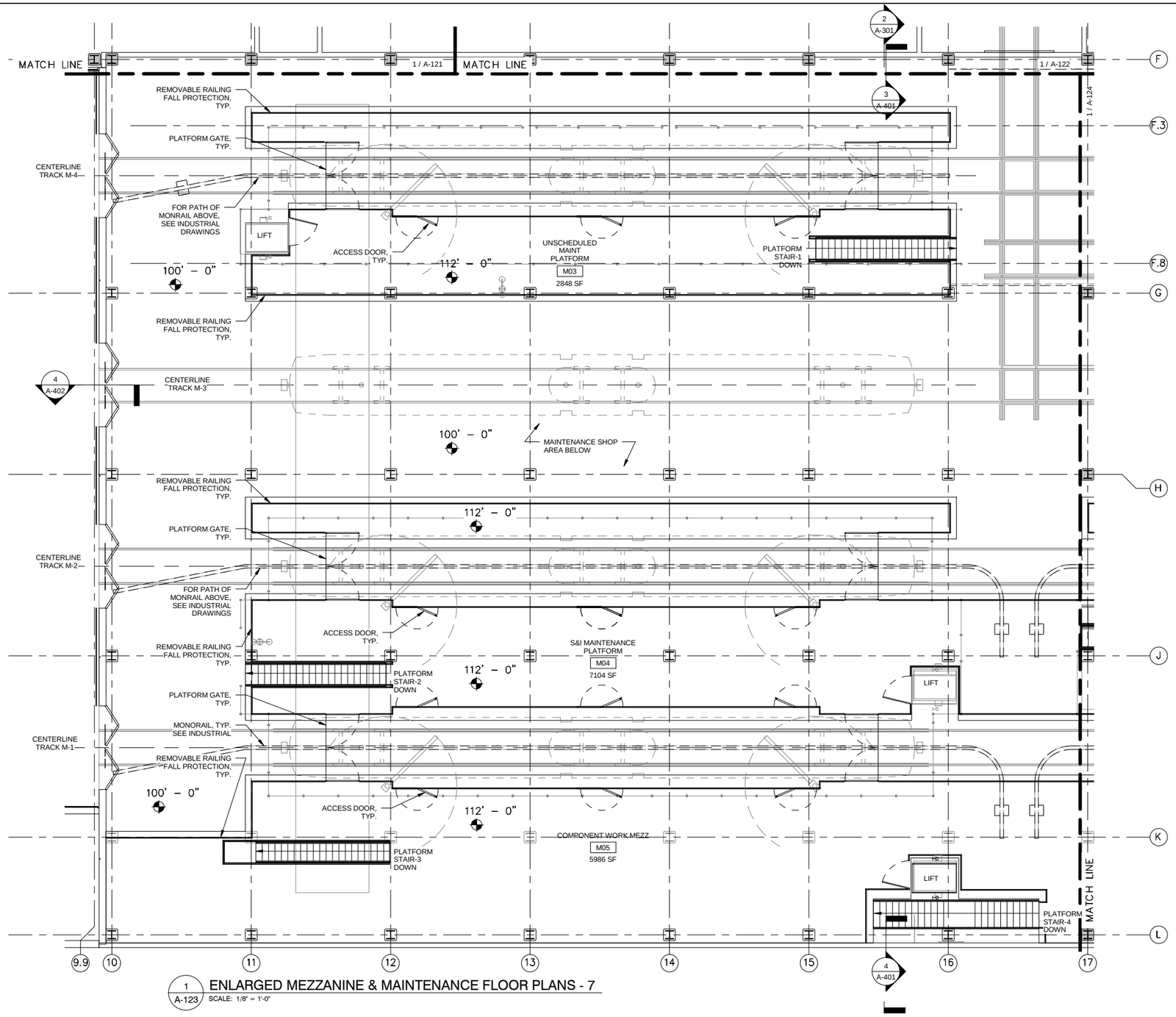
WEST-VOLUME 4 (OMF)
ARCHITECTURE
MEZZ FLOOR- AREA 5

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-122

SHEET 111 OF 288

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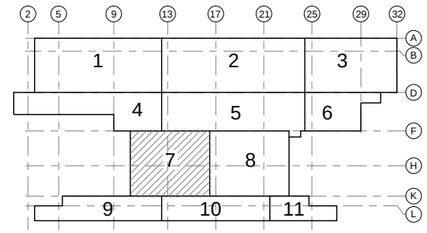


1 / A-123 ENLARGED MEZZANINE & MAINTENANCE FLOOR PLANS - 7

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

0 4' 8' 16'

HORIZONTAL SCALE IN FEET



KEY PLAN

SCALE: N.T.S.

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

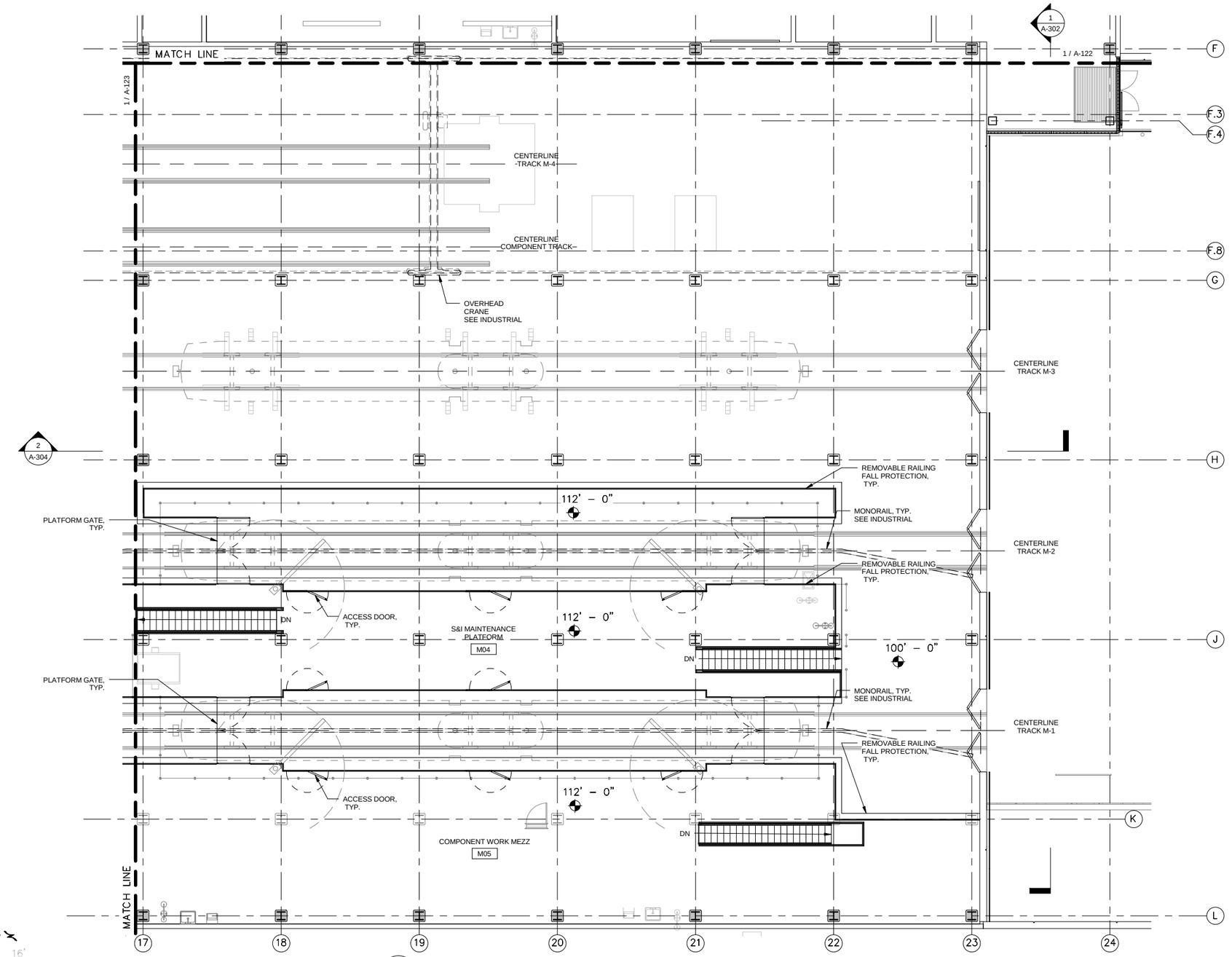
WEST-VOLUME 4 (OMF) ARCHITECTURE MEZZ FLOOR- AREA 7

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-123

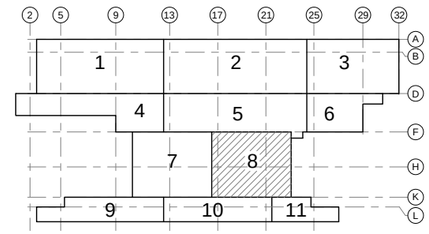
SHEET 112 OF 288

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1 A-124 ENLARGED MEZZANINE FLOOR PLAN - 8
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET



KEY PLAN
SCALE: N.T.S.

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PRELIMINARY ENGINEERING

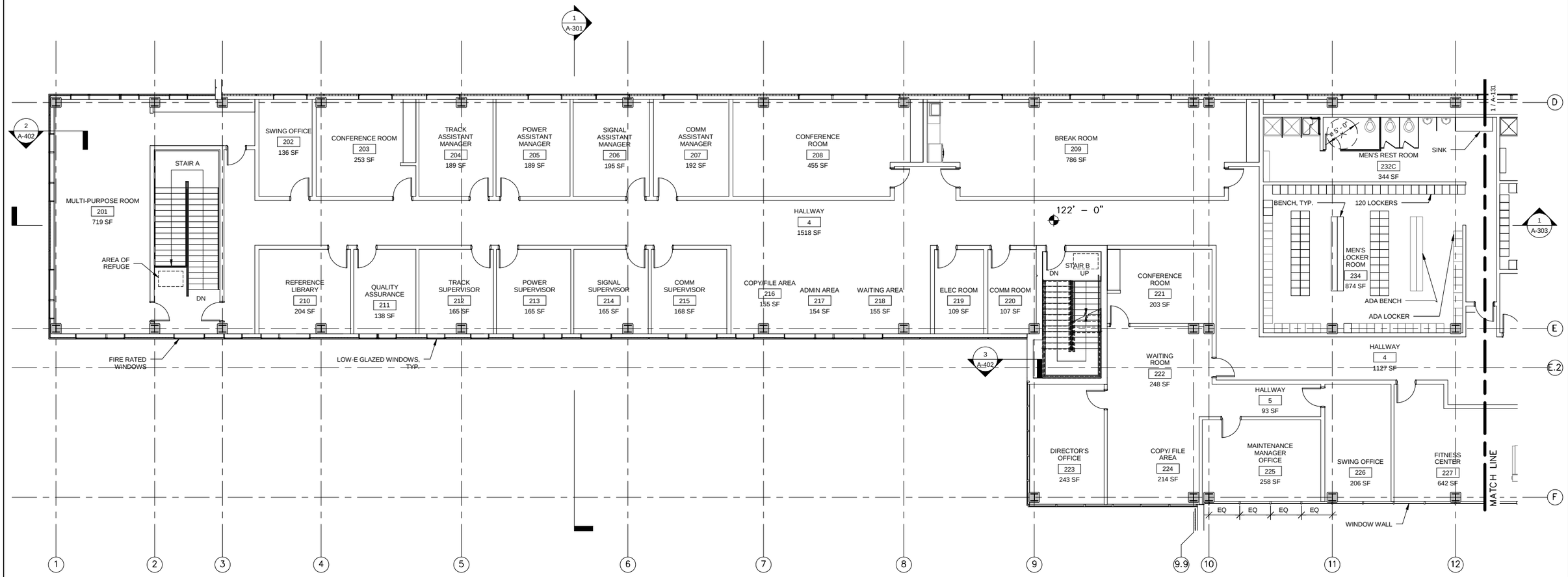
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 4 (OMF) ARCHITECTURE
MEZZ FLOOR- AREA 8

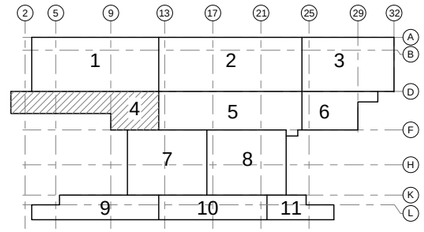
DISCIPLINE: ARCHITECTURE
SHEET NAME: A-124

SHEET 113 OF 288

8/26/2014 9:29:50 AM C:\Users\MurphysTSDocuments\OMF_murphys.rvt



1 A-130 ENLARGED SECOND FLOOR PLAN - 4
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM
sowinskisullivan ARCHITECTS
PRELIMINARY ENGINEERING

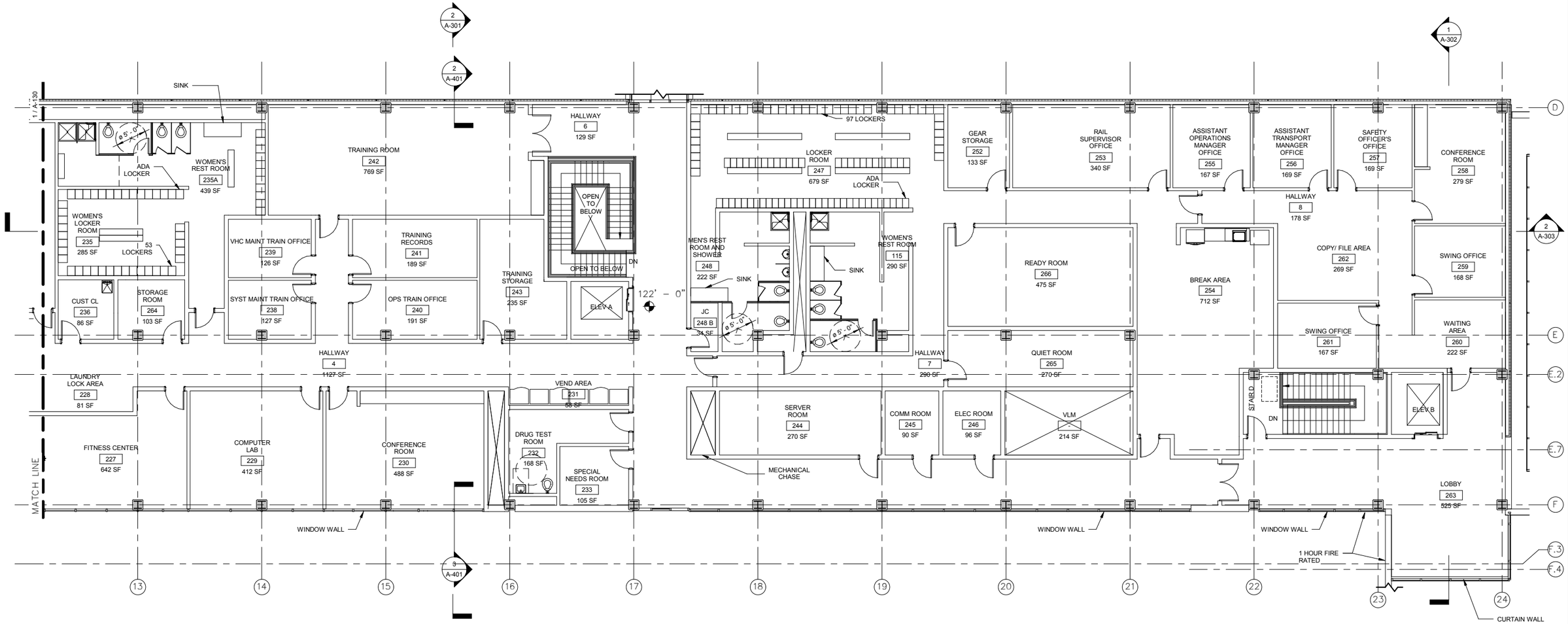
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 4 (OMF) ARCHITECTURE 2ND FLOOR- AREA 4

DISCIPLINE: ARCHITECTURE
SHEET NAME: A-130

SHEET 114 OF 288

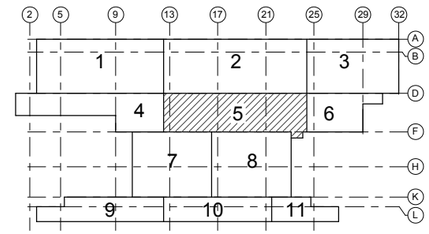
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1 A-131 ENLARGED SECOND FLOOR PLAN - 5

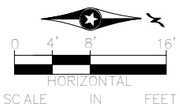
SCALE: 1/8" = 1'-0"

REF. SHEET: A-201 / REF. DETAIL: 1



KEY PLAN

SCALE: N.T.S.



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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

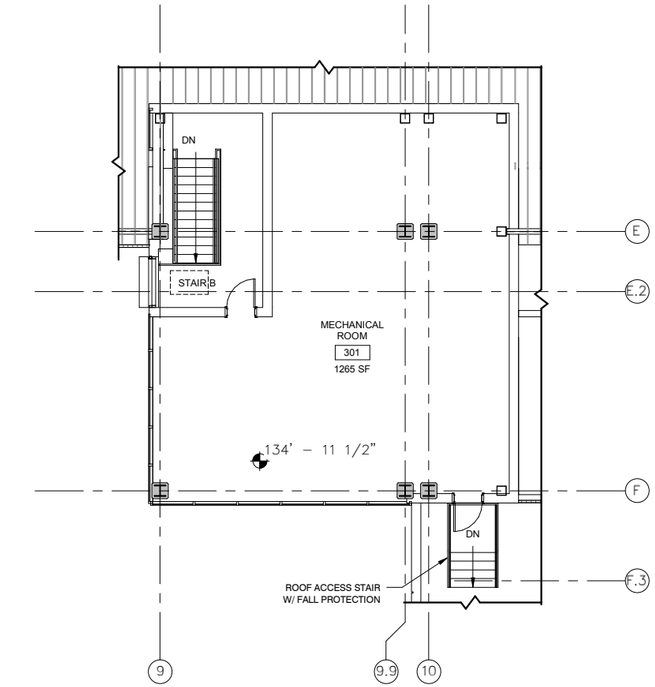
WEST-VOLUME 4 (OMF) ARCHITECTURE 2ND FLOOR- AREA 5

DISCIPLINE: ARCHITECTURE

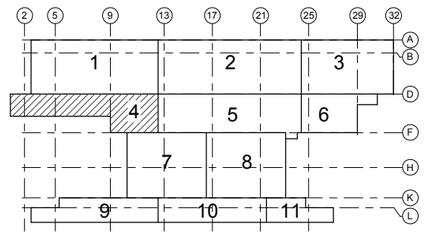
SHEET NAME: A-131

SHEET 115 OF 288

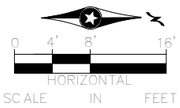
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1 / A-140 ENLARGED THIRD FLOOR PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

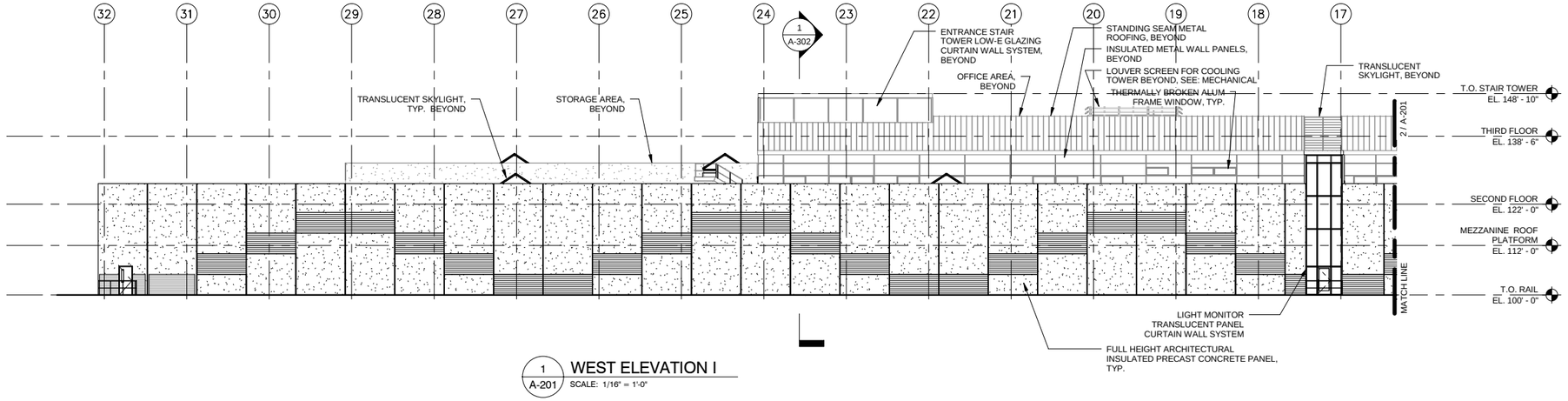
METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
ARCHITECTURE
3RD FLOOR- AREA 4

DISCIPLINE: ARCHITECTURE
SHEET NAME: A-140

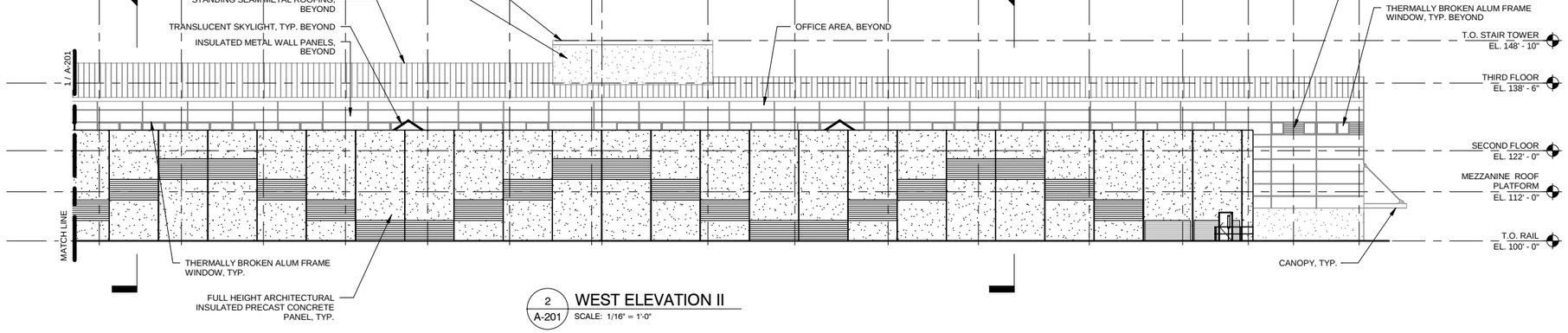
SHEET 116 OF 288

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1 A-201 WEST ELEVATION I

SCALE: 1/16" = 1'-0"



2 A-201 WEST ELEVATION II

SCALE: 1/16" = 1'-0"

ELEVATION 100'-0" = TOP OF RAIL
TOP OF RAIL = 908.64'

0 8' 16' 32'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

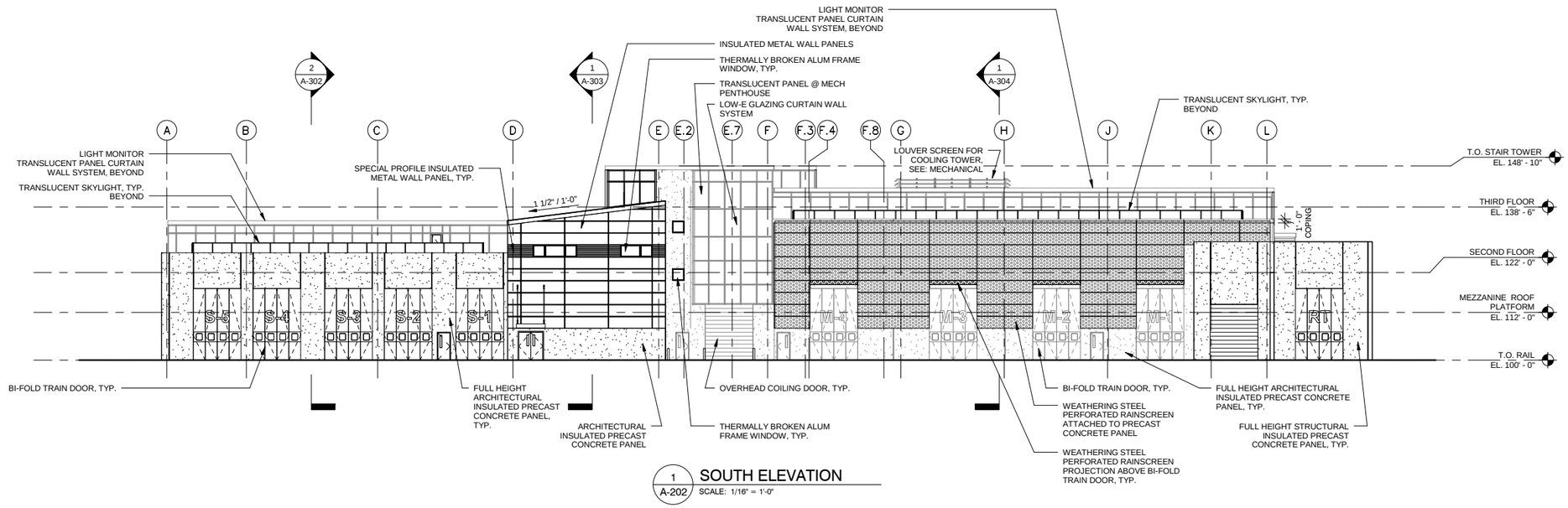
WEST-VOLUME 4 (OMF) ARCHITECTURE WEST - ELEVATION

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-201

SHEET 117 OF 288

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1 A-202 SOUTH ELEVATION
SCALE: 1/16" = 1'-0"

ELEVATION 100'-0" = TOP OF RAIL
TOP OF RAIL = 908.64'

0 8' 16' 32'
HORIZONTAL SCALE IN FEET

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

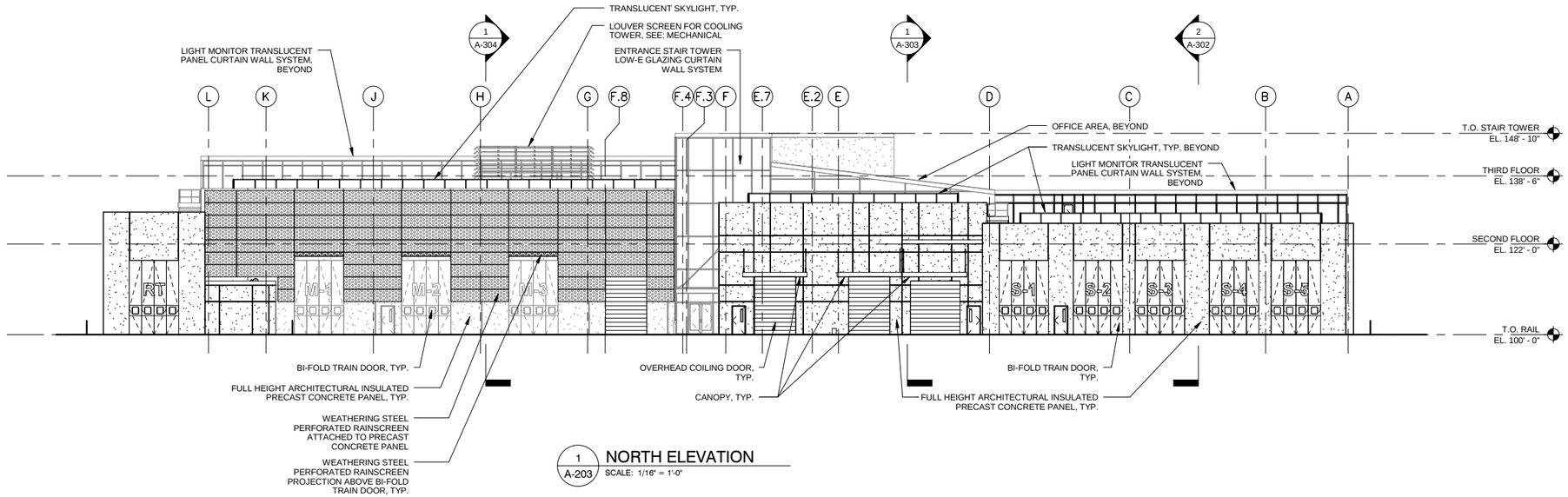
METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST-VOLUME 4 (OMF) ARCHITECTURE SOUTH - ELEVATION

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-202

SHEET 118 OF 288



1 A-203 NORTH ELEVATION
SCALE: 1/16" = 1'-0"

ELEVATION 100'-0" = TOP OF RAIL
TOP OF RAIL = 908.64'

0 8' 16' 32'
HORIZONTAL
SCALE IN FEET

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AECOM
sowinskisullivan ARCHITECTS
PRELIMINARY ENGINEERING

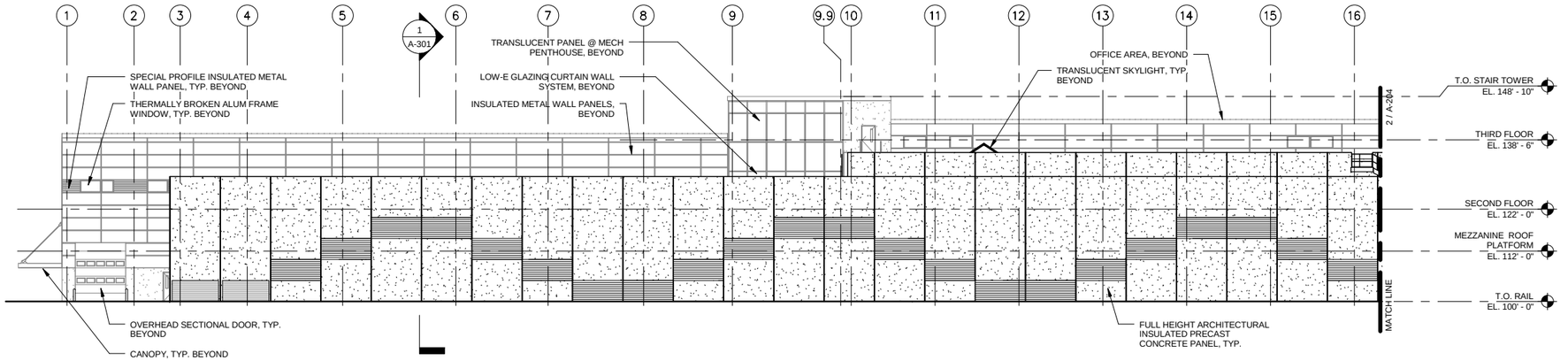
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 4 (OMF) ARCHITECTURE NORTH - ELEVATION

DISCIPLINE: ARCHITECTURE
SHEET NAME: A-203

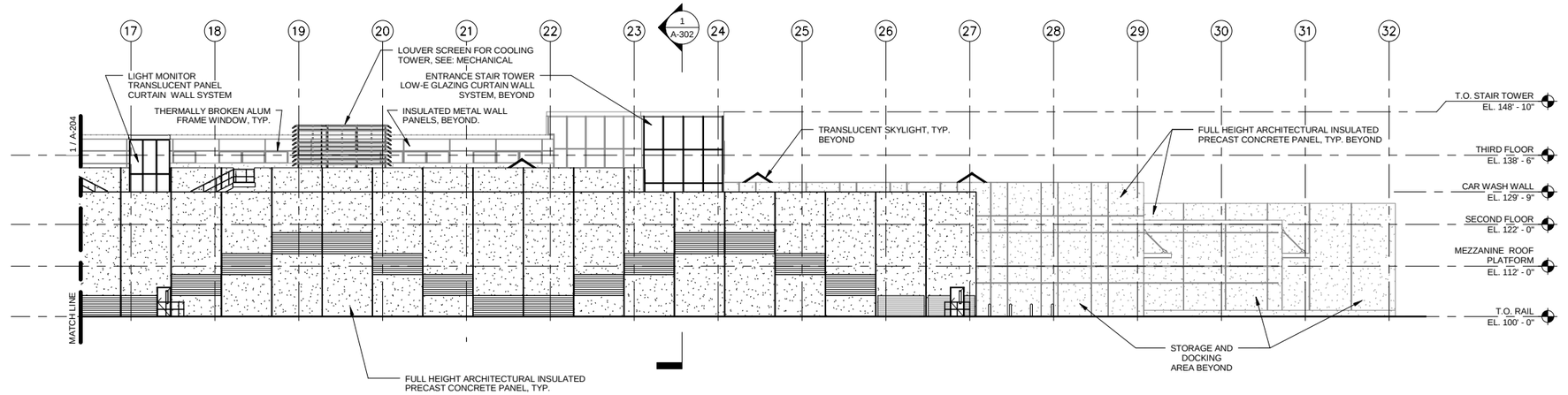
SHEET 119 OF 288

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1 / A-204 **EAST ELEVATION I**

SCALE: 1/16" = 1'-0"



2 / A-204 **EAST ELEVATION II**

SCALE: 1/16" = 1'-0"

ELEVATION 100'-0" = TOP OF RAIL
TOP OF RAIL = 908.64'

0 8' 16' 32'
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

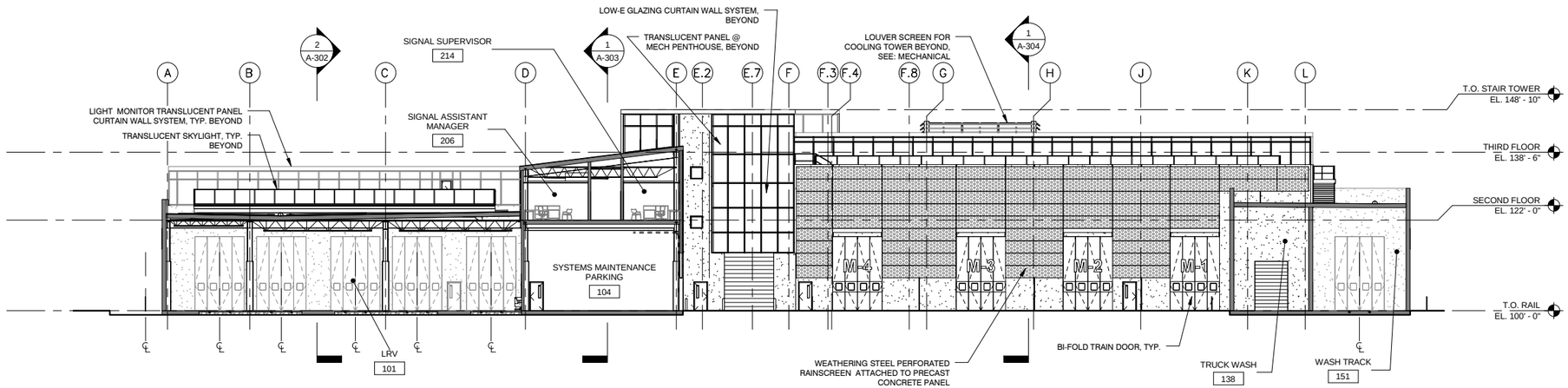
WEST-VOLUME 4 (OMF) ARCHITECTURE EAST - ELEVATION

DISCIPLINE: ARCHITECTURE

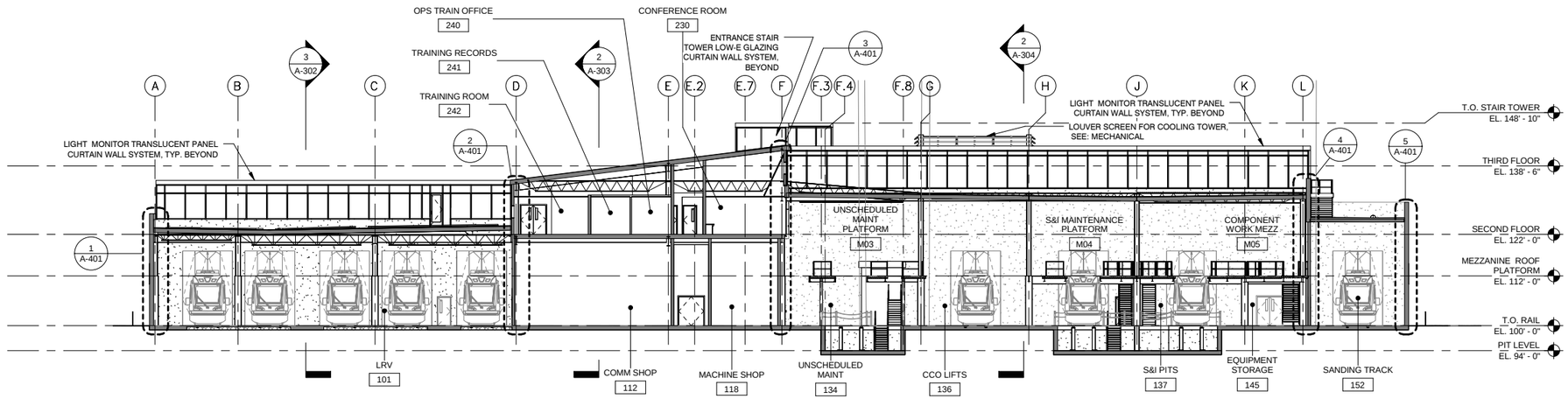
SHEET NAME: A-204

SHEET 120 OF 288

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1 A-301 **SECTION I**
SCALE: 1/16" = 1'-0"



2 A-301 **SECTION II**
SCALE: 1/16" = 1'-0"

0 8' 16' 32'
HORIZONTAL
SCALE IN FEET

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

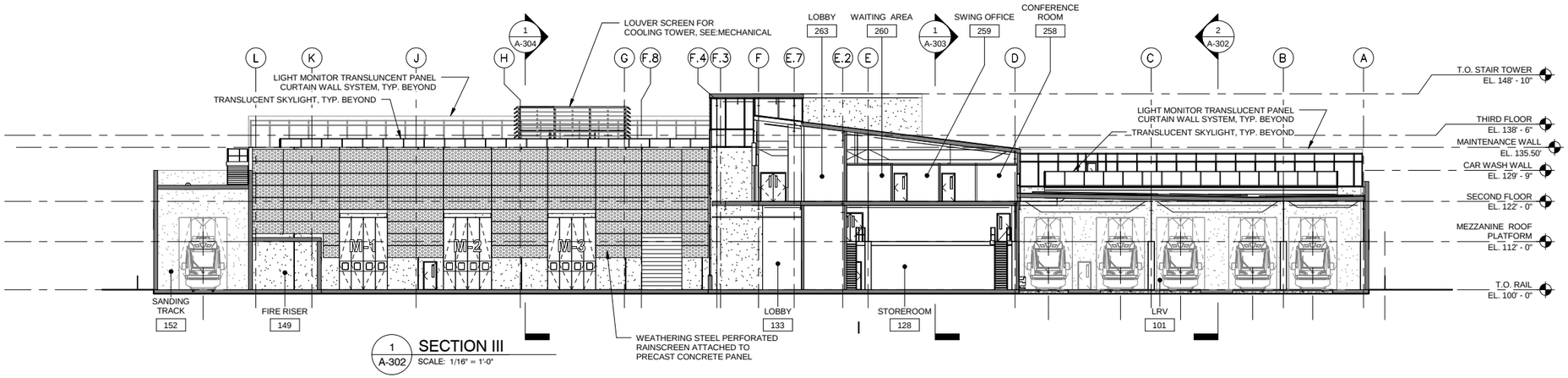
WEST-VOLUME 4 (OMF) ARCHITECTURE I & 2 - SECTIONS

DISCIPLINE: **ARCHITECTURE**

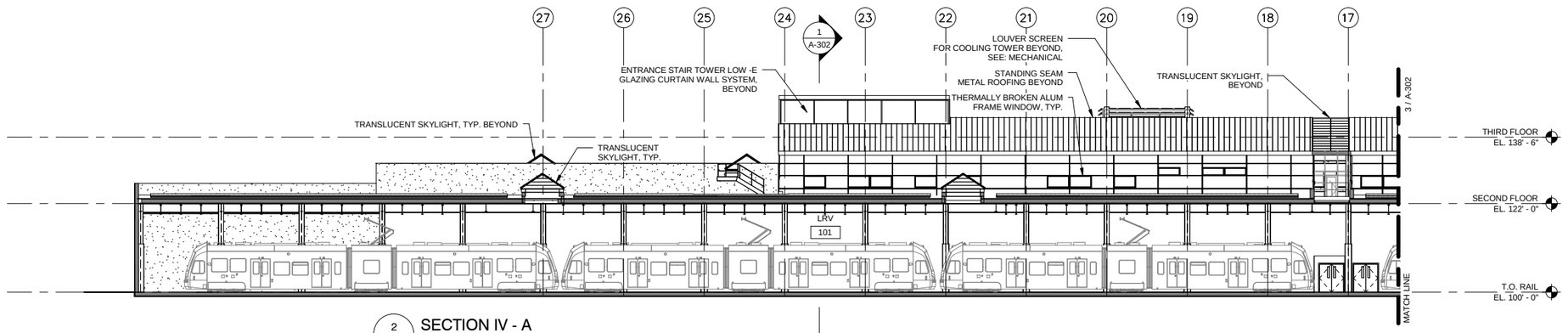
SHEET NAME: **A-301**

SHEET 121 OF 288

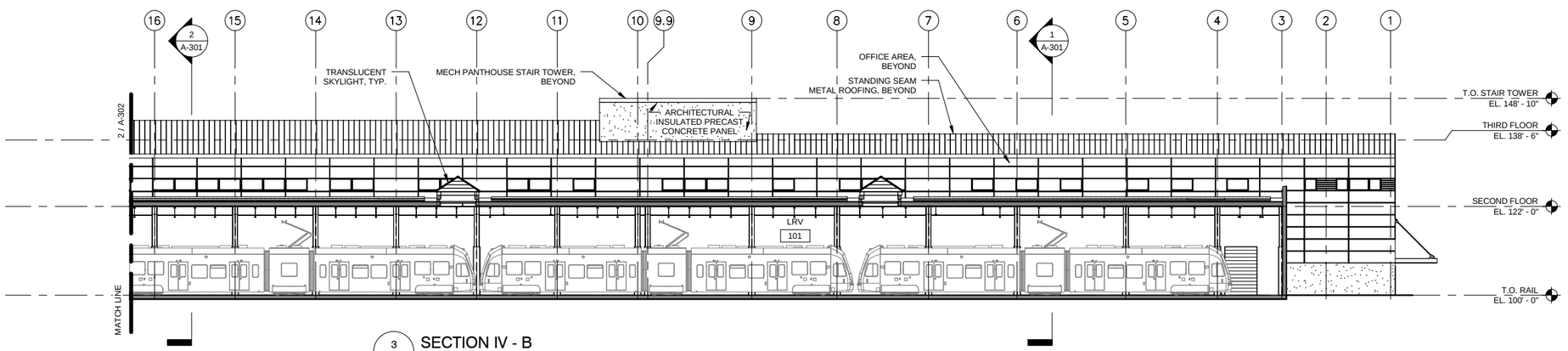
8/26/2014 9:33:39 AM C:\Users\MurphyS\Documents\OMF_murphys.rvt



1 / A-302 SECTION III
SCALE: 1/16" = 1'-0"



2 / A-302 SECTION IV - A
SCALE: 1/16" = 1'-0"



3 / A-302 SECTION IV - B
SCALE: 1/16" = 1'-0"

0 8' 16' 32'
HORIZONTAL
SCALE IN FEET

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AECOM
sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

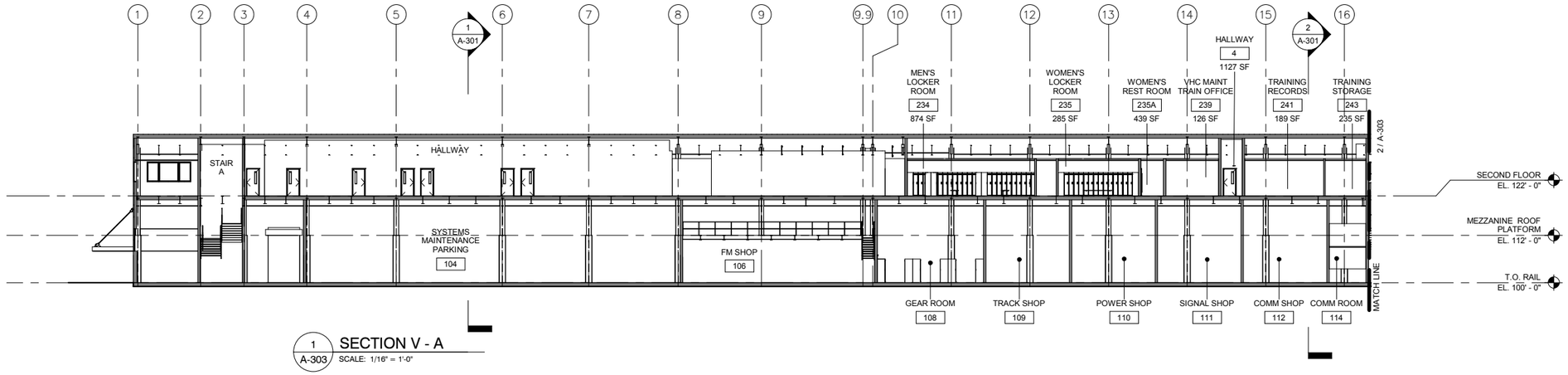
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 4 (OMF) ARCHITECTURE III &IV (A-B) - SECTIONS

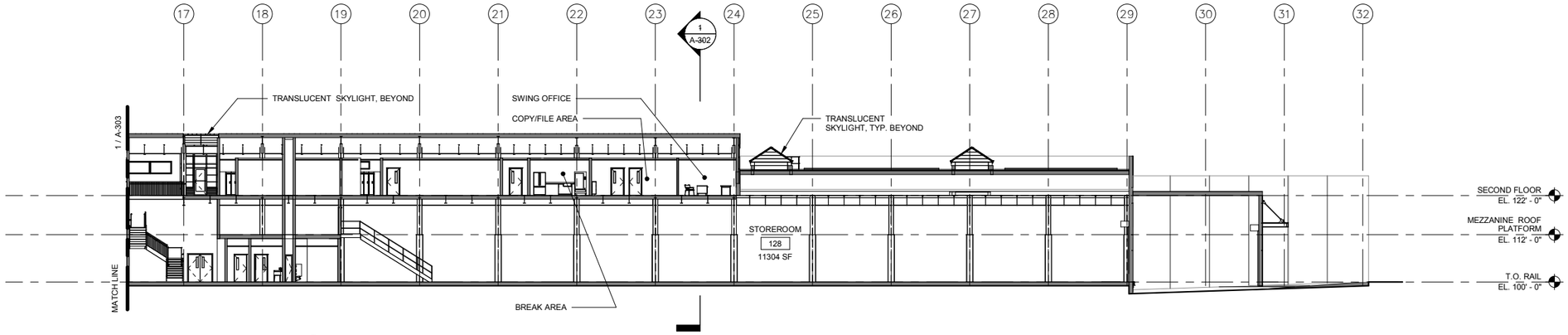
DISCIPLINE: ARCHITECTURE
SHEET NAME: A-302

SHEET 122 OF 288

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1 / A-303 SECTION V - A
SCALE: 1/16" = 1'-0"



2 / A-303 SECTION V - B
SCALE: 1/16" = 1'-0"

0 8" 16" 32'
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

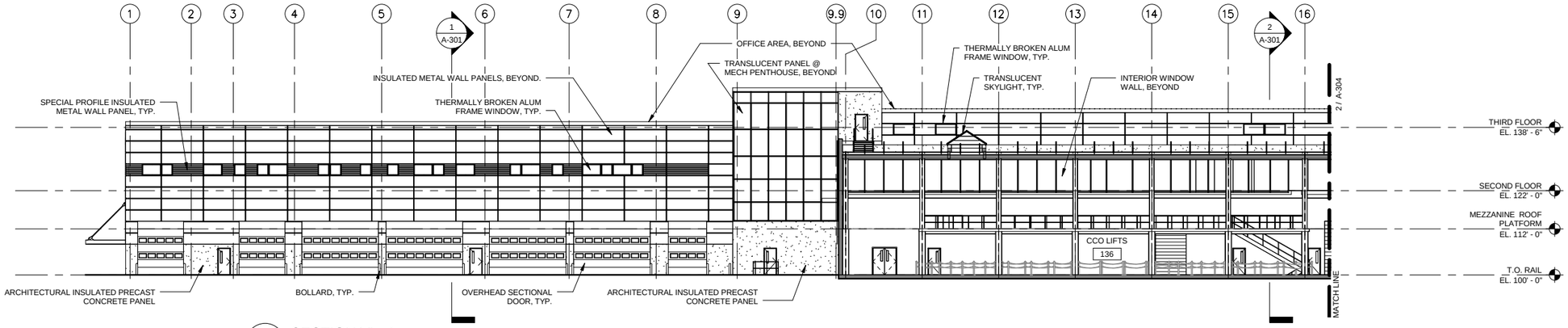
WEST-VOLUME 4 (OMF) ARCHITECTURE V (A-B) - SECTIONS

DISCIPLINE: ARCHITECTURE

SHEET NAME: A-303

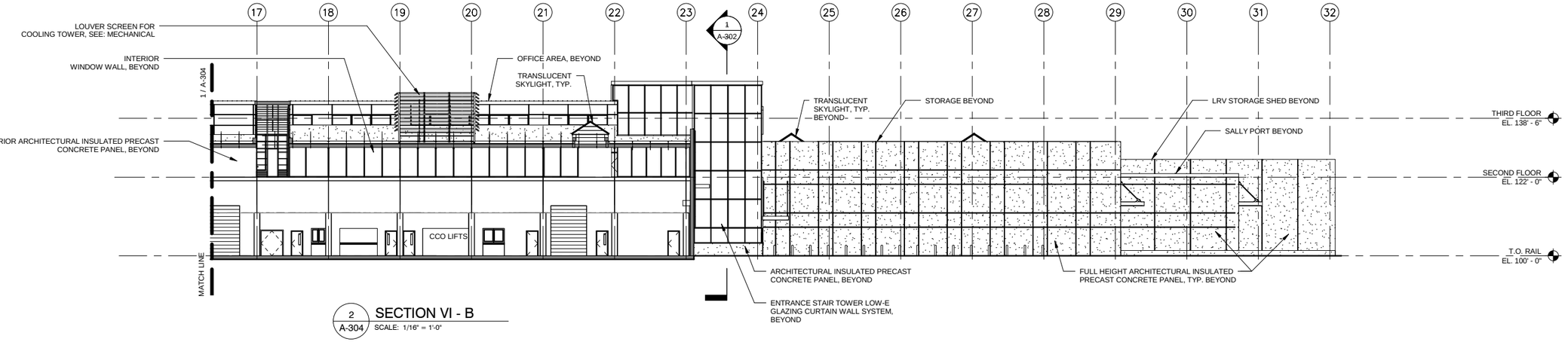
SHEET 123 OF 288

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1 / A-304 SECTION VI - A

SCALE: 1/16" = 1'-0"



2 / A-304 SECTION VI - B

SCALE: 1/16" = 1'-0"

0 8' 16' 32'

HORIZONTAL SCALE IN FEET

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AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST-VOLUME 4 (OMF) ARCHITECTURE VI (A-B) - SECTIONS

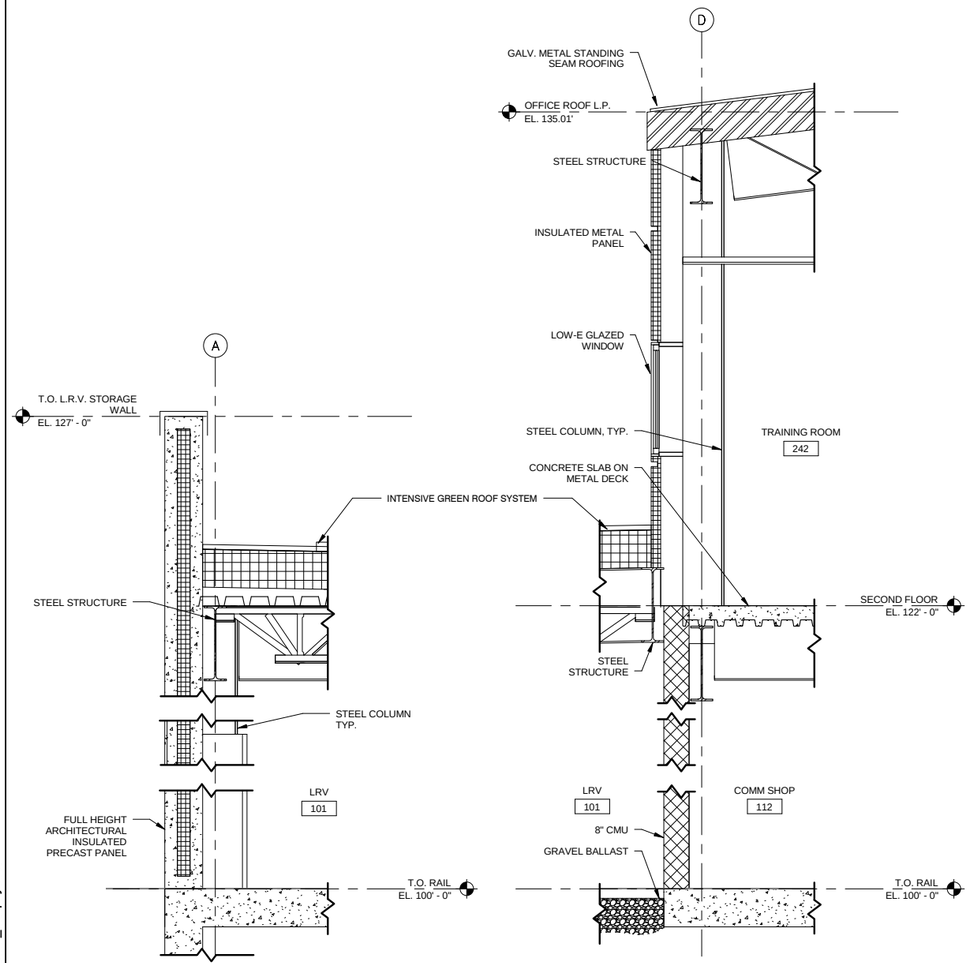
DISCIPLINE: ARCHITECTURE

SHEET NAME: A-304

SHEET 124 OF 288

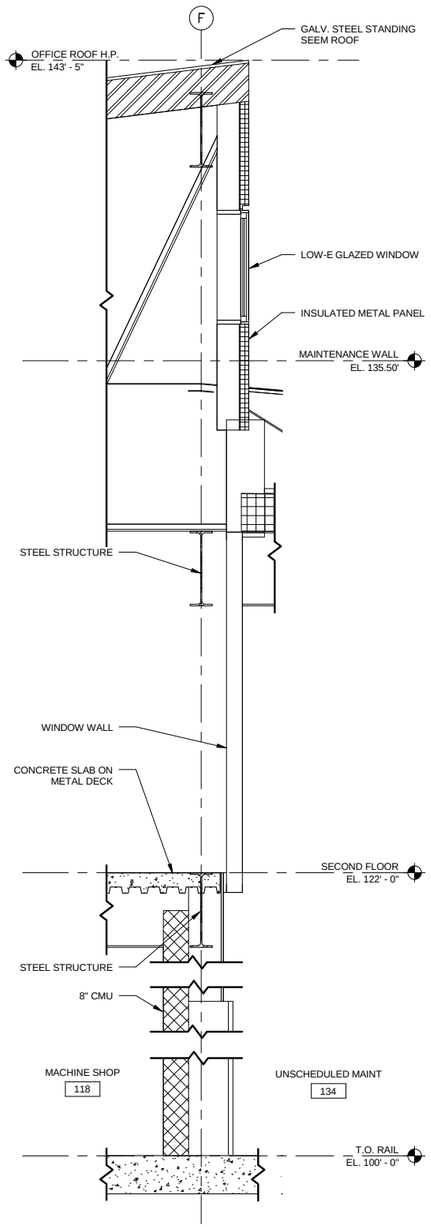
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NOTE:
THE BUILDING IS TYPE 1B CONSTRUCTION CLASSIFICATION.
ALL STRUCTURAL MEMBERS TO RECEIVE FIRE RESISTANCE REQUIREMENTS PER CODE.

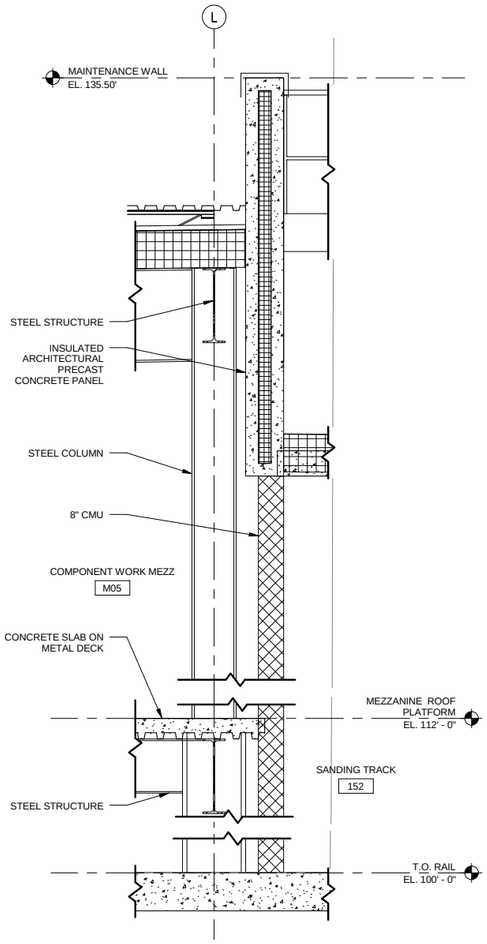


1 A-401 WALL SECTION A
SCALE: 1/2" = 1'-0"
REF. SHEET: A-111 / REF. DETAIL: 1

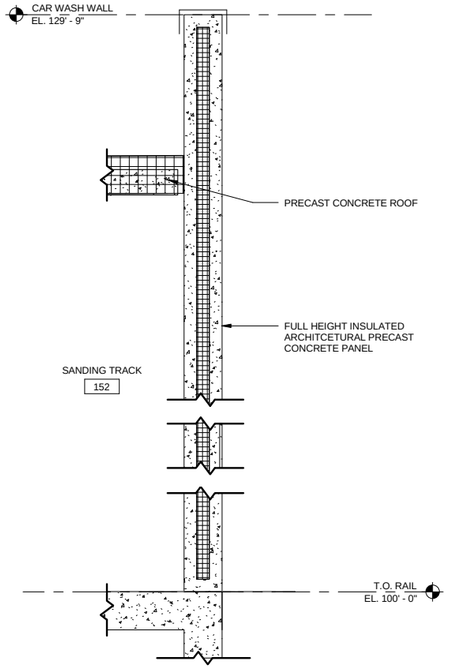
2 A-401 WALL SECTION B
SCALE: 1/2" = 1'-0"
REF. SHEET: A-111 / REF. DETAIL: 1



3 A-401 WALL SECTION C
SCALE: 1/2" = 1'-0"
REF. SHEET: A-114 / REF. DETAIL: 1



4 A-401 WALL SECTION D
SCALE: 1/2" = 1'-0"
REF. SHEET: A-119 / REF. DETAIL: 1



5 A-401 WALL SECTION E
SCALE: 1/2" = 1'-0"
REF. SHEET: A-119 / REF. DETAIL: 1

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

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PRELIMINARY ENGINEERING

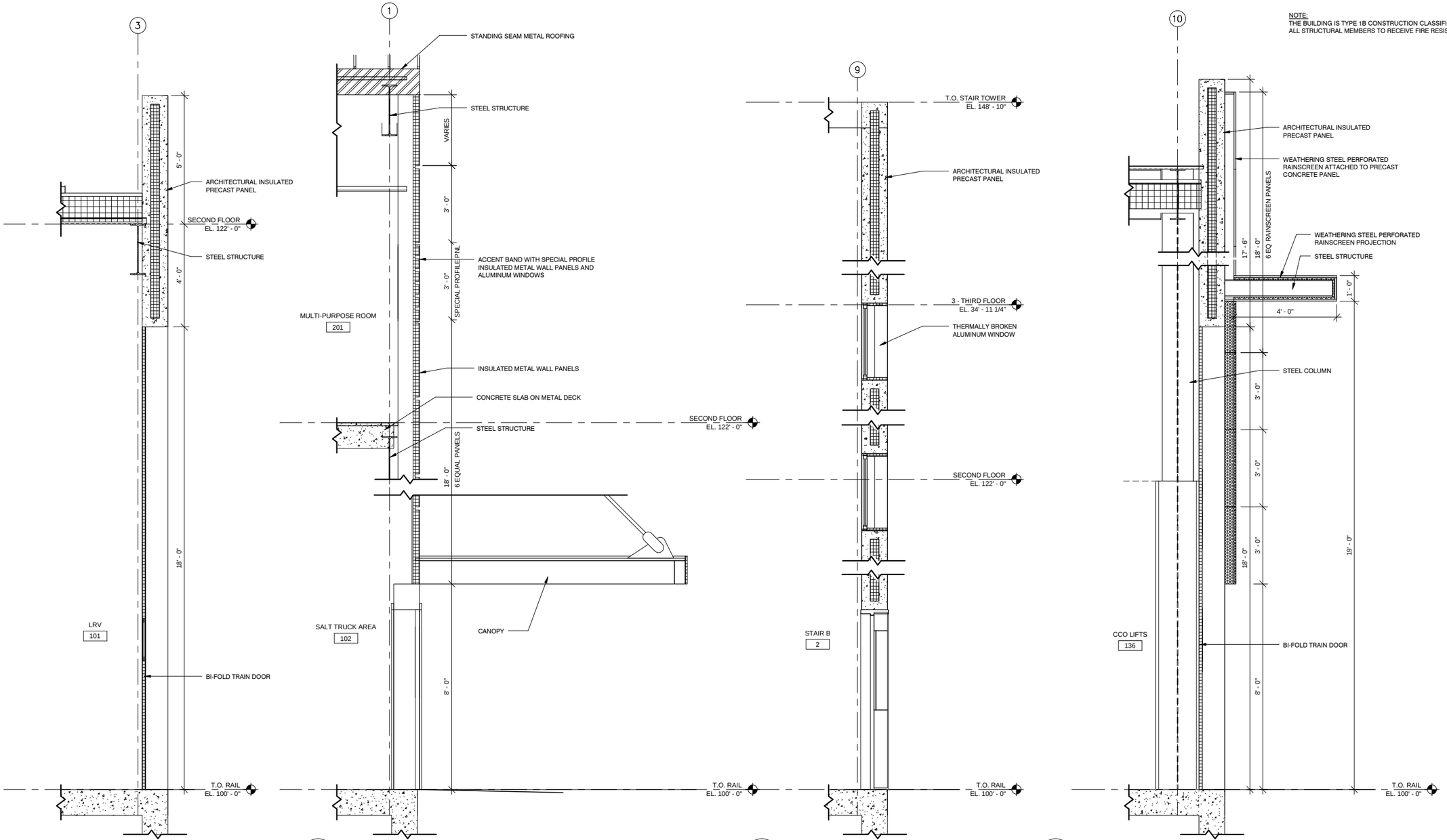
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 4 (OMF)
ARCHITECTURE
WALL SECTION - DETAILS

DISCIPLINE: ARCHITECTURE
SHEET NAME: A-401

SHEET 125 OF 288

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NOTE:
THE BUILDING IS TYPE 1B CONSTRUCTION CLASSIFICATION.
ALL STRUCTURAL MEMBERS TO RECEIVE FIRE RESISTANCE REQUIREMENTS PER CODE.

1 / A-402 WALL SECTION F
SCALE: 1/2" = 1'-0"
REF. SHEET: A-110 / REF. DETAIL: 1

2 / A-402 WALL SECTION G
SCALE: 1/2" = 1'-0"
REF. SHEET: A-113 / REF. DETAIL: 1

3 / A-402 WALL SECTION H
SCALE: 1/2" = 1'-0"
REF. SHEET: A-113 / REF. DETAIL: 1

4 / A-402 WALL SECTION J
SCALE: 1/2" = 1'-0"
REF. SHEET: A-116 / REF. DETAIL: 1

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

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PRELIMINARY ENGINEERING

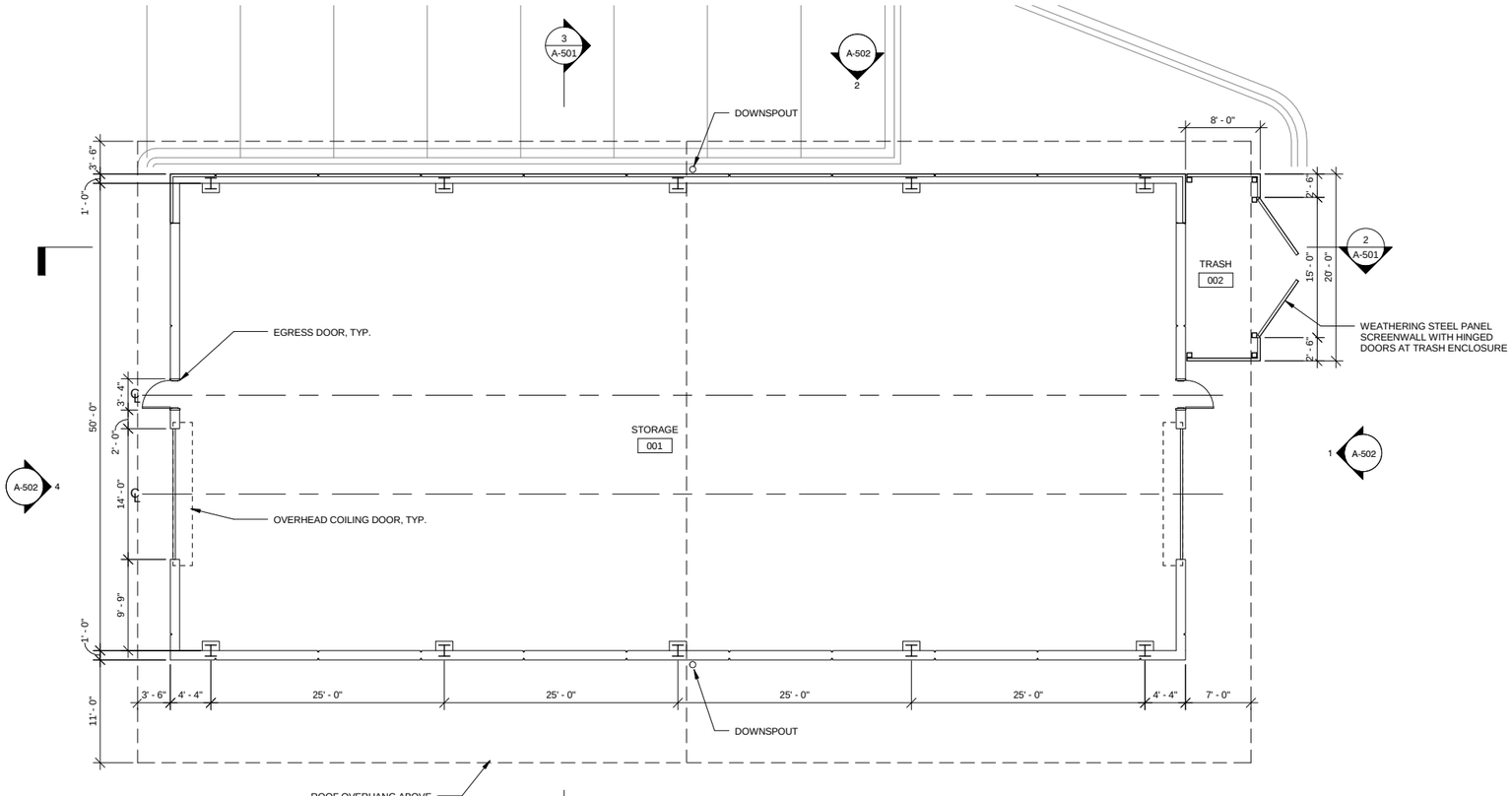
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 4 (OMF)
ARCHITECTURE
WALL SECTION - DETAILS

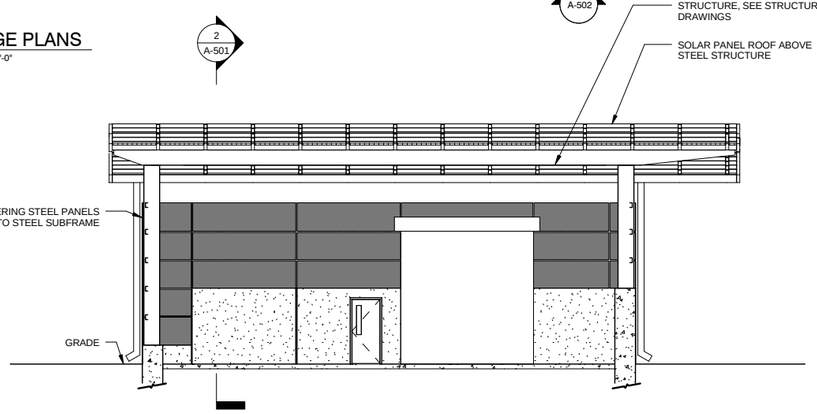
DISCIPLINE: ARCHITECTURE
SHEET NAME: A-402

SHEET 125.1 OF 288

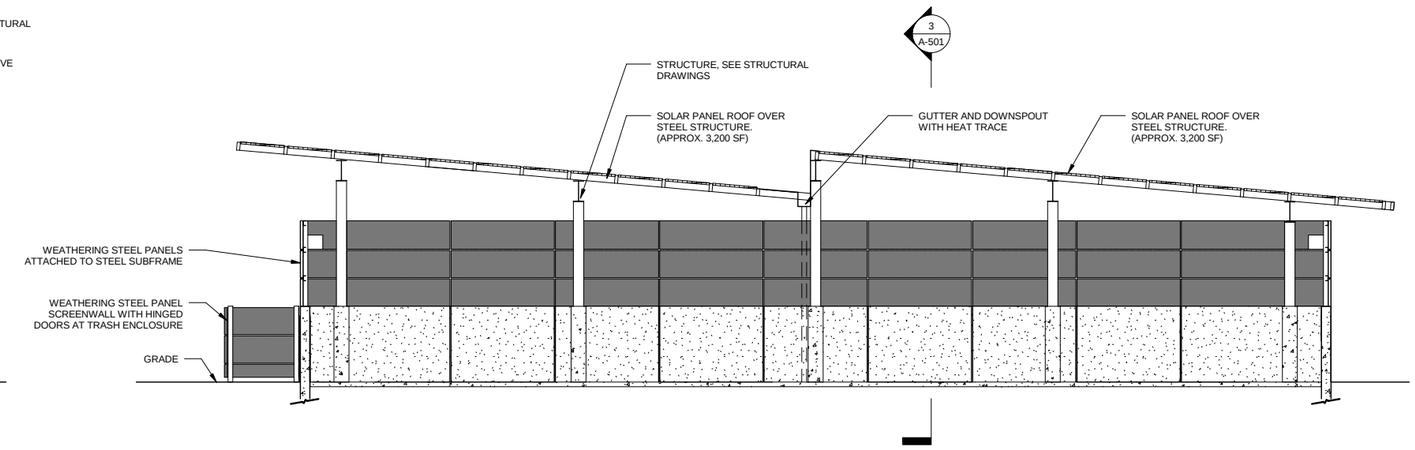
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1 / A-501 STORAGE PLANS
SCALE: 1/8" = 1'-0"



3 / A-501 STORAGE SECTION 1
SCALE: 1/8" = 1'-0"



2 / A-501 STORAGE SECTION 2
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

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PRELIMINARY ENGINEERING

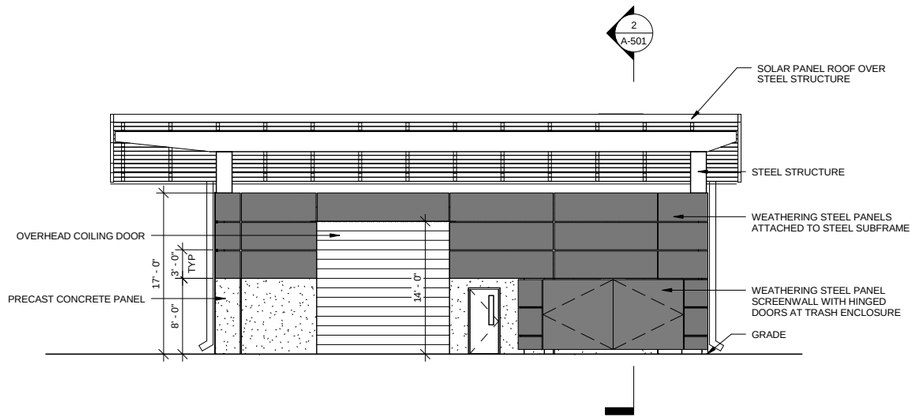
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 4 (OMF)
ARCHITECTURE
PLAN AND SECTIONS - COLD STORAGE

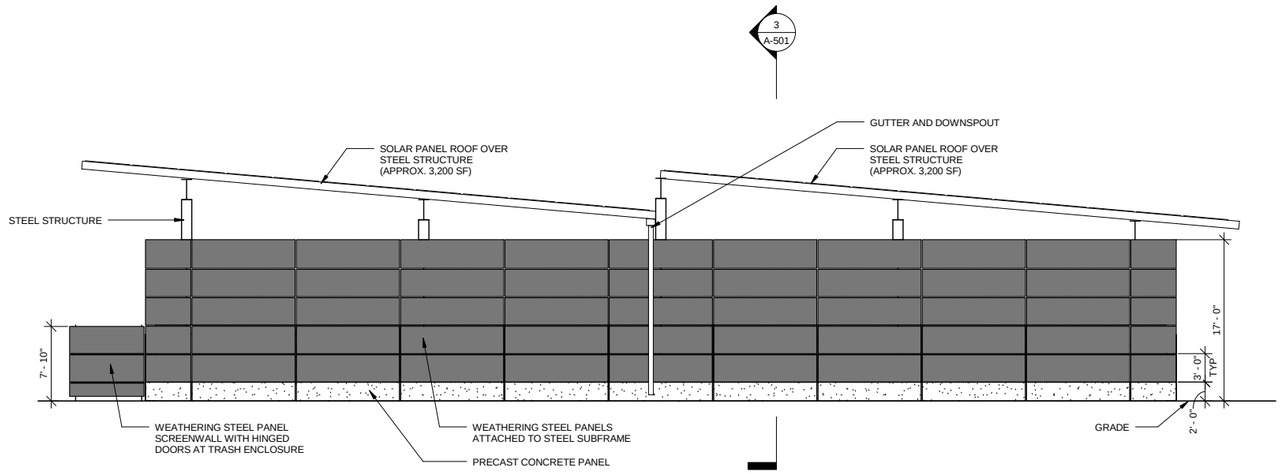
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SHEET NAME: A-501

SHEET 126 OF 288

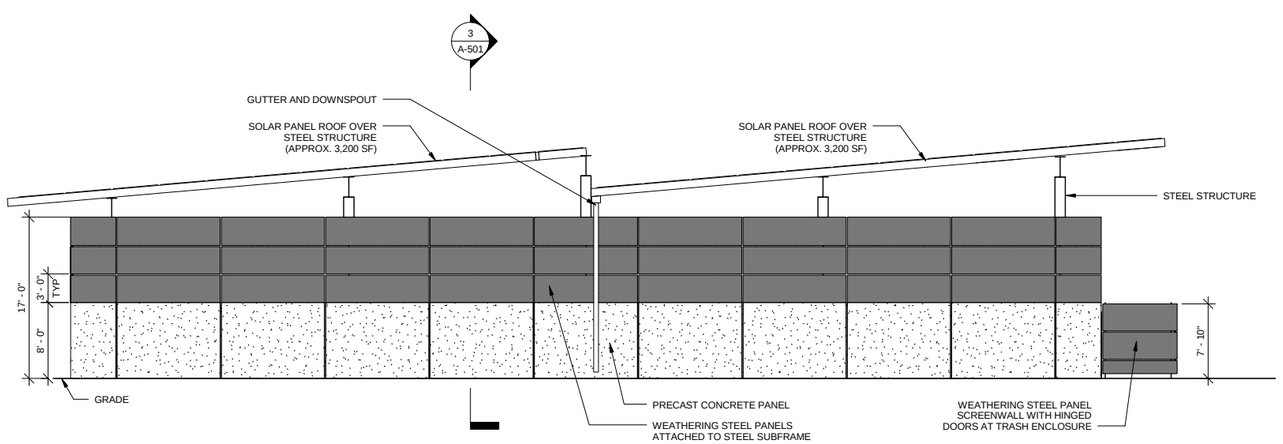
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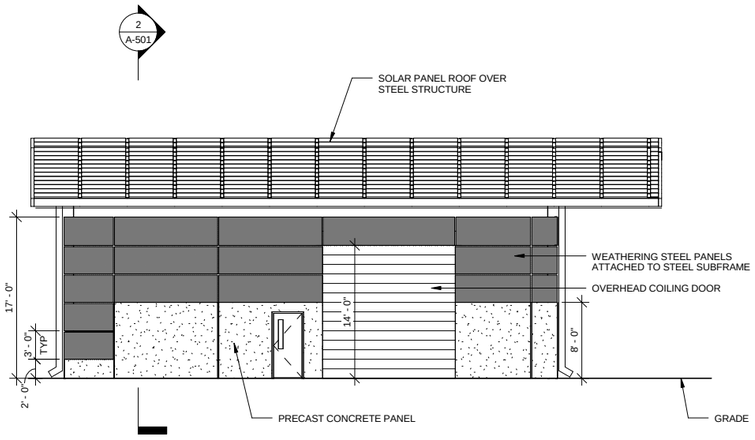
1 A-502 **NORTH ELEVATION**
SCALE: 1/8" = 1'-0"



2 A-502 **WEST ELEVATION**
SCALE: 1/8" = 1'-0"



3 A-502 **EAST ELEVATION**
SCALE: 1/8" = 1'-0"



4 A-502 **SOUTH ELEVATION**
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST-VOLUME 4 (OMF) ARCHITECTURE ELEVATIONS - COLD STORAGE

DISCIPLINE: **ARCHITECTURE**

SHEET NAME: **A-502**

SHEET 127 OF 288

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DESIGN DATA

DESIGN CODE:

MSBC / INTERNATIONAL BUILDING CODE 2006 (IBC)

WIND LOAD INFORMATION:

BASIC WIND SPEED	90 MPH		
BUILDING OCCUPANCY CATEGORY	I		
WIND LOAD IMPORTANCE FACTOR (Iw)	1.00		
WIND EXPOSURE	C		
INTERNAL PRESSURE COEFFICIENTS	± 0.18		
COMPONENTS AND CLADDING (GROSS WIND PRESSURES):			
(FOR ZONE DEFINITIONS & DIAGRAMS SEE DESIGN GUIDE ASCE/SEI 7 SECTION 6)			
WIDTH OF PRESSURE COEFFICIENT ZONE (a)	10.5 ft MAX		
TRIBUTARY WIND LOAD AREAS:	10 ft ²	50 ft ²	100 ft ²
ROOF (GABLE/HIP/MONOSLOPE):			
NEGATIVE ZONE 1	27.4 psf	25.8 psf	25.1 psf
NEGATIVE ZONE 2	46.0 psf	34.6 psf	29.7 psf
NEGATIVE ZONE 3	46.0 psf	34.6 psf	29.7 psf
POSITIVE PRESSURE ALL ZONES	11.1 psf	10.0 psf	10.0 psf
WALLS:			
ZONE 4 (+/-)	27.2 psf	24.6psf	23.5 psf
ZONE 5 (+/-)	33.4 psf	28.3 psf	26.1 psf

SEISMIC LOAD INFORMATION:

SEISMIC USE GROUP / OCCUPANCY CATEGORY	I
SEISMIC LOAD IMPORTANCE FACTOR (Ie)	1.0
SEISMIC SITE CLASS	D
MAPPED SPECTRAL RESPONSE ACCELERATION (Ss)	0.124
MAPPED SPECTRAL RESPONSE ACCELERATION (S1)	0.049
SPECTRAL RESPONSE COEFFICIENT (Sds)	0.132
SPECTRAL RESPONSE COEFFICIENT (Sd1)	0.078
SEISMIC DESIGN CATEGORY	A
BASIC SEISMIC FORCE RESISTING SYSTEM	ORDINARY UNREINFORCED MASONRY SHEAR WALLS
RESPONSE MODIFICATION FACTOR	1.5
DESIGN BASE SHEAR	0.01Wx at each floor level
ANALYSIS PROCEDURE	INDEX FORCE ANALYSIS

SNOW LOAD INFORMATION:

GROUND SNOW LOAD (Pg)	50 psf
SNOW LOAD IMPORTANCE FACTOR (Is)	1.0
SNOW EXPOSURE FACTOR (Ce)	1.0
THERMAL FACTOR (Ct)	1.10 (1.2 AT CANOPY)
FLAT ROOF SNOW LOAD (Pf)	38.5 psf
DESIGN/BALANCED SNOW LOAD (Ps)	40 psf + DRIFT

PRESUMED SOIL LOAD INFORMATION FROM ADJACENT SITE REPORT:

PRESUMED COEFFICIENT OF SLIDING FRICTION (μ)	0.30
PRESUMED LATERAL EARTH PRESSURE:	
ACTIVE	40 pcf
AT-REST	55 pcf
PASSIVE	250 pcf

PRESUMED NET ALLOWABLE SOIL BEARING PRESSURE Qa = 3000 psf

NOTE:

1. ALL PRESUMED SOIL INFO TO BE FIELD VERIFIED BY GEOTECHNICAL ENG
2. PRESUMED SOIL BEARING PRESSURE ARE BASED ON THE UNDERSTANDING THAT THE SITE SOILS WILL BE REINFORCED WITH RAMMED AGGREGATE PIERS, PER THE PRELIM GEOTECH REPORT PREPARED BY BRAUN INTERTEC.

DESIGN LOADS:

PIT SLABS (18in 2-WAY SLAB)	400 psf
1ST & 2ND FLOOR OFFICES, LOBBY, LOCKER ROOMS	100 psf
WAREHOUSE / HEAVY STORAGE	250 psf
MECHANICAL 2ND FLOOR AREAS	150 psf
GREEN ROOF AREA (SUPERIMPOSED DEAD LOAD)	75 psf

MATERIAL DESIGN PROPERTIES

CONCRETE STRENGTHS:

FOOTINGS	f'c = 4000 psi
CONCRETE WALLS / PIERS	f'c = 4000 psi
SLAB ON GRADE & ON METAL DECK	f'c = 4000 psi

REINFORCING STEEL STRENGTHS:

BARS (ASTM A 615, grade 60)	fy = 60,000 psi
WWF (ASTM A 185)	fy = 65,000 psi

STRUCTURAL MASONRY STRENGTHS:

ASTM C 90, grade N (CMU)	f'm = 2500 psi
MORTAR (ASTM C 270):	
TYPE M (BELOW GRADE)	fu = 2500 psi
TYPE S (ABOVE GRADE)	fu = 1800 psi
GROUT (ASTM C 476):	
BOND BEAMS (pea gravel)	f'c = 3000 psi
MASONRY WALLS AND PIERS (pea gravel)	f'c = 3000 psi

STRUCTURAL STEEL STRENGTHS:

WF SHAPES (ASTM A992)	fy = 50,000 psi
ANGLES, CHANNELS, PLATES, & BARS (ASTM A36)	fy = 36,000 psi
SQUARE & RECTANGULAR TS OR HSS SECTIONS (ASTM A500, GRADE B)	fy = 46,000 psi
ROUND HSS SECTIONS (ASTM A500, GRADE B)	fy = 42,000 psi

STRUCTURAL STEEL NOTES

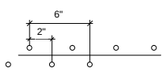
1. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM WITH THE AISC (AMERICAN INSTITUTE OF STEEL CONSTRUCTION), "MANUAL OF STEEL CONSTRUCTION", LATEST EDITION.
2. ALL STEEL DETAILS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE AISC "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN", LATEST EDITION.
3. FABRICATORS SHALL DESIGN CONNECTIONS NOT SPECIFICALLY DETAILED ON PLANS AS FOLLOWS:
   A. GENERAL: MEMBERS REQUIRING END MOMENT CONNECTIONS SHALL MEET THE REQUIREMENTS OF TYPE 1 "RIDGE FRAME" CONSTRUCTION INCLUDING FRICTION BOLTS IF UTILIZED. ALL OTHER MEMBERS SHALL FOLLOW THE REQUIREMENTS OF TYPE 2 "SIMPLE" CONSTRUCTION.
   B. MEMBER SHEAR CONNECTIONS: UNLESS A LARGER END VERTICAL REACTION IS SHOWN OTHERWISE ON THE DRAWINGS (IE R = 85k), MINIMUM DESIGN SHEAR FORCES SHALL BE AS FOLLOWS:
      I. NON-COMPOSITE BEAMS: SUPPORT A REACTION "R" EQUAL TO ONE HALF THE TOTAL UNIFORM LOAD CAPACITY FROM THE TABLE OF UNIFORM LOAD CONSTANTS IN THE AISC MANUAL PART 2 FOR GIVEN SHAPE, SPAN, AND GRADE OF STEEL.
4. USE A325N BOLTS UNLESS NOTED OTHERWISE.
5. SPLICES SHALL BE ALLOWED ONLY AT LOCATIONS SPECIFICALLY INDICATED ON THE STRUCTURAL DRAWINGS UNLESS APPROVED OTHERWISE BY THE ENGINEER.
6. OVERSIZED OR SLOTTED HOLES SHALL NOT BE USED FOR ANY CONNECTIONS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR APPROVED BY THE ENGINEER.
7. BEAM AND GIRDER CONNECTIONS SHALL BE AS NOTED ON PLANS AND IN DETAILS.
8. PROVIDE HOLES IN ALL STEEL AS REQUIRED TO PREVENT ANY ACCUMULATION OF WATER DURING ERECTION. ALL PENETRATIONS THROUGH MAIN MEMBERS SHALL NOT " " IN DIAMETER AND SHALL BE GROUND SMOOTH.
9. CUTS, HOLES, COPING, ETC. REQUIRED FOR WORK OF OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWINGS AND MADE IN THE SHOP. CUTS OR BURNING OF HOLES IN STRUCTURAL STEEL MEMBERS IN THE FIELD WILL NOT BE PERMITTED.
10. PROVIDE ANY NECESSARY TEMPORARY BRACING OR GUYS TO PROVIDE LATERAL SUPPORT OF THE BUILDING UNTIL PERMANENT CONNECTIONS ARE COMPLETELY INSTALLED TO THE CMU SHEAR WALLS.
11. STRUCTURAL STEEL FRAMING SHALL BE TRUE AND PLUMB BEFORE CONNECTIONS ARE FINALLY BOLTED OR WELDED.
12. TOP OF STEEL ELEVATION = DECK BEARING AS NOTED ON PLAN, UNO REFERENCED FROM FIRST FLOOR SLAB ELEVATION OF 0'-0". SEE CIVIL FOR SITE SPECIFIC DATUM (i.e. 16.36' = 0'-0").
13. EQUALLY SPACE BEAMS BETWEEN GRID LINES WHERE DIMENSIONS ARE NOT PROVIDED, TYP. UNO.

CAST-IN-PLACE CONCRETE NOTES

1. DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST PROVISIONS OF ACI 318/318R.
2. CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER AT LEAST 48 HOURS PRIOR TO PLACING CONCRETE TO FACILITATE ON SITE OBSERVATION OF REBAR.
3. ARRANGEMENT AND BENDING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI DETAILING MANUAL (ACI SP-66), LATEST EDITION.
4. WHEN THE AVERAGE TEMPERATURE FROM MIDNIGHT TO MIDNIGHT IS EXPECTED TO DROP BELOW 40 DEGREES FAHRENHEIT FOR THREE SUCCESSIVE DAYS, COLD WEATHER CONCRETING REQUIREMENTS MUST BE FOLLOWED.
5. WHEN AMBIENT AIR OR CONCRETE TEMPERATURES EXCEED 90 DEGREES FAHRENHEIT, STEEL REINFORCING AND/OR FORMING SURFACES ARE ABOVE 120 DEGREES, OR WHEN WIND VELOCITY, HUMIDITY, OR SOLAR RADIATION CREATE CONDITIONS OF ACCELERATED MOISTURE LOSS AND INCREASED RATE OF HYDRATION, HOT WEATHER CONCRETING REQUIREMENTS SHALL BE FOLLOWED.
6. ALL HOOKS IN STEEL REINFORCING SHALL BE ACI STANDARD HOOKS, UNLESS NOTED OTHERWISE IN CONSTRUCTION DOCUMENTS.
7. ALL CONCRETE SURFACES SHALL BE FORMED, UNLESS OTHERWISE NOTED.
8. CONTROL JOINTS SHALL BE PLACED IN SLAB ON GRADE AND SLAB ON METAL DECK CONSTRUCTION WITHIN 24 HOURS OF INITIAL POUR.
9. WIRE SPACERS, CHAIRS, TIES, ETC., FOR SUPPORT OF STEEL REINFORCING SHALL BE PROVIDED BY THE CONTRACTOR TO ENSURE REINFORCING IS PLACED IN THE PROPER POSITION DURING CONCRETE PLACEMENT.
10. STEEL REINFORCING SPLICES OF ADJACENT BARS SHALL BE STAGGERED SUCH THAT SPLICES ARE 4 FEET APART, MINIMUM.
11. PROVIDE (2) #5 BARS AROUND ALL OPENINGS AND (2) #5 DIAGONALLY AT ALL OPENING CORNERS UNLESS OTHERWISE SPECIFIED. EXTEND 2'-6" PAST OPENING TYPICALLY.
12. WELDED WIRE REINFORCING SHALL BE IN FLAT SHEETS ONLY, AND LAPPED A MINIMUM OF 6 INCHES.
13. WELDING OF STEEL REINFORCING IS NOT PERMITTED.
14. SLEEVES, CONDUITS, OR PIPES THROUGH SLABS AND WALLS SHALL BE PLACED AT THREE DIAMETERS ON CENTER, OR 4 INCHES MINIMUM.
15. ALUMINUM CONDUIT OR PIPING SHALL NOT BE CAST IN CONCRETE.
16. PROVIDE 3/4" CHAMFER ON EXPOSED CORNERS OF CONCRETE UNO. TOP EDGES OF WALLS SHALL BE TOOLED UNO.
17. FINISH & COVER CONCRETE SLABS w/ FILM FORMING CURING COMPOUND OR VAPOR RETARDER UNO OR SPECIFIED OTHERWISE.

REINFORCING NOTES

1. REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH ACI 315 (CURRENT EDITION).
2. ALL LAPS SHALL BE CLASS "B" PER ACI 318 UNLESS OTHERWISE NOTED ON THE DESIGN DRAWINGS, OR UNLESS THE DETAILER TAKES SPECIAL CARE TO PROVIDE STAGGERED LAPS. USE TOP BAR LAP LENGTHS FOR ALL HORIZONTAL WALL BARS AND FOR TOP BARS IN SLABS AND BEAMS OVER 12" DEEP.
3. LAP LENGTH SHALL BE SPECIFICALLY NOTED ON PLACING DRAWINGS WHERE MORE THAN ONE BAR MAKES UP A CONTINUOUS STRING.
4. CORNER BARS WITH CLASS "B" PER ACI 318 LAPS SHALL BE PROVIDED AT ALL WALL CORNERS AND INTERSECTIONS PER DETAIL S-301
5. HORIZONTAL BARS, EXCEPT FOR CONTINUOUS STRINGS FROM ONE CORNER OF OPENING TO ANOTHER, SHALL BE DETAILED TO SHOW THE DISTANCE FROM AT LEAST ONE END OF THE BAR TO THE NEAREST BUILDING GRID LINE OR WALL.
6. WELDED WIRE FABRIC SHALL BE LAPPED AND/OR ANCHORED TO DEVELOP Fy PER ACI 315.



7. PROVIDE MINIMUM COVER PER ACI 318, 7.7.1 (AS SHOWN ON THIS SHEET)
8. PROVIDE ISOLATION BOARD WHERE SLABS ABUT VERTICAL SURFACES AS SHOWN IN FOUNDATION AND FRAMING DETAILS.

CMU WALL CONSTRUCTION NOTES

1. IN ACCORDANCE WITH "ACI 530-05/ASCE 6-05/TMS 402-05 BUILDING CODE FOR MASONRY STRUCTURES" PROVIDE LEVEL B QUALITY ASSURANCE PER TABLE 1.15.2 AND AS REQUIRED IN CHAPTER 1. VERIFY f'm REQUIRED USING THE UNIT STRENGTH METHOD.
2. CMU SHALL BE LAID IN RUNNING BOND WITH TYPE S MORTAR (TYPE M BELOW GRADE).
3. PROVIDE MINIMUM 1- #5 VERTICAL BAR AT ALL WALL CORNERS, ENDS OF WALLS, & EACH SIDE OF CONTROL JOINTS AND/OR OPENINGS.
4. ALL REINFORCED CELLS SHALL BE GROUTED WITH PEA GRAVEL CONCRETE HAVING A MIN COMPRESSIVE STRENGTH OF 3,000psi.
5. HORIZONTAL REINFORCING AND BOND BEAM REINFORCING AT CORNERS SHALL BE LAPPED A MINIMUM OF 48 BAR DIAMETERS, OR 24" INCHES, WHICHEVER IS LARGER.
6. CLEANOUTS SHALL BE PROVIDED IN THE BOTTOM COURSE OF MASONRY FOR EACH GROUT POUR, WHEN THE POUR HEIGHT EXCEEDS 5 FEET.
7. GROUT LIFTS SHALL NOT EXCEED 5 FEET. CONSOLIDATE GROUT AT TIME OF PLACEMENT.
8. FACE SHELLS AND WEB FORMING CELLS SHALL BE FULL-BEDDED IN THE STARTING COURSE ON FOUNDATIONS, AND IN ALL COURSES OF PIERS AND PILASTERS.
9. PROVIDE HORIZONTAL JOINT REINFORCING AT 16" OC VERTICALLY (8" OC IN PARAPET WALLS) UNO.
10. HORIZONTAL JOINT REINFORCING SHALL BE TERMINATED AT CONTROL JOINTS. BOND BEAM REINFORCING SHALL BE CONTINUOUS.
11. REFER TO ARCHITECTURAL DRAWINGS FOR CONTROL JOINT SPACINGS.
12. SOLID OR SOLID GROUTED CMU SHALL BE PROVIDED IN COURSES IMMEDIATELY ABOVE AND BELOW ANY CHANGES IN WYTHE THICKNESS.
13. IN BLOCK WIDTH CHANGES, MAINTAIN CONTINOUS RUNNING BOND. NO CONTINOUS JOINTS @ TRANSITIONS

COLD-FORMED METAL FRAMING NOTES

*** NOTE TO CONTRACTOR ***

SIZES LISTED ARE MINIMUM SIZES AND ARE TO BE USED ONLY AS AN AID IN BIDDING . EXACT SIZES AND SPACINGS OF ALL COLD-FORMED METAL FRAMING SHALL BE DETERMINED BY THE COLD-FORMED FRAMING DESIGNER. SHOP DRAWINGS AND SUPPORTING CALCULATIONS SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER IN THE STATE OF MINNESOTA.

1. THE COLD-FORMED METAL FRAMING SHALL BE COMPLETELY DESIGNED AND SUPPLIED BY THE CONTRACTOR FOR ALL GRAVITY, LATERAL, AND OTHER LOADS INDUCED BY THE BUILDING MATERIALS SHOWN ON THE PROJECT DRAWINGS, AND THE DESIGN LOADS APPLIED IN ACCORDANCE WITH THE BUILDING CODE LISTED IN THE DESIGN DATA.
2. MEMBER SECTION PROPERTIES AND ALLOWABLE STRESSES SHALL BE CALCULATED IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE A.I.S.I. "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS."
3. SHOP DRAWINGS AND SUPPORTING CALCULATIONS FOR THE COLD-FORMED METAL FRAMING SYSTEM, INCLUDING ALL STUDS, JOISTS, HEADERS, JAMBS, SILLS, AND ASSOCIATED CONNECTION DETAILS, SHALL BE SEALED & SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WISCONSIN.
4. HEADERS AND JAMBS AT OPENINGS MAY CONSIST OF BUILT-UP COLD-FORMED METAL SECTIONS OR HOT ROLLED STEEL SECTIONS (TUBES, ANGLES, ETC.) SOME CONDITIONS MAY NECESSITATE HOT-ROLLED STEEL SECTIONS, AND ARE TO BE SUPPLIED AND INSTALLED BY THE COLD-FORMED METAL CONTRACTOR.
5. MECHANICAL BRIDGING SHALL BE INSTALLED PRIOR TO THE ATTACHMENT OF FACING MATERIALS AND SHALL BE SECURED IN A MANNER TO PREVENT STUD ROTATION AND BE SPACED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. MAXIMUM SPACING SHALL BE 6'-0" ON CENTER FOR LATERALLY LOADED WALLS AND 4'-0" ON CENTER FOR AXIALLY LOADED WALLS AND 4'-0" ON CENTER FOR ALL JOIST FRAMING, UNLESS COMBONENT ENGINEER DEMONDSTRATES OTHERWISE THROUGH SUPPORTING STRUCTURAL CALCULATION.
6. PROVIDE WEB STIFFENERS AT HORIZONTAL AND VERTICAL REACTION POINTS.
7. PROVIDE ALL HORIZONTAL AND VERTICAL ATTACHMENT MECHANISMS WHERE REQUIRED.
8. PROVIDE JACK STUDS OR CRIPPLES BELOW WINDOW SILLS, AND ABOVE WINDOW AND DOOR HEADS. THESE SHALL BE SECURELY ATTACHED TO SUPPORTING MEMBERS.
9. ALL WELDING SHALL BE PERFORMED BY AWS D1.3 CERTIFIED WELDERS IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF AWS D1.3, "SPECIFICATIONS FOR WELDING SHEET STEEL IN STRUCTURES."
10. TEMPORARY BRACING SHALL BE PROVIDED AND REMAIN IN PLACE UNTIL THE STRUCTURE IS COMPLETELY STABILIZED. PRIOR TO ATTACHMENT OF WALL SHEATHING, PROVIDE TEMPORARY BRACING TO RESIST BUCKLING OF LOAD-BEARING STUDS, TEMPORARY X-BRACING TO RESIST LATERAL WIND AND SEISMIC LOADS AND ANY OTHER TEMPORARY BRACING DEEMED NECESSARY DURING CONSTRUCTION. TEMPORARY BRACING IS THE RESPONSIBILITY OF THE COLD-FORMED METAL INSTALLER.
11. ALL FIELD CUTTING OF STUDS MUST BE DONE BY SAWING OR SHEARING. TORCH CUTTING OF COLD-FORMED MEMBERS IS UNACCEPTABLE.
12. STUDS SHALL NOT DEVIATE FROM PLUMB, LEVEL AND TRUE TO LINE OF 1/8" IN 10'-0" OR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
13. MAXIMUM DEFLECTIONS FOR FLOOR JOISTS LIMITED TO THE FOLLOWING:

OCCUPIED FLOOR	L/600
UNOCCUPIED CEILING	L/360

STEEL DECK NOTES

1. DECK, ACCESSORIES AND ATTACHMENTS SHALL CONFORM TO "STEEL DECK INSTITUTE SPECIFICATIONS", LATEST EDITION.
2. FLOOR DECK TO STRUCTURE FASTENING SHALL BE ACCOMPLISHED USING 5- 5/8"Ø PUDDLE WELDS FOR EACH 36" WIDTH AND 2- #10 TEK SCREW SIDE LAP FASTENERS.
3. PAINTED SURFACES OF DECK DAMAGED AS A RESULT OF HANDLING, SHIPPING, OR INSTALLATION SHALL BE CLEANED AND REPAIRED WITH AN APPROVED REPAIR PAINT IN ACCORDANCE WITH THE STEEL DECK SPECIFICATIONS.

DRAWING LIST

# of TOTAL	SHEET NAME	SHEET TITLE
128	S-000	NOTES & SCHEDULES
129	S-100	OVERALL PLAN 1ST FLOOR PLAN
130	S-101	OVERALL MEZZANINE FLOOR PLAN
131	S-102	OVERALL 2ND FLOOR PLAN
132	S-103	OVERALL ROOF PLAN
133	S-104	1ST FLOOR PLAN - AREA 1
134	S-105	1ST FLOOR PLAN - AREA 2
135	S-106	1ST FLOOR PLAN - AREA 3
136	S-107	1ST FLOOR PLAN - AREA 4
137	S-108	1ST FLOOR PLAN - AREA 5
138	S-109	1ST FLOOR PLAN - AREA 6
139	S-110	1ST FLOOR PLAN - AREA 7
140	S-111	1ST FLOOR PLAN - AREA 8
141	S-112	1ST FLOOR PLAN -AREA 9
142	S-113	1ST FLOOR PLAN - AREA 10
143	S-114	1ST FLOOR PLAN -AREA 11
144	S-120	MEZZANINE PLAN - AREA 4
145	S-121	MEZZANINE PLAN - AREA 5
146	S-122	MEZZANINE PLAN - AREA 7
147	S-123	MEZZANINE PLAN - AREA 8
148	S-130	2ND FLOOR PLANS -AREA 4
149	S-131	2ND FLOOR PLAN -AREA 5
150	S-140	ROOF PLAN - AREA 1
151	S-141	ROOF PLAN - AREA 2
152	S-142	ROOF PLAN - AREA 3
153	S-143	ROOF PLAN - AREA 4
154	S-144	ROOF PLAN -AREA 5
155	S-145	ROOF PLAN - AREA 6
156	S-146	ROOF PLAN - AREA 7
157	S-147	ROOF PLAN - AREA 8
158	S-148	ROOF PLAN - AREA 9
159	S-149	ROOF PLAN - AREA 10
160	S-150	ROOF PLAN -AREA 11
161	S-160	STORAGE BUILDING FND & FRAMING PLANS
162	S-400	COLUMN SCHEDULE
163	S-401	COLUMN SCHEDULE
164	S-402	COLUMN SCHEDULE

STRUCTURAL SLAB & DECK SCHEDULE

MARK	STEEL DECK TYPE	CONC SLAB & REINFORCING	REMARKS
RD-1.5	1-1/2", 18 GAUGE, GALVANIZED STEEL ROOF DECK	N/A	
RD-3	3", 20 GAUGE, GALVANIZED STEEL ROOF DECK	N/A	
SS-6.5	2", 18 GAUGE, GALVANIZED COMPOSITE STEEL FLOOR DECK	4-1/2" NW CONC REINFORCED W/ 6x6 - W2.9xW2.9 WELDED WIRE FABRIC	
PC-8	N/A	8" PRECAST PLANK	
PC-10+2	N/A	10" PRECAST PLANK W/ 2" NW CONC TOPPING	

PRECAST CONCRETE:

1. DESIGN, MATERIAL, AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE FOLLOWING STANDARDS:

   ACI 318, BUILDING CODE REQUIREMENTS FOR REINFOCED CONCRETE
   PCI MNL 120, PCI DESIGN HANDBOOK - PRECAST AND PRESTRESSED CONCRETE
   PCI MNL 116, MANUAL FOR QUALITY CONTROL FOR PLANTS AND PRODUCTION OF STRUCTURAL CONCRETE PRODUCTS
   PCI MNL 135, TOLERANCE MANUAL FOR PRECAST AND PRESTRESSED CONCRETE CONSTRUCTION
   MCI MNL 127, PCI ERECTOR'S MANUAL - STANDARDS AND GUIDELINES FOR THE ERECTION OF PRECAST CONCRETE PRODUCTS
   AWS D1.1, STRUCTURAL WELDING CODE - STEEL
   AWS D1.4, STRUCTURAL WELDING CODE - REINFORCING STEEL
2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
3. ALL PRESTRESSING TENDONS SHALL CONFORM TO ASTM A416, GRADE 250 OR GRADE 270, UNCOATED, LOW-RELAXATION STAND.
4. ALL BEARING PADS SHALL BE HIGH-DENSITY, MULTIMONOMER, NON-LEACHING, PLASTIC STRIP CAPABLE OF SUPPORTING CONSTRUCTION LOADS WITH NO VISIBLE OVERALL EXPANSION.
5. ALL GROUT SHALL BE SAND-CEMENT GROUND COMPOSED OF PORTLAND CEMENT, ASTM C150, TYPE I, AND CLEAN NATURAL SAND, ASTM C144 OR ASTM C404. MIX AT RATIO OF 1 PART CEMENT TO 3 PARTS SAND, BY VOLUME, WITH MINIMUM WATER REQUIRED FOR PLACEMENT AND HYDRATION.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

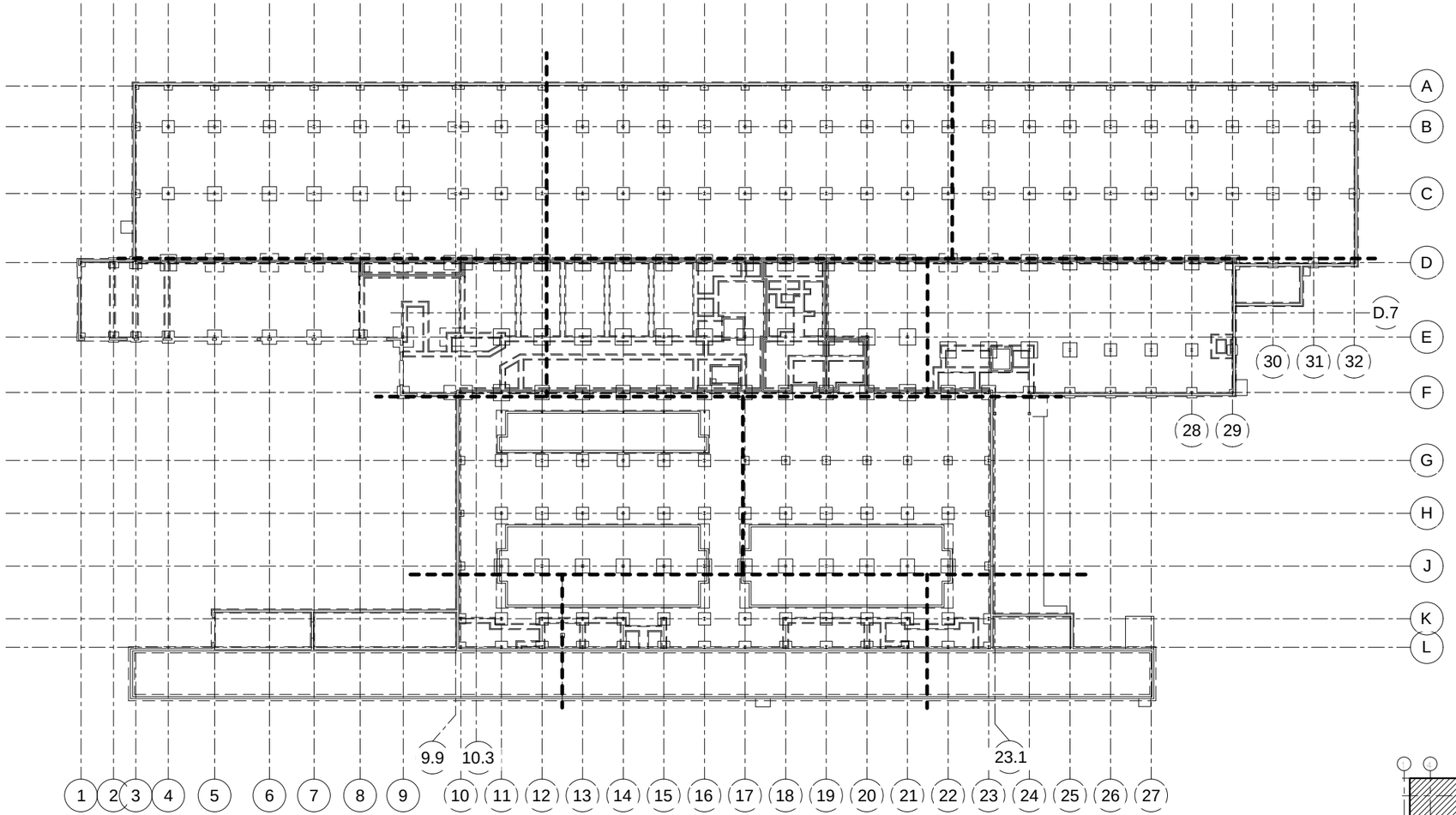
WEST-VOLUME 4 (OMF) STRUCTURAL NOTES & SCHEDULES

DISCIPLINE: STRUCTURAL

SHEET NAME: S-000

SHEET 128 OF 288

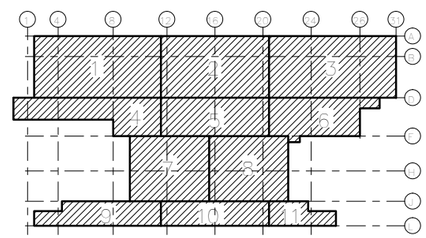
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FOUNDATION SCHEDULE		
TYPE	SIZE	THICKNESS
F-1	3' x 3'	12"
F-2	4' x 4'	18"
F-3	5' x 5'	18"
F-4	6' x 6'	18"
F-5	7' x 7'	24"
F-6	8' x 8'	24"
F-7	9' x 9'	24"
F-8	10' x 10'	30"
F-9	3' x 6'	12"
F-10	5' x 10'	18"
F-11	7' x 14'	24"
F-12	9' x 18'	24"

1 / S-100 10 - OVERALL GROUND FLOOR FOUNDATION PLAN

SCALE: 1/32" = 1'-0"



KEY PLAN

SCALE: N.T.S.

N

0 16' 32' 64'

1/32" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

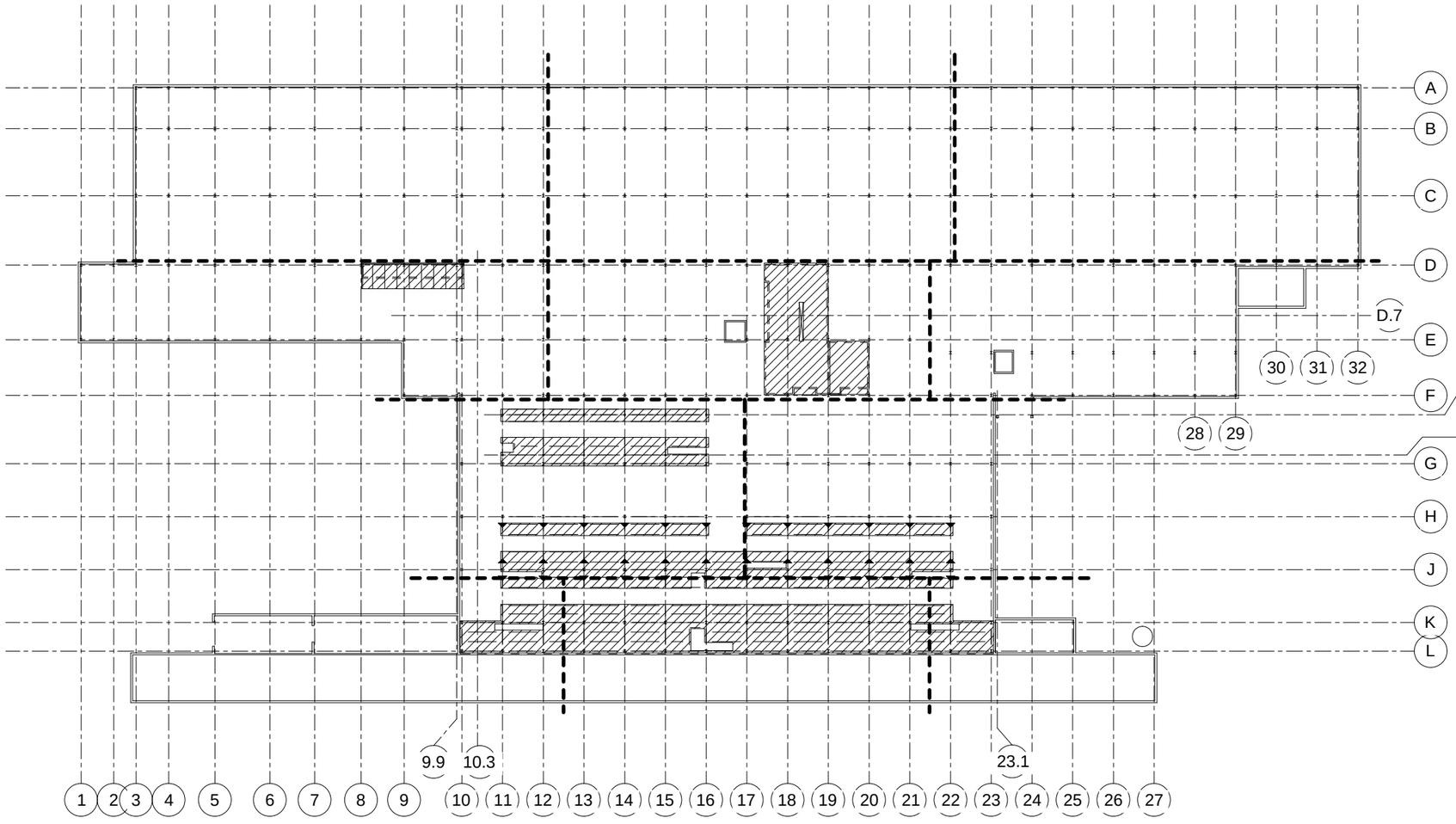
WEST-VOLUME 4 (OMF) STRUCTURAL OVERALL PLAN 1ST FLOOR PLAN

DISCIPLINE: STRUCTURAL

SHEET NAME: S-100

SHEET 129 OF 288

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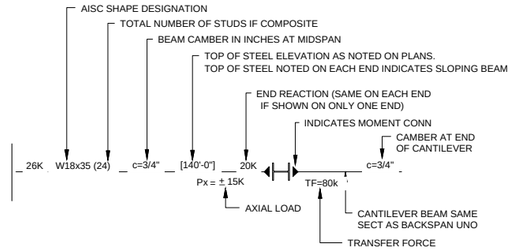
1 / S-101 15 - OVERALL MEZZANINE FRAMING PLAN

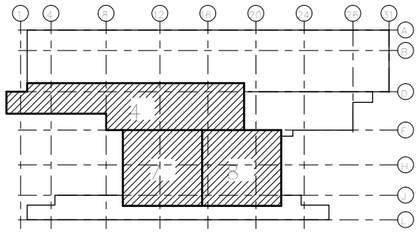
SCALE: 1/32" = 1'-0"

TYPICAL STEEL FRAMING LEGEND

NOTES:

A. PROVIDE CONNECTION DESIGN BASED ON END REACTION AND TYPE OF CONNECTION INDICATED ON THE DRAWINGS. END REACTIONS SHOWN ON THE DWGS ARE WORKING LOADS. IF THE FABRICATOR OPTS TO DESIGN CONNECTIONS USING LRFD, A 1.5 LOAD FACTOR SHALL BE ASSUMED.
C. TYPICAL CONNECTIONS OF BEAM TO BEAM OR BEAM TO COLUMN SHALL BE SIMPLE DOUBLE ANGLE SHEAR CONNECTIONS AS SHOWN ON TYPICAL DETAIL UNLESS INDICATED OTHERWISE ON THE DWGS.
D. IN A MOMENT CONN, THE BEAM WEB SHEAR CONN SHALL BE A SLIP CRITICAL BOLTED CONNECTION.
E. WHERE CONNECTIONS OR REACTIONS ARE NOT SHOWN ON DRAWINGS, PROVIDE TYPE 2 CONNECTIONS TO SUPPORT TOTAL UNIFORM LOAD CAPACITY SHOWN IN THE TABLE 3-6 MAXIMUM TOTAL UNIFORM LOAD TABLES (ASD), PART 3 OF REFERENCE STANDARD FOR GIVEN BEAM, SPAN AND GRADE OF STEEL SPECIFIED MULTIPLIED BY 1.0 FOR NON COMPOSITE BEAMS AND 1.5 FOR COMPOSITE BEAMS (SHEAR STUDS INDICATED ON PLAN).
F. CONNECTION OF SKEWED BEAM TO COLUMN OR SKEWED BEAM TO BEAM MAY BE SINGLE PLATE "SHEAR TAB" PER TYPICAL DETAIL WHEN APPROVED BY THE ENGINEER.





KEY PLAN - MEZZ

SCALE: N.T.S.

0 16' 32' 64'

1/32" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

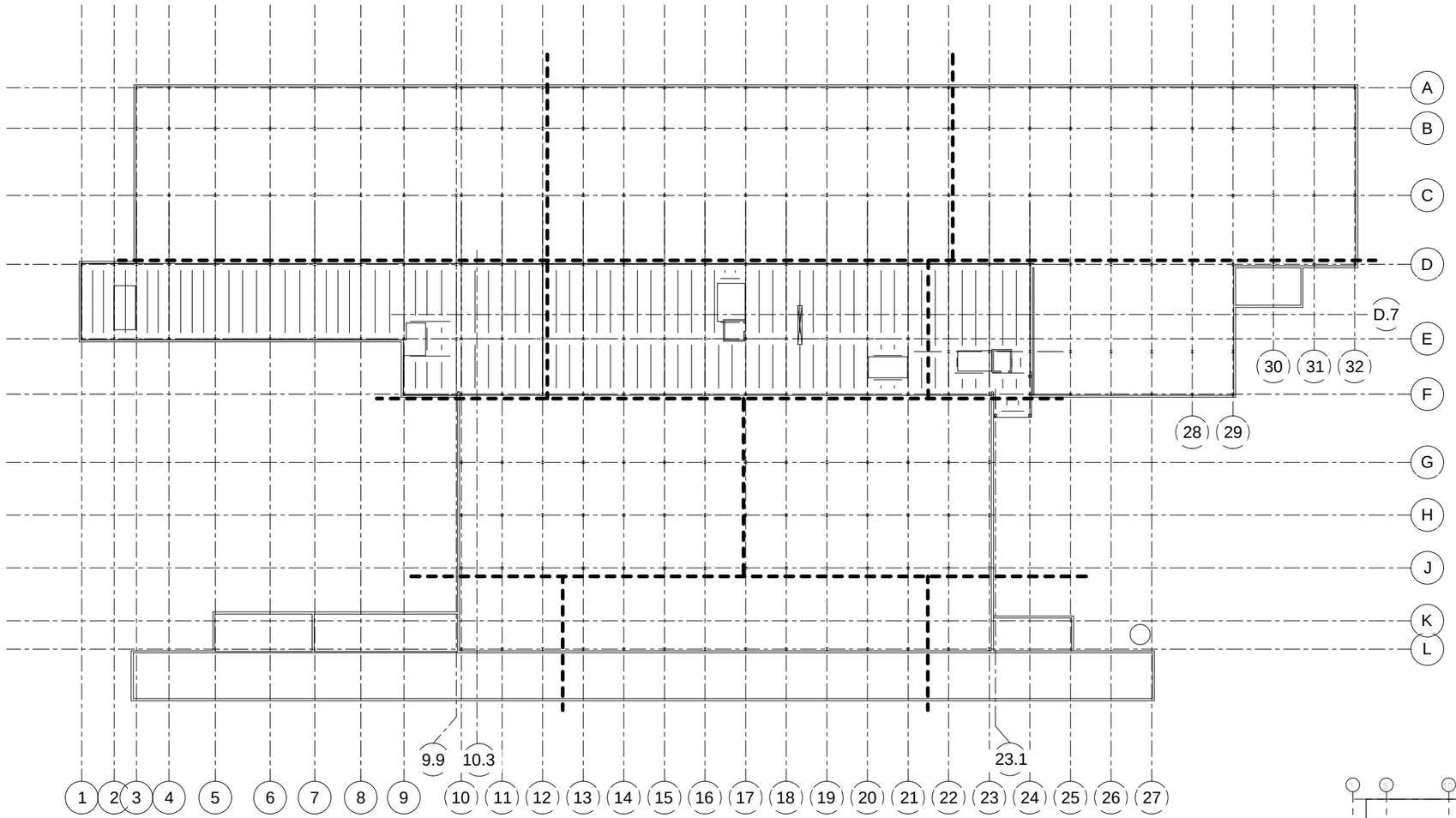
WEST-VOLUME 4 (OMF)
STRUCTURAL
OVERALL MEZZANINE FLOOR PLAN

DISCIPLINE: STRUCTURAL

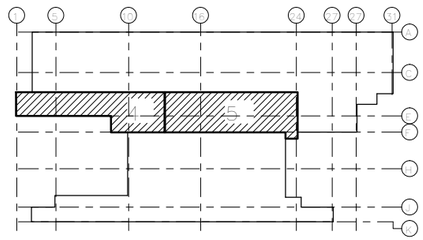
SHEET NAME: S-101

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9/18/2014 10:26:52 AM



1 S-102 20 - OVERALL SECOND FLOOR FRAMING PLAN
SCALE: 1/32" = 1'-0"



KEY PLAN 2ND FLR.
SCALE: N.T.S.

N

0 16' 32' 64'
1/32" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

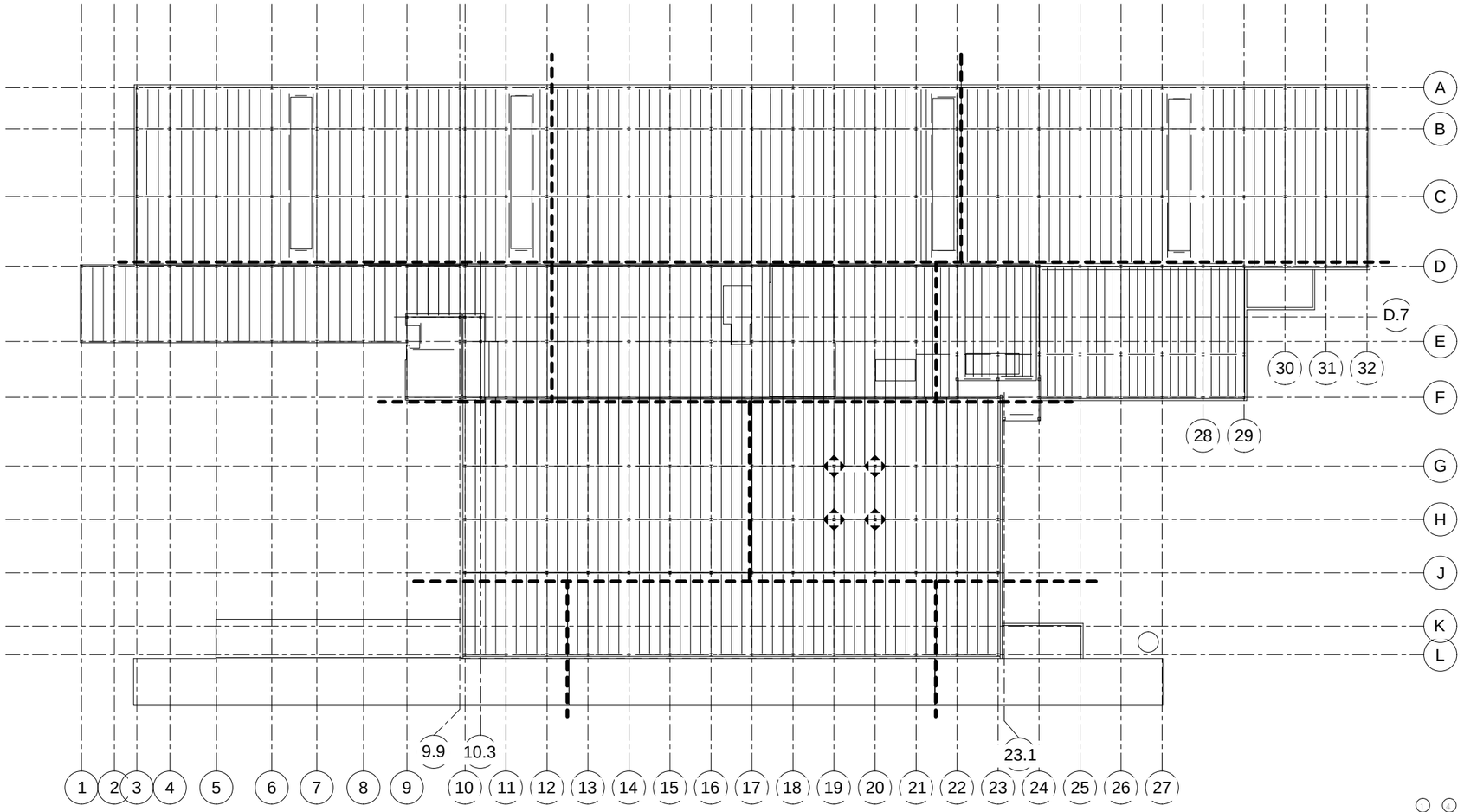
WEST-VOLUME 4 (OMF) STRUCTURAL OVERALL 2ND FLOOR PLAN

DISCIPLINE: STRUCTURAL

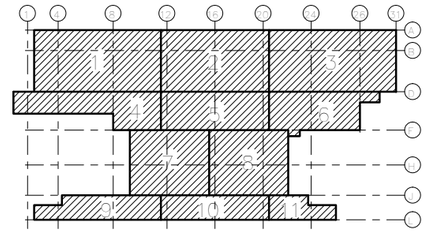
SHEET NAME: S-102

SHEET 131 OF 288

6/18/2014 10:26:55 AM



1 / S-103 34 - OVERALL ROOF FRAMING PLAN
SCALE: 1/32" = 1'-0"



KEY PLAN
SCALE: N.T.S.

0 16' 32' 64'
1/32" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

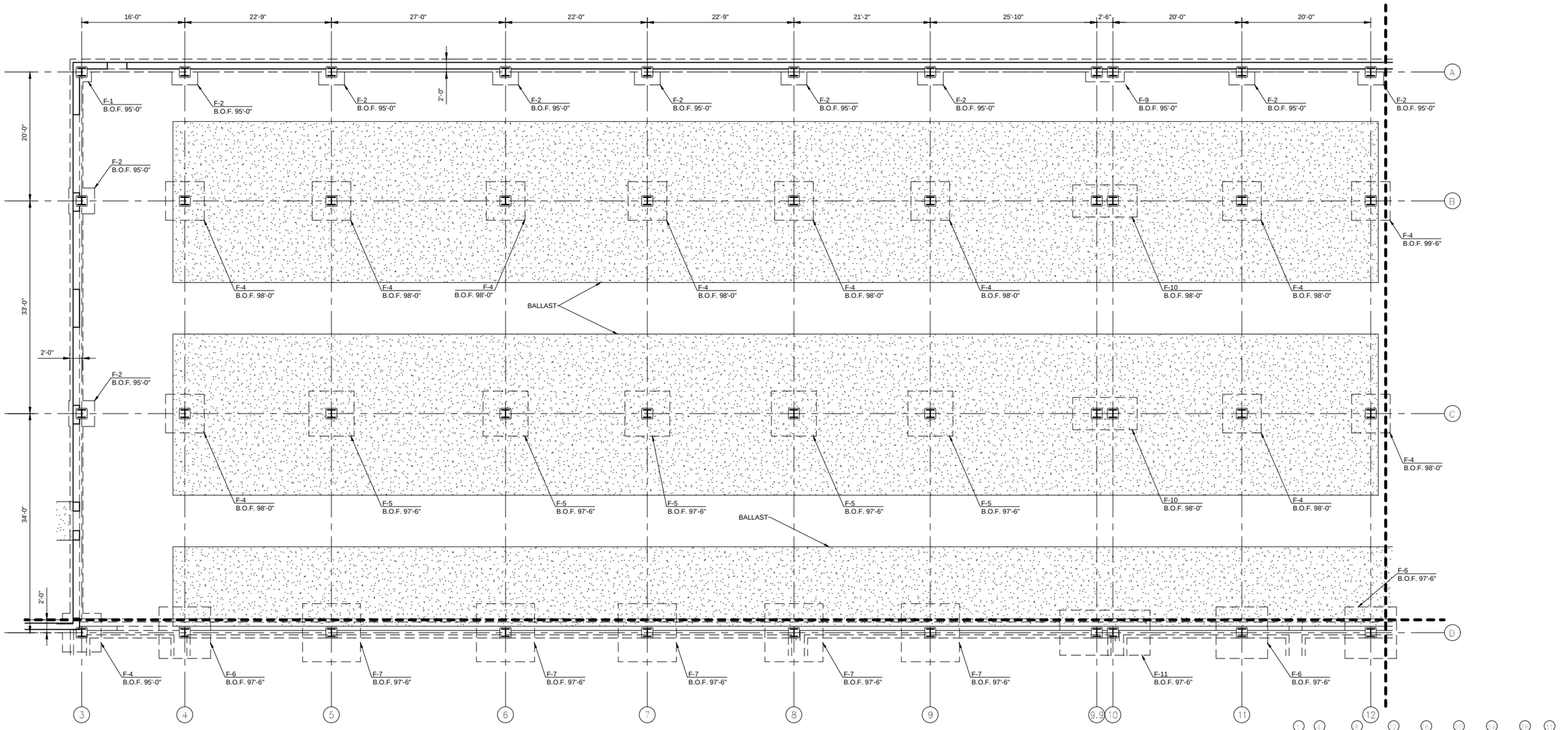
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DISCIPLINE: STRUCTURAL

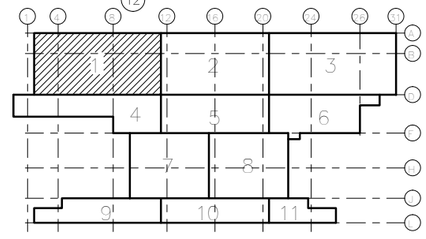
SHEET NAME: S-103

SHEET 132 OF 288

6/18/2014 10:26:58 AM



1 S-104 1ST FLOOR PLAN - AREA 1
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

0 4' 8' 16'
1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

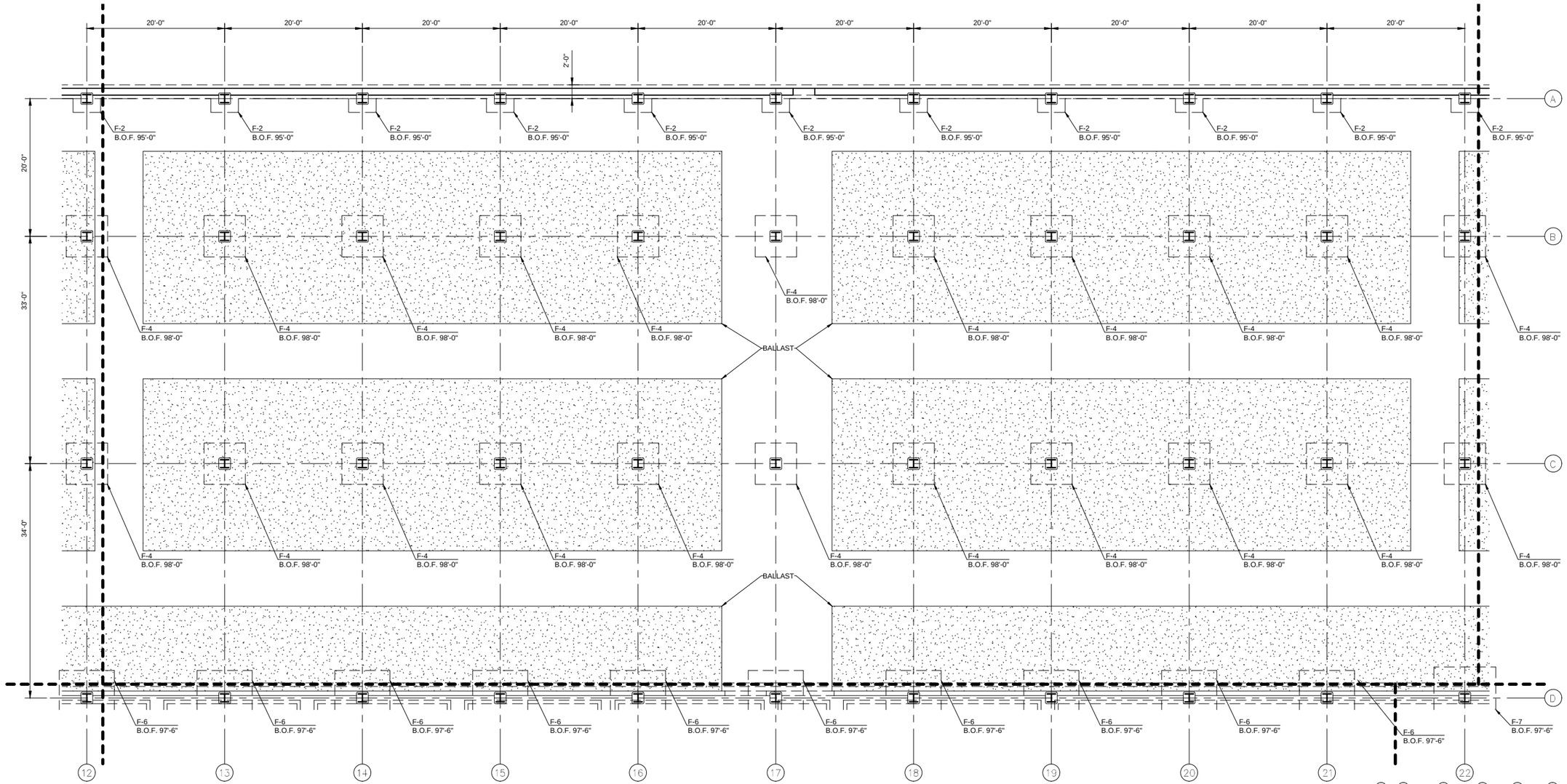
WEST-VOLUME 4 (OMF) STRUCTURAL 1ST FLOOR PLAN - AREA 1

DISCIPLINE: STRUCTURAL

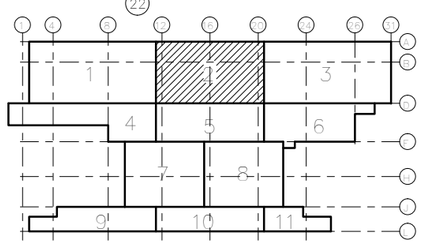
SHEET NAME: S-104

SHEET 133 OF 288

6/18/2014 10:27:01 AM



1 S-105 1ST FLOOR PLAN - AREA 2
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

0 4' 8' 16'
1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

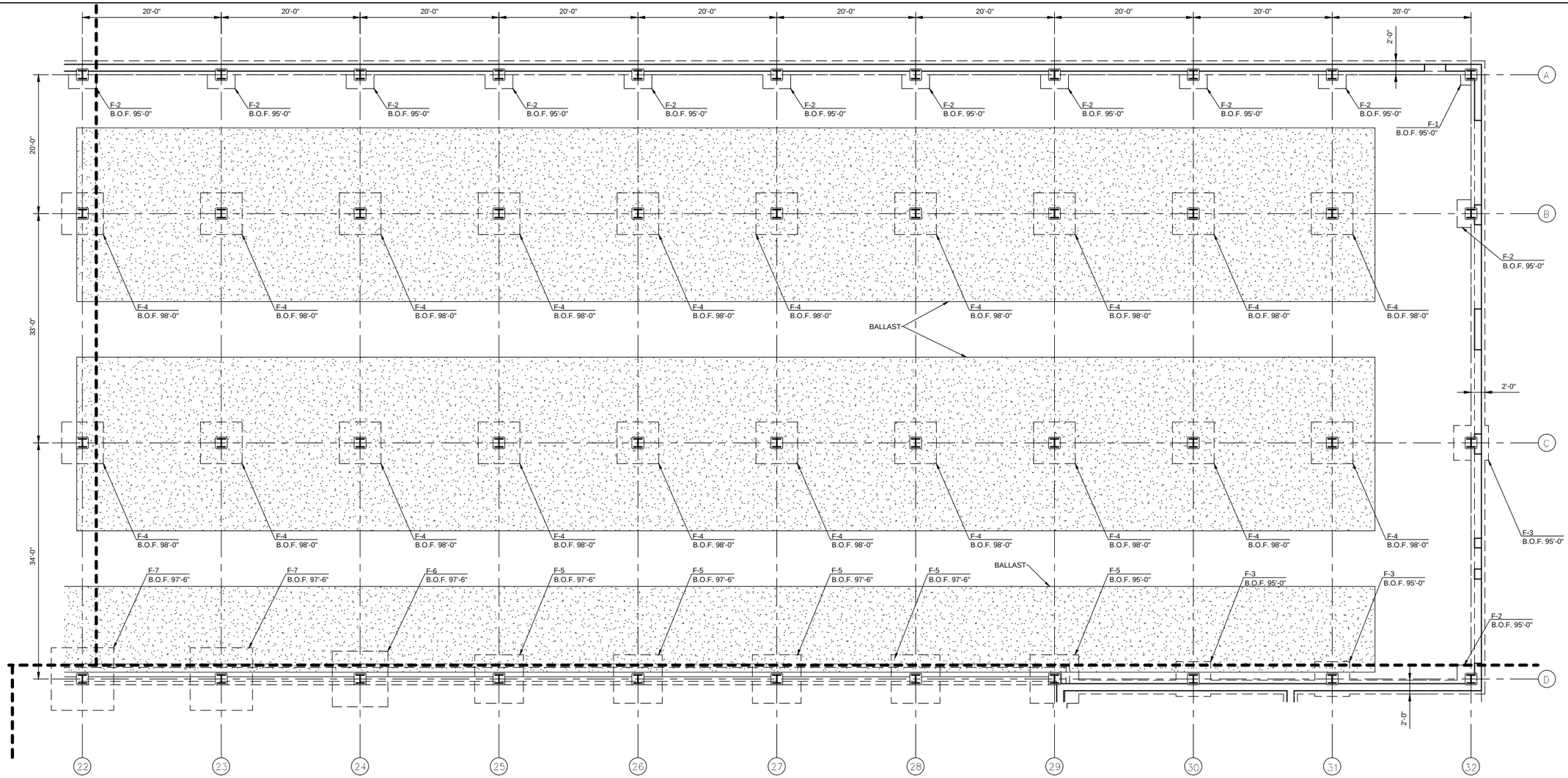
WEST-VOLUME 4 (OMF) STRUCTURAL 1ST FLOOR PLAN - AREA 2

DISCIPLINE: STRUCTURAL

SHEET NAME: S-105

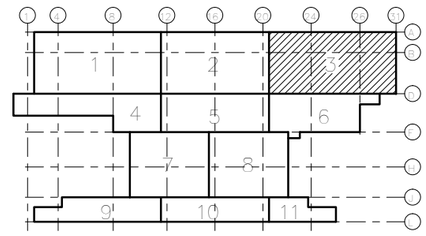
SHEET 134 OF 288

6/18/2014 10:27:05 AM



1 S-106 1ST FLOOR PLAN - AREA 3

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



KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

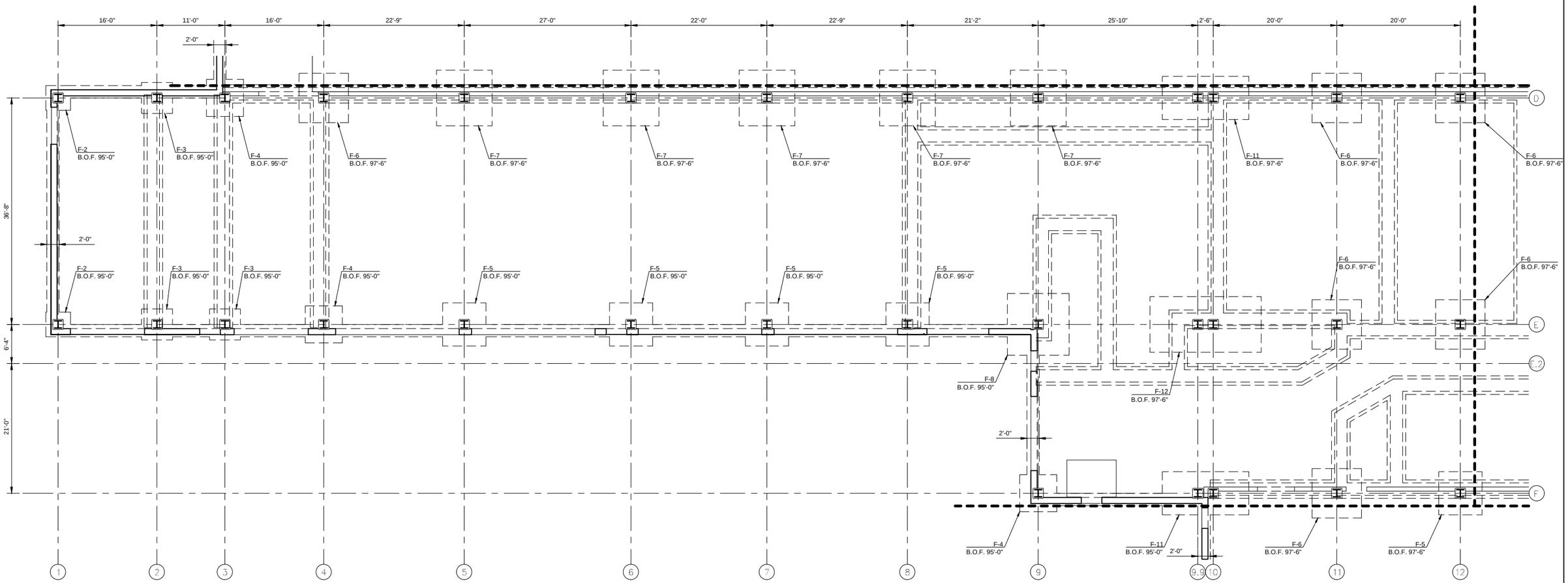
WEST-VOLUME 4 (OMF)
STRUCTURAL
1ST FLOOR PLAN - AREA 3

DISCIPLINE: STRUCTURAL

SHEET NAME: S-106

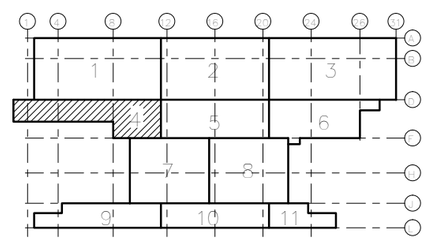
SHEET 135 OF 288

6/18/2014 10:27:08 AM



1 S-107 1ST FLOOR PLAN - AREA 4

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



KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

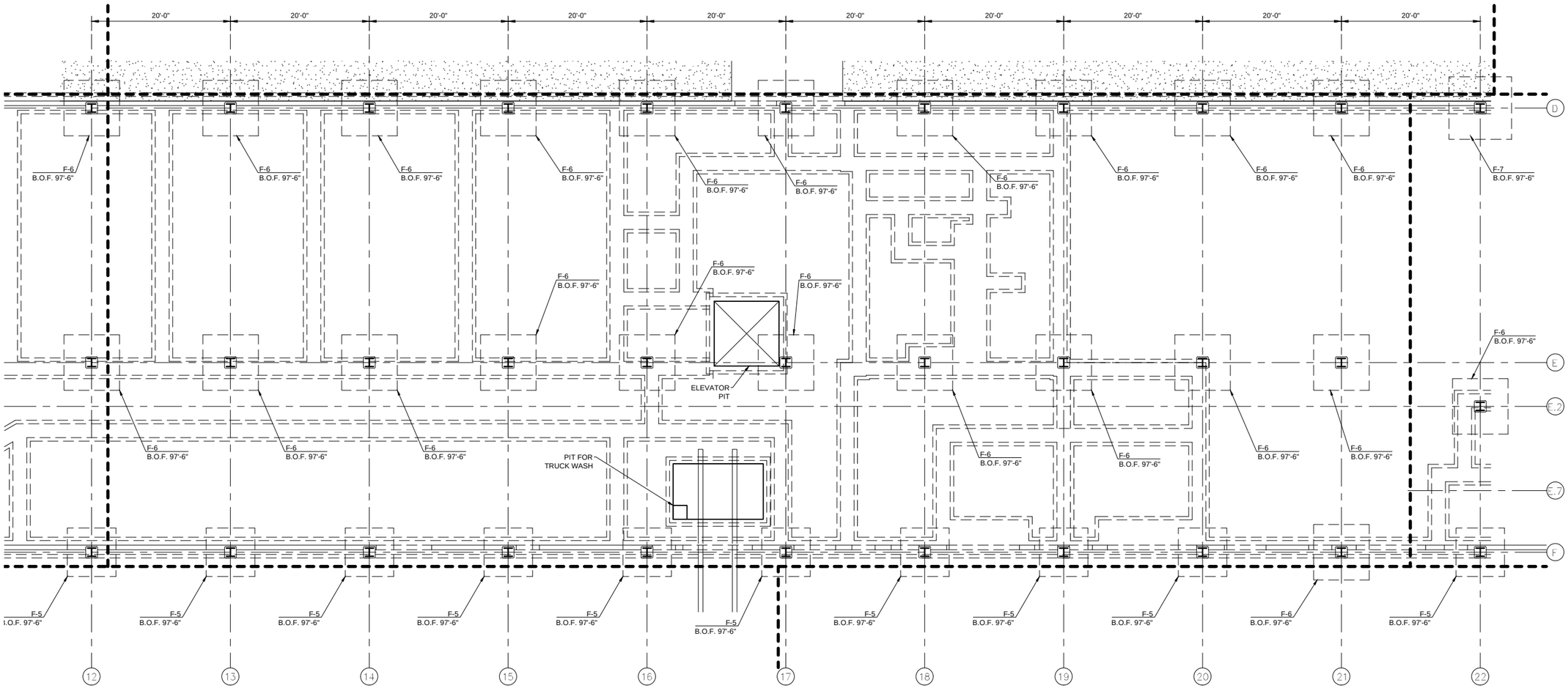
WEST-VOLUME 4 (OMF) STRUCTURAL 1ST FLOOR PLAN - AREA 4

DISCIPLINE: STRUCTURAL

SHEET NAME: S-107

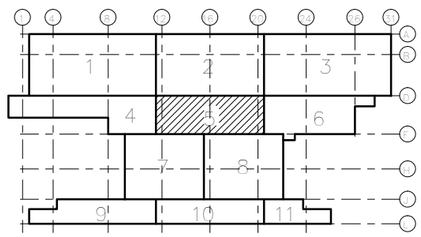
SHEET 136 OF 288

6/18/2014 10:27:10 AM



1 S-108 1ST FLOOR PLAN - AREA 5

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



KEY PLAN

SCALE: N.T.S.

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

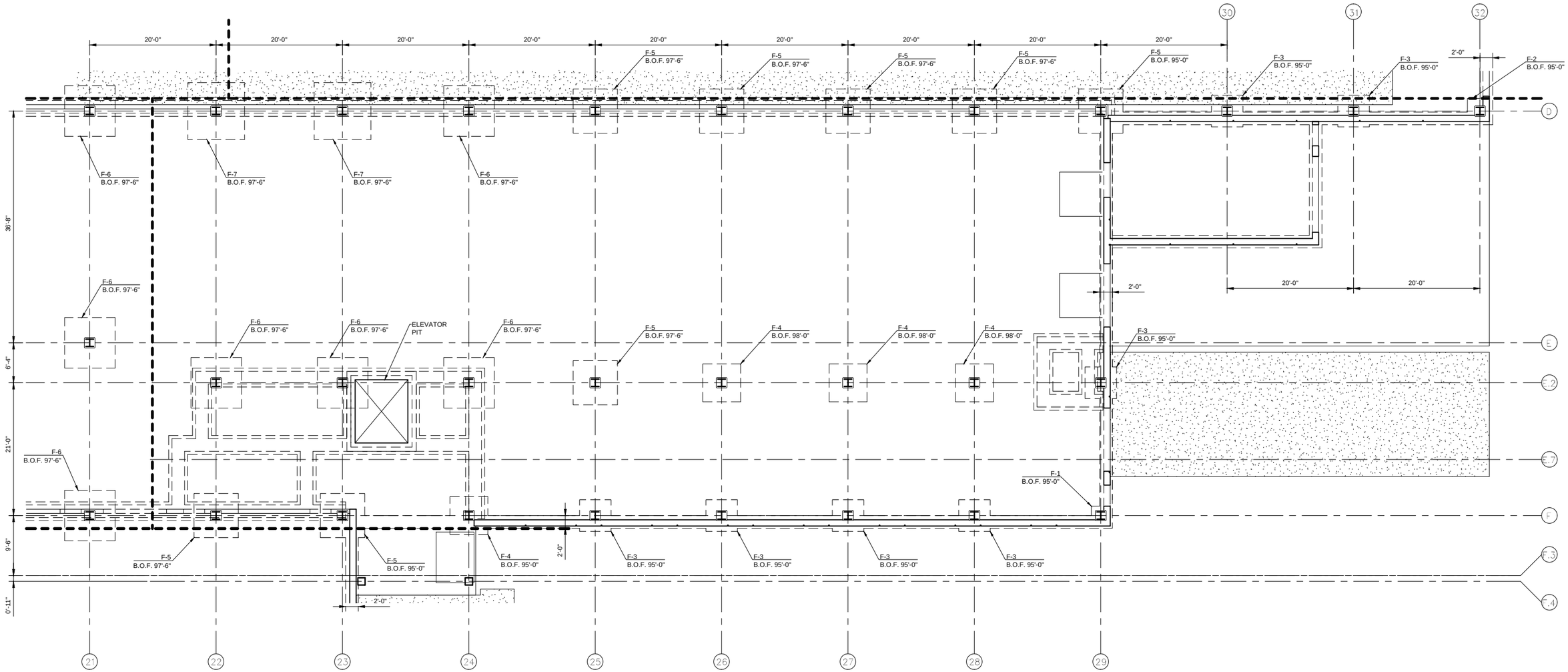
WEST-VOLUME 4 (OMF) STRUCTURAL 1ST FLOOR PLAN - AREA 5

DISCIPLINE: STRUCTURAL

SHEET NAME: S-108

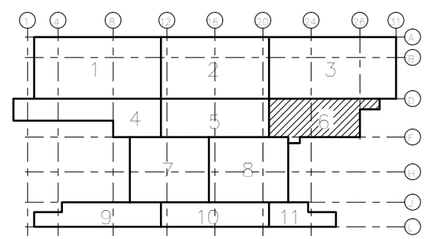
SHEET 137 OF 288

6/18/2014 10:27:13 AM



1 S-109 1ST FLOOR PLAN - AREA 6

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



KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

METROPOLITAN COUNCIL SOUTHWEST

PRELIMINARY ENGINEERING

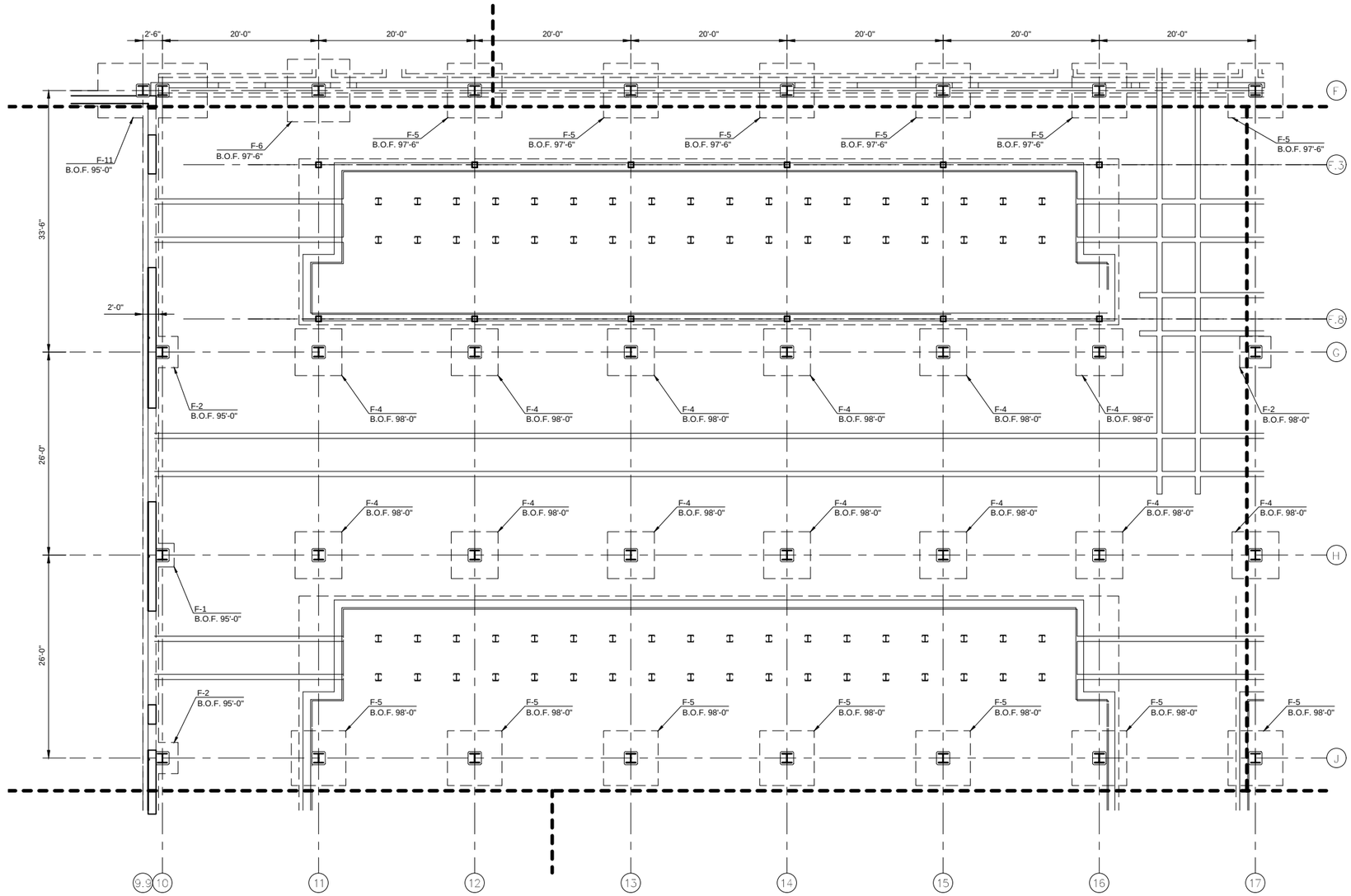
WEST-VOLUME 4 (OMF) STRUCTURAL 1ST FLOOR PLAN - AREA 6

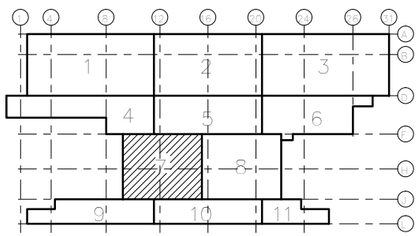
DISCIPLINE: STRUCTURAL

SHEET NAME: S-109

SHEET 138 OF 288

6/18/2014 10:27:16 AM





KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

1 / S-110 1ST FLOOR PLAN - AREA 7

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

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

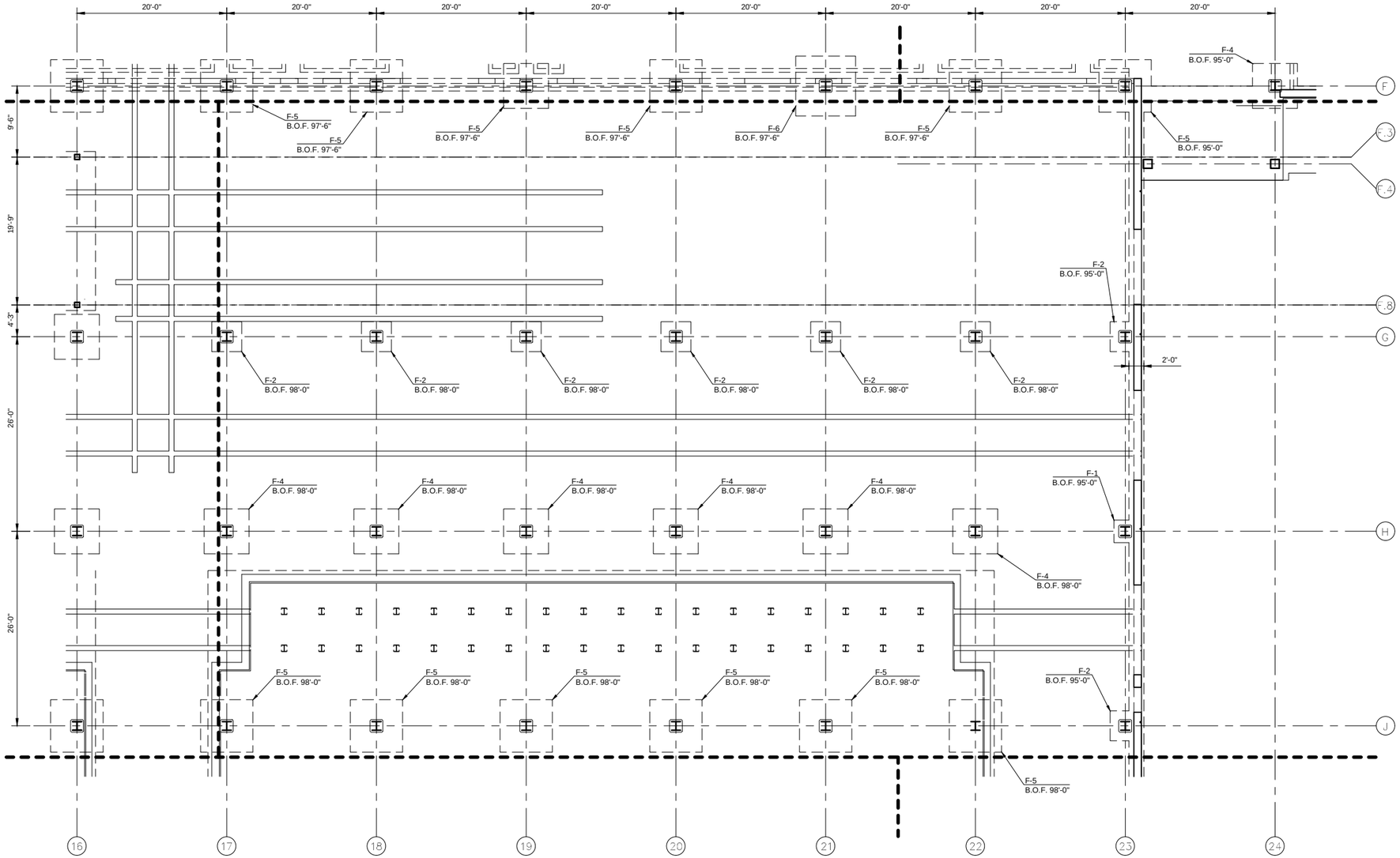
WEST-VOLUME 4 (OMF) STRUCTURAL 1ST FLOOR PLAN - AREA 7

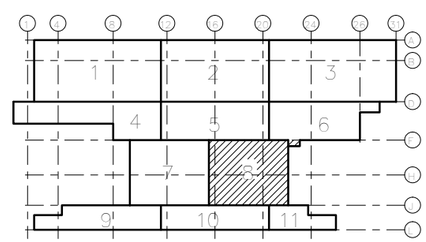
DISCIPLINE: STRUCTURAL

SHEET NAME: S-110

SHEET 139 OF 288

9/18/2018 10:27:21 AM





KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

1 / S-111 1ST FLOOR PLAN - AREA 8

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

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

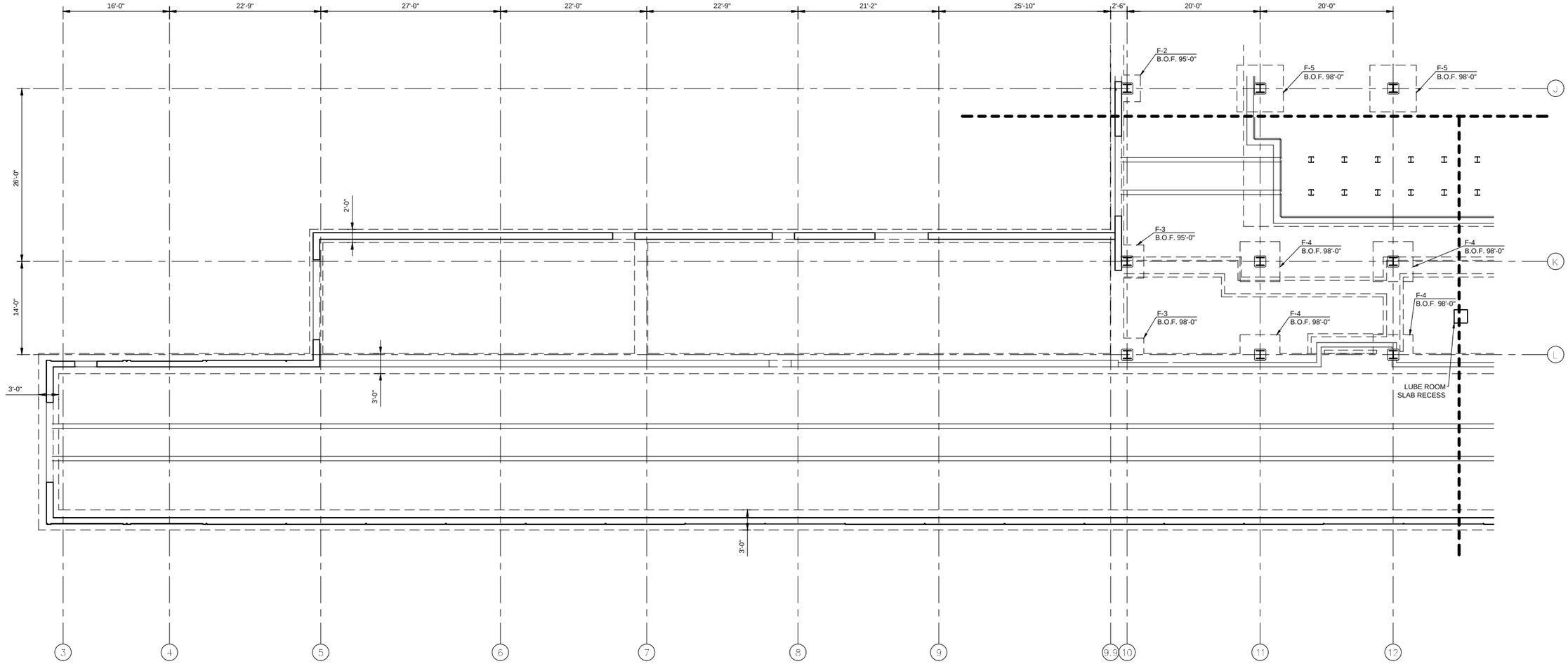
WEST-VOLUME 4 (OMF) STRUCTURAL 1ST FLOOR PLAN - AREA 8

DISCIPLINE: STRUCTURAL

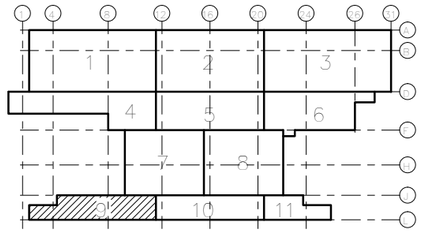
SHEET NAME: S-111

SHEET 140 OF 288

6/18/2014 10:27:26 AM



1 S-112 1ST FLOOR PLAN - AREA 9
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

N

0 4' 8' 16'
1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

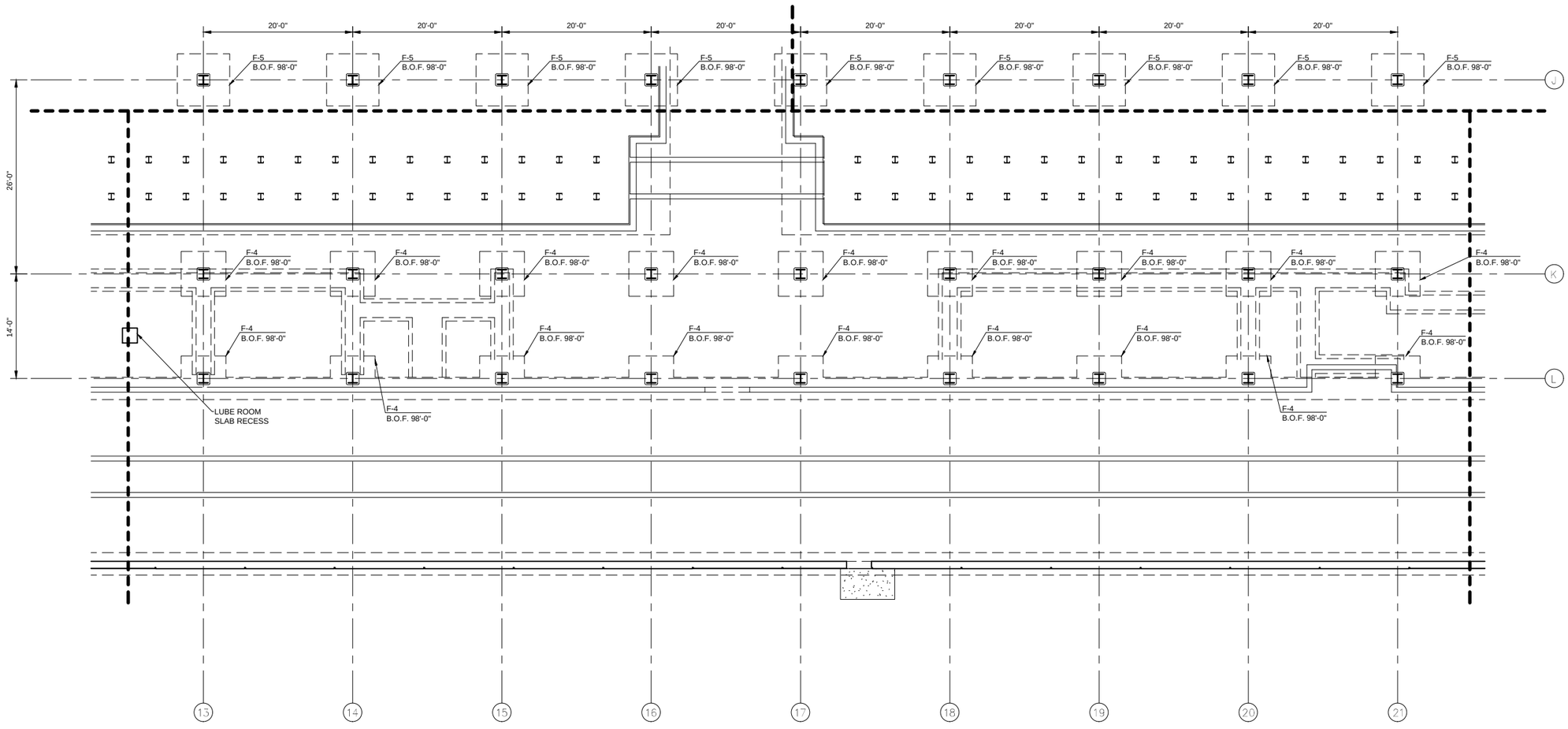
WEST-VOLUME 4 (OMF)
STRUCTURAL
1ST FLOOR PLAN -AREA 9

DISCIPLINE: STRUCTURAL

SHEET NAME: S-112

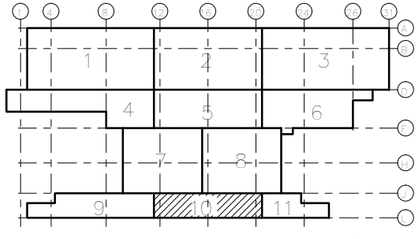
SHEET 141 OF 288

6/18/2014 10:27:29 AM



1 S-113 1ST FLOOR PLAN - AREA 10

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



KEY PLAN

SCALE: N.T.S.

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

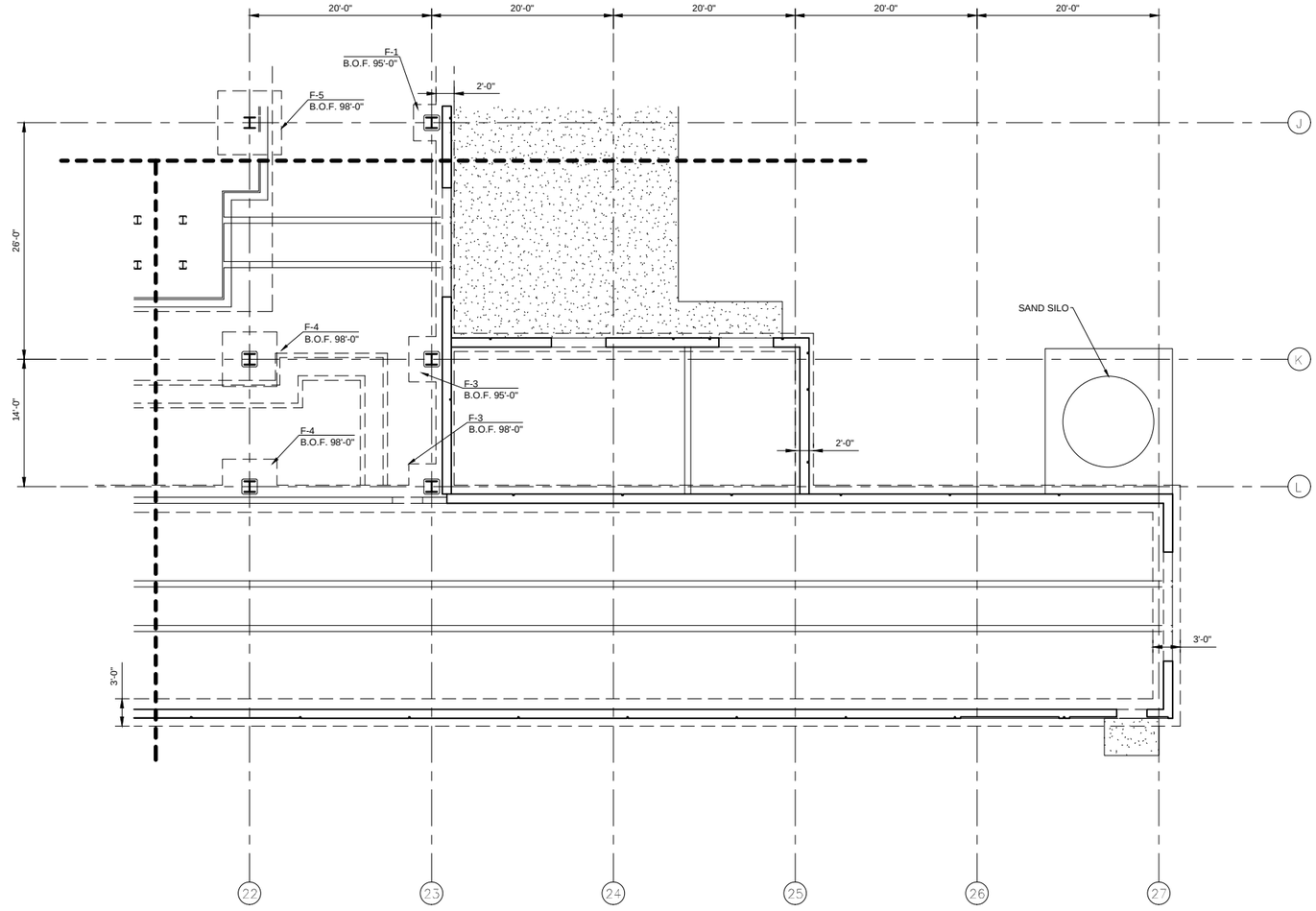
WEST-VOLUME 4 (OMF)
STRUCTURAL
1ST FLOOR PLAN - AREA 10

DISCIPLINE: **STRUCTURAL**

SHEET NAME: S-113

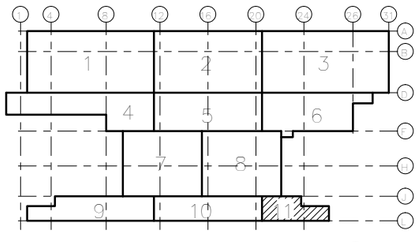
SHEET 142 OF 288

6/18/2014 10:27:54 AM



1 S-114 1ST FLOOR PLAN - AREA 11

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



KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

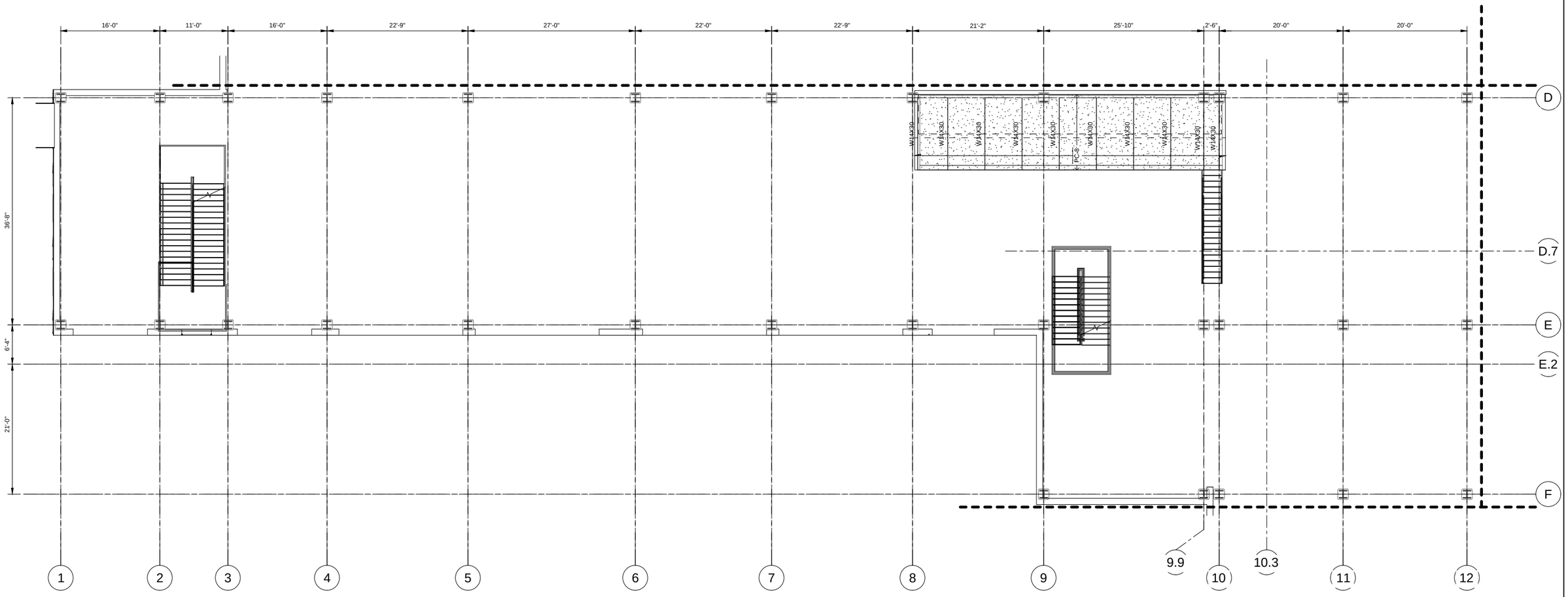
WEST-VOLUME 4 (OMF) STRUCTURAL 1ST FLOOR PLAN -AREA 11

DISCIPLINE: STRUCTURAL

SHEET NAME: S-114

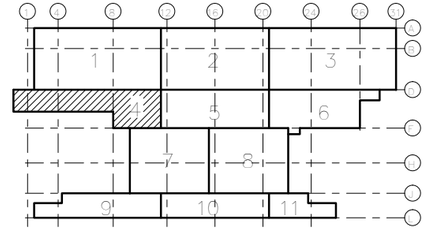
SHEET 143 OF 288

9/18/2014 10:27:36 AM



1 S-120 MEZZANINE FLOOR FRAMING PLAN - AREA 4

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



KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

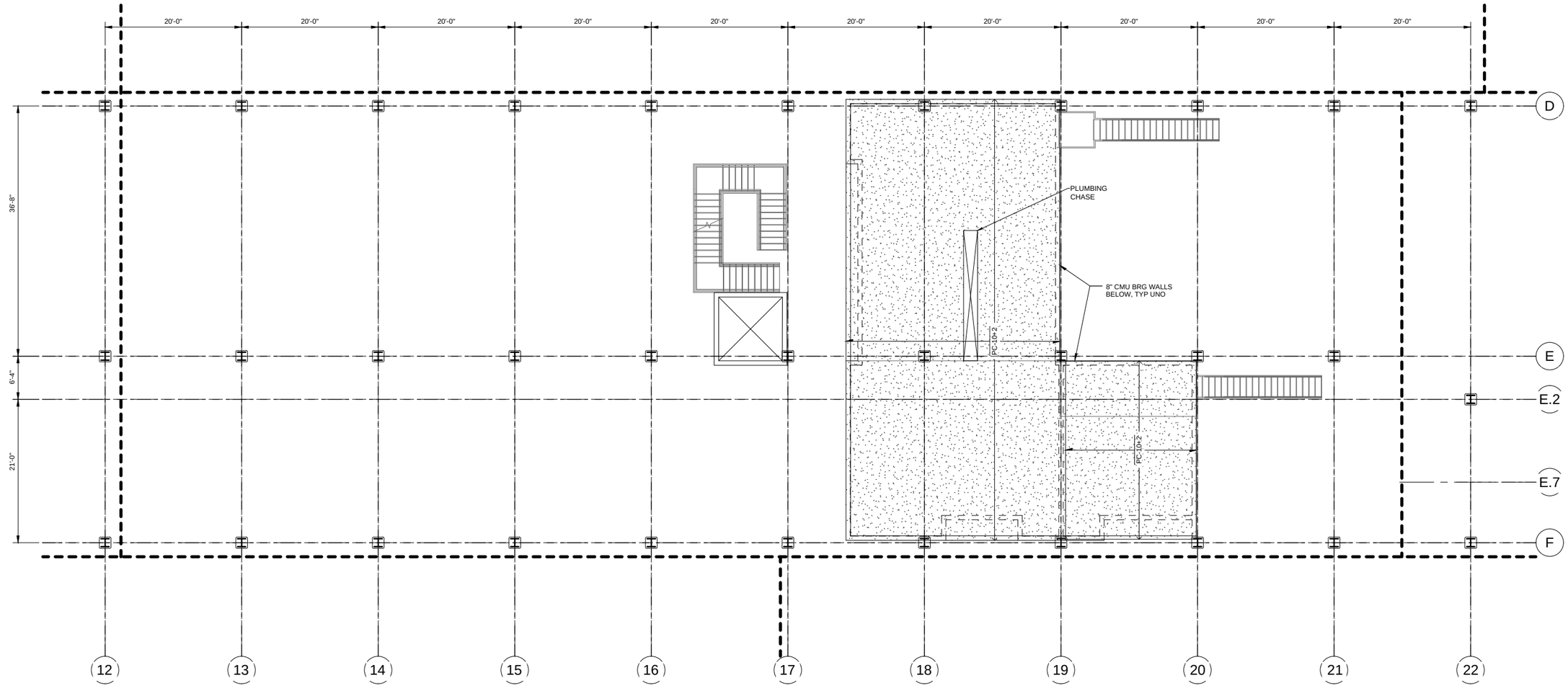
WEST-VOLUME 4 (OMF)
STRUCTURAL
MEZZANINE PLAN - AREA 4

DISCIPLINE: STRUCTURAL

SHEET NAME: S-120

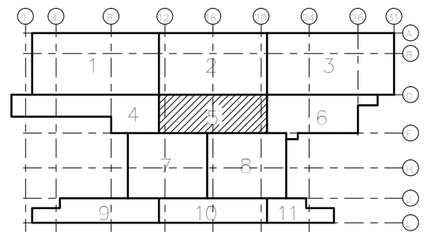
SHEET 144 OF 288

6/18/2014 10:27:39 AM



1 S-121 MEZZANINE FLOOR FRAMING PLAN - AREA 5

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



KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

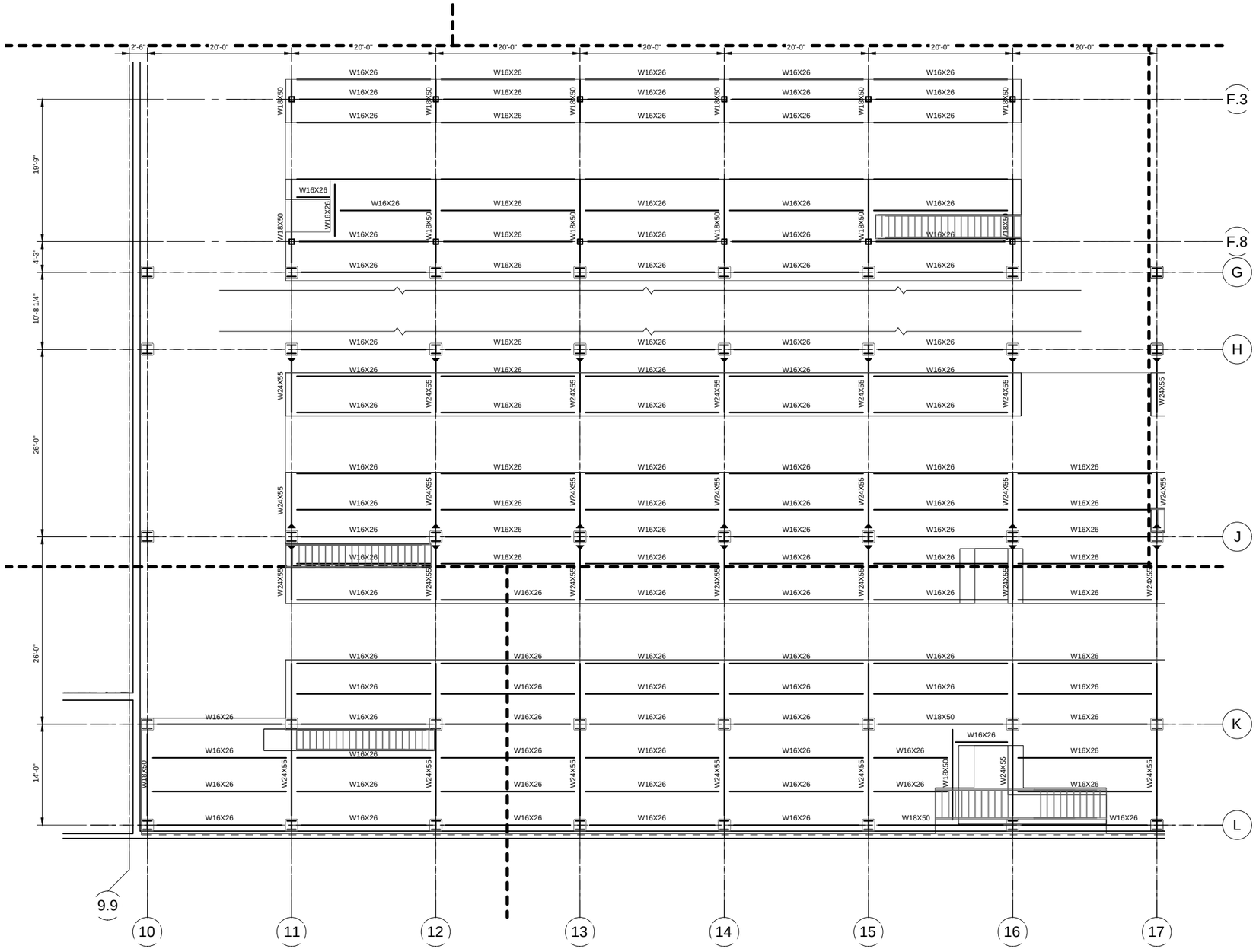
WEST-VOLUME 4 (OMF)
STRUCTURAL
MEZZANINE PLAN - AREA 5

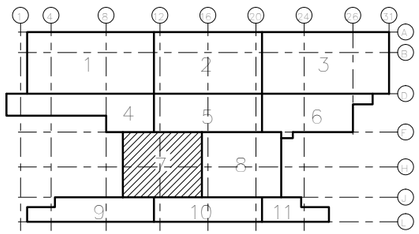
DISCIPLINE: STRUCTURAL

SHEET NAME: S-121

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KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

1 / S-122 MEZZANINE FLOOR FRAMING PLAN - AREA 7

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

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

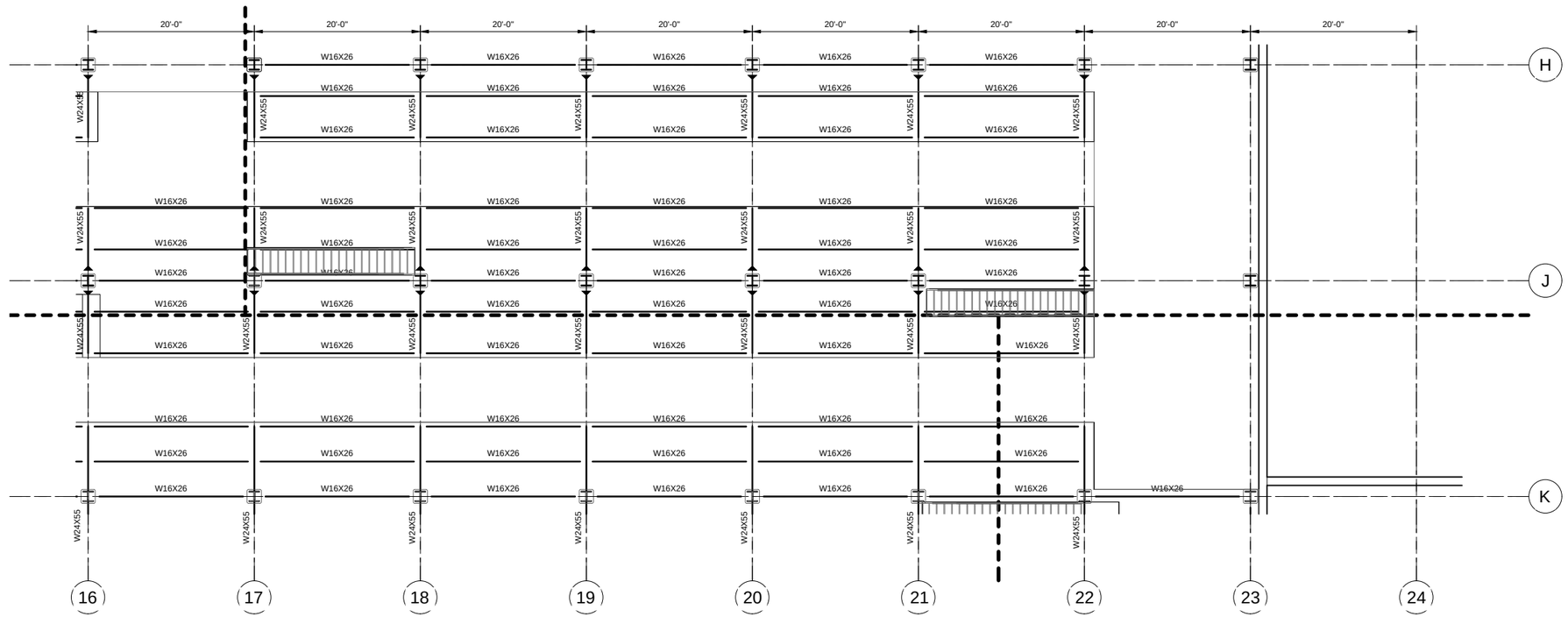
WEST-VOLUME 4 (OMF) STRUCTURAL MEZZANINE PLAN - AREA 7

DISCIPLINE: STRUCTURAL

SHEET NAME: S-122

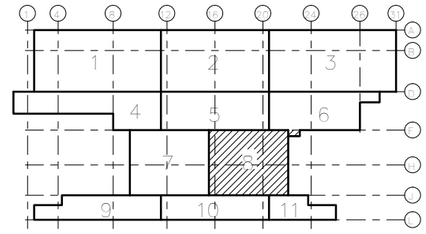
SHEET 146 OF 288

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1 S-123 MEZZANINE FLOOR FRAMING PLAN - AREA 8

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



KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) STRUCTURAL MEZZANINE PLAN - AREA 8

DISCIPLINE: STRUCTURAL

SHEET NAME: S-123

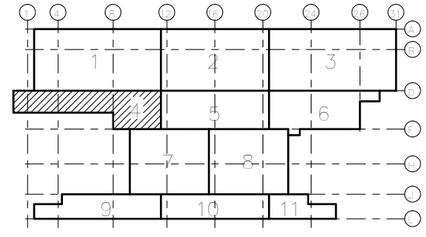
SHEET 147 OF 288

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1 / S-130 SECOND FLOOR FRAMING PLAN - AREA 4

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



KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

METROPOLITAN COUNCIL SOUTHWEST

PRELIMINARY ENGINEERING

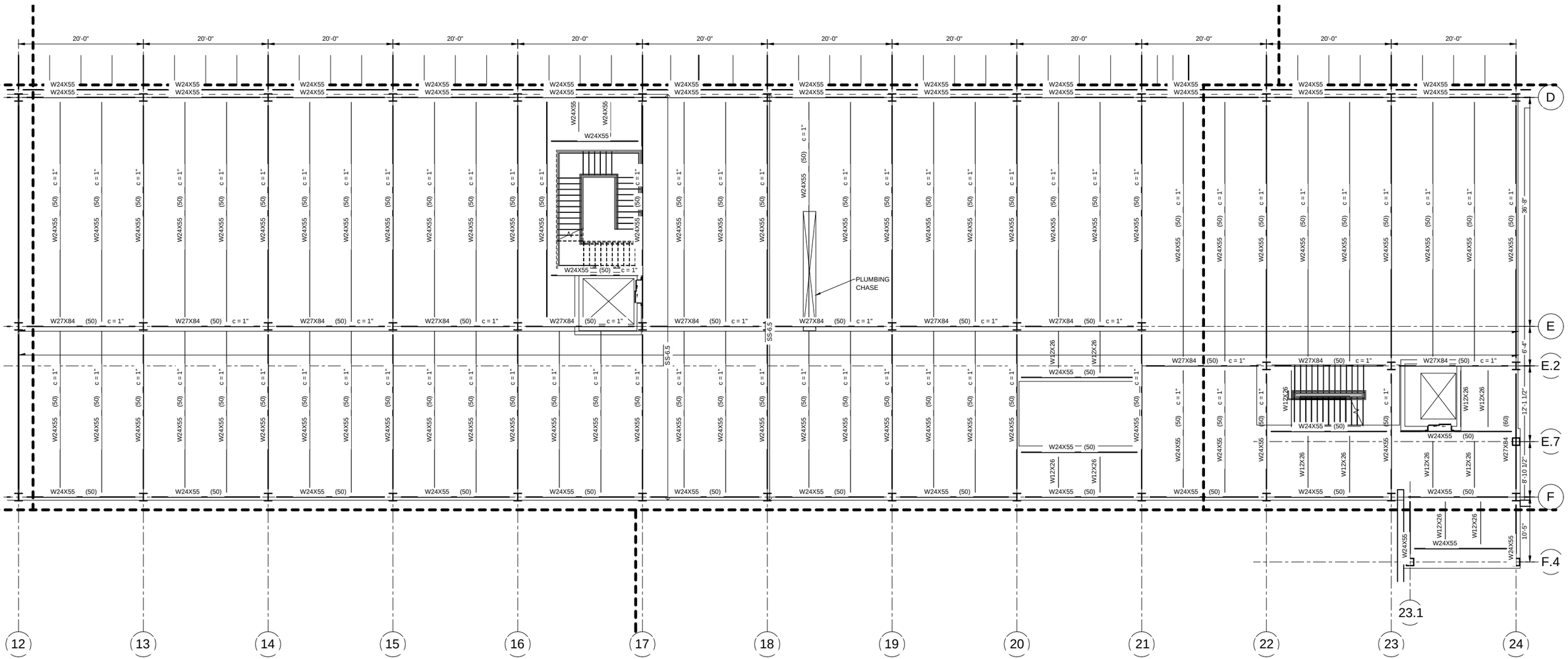
WEST-VOLUME 4 (OMF)
STRUCTURAL
2ND FLOOR PLANS -AREA 4

DISCIPLINE: STRUCTURAL

SHEET NAME: S-130

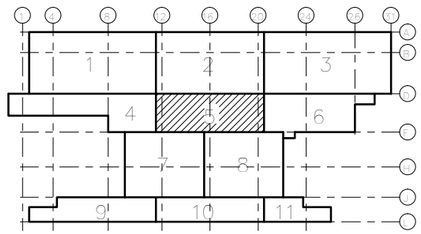
SHEET 148 OF 288

AW
6/18/2025 2:27:46 PM



1 / S-131 SECOND FLOOR FRAMING PLAN - AREA 5

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



KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

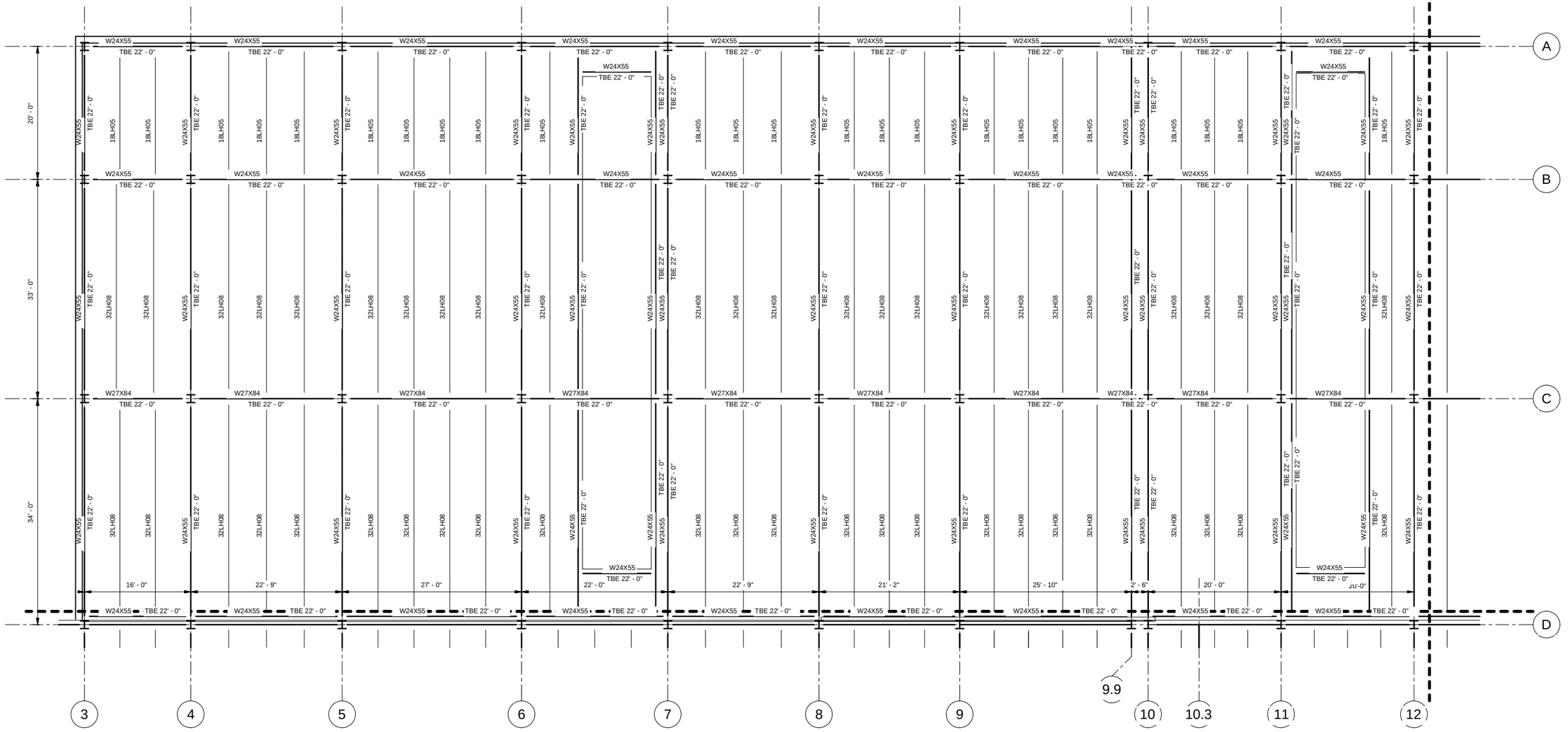
WEST-VOLUME 4 (OMF) STRUCTURAL 2ND FLOOR PLAN -AREA 5

DISCIPLINE: STRUCTURAL

SHEET NAME: S-131

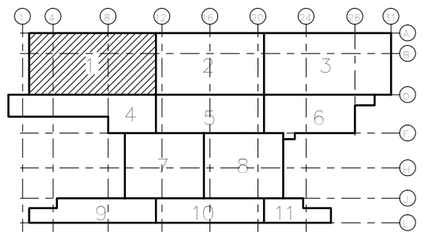
SHEET 149 OF 288

6/18/2014 10:27:50 AM



1 S-140 ROOF FRAMING PLAN - AREA 1

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



KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

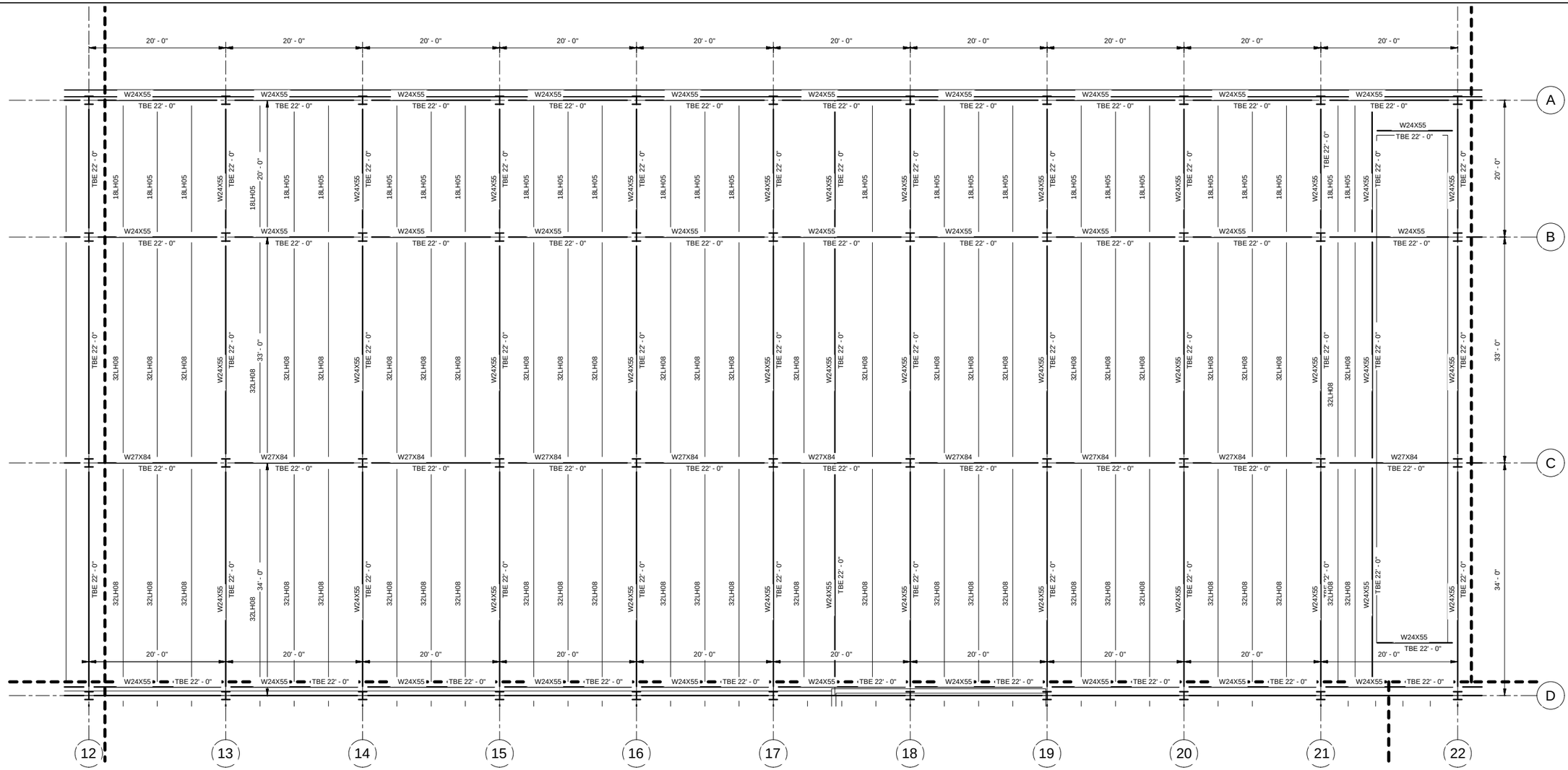
WEST-VOLUME 4 (OMF) STRUCTURAL ROOF PLAN - AREA 1

DISCIPLINE: STRUCTURAL

SHEET NAME: S-140

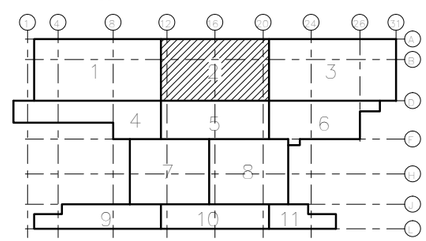
SHEET 150 OF 288

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1 S-141 ROOF FRAMING PLAN - AREA 2

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



KEY PLAN

SCALE: N.T.S.

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

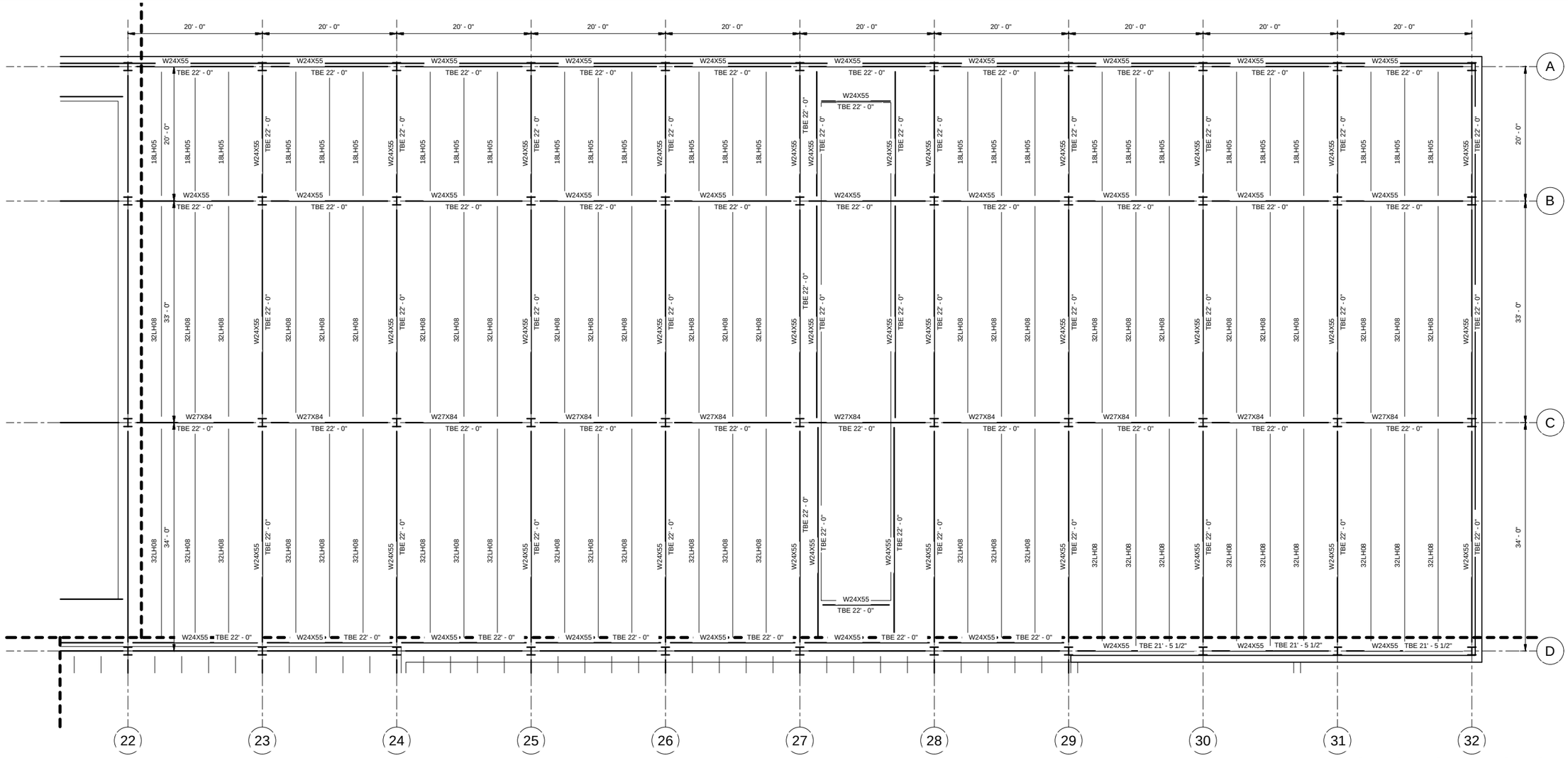
WEST-VOLUME 4 (OMF) STRUCTURAL ROOF PLAN - AREA 2

DISCIPLINE: STRUCTURAL

SHEET NAME: S-141

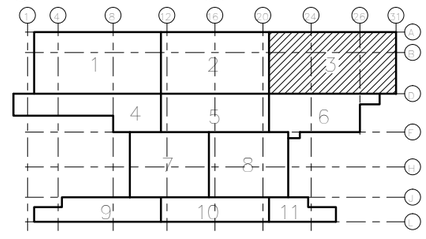
SHEET 151 OF 288

6/18/2014 10:27:56 AM



1 S-142 ROOF FRAMING PLAN - AREA 3

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



KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

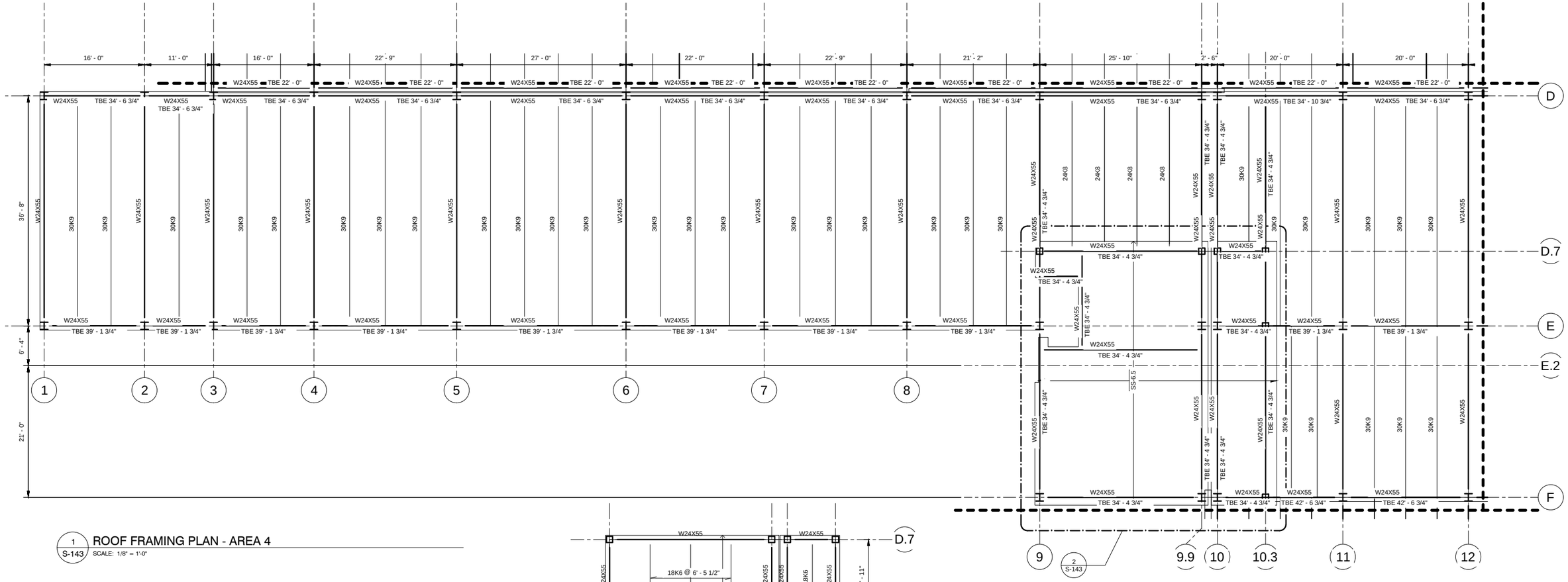
WEST-VOLUME 4 (OMF) STRUCTURAL ROOF PLAN - AREA 3

DISCIPLINE: STRUCTURAL

SHEET NAME: S-142

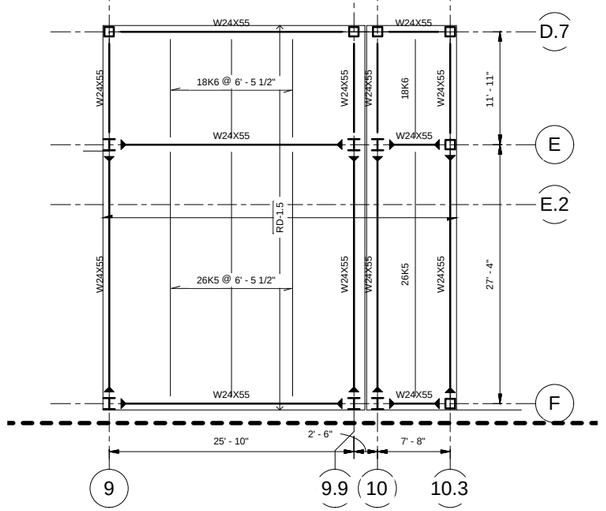
SHEET 152 OF 288

9/18/2018 10:27:58 AM



1 S-143 ROOF FRAMING PLAN - AREA 4

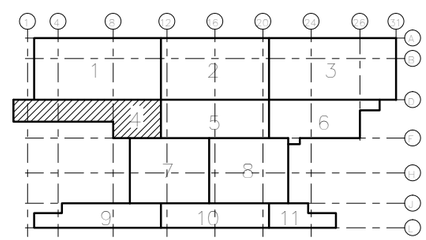
SCALE: 1/8" = 1'-0"



2 S-143 HIGH ROOF FRAMING PLAN - AREA 4

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

REF. SHEET: S-140 / REF. DETAIL: 1



KEY PLAN

SCALE: N.T.S.

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

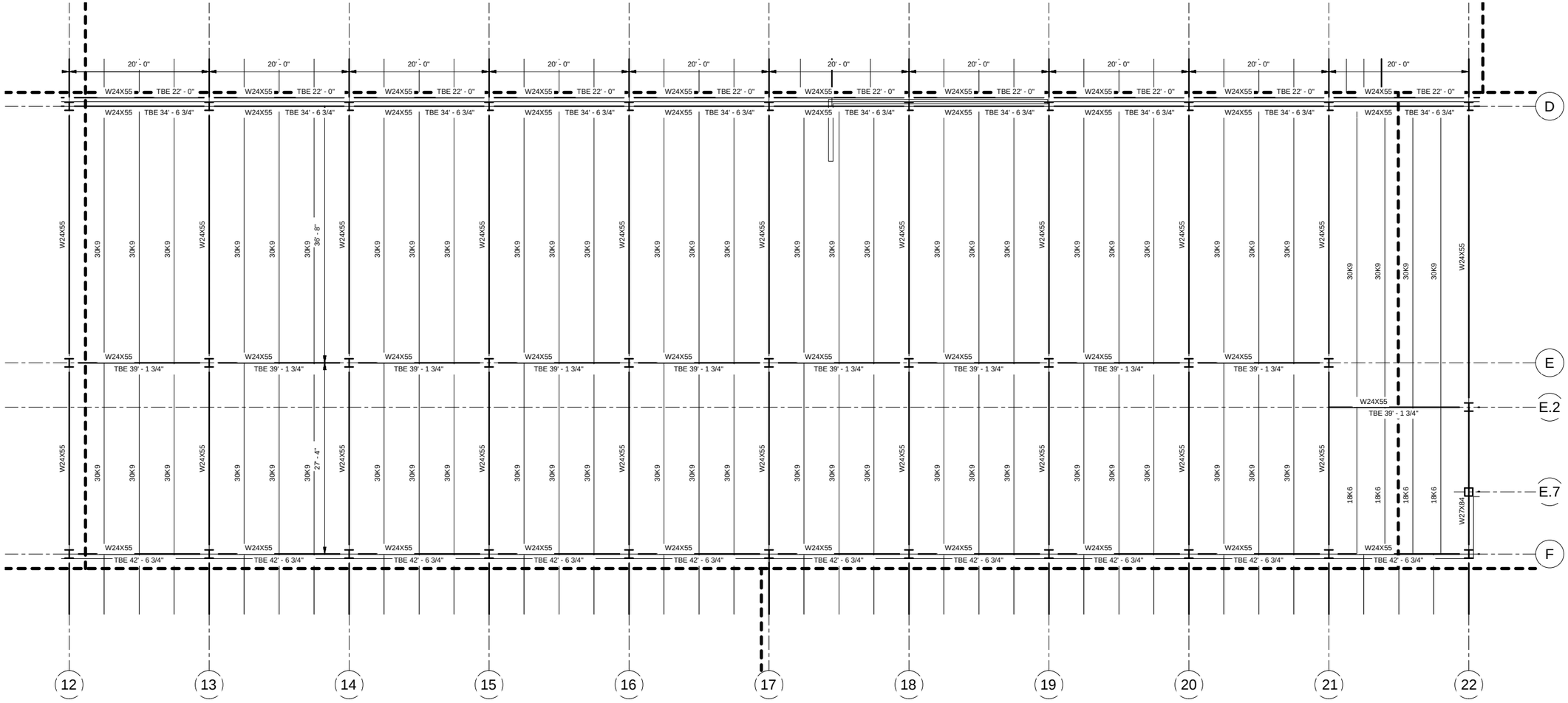
WEST-VOLUME 4 (OMF)
STRUCTURAL
ROOF PLAN - AREA 4

DISCIPLINE: STRUCTURAL

SHEET NAME: S-143

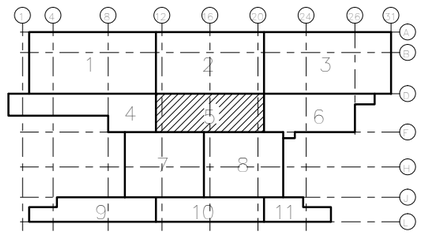
SHEET 153 OF 288

6/18/2014 10:39:02 AM



1 S-144 ROOF FRAMING PLAN - AREA 5

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



KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

METROPOLITAN COUNCIL SOUTHWEST

PRELIMINARY ENGINEERING

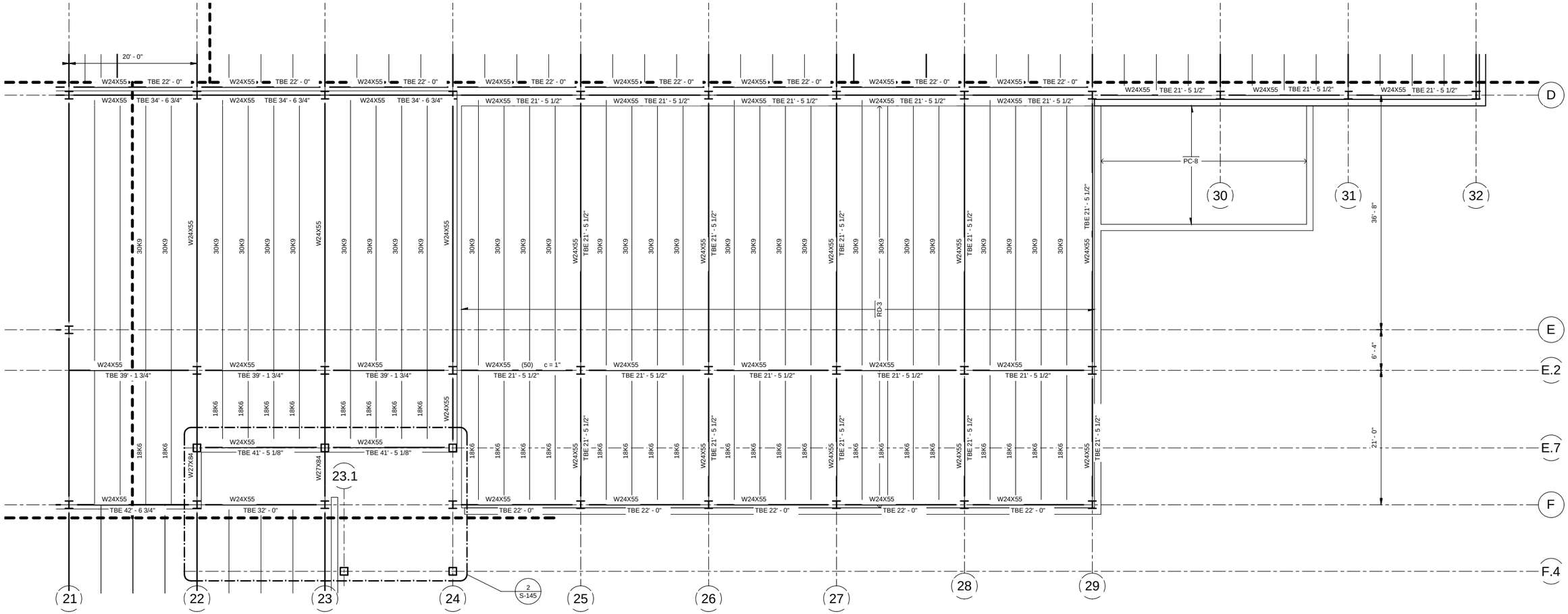
WEST-VOLUME 4 (OMF) STRUCTURAL ROOF PLAN -AREA 5

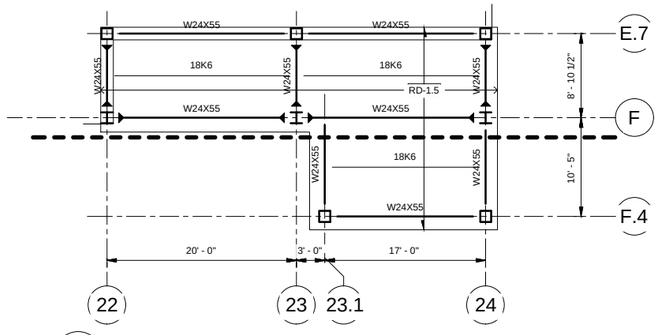
DISCIPLINE: STRUCTURAL

SHEET NAME: S-144

SHEET 154 OF 288

9/18/2014 10:28:05 AM

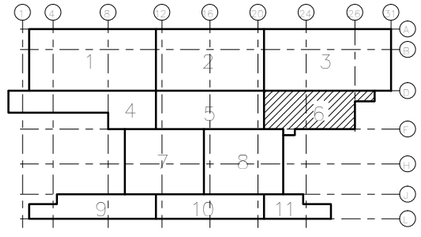




1 S-145 ROOF FRAMING PLAN - AREA 6
SCALE: 1/8" = 1'-0"

2 S-145 HIGH ROOF FRAMING PLAN - AREA 6
SCALE: 1/8" = 1'-0"
REF. SHEET: S-140 / REF. DETAIL: 1

0 4' 8' 16'
1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

N

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

METROPOLITAN COUNCIL SOUTHWEST

PRELIMINARY ENGINEERING

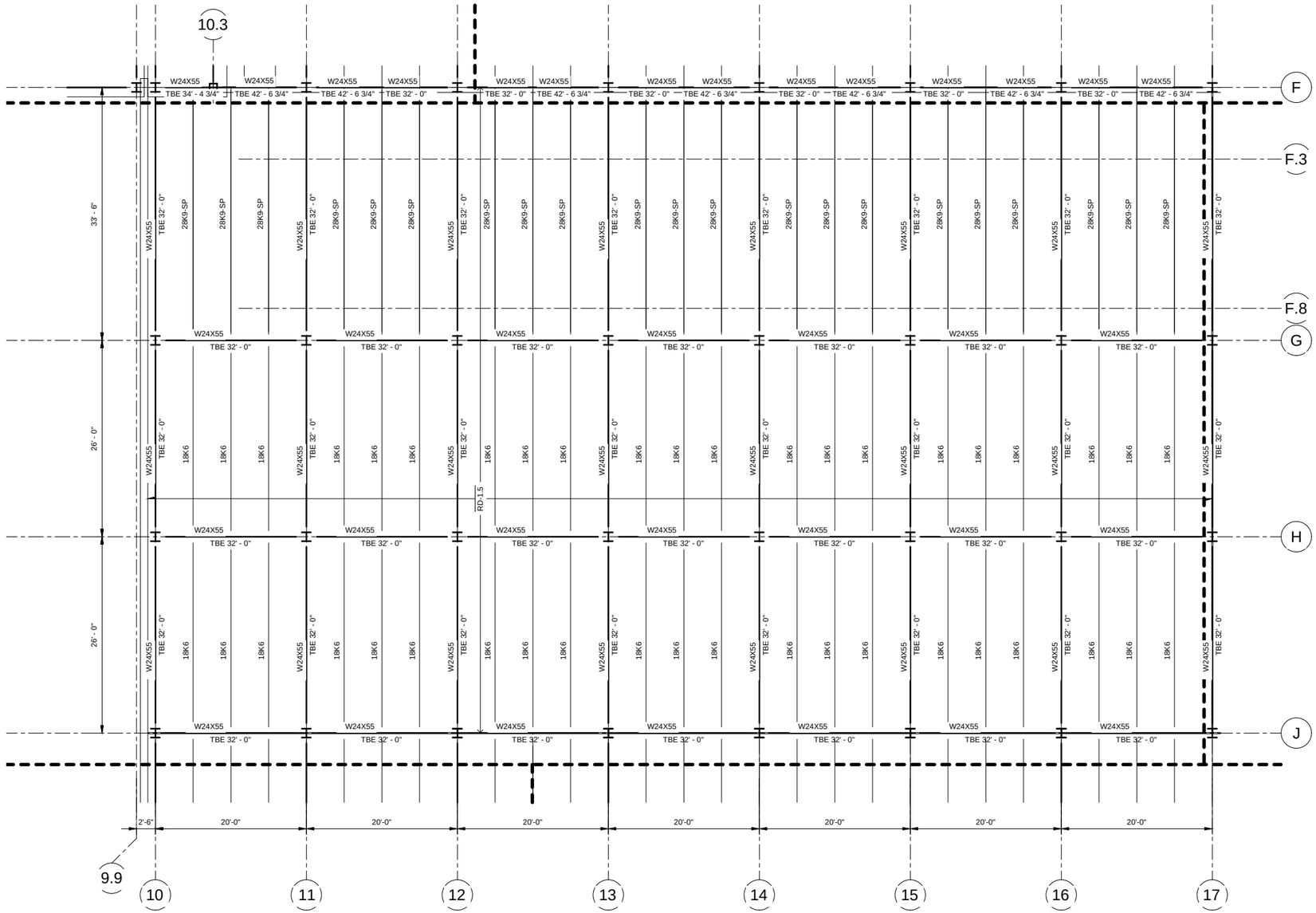
WEST-VOLUME 4 (OMF) STRUCTURAL ROOF PLAN - AREA 6

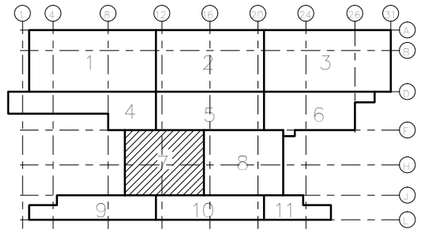
DISCIPLINE: STRUCTURAL

SHEET NAME: S-145

SHEET 155 OF 288

9/18/2014 10:28:08 AM





KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

1 / S-146 ROOF FRAMING PLAN - AREA 7

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

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

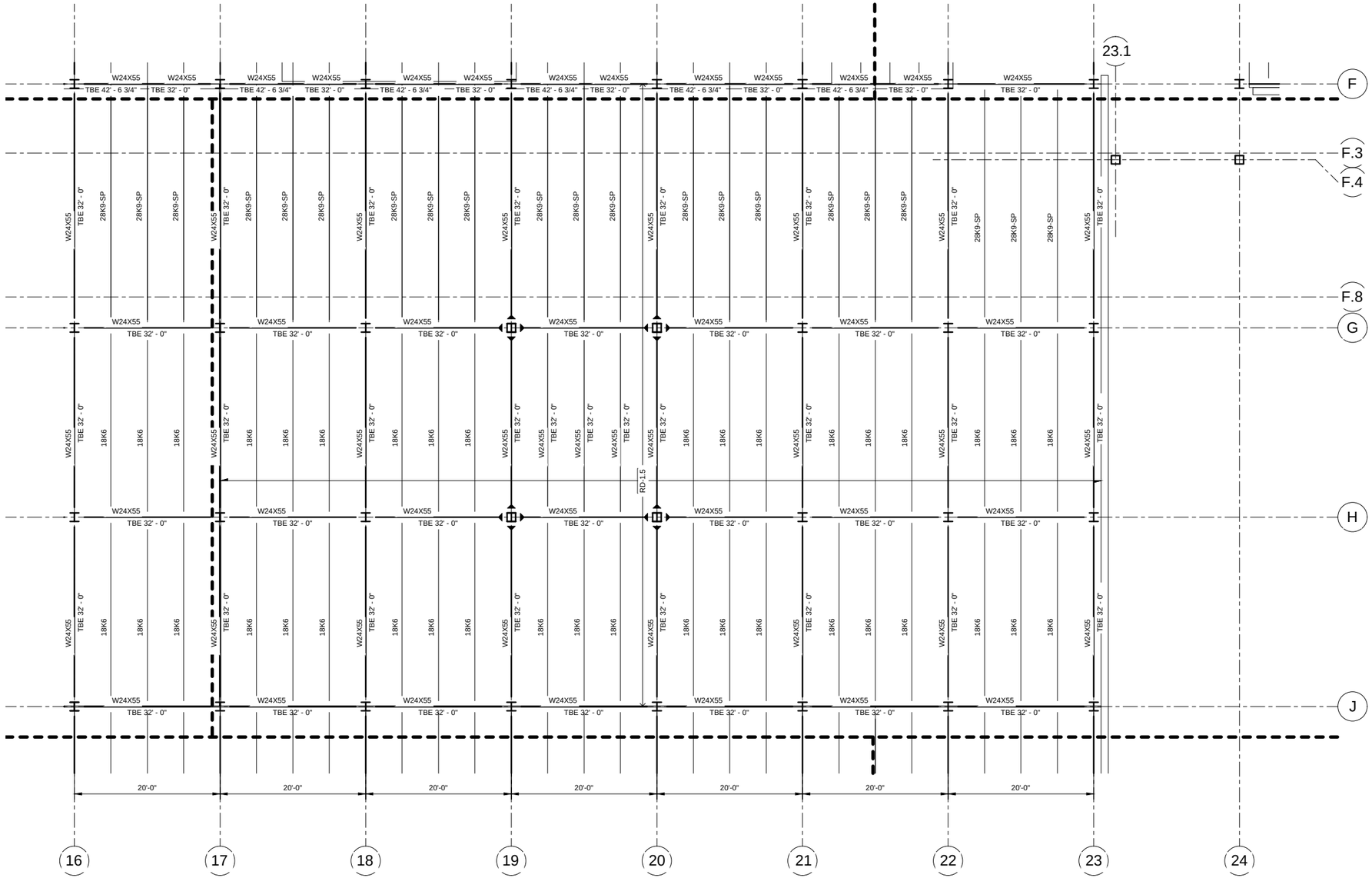
WEST-VOLUME 4 (OMF)
STRUCTURAL
ROOF PLAN - AREA 7

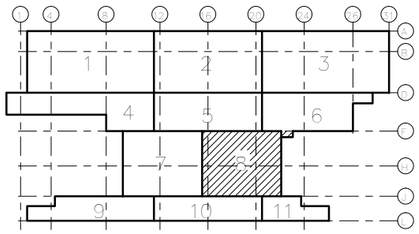
DISCIPLINE: STRUCTURAL

SHEET NAME: S-146

SHEET 156 OF 288

6/18/2014 10:26:11 AM





KEY PLAN
SCALE: N.T.S.

N

0 4' 8' 16'
1/8" = 1'-0"

1 / S-147 ROOF FRAMING PLAN - AREA 8
SCALE: 1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

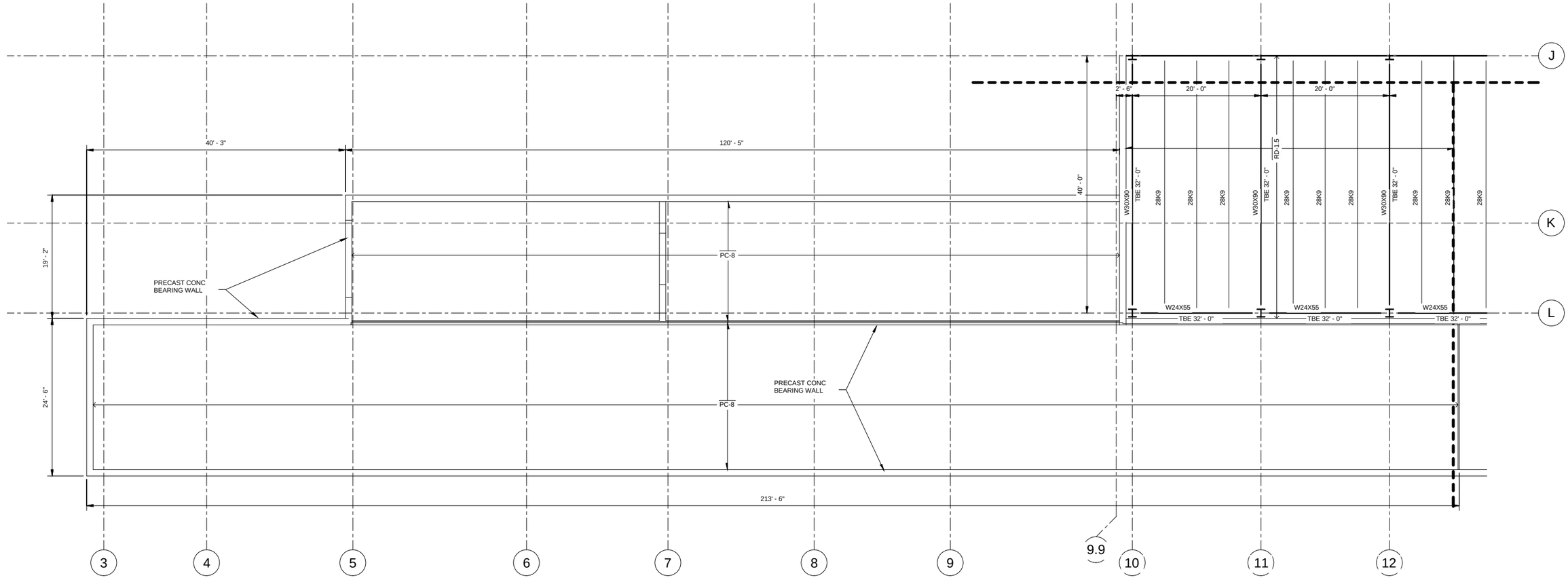
WEST-VOLUME 4 (OMF) STRUCTURAL ROOF PLAN - AREA 8

DISCIPLINE: STRUCTURAL

SHEET NAME: S-147

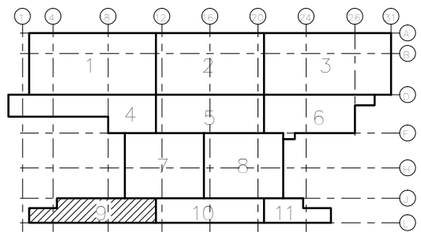
SHEET 157 OF 288

9/18/2014 10:28:14 AM



1 / S-148 ROOF FRAMING PLAN - AREA 9

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



KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

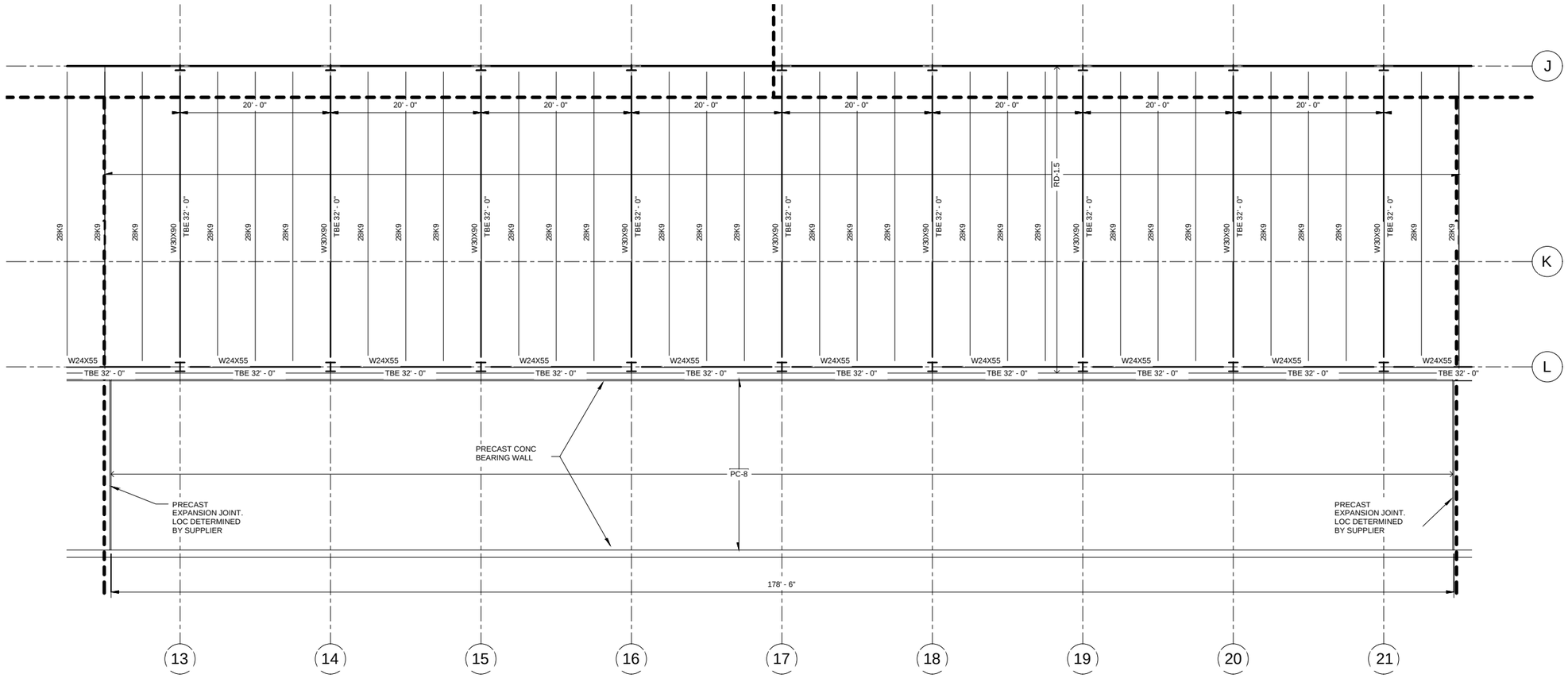
WEST-VOLUME 4 (OMF)
STRUCTURAL
ROOF PLAN - AREA 9

DISCIPLINE: STRUCTURAL

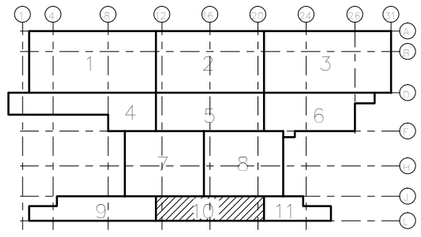
SHEET NAME: S-148

SHEET 158 OF 288

6/18/2014 10:28:19 AM



1 / S-149 ROOF FRAMING PLAN - AREA 10
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

0 4' 8' 16'
1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

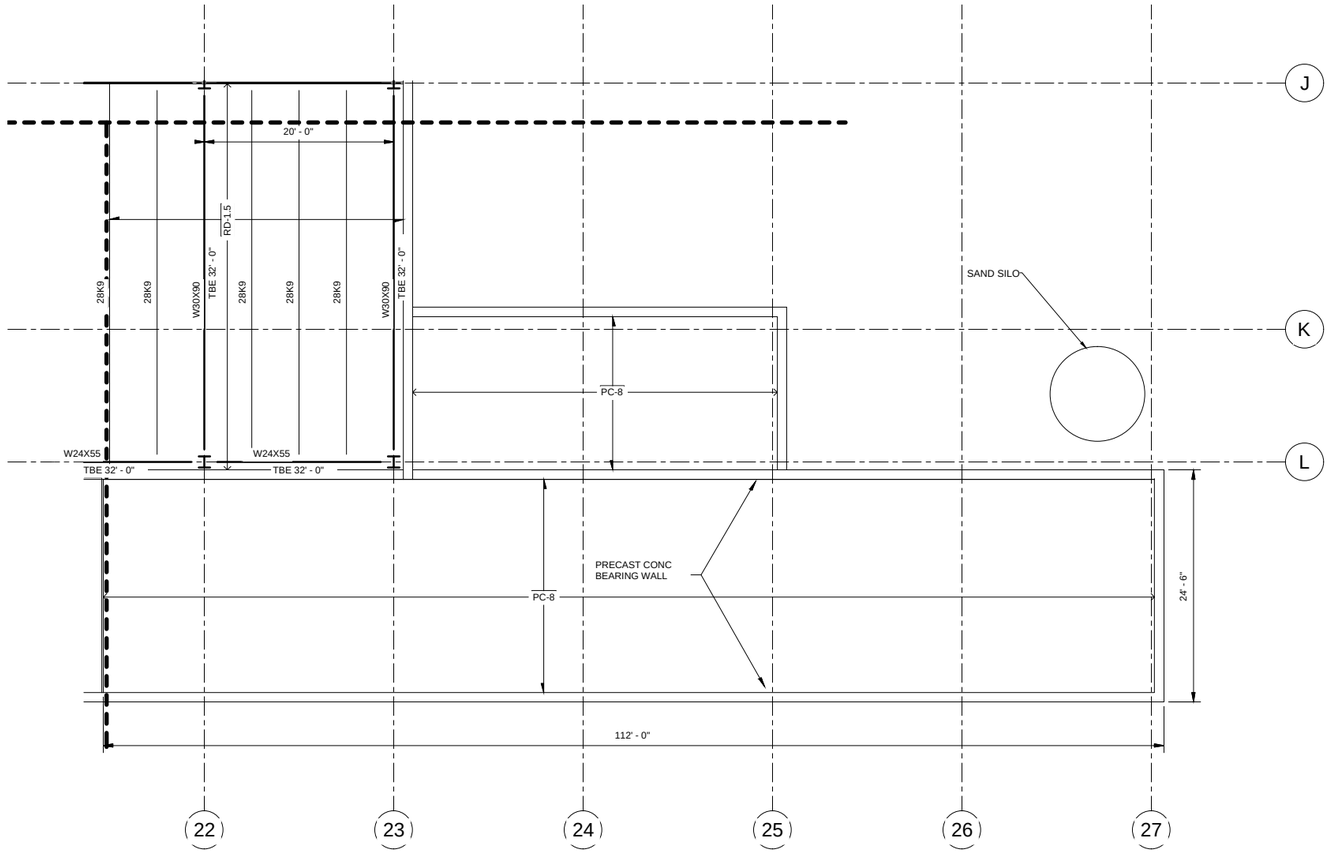
WEST-VOLUME 4 (OMF)
STRUCTURAL
ROOF PLAN - AREA 10

DISCIPLINE: STRUCTURAL

SHEET NAME: S-149

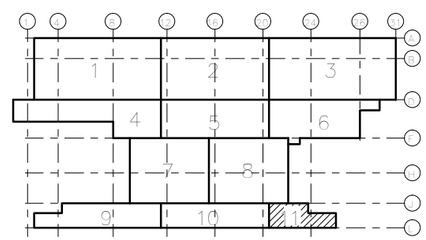
SHEET 159 OF 288

PW 9/2/2015 10:30:38 AM



1 S-150 ROOF FRAMING PLAN - AREA 11

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



KEY PLAN

SCALE: N.T.S.

N

0 4' 8' 16'

1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

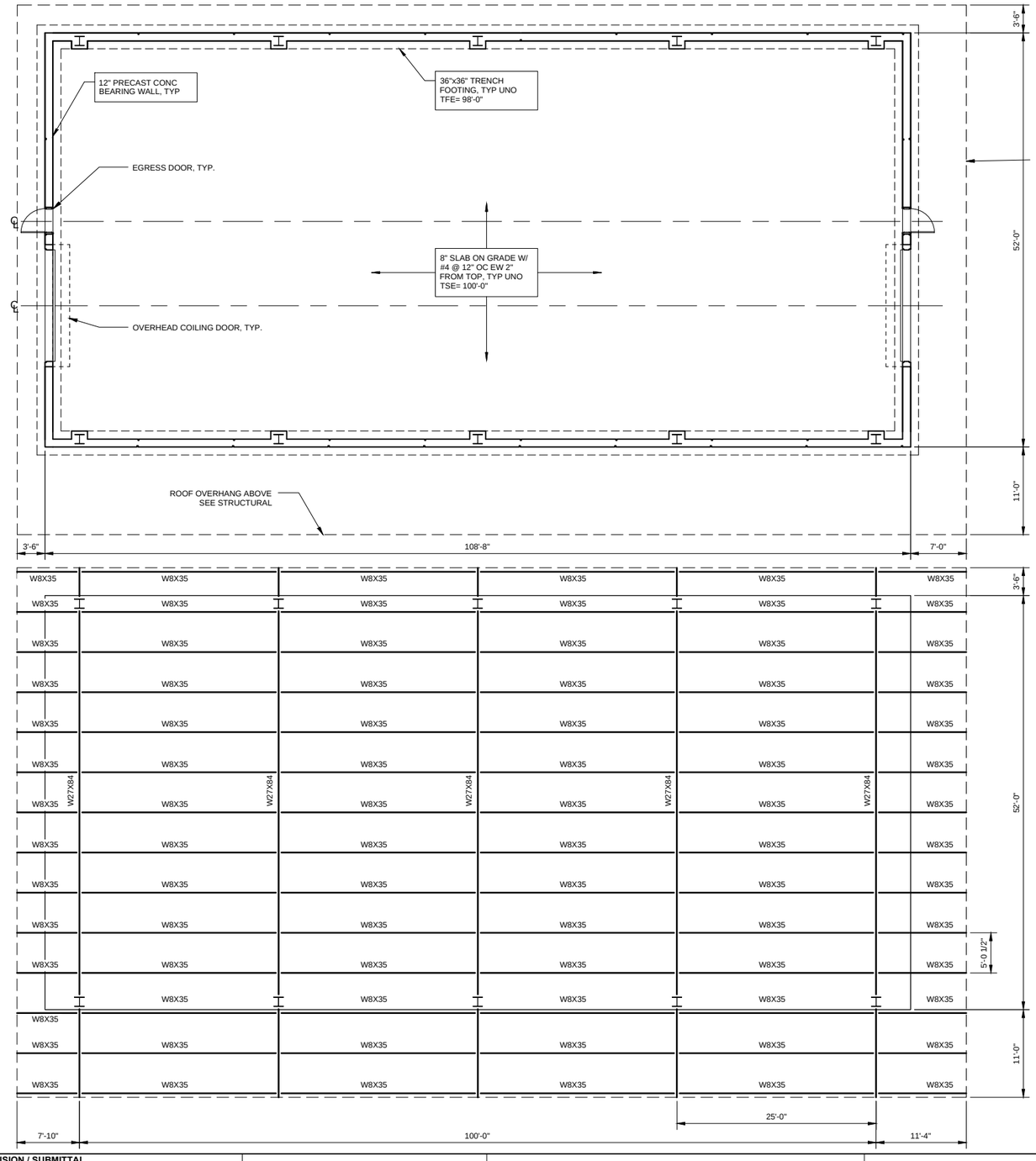
WEST-VOLUME 4 (OMF) STRUCTURAL ROOF PLAN -AREA 11

DISCIPLINE: STRUCTURAL

SHEET NAME: S-150

SHEET 160 OF 288

6/13/2025 10:14:35 AM



2 S-160 STORAGE BLDG FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

1 S-160 STORAGE BLDG ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
1/8" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

METROPOLITAN COUNCIL SOUTHWEST

PRELIMINARY ENGINEERING

WEST-VOLUME 4 (OMF) STRUCTURAL STORAGE BUILDING FND & FRAMING PLANS

DISCIPLINE: STRUCTURAL

SHEET NAME: S-160

SHEET 161 OF 288

6/18/2014 10:28:22 AM

50 - ENTRANCE ROOF			50 - ENTRANCE ROOF
147' - 10" 34 - HIGH ROOF FRAMING			147' - 10" 34 - HIGH ROOF FRAMING
134' - 10 3/4" 20 - SECOND FLOOR FRAMING PLAN		W14X90	134' - 10 3/4" 20 - SECOND FLOOR FRAMING PLAN
122' - 0" 15 - MEZZANINE	W14X90	W14X90	122' - 0" 15 - MEZZANINE
112' - 0" 10 - GROUND FLOOR PLAN	W14X90	W14X90	112' - 0" 10 - GROUND FLOOR PLAN
100' - 0" 05 - MAINTENANCE PIT			100' - 0" 05 - MAINTENANCE PIT
94' - 0"			94' - 0"
Column Locations	A-3, A-4, A-5, A-6, A-7, A-8, A-9, A-9.9, A-10, A-11, A-12, A-13, A-14, A-15, A-16, A-17, A-18, A-19, A-20, A-21, A-22, A-23, A-24, A-25, A-26, A-27, A-28, A-29, A-30, A-31, A-32, B-3, B-4, B-5, B-6, B-7, B-8, B-9, B-9.9, B-10, B-11, B-12, B-13, B-14, B-15, B-16, B-17, B-18, B-19, B-20, B-21, B-22, B-23, B-24, B-25, B-26, B-27, B-28, B-29, B-30, B-31, B-32, C-3, C-4, C-5, C-6, C-7, C-8, C-9, C-9.9, C-10, C-11, C-12, C-13, C-14, C-15, C-16, C-17, C-18, C-19, C-20, C-21, C-22, C-23, C-24, C-25, C-26, C-27, C-28, C-29, C-30, C-31, C-32, D-25, D-26, D-27, D-28, D-29, D-30, D-31, D-32	D-1, D-2, D-3, D-4, D-5, D-6, D-7, D-8, D-9, D-9.9, D-10, D-11, D-12, D-13, D-14, D-15, D-16, D-17, D-18, D-19, D-20, D-21, D-22, D-23, D-24	

Graphical Column Schedule AREA 1-3

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

0 1' 2' 4' 8' 12'

SCALE: 1/4" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) STRUCTURAL COLUMN SCHEDULE

DISCIPLINE: STRUCTURAL

SHEET NAME: S-400

SHEET 162 OF 288

6/18/2014 10:28:28 AM

50 - ENTRANCE ROOF								50 - ENTRANCE ROOF
147' - 10" 34 - HIGH ROOF FRAMING	HSS12X12X1/2		W14X90		HSS14X14X3/8	HSS14X14X3/8	W14X90	147' - 10" 34 - HIGH ROOF FRAMING
134' - 10 3/4" 20 - SECOND FLOOR FRAMING PLAN		W14X90						134' - 10 3/4" 20 - SECOND FLOOR FRAMING PLAN
122' - 0" 15 - MEZZANINE				W14X90				122' - 0" 15 - MEZZANINE
112' - 0" 10 - GROUND FLOOR PLAN								112' - 0" 10 - GROUND FLOOR PLAN
100' - 0"								100' - 0"
Column Locations	D.7-9, D.7-9.9, D.7-10, D.7-10.3, E-10.3, F-10.3	E-1, E-2, E-3, E-4, E-5, E-6, E-7, E-8, E-11, E-12, E-13, E-14, E-15, E-16, E-17, E-18, E-19, E-20, E-21, E.2-22, E.2-23, E.2-24	E-9, E-9.9, E-10, F-9, F-9.9, F-10, F-22, F-23, F-24	E.2-25, E.2-26, E.2-27, E.2-28, E.2-29, F-25, F-26, F-27, F-28, F-29	E.7-22, E.7-23	E.7-24	F-11, F-12, F-13, F-14, F-15, F-16, F-17, F-18, F-19, F-20, F-21	

Graphical Column Schedule AREA 4-6
SCALE: 1/8" = 1'-0"

0 1' 2' 4' 8' 12'
SCALE: 1/4" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) STRUCTURAL COLUMN SCHEDULE

DISCIPLINE: STRUCTURAL

SHEET NAME: S-401

SHEET 163 OF 288

6/18/2014 10:28:30 AM

50 - ENTRANCE ROOF								50 - ENTRANCE ROOF
147' - 10" 34 - HIGH ROOF FRAMING				HSS14X14X38				147' - 10" 34 - HIGH ROOF FRAMING
134' - 10 3/4" 20 - SECOND FLOOR FRAMING PLAN		HSS14X14X38						134' - 10 3/4" 20 - SECOND FLOOR FRAMING PLAN
122' - 0" 15 - MEZZANINE			W14X90	W14X90	W14X90	W14X90		122' - 0" 15 - MEZZANINE
112' - 0" 10 - GROUND FLOOR PLAN	HSS8X8X1/2						W14X90	112' - 0" 10 - GROUND FLOOR PLAN
100' - 0"								100' - 0"
Column Locations	F.3-11, F.3-12, F.3-13, F.3-14, F.3-15, F.3-16, F.8-11, F.8-12, F.8-13, F.8-14, F.8-15, F.8-16	F.4-23.1, F.4-24	G-10, G-11, G-12, G-13, G-14, G-15, G-16, G-17, G-18, G-21, G-22, G-23, H-10, H-11, H-12, H-13, H-14, H-15, H-16, H-17, H-18, H-21, H-22, H-23, J-10, J-11, J-23, L-10, L-11, L-12, L-13, L-14, L-15, L-16, L-17, L-18, L-19, L-20, L-21, L-22, L-23	G-19, G-20, H-19, H-20	J-12, J-13, J-14, J-15, J-16	J-17, J-18, J-19, J-20, J-21, J-22	K-10, K-11, K-12, K-13, K-14, K-15, K-16, K-17, K-18, K-19, K-20, K-21, K-22, K-23	

Graphical Column Schedule AREA 7-11

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

0 1' 2' 4' 8' 12'

SCALE: 1/4" = 1'-0"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM sowinskisullivan ARCHITECTS

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) STRUCTURAL COLUMN SCHEDULE

DISCIPLINE: STRUCTURAL

SHEET NAME: S-402

SHEET 164 OF 288

9/18/2014 10:28:31 AM

EQUIPMENT SCHEDULE:

Mark	Description
1113	Cabinet, 9 drawer, 59"
1130	Cabinet, computer, shop
1140	Cabinet, flammable materials, large
1150	Cabinet, gas cylinder, horizontal, large
1154	Cabinet, gas cylinder, vertical, large
1185	Cabinet, storage, shop, 18"
1186	Cabinet, storage, shop, heavy duty
1190	Cabinet, storage, shop, 24"
1321	Locker, tool, 2–tier, 6–compartment
1420	Rack, arm, single face, 7' high
1426	Rack, arm, single face, cantilever
1456	Rack, bulk storage, w/ deck
1503	Rack, glass, harp type, twin level, dolly
1504	Rack, glass, harp type, twin level
1530	Rack, pallet, 42" deep, 8' high, 6000lb, w/ deck
1531	Rack, pallet, 42" deep, 12' high, 6000lb, w/ deck
1532	Rack, pallet, 42" deep, 12' high, 6000lb, w/ deck
1533	Rack, pallet, 42" deep, 16' high, 6000lb, w/ deck
1615	Rack, sheet metal, vertical
1680	Shelving unit, 18"
1731	Storage system, vertical lift module
1750	Stool, electronic station, anti–static
1776	Table, layout, wood top, 120"x36"
1800	Workbench, electronics, anti–static top, 2 cabinet
1820	Workbench, fume collection, downdraft
1860	Workbench, severe use
1862	Workbench, severe use, w/ cabinets
1864	Workbench, severe use, wood top
1865	Workbench, severe use, wood top
2100	Buffer/grinder, 10", w/ dust collector
2175	Compressor, air, rec. mtd., dryer, rotary screw
2215	Drill press, variable speed, 20"
2380	Lathe, engine, 15"
2433	Machine, milling, vertical
2460	Oven, dry rod
2532	Press, electric/hydraulic, 50 ton
2539	Press, hydraulic, 20 ton
2696	Saw, band, horizontal, 8"
2705	Saw, band, vertical, 20"
2832	Vise, combination, swivel base, 5"
2835	Vise, combination, swivel base, 6"
2900	Welder, MIG, portable, w/ wire feed
2920	Welder, oxyacetylene, portable, w/ cart
2925	Welder, plasma cutter, portable
2935	Welder, TIG, portable

Mark	Description
3080	Cabinet, abrasive blast, medium, w/ dust collector
3349	Sanding system, LRV
3357	Scrubber, floor, walk–behind, electric
3367	Sweeper, floor, walk–behind, electric
3720	Washer, pressure, hot water, NG
3784	Washer, parts, jet spray, medium
3891	Washer, train, w/ water reclamation system
5030	Cart, parts
5055	Crane, bridge, top running, 7–1/2 ton
5070	Crane, bridge, suspended, 1/2 ton
5078	Crane, bridge, suspended, 2 ton
5128	Crane, jib, found. mtd., 10', 1/4 ton
5142	Crane, jib, found. mtd., 12', 2 ton
5345	Forklift, gas, riding, 8000 lb
5350	Forklift, electric, sit–down, 4000 lb
5384	Monorail system, with hoist, wire rope, elect., 2 ton
5462	Hopper, self–dumping, 1 yard
5470	Compactor, self contained
5520	Jack, pallet, electric
5544	Truck repair stand
5547	Lift, personnel, mobile, boom type
5549	Lift, personnel, mobile, scissor type
5564	Lift, material, platform, 3 stops
5565	Lift, material, platform, 2 stops
5566	Lift, material, platform, 2 stops
5699	Lift, dock leveler w/ truck restraint
5735	Lift, rail car, in–ground
5970	Turntable, rail truck, manual
5975	Car mover, LRV, electric
6360	Fabricator, metal, combination
8596	Pump, diaphragm (WWF)
8711	Reel bank (WWF)
8940	Tank, storage, cube, 280 gallon (WWF)
8872	Tank, fiberglass, underground, 40,000 gal.
9355	Filter, mechanical, portable

LEGEND:

- 120 VAC DUPLEX RECEPTABLE. WATERPROOF WHERE APPROPRIATE.
- 120 VAC QUAD RECEPTACLE. WATERPROOF WHERE APPROPRIATE.
- 120 VAC DUPLEX RECEPTABLE 50' ELECTRICAL REEL. CEILING, COLUMN OR WALL MOUNTED.
- 120 VAC DUPLEX RECEPTABLE 25' ELECTRICAL REEL. CEILING, COLUMN OR WALL MOUNTED.
- WELDING ELECTRICAL RECEPTACLE, 208 VAC, 1 PH, 50 A.
- WELDING ELECTRICAL RECEPTACLE, 460 VAC, 3 PH, 50 A.
- AUXILIARY POWER ELECTRICAL CONTROL STATION.
- TRACTION POWER ELECTRICAL CONTROL STATION.
- COMPRESSED AIR REEL – SHOP TOOLS: 1/2" QUICK DISCONNECT WITH REGULATOR, FILTER, & LUBRICATOR AT 120 PSI. CEILING, COLUMN OR WALL MOUNTED.
- COMPRESSED AIR REEL – SHOP TOOLS: 3/8" QUICK DISCONNECT WITH REGULATOR, FILTER, & LUBRICATOR AT 120 PSI. CEILING, COLUMN OR WALL MOUNTED.
- COMPRESSED AIR CONNECTION – SHOP TOOLS: 3/8" & 1/2" QUICK DISCONNECTS WITH REGULATOR, FILTER, AND LUBRICATOR AT 120 PSI.
- COMPRESSED AIR CONNECTION – SHOP TOOLS: 3/8" QUICK DISCONNECT WITH REGULATOR, FILTER, & LUBRICATOR AT 120 PSI.
- 3/4" HOT AND COLD DOMESTIC WATER FAUCET WITH HOSE BIB THREAD.
- 3/4" COLD DOMESTIC WATER HOSE BIB.
- 1–1/2" COLD DOMESTIC WATER HOSE BIB.
- PHONE/DATA CONNECTION.
- SUSPEDED BRIDGE CRANE SUPPORT HANGER LOCATION.
- POSTED RAIL MOUNTED FLORESCENT LIGHT FIXTURE.
- TASK LIGHT.
- TRENCH DRAIN.
- FLOOR SINK.

GENERAL NOTES:

1. MARK NUMBERS WITH AND WITHOUT ALPHA EXTENSION REPRESENT NEW EQUIPMENT TO BE FURNISHED AND INSTALLED AS GRAPHICALLY INDICATED ON DRAWINGS. REFER TO EQUIPMENT SCHEDULE.
2. ALL EQUIPMENT SHOWN ON THESE DRAWINGS IS BASED ON SPECIFIED MANUFACTURER. ANY MODIFICATIONS AND/OR SUBSTITUTIONS OF EQUIPMENT MUST BE COORDINATED BY THE CONTRACTOR, INCLUDING ALL CONNECTIONS, SERVICES, OPENING SIZES AND ANY OTHER CONSTRUCTION RELATED REQUIREMENTS.
3. VERIFY AND COORDINATE ALL STRUCTURAL, MECHANICAL, ELECTRICAL AND PLUMBING REQUIREMENTS OF EQUIPMENT WITH MANUFACTURER PRIOR TO INSTALLATION.
4. THE UTILITIES SHOWN ON THESE DRAWINGS ARE IN ADDITION TO THOSE REQUIRED FOR SHOP EQUIPMENT. REFER TO THE EQUIPMENT INFORMATION CATALOG FOR UTILITIES REQUIRED BY EQUIPMENT. UTILITIES ARE NOT SHOWN FOR OFFICE AND CREW AREAS.
5. UTILITY REQUIREMENTS SHOWN ARE FOR INITIAL MULTI–DISCIPLINE COORDINATION AND CLIENT REVIEW. UTILITY INFORMATION TO BE INTEGRATED INTO MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR CONSTRUCTION DRAWINGS.

NUMBERED NOTES:

1. VEHICLE LIFT (#5735) REFER TO APPROVED MANUFACTURER'S SHOP DRAWINGS FOR INSTALLATION. RE: PLUMBING, ELECTRICAL AND STRUCTURAL.
2. DOCK LEVELER (#5699) IN RECESS WITH WALL MOUNTED CONTROLS. RE: PLUMBING, ELECTRICAL AND STRUCTURAL.
3. BRIDGE CRANE (#5055) WITH WALL MOUNTED DISCONNECT. RE: ELECTRICAL AND STRUCTURAL.
4. MONORAIL SYSTEM (#5384) WITH WALL MOUNTED DISCONNECT. RE: ELECTRICAL AND STRUCTURAL.
5. SUSPENDED BRIDGE CRANE (#5070 AND #5078) WITH WALL MOUNTED DISCONNECT. RE: ELECTRICAL AND STRUCTURAL.
6. CONTAINMENT SUMP WITH REMOVABLE GRADING FLUSH WITH SURROUNDING FLOOR. RE: STRUCTURAL.
7. WALL MOUNTED HOSE AND WAND HOLDER PLUMBED TO HIGH PRESSURE WASHER (#3720). RE: APPROVED MANUFACTURER'S SHOP DRAWING FOR INSTALLATION.
8. WALL MOUNTED REMOTE CONTROL FOR HIGH PRESSURE WASHER (#3720). RE: APPROVED MANUFACTURER'S SHOP DRAWING FOR INSTALLATION.
9. WASH COLLECTION SUMP WITH REMOVABLE GRADING FLUSH WITH SURROUNDING FLOOR. RE: PLUMBING AND STRUCTURAL.

DISCIPLINE DRAWING LIST

# OF TOTAL	SHEET NAME	SHEET TITLE
165	I–001	NOTES & SCHEDULES
166	I–101	1ST FLOOR – AREA 1
167	I–102	1ST FLOOR – AREA 2
168	I–103	1ST FLOOR – AREA 3
169	I–104	1ST FLOOR – AREA 4
170	I–105	1ST FLOOR – AREA 5
171	I–106	1ST FLOOR – AREA 6
172	I–107	1ST FLOOR – AREA 7
173	I–108	1ST FLOOR – AREA 8
174	I–109	1ST FLOOR – AREA 9
175	I–110	1ST FLOOR – AREA 10
176	I–111	1ST FLOOR – AREA 11
177	I–130	STORAGE BUILDING
178	I–207	MEZZANINE – AREA 7
179	I–208	MEZZANINE – AREA 8

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AECOM PARSONS BRINCKERHOFF

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

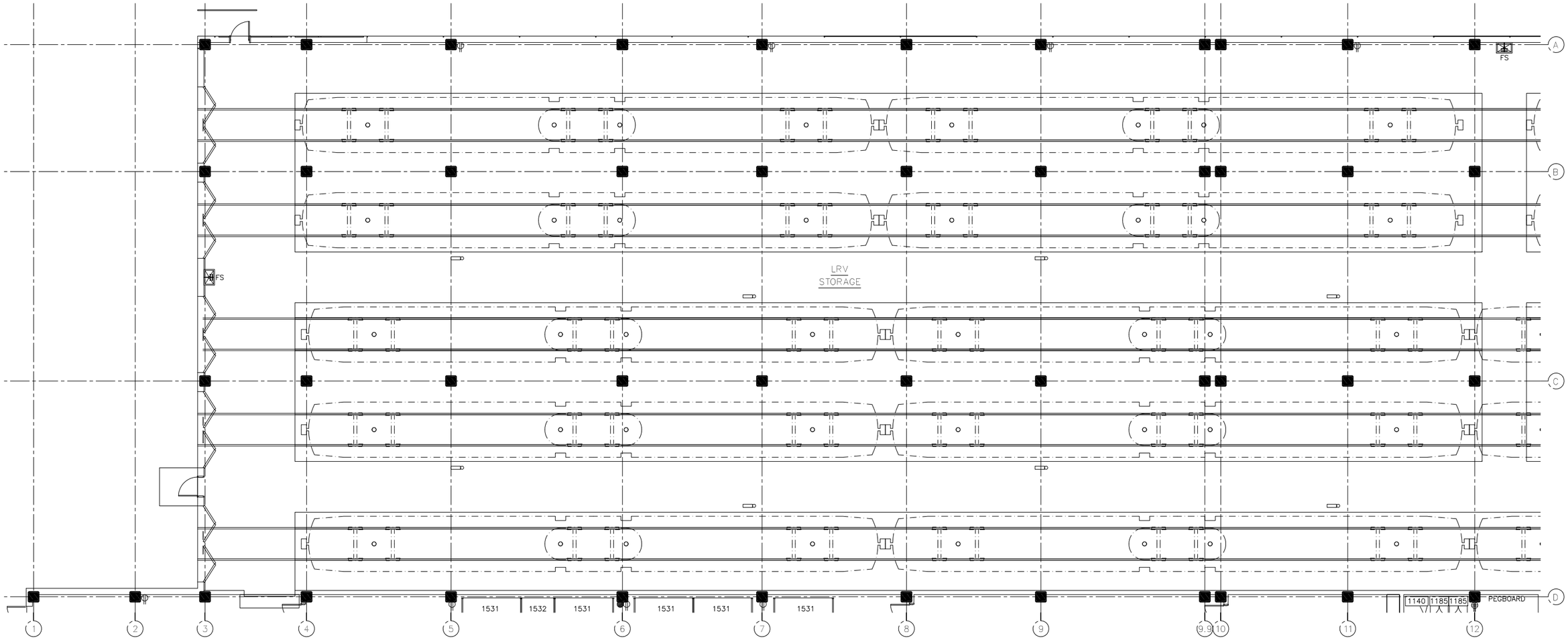
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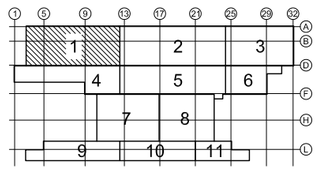
WEST - VOLUME 4 (OMF) INDUSTRIAL PLAN NOTES & SCHEDULE

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SHEET NAME: I-001

SHEET 165 OF 288





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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

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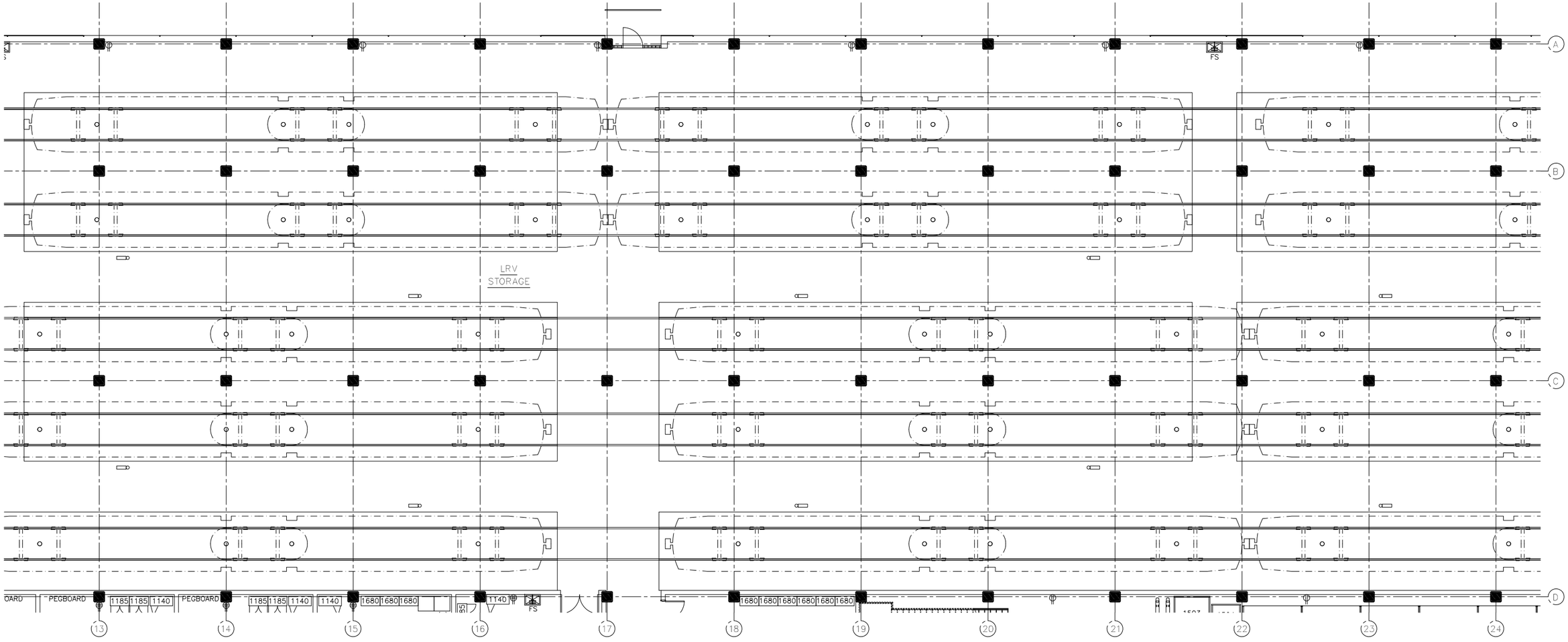
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1ST FLOOR - AREA 1

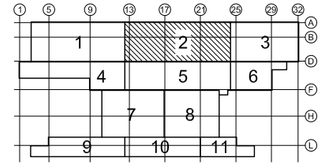
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SHEET NAME: I-101

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METROPOLITAN COUNCIL

SOUTHWEST Green Line Extension

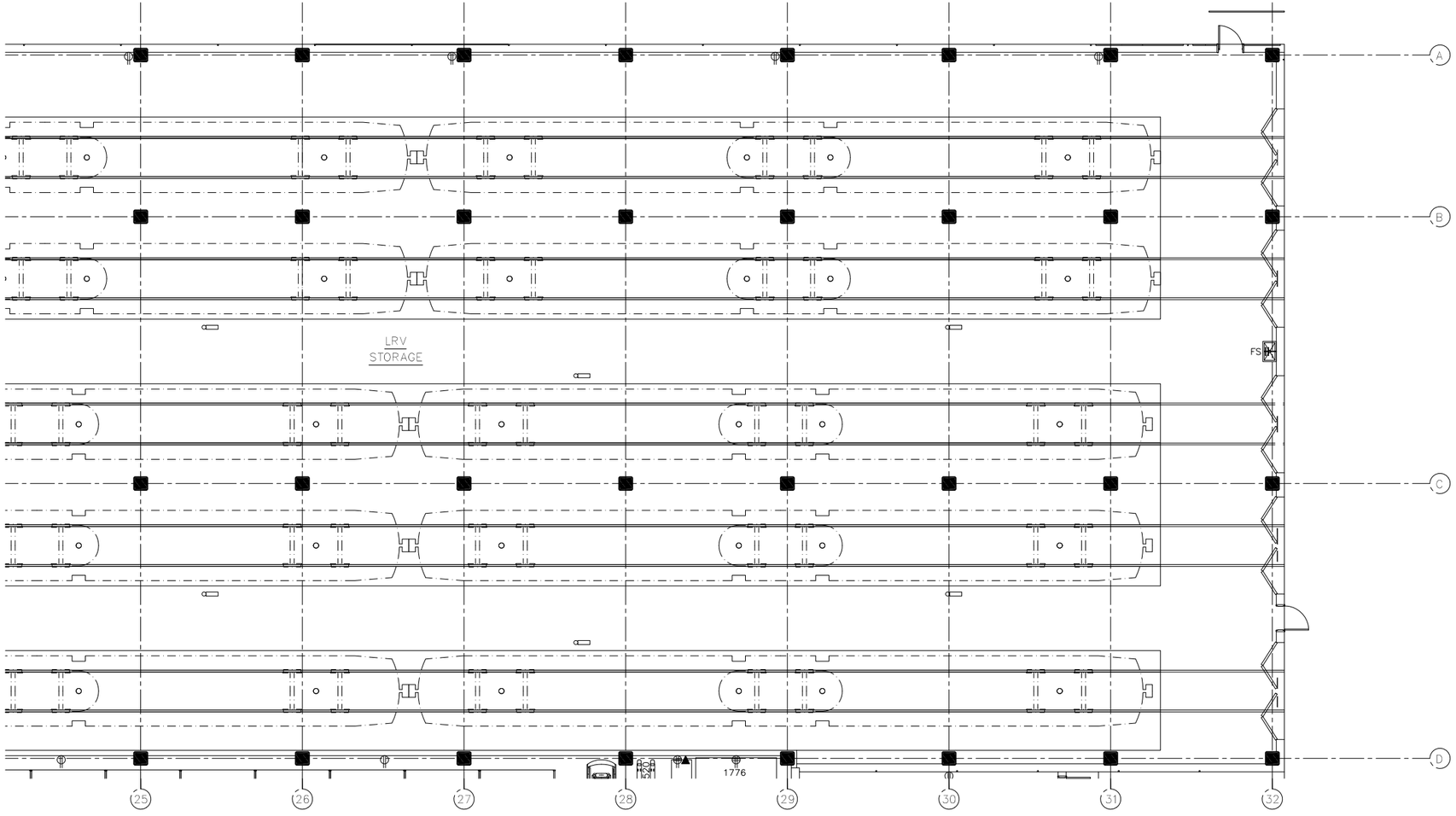
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INDUSTRIAL PLAN
1ST FLOOR - AREA 2

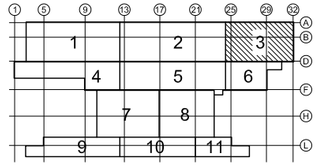
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SHEET NAME: I-102

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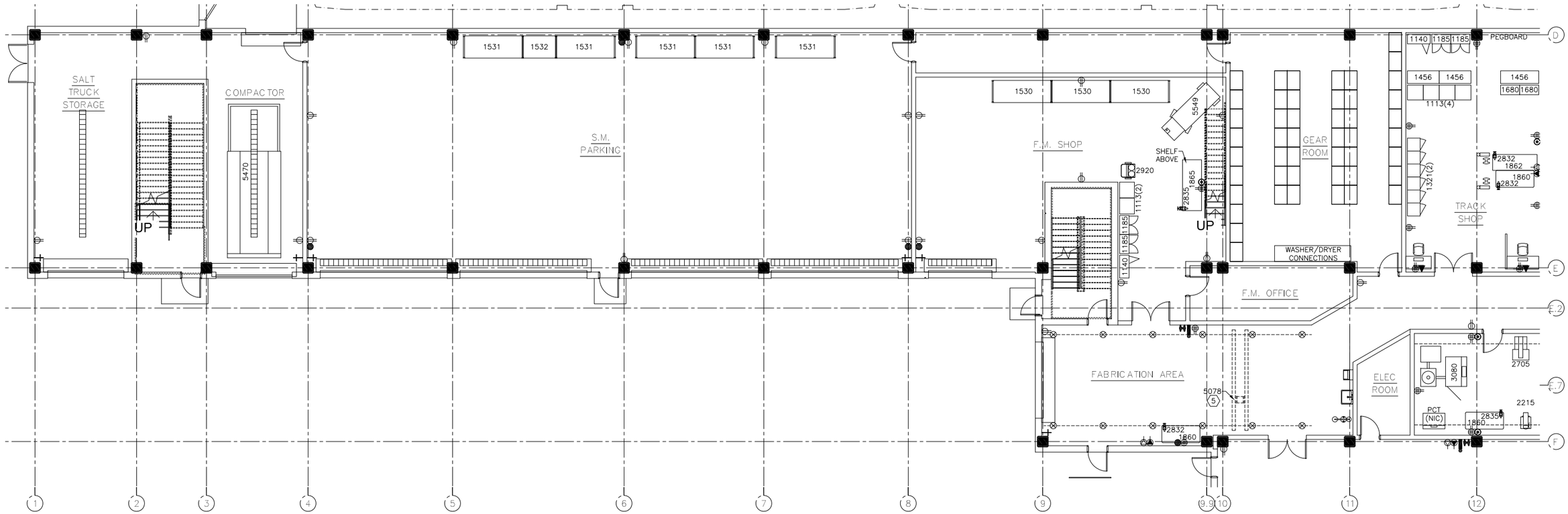
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INDUSTRIAL PLAN
1ST FLOOR - AREA 3

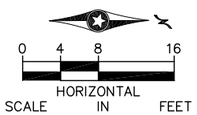
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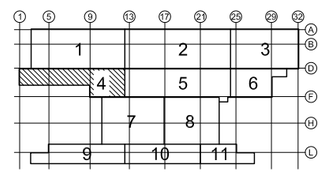
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SHEET 168 OF 288

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SOUTHWEST Project

WEST - VOLUME 4 (OMF)
INDUSTRIAL PLAN
1ST FLOOR - AREA 4

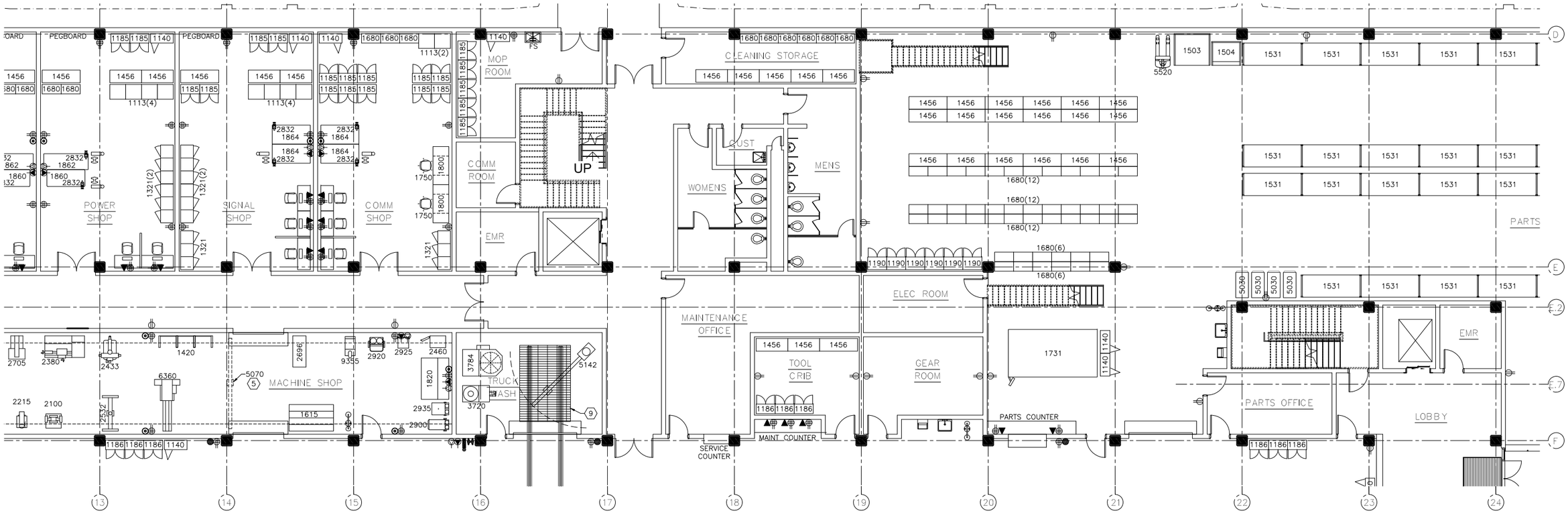
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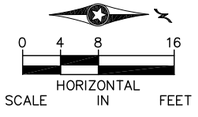
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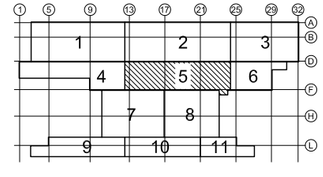
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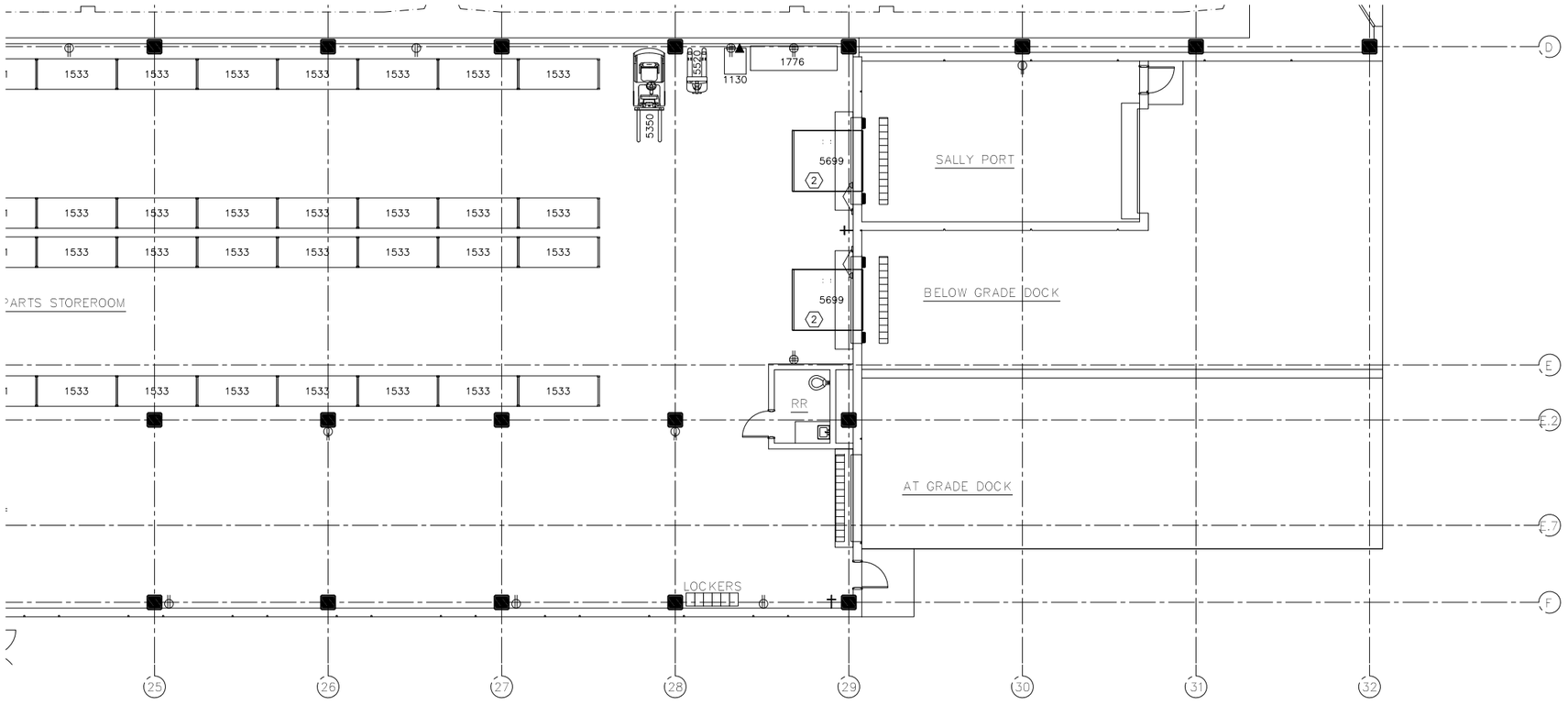
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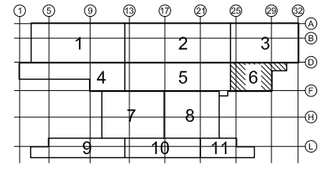
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INDUSTRIAL PLAN
1ST FLOOR - AREA 5

DISCIPLINE: INDUSTRIAL

SHEET NAME: I-105

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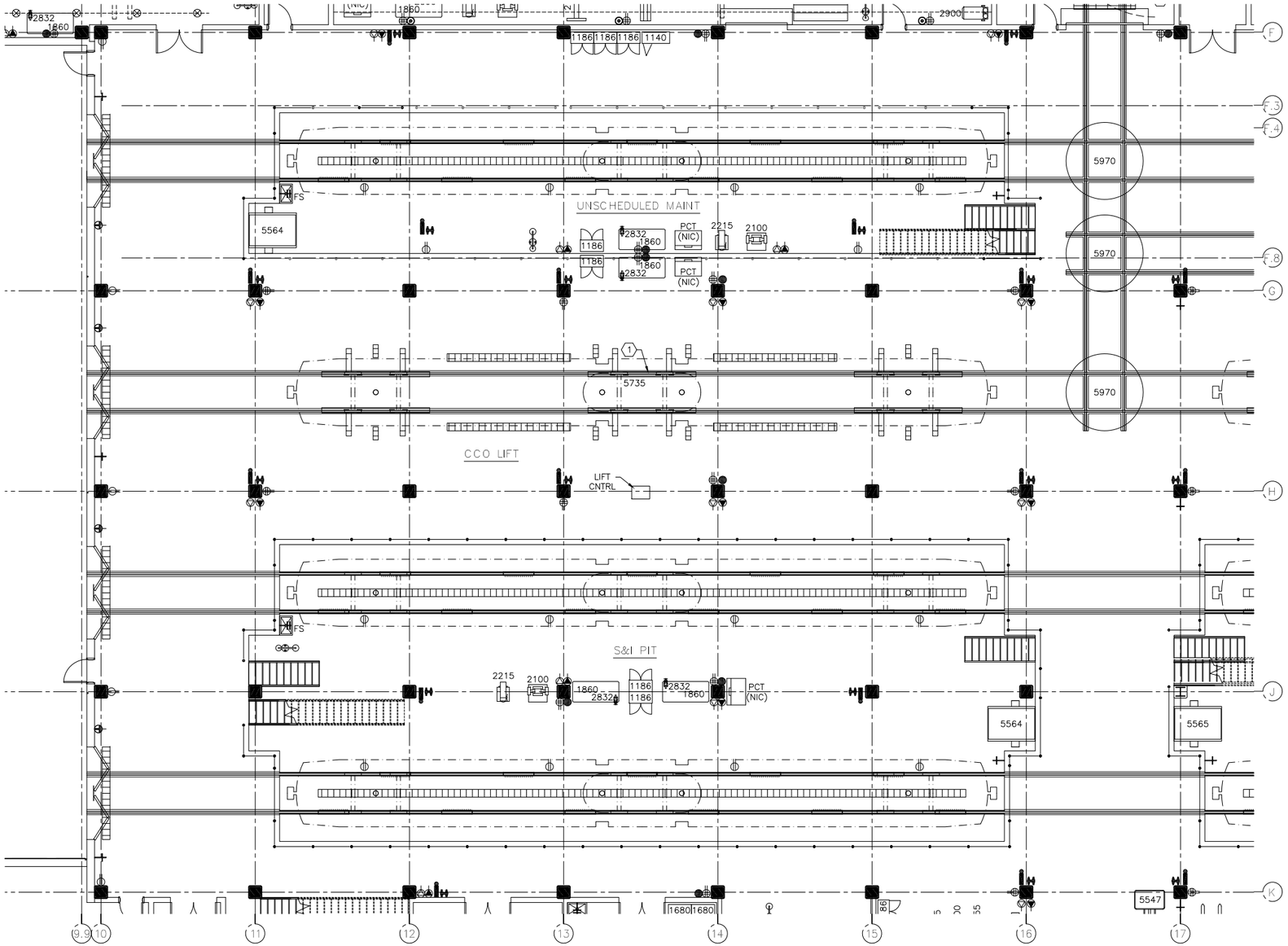
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1ST FLOOR - AREA 6

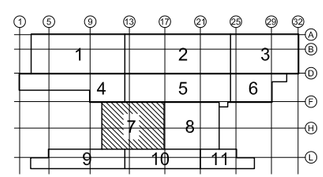
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Beyond the LRT Extension

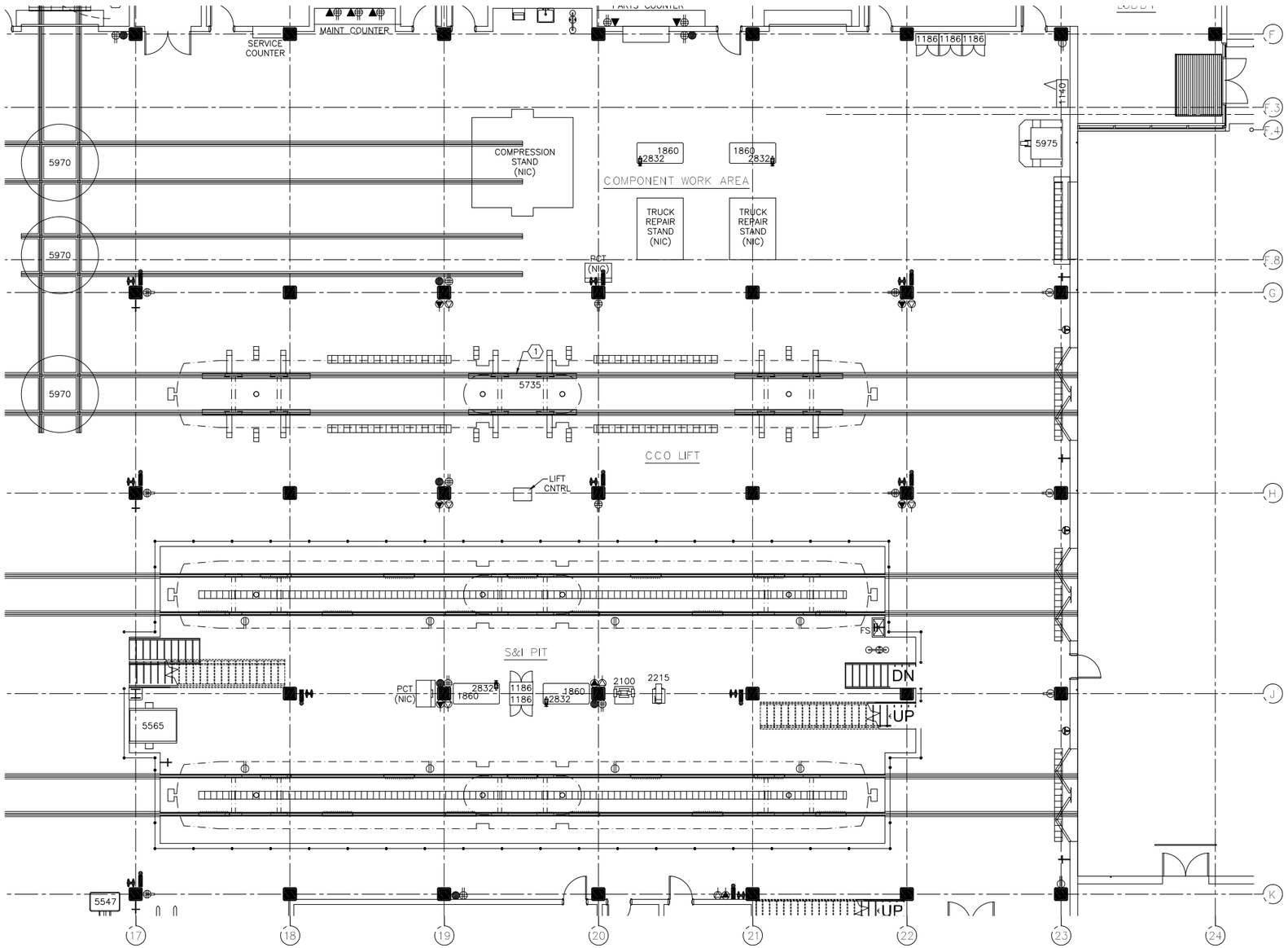
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1ST FLOOR - AREA 7

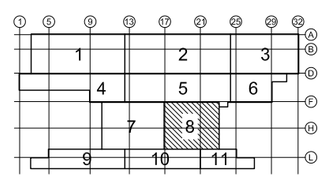
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METROPOLITAN COUNCIL

SOUTHWEST Beyond the LRT Extension

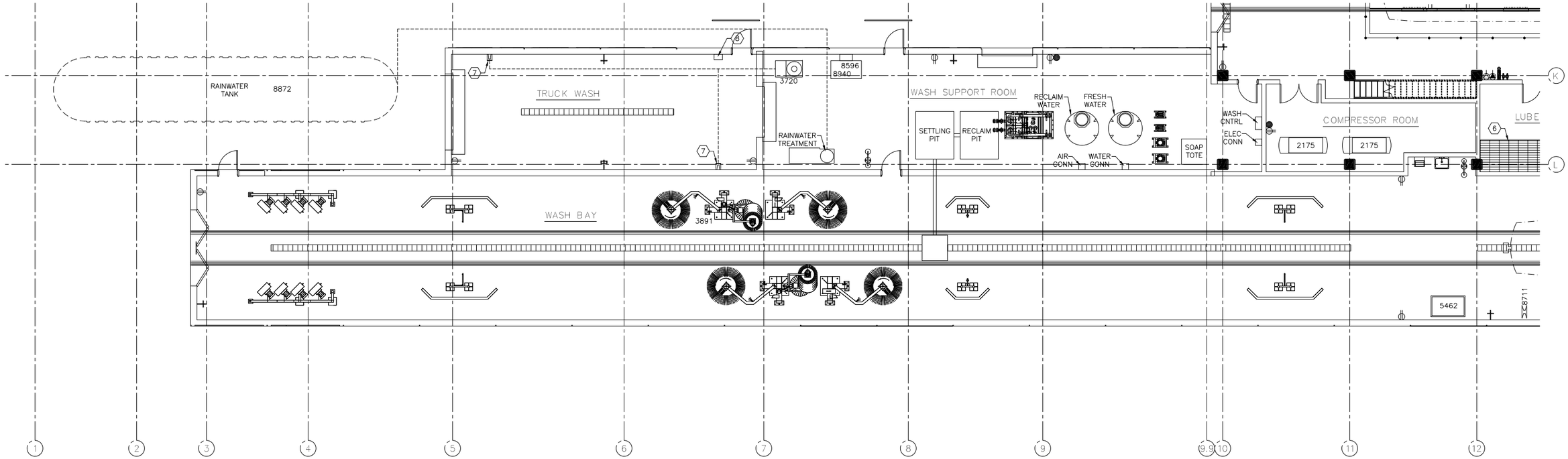
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INDUSTRIAL PLAN
1ST FLOOR - AREA 8

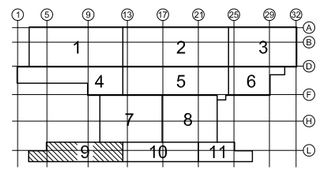
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Project Office LRT Extension

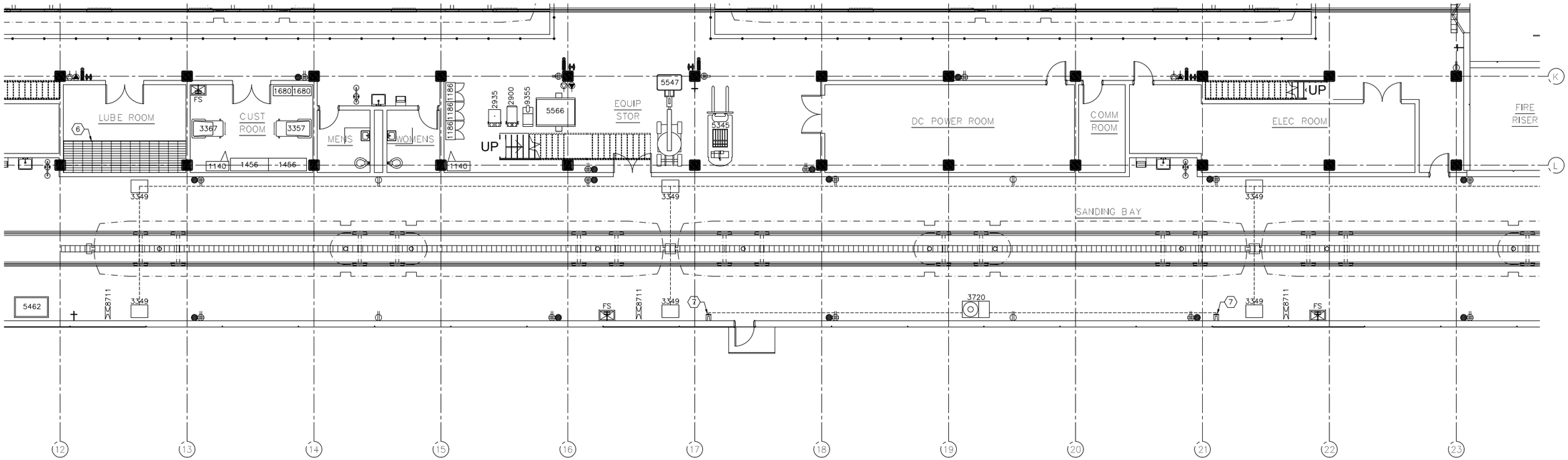
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INDUSTRIAL PLAN
1ST FLOOR - AREA 9

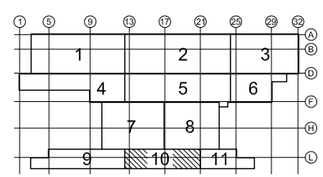
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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extention

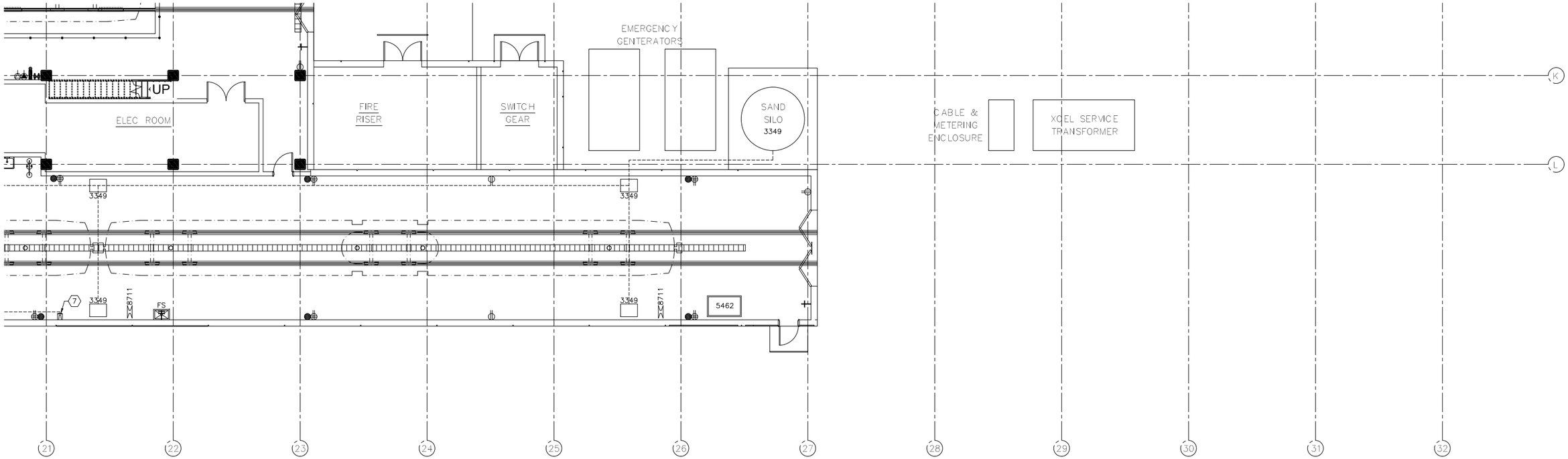
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1ST FLOOR - AREA 10

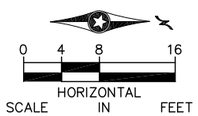
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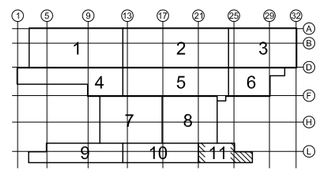
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SOUTHWEST Green Line LRT Extension

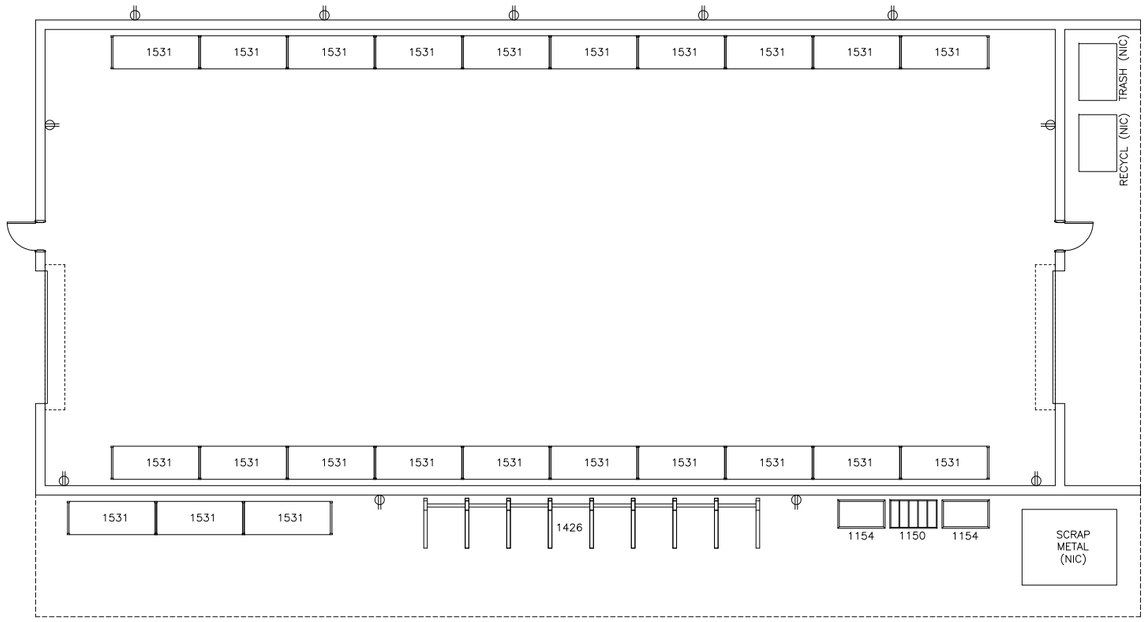
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INDUSTRIAL PLAN
1ST FLOOR - AREA 11

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SHEET NAME: I-111

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SOUTHWEST Green Line Extension

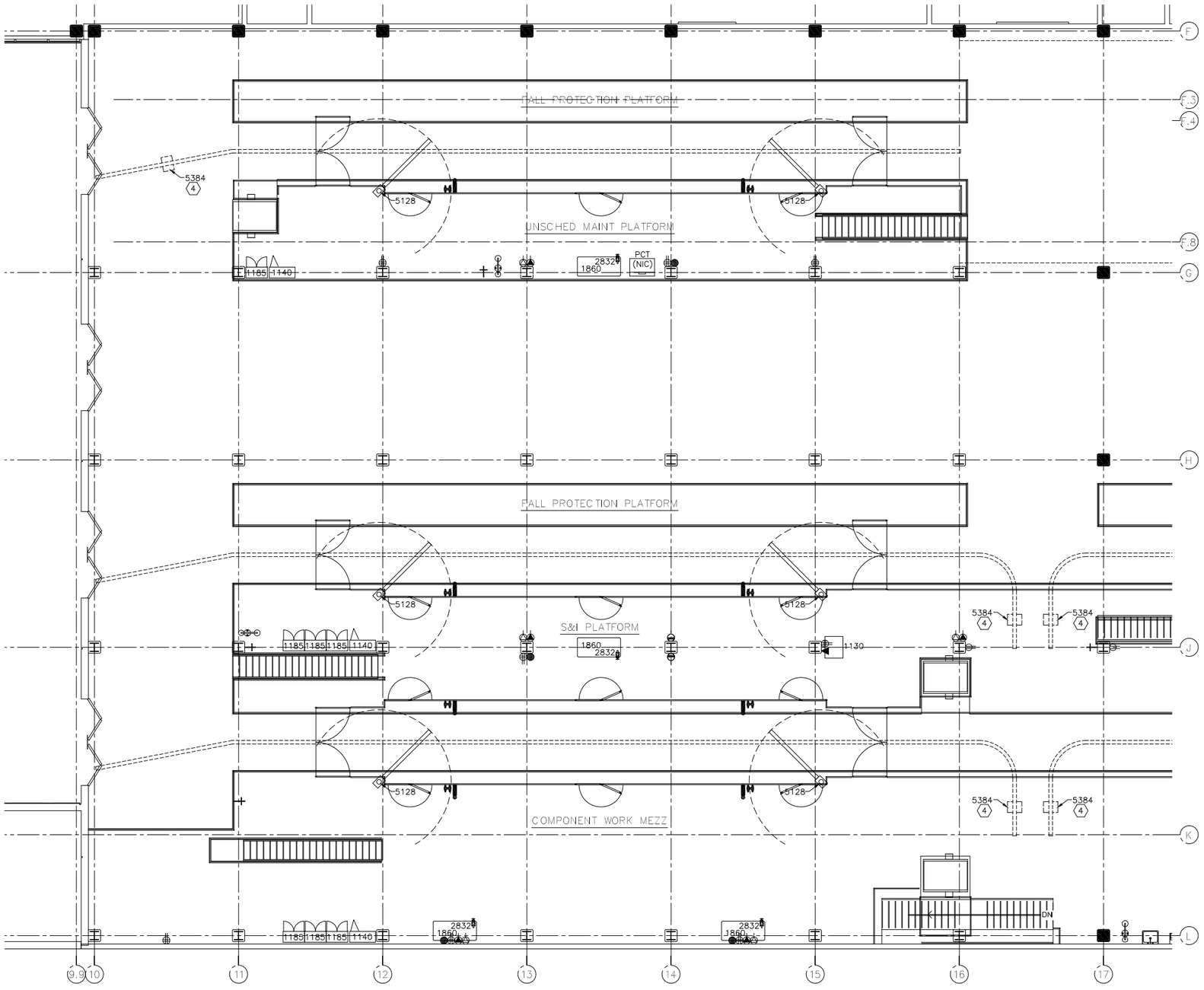
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STORAGE BUILDING

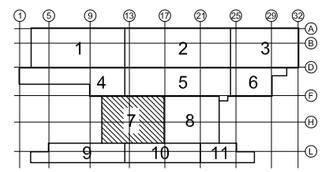
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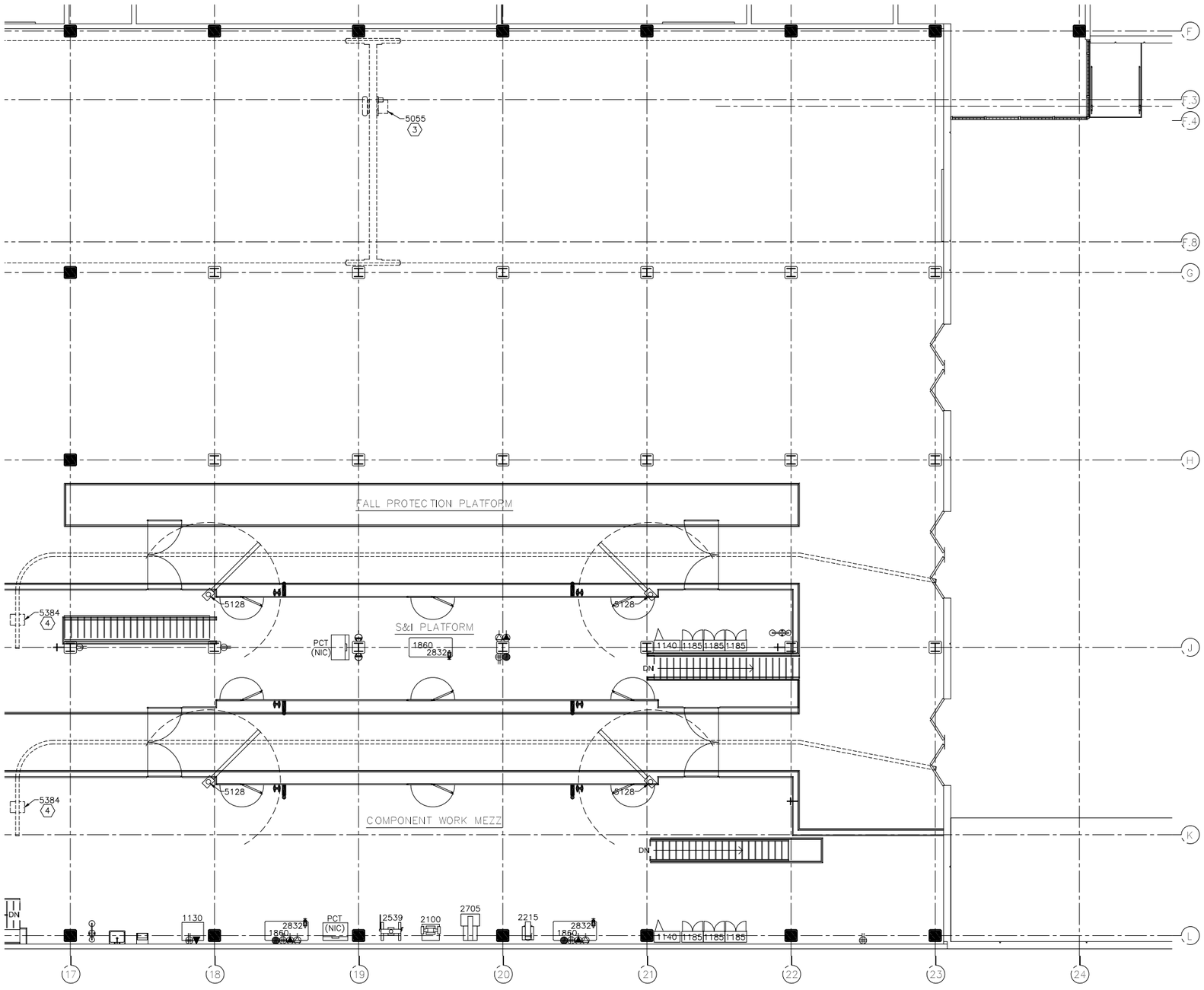
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MEZZANINE - AREA 7

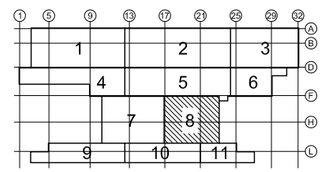
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AECOM PARSONS BRINCKERHOFF

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 4 (OMF)
INDUSTRIAL PLAN
MEZZANINE - AREA 8

DISCIPLINE: INDUSTRIAL

SHEET NAME: I-208

SHEET 179 OF 288

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MECHANICAL ABBREVIATIONS

&	AND
@	AT
℄	CENTERLINE
⌀	PHASE, DIAMETER
#	NUMBER, POUND
°	DEGREE
ABV	ABOVE
A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT
AD	AREA DRAIN, ACCESS DOOR
ADD	ADDENDUM
ADJ	ADJUST, ADJUSTABLE
AFF	ABOVE FINISH FLOOR
AGA	AMERICAN GAS ASSOCIATION
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
AMB	AMBIENT
AMP	AMPERE(S)
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
APPROX	APPROXIMATE
ARCH	ARCHITECT, ARCHITECTURAL
ARI	AIR CONDITIONING AND REFRIGERATION INSTITUTE
ASSY	ASSEMBLY
ASHRAE	AMERICAN SOCIETY OF HEATING REFRIGERATION INSTITUTE
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATC	AUTOMATIC TEMPERATURE CONTROLS
AUX	AUXILIARY
AVG	AVERAGE
AWG	AMERICAN WIRE GAUGE
AWS	AMERICAN WELDING SOCIETY
BAL	BALANCE, BALANCING
BAS	BUILDING AUTOMATION SYSTEM
BHP	BRAKE HORSEPOWER, BOILER HORSEPOWER
BLDG	BUILDING
BLW	BELOW
BO	BY OWNER
BOB	BOTTOM OF BEAM
BOD	BOTTOM OF DUCT
BOF	BY OWNER FUTURE
BOT	BOTTOM
BSMT	BASEMENT
BTUH	BRITISH THERMAL UNITS PER HOUR
CAB	CABINET
CAP	CAPACITY
CENT	CENTRIFUGAL
CF	CHEMICAL FEEDER VALVE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CI	CONSTRUCTION ISSUE
CIRC	CIRCULATE/CIRCULATING
CL	CENTER LINE
CLG	CEILING
CO/C.O.	CLEAN OUT
COL	COLUMN
COMP	COMPRESSOR
CONC	CONCRETE
COND	CONDENSATE, CONDENSER
CONF	CONFERENCE
CONN	CONNECTION
CONT	CONTINUE, CONTINOUS, CONTINUATION
CONV	CONVERTOR
COORD	COORDINATE
COP	COEFFICIENT OF PERFORMANCE
CO2	CARBON DIOXIDE
CP	CONTROL PANEL
CR	CEILING REGISTER
CRG	CEILING RELIEF GRILLE
CT	COMPRESSION TANK, COOLING TOWER
CU IN	CUBIC INCHES
CTR	CENTER
CU FT	CUBIC FEET
CV	CONSTANT VOLUME
CW	CLOCKWISE, COLD WATER
D	DEEP, DEPTH, DRAIN
dB	DECIBELS
dBA	DECIBELS (A WEIGHTED SCALE)
DB	DRY BULB TEMPERATURE
DC	DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DEPT	DEPARTMENT
DEMO	DEMOLITION
DET	DETAIL
DFU	DRAIN FIXTURE UNIT
DIA	DIAMETER
DIFF	DIFFUSER
DIM	DIMENSION
DISCH	DISCHARGE
DIV	DIVISION
DL	DRUM LOUVER
DMPR	DAMPER
DN	DOWN
DP	DATA PROCESSING, DEMOUNTABLE PARTITION
DPT	DEFFERENTIAL PRESSURE TRANSMITTER
DWG	DRAWING
DWDI	DOUBLE WIDTH DOUBLE INLET
DWV	DRAIN, WASTE, VENT
DX	DIRECT EXPANSION
EA	EACH, EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
EFTR	ELECTRIC FIN TUBE RADIATION
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
ENGR	ENGINEER
EPDM	ETHYENE PROPYLEVE DIENE TERPOLYMER
EQ	EQUAL
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB TEMPERATURE
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F	FIRE
°F	DEGREES FAHRENHEIT
FACP	FIRE ALARM CONTROL PANEL
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FD/FS	FLOOR DRAIN W/FUNNEL STRAINER
FDMPR	FIRE DAMPER
FDV	FIRE DEPARTMENT VALVE
FFCP	FIREFIGHTER'S CONTROL PANEL
FHC	FIRE HOSE CABINET
FHV	FIRE HOSE VALVE
FIN	FINISH
FIXT	FIXTURE
FLA	FULL LOAD AMPERE(S)
FLEX	FLEXIBLE
FLG	FLANGED
FLR	FLOOR
FM	FIRE MAIN
FO	FUEL OIL
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOOR SINK
FST	FUNNEL STRAINER
FT	FOOT OR FEET
FTG	FUEL TANK GAUGE
FTR	FIN TUBE RADIATION
FU	FIXTURE UNIT(S)
GA	GAUGE
GAL	GALLONS
GALV	GALVANIZED
GAS	GASOLINE
GC	GENERAL CONTRACTOR
GENL	GENERAL
GH	GROUND HYDRANT
GPM	GALLONS PER MINUTE
GR	GRILLE
GTG	GASOLINE TANK GAUGE
GWA	GENERAL WORK AREA
GPH	GALLONS PER HOUR
H	HEIGHT, HIGH
HL	HIGH LIMIT
HOA	HAND-OFF-AUTOMATIC
HP	HORSE POWER
HTG	HEATING
HTR	HEATER
HU	HUMIDIFIER
HVAC	"HEATING, VENTILATING, & AIR-CONDITIONING"
HW	HOT WATER
HZ	"FREQUENCY, HERTZ"
IBR	INSTITUTE OF BOILER & RADIATOR MANUFACTURERS
ID	INSIDE DIAMETER
IN.	INCH(ES)
INSUL	INSULATION
INV	INVERT
IN WG	INCHES WATER GAUGE
JAN	JANITOR
KFD	KITCHEN FUNNEL DRAIN
KVA	KILO VOLT AMPERE(S)
KW	KILOWATT(S)
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LBD	LINEAR BAR DIFFUSER
LBS	POUNDS (WEIGHT)
LBS/HR	POUNDS PER HOUR
LCD	LINEAR CEILING DIFFUSER
LCR	LINEAR CEILING RETURN
LDB	LEAVING DRY BULB TEMPERATURE
LF	LINEAR FEET
LIN	LINEAR
LL	LOW LIMIT
LOC	LOCATION, LOCATE
LP	LOW PRESSURE
LRA	LOCKED ROTOR AMPERES
LWB	LEAVING WET BULB TEMPERATURE
LT	LIGHT
LTG	LIGHTING
LVR	LOUVER
LWT	LEAVING WATER TEMPERATURE
MAC	MEDICAL AIR COMPRESSOR
MATL	MATERIAL
MAX	MAXIMUM
MBD	MOTORIZED BYPASS DAMPER
MBH	ONE THOUSAND BTU PER HOUR
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MER	MECHANICAL EQUIPMENT ROOM
MET	METAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MS	MOTOR STARTER
MSP	MOTOR STARTER PANEL
MSS	MOTOR STARTER SWITCH
MTD	MOUNTED
MTL	METAL
MTR	MOTOR
MV	MOTORIZED VALVE
MVP	MEDICAL VACUUM PUMP
N	NECK (DIFFUSER)
NA	NOT APPLICABLE
NC, N.C.	NOISE CRITERIA
NC	NORMALLY CLOSED
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NIC	NOT IN CONTRACT
NO, N.O.	NUMBER, NORMALLY OPEN
NPSH	NET POSITION SUCTION HEAD
NT	NOTE
NTS	NOT TO SCALE
O	OXYGEN
OA	OUTSIDE AIR
OF	OVERFLOW
OFF	OFFICE
OH	OVERHEAD
OPNG	OPENING
ORD	OVERFLOW ROOF DRAIN
OS&Y	OUTSIDE STEM AND YOKE
P	PLUMBING FIXTURE
PCF	POUNDS PER CUBIC FOOT
PD	PRESSURE DROP, PERFORATED DIFFUSER
PH	PHASE
PIV	POST INDICATOR VALVE
PLBG	PLUMBING
PM	NIGHT TIME
PPM	PARTS PER MILLION
PNL	PANEL
PRESS	PRESSURE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
QTY	QUANTITY
R	REGISTER
RA	RETURN AIR
RAD	RADIATION, RADIATOR, ROOF AREA
RD	DRAIN
REC	ROOF DRAIN
REG	RECESSED
REQD	REGISTER
RET	REQUIRED
REV	RETURN
RH	REVISION(S)
RLA	RELATIVE HUMIDITY
RM	RUNNING LOAD AMPERES
RPM	ROOM
RR	REVOLUTIONS PER MINUTE
RWC	RETURN REGISTER RAIN WATER CONDUCTOR
S	SINK
SA	SHOCK ABSORBER
SCHED	SCHEDULE
SENS	SENSIBLE
SG	SIDE WALL GRILLE
SHT	SHEET
SIM	SIMILAR
SK	SINK
SMACNA	SHEET METAL AND AIR- CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION
SP	STATIC PRESSURE, STANDPIPE, SUMP PUMP
SPEC	SPECIFICATIONS
SPS	STATIC PRESSURE STATION
SPT	STATIC PRESSURE TRANSMITTER
SQ	SQUARE
SQ FT	SQUARE FOOT
SR	SERVICE RECEPTOR, SIDE WALL REGISTER
SRG	SIDE WALL RELIEF GRILLE
SST	STAINLESS STEEL
STD	STANDARD
STM	STEAM
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SWGF	SIDE WALL GRILL FILTERED
SWP	STANDARD WORKING PRESSURE
SWSI	SINGLE WIDTH SINGLE INLET
T	THERMOSTAT
TD	TEMPERATURE DIFFERENCE
TDH	TOTAL DYNAMIC HEAD
TEFC	TOTALLY ENCLOSED FAN COOLED
TEMP	TEMPERATURE
TOT	TOTAL
TP	TRAP PRIMER
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
V	VENT
VAV	VARIABLE AIR VOLUME
VB	VACUUM BREAKER
VC	VALVE CABINET
VEL	VELOCITY
VERT	VERTICAL
VEST	VESTIBULE
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VTR	VOLT(S) VENT THROUGH ROOF
W	WASTE
W/	WITH
WB	WET BULB TEMPERATURE
WC	WATER CLOSET
WG	WATER GAUGE
WH	WALL HYDRANT
WOG	WATER, OIL, AND GAS
W/O	WITHOUT
WPD	WATER PRESSURE DROP
WR	WALL REGISTER
WTR	WATER TEMPERATURE RISE
AFMS	AIR FLOW MEASURING STATION
AHU	AIR HANDLING UNIT
AS	AIR SEPARATOR
B	BOILER
BFP	BACKFLOW PREVENTER
BP	BOILER PUMP (FEEDWATER)
CC	COOLING COIL
CFP	CHEMICAL FEED PUMP
CH	CHILLER
CHWP	CHILLED WATER PUMP
CHWPP	CHILLED WATER PRIMARY PUMP
CHWRP	CHILLED WATER RECIRCULATING PUMP
CHWSP	CHILLED WATER SECONDARY PUMP
CHWTP	CHILLED WATER TRANSFER PUMP
CP	CONDENSATE PUMP
CRU	CONDENSATE RETURN UNIT
CT	COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CWP	CONDENSER WATER PUMP
DBP	DOMESTIC BOOSTER PUMP
DC	DRY COOLER
DH	DUCT HUMIDIFIER
DPU	DATA PROCESSING UNIT
DWH	DOMESTIC WATER HEATER
DWRP	DOMESTIC WATER RECIRCULATING PUMP
E	EXHAUST FAN
EH	ELECTRIC HUMIDIFIER
EHC	ELECTRIC HEATING COIL
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EWFMS	ELECTRIC WATER FLOW MEASURING STATION
EWH	ELECTRIC WATER HEATER
FC	FAN COIL
FCU	FAN COIL UNIT
FOC	FUEL OIL CLEANING SYSTEM
FOP	FUEL OIL PUMP
FOT	FUEL OIL TANK
FP	FIRE PUMP
FSWH	FOOD SERVICE WATER HEATER
GWH	GAS WATER HEATER
GCHWP	GLYCOL CHILLED WATER PUMP
H	HUMIDIFIER
HC	HEATING COIL
HE	HEAT EXCHANGER
HWP	HEATING WATER PUMP
HWPP	HEATING WATER PRIMARY PUMP
HWSP	HEATING WATER SECONDARY PUMP
JP	JOCKEY PUMP
LH	LOUVER HOOD
LHWP	LOW TEMPERATURE HEATING WATER PUMP
LRHP	LOW TEMPERATURE REHEAT PUMP
MAC	MEDICAL AIR COMPRESSOR
MCU	MODULAR COOLING UNIT
MVP	MEDICAL VACUUM PUMP
MWBP	MAKE-UP WATER BOOSTER PUMP
PHP	PRIMARY HEATING PUMP
PRV	POWER ROOF VENTILATOR
PRVS	PRESSURE REDUCING VALVE STATION
RDS	RELIEF DUCT SILENCER
RE	RETURN EXHAUST
RF	RETURN FAN
RGH	RADIANT GAS HEATER
RP	RADINTION PUMP
RPC	REFRIGERANT PUMP OUT COMPRESSOR
RPZ	REDUCED PRESSURE BACKFLOW PREVENTER
S	SUPPLY FAN
SA	SOUND ATTENUATOR
TCAC	TEMPERATURE CONTROL AIR COMPRESSOR
TCP	TEMPERATURE CONTROL PANEL
TF	TRANSFER FAN
UH	UNIT HEATER
UT	UNDERGROUND TANK
VF	VENTILATION FAN
VAV	VARIABLE AIR VOLUME UNIT
WFMS	WATER FLOW MEASURING STATION
ZVB	ZONE VALVE BOX

EQUIPMENT LABELING



GENERAL NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT. THEY ARE INTENDED TO SHOW SIZE, CAPACITY, APPROXIMATE LOCATION, DIRECTION AND GENERAL RELATIONSHIP OF ONE WORK PHASE TO ANOTHER, BUT NOT THE EXACT DETAIL OR ARRANGEMENT.
2. ANY OF THESE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS DRAWING MAY APPEAR ON THE PROJECT DRAWINGS. USE ONLY THOSE WHICH ARE APPLICABLE TO THIS PROJECT.
3. IN GENERAL, ALL PIPING AND DUCTWORK SHALL BE RUN CONCEALED IN CEILING SPACES. CERTAIN ROOMS HAVE NO SUSPENDED CEILING. PIPING AND DUCTWORK ABOVE THESE ROOMS SHALL BE RUN EXPOSED.
4. PITCH ALL PIPING AS SPECIFIED TO PERMIT THOROUGH DRAINAGE. PROVIDE AND INSTALL DRAIN VALVES AT ALL LOW POINTS WITHIN THE BUILDING.
5. TEMPERATURE SENSORS LOCATED AT OUTSIDE WALLS SHALL BE MOUNTED ON INSULATED SUB-BASED TO MINIMIZE WALL EFFECT, AFTER INSTALLATION FILL INSULATED SUB-BASE W/PLASTIC FOAM INSULATION.
6. WHEN CONFLICTS BETWEEN FLOW DIAGRAMS AND FLOOR PLANS OCCUR ON PIPE SIZING AND ACCESSORIES SUCH AS GAUGES, THERMOSTATS, FLOW METERS, VALVES, ECT. THE FLOW DIAGRAM AND DETAILS SHALL TAKE PRECEDENCE.
7. DO NOT LOCATE ANY EQUIPMENT IN THE TUBE, COIL, OR FILTER PULL AREAS REQUIRED FOR CHILLERS, COILS, BOILERS, AHU'S ETC.
8. WELDING TO STRUCTURAL MEMBERS IS NOT PERMITTED.
9. SUPPLY AIR UNIT CONSTRUCTION SHALL PERMIT COIL, FILTER, AND FAN REMOVAL WITHOUT DISMANTLING UNIT HOUSING.
10. MINIMUM CLEARANCE FROM FINISHED FLOOR TO BOTTOM OF HORIZONTAL PIPES AND DUCTWORK IN MECHANICAL ROOMS IS 7'-0".
11. ALL HORIZONTAL WATER PIPING REDUCERS SHALL BE ECCENTRIC, FLAT ON TOP.
12. DO NOT USE BULL HEAD TEES ON WATER PIPING.
13. PIPE ALL COOLING, HEATING, AND REHEAT COILS FOR COUNTERFLOW OF AIR AND WATER.
14. INSTALL ALL NEW TEMPERATURE TRANSMITTERS FOR NEW VAV TERMINALS.
15. LOCATE ALL VALVES IN VERTICAL PIPING A MAXIMUM OF 6'-0" ABOVE FLOOR TO ALLOW FOR OPERATION WITHOUT USE OF A LADDER.
16. ALL NEW WORK IS SHOWN WITH SOLID (DARK) LINES AND ALL EXISTING IS SHOWN WITH SCREENED (LIGHT) LINES.
17. WHERE CAPS OR SHEET METAL CLOSURES ARE SHOWN ON EXISTING PIPING OR EXISTING DUCTWORK, SEAL WATER OR AIR TIGHT, AND REINSULATE CAPS AND CLOSURES TO MATCH EXISTING. REINSULATE AS SPECIFIED WITH THE SAME THICKNESS AS EXISTING.
18. ALL UNUSED PORTIONS OF THE LOUVERS WILL BE BLANKED-OFF AS SPECIFIED IN DIVISION 10.
19. ALL INVERTS SHOWN FOR CHILLED WATER, HEATING WATER, AND STEAM PIPING ARE FOR REPRESENTATION OF SLOPE AND PLACEMENT OF PIPES. ACTUAL LOCATION SHALL BE COORDINATED BY THE CONTRACTOR.
20. SEE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND SIZES OF ALL TERMINAL DEVICES (GRILLES, REGISTERS, LBD'S, LCD'S, ECT.)
21. SEE EQUIPMENT SCHEDULES FOR EQUIPMENT DESIGNATIONS.
22. DUCTWORK DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.
23. COORDINATE ROUTING OF DUCTWORK WITH LIGHTING AND SPRINKLER LAYOUTS AND ARCHITECTURAL DETAILS.
24. SUBMIT SHOP DRAWINGS FOR LOCATION OF ALL ACCESS PANELS, INDICATING: LOCATION, SIZE, TYPE, AND STYLE. THE CONTRACTOR SHALL RELOCATE AND OR ADJUST MECHANICAL EQUIPMENT AND OR DEVICES TO ALLOW FOR A SYMMETRICAL DESIGN OF ACCESS PANEL LOCATIONS AS REQUIRED AND APPROVED BY THE ARCHITECT.
25. CONTRACTOR SHALL SURVEY THE SITE PRIOR TO PREPARATION OF BID AND PRIOR TO PREPARATION OF SHOP DRAWINGS. INFORMATION SHOWN IN THESE DRAWINGS IS BASED ON THE AVAILABLE DRAWINGS OF THE BASE BUILDING. WORK UNDER THIS CONTRACT SHALL REFLECT ACTUAL EXISTING CONDITIONS. CONTRACTOR SHALL MAKE REVISIONS AS NECESSARY TO REFLECT EXISTING CONDITIONS AT NO COST TO THE OWNER. THIS SHALL INCLUDE SHOP DRAWING PREPARATION AS WELL AS CONSTRUCTION COST.

GENERAL NOTES CONTINUED

26. PROVIDE FLEXIBLE DUCTWORK AND ROUND DUCTWORK TO DIFFUSERS OF SAME SIZE OF DIFFUSER'S NECK. REFER TO DIFFUSER SCHEDULE FOR SIZE OF DIFFUSER'S NECK.
27. CONNECTIONS TO EXISTING PIPING SHALL BE MADE BY THE USE OF A PIPE TEE FITTING TO MATCH EXISTING PIPING.
28. DUCTWORK TO THE INLET OF TERMINAL UNITS SHALL MATCH SIZE OF INLET OF TERMINAL UNIT.
29. PROVIDE UP AND DOWN TRANSITIONS AS NECESSARY TO INSTALL DUCT & PIPE AROUND NEW & EXISTING EQUIPMENT AND BUILDING STRUCTURE. MAKE ADJUSTMENT TO DUCTWORK AND PIPING AS NECESSARY TO COORDINATE WITH EXISTING AND NEW ELEMENTS: PIPES, DUCTS, CONDUITS, BEAMS AND BUILDING STRUCTURAL MEMBERS.
30. PROVIDE DUCT TRANSITIONS TO ALL EXISTING TERMINAL UNITS. DUCT TRANSITIONS SHALL CONNECT EXISTING TERMINAL UNITS TO DUCTWORK PROVIDED BY THIS CONTRACT. REFER TO DRAWINGS FOR DUCT SIZES. VISIT SITE AND OBTAIN OUTLET SIZE OF EXISTING TERMINAL UNITS.
31. CONTRACTOR TO COORDINATE LOCATION OF ALL THERMOSTATS/HUMIDISTATS AND TEMPERATURE SENSORS/HUMIDITY SENSORS WITH THE LATEST FURNITURE LAYOUT DRAWINGS. HEIGHT OF DEVICES SHALL BE PER ELEVATIONS ON ARCHITECTURAL DRAWINGS OR IN SPECIFICATION EXCEPT AS OTHERWISE TO COMPLY WITH AMERICANS WITH DISABILITIES ACT REQUIREMENTS.
32. ALL DUCTWORK AND PIPING NEEDS TO BE INSTALLED AS HIGH AS POSSIBLE AND TIGHT TO THE SLAB ABOVE. REFER TO THE ARCHITECTURAL CEILING PLANS FOR CEILING HEIGHT REQUIREMENTS.
33. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR PENETRATION REQUIREMENTS AT UL-RATED ASSEMBLIES.
34. NOTIFY THE OWNER OF ANY REQUIRED SHUT-DOWN OF EXISTING SYSTEMS TO PERFORM WORK. SCHEDULE SHUT-DOWNS WITH THE OWNER BEFORE PROCEEDING WITH THE WORK.
35. WORK THAT AFFECTS CRITICAL SYSTEMS OR SERVICES MAY NEED TO BE PERFORMED AFTER NORMAL WORKING HOURS. COORDINATE THIS WORK WITH THE OWNER.
36. COORDINATE ALL WORK WITH OTHER TRADES TO AVOID CONFLICTS WITH EXISTING AND NEW PIPING, VENTILATION, PLUMBING, ELECTRICAL CONDUIT, CABLE TRAYS, ETC.
37. WHERE RELOCATIONS ARE REQUIRED, COORDINATE WITH OTHER TRADES TO DETERMINE THE MOST PRACTICAL METHOD OF RESOLUTION WITH THE LEAST IMPACT FROM AN OVERALL PROJECT PERSPECTIVE.
38. COORDINATE PLUMBING CONNECTIONS TO FIXTURES AND EQUIPMENT WITH ARCHITECTURAL ELEVATIONS AND EQUIPMENT SUPPLIERS.

BUILDING DESIGN DATA

OUTDOOR DESIGN TEMPERATURES:

WINTER: -24°F
SUMMER: **98°F DB**
SUMMER: **71°F WB**

INDOOR DESIGN CONDITIONS:

SUPPLY DISCHARGE AIR TEMPERATURES:

WINTER: 55°F OR HIGER* (* REST WITH CAUTION)
SUMMER: 55°F

THERMOSTAT SET POINT TEMPERATURES:

AIR CONDITIONED SPACES: 75°F
BELOW 75°F - HEATING
ABOVE 75°F - COOLING

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M-603	MECHANICAL SECTIONS
M-604	MECHANICAL SECTIONS
M-605	MECHANICAL SECTIONS
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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

OMF - MECHANICAL SYMBOLS & LEGENDS

DISCIPLINE: MECHANICAL

SHEET NAME: M-001

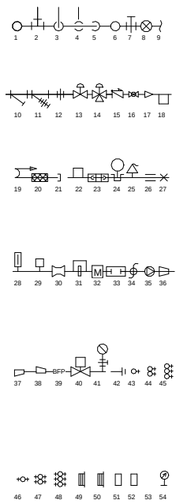
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PLUMBING/PIPING LABELS

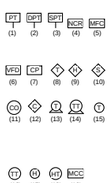
SYMBOL	ABBR.	DESCRIPTION
LRHS	LRHS	LOW TEMPERATURE REHEAT WATER SUPPLY
LRHR	LRHR	LOW TEMPERATURE REHEAT WATER RETURN
LHWS	LHWS	LOW TEMPERATURE HOT WATER SUPPLY
LHWR	LHWR	LOW TEMPERATURE HOT WATER RETURN
RS	RS	RADIATION WATER SUPPLY
RR	RR	RADIATION WATER RETURN
RHS	RHS	REHEAT WATER SUPPLY
RHR	RHR	REHEAT WATER RETURN
HWS	HWS	PRIMARY HEATING WATER SUPPLY
HWR	HWR	PRIMARY HEATING WATER RETURN
CHWS	CHWS	CHILLED WATER SUPPLY
CHWR	CHWR	CHILLED WATER RETURN
CWS	CWS	CONDENSER WATER SUPPLY
CWR	CWR	CONDENSER WATER RETURN
SCHWS	SCHWS	SECONDARY CHILLED WATER SUPPLY
SCHWR	SCHWR	SECONDARY CHILLED WATER RETURN
10#	10#	10 PSI STEAM (OR PRESSURE AS INDICATED)
HPR	HPR	HIGH PRESSURE STEAM RETURN
LPR	LPR	LOW PRESSURE STEAM RETURN
PC	PC	PUMPED CONDENSATE
HRS	HRS	HEAT RECOVERY SUPPLY
HRR	HRR	HEAT RECOVERY RETURN
LIQ	LIQ	REFRIGERANT (LIQUID)
SUC	SUC	REFRIGERANT (SUCTION)
HG	HG	HOT GAS
FOO	FOO	FUEL OIL OVERFLOW
FOR	FOR	FUEL OIL RETURN
FOS	FOS	FUEL OIL SUPPLY
FOV	FOV	FUEL OIL VENT
DI	DI	DEIONIZED WATER
DS	DS	DISTILLED WATER
RO	RO	REVERSE OSMOSIS WATER
90A	90A	NINETY POUND GENERAL AIR (OR OR PRESSURE AS INDICATED)
MA	MA	MEDICAL AIR (50 PSIG)
LA	LA	LABORATORY AIR (20 PSIG)
IA	IA	INSTRUMENT AIR (20 PSIG)
AI	AI	MEDICAL AIR INTAKE
LPG	LPG	LIQUID PETROLEUM GAS
G	G	GAS - NATURAL
P	P	PROPANE
MV	MV	MEDICAL VACUUM
LV	LV	LABORATORY VACUUM
VE	VE	VACUUM EXHAUST
WAGD	WAGD	WASTE ANESTHESIA GAS DISPOSAL
O	OXYGEN	
N2O	N2O	NITROUS OXIDE
N	N	NITROGEN
CO2	CO2	CARBON DIOXIDE
CW	CW	COLD WATER
NP	NP	NON - POTABLE COLD WATER
HW	HW	HOT WATER
RHW	RHW	RECIRCULATION HOT WATER
140°F HW	140°F HW	140°F HW (TEMP AS NOTED)
140°F RHW	140°F RHW	RECIRCULATING HOT WATER (TEMP AS NOTED)
F	F	FIRE SERVICE
FV	FV	FLAMMABLE VENT
FW	FW	FLAMMABLE WASTE
CSW	CSW	COLD SOFT WATER
MCW	MCW	MAKE - UP COLD WATER
ISD	ISD	INTERIOR SUB DRAIN
W	W	SOIL OR WASTE (SANITARY)
V	V	VENT (SANITARY)
PDL	PDL	PUMPED DISCHARGE LINE (SANITARY)
RWC	RWC	RAIN WATER CONDUCTOR (STORM)
ORWC	ORWC	OVERFLOW RAIN WATER CONDUCTOR (STORM)
ARW	ARW	ACID RESISTANT SOIL OR WASTE
ARV	ARV	ACID RESISTANT VENT
LPCW	LPCW	LOW PRESSURE COLD WATER
HA	HA	HOUSE AIR
A	A	COMPRESSED AIR
VV	VV	VAPOR VENT
V	V	VENT OFFSET
D	D	INDIRECT DRAIN
TW	TW	TEMPERED WATER
HT	HT	HEAT TRACE
IW	IW	INDIRECT WASTE
WW	WW	WELL WATER
CMV	CMV	COMBINATION WASTE AND VENT

PLUMBING/PIPING SYMBOLS



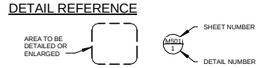
1. PIPE UP
2. PIPE CONNECTION
3. TOP CONNECTION
4. BOTTOM CONNECTION
5. PIPE DROP
6. PIPE RISE
7. SHUT OFF VALVE
8. BALANCING VALVE
9. PIPE BREAK
10. STRAINER
11. STRAINER W/BLOWDOWN VALVE
12. UNION
13. MOTORIZED VALVE - 2 WAY
14. MOTORIZED VALVE - 3 WAY
15. CHECK VALVE
16. DRAIN VALVE
17. FLOW ARROW
18. STEAM TRAP
19. ARROW INDICATES DIRECTION OF PIPE PITCH
20. FLEXIBLE CONNECTION
21. PIPE/DUCT CAP
22. PRESSURE AND TEMPERATURE STATION
23. RADIATION ELEMENT
24. TEMPERATURE TRANSMITTER IN PIPE WELL
25. RELIEF VALVE
26. PIPE GUIDE
27. ANCHOR PRESSURE GAGE
28. THERMOMETER
29. AIR VENT
30. VENTURI WATER FLOW MEASURING STATION
31. TURBIN WATER FLOW MEASURING STATION
32. METER
33. EXPANSION COMPENSTOR
34. FLOW ALARM
35. INLINE PUMP
36. CONCENTRIC PIPE REDUCER
37. ECCENTRIC PIPE REDUCER (FLAT ON TOP)
38. ECCENTRIC PIPE REDUCER (FLAT ON BOTTOM)
39. REDUCED PRESSURE ZONE BACKFLOW PREVENTER
40. SOLENOID VALVE
41. SHOCK ABSORBER (SA) (PDI SYMBOL)
42. CLEAN OUT
43. MEDICAL GAS OUTLET - ONE SIDE/SINGLE OUTLET
44. MEDICAL GAS OUTLET - ONE SIDE/DOUBLE OUTLET
45. MEDICAL GAS OUTLET - ONE SIDE/TRIPPLE OUTLET
46. MEDICAL GAS OUTLET - ONE SIDE/SINGLE OUTLET
47. MEDICAL GAS OUTLET - ONE SIDE/DOUBLE OUTLET
48. MEDICAL GAS OUTLET - ONE SIDE/TRIPPLE OUTLET
49. ZONE VALVE BOX (ZVB)
50. ROOM VALVE BOX (RVB)
51. MASTER ALARM PANEL (AAP)
52. AREA ALARM PANEL (AAP)
53. NITROGEN CONTROL CABINET
54. PRESSURE GAUGE

MECHANICAL SYMBOLS



1. PRESSURE TRANSMITTER
2. DIFFERIENTIAL PRESSURE TRANSMITTER
3. STATIC PRESSURE TRANSMITTER
4. NETWORK CONTOLLER/ROUTER (NCR)
5. MULTI FUNCTION CONTOLLER (MFC)
6. VARIABLE FREQUENCY DRIVE
7. CONTROL PANEL
8. OVERTEMP DETECTOR
9. HEAT DETECTOR
10. SMOKE DETECTOR
11. CARBON MONOXIDE (CO) MONITOR
12. CARBON DIOXIDE (CO2) MONITOR
13. THERMOSTAT WITH INSULATED SUBBASE
14. TEMPERATURE TRANSMITTER W/ SUBBASE
15. THERMOSTAT
16. TEMPERATURE TRANSMITTER
17. HUMIDISTAT
18. HUMIDITY TRANSMITTER
19. DIFFERIENTIAL PRESSURE MONITOR

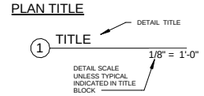
DETAIL REFERENCE



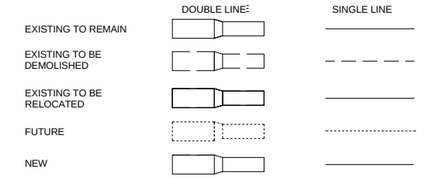
SECTION/ELEVATION REFERENCE



PLAN TITLE



CONSTRUCTION PIPE TYPES



SPECIFIC NOTE SYMBOL



REVISION INDENTIFICATION



CONNECTION TO EXISTING



VENTILATION SYMBOLS

ITEM INDICATED	DOUBLE LINE DRAWING REPRESENTATION	SINGLE LINE DRAWING REPRESENTATION
TAKEOFFS IN SUPPLY DUCT	12X8 6X8 12X6	12X8 6X8 12X6
BRANCH DUCTS	36X12 12X8 12" Ø	36X12
BUTTED TAKEOFF TO REGISTER OR GRILLE W/WO AIR EXTRACTOR	24X12 24X6 SWG 260 CFM 12X8	24X12 24X6 SWG 260 CFM 12X8
SUPPLY DIFFUSER RUNOUT	DIFFUSER SPIN - IN FLEX DUCT	DIFFUSER SPIN - IN FLEX DUCT
RETURN/EXH. REG OR GRILLE CENTERED IN BOTTOM OF DUCT	36X12	
DUCT SPLIT USING MITERED ELBOWS W/ TURNING VANES	15 ° MAX A+B	
SQUARE ELBOW W/ TURNING VANES		
ONE SIDED EXPANSION OR CONTRACTION (INDICATE ONLY WHERE MANDATORY)	12X8 24X12 MAX. MAX.	12X8 24X12 MAX. MAX.
TWO SIDED EXPANSION OR CONTACTION (INDICATE ONLY WHERE MANDATORY)	12X8 24X12 MAX. MAX.	12X8 24X12 MAX. MAX.
TYPICAL BUTTED TAKEOFF WITH VOLUME DAMPER AND REHEAT COIL	REHEAT COIL 14X12 18X12 12X10	REHEAT COIL 14X12 18X12 12X10
RETURN OR EXHAUST DUCT TAKEOFF	18X8 12X8 12X8	18X8 12X8 12X8
VERTICAL SPLIT TAKEOFF(PLAN VIEW)		

ITEM INDICATED	DOUBLE LINE DRAWING REPRESENTATION	SINGLE LINE DRAWING REPRESENTATION
RISE OR DROP IN DIRECTION OF AIR FLOW (ARROW SHOWS DIRECTION OF AIR)	36 12 RISE	36 12 RISE
SUPPLY DUCTWORK TURNING UP AND DOWN	ELBOW UP ELBOW DOWN	ELBOW UP ELBOW DOWN
RETURN DUCTWORK TURNING UP AND DOWN	ELBOW UP ELBOW DOWN	ELBOW UP ELBOW DOWN
DOUBLE WALL DUCT, PLENUM OR HOUSING WITH 4" THICK INSULATION BETWEEN		
DOUBLE WALL DUCT, PLENUM OR HOUSING PERFORATED INTERIOR WALL WITH 4" THICK INSULATION BETWEEN	PERFORATED FACE	PERFORATED FACE
FLEXIBLE DUCT CONNECTION	24x12 FLEX. CONN.	24x12 FLEX. CONN.
INTERNAL DUCT INSULATION	36X12	36X12
DAMPER IN HORIZ. OR VERTICAL DUCT ▲ FIRE DAMPER S SMOKE DAMPER S/F COMBINATION SMOKE AND FIRE DAMPER BD BACK DRAFT DAMPER M MOTORIZED DAMPER V VOLUME DAMPER └ HAND DAMPER	ACCESS PANEL DAMPER AP SMOKE DETECTOR SEE SPECIFICATIONS FOR DEFINITIONS OF DAMPER TYPES	ACCESS PANEL DAMPER AP SMOKE DETECTOR

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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

OMF - MECHANICAL SYMBOLS & LEGENDS

DISCIPLINE: MECHANICAL

SHEET NAME: M-002

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CHILLER SCHEDULE

CHILLER NO.	TYPE	CHILLER CAPACITY (TONS)	EVAPORATOR							CONDENSER							MAXIMUM KW/TON AT DESIGN	CB INTERUPTING CAPACITY (AMPS)	VOLTAGE	VIBRATION ISOLATOR TYPE	NOISE LEVEL (dBA)	VFD	REMARKS
			EWT (°F)	LWT (°F)	FLOW RATE (GPM)	MAX. PRESSURE DROP (FT)	WATER PASSES	FOULING FACTOR	DESIGN PRESSURE (PSI)	EWT (°F)	LWT (°F)	FLOW RATE	MAX. PRESSURE DROP (FT)	WATER PASSES	FOULING FACTOR	DESIGN PRESSURE (PSI)							
CH 1	CENTRIFUGAL																						

COOLING TOWER SCHEDULE

UNIT ID	TYPE	LOCATION	GPM	NO. OF CELLS	VFD	FANS				SUMMER			WINTER			MAX. STATIC LIFT (FT)	MAKEUP WATER (GPM)	SUMP HEATER				INLET SIZE (IN)	OUTLET SIZE (IN)	OPERATING WEIGHT	MFG	MODEL NO.	REMARKS
						HP	VOLTS	PHASE	HZ	EWT (°F)	LWT (°F)	ENTERING AIR WET BULB (°F)	EWT (°F)	LWT (°F)	ENTERING AIR WET BULB (°F)			KW	VOLTS	PHASE	HZ						
CT 1			0	0		0	480	3	60	0	0	0	0	0	0	0	0	0	480		60 Hz	0"	0"	0.00	Baltimore Aircoil Company	FXV-0818A-23Q-L	

FLAT PLATE HEAT EXCHANGER SCHEDULE

MARK	LOCATION	SYSTEM SERVED	HOT SIDE					COLD SIDE					DESIGN PRESSURE (PSIG)	REMARKS
			FLUID TYPE	TEMP IN (°F)	TEMP OUT (°F)	PRESSURE DROP (PSI)	GPM	FLUID TYPE	TEMP IN (°F)	TEMP OUT (°F)	PRESSURE DROP (PSI)	GPM		
HX 1	LRV STORAGE ROOM	SNOW MELT SYTEM	40% GLYCOL	160.0	140.0	0.0	0	40% GLYCOL	80.0	100.0	0.0	205.0	0	BASED ON AIC SARAH
HX 2	3RD FLOOR MECHANICAL ROOM	DOMESTIC HOT WATER	40% GLYCOL	160.0	130.0	0.0	50	WATER	145.0	110.0	0.0	40.0	0	BASED ON AIC SARAH
HX 3	3RD FLOOR MECHANICAL ROOM	DOMESTIC HOT WATER	40% GLYCOL	160.0	130.0	0.0	50	WATER	145.0	110.0	0.0	40.0	0	BASED ON AIC SARAH
HX 4	LRV STORAGE ROOM	SNOW MELT SYTEM	40% GLYCOL	160.0	140.0	0.0	0	40% GLYCOL	80.0	100.0	0.0	235.0	0	BASED ON AIC SARAH
HX 5	FABRICATION AREA	SNOW MELT SYTEM	40% GLYCOL	160.0	140.0	0.0	0	40% GLYCOL	80.0	100.0	0.0	125.0	0	BASED ON AIC SARAH
HX 6	S&I PITS	SNOW MELT SYTEM	40% GLYCOL	160.0	140.0	0.0	0	40% GLYCOL	80.0	100.0	0.0	125.0	0	BASED ON AIC SARAH
HX 7	COMPONENT WORK AREA	SNOW MELT SYTEM	40% GLYCOL	160.0	140.0	0.0	0	40% GLYCOL	80.0	100.0	0.0	110.0	0	BASED ON AIC SARAH
HX 8	WASH SUPPORT	SNOW MELT SYTEM	40% GLYCOL	160.0	140.0	0.0	0	40% GLYCOL	80.0	100.0	0.0	110.0	0	BASED ON AIC SARAH

PUMP SCHEDULE

UNIT ID	SYSTEM	LOCATION	PUMP TYPE	DESIGN CAPACITY (GPM)	DESIGN HEAD (FT)	MAXIMUM SHUTOFF HEAD (FT)	115% CAPACITY HEAD (FT)	MINIMUM PUMP EFFICIENCY (%)	MOTOR		VFD	PUMP SIZE		ISOLATION	REMARKS
									HP	RPM		SUCTION (IN)	DISCHARGE (IN)	TYPE	
P 1	SNOW MELT SYTEM	LRV STORAGE ROOM	IN-LINE	165	0	0	0	0.0	0.00	0	YES	0.00	0.00		BASED ON B&G
P 2	SNOW MELT SYTEM	LRV STORAGE ROOM	IN-LINE	235	0	0	0	0.0	0.00	0	YES	0.00	0.00		BASED ON B&G
P 3	SNOW MELT SYTEM	FABRICATION AREA	IN-LINE	215	0	0	0	0.0	0.00	0	YES	0.00	0.00		BASED ON B&G
P 4	SNOW MELT SYTEM	COMPONENT WORK AREA	IN-LINE	110	0	0	0	0.0	0.00	0	YES	0.00	0.00		BASED ON B&G
P 5	SNOW MELT SYTEM	S&I PITS	IN-LINE	135	0	0	0	0.0	0.00	0	YES	0.00	0.00		BASED ON B&G
P 6	SNOW MELT SYTEM	WASH SUPPORT	IN-LINE	109	0	0	0	0.0	0.00	0	YES	0.00	0.00		BASED ON B&G
P 7	CHILLED WATER	MEZZANINE MECHANICAL ROOM	BASE MOUNTED	480	0	0	0	0.0	0.00	0	YES	0.00	0.00		BASED ON B&G
P 8	CHILLED WATER	MEZZANINE MECHANICAL ROOM	BASE MOUNTED	480	0	0	0	0.0	0.00	0	YES	0.00	0.00		BASED ON B&G
P 9	HYDRONIC HEATING	THRID FLOOR MECHANICAL ROOM	BASE MOUNTED	1850	0	0	0	0.0	0.00	0	YES	0.00	0.00		BASED ON B&G
P 10	HYDRONIC HEATING	THIRD FLOOR MECHANICAL ROOM	BASE MOUNTED	1850	0	0	0	0.0	0.00	0	YES	0.00	0.00		BASED ON B&G

BOILER SCHEDULE

UNIT ID	TYPE	LOCATION	WATER INLET TEMP	WATER OUTLET TEMP	FLUID TYPE	MINIMUM THERMAL EFFICIENCY	FLUE DIA (IN)	FUEL TYPE	INPUT MBH	OUTPUT MBH	REMARKS
B 1	CONDENSING	3RD FLOOR MECHANICAL ROOM	140 °F	160 °F	40%	90.00%	8"	NATURAL GAS	2000000	1820000	BASED ON AERCO
B 2	CONDENSING	3RD FLOOR MECHANICAL ROOM	140 °F	160 °F	40%	90.00%	8"	NATURAL GAS	2000000	1820000	BASED ON AERCO
B 3	CONDENSING	3RD FLOOR MECHANICAL ROOM	140 °F	160 °F	40%	90.00%	8"	NATURAL GAS	2000000	1820000	BASED ON AERCO
B 4	CONDENSING	3RD FLOOR MECHANICAL ROOM	140 °F	160 °F	40%	90.00%	8"	NATURAL GAS	2000000	1820000	BASED ON AERCO
B 5	CONDENSING	3RD FLOOR MECHANICAL ROOM	140 °F	160 °F	40%	90.00%	8"	NATURAL GAS	2000000	1820000	BASED ON AERCO
B 6	CONDENSING	3RD FLOOR MECHANICAL ROOM	140 °F	160 °F	40%	90.00%	8"	NATURAL GAS	2000000	1820000	BASED ON AERCO

DIAPHRAGM EXPANSION TANK SCHEDULE

UNIT ID	SYSTEM	LOCATION	DESIGN HEIGHT	SIZE	CAPACITY	PRE-CHARGE (PSI)	SYSTEM CONNECTION SIZE (IN)	SYSTEM OPERATING RANGE	REMARKS
				DIAMETER (IN)	ACCEPTANCE VOLUME (GAL)			MAX. PSIG	
ET 1	HEATING WATER	THIRD FLOOR MECHANICAL ROOM	7' - 0"	4' - 0"	528.0	15.00	1 1/2"	150.00	BASED ON AMTROL 2000-L
ET 2	CHILLED WATER	MEZZANINE MECHANICAL ROOM	3' - 2"	2' - 0"	53.0	15.00	1"	110.00	BASED ON ARMTROL 200-L

FIN TUBE RADIATION SCHEDULE (TYPE)

TYPE	TUBE SIZE (INCHES)	FIN SIZE (INCHES)	MATERIAL	CAPACITY (BTUH/LIN. FT.)	FINS PER FOOT	ENCLOSURE HEIGHT (IN.)	ENCLOSURE STYLE	TIERS	EWT (°F)	LWT (°F)	REMARKS
FTR 1	1 1/4"	4 1/4"	STEEL	1110	40	0	DOUBLE SLOP TOP	2	160	140	BASED ON STERLING "SS" STYLE

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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

MECHANICAL SCHEDULES

DISCIPLINE: MECHANICAL

SHEET NAME: M-011

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FAN SCHEDULE

UNIT ID	LOCATION	AREA SERVED	CAPACITY (CFM)	STATIC PRESSURE (IN W.G.)	WHEEL DIAMETER (IN.)	FAN RPM	FAN TYPE	CLASS	MOTOR HP	VOLTAGE	PHASE	MOTOR RPM	BHP	VFD	REMARKS
EF 1	LRV STORAGE ROOF	LRV STORAGE	9,700	0.25	3' - 0"	419	CENTRIFUGAL	1	2	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 2	LRV STORAGE ROOF	LRV STORAGE	9,700	0.25	3' - 0"	419	CENTRIFUGAL	1	2	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 3	LRV STORAGE ROOF	LRV STORAGE	9,700	0.25	3' - 0"	419	CENTRIFUGAL	1	2	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 4	LRV STORAGE ROOF	LRV STORAGE	9,700	0.25	3' - 0"	419	CENTRIFUGAL	1	2	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 5	LRV STORAGE ROOF	LRV STORAGE	9,700	0.25	3' - 0"	419	CENTRIFUGAL	1	2	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 6	LRV STORAGE ROOF	LRV STORAGE	9,700	0.25	3' - 0"	419	CENTRIFUGAL	1	2	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 7	MAINTENANCE AREA ROOF	BREAK ROOM	2,500	1.16	1' - 4 5/8"	13370	CENTRIFUGAL	1	1	460 V	3	1725	1	NO	BASED ON GREENHECK GB-161
EF 8	STORAGE ROOM ROOF	RESTROOM 129	140	0.25	0' - 8 1/8"	1665	CENTRIFUGAL	1	0	115 V	1	1725	0	NO	BASED ON GREENHECK G-060-VG
EF 9	SALLY PORT ROOF	SALLY ROOF	400	0.25	0' - 11 3/16"	870	CENTRIFUGAL	1	0	115 V	1	1725	0	NO	BASED ON GREENHECK GB-091-4
EF 10	LRV STORAGE ROOF	SALT TRUCK AREA/COMPACTOR AREA/SYSTEM MAINTENANCE	7,200	0.63	3' - 0"	443	CENTRIFUGAL	1	2	460 V	3	1725	1	NO	BASED ON GREENHECK GB-360-15
EF 11	MAINTENANCE AREA ROOF	2ND FLOOR TOILET & LOCKER ROOM	2,500	0.63	1' - 4 5/8"	1130	CENTRIFUGAL	1	1	460 V	3	1725	1	NO	BASED ON GREENHECK GB-161-7
EF 12	SANDING TRACK ROOF	SANDING TRACK	9,700	0.25	3' - 0"	419	CENTRIFUGAL	1	2	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 13	SANDING TRACK ROOF	SANDING TRACK	9,700	0.25	3' - 0"	419	CENTRIFUGAL	1	2	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 14	SANDING TRACK ROOF	SANDING TRACK	9,700	0.25	3' - 0"	419	CENTRIFUGAL	1	2	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 15	SANDING TRACK ROOF	SANDING TRACK	9,700	0.25	3' - 0"	419	CENTRIFUGAL	1	2	460 V	3	1725	0	NO	BASED ON GREENHECK GB-360
EF 16	STORAGE BUILDING	STORAGE BUILDING	12,000	0.13	1' - 6"	335	PROPELLER	1	1	460 V	3	334	0	NO	BASED ON GREENHECK SBE-1H48-5

GRAVITY ROOF VENTILATOR SCHEDULE

MARK	LOCATION	TYPE	CFM	DIMENSIONS (IN) L	DIMENSIONS (IN) W	DIMENSIONS (IN) H	THROAT L	THROAT W	STATIC PRESSURE (IN. W.G.)	MINIMUM FREE AREA (S.F.)	REMARKS
GRV 1	LRV STORAGE ROOM	GRV	9700	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 2	LRV STORAGE ROOM	GRV	9700	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 3	LRV STORAGE ROOM	GRV	9700	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 4	LRV STORAGE ROOM	GRV	9700	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 5	LRV STORAGE ROOM	GRV	9700	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 6	LRV STORAGE ROOM	GRV	9700	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 7		GRV	6000	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 8		GRV	6000	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 9		GRV	6000	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 10		GRV	6000	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 11		GRV	6000	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 12		GRV	6000	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 13		GRV	6000	3' - 0"	5' - 0"	2' - 6"	36"	60"	0.04	15	BASED ON RUSKIN PH811
GRV 14		GRV	5000	2' - 6"	4' - 0"	2' - 1"	30"	48"	0.04	10	
GRV 15		GRV	5000	2' - 0"	2' - 0"	2' - 1"	24"	24"	0.04	4	
GRV 16	LRV STORAGE ROOM	GRV	9700	4' - 0"	8' - 0"	2' - 6"	48"	96"	0.04	32	BASED ON RUSKIN PH811
GRV 17		GRV	6000	4' - 0"	5' - 0"	2' - 6"	48"	60"	0.04	20	
GRV 18		GRV	6000	4' - 0"	5' - 0"	2' - 6"	48"	60"	0.04	20	
GRV 19		GRV	6000	4' - 0"	5' - 0"	2' - 6"	48"	60"	0.04	20	
GRV 20		GRV	6000	4' - 0"	5' - 0"	2' - 6"	48"	60"	0.04	20	

DIFFUSER SCHEDULE

UNIT ID	TYPE EQUIPMENT	INLET DUCT SIZE	BRANCH RUNOUT SIZE	MODULE SIZE	MIN FLOW	MAX FLOW	THROW RANGE	NC RANGE
E1	CG	10x10	12Ø / 10x10	12x12	0	430	-	20
E2	CG	10x10	12Ø / 10x10	12x12	0	450		20
E3	CG	22x4	22x4 / 12Ø	24x6	0	375	-	18
E4	CG	22x10	16Ø / 22x10	24x12	705	1000	-	19
R4	CG	22x10		24x12				19
R6	CG	22x22	22Ø / 22x22	24x24	1505	2300		25
S6	VD	6"Ø	8x6 / 6"Ø	24x24	0	120	4	16
S7	VD	8"Ø	10x6 / 8"Ø	24x24	125	210	5	19
S8	VD	10"Ø	12x8 / 10"Ø	24x24	215	330	7	22

VAV BOX SCHEDULE

UNIT ID	AREA SERVED	SYSTEM SERVED	MINIMUM CFM	MAXIMUM CFM	PRIMARY RUNOUT TO INLET SIZE	OUTLET DUCT SIZE	HEATING COIL PIPE RUNOUT SIZE (IN)	HEATING COIL HEATING CAPACITY (MBH)	HEATING COIL ROWS	HEATING COIL WATER FLOW (GPM)	HEATING COIL WATER PRESSURE DROP (FT.)	HEATING COIL EWT (°F)	HEATING COIL LWT (°F)	HEATING COIL EAT (°F)	HEATING COIL LAT (°F)	REMARKS
VAV 1-1	1ST FLOOR RESTROOM	122-123	400	500	14"Ø	12"X10"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 1-2	OFFICE	124	400	500	12"Ø	12"X10"	3/4"	17	1	0	0.00	180	165	1	18	
VAV 1-3	GEAR ROOM	127	400	500	12"Ø	12"X10"	3/4"	17	1	0	0.00	180	165	1	18	
VAV 1-4	COORIDOR	02	400	500	12"Ø	12"X10"	3/4"	17	1	0	0.00	180	165	1	18	
VAV 2-1	MULTI-PURPOSE ROOM	201	300	915	14"Ø	14"X12"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-2	CONFERENCE ROOM	202	175	530	14"Ø	12"X10"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-3	TRACK ASSIST MANAGER	203	50	175	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-4	POWER ASSIST MANAGER	204	65	190	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-5	SIGNAL ASSIST MANAGER	205	65	195	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-6	COMM ASSIST MANAGER	206	65	195	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-7	CONFERENCE ROOM	207	210	700	14"Ø	12"X10"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-8	BREAK ROOM	208	405	1225	18"Ø	16"X15"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-10	REFERENCE LIBRARY	209	70	205	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-11	QAT OFFICE	210	50	140	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-12	TRACK SUPERVISOR	211	55	165	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-13	POWER SUPERVISOR	212	55	165	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-14	SIGNAL SUPERVISOR	213	40	130	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-15	COMM SUPERVISOR	214	55	170	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-16	SWING OFFICE	215	40	125	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-17	ADMIN/COPY AREA/CORRIDOR	217-218-219-3	490	1485	18"Ø	16"X15"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-19	CONFERENCE ROOM	221	100	300	14"Ø	12"X10"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-20	WAITING ROOM	223-225-5	200	580	14"Ø	12"X10"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-21	DIRECTORS OFFICE	223	115	350	14"Ø	12"X10"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-22	MAINTENANCE MANAGER	226	145	440	14"Ø	12"X10"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-23	SAC OFFICE	226	75	220	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-24	FITNESS CENTER	227	300	915	14"Ø	14"X12"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-25	COMPUTER LAB	229	195	600	14"Ø	14"X12"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-26	CONFERENCE ROOM	230	230	700	14"Ø	14"X12"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-27	SPECIAL NEEDS ROOM	232-233	85	260	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-29	TRAINING ROOM	242	305	920	14"Ø	14"X12"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-30	SYST MAINT TRAIN OFFICE/DT/CUST	236-237-238	75	225	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-31	VMT OFFICE	239	45	130	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-32	WOMENS LOCKER RM	235	345	1040	18"Ø	16"X15"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-33	MENS LOCKER ROOM	234	485	1475	18"Ø	16"X15"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-34	RAIL SUPERVISOR OFFICE	253	195	645	14"Ø	12"X10"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-35	AOM OFFICE	257	75	240	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-36	ATM OFFICE	256	75	240	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-37	SAFETY OFFICER OFFICE	257	75	240	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-38	CONFERENCE ROOM	258	125	410	14"Ø	12"X10"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-39	SWING OFFICE	259	80	245	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-40	CFA/WAITING/CORRIDOR	255-260-8	220	735	14"Ø	12"X10"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-41	READY ROOM	254	360	1200	18"Ø	16"X15"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-42	BREAK ROOM	257	330	1000	14"Ø	14"X12"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-43	LOBBY/CORRIDOR	261-9	365	1205	18"Ø	16"X15"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-44	SWING OFFICE	267	80	245	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-45	LOCKER/REST ROOMS	247-248-249	50	160	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-46	SERVER ROOM	244	95	315	10"Ø	12"X8"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-47	2ND FLOOR RESTROOM		75	240	14"Ø	12"X10"	3/4"	0	0	0	0.00	160	140	55	72	
VAV 2-48	OPS TRAINING/TRAINING RECORDS/TRAINING STORAGE	240/241/243	250	750	14"Ø	12"X10"	3/4"	20	1	0	0.00	160	140	55	72	
VAV 2-49	OFFICE AREA AND CORIDOOR		0	750	14"Ø	12"X10"	3/4"	20	1	0	0.00	160	140	55	72	

FAN COIL SCHEDULE

MARK	AREA SERVED	UNIT TYPE	SUPPLY FAN AIRFLOW (CFM)	SUPPLY FAN E.S.P. (IN. W.G.)	COOLING TOTAL CAPACITY (MBH)	COOLING SENSIBLE CAPACITY (MBH)	COOLING EAT DB (°F)	COOLING EAT WB (°F)	COOLING LAT DB (°F)	COOLING LAT WB (°F)	COOLING WATER FLOW	COOLING EWT (°F)	COOLING LWT (°F)	COOLING W.P.D. (FT.)	COOLING ROWS	COOLING FPI	HEATING CAPACITY (MBH)	HEATING EAT (°F)	HEATING LAT (°F)	HEATING ROWS	HEATING FPI	HEATING WATER FLOW (GPM)	HEATING EWT (°F)	HEATING LWT (°F)	HEATING W.P.D. (FT.)	MOTOR HP	MOTOR RPM	REMARKS
FC 1-1			1000	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-2			1000	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-3			300	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-4			1425	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-5			1200	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-6			1200	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-7			1200	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-8			1200	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-9			300	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-10			300	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-11			2000	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-12			1200	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-13			0	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-14			300	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-15			700	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-16			275	0.00			80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00	0		
FC 1-17				0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00			
FC 1-18			300	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00			
FC 1-19			2000	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00			
FC 1-20			600	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00			
FC 1-21			450	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00			
FC 2-1			250	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00			
FC 2-2			300	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0	0.0	-460	-460	0		0	-460	-460	0.00			
FC 2-3			300	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0	0.0	55	72	1		0	-460	160	0.00			
FC 2-4			300	0.00	0	0	80	-460	-460	-460	0	45	57	5.00	0	0	0.0	55	72	1		0	-460	160	0.00			

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

MECHANICAL SCHEDULES

DISCIPLINE: MECHANICAL

SHEET NAME: M-012

SHEET 183 OF 288

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AIR HANDLING UNIT SCHEDULE (PART 1)

					CFM			SUPPLY FAN											RETURN FAN											AIR BLENDER			
																MOTOR											MOTOR						
UNIT ID	LOCATION	AREA SERVED	AHU TYPE	CONFIGURATION	UNIT SUPPLY CFM	UNIT OSA CFM	OSA%	SUPPLY FAN TYPE	FAN QUANTITY	MAX CFM	EXTERNAL S.P. (IN W.C.)	TOTAL S.P. (IN W.C.)	WHEEL DIAMETER (IN)	FAN RPM	FAN CLASS	HP EACH	RPM	VFD	RETURN FAN TYPE	FAN QUANTITY	MAX CFM	EXTERNAL S.P. (IN W.C.)	TOTAL S.P. (IN W.C.)	WHEEL DIAMETER (IN)	FAN RPM	FAN CLASS	HP EACH	RPM	VFD	QUANTITY	SIZE (IN)	FACE VELOCITY (FPM)	PRESSURE DROP (IN W.C.)
AHU 1																																	
AHU 2																																	

AIR HANDLING UNIT SCHEDULE (PART 2)

		HEATING COIL																										
								NORMAL MODE OF OPERATION										SMOKE MODE OF OPERATION										
UNIT ID	AREA SERVED	COIL TYPE	NUMBER OF COILS	ROWS	FPI	MINIMUM CONNECTION SIZE (IN)	TOTAL FACE AREA (S.F.)	CFM	CAPACITY(MBH)	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	MAXIMUM FACE VELOCITY (FPM)	APD (IN W.C.)	TOTAL GPM	WPD (FT)	OPERATING MODE	CFM	CAPACITY (MBH)	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	MAX FACE VELOCITY (FPM)	APD (IN W.C.)	GPM	WPD (FT)
AHU 1																												
AHU 2																												

		COOLING COIL																	AIR FILTERS									
								ENTERING AIR		LEAVING AIR		WATER TEMP								PRE FILTER			FINAL FILTER					
UNIT ID	HUMIDIFIER	COIL TYPE	ROWS	FPI	NUMBER OF COILS	MINIMUM COIL CONNECTION SIZE (IN)	TOTAL FACE AREA (S.F.)	DB (°F)	WB (°F)	DB (°F)	WB (°F)	EWT (°F)	LWT (°F)	SENSIBLE COOLING CAPACITY (MBH)	TOTAL COOLING CAPACITY(MBH)	APD (IN W.C.)	APD (IN W.C.)	TOTAL GPM	FACE VELOCITY	MERV RATING	CLEAN PD (IN W.C.)	DIRTY PD (IN W.C.)	MERV RATING	CLEAN PD (IN W.C.)	DIRTY PD (IN W.C.)	ENERGY RECOVERY WHEEL	REMARKS	new
AHU 1																												
AHU 2																												

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST

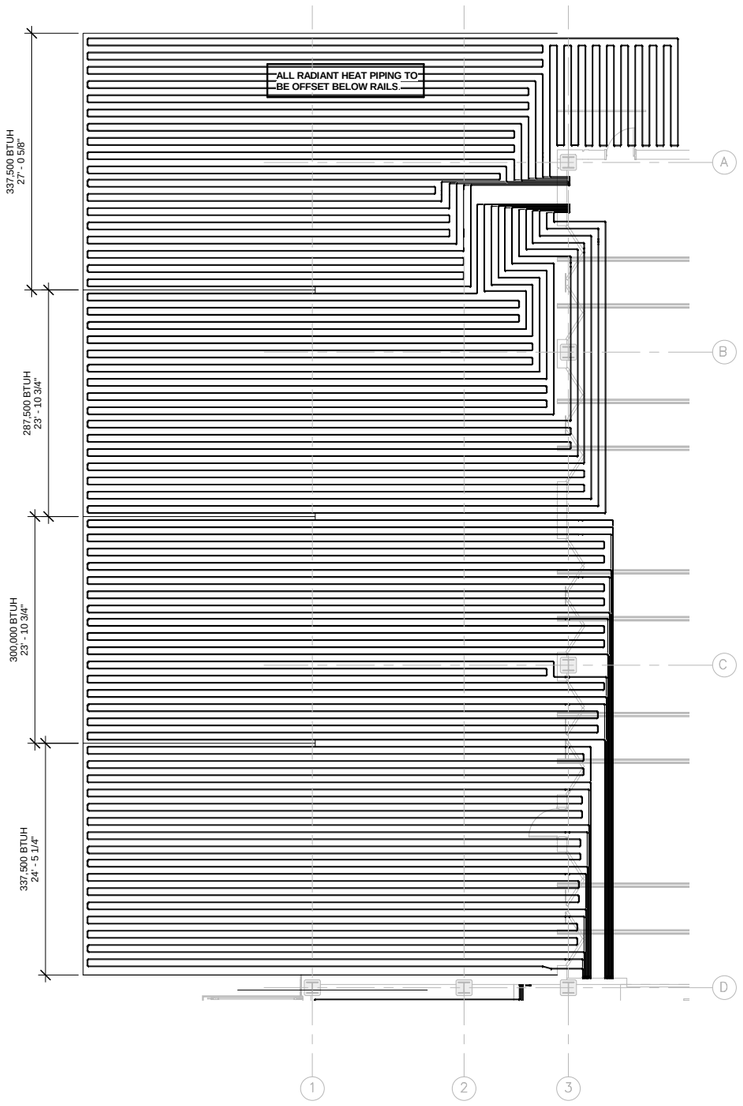
WEST-VOLUME 4 (OMF)
MECHANICAL

MECHANICAL SCHEDULES

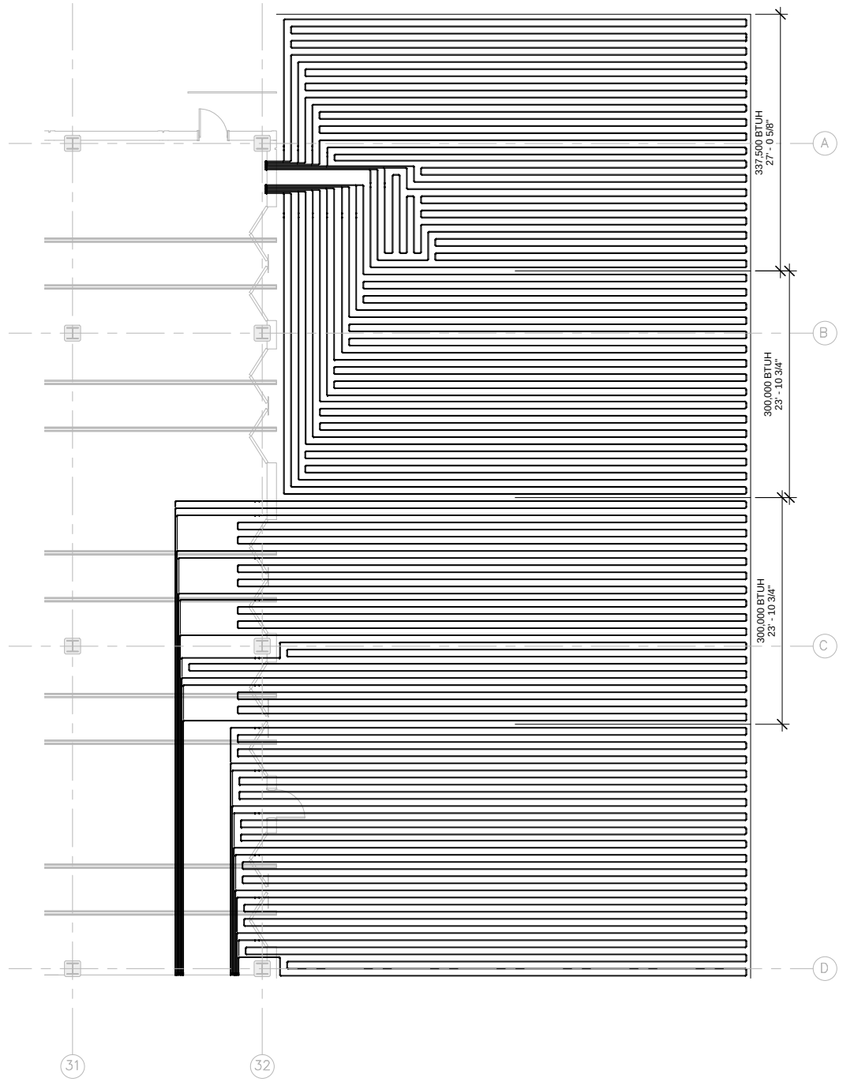
DISCIPLINE: MECHANICAL

SHEET NAME: M-013

SHEET 184 OF 288



1 M-100 UNDERGROUND PIPING PLAN - AREA 1
SCALE: 1/8" = 1'-0"



2 M-100 UNDERGROUND PIPING PLAN - AREA 3
SCALE: 1/8" = 1'-0"

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

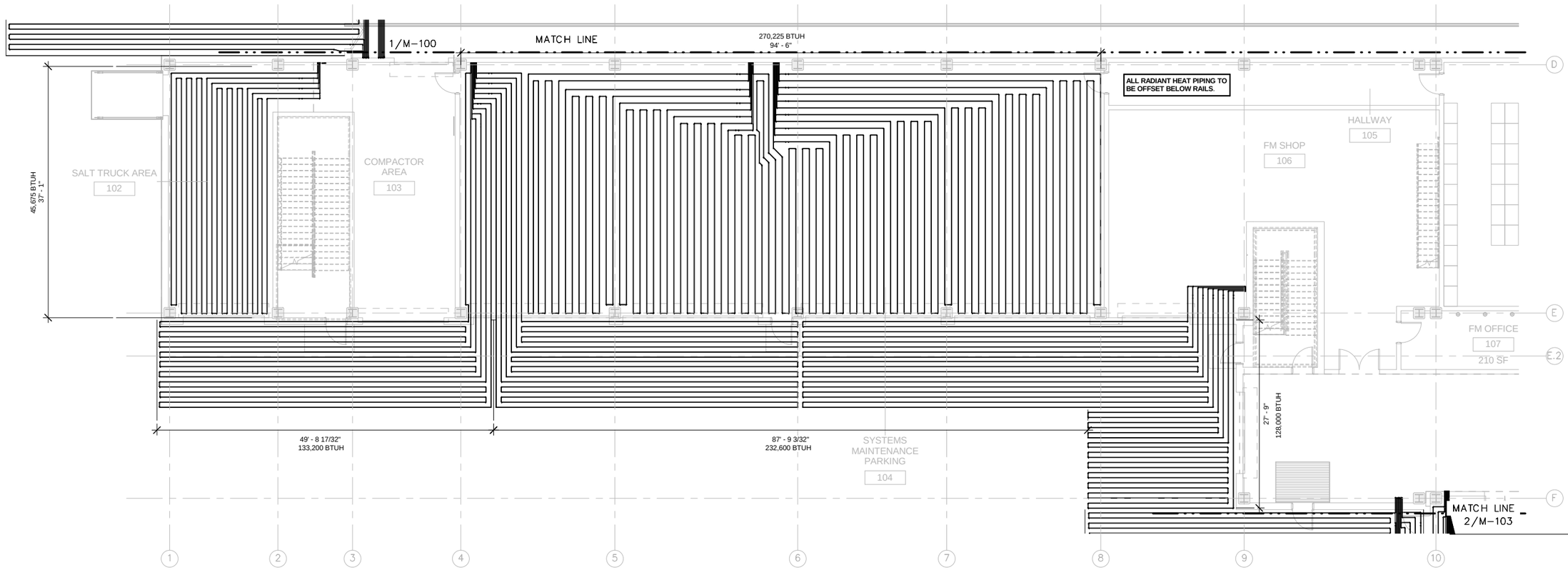
WEST-VOLUME 4 (OMF)
MECHANICAL
UNDERGROUND RADIANT PIPING PLANS - AREA 1 & 3

DISCIPLINE: MECHANICAL

SHEET NAME: M-100

SHEET 185 OF 288

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1 M-101 UNDERGROUND PIPING PLAN - AREA 4

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

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

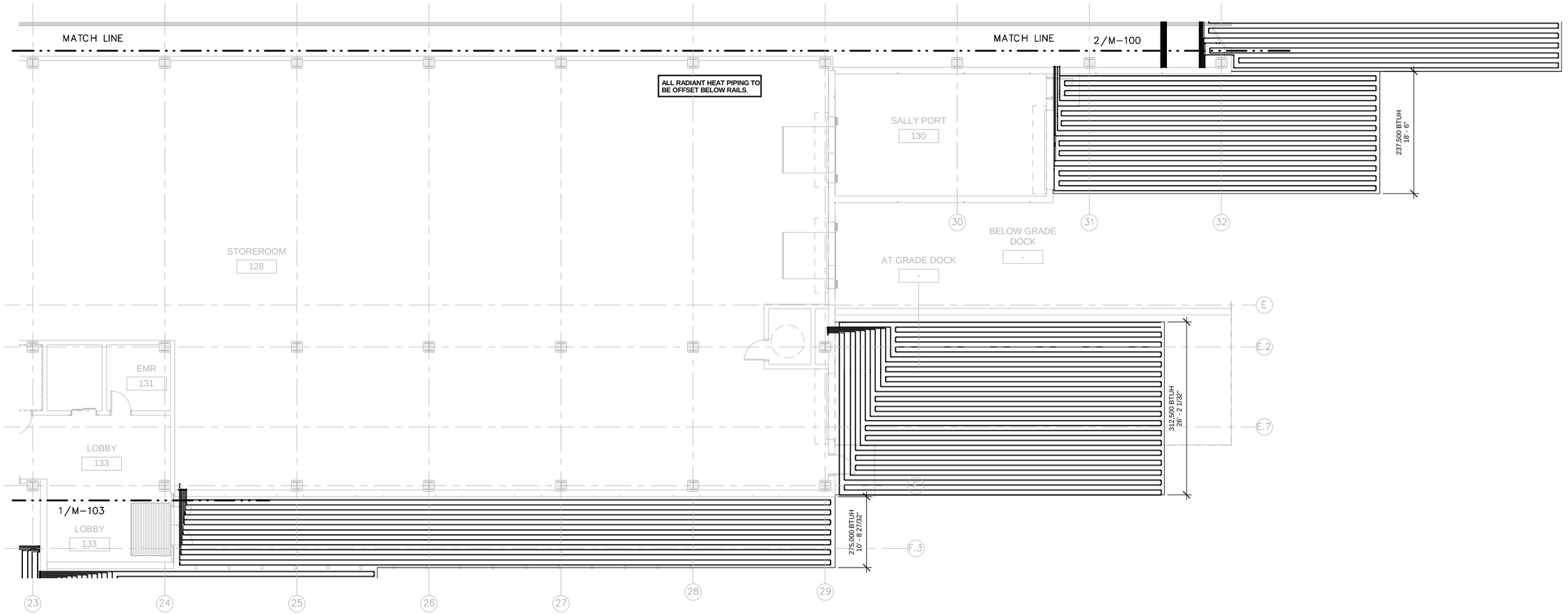
WEST-VOLUME 4 (OMF)
MECHANICAL
UNDERGROUND RADIANT PIPING PLANS - AREA 4

DISCIPLINE: MECHANICAL

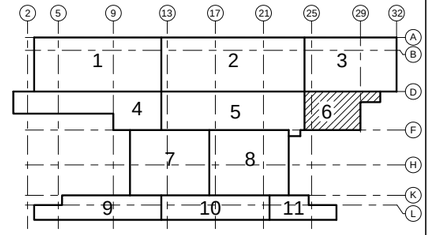
SHEET NAME: M-101

SHEET 186 OF 288

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3 / M-102 UNDERGROUND PIPING PLAN - AREA 6
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL
UNDERGROUND RADIANT PIPING PLANS - AREA 6

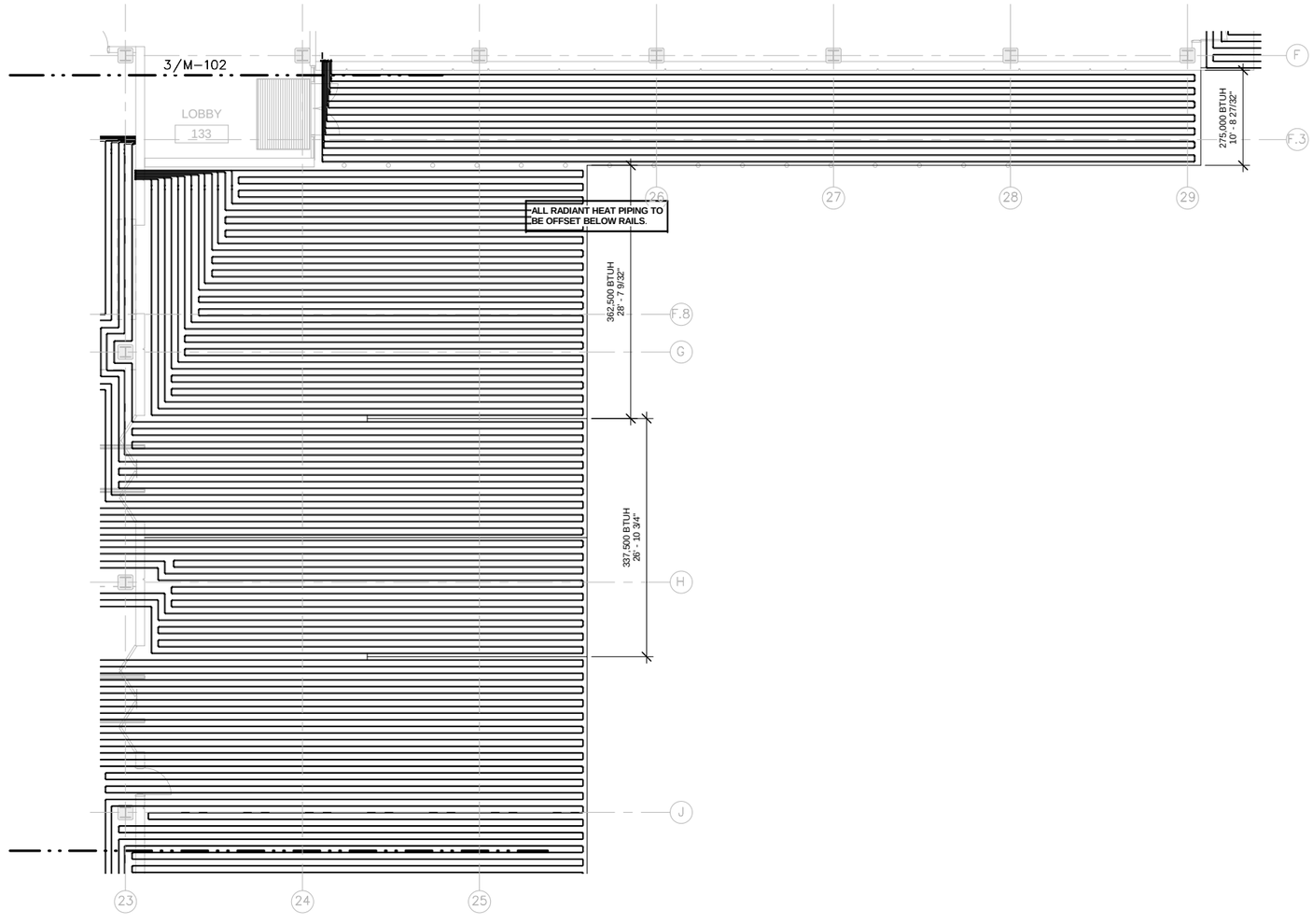
DISCIPLINE: MECHANICAL
SHEET NAME: M-102

SHEET 187 OF 288

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2 M-103 UNDERGROUND PIPING PLAN - AREA 7
SCALE: 1/8" = 1'-0"



1 M-103 UNDERGROUND PIPING PLAN - AREA 8
SCALE: 1/8" = 1'-0"

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

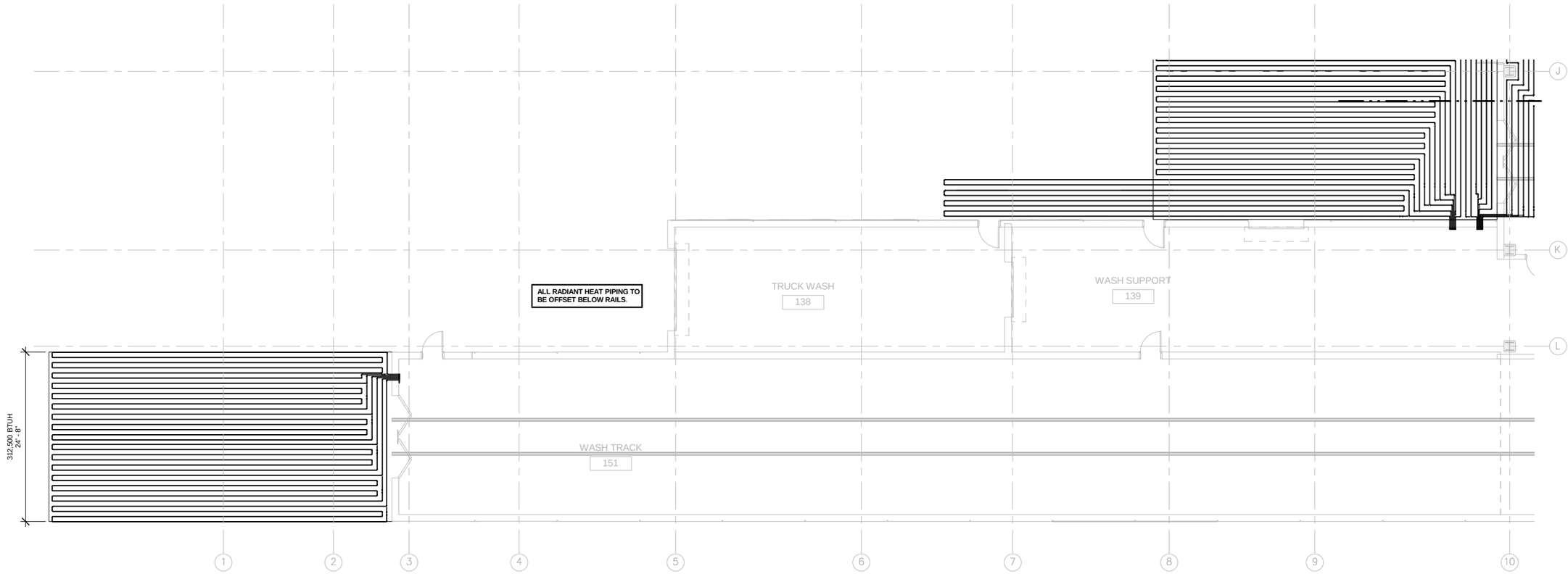
WEST-VOLUME 4 (OMF)
MECHANICAL
UNDERGROUND RADIANT PIPING PLANS -AREA 7 & 8

DISCIPLINE: MECHANICAL

SHEET NAME: M-103

SHEET 188 OF 288

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1 M-104 UNDERGROUND PIPING PLAN - AREA 9
SCALE: 1/8" = 1'-0"

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

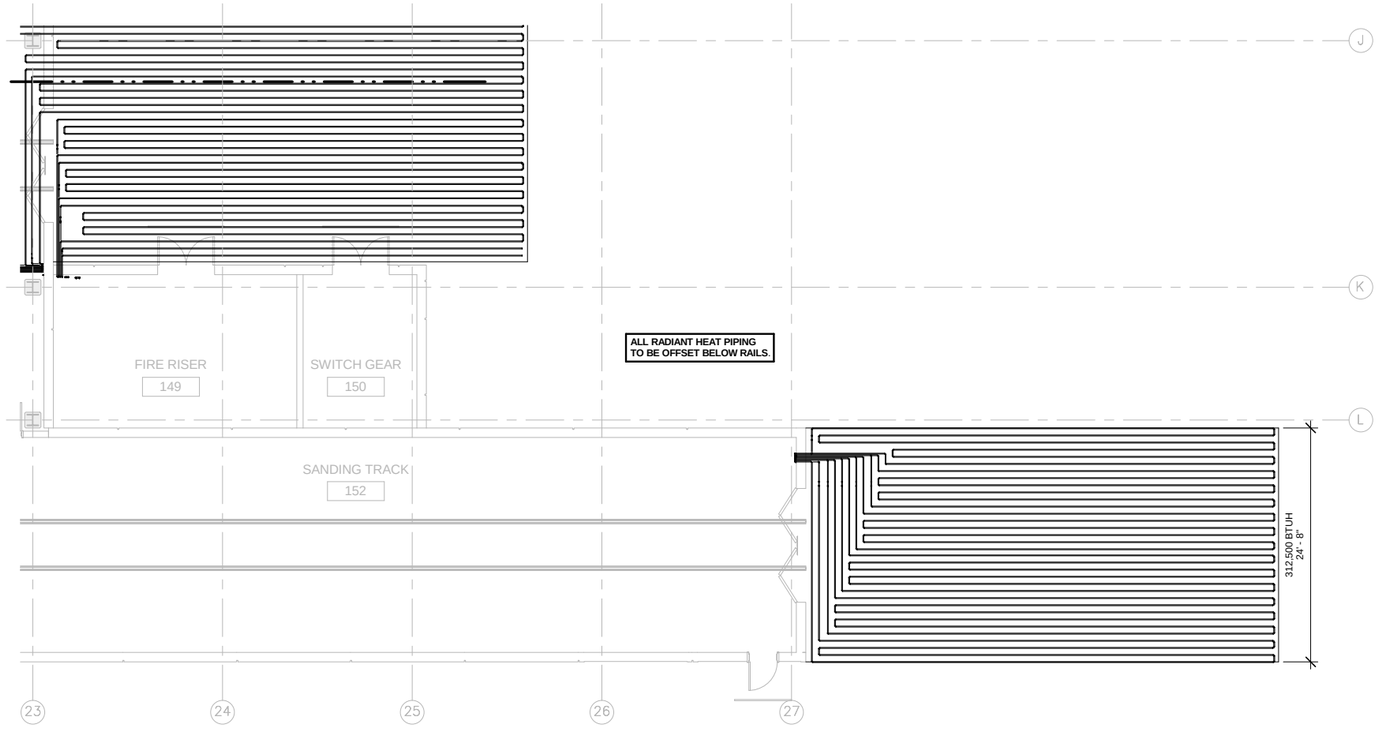
WEST-VOLUME 4 (OMF) MECHANICAL UNDERGROUND RADIANT PIPING PLANS - AREA 9

DISCIPLINE: MECHANICAL

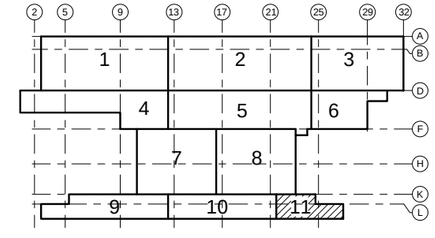
SHEET NAME: M-104

SHEET 189 OF 288

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1 M-105 UNDERGROUND PIPING PLAN - AREA 11
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

0 16' 32' 64'
HORIZONTAL
SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
-	-	-	-	-	-
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

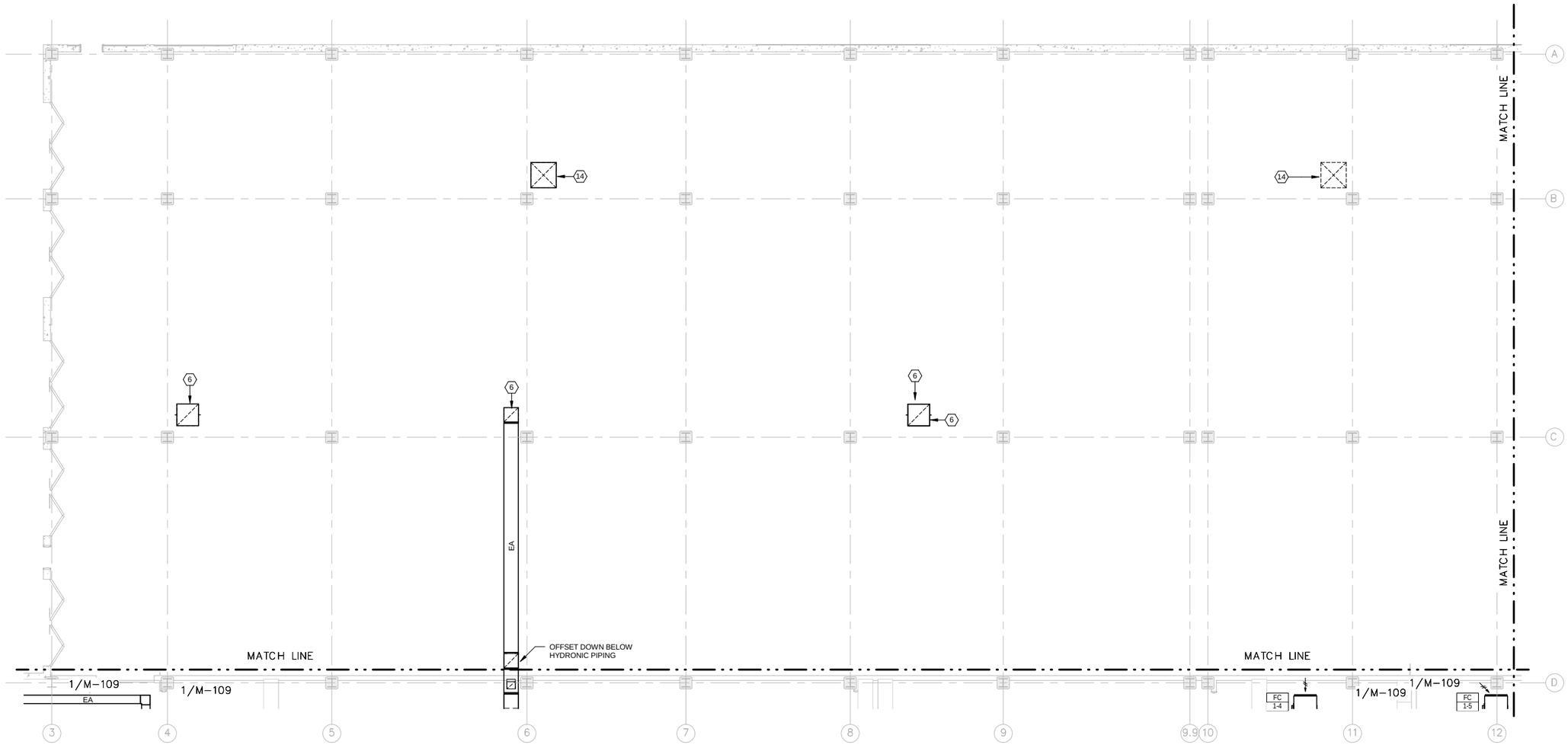
WEST-VOLUME 4 (OMF)
MECHANICAL
UNDERGROUND RADIANT PIPING PLANS - AREA 11

DISCIPLINE: MECHANICAL

SHEET NAME: M-105

SHEET 190 OF 288

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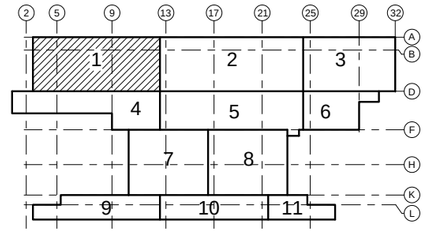
1 M-106 FIRST FLOOR - AREA 1 - HVAC PLAN

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

KEYED NOTES

6 EXHAUST DUCT UP TO EXHAUST FAN.

14 OUTSIDE DUCT UP TO GRV.



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

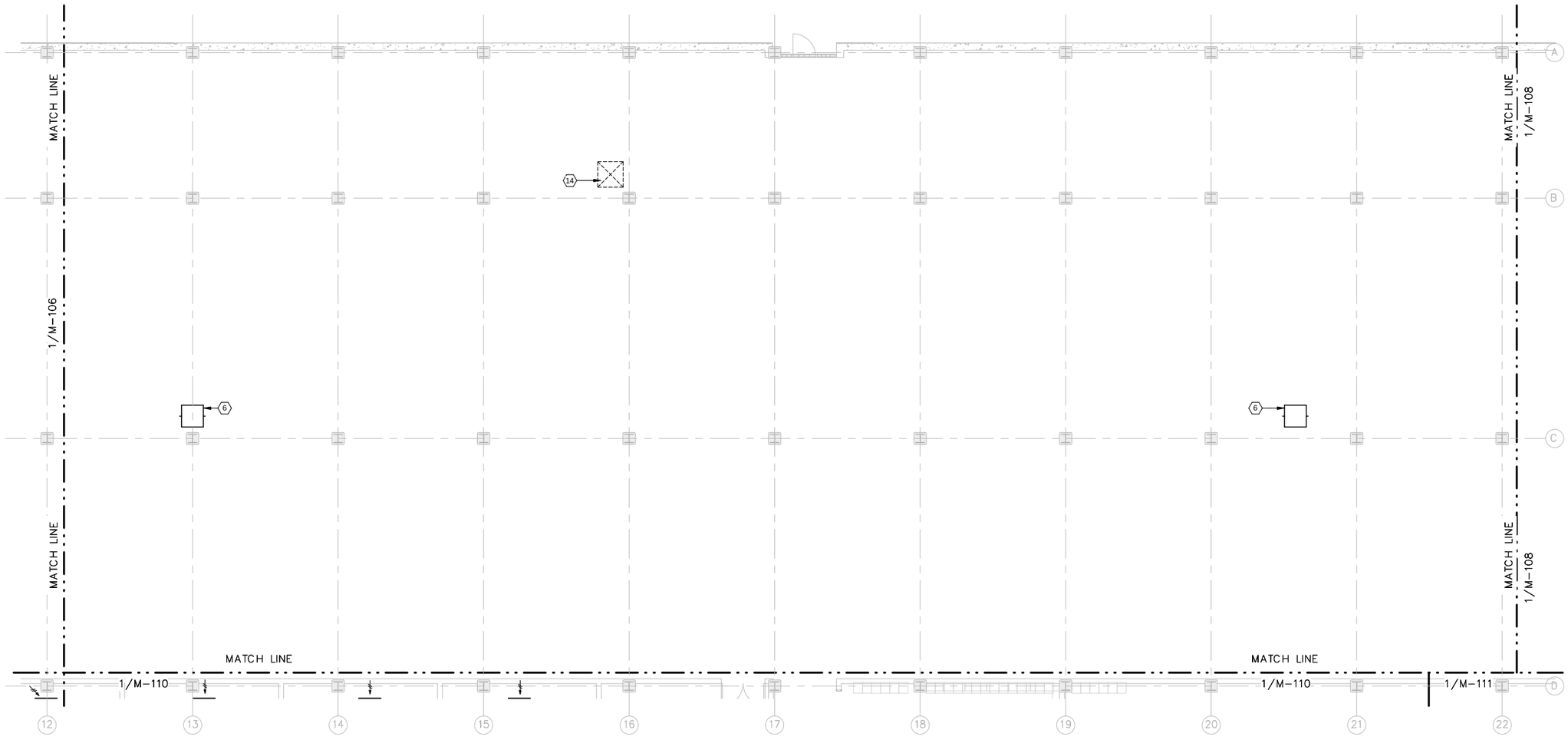
1ST FLOOR HVAC PLAN - AREA 1

DISCIPLINE: MECHANICAL

SHEET NAME: M-106

SHEET 191 OF 288

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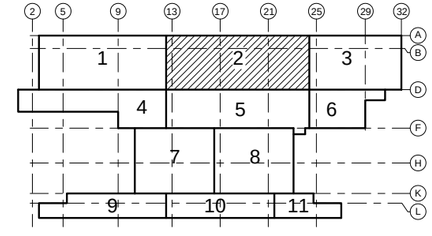
1 M-107 FIRST FLOOR - AREA 2 - HVAC PLAN

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

KEYED NOTES

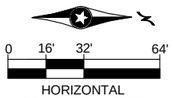
6 EXHAUST DUCT UP TO EXHAUST FAN.

14 OUTSIDE DUCT UP TO GRV.



KEY PLAN

SCALE: N.T.S.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

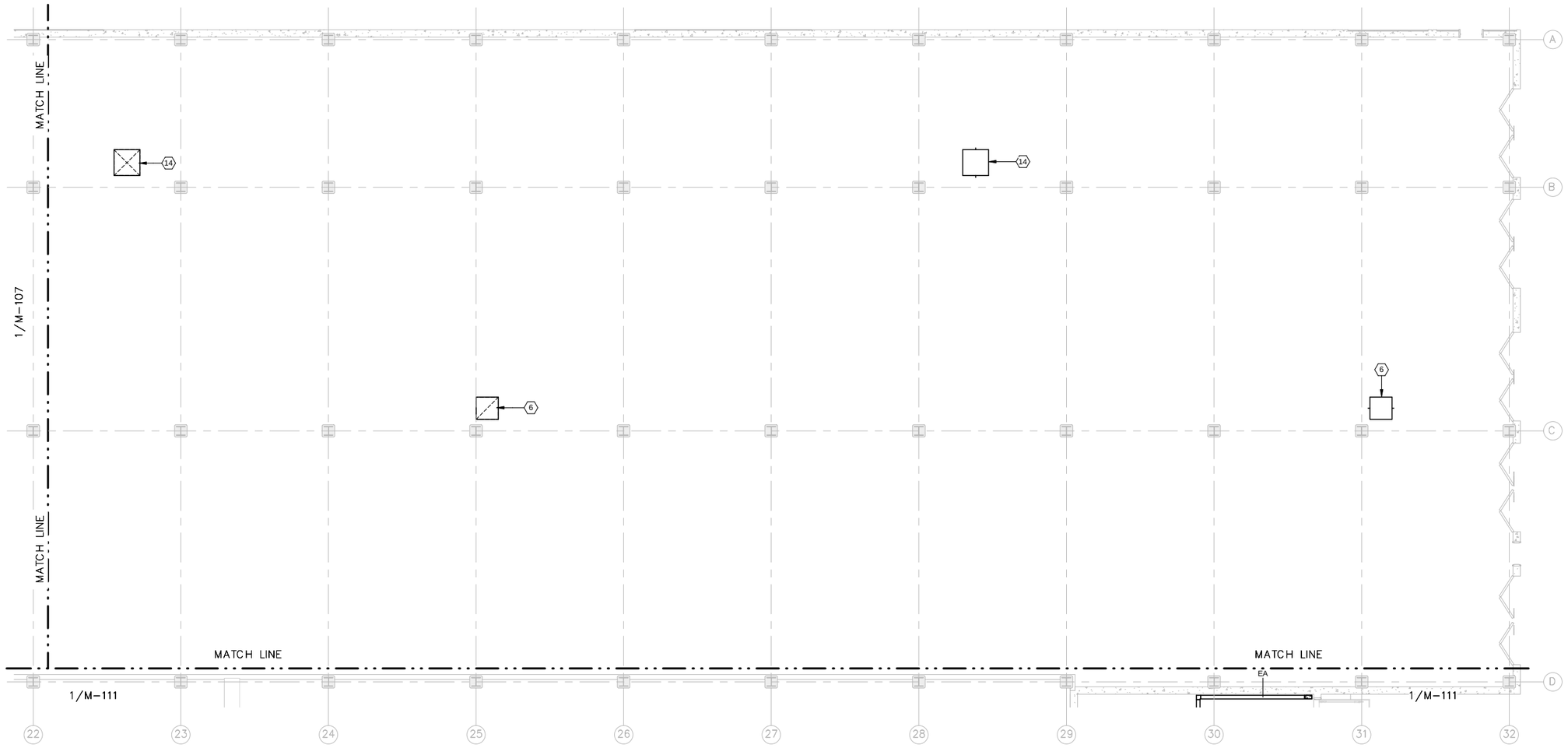
1ST FLOOR HVAC PLAN - AREA 2

DISCIPLINE: MECHANICAL

SHEET NAME: M-107

SHEET 192 OF 288

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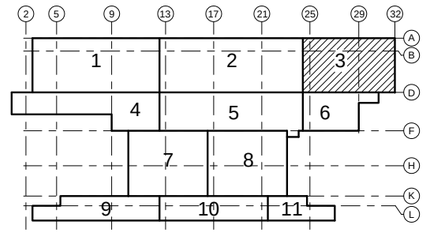
1 M-108 FIRST FLOOR - AREA 3 - HVAC PLAN

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

KEYED NOTES

6 EXHAUST DUCT UP TO EXHAUST FAN.

14 OUTSIDE DUCT UP TO GRV.



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

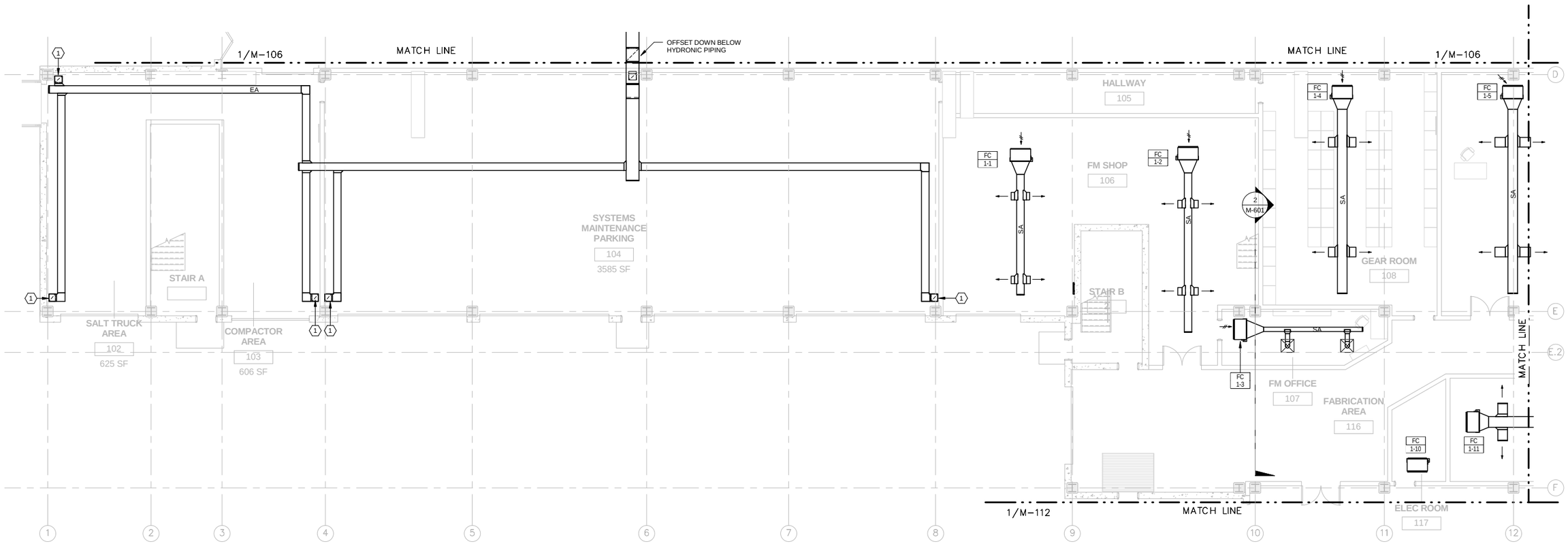
1ST FLOOR HVAC PLAN - AREA 3

DISCIPLINE: MECHANICAL

SHEET NAME: M-108

SHEET 193 OF 288

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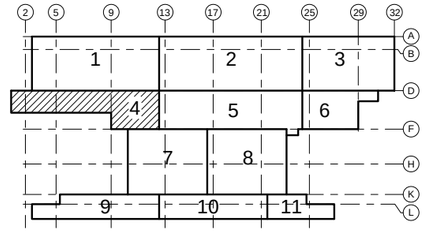


1 M-109 FIRST FLOOR - AREA 4 - HVAC PLAN

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

KEYED NOTES

1 EXHAUST DROP DOWN. TERMINATE 18" AFF



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

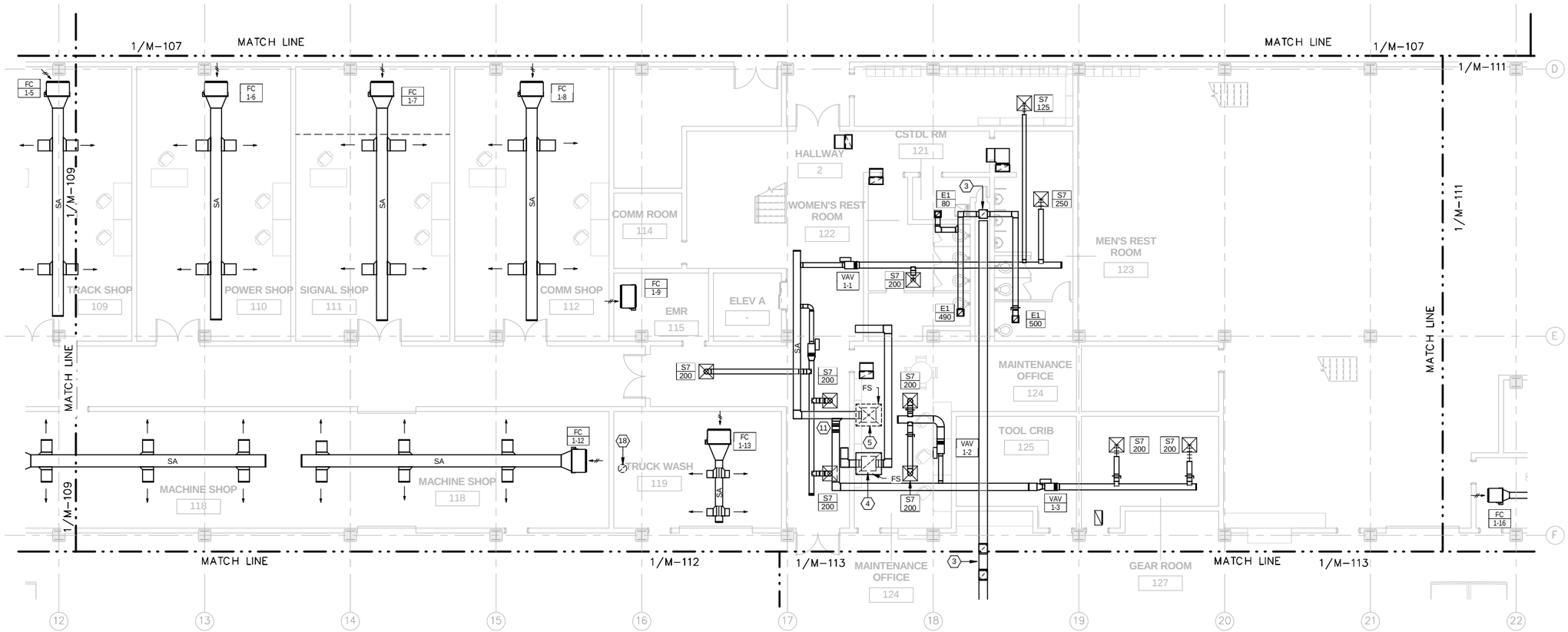
1ST FLOOR HVAC PLAN - AREA 4

DISCIPLINE: MECHANICAL

SHEET NAME: M-109

SHEET 194 OF 288

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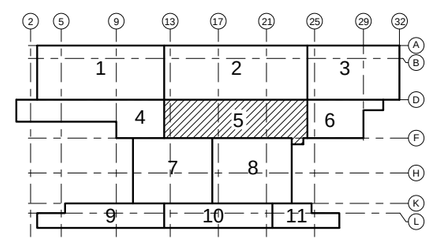


1 M-110 FIRST FLOOR - AREA 5 - HVAC PLAN

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

KEYED NOTES

3 OFFSET EXHAUST DUCTWORK AROUND HYDRONIC PIPING.
4 RETURN DUCT UP TO MEZZANINE ENLARGED PLAN
5 SUPPLY DUCT UP TO MEZZANINE ENLARGED PLAN
11 OFFSET SUPPLY DUCTWORK
18 VENT FOR INDUSTRIAL EQUIPMENT #3720



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

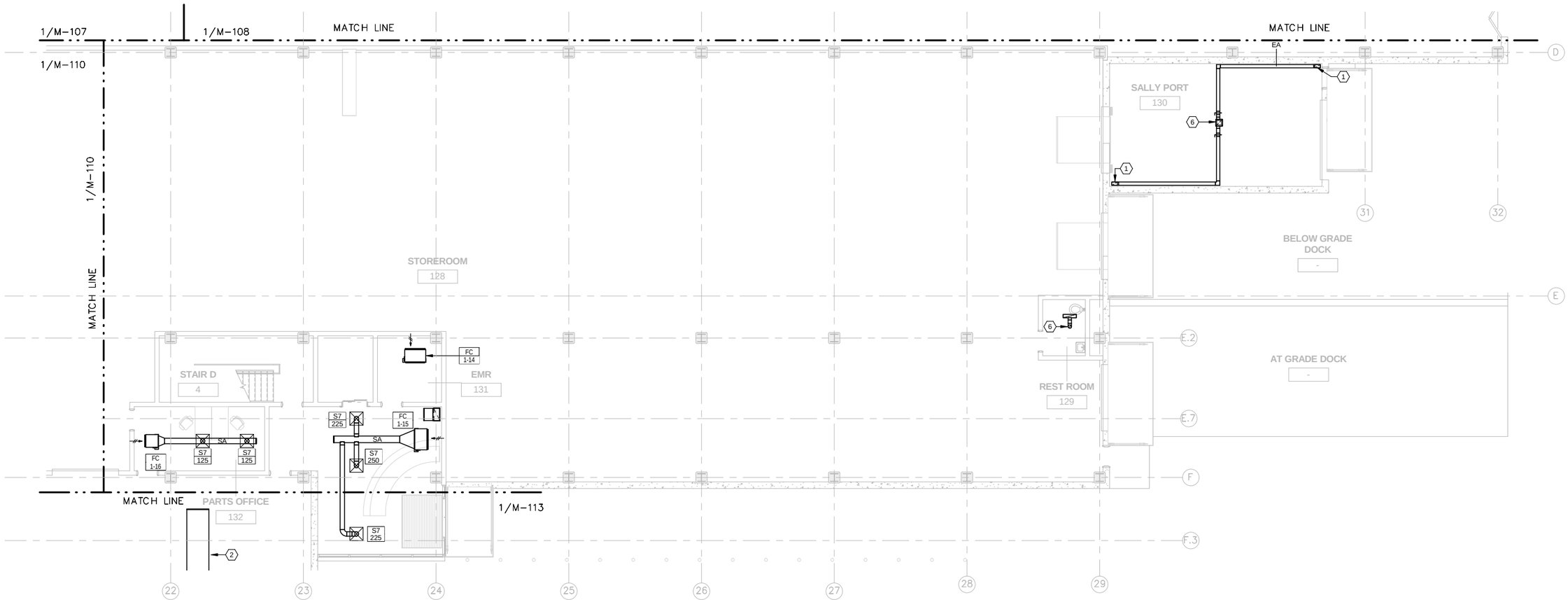
1ST FLOOR HVAC PLAN - AREA 5

DISCIPLINE: MECHANICAL

SHEET NAME: M-110

SHEET 195 OF 288

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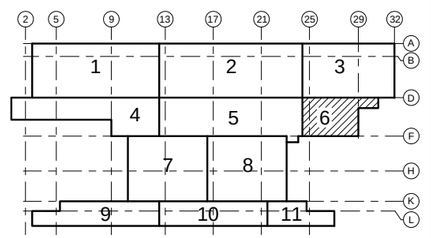


1 M-111 FIRST FLOOR - AREA 6 - HVAC PLAN

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

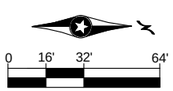
KEYED NOTES

1 EXHAUST DROP DOWN. TERMINATE 18" AFF
2 RUN SUPPLY DUCTWORK AS HIGH AS POSSIBLE.
6 EXHAUST DUCT UP TO EXHAUST FAN.



KEY PLAN

SCALE: N.T.S.



HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

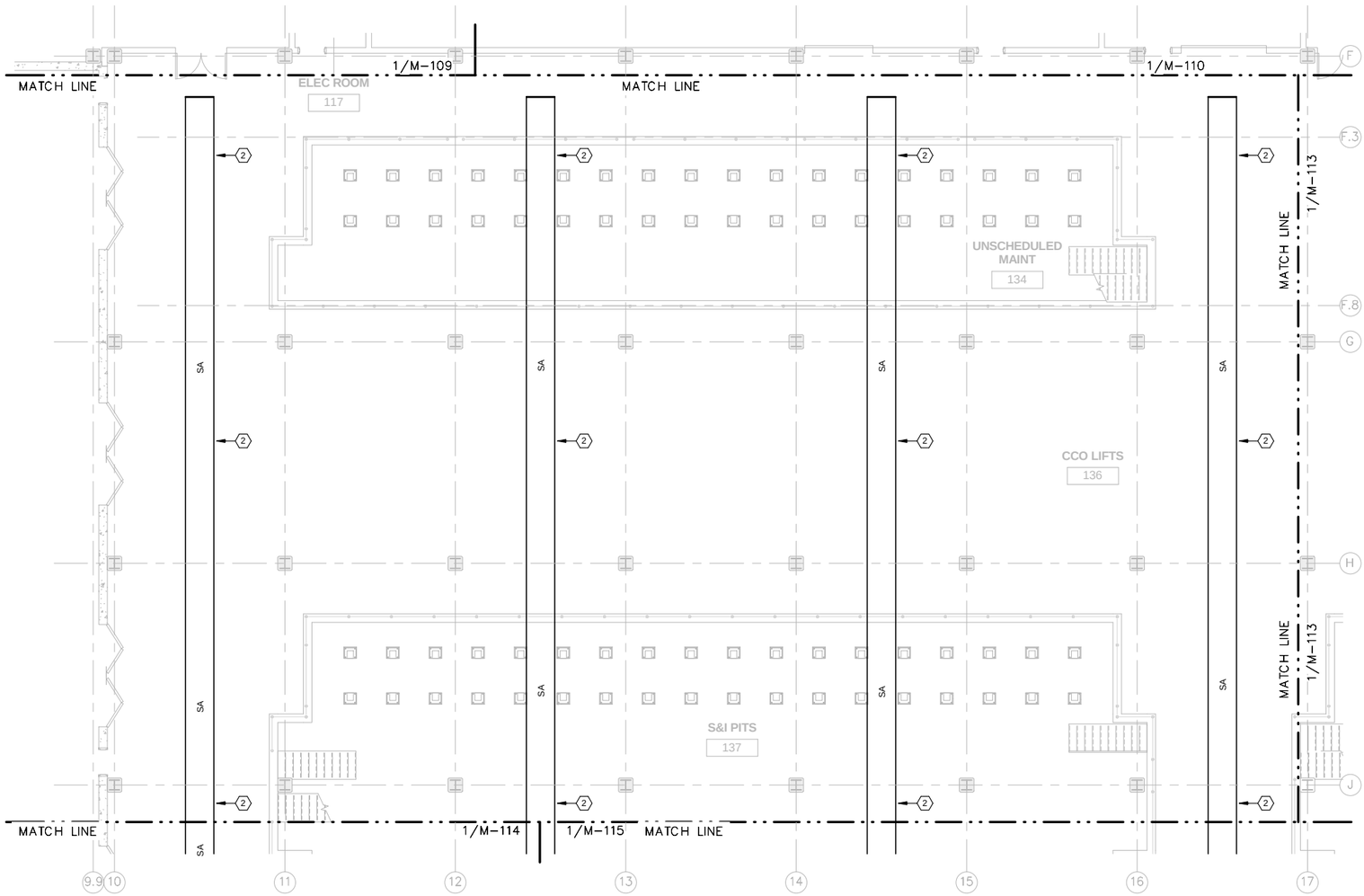
1ST FLOOR HVAC PLAN - AREA 6

DISCIPLINE: MECHANICAL

SHEET NAME: M-111

SHEET 196 OF 288

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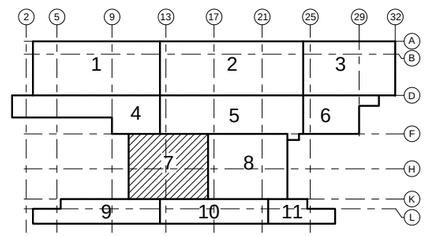


1 M-112 FIRST FLOOR - AREA 7 - HVAC PLAN

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

KEYED NOTES

2 RUN SUPPLY DUCTWORK AS HIGH AS POSSIBLE.



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

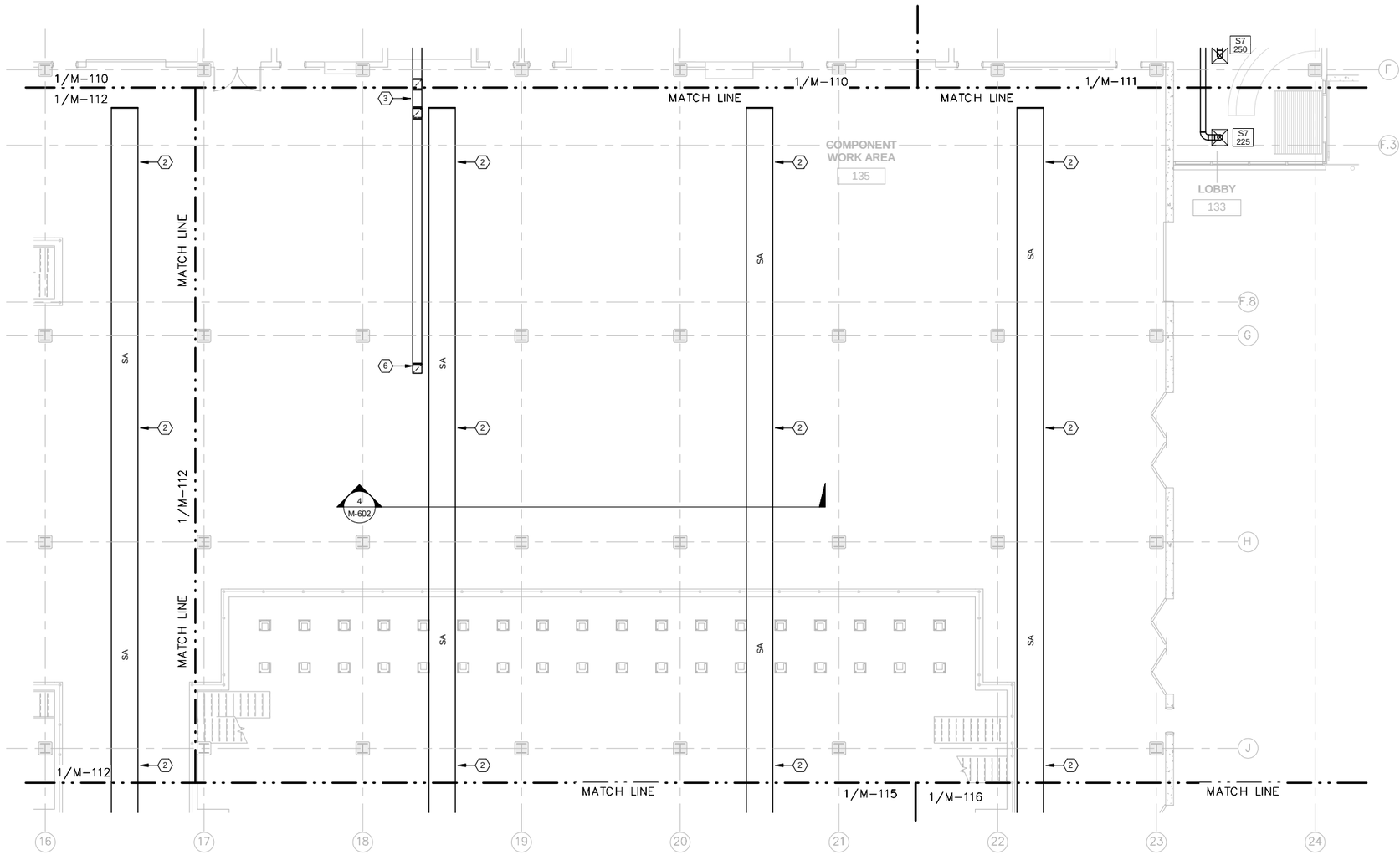
1ST FLOOR HVAC PLAN - AREA 7

DISCIPLINE: MECHANICAL

SHEET NAME: M-112

SHEET 197 OF 288

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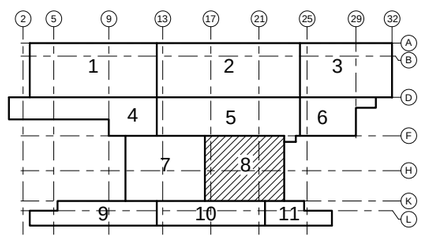


1 M-113 FIRST FLOOR - AREA 8 - HVAC PLAN

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

KEYED NOTES

2 RUN SUPPLY DUCTWORK AS HIGH AS POSSIBLE.
3 OFFSET EXHAUST DUCTWORK AROUND HYDRONIC PIPING.
4 RETURN DUCT UP TO MEZZANINE ENLARGED PLAN
6 EXHAUST DUCT UP TO EXHAUST FAN.



KEY PLAN

SCALE: N.T.S.



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

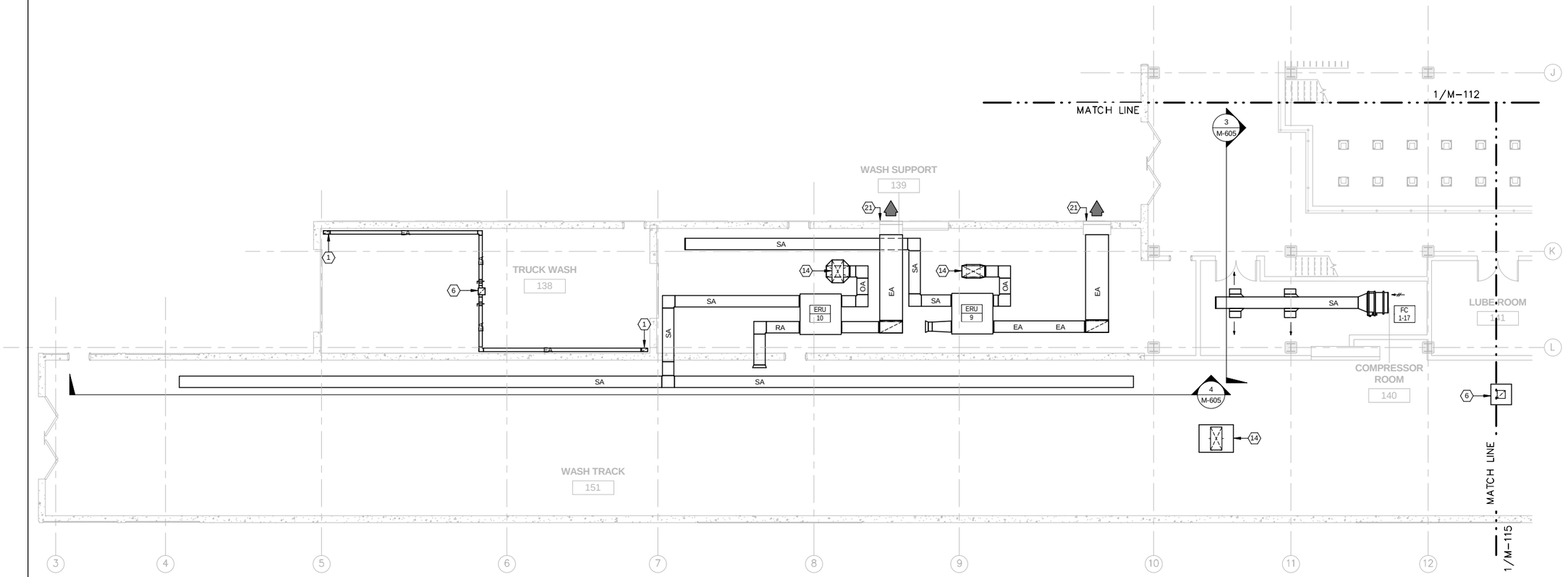
1ST FLOOR HVAC PLAN - AREA 8

DISCIPLINE: MECHANICAL

SHEET NAME: M-113

SHEET 198 OF 288

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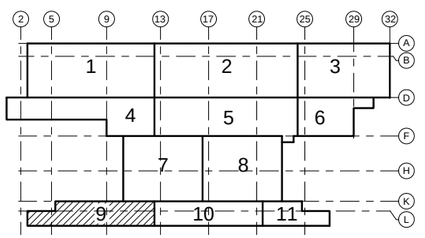


1 / M-114 FIRST FLOOR - AREA 9 - HVAC PLAN

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

KEYED NOTES

1 EXHAUST DROP DOWN. TERMINATE 18" AFF
6 EXHAUST DUCT UP TO EXHAUST FAN.
14 OUTSIDE DUCT UP TO GRV.
21 LOUVER BY OTHERS



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

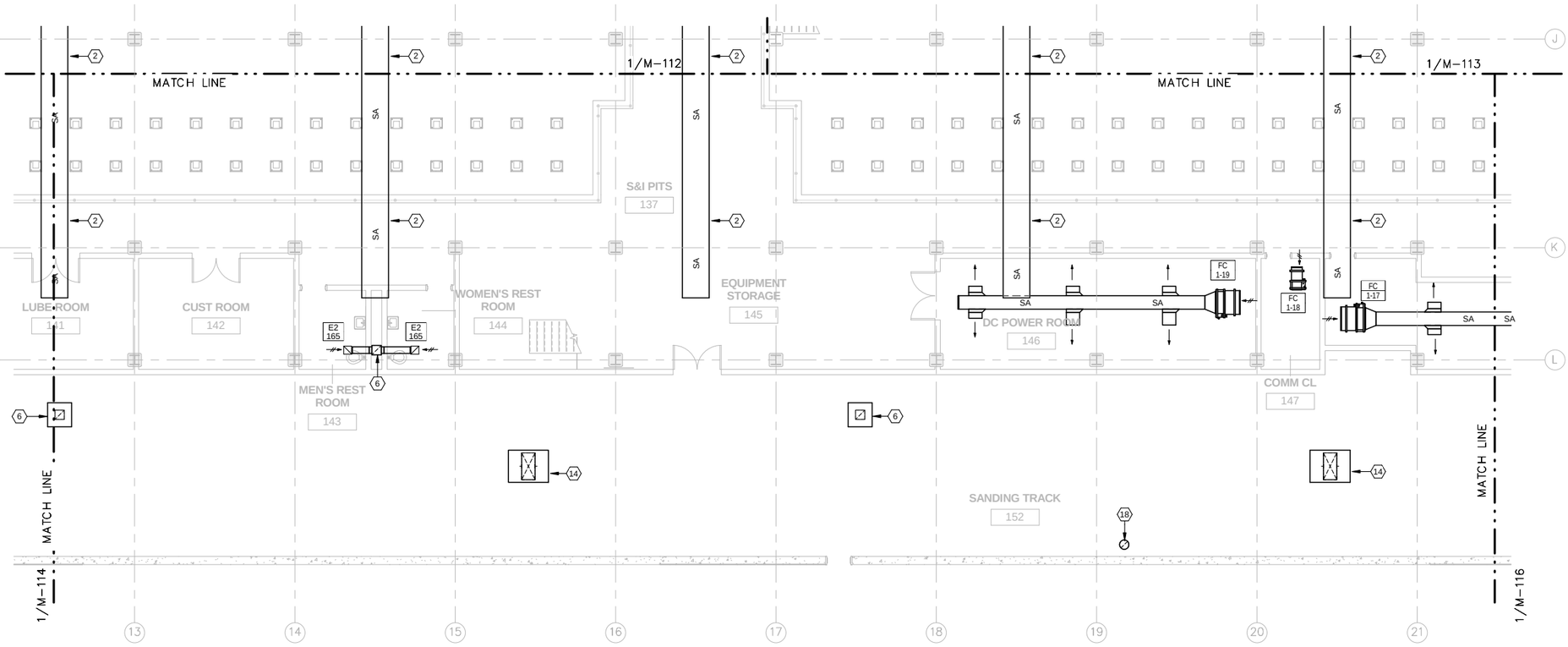
WEST-VOLUME 4 (OMF)
MECHANICAL
1ST FLOOR HVAC PLAN - AREA 9

DISCIPLINE: MECHANICAL

SHEET NAME: M-114

SHEET 199 OF 288

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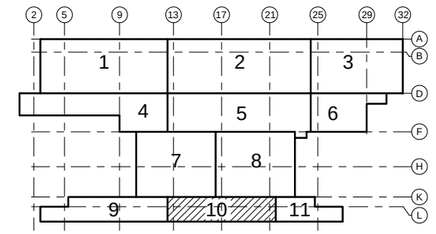


1 M-115 FIRST FLOOR - AREA 10 - HVAC PLAN

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

KEYED NOTES

2	RUN SUPPLY DUCTWORK AS HIGH AS POSSIBLE.
6	EXHAUST DUCT UP TO EXHAUST FAN.
14	OUTSIDE DUCT UP TO GRV.
18	VENT FOR INDUSTRIAL EQUIPMENT #3720



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

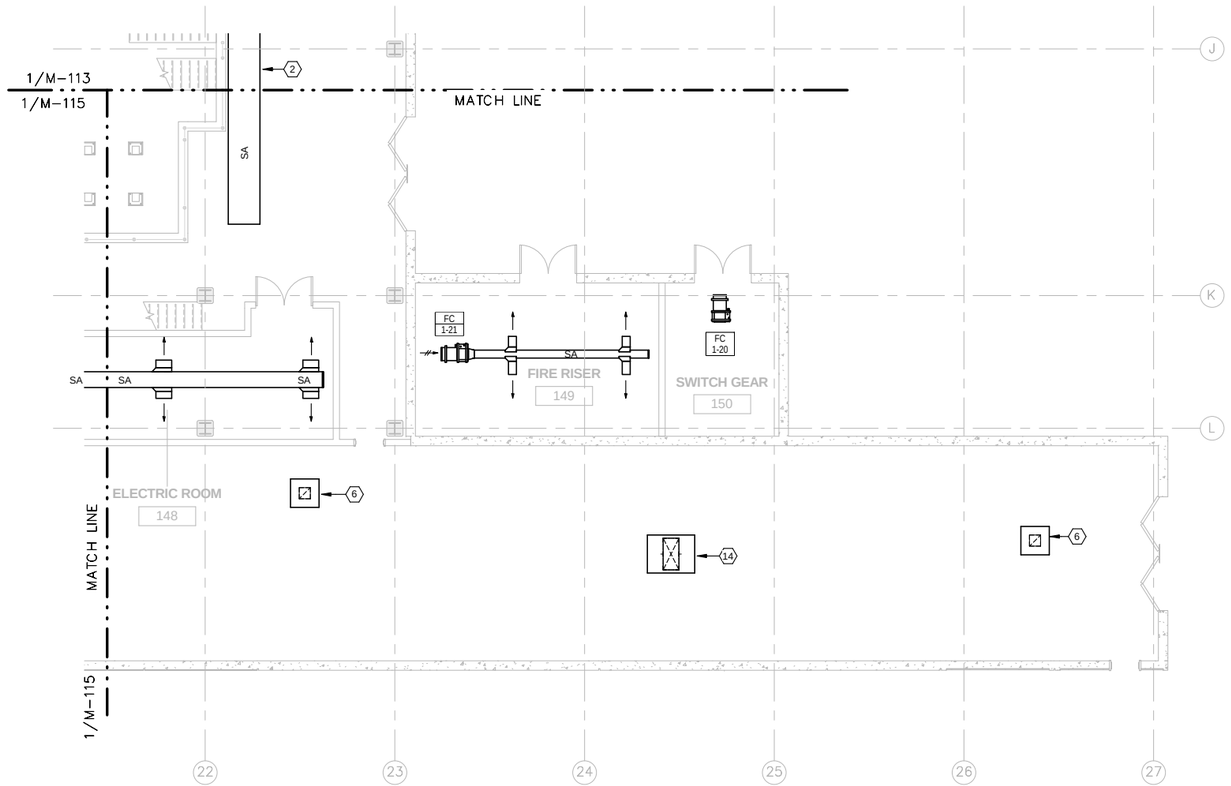
1ST FLOOR HVAC PLAN - AREA 10

DISCIPLINE: MECHANICAL

SHEET NAME: M-115

SHEET 200 OF 288

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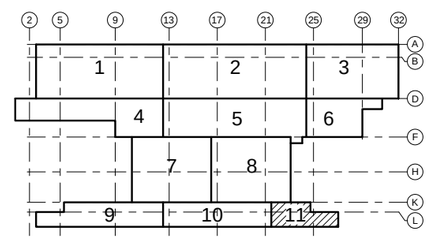


1 M-116 FIRST FLOOR - AREA 11 - HVAC PLAN

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

KEYED NOTES

2 RUN SUPPLY DUCTWORK AS HIGH AS POSSIBLE.
6 EXHAUST DUCT UP TO EXHAUST FAN.
14 OUTSIDE DUCT UP TO GRV.



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

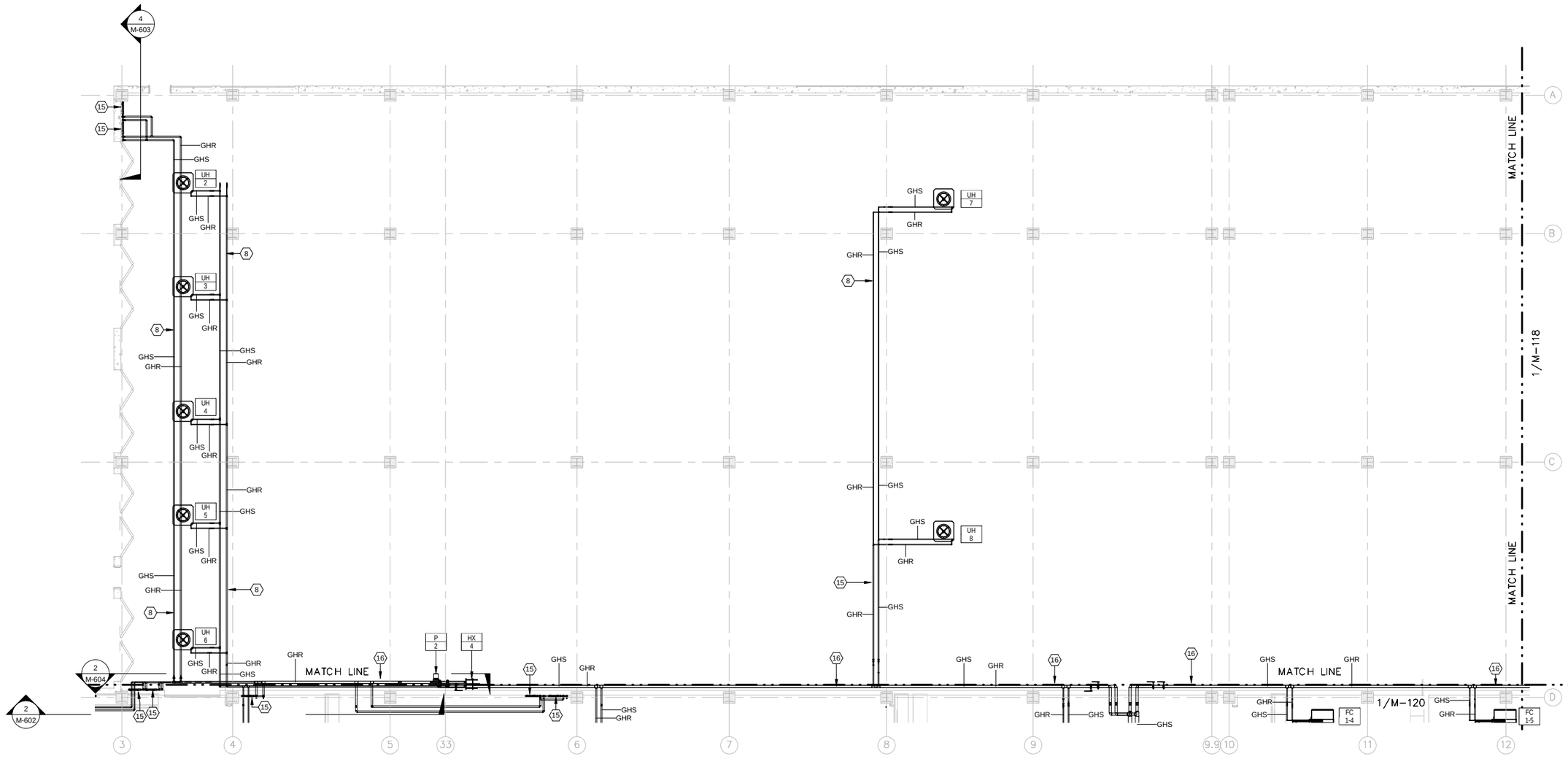
1ST FLOOR HVAC PLAN - AREA 11

DISCIPLINE: MECHANICAL

SHEET NAME: M-116

SHEET 201 OF 288

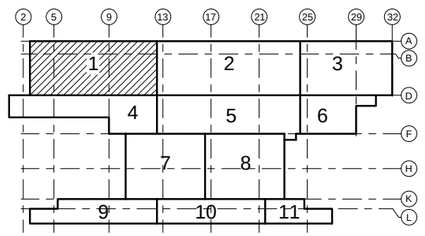
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1 M-117 FIRST FLOOR - AREA 1 - PIPING PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES

8	RUN HYDRONIC PIPING IN JOIST SPACE
15	RADIANT SNOW MELT MANIFOLD ASSEMBLY
16	RACK HYDRONIC PIPING ON WALL



KEY PLAN
SCALE: N.T.S.

0 16' 32' 64'
HORIZONTAL
SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL
SOUTHWEST

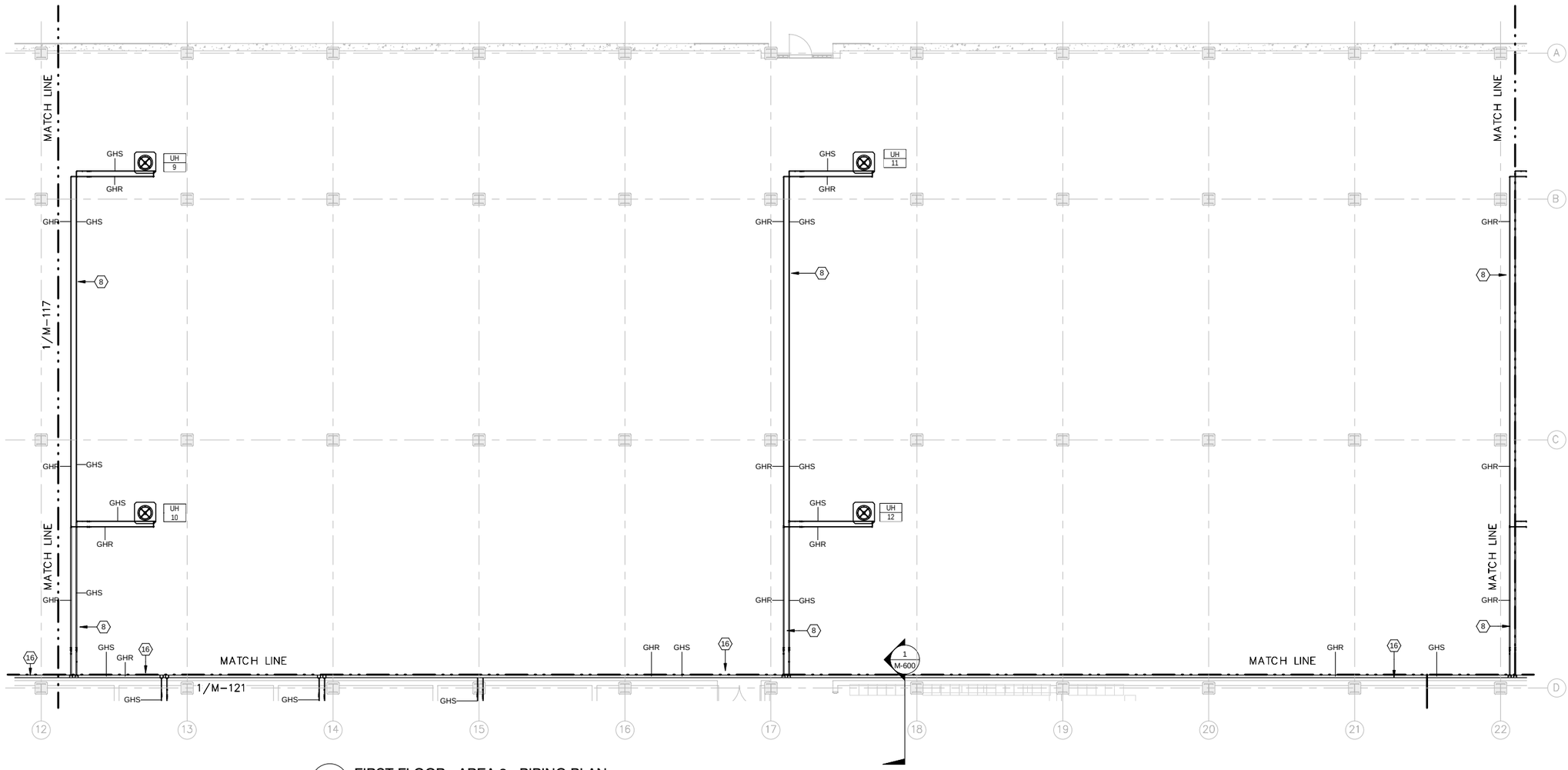
WEST-VOLUME 4 (OMF) MECHANICAL

1ST FLOOR PIPING PLAN - AREA 1

DISCIPLINE: MECHANICAL
SHEET NAME: M-117

SHEET 202 OF 288

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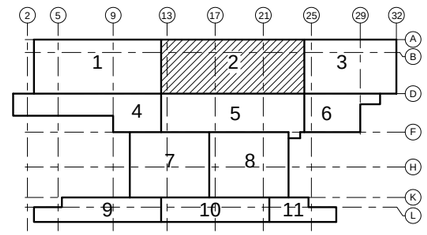


1 M-118 FIRST FLOOR - AREA 2 - PIPING PLAN

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

KEYED NOTES

8	RUN HYDRONIC PIPING IN JOIST SPACE
16	RACK HYDRONIC PIPING ON WALL



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

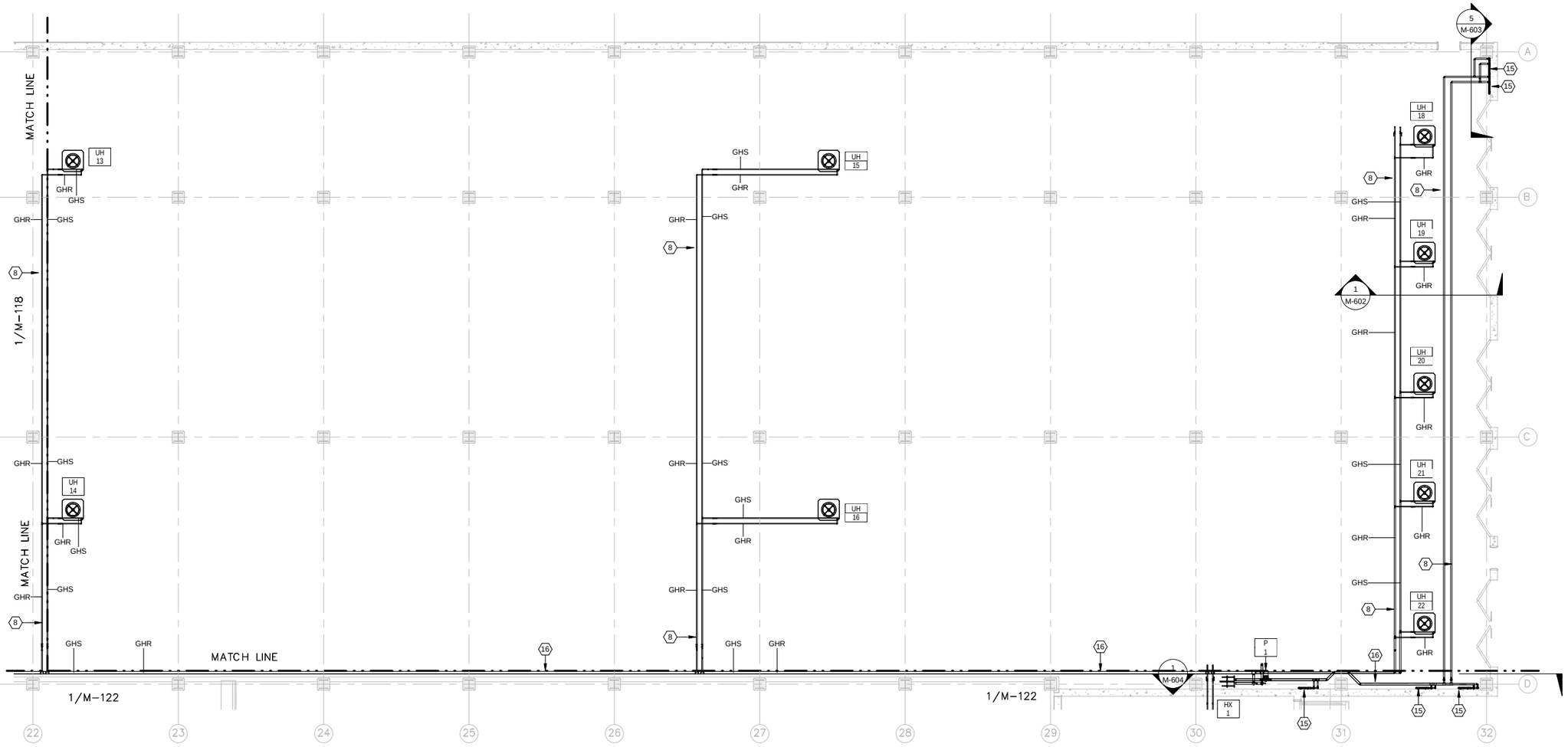
1ST FLOOR PIPING PLAN - AREA 2

DISCIPLINE: MECHANICAL

SHEET NAME: M-118

SHEET 203 OF 288

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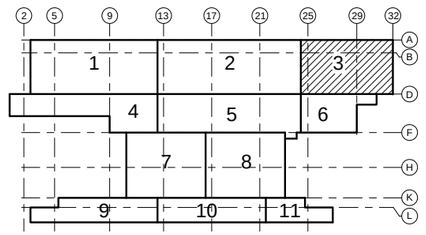


1 M-119 FIRST FLOOR - AREA 3 - PIPING PLAN

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

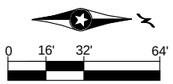
KEYED NOTES

8	RUN HYDRONIC PIPING IN JOIST SPACE
15	RADIANT SNOW MELT MANIFOLD ASSEMBLY
16	RACK HYDRONIC PIPING ON WALL



KEY PLAN

SCALE: N.T.S.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

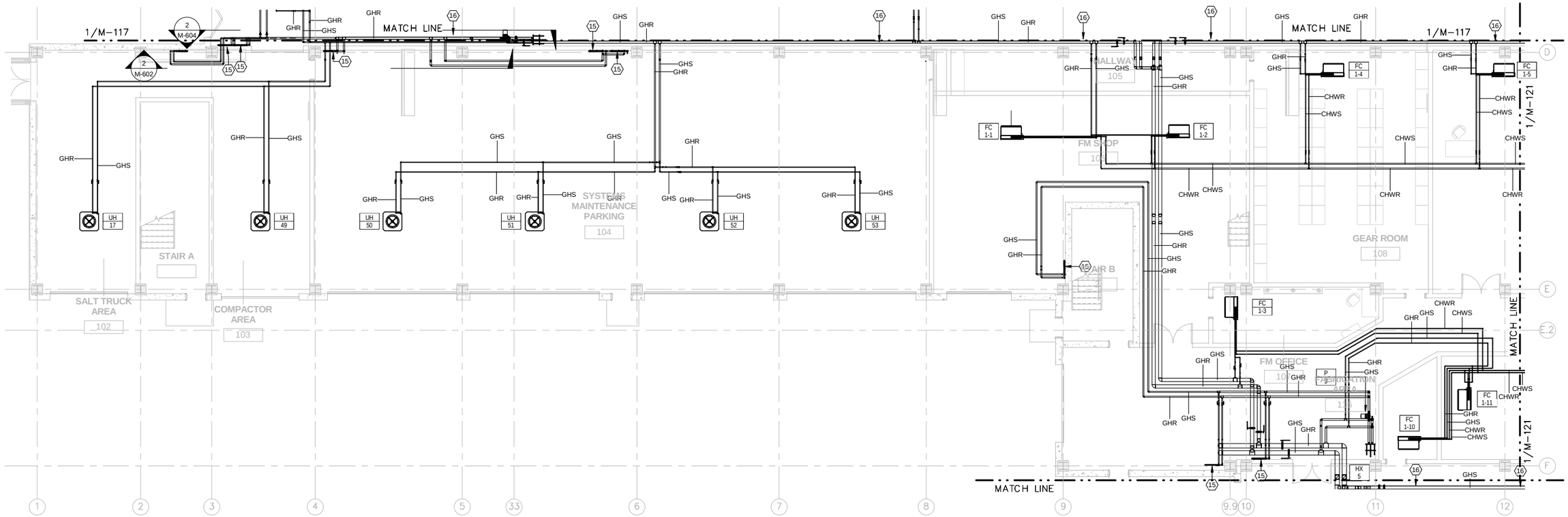
1ST FLOOR PIPING PLAN - AREA 3

DISCIPLINE: MECHANICAL

SHEET NAME: M-119

SHEET 204 OF 288

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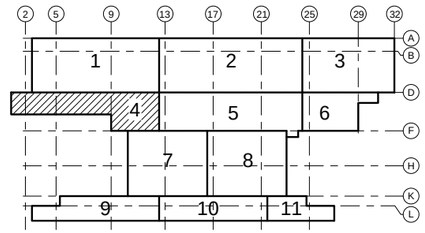
1 M-120 FIRST FLOOR - AREA 4 - PIPING PLAN

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

KEYED NOTES

15 RADIANT SNOW MELT MANIFOLD ASSEMBLY

16 RACK HYDRONIC PIPING ON WALL



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

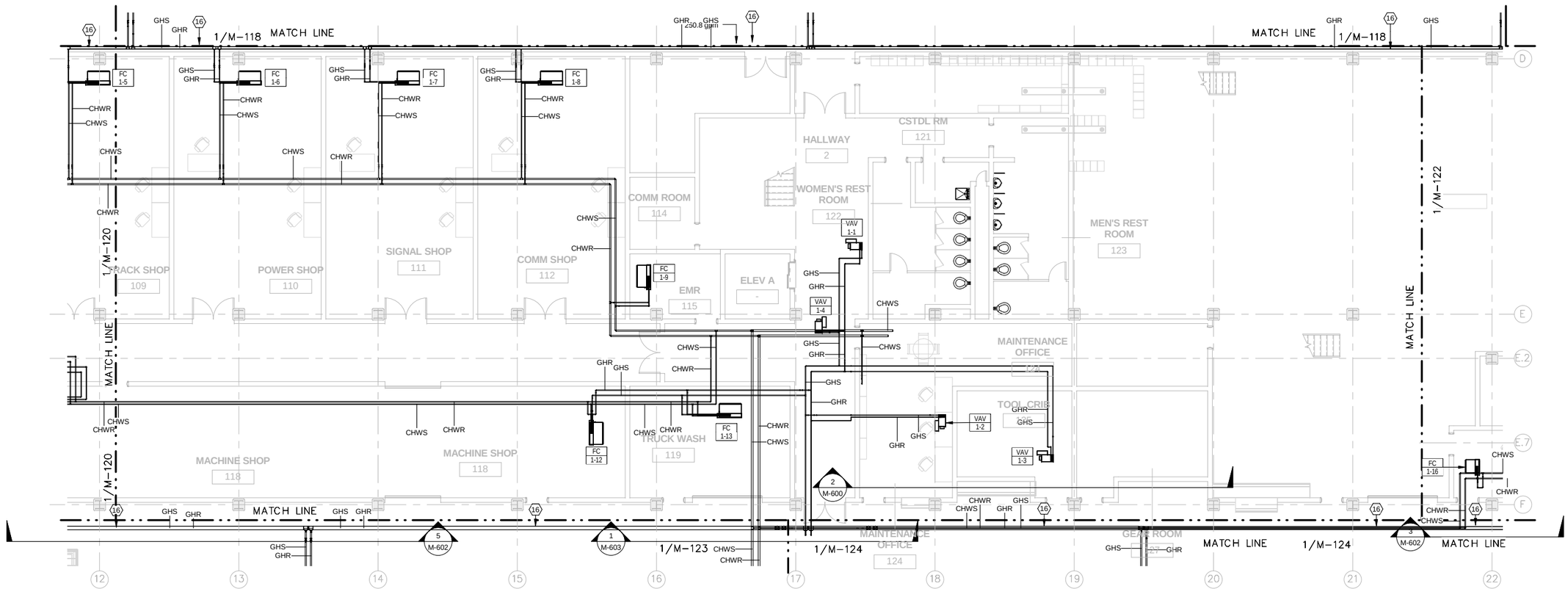
1ST FLOOR PIPING PLAN - AREA 4

DISCIPLINE: MECHANICAL

SHEET NAME: M-120

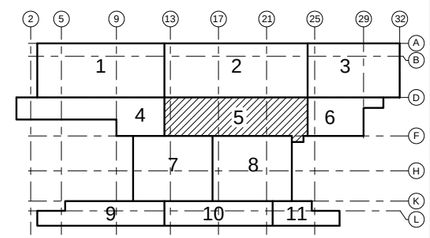
SHEET 205 OF 288

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KEYED NOTES

16 RACK HYDRONIC PIPING ON WALL



0 16' 32' 64'
HORIZONTAL SCALE IN FEET

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

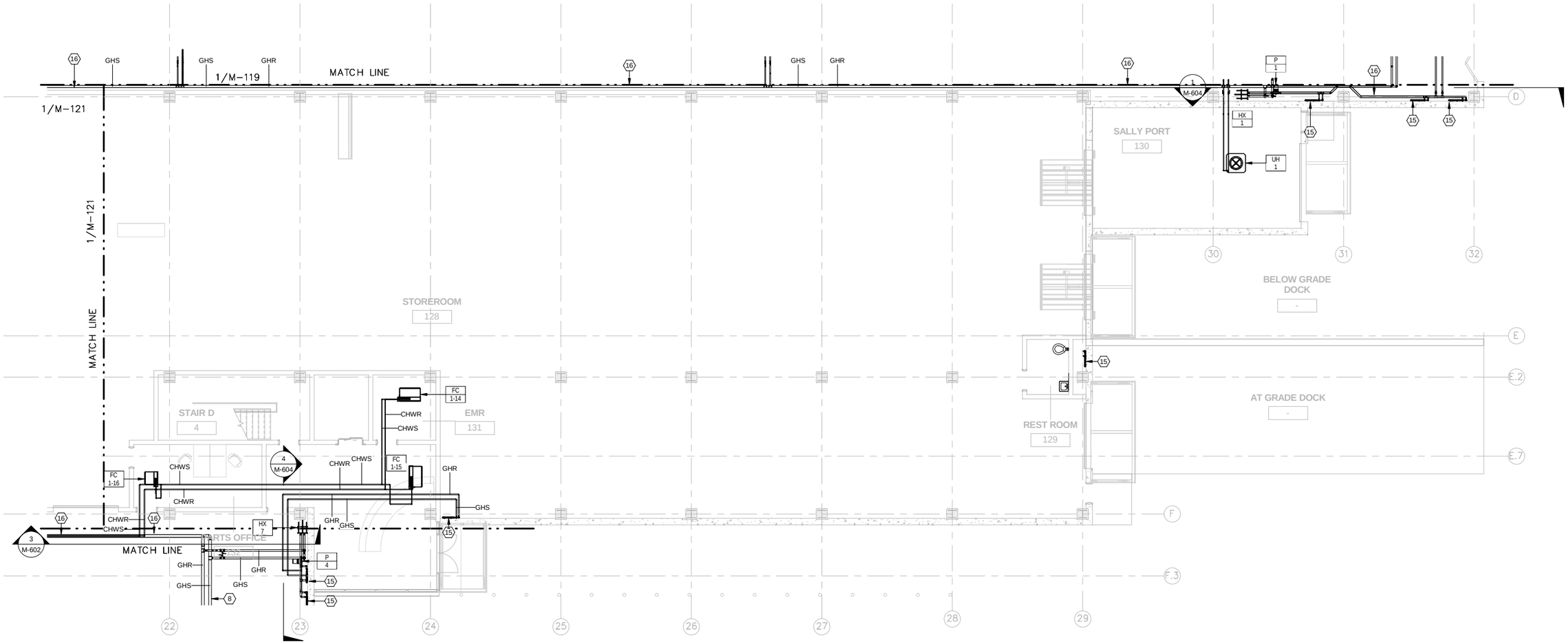
1ST FLOOR PIPING PLAN - AREA 5

DISCIPLINE: MECHANICAL

SHEET NAME: M-121

SHEET 206 OF 288

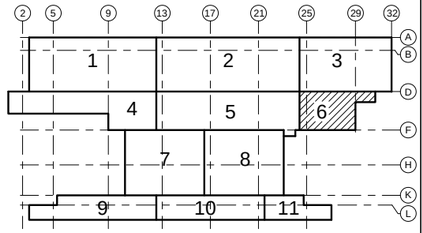
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1 M-122 FIRST FLOOR - AREA 6 - PIPING PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES

8	RUN HYDRONIC PIPING IN JOIST SPACE
15	RADIANT SNOW MELT MANIFOLD ASSEMBLY
16	RACK HYDRONIC PIPING ON WALL



KEY PLAN
SCALE: N.T.S.

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

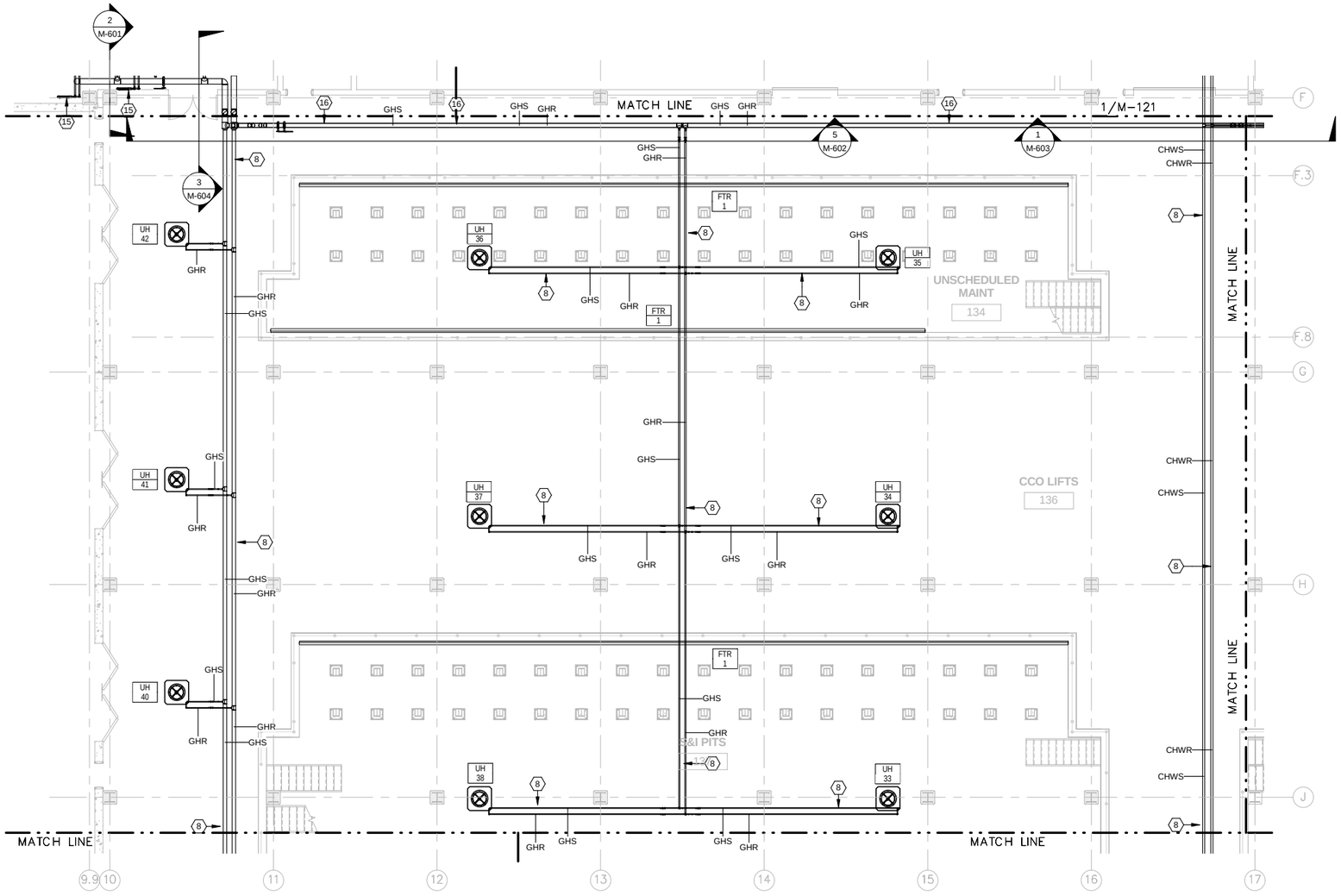
1ST FLOOR PIPING PLAN - AREA 6

DISCIPLINE: MECHANICAL

SHEET NAME: M-122

SHEET 207 OF 288

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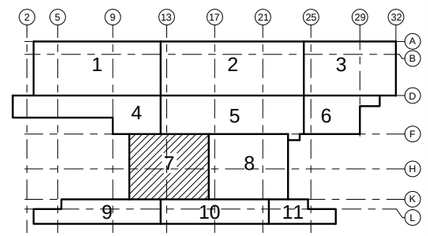


1 / M-123 FIRST FLOOR - AREA 7 - PIPING PLAN

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

KEYED NOTES

8	RUN HYDRONIC PIPING IN JOIST SPACE
15	RADIANT SNOW MELT MANIFOLD ASSEMBLY
16	RACK HYDRONIC PIPING ON WALL



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

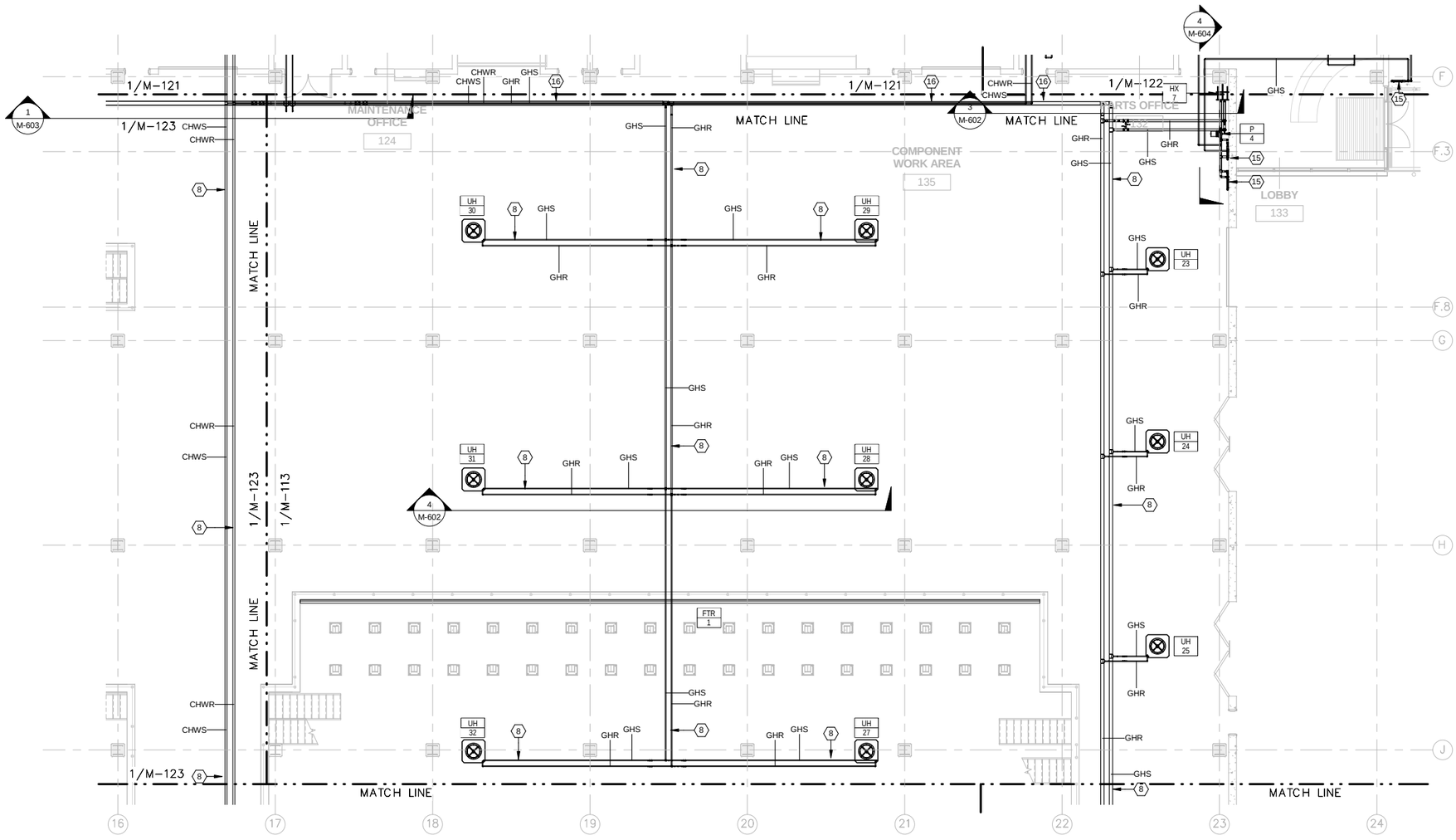
1ST FLOOR PIPING PLAN - AREA 7

DISCIPLINE: MECHANICAL

SHEET NAME: M-123

SHEET 208 OF 288

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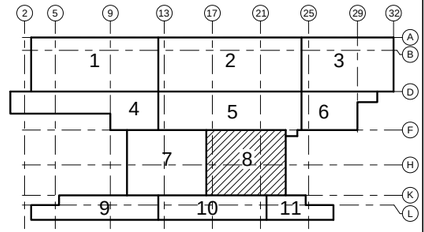


1 / M-124 FIRST FLOOR - AREA 8 - PIPING PLAN

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

KEYED NOTES

8	RUN HYDRONIC PIPING IN JOIST SPACE
15	RADIANT SNOW MELT MANIFOLD ASSEMBLY
16	RACK HYDRONIC PIPING ON WALL



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

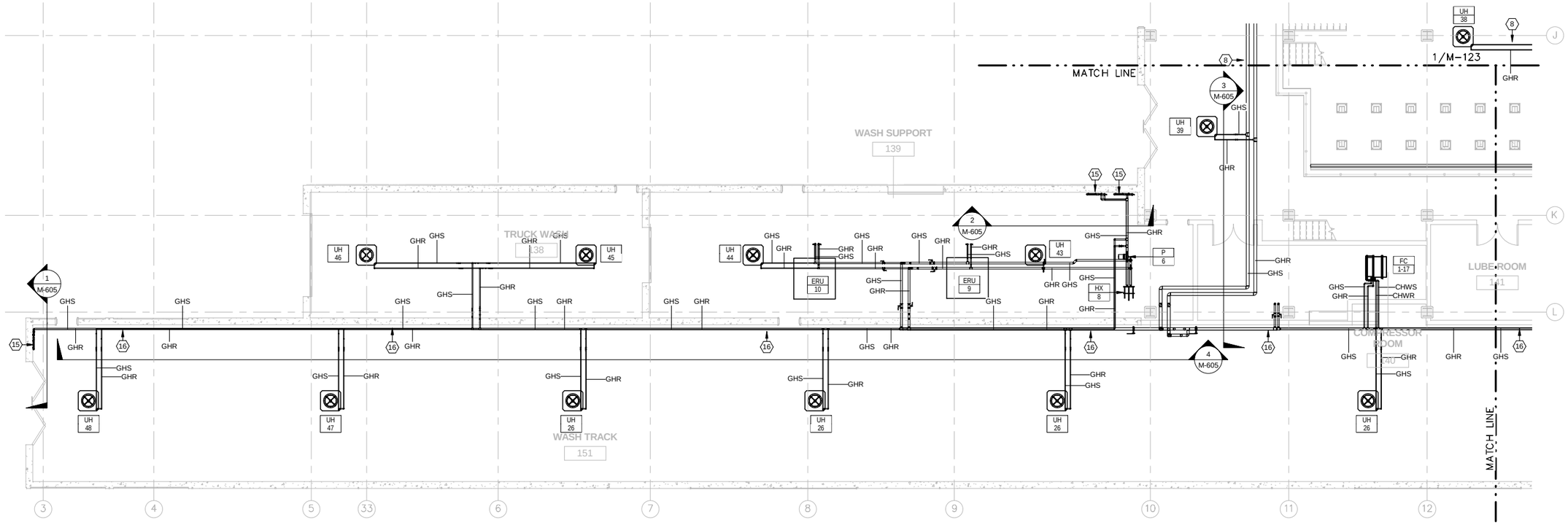
1ST FLOOR PIPING PLAN - AREA 8

DISCIPLINE: MECHANICAL

SHEET NAME: M-124

SHEET 209 OF 288

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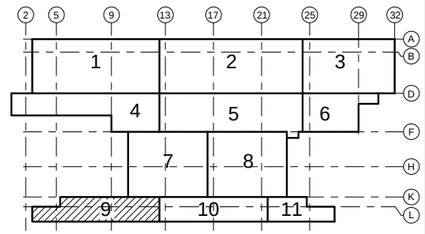


1 M-125 FIRST FLOOR - AREA 9 - PIPING PLAN

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

KEYED NOTES

8 RUN HYDRONIC PIPING IN JOIST SPACE
15 RADIANT SNOW MELT MANIFOLD ASSEMBLY
16 RACK HYDRONIC PIPING ON WALL



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

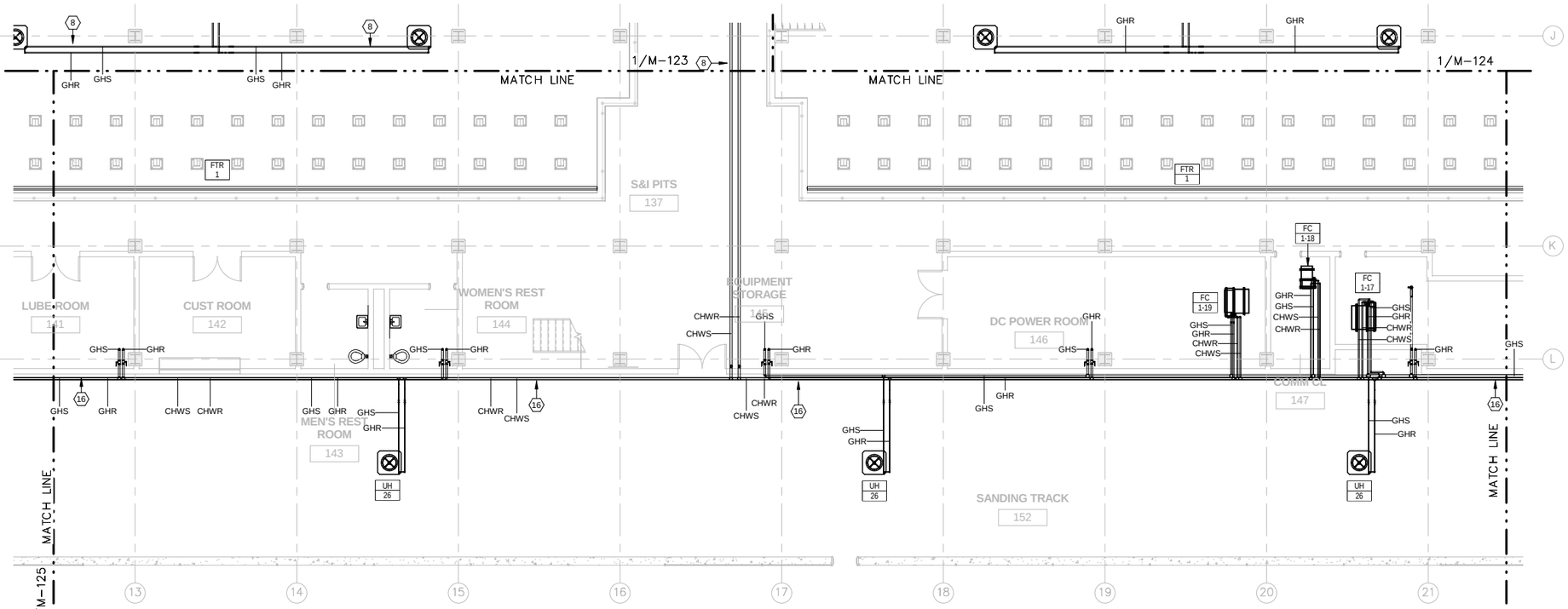
WEST-VOLUME 4 (OMF)
MECHANICAL
1ST FLOOR PIPING PLAN - AREA 9

DISCIPLINE: MECHANICAL

SHEET NAME: M-125

SHEET 210 OF 288

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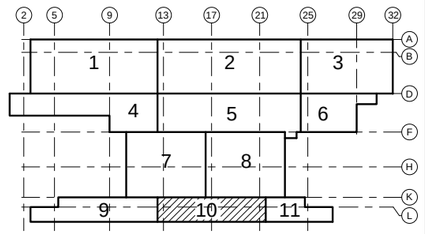
1 M-126 FIRST FLOOR - AREA 10 - PIPING PLAN

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

KEYED NOTES

8 RUN HYDRONIC PIPING IN JOIST SPACE

16 RACK HYDRONIC PIPING ON WALL



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

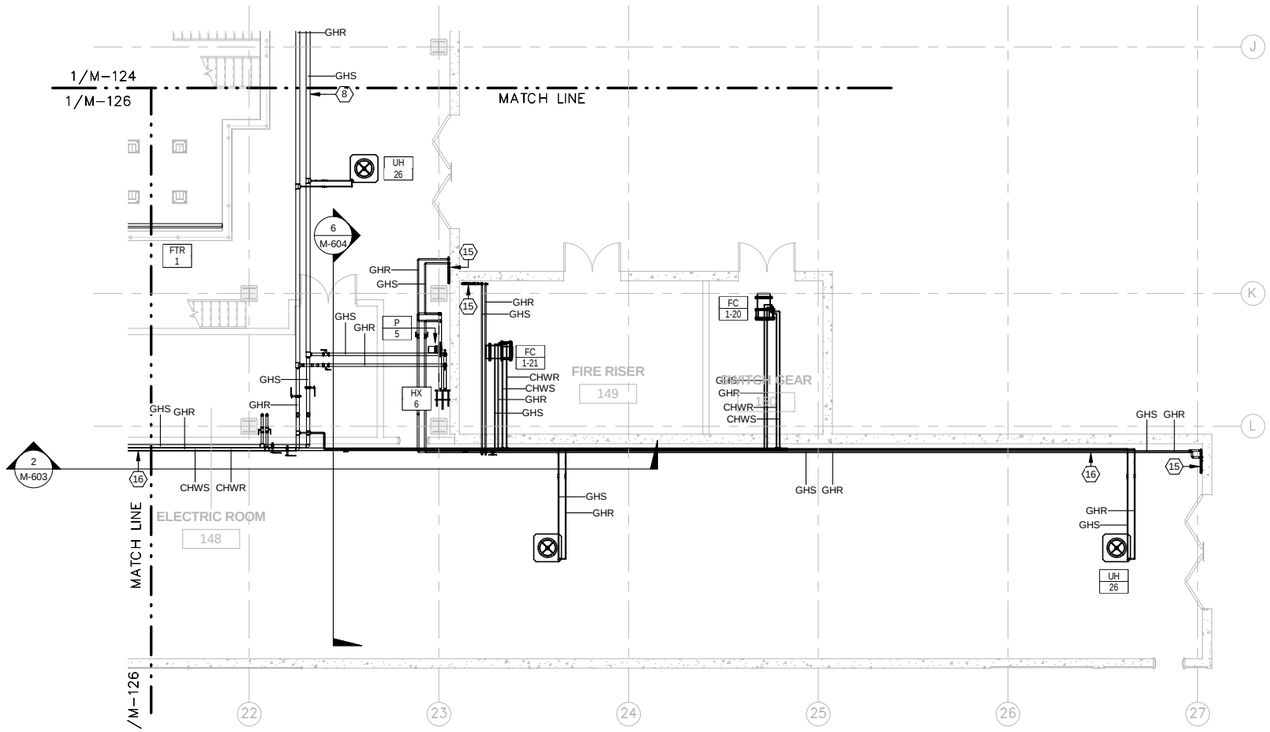
1ST FLOOR PIPING PLAN - AREA 10

DISCIPLINE: MECHANICAL

SHEET NAME: M-126

SHEET 211 OF 288

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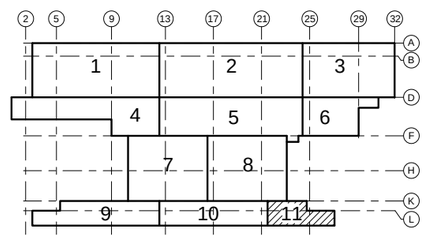


1 M-127 FIRST FLOOR - AREA 11 - PIPING PLAN

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

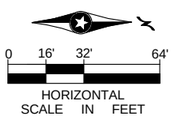
KEYED NOTES

8 RUN HYDRONIC PIPING IN JOIST SPACE
15 RADIANT SNOW MELT MANIFOLD ASSEMBLY
16 RACK HYDRONIC PIPING ON WALL



KEY PLAN

SCALE: N.T.S.



HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

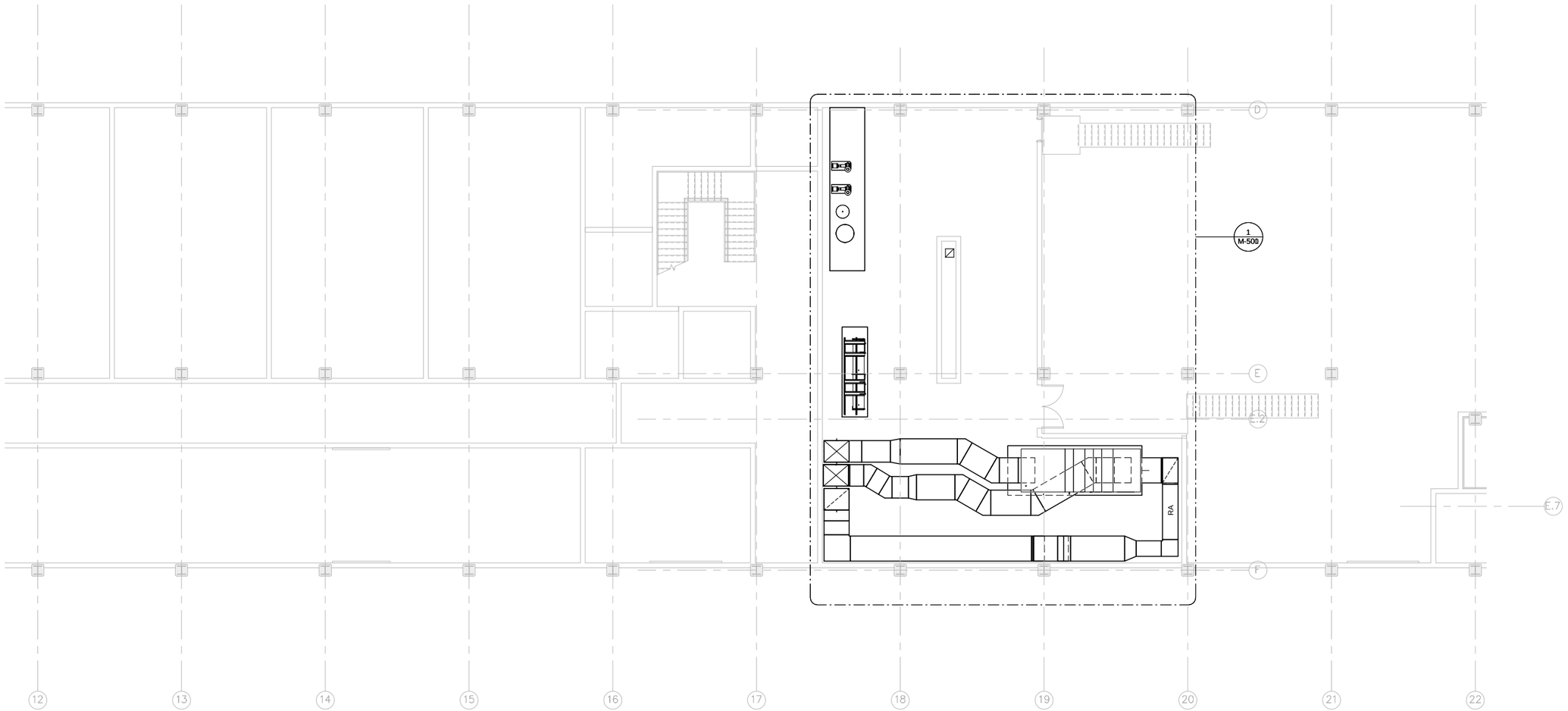
1ST FLOOR PIPING PLAN - AREA 11

DISCIPLINE: MECHANICAL

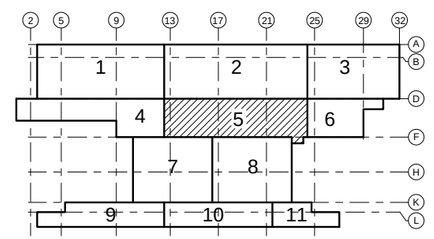
SHEET NAME: M-127

SHEET 212 OF 288

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1 M-200 MEZZANINE HVAC PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

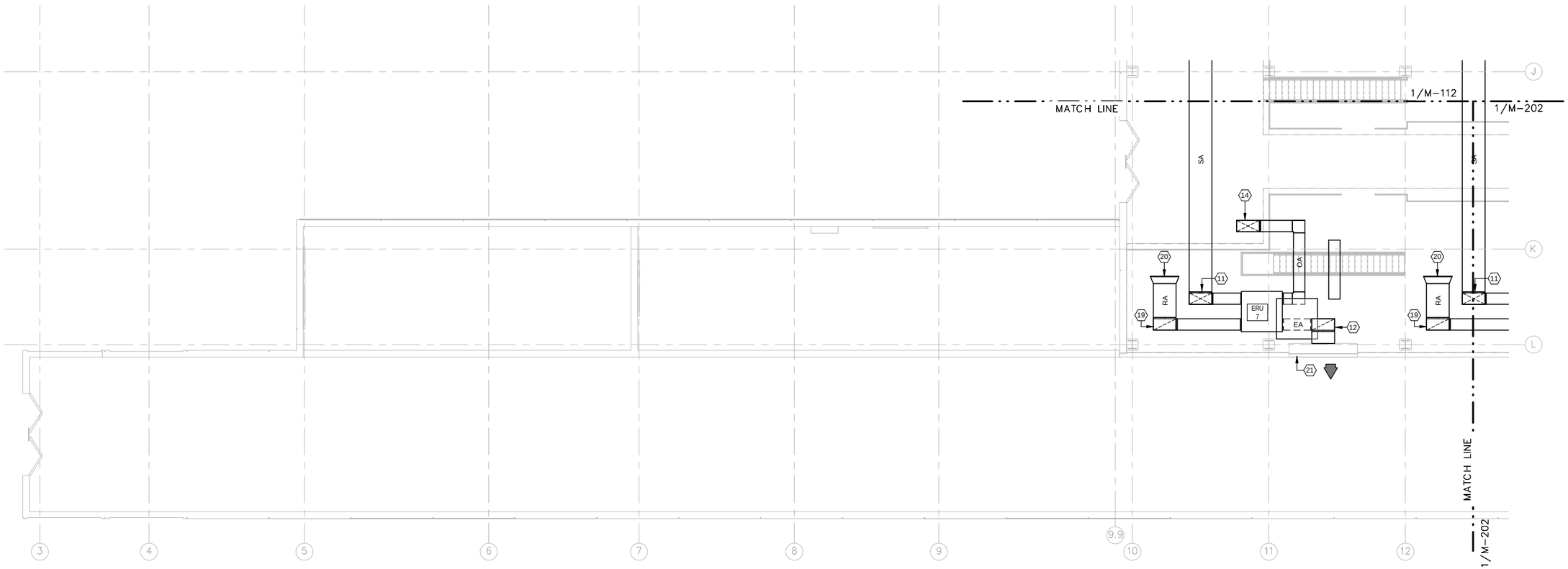
WEST-VOLUME 4 (OMF)
MECHANICAL

MEZZANINE HVAC PLAN - AREA 5

DISCIPLINE: MECHANICAL
SHEET NAME: M-200

SHEET 213 OF 288

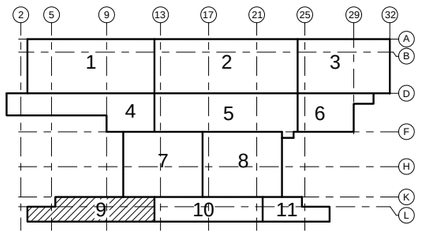
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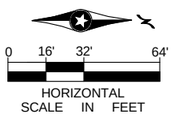
1 M-201 MEZZANINE - AREA 9 - HVAC PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES

11 OFFSET SUPPLY DUCTWORK
12 OFFSET EXHAUST DUCTWORK
14 OUTSIDE DUCT UP TO GRV.
19 OFFSET RETURN DUCTWORK
20 RETURN BELL MOUTH
21 Llouver BY OTHERS



KEY PLAN
SCALE: N.T.S.



HORIZONTAL
SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

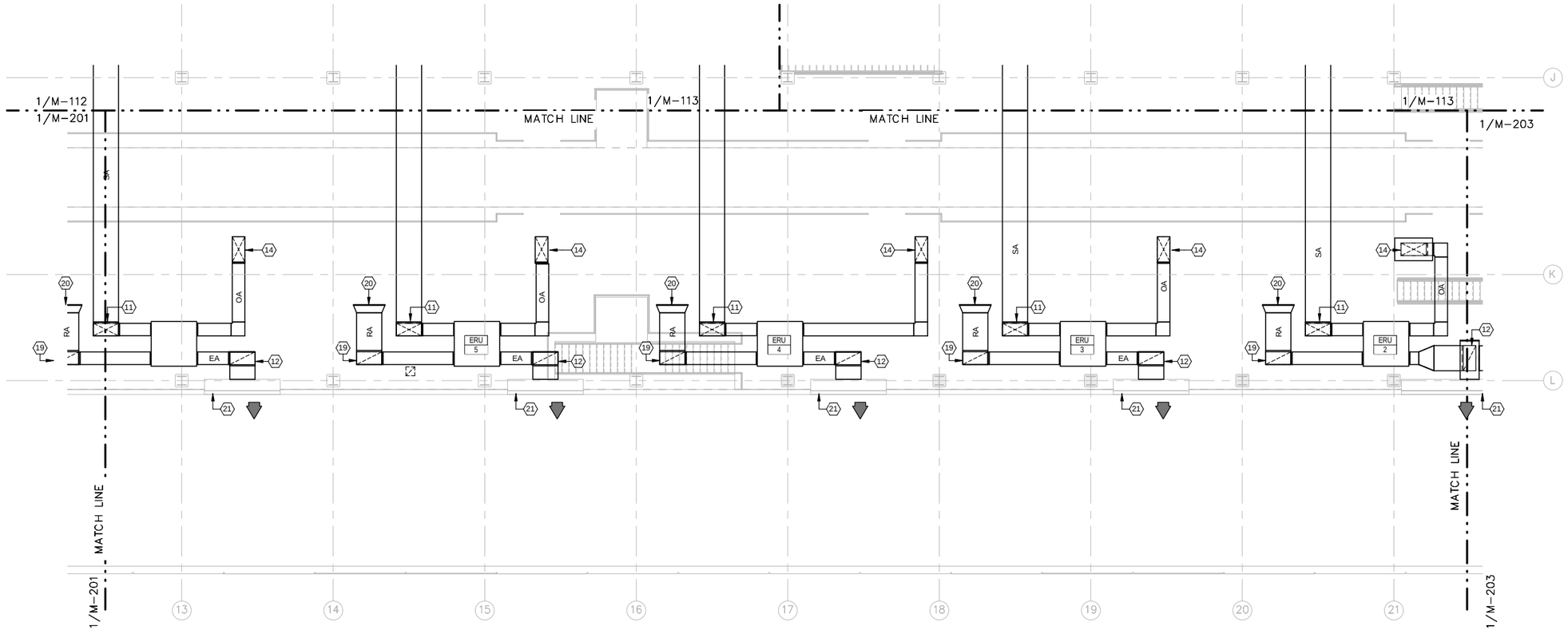
WEST-VOLUME 4 (OMF)
MECHANICAL

MEZZANINE HVAC PLAN - AREA 9

DISCIPLINE: MECHANICAL
SHEET NAME: M-201

SHEET 214 OF 288

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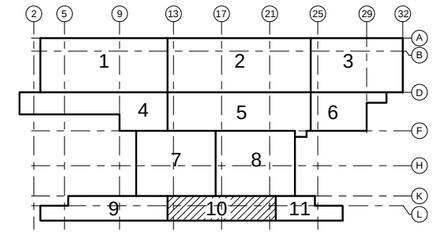


1 M-202 MEZZANINE - AREA 10 - HVAC PLAN

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

KEYED NOTES

11	OFFSET SUPPLY DUCTWORK
12	OFFSET EXHAUST DUCTWORK
14	OUTSIDE DUCT UP TO GRV.
19	OFFSET RETURN DUCTWORK
20	RETURN BELL MOUTH
21	LOUVER BY OTHERS



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

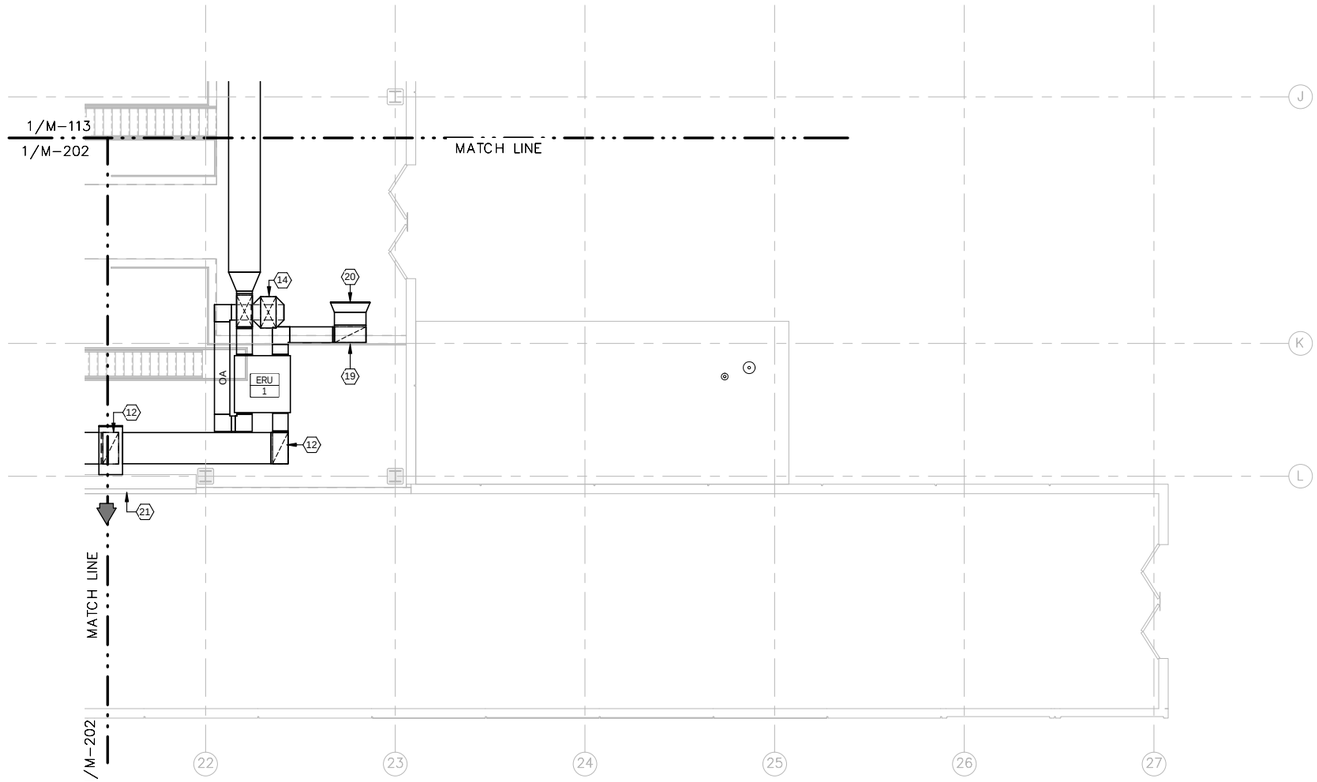
MEZZANINE HVAC PLAN - AREA 10

DISCIPLINE: MECHANICAL

SHEET NAME: M-202

SHEET 215 OF 288

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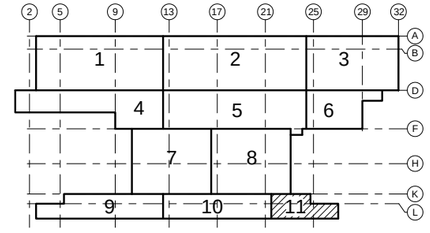


1 / M-203 MEZZANINE - AREA 11 - HVAC PLAN

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

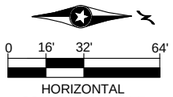
KEYED NOTES

12 OFFSET EXHAUST DUCTWORK
14 OUTSIDE DUCT UP TO GRV.
19 OFFSET RETURN DUCTWORK
20 RETURN BELL MOUTH
21 LOUVER BY OTHERS



KEY PLAN

SCALE: N.T.S.



HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

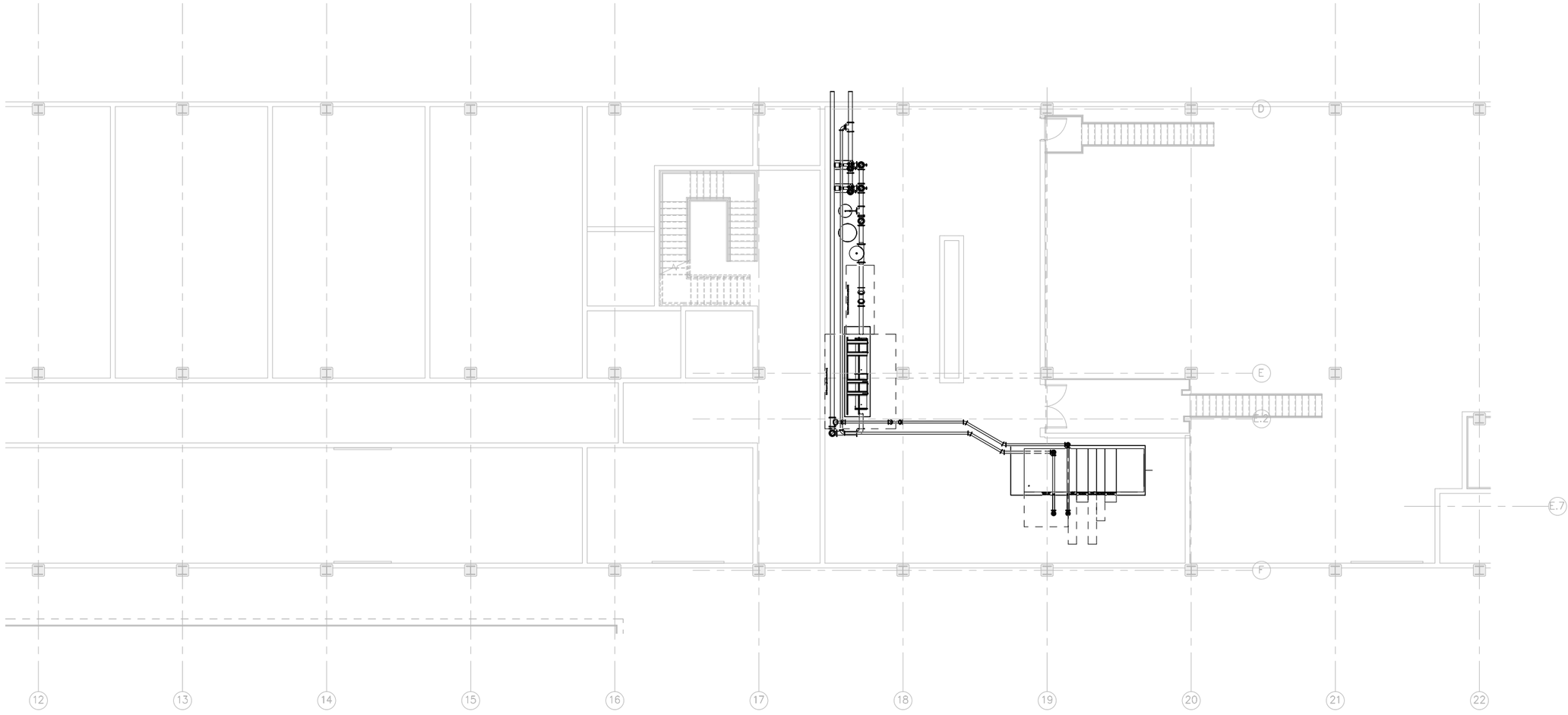
MEZZANINE HVAC PLAN - AREA 11

DISCIPLINE: MECHANICAL

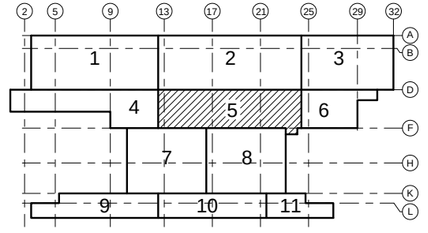
SHEET NAME: M-203

SHEET 216 OF 288

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1 / M-204 MEZZANINE PIPING PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

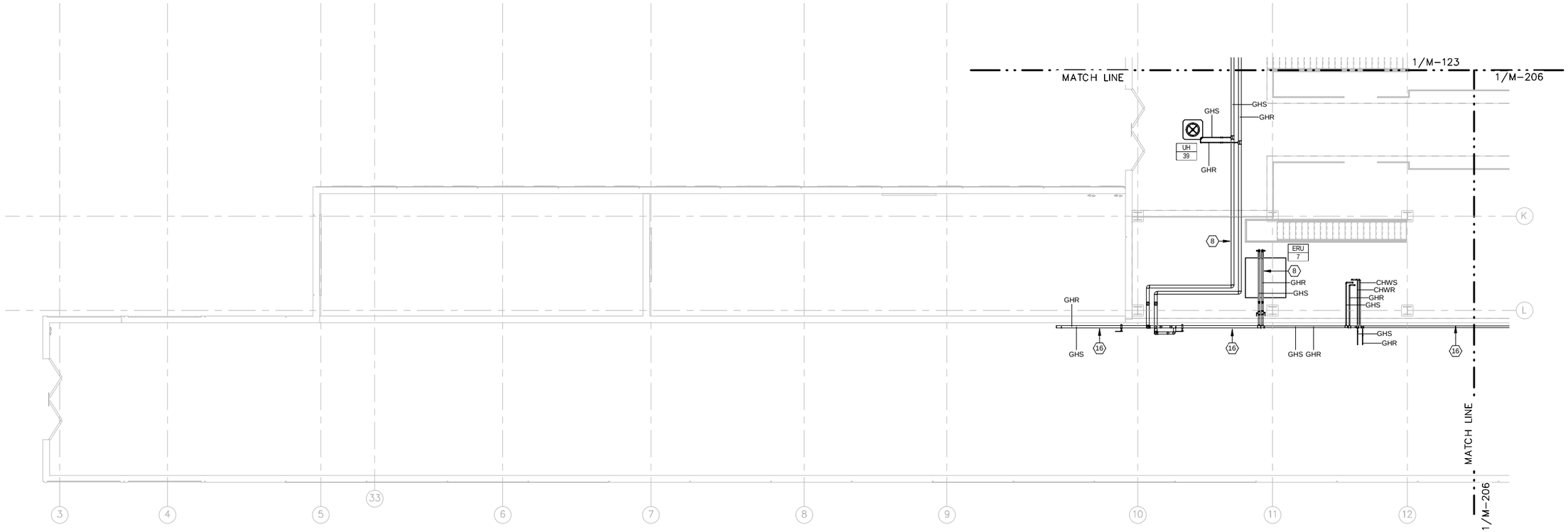
WEST-VOLUME 4 (OMF)
MECHANICAL

MEZZANINE PIPING PLAN - AREA 5

DISCIPLINE: MECHANICAL
SHEET NAME: M-204

SHEET 217 OF 288

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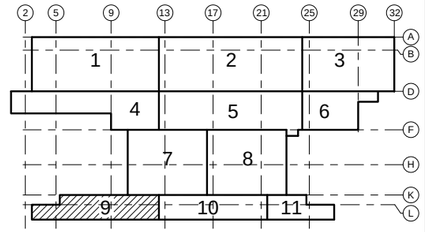
1 / M-205 MEZZANINE - AREA 9 - PIPING PLAN

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

KEYED NOTES

8 RUN HYDRONIC PIPING IN JOIST SPACE

16 RACK HYDRONIC PIPING ON WALL



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

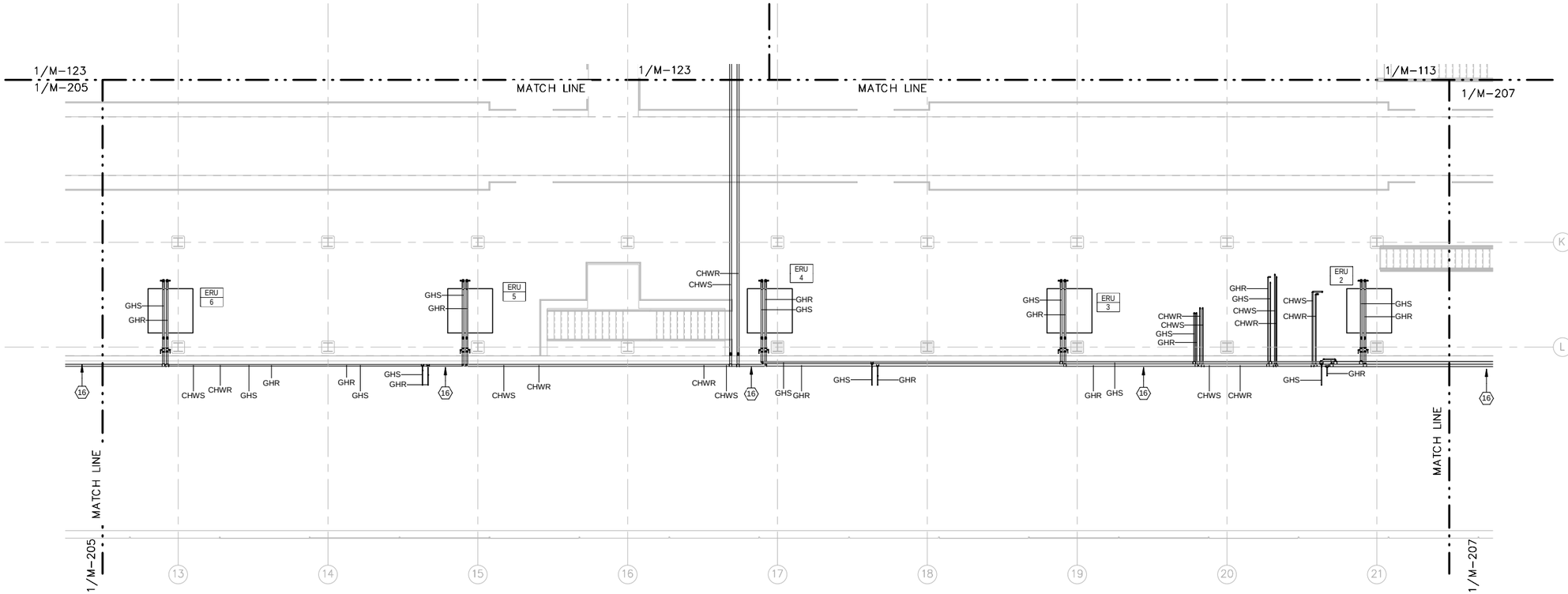
MEZZANINE PIPING PLAN - AREA 9

DISCIPLINE: MECHANICAL

SHEET NAME: M-205

SHEET 218 OF 288

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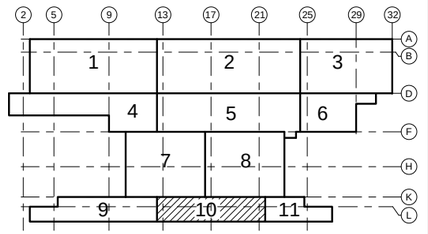


1 M-206 MEZZANINE - AREA 10 - PIPING PLAN

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

KEYED NOTES

16 RACK HYDRONIC PIPING ON WALL



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

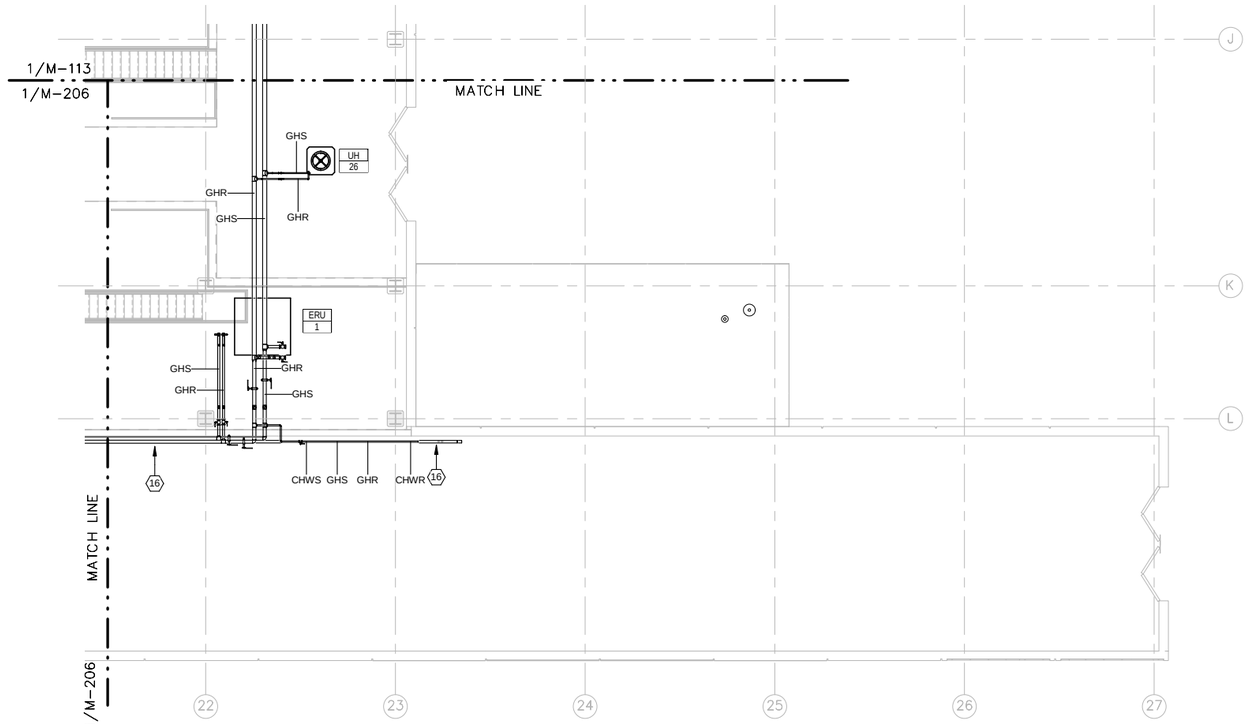
MEZZANINE PIPING PLAN - AREA 10

DISCIPLINE: MECHANICAL

SHEET NAME: M-206

SHEET 219 OF 288

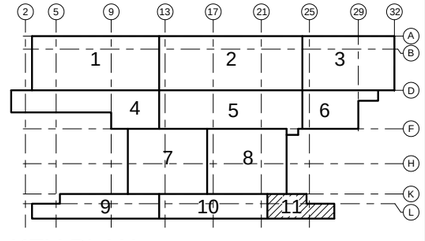
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1 M-207 MEZZANINE - AREA 11 - PIPING PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES

16 RACK HYDRONIC PIPING ON WALL



KEY PLAN
SCALE: N.T.S.

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

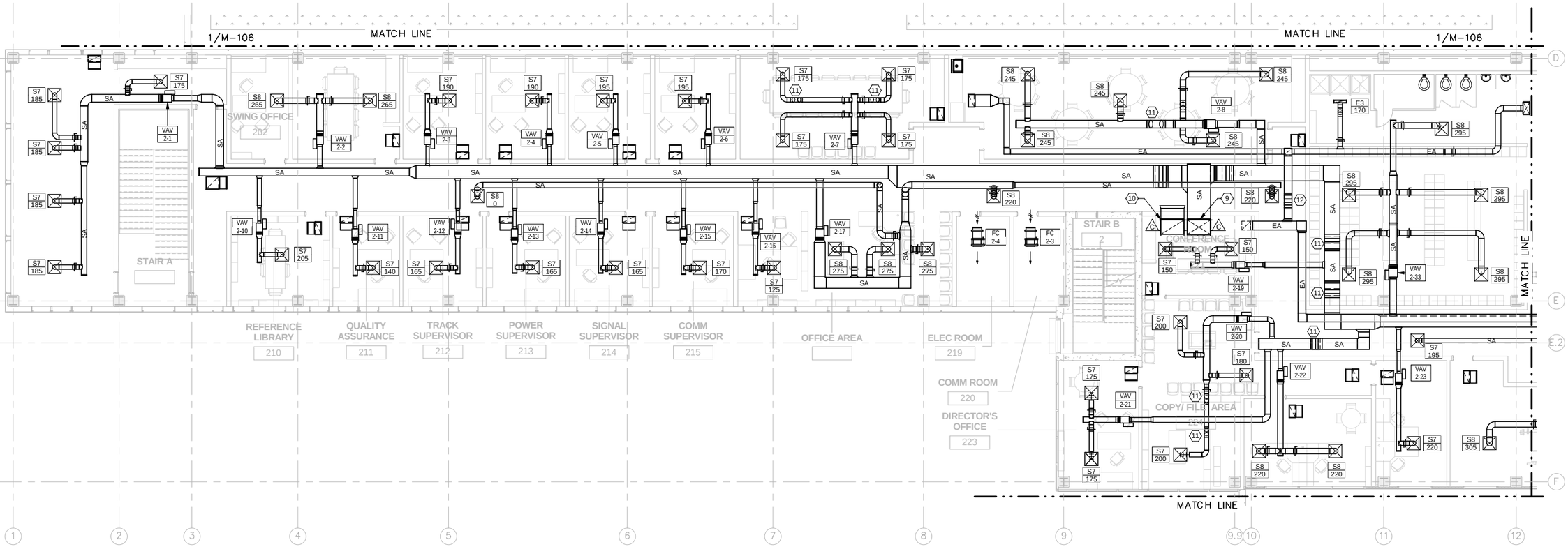
MEZZANINE PIPING PLAN - AREA 11

DISCIPLINE: MECHANICAL

SHEET NAME: M-207

SHEET 220 OF 288

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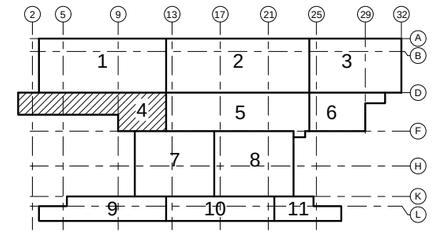


1 M-300 SECOND FLOOR - AREA 4 - HVAC PLAN

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

KEYED NOTES

9	SUPPLY DUCT UP & DN. REFER TO SHEETS 2/M-502 & M-104
10	RETURN DUCT UP. REFER TO 2/M-502 FOR CONTINUATION
11	OFFSET SUPPLY DUCTWORK
12	OFFSET EXHAUST DUCTWORK



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

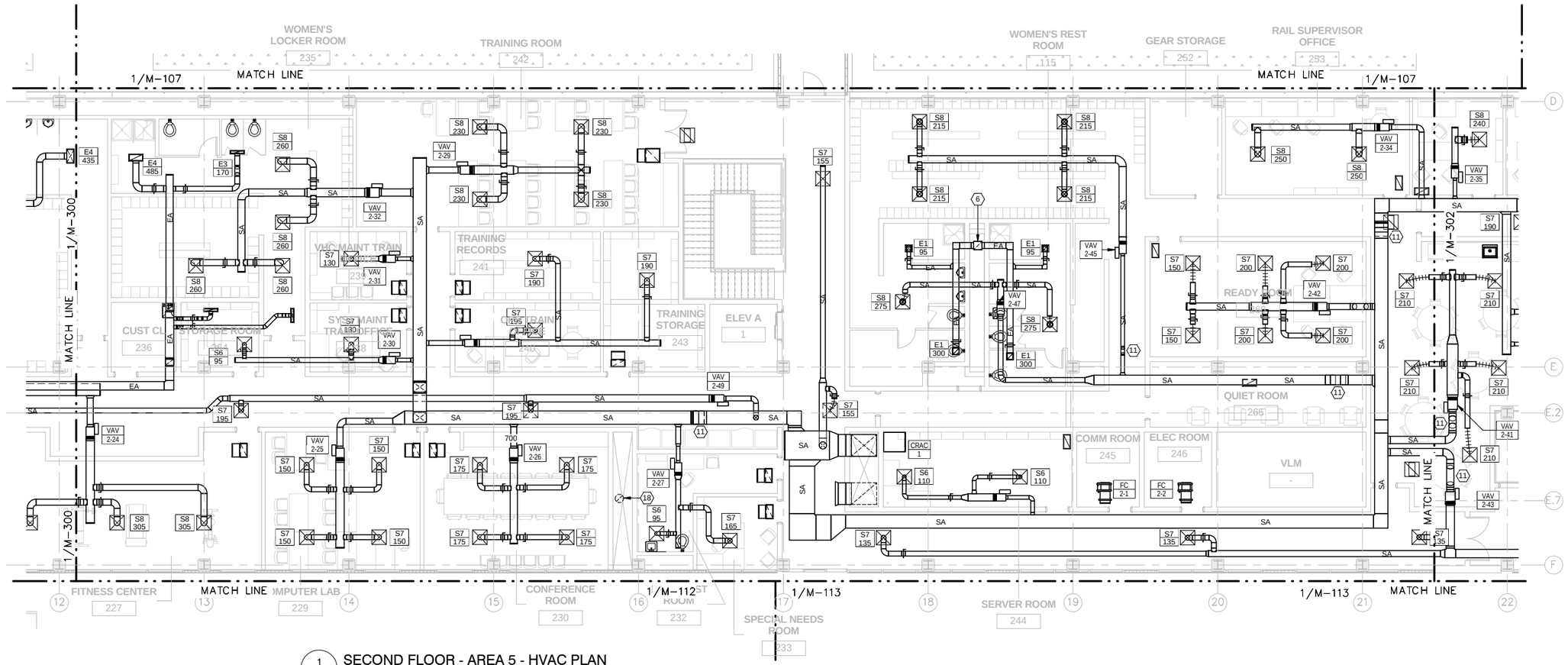
2ND FLOOR HVAC PLAN - AREA 4

DISCIPLINE: MECHANICAL

SHEET NAME: M-300

SHEET 221 OF 288

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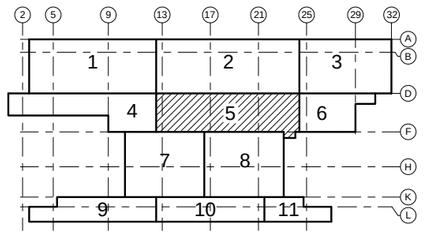


1 M-301 SECOND FLOOR - AREA 5 - HVAC PLAN

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

KEYED NOTES

6	EXHAUST DUCT UP TO EXHAUST FAN.
11	OFFSET SUPPLY DUCTWORK
18	VENT FOR INDUSTRIAL EQUIPMENT #3720



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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-	-	-	-	-	-
-	-	-	-	-	-
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

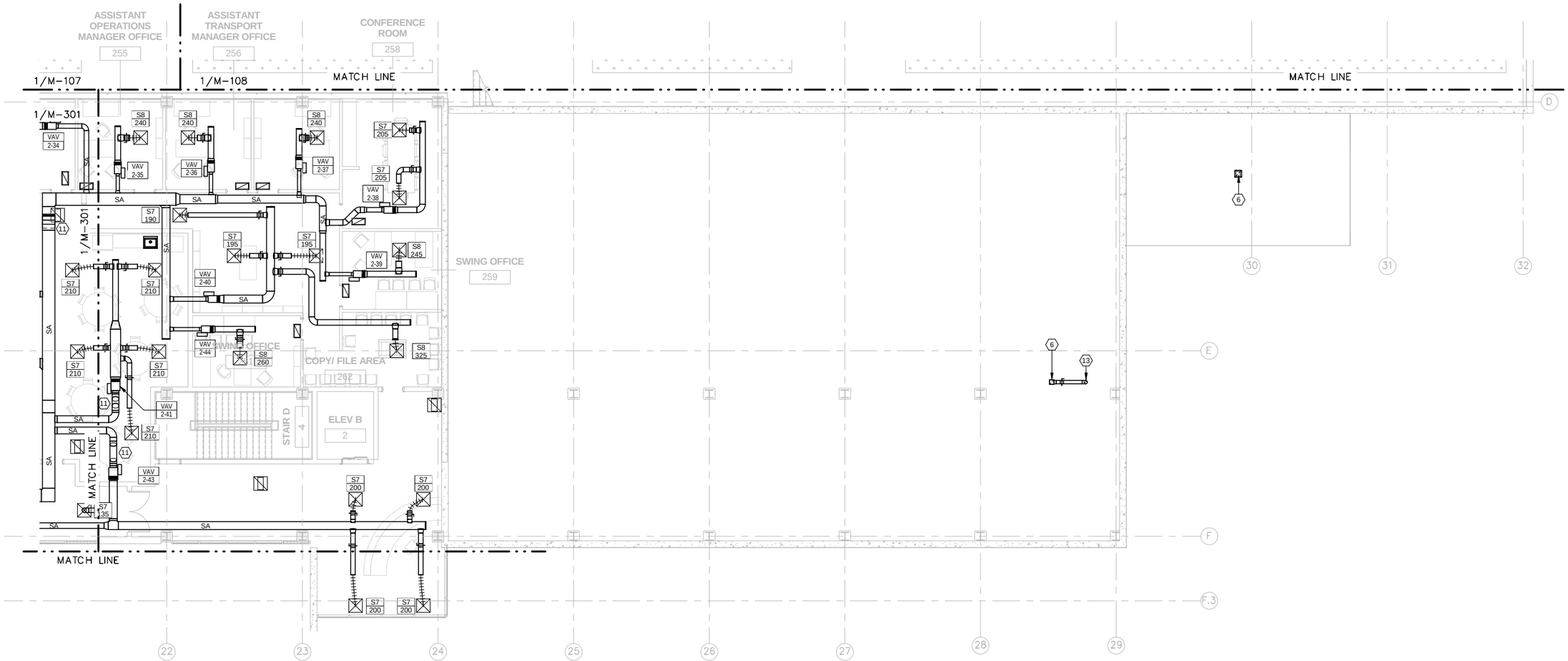
2ND FLOOR HVAC PLAN - AREA 5

DISCIPLINE: MECHANICAL

SHEET NAME: M-301

SHEET 222 OF 288

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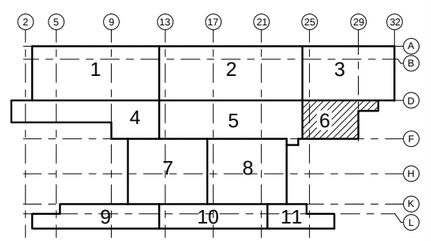


1 M-302 SECOND FLOOR - AREA 6 -HVAC PLAN

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

KEYED NOTES

6 EXHAUST DUCT UP TO EXHAUST FAN.
11 OFFSET SUPPLY DUCTWORK
13 EXHAUST DUCTWORK DN TO RESTROOM GRILLE



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

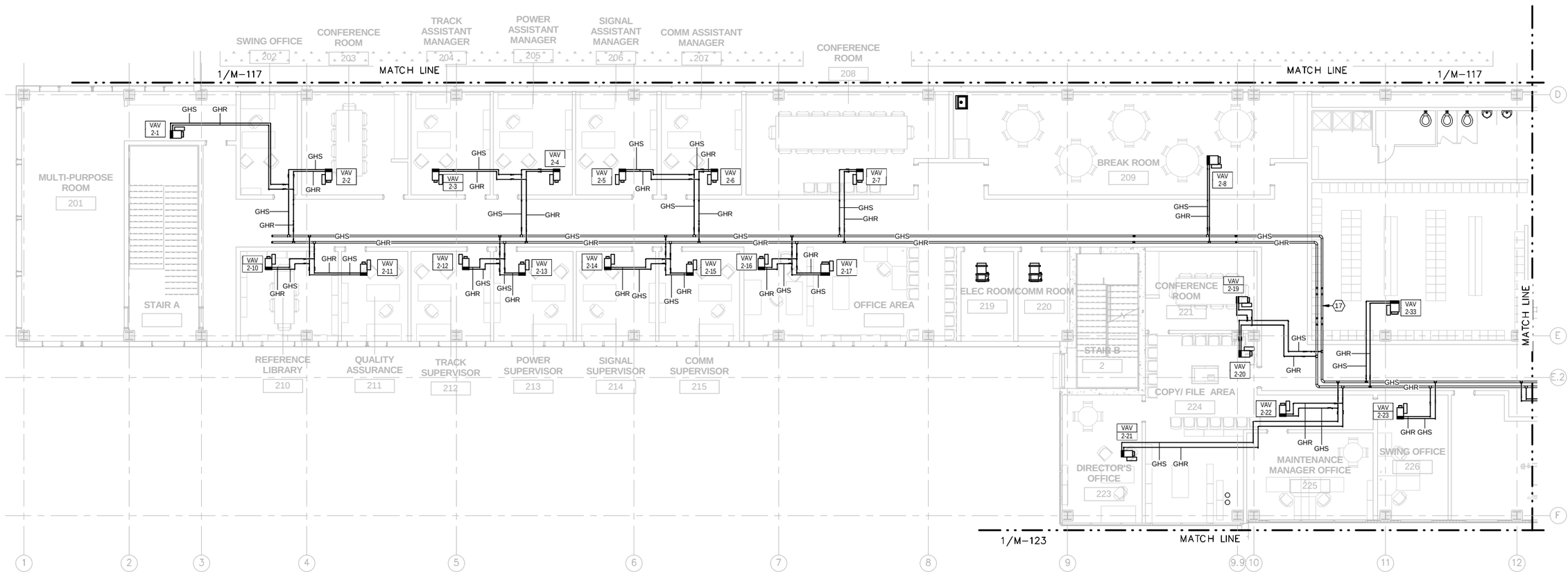
2ND FLOOR HVAC PLAN - AREA 6

DISCIPLINE: MECHANICAL

SHEET NAME: M-302

SHEET 223 OF 288

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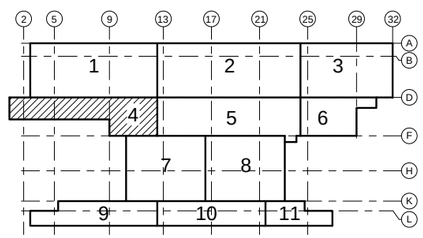


1 / M-303 SECOND FLOOR - AREA 4 - PIPING PLAN

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

KEYED NOTES

17 OFF SET HYDRONIC PIPING



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

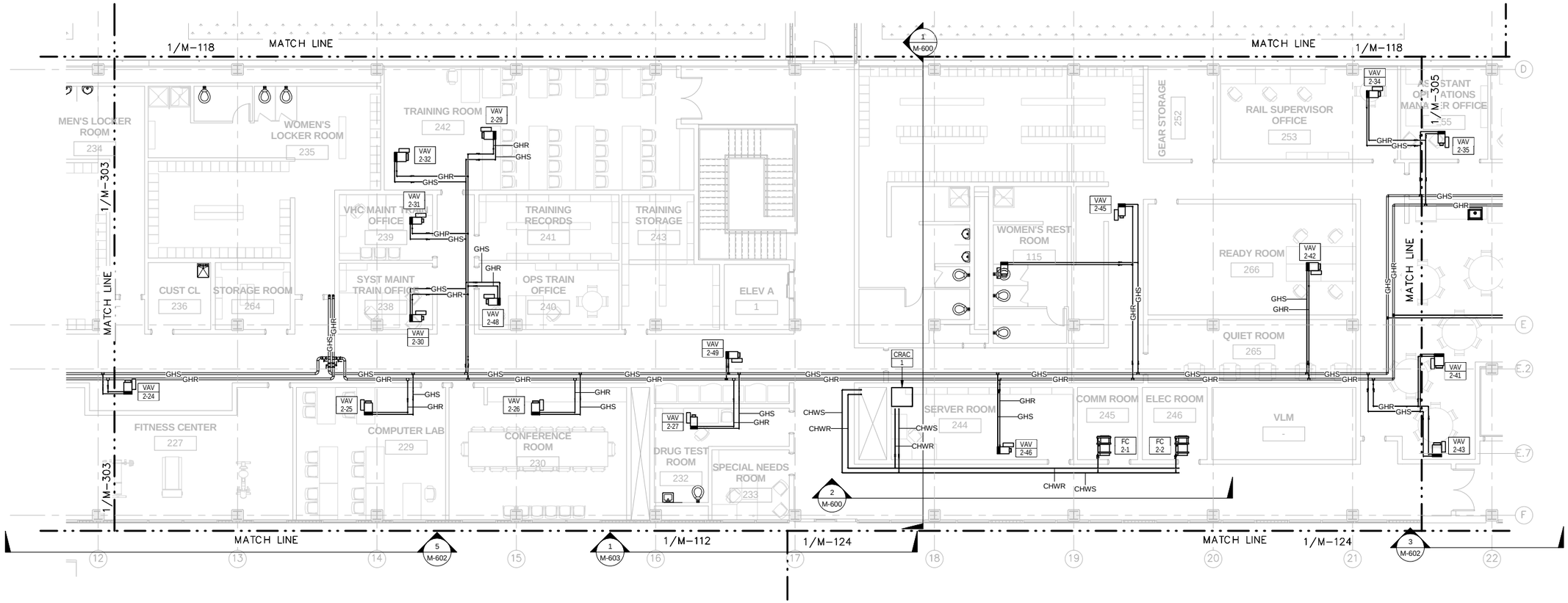
2ND FLOOR PIPING PLAN - AREA 4

DISCIPLINE: MECHANICAL

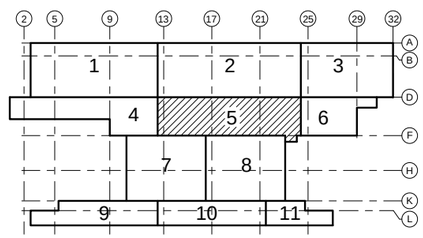
SHEET NAME: M-303

SHEET 224 OF 288

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1 M-304 SECOND FLOOR - AREA 5 - PIPING PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

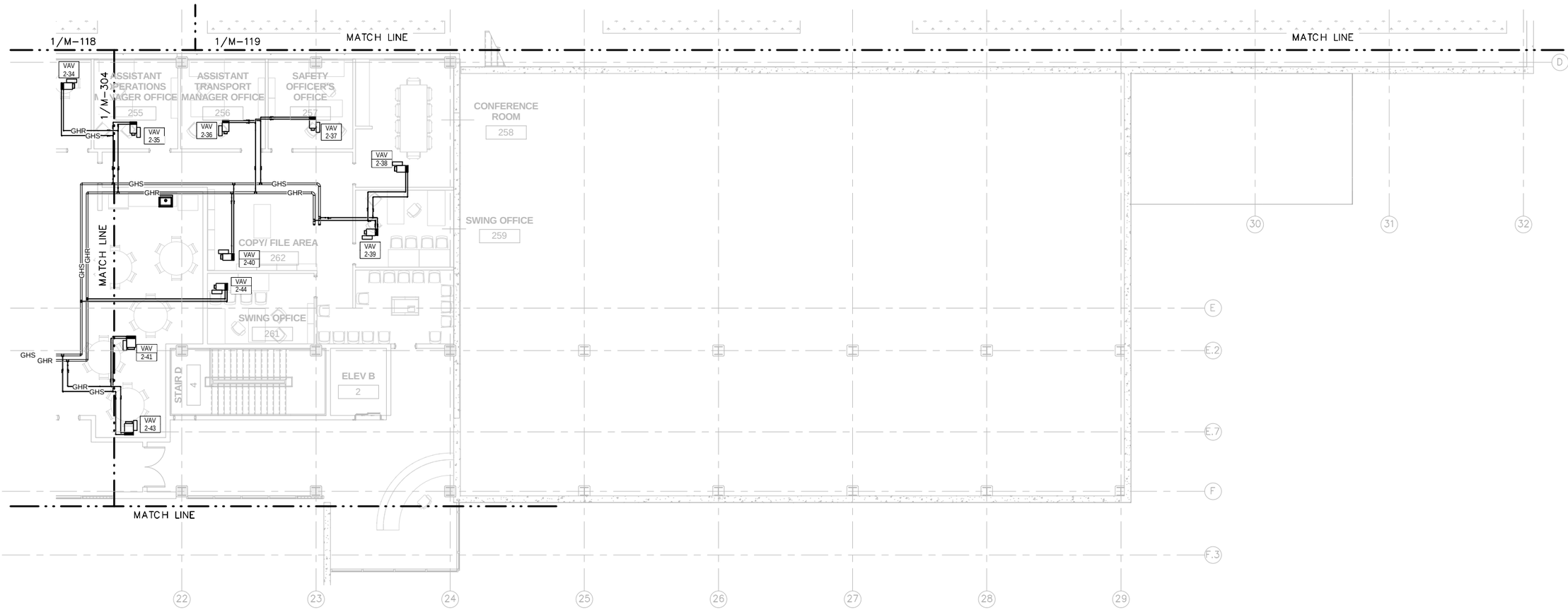
2ND FLOOR PIPING PLAN - AREA 5

DISCIPLINE: MECHANICAL

SHEET NAME: M-304

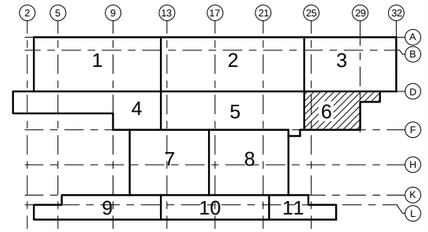
SHEET 225 OF 288

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1 M-305 SECOND FLOOR - AREA 6 - PIPING PLAN

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



KEY PLAN

SCALE: N.T.S.

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

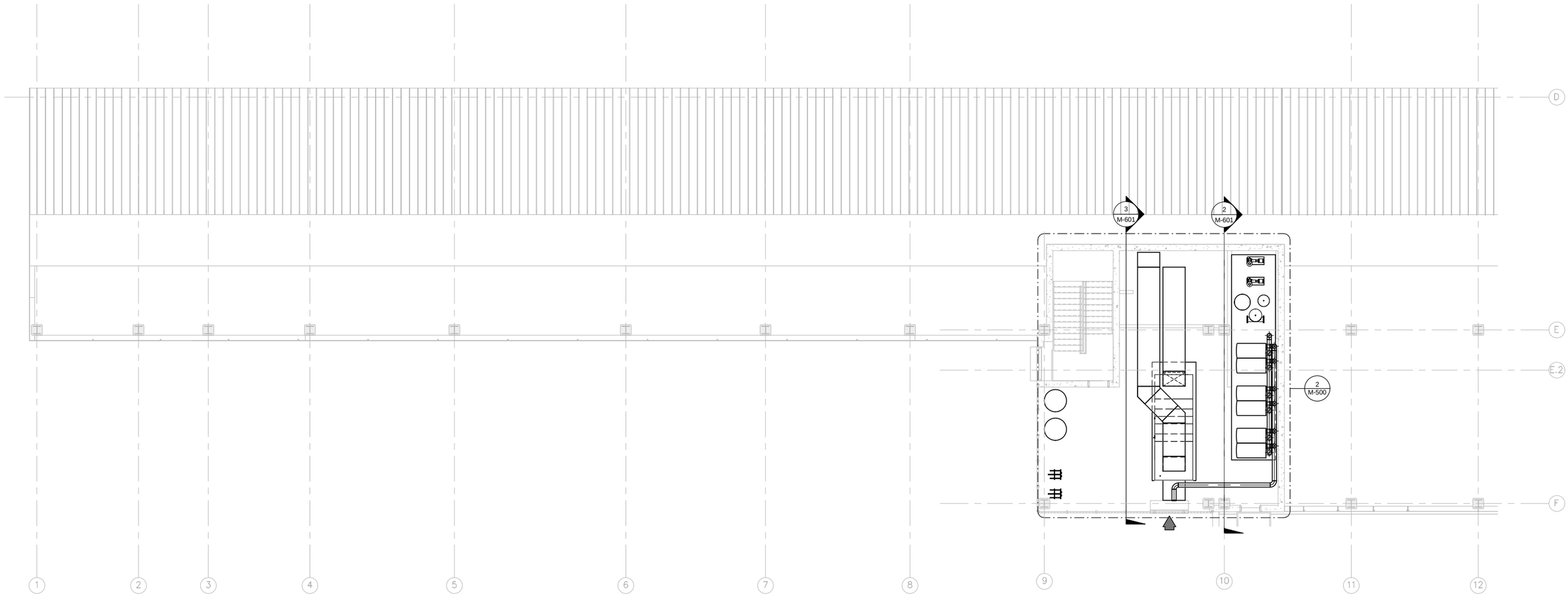
2ND FLOOR PIPING PLAN - AREA 6

DISCIPLINE: MECHANICAL

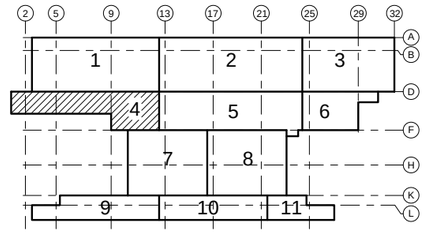
SHEET NAME: M-305

SHEET 226 OF 288

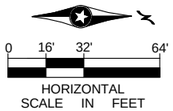
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1 / M-306 THIRD FLOOR HVAC PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

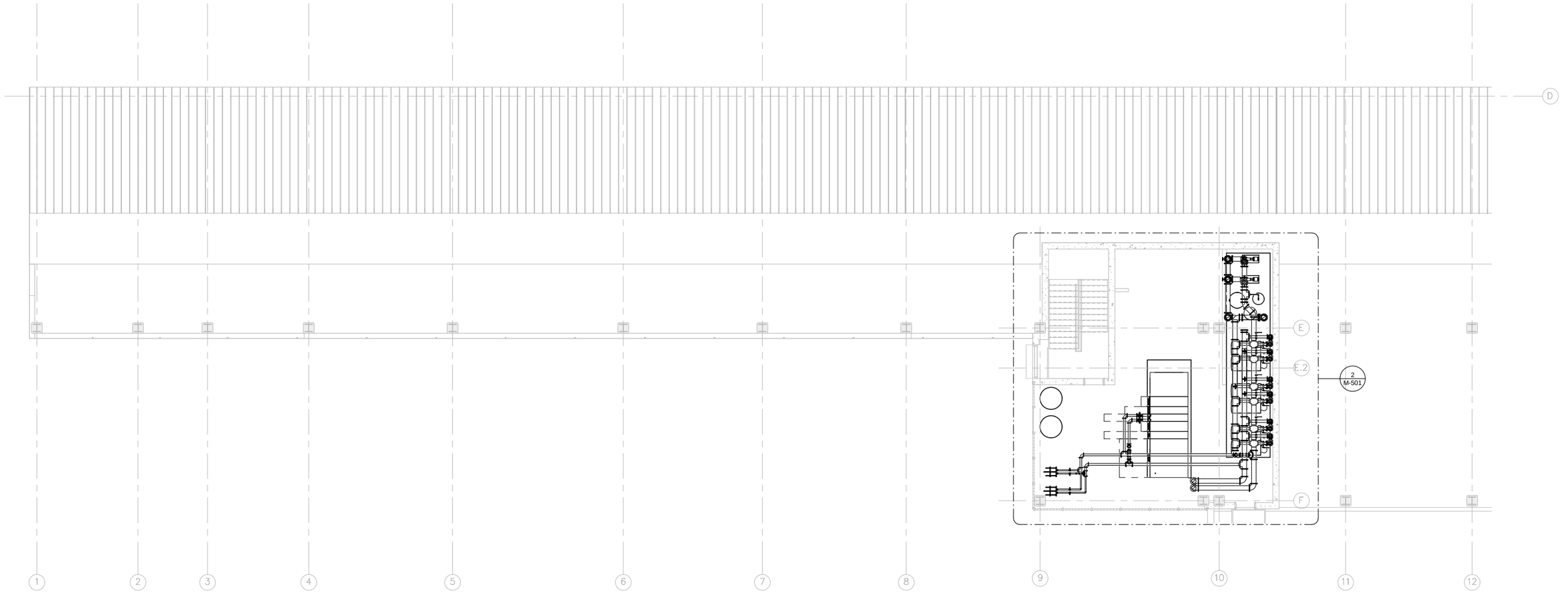
WEST-VOLUME 4 (OMF)
MECHANICAL
THIRD FLOOR HVAC PLAN -AREA 4

DISCIPLINE: MECHANICAL

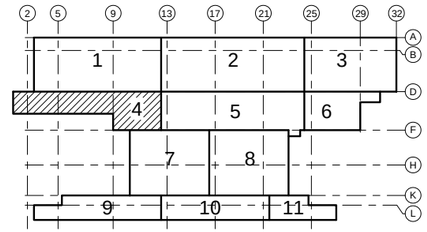
SHEET NAME: M-306

SHEET 227 OF 288

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6/30/2014 4:45:10 PM



1 / M-307 THIRD FLOOR PIPING PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

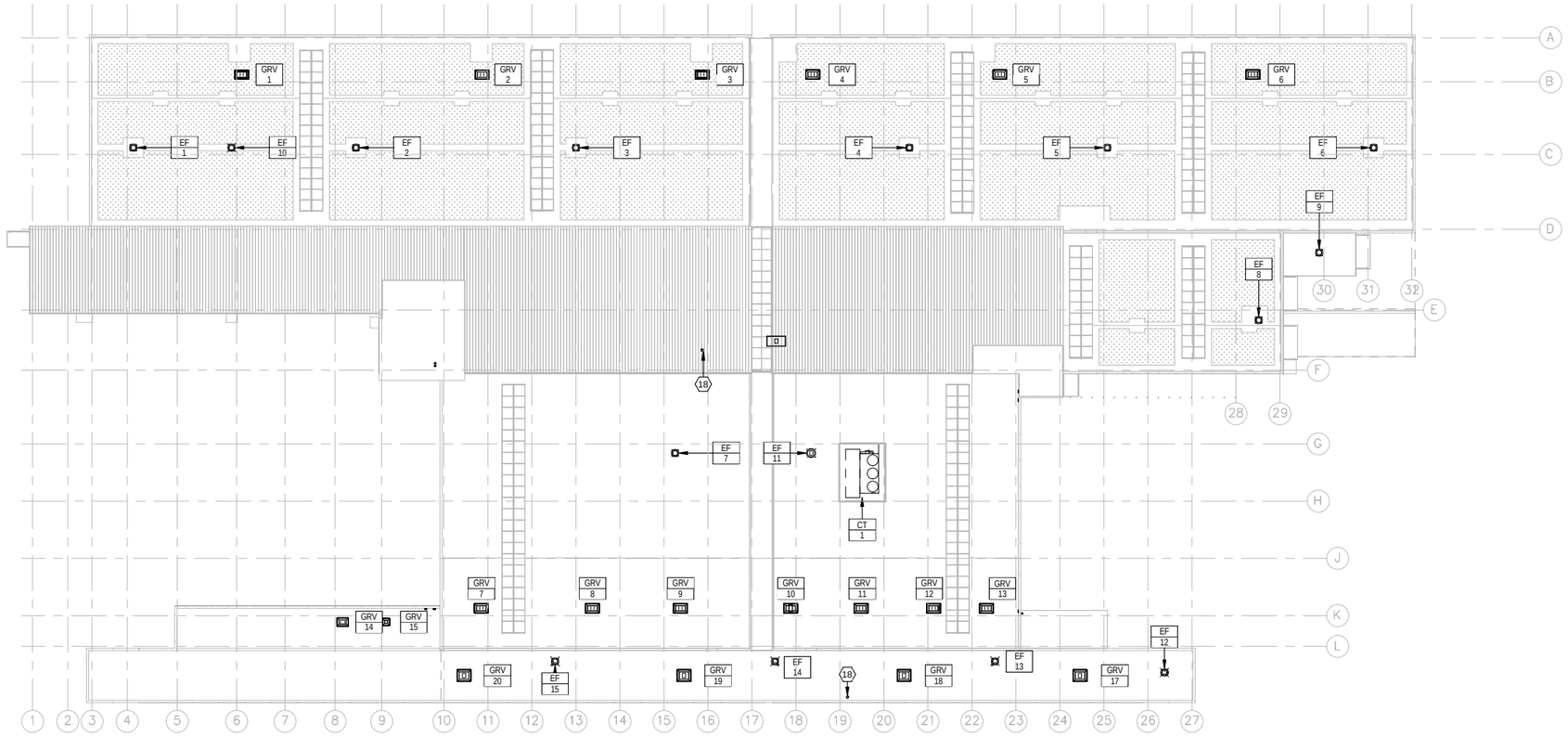
WEST-VOLUME 4 (OMF)
MECHANICAL

THIRD FLOOR PIPING PLAN -AREA 4

DISCIPLINE: MECHANICAL
SHEET NAME: M-307

SHEET 228 OF 288

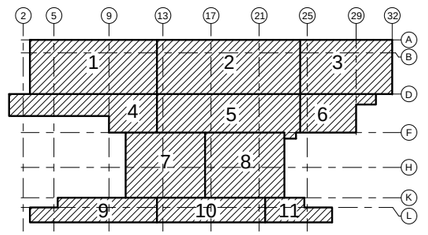
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1 M-400 MECHANICAL ROOF PLAN
SCALE: 1/32" = 1'-0"

KEYED NOTES

18 VENT FOR INDUSTRIAL EQUIPMENT #3720



KEY PLAN
SCALE: N.T.S.

0 16' 32' 64'
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

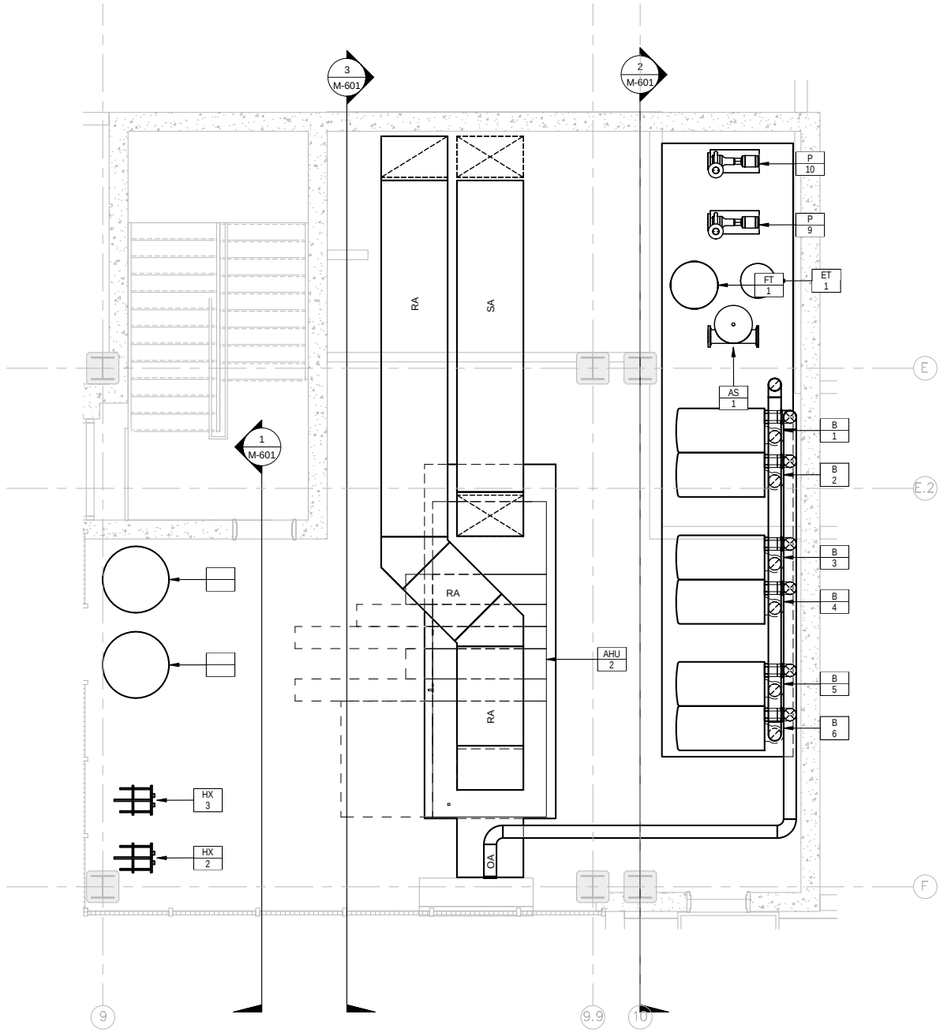
MECHANICAL ROOF PLAN

DISCIPLINE: MECHANICAL

SHEET NAME: M-400

SHEET 229 OF 288

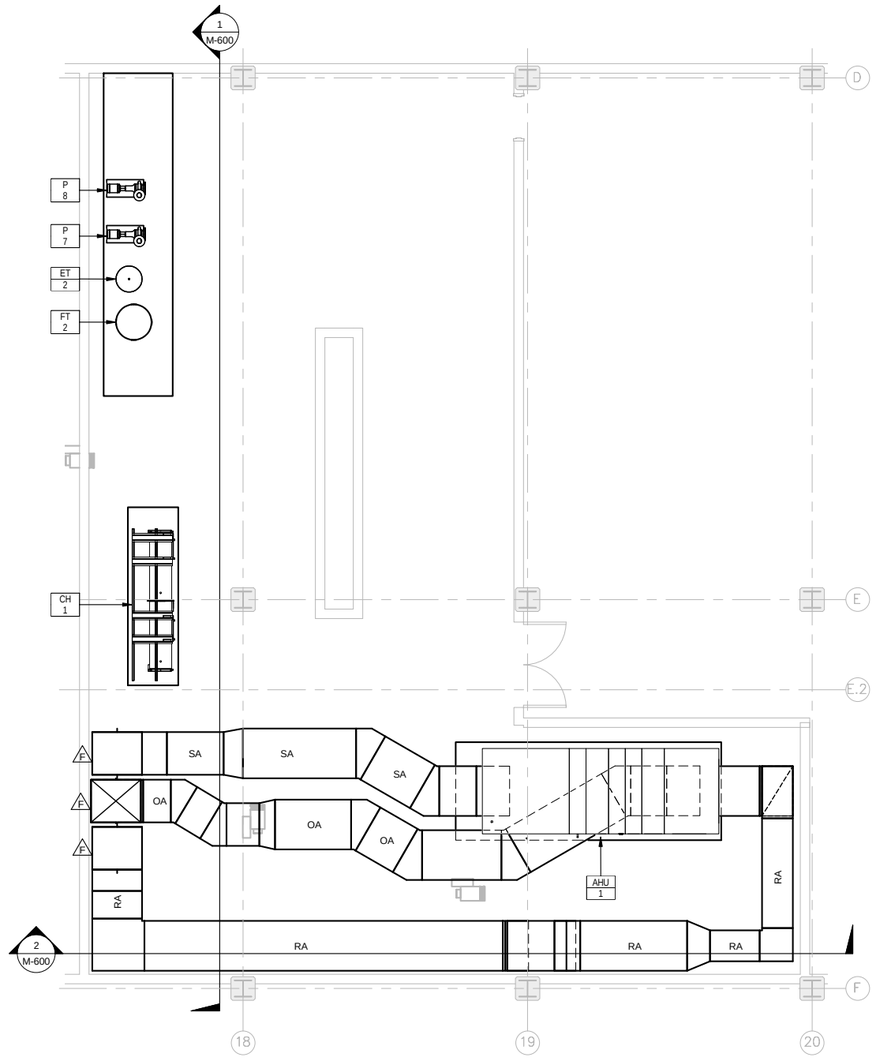
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2 M-500 ENLARGED THIRD FLOOR MECHANICAL ROOM HVAC PLAN

SCALE: 1/4" = 1'-0"

REF. SHEET: M-306 / REF. DETAIL: 1



1 M-500 ENLARGED MEZZANINE MECHANICAL ROOM HVAC PLAN

SCALE: 3/16" = 1'-0"

REF. SHEET: M-200 / REF. DETAIL: 1

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

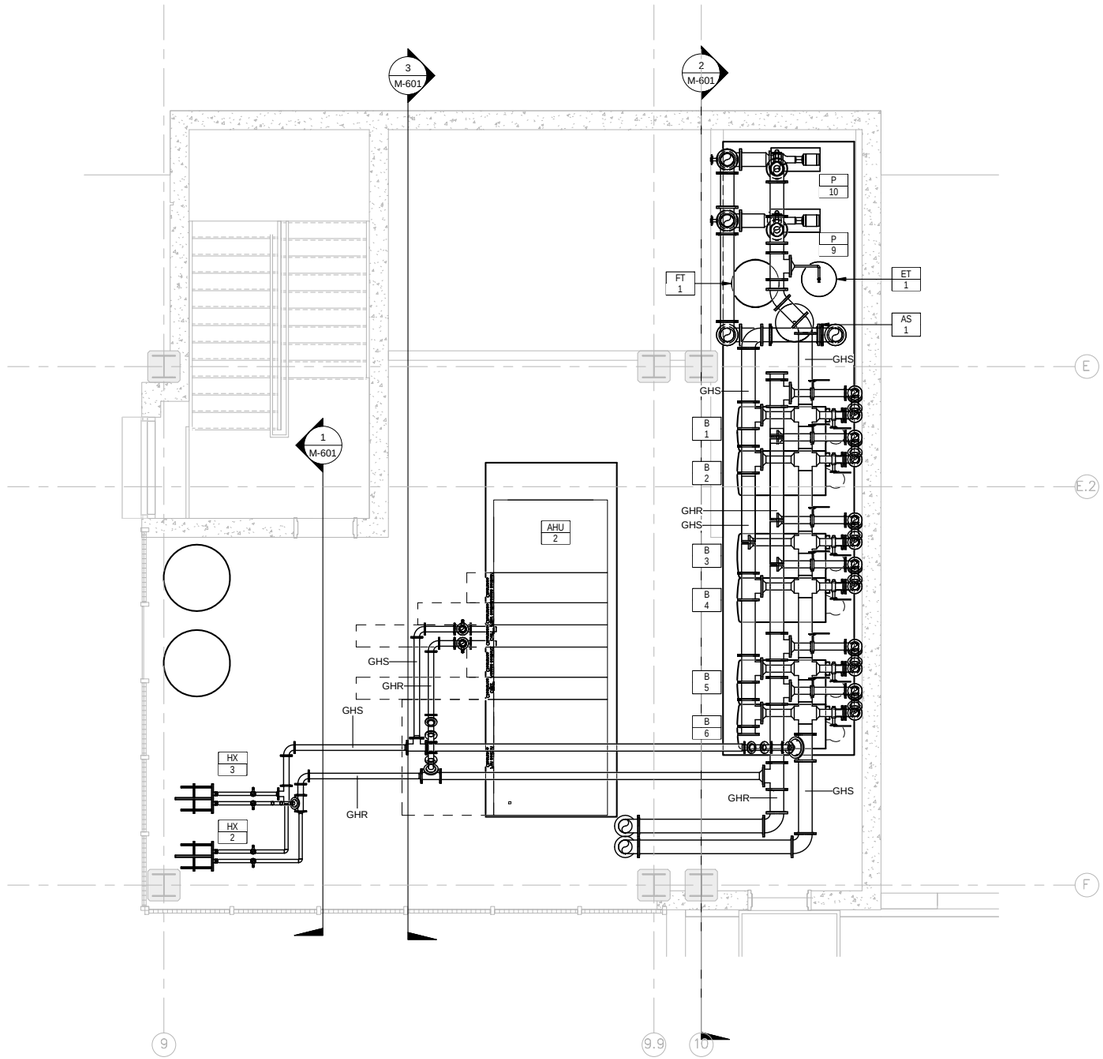
OMF - ENLARGED MECHANICAL PLANS

DISCIPLINE: MECHANICAL

SHEET NAME: M-500

SHEET 230 OF 288

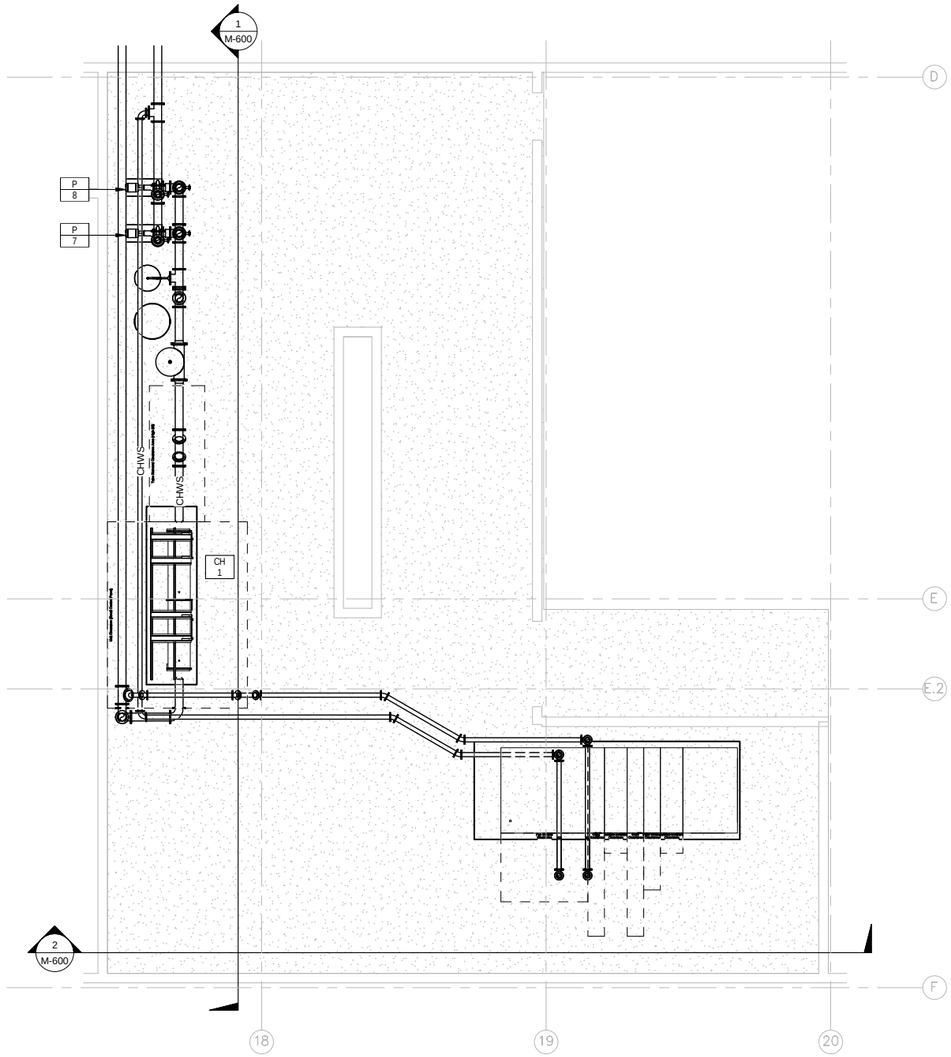
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2 M-501 ENLARGED THIRD FLOOR PIPING PLAN

SCALE: 1/4" = 1'-0"

REF. SHEET: M-307 / REF. DETAIL: 1



1 M-501 ENLARGED MEZZANINE MECHANICAL ROOM PIPING PLAN

SCALE: 3/16" = 1'-0"

REF. SHEET: M-200 / REF. DETAIL: 1

0 16' 32' 64'

HORIZONTAL SCALE IN FEET

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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

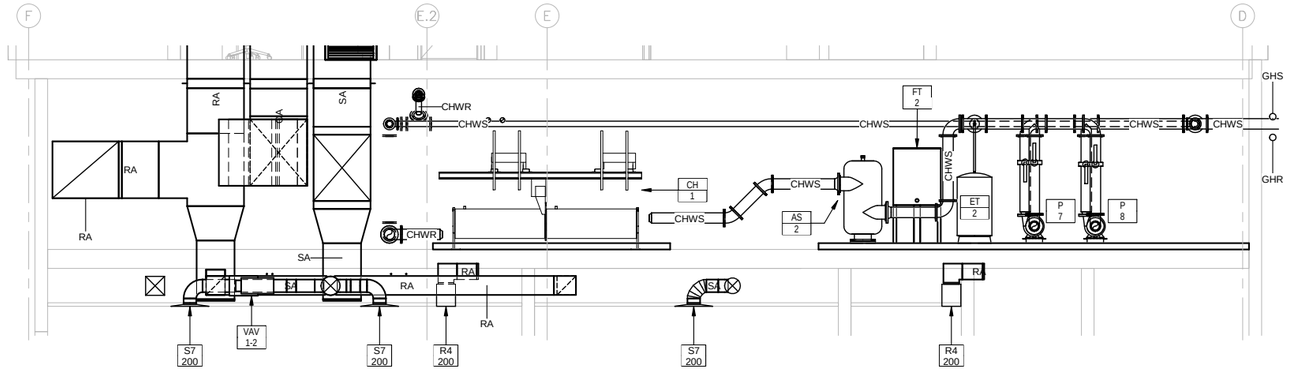
WEST-VOLUME 4 (OMF)
MECHANICAL
OMF - ENLARGED MECHANICAL PIPING PLANS

DISCIPLINE: MECHANICAL

SHEET NAME: M-501

SHEET 231 OF 288

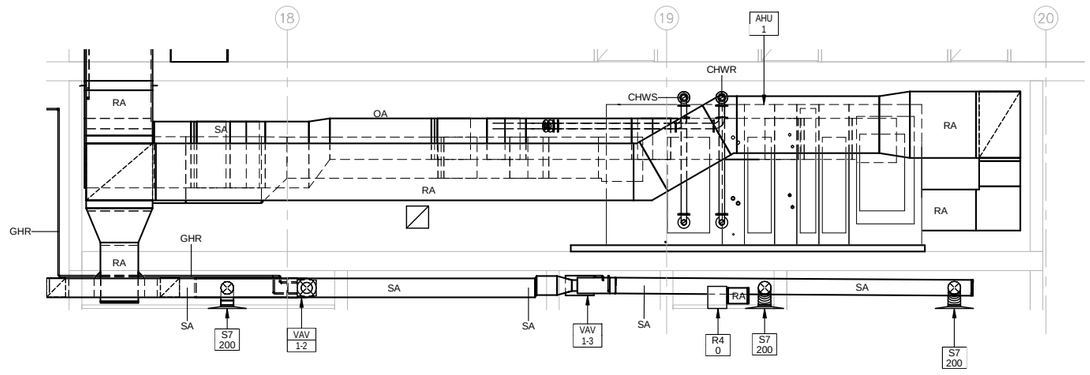
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1 M-600 EAST/WEST SECTION MEZZANINE MECHANICAL ROOM

SCALE: 1/4" = 1'-0"

REF. SHEET: M-118 / REF. DETAIL: 1



2 M-600 NORTH/SOUTH MECHANICAL MEZZANINE SECTION

SCALE: 1/4" = 1'-0"

REF. SHEET: M-121 / REF. DETAIL: 1

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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

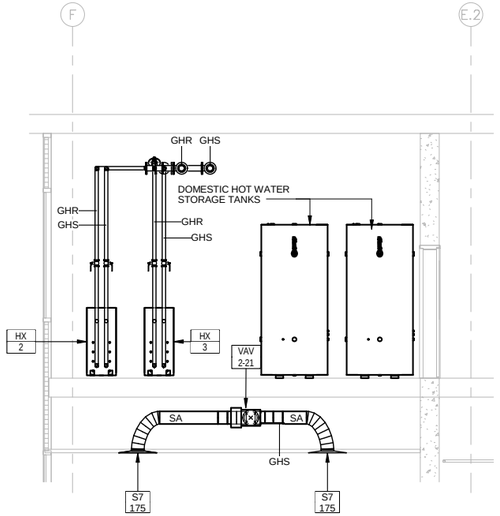
MECHANICAL SECTIONS

DISCIPLINE: MECHANICAL

SHEET NAME: M-600

SHEET 232 OF 288

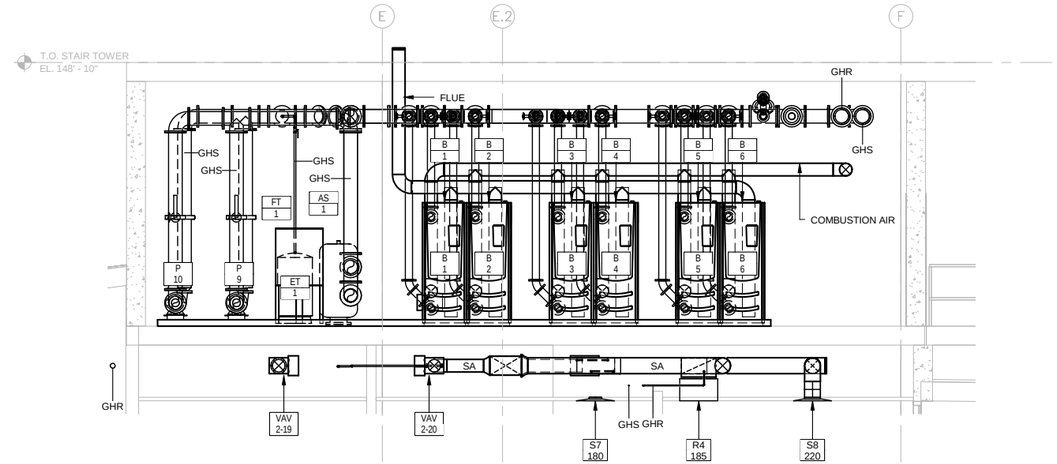
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1 M-601 EAST/WEST THIRD FLOOR MECHANICAL ROOM SECTION @ HEAT EXCHANGERS

SCALE: 1/4" = 1'-0"

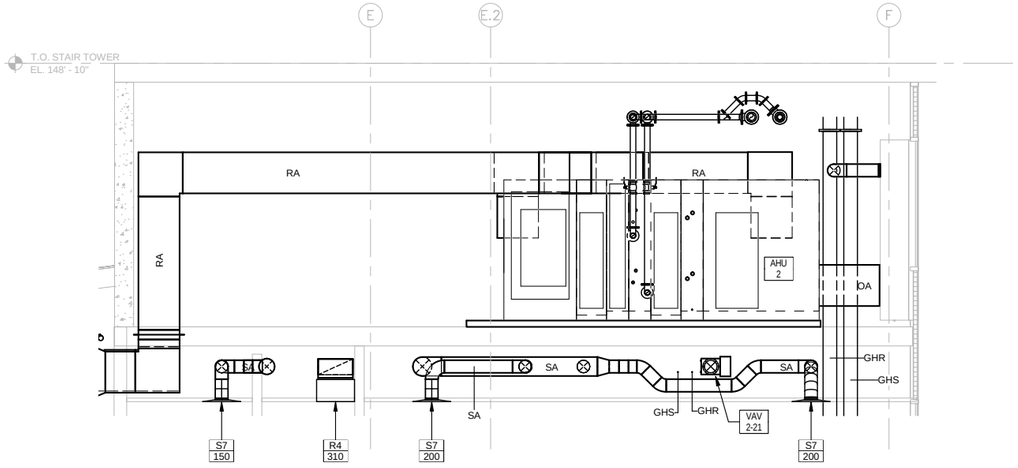
REF. SHEET: M-500 / REF. DETAIL: 2



2 M-601 EAST/WEST THIRD FLOOR MECHANICAL ROOM SECTION @ BOILERS

SCALE: 1/4" = 1'-0"

REF. SHEET: M-109 / REF. DETAIL: 1



3 M-601 EAST/WEST THIRD FLOOR MECHANICAL ROOM SECTION @ AHU-2

SCALE: 1/4" = 1'-0"

REF. SHEET: M-306 / REF. DETAIL: 1

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL
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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

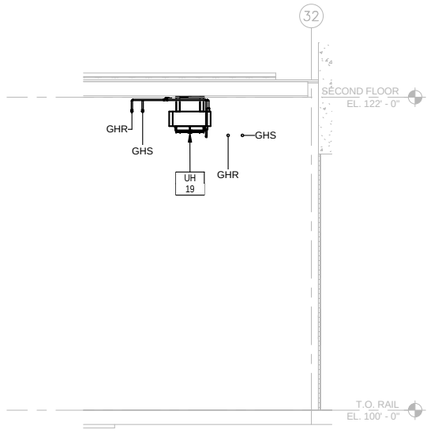
MECHANICAL SECTIONS

DISCIPLINE: MECHANICAL

SHEET NAME: M-601

SHEET 233 OF 288

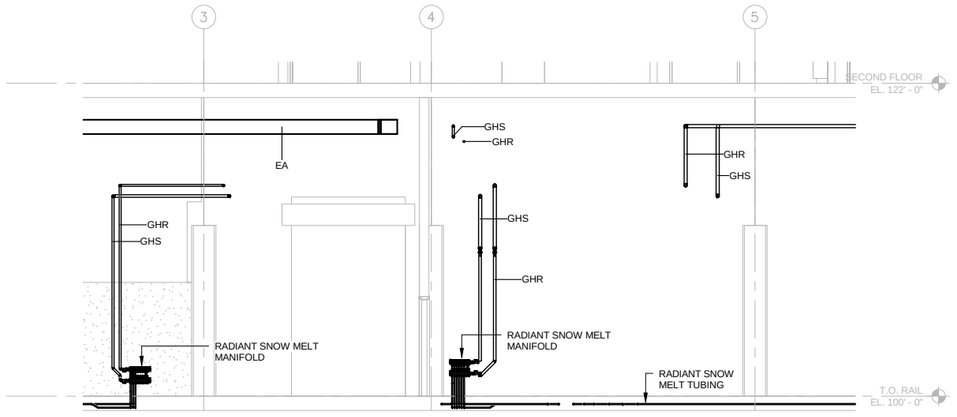
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1 M-602 WEST SECTION CUT @ GRIDS 31.5 & B.25

SCALE: 3/16" = 1'-0"

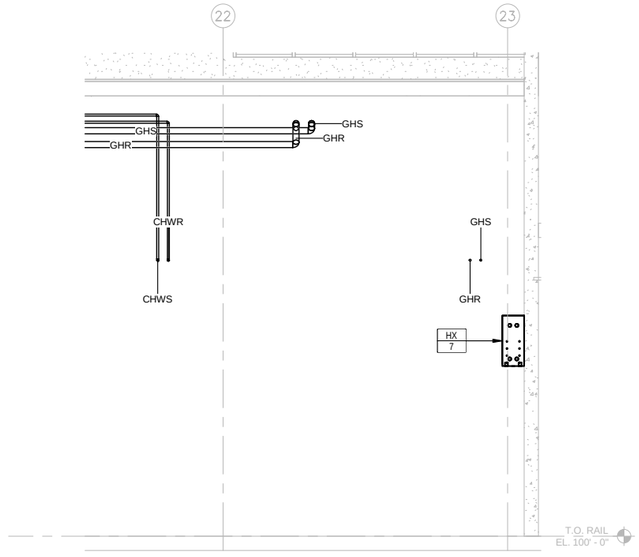
REF. SHEET: M-119 / REF. DETAIL: 1



2 M-602 WEST SECTION CUT @ GRIDS 4 & D1

SCALE: 3/16" = 1'-0"

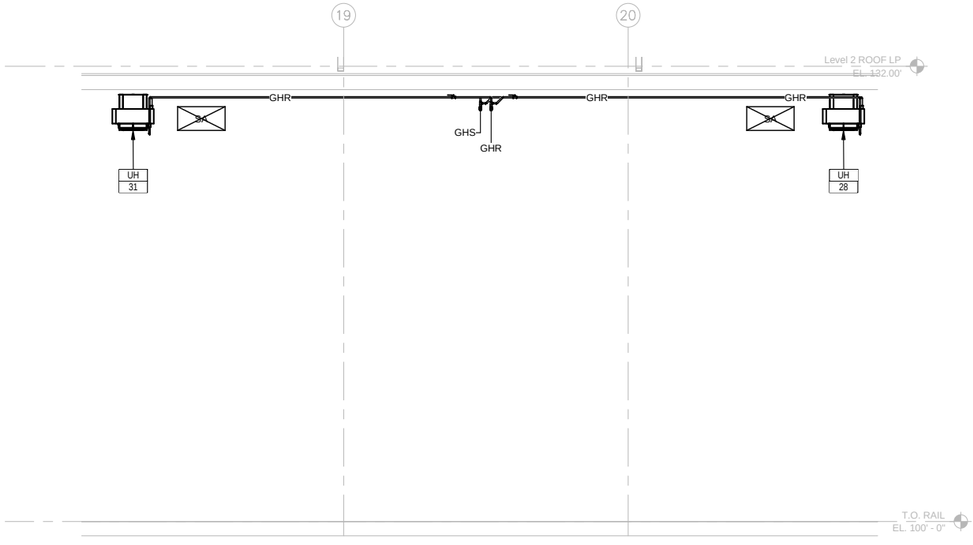
REF. SHEET: M-117 / REF. DETAIL: 1



3 M-602 WEST SECTION CUT @ GRIDS 22 & F

SCALE: 3/16" = 1'-0"

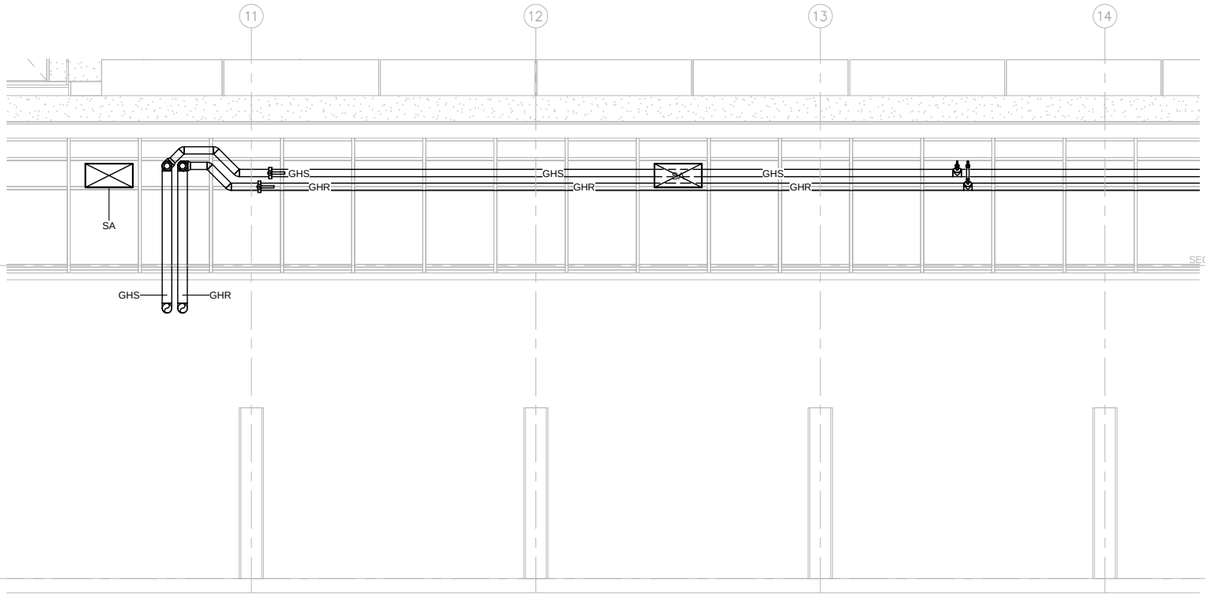
REF. SHEET: M-121 / REF. DETAIL: 1



4 M-602 WEST SECTION CUT @ GRIDS 19 & G.75

SCALE: 3/16" = 1'-0"

REF. SHEET: M-113 / REF. DETAIL: 1



5 M-602 WEST SECTION CUT @ GRIDS 12 & F

SCALE: 3/16" = 1'-0"

REF. SHEET: M-101 / REF. DETAIL: 1

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

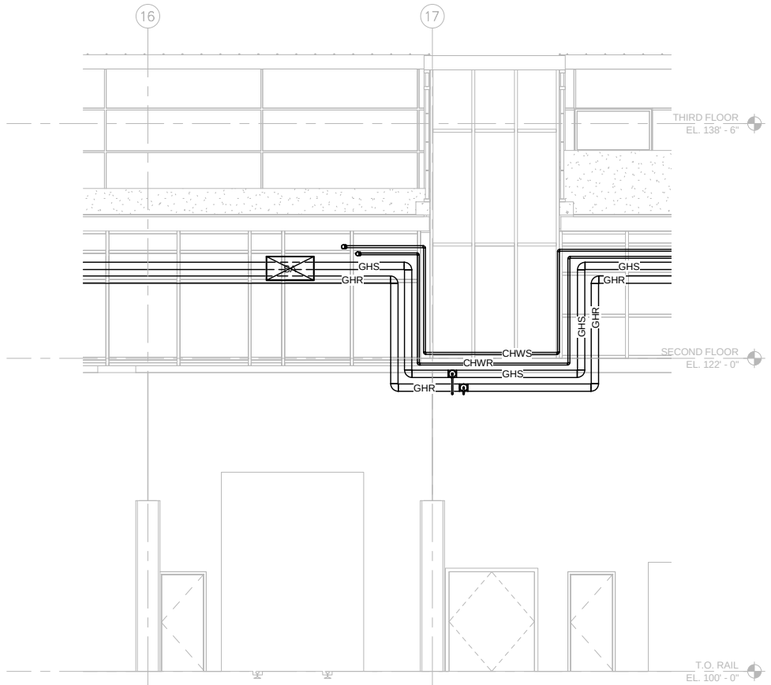
MECHANICAL SECTIONS

DISCIPLINE: MECHANICAL

SHEET NAME: M-602

SHEET 234 OF 288

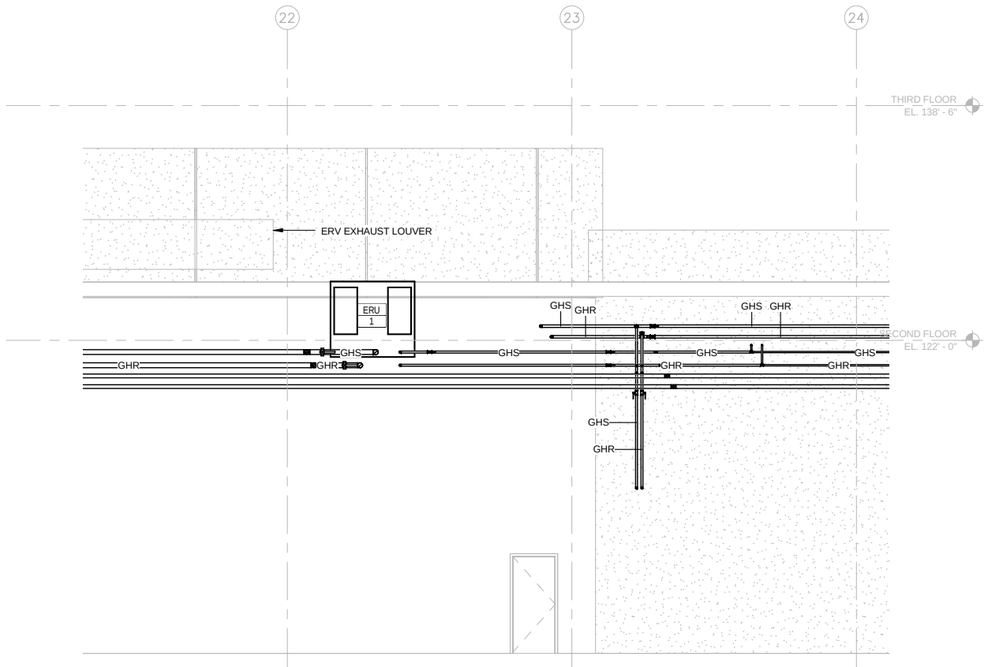
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1 M-603 WEST SECTION CUT @ GRIDS 17 & F

SCALE: 3/16" = 1'-0"

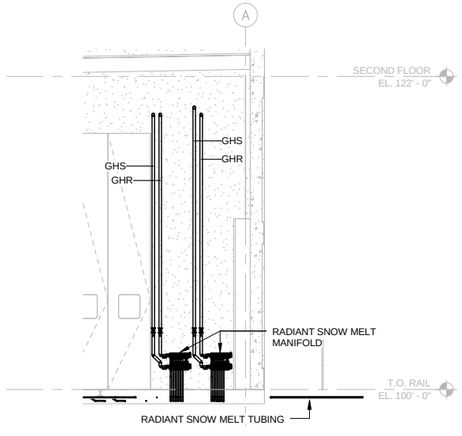
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2 M-603 WEST SECTION CUT @ GRIDS 23 & L

SCALE: 3/16" = 1'-0"

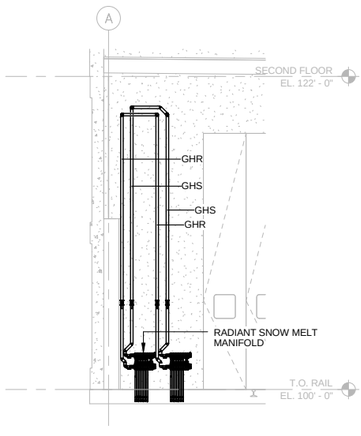
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4 M-603 SOUTH SECTION CUT @ GRIDS 3 & A

SCALE: 3/16" = 1'-0"

REF. SHEET: M-117 / REF. DETAIL: 1



5 M-603 NORTH SECTION CUT @ GRIDS 32 & A

SCALE: 3/16" = 1'-0"

REF. SHEET: M-119 / REF. DETAIL: 1

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF) MECHANICAL

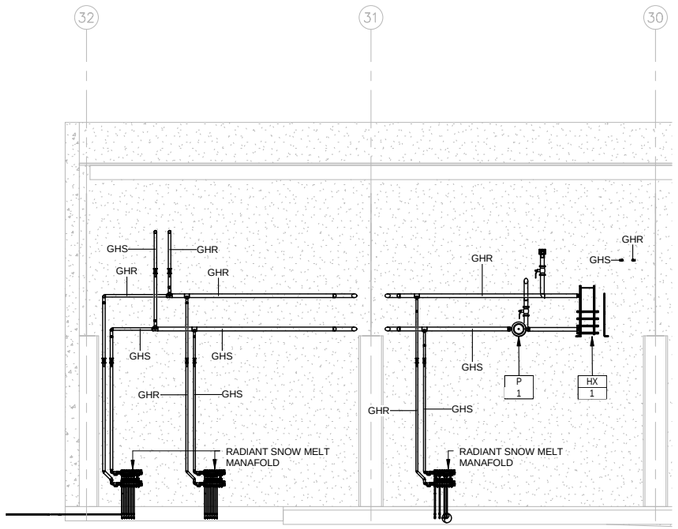
MECHANICAL SECTIONS

DISCIPLINE: MECHANICAL

SHEET NAME: M-603

SHEET 235 OF 288

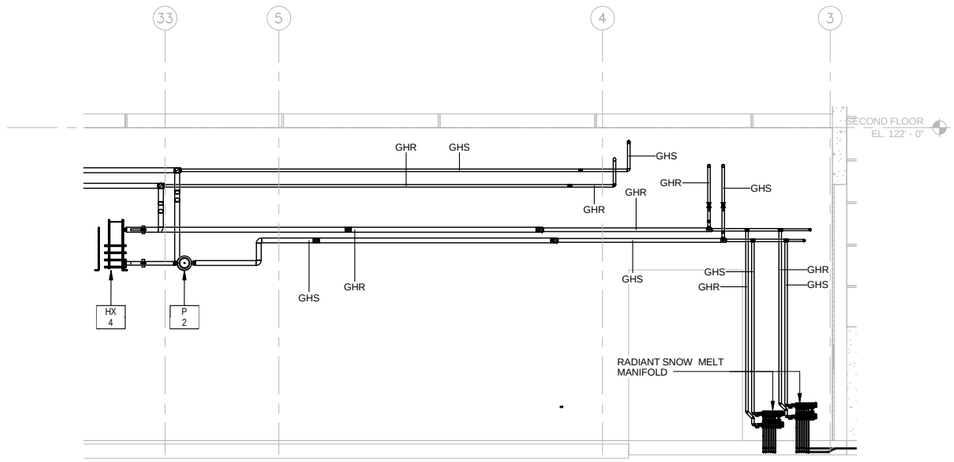
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1 M-604 EAST SECTION CUT @ GRIDS 31 & D

SCALE: 3/16" = 1'-0"

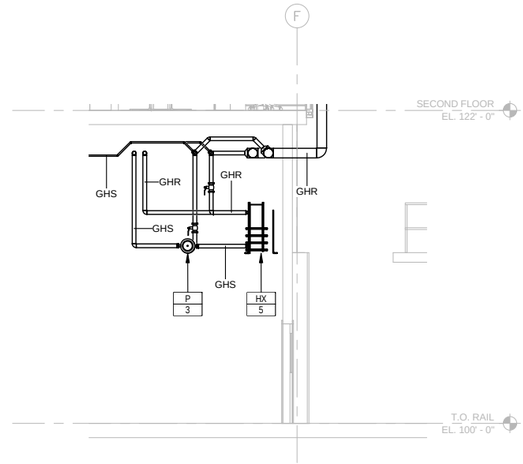
REF. SHEET: M-119 / REF. DETAIL: 1



2 M-604 EAST SECTION CUT @ GRIDS 4 & D

SCALE: 3/16" = 1'-0"

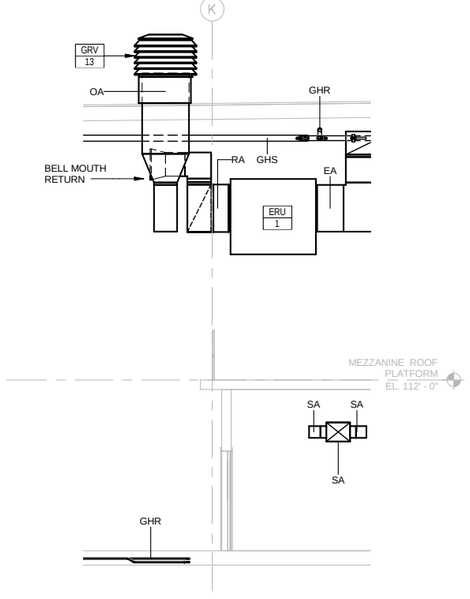
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3 M-604 NORTH SECTION CUT @ GRIDS 11 & F

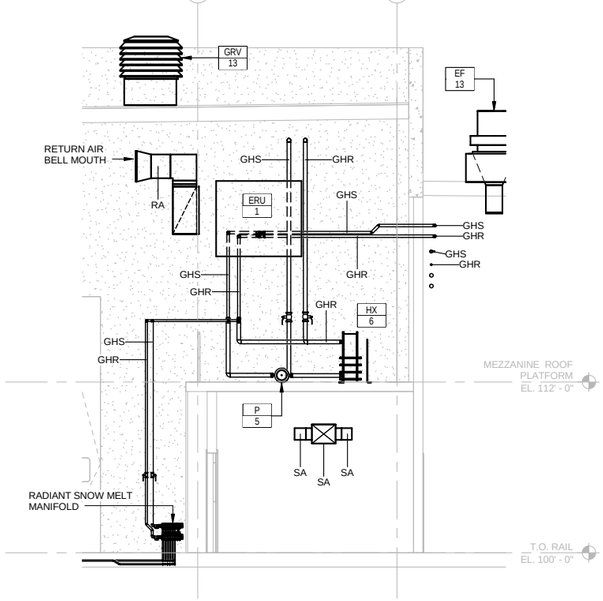
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REF. SHEET: M-123 / REF. DETAIL: 1



5 M-604 NORTH SECTION CUT @ GRIDS 17.5 & L

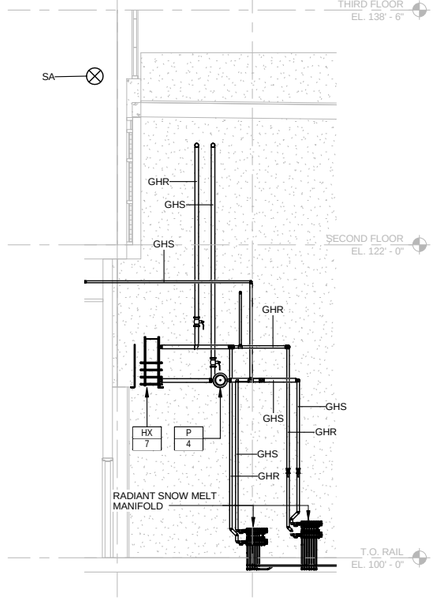
SCALE: 3/16" = 1'-0"



6 M-604 NORTH SECTION CUT @ GRIDS 23 & L

SCALE: 3/16" = 1'-0"

REF. SHEET: M-127 / REF. DETAIL: 1



4 M-604 NORTH SECTION CUT @ GRIDS 23 & F

SCALE: 3/16" = 1'-0"

REF. SHEET: M-122 / REF. DETAIL: 1

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

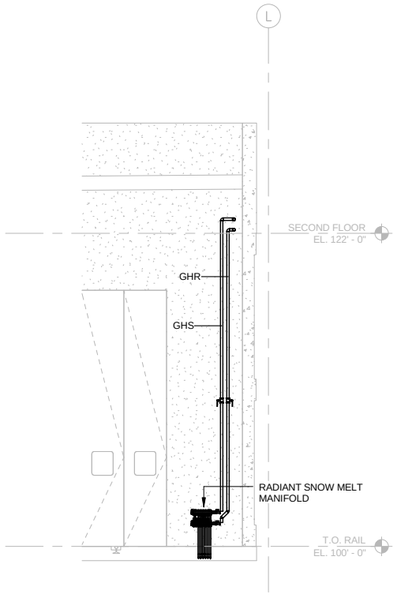
MECHANICAL SECTIONS

DISCIPLINE: MECHANICAL

SHEET NAME: M-604

SHEET 236 OF 288

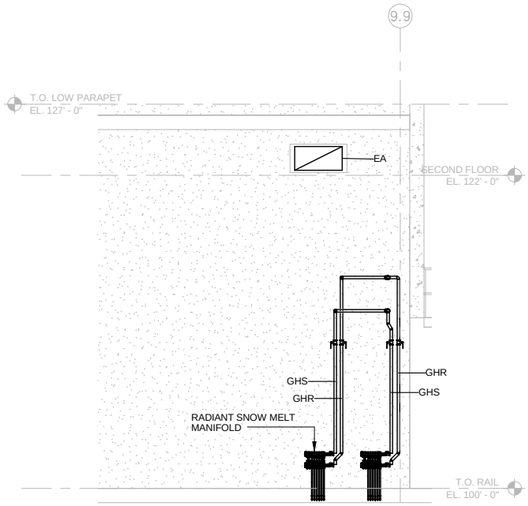
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1 M-605 SOUTH SECTION CUT @ GRIDS 3 & L

SCALE: 3/16" = 1'-0"

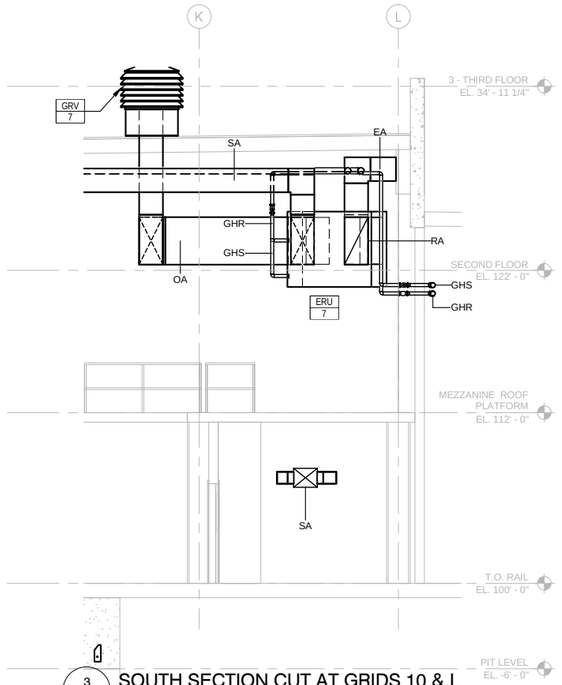
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2 M-605 WEST SECTION CUT @ GRIDS 9.5 & K

SCALE: 3/16" = 1'-0"

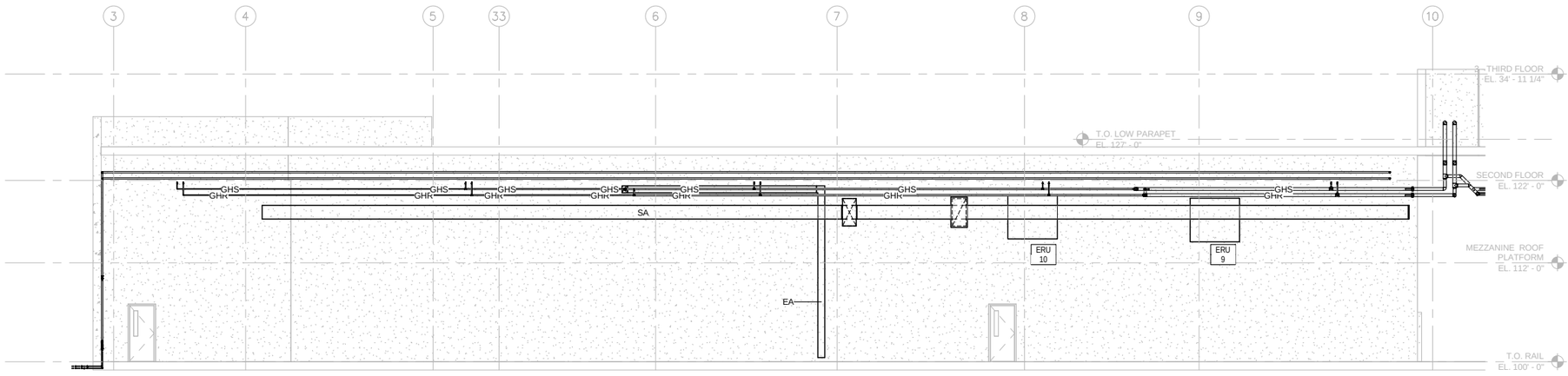
REF. SHEET: M-125 / REF. DETAIL: 1



3 M-605 SOUTH SECTION CUT AT GRIDS 10 & L

SCALE: 3/16" = 1'-0"

REF. SHEET: M-114 / REF. DETAIL: 1



4 M-605 WEST SECTION CUT @ GRIDS 7 & L

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

REF. SHEET: M-114 / REF. DETAIL: 1

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

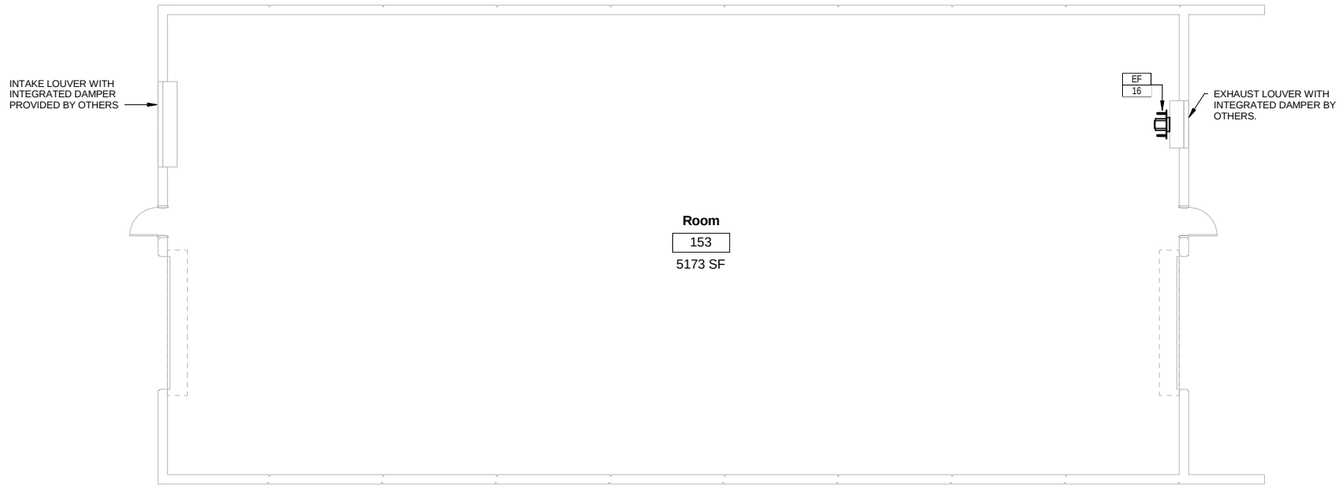
MECHANICAL SECTIONS

DISCIPLINE: MECHANICAL

SHEET NAME: M-605

SHEET 237 OF 288

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1 M-700 STORAGE BUILDING HVAC FLOOR PLAN
SCALE: 1/8" = 1'-0"

0 16' 32' 64'
HORIZONTAL
SCALE IN FEET

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

WEST-VOLUME 4 (OMF)
MECHANICAL

STORAGE BUILDING HVAC FLOOR PLAN

DISCIPLINE: MECHANICAL

SHEET NAME: M-700

SHEET 237.1 OF 288

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NOTES:
1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REEQUIRED TO INSTALL COMPLETE AND OPERABLE PLUMBING SYSTEMS AS INDICATED ON THE DRAWINGS, AND AS SPECIFIED AND REQUIRED BY CODE.
2. RUN ALL SOIL WASTE AND VENT PIPING WITH 1/8" PER FOOT MINIMUM SLOPE UNLESS OTHERWISE NOTED. HORIZONTAL VENT PIPING SHALL BE GRADED TO DRIP BACK TO THE SOIL OR WASTE PIPE BY GRAVITY.
3. ELEVATIONS AS SHOWN ON THE DRAWING ARE TO THE BOTTOM OF ALL PRESSURE PIPING AND TO THE INVERT OF ALL GRAVITY PIPING.
4. ADJUST SEWER INVERTS TO KEEP THE TOPS OF PIPES IN LINE WHERE THE PIPE'S SIZE CHANGES.
5. MAINTAIN A MINIMUM OF 3'6" OF GROUND COVER OVER ALL UNDERGROUND WATER MAINS AND A MINIMUM OF 3'0" OF GROUND COVER OVER ALL UNDERGROUND SEWERS AND DRAINS.
6. INSTALL ALL PLUMBING EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS AND APPLICABLE CODES AND REGULATIONS.
7. PROVIDE VIBRATION ISOLATION FOR ALL PLUMBING EQUIPMENT TO PREVENT TRANSMISSION OF VIBRATION TO THE BUILDING STRUCTURE.
8. PROVIDE SHUTOFF VALVES IN ALL DOMESTIC WATER PIPING SYSTEM BRANCHES IN WHICH BRANCH PIPING SERVES TWO OR MORE FIXTURES.
9. UNLESS OTHERWISE NOTED, ALL PIPING IS OVERHEAD, TIGHT TO THE UNDERSIDE OF THE SLAB, WITH SPACE FOR INSULATION IF ACCESSIBLE.
10. INSTALL PIPING SO ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES AND OTHER APPURTENANCES REQUIRING ACCESS ARE ACCESSIBLE.
11. WHEN DOMESTIC COLD AND HOT WATER PIPING DROPS INTO A PIPE CHASE, THE SIZE SHOWN FOR THE PIPE DROPS SHALL BE USED TO THE LAST FIXTURE.
12. INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.
13. ALL PIPING SHALL CLEAR DOORS AND WINDOWS.
14. ALL PIPING SHALL GRADE TO LOW POINTS, PROVIDE HOSE END DRAIN VALVES AT THE BOTTOM OF ALL RISERS AND LOW POINTS.
15. UNIONS AND/OR FLANGES SHALL BE INSTALLED AT EACH PIECE OF EQUIPMENT, IN BYPASSES, AND IN LONG PIPING RUNS (100 FT. OR MORE) TO PERMIT DISASSEMBLY FOR ALTERATIONS AND REPAIRS.
16. ALL VALVES SHALL BE ADJUSTED FOR SMOOTH AND EASY OPERATION.
17. ALL VALVES (EXCEPT CONTROL VALVES) AND STRAINERS SHALL BE THE FULL SIZE OF THE PIPE BEFORE REDUCING THE SIZE TO MAKE CONNECTIONS TO THE EQUIPMENT AND CONTROLS.
18. PROVIDE ALL PLUMBING FIXTURES AND EQUIPMENT WITH ACCESSIBLE STOPS.
19. UNLESS OTHERWISE NOTED, DRAINS SHALL BE INSTALLED AT THE LOW POINT OF ROOFS, AREAWAYS, FLOORS, ETC..
20. PROVIDE CLEANOUTS IN SANITARY AND STORM DRAINAGE SYSTEMS AT THE ENDS OF RUNS, AT CHANGES IN DIRECTION, NEAR THE BASE OF STACKS, EVERY 100 FT. IN HORIZONTAL RUNS AND ELSEWHERE AS INDICATED.
21. ALL CLEANOUTS SHALL BE THE FULL SIZE OF THE PIPE FOR PIPE SIZES 6 IN. AND SMALLER, AND SHALL BE 6 IN. FOR PIPE SIZES LARGER THAN 6 IN.
22. ALL BALANCING VALVES AND BUTTERFLY VALVES SHALL BE PROVIDED WITH POSITION INDICATORS AND MAXIMUM ADJUSTABLE STOPS (MEMORY STOPS).
23. ALL VALVES SHALL BE INSTALLED SO THE VALVE REMAINS IN SERVICE WHEN THE EQUIPMENT OR PIPING ON THE EQUIPMENT SIDE OF THE VALVE IS REMOVED.
24. ALL PIPING WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
25. ALL TESTS SHALL BE COMPLETED BEFORE ANY EQUIPMENT OR PIPING INSULATION IS APPLIED.
26. CONCRETE HOUSEKEEPING PADS TO SUIT PLUMBING EQUIPMENT SHALL BE SIZED AND LOCATED BY THE PLUMBING CONTRACTOR. MINIMUM CONCRETE PAD THICKNESS SHALL BE 4 INCHES. PAD SHALL EXTEND BEYOND THE EQUIPMENT A MINIMUM OF 6 INCHES ON EACH SIDE. CONCRETE HOUSEKEEPING PADS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO COORDINATE THE SIZE AND LOCATION OF THE CONCRETE HOUSEKEEPING PADS WITH THE GENERAL CONTRACTOR.
27. SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING PRELIMINARY ENGINEERING SHEETS.
28.SEE ARCHITECTURAL PLANS FOR FINAL LOCATIONS OF WATER CLOSETS, LAVRATORIES, SINKS, SHOWERS.
29. THESE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT. THEY ARE INTENDED TO SHOW SIZE, CAPACITY, APPROXIMATE LOCATION, DIRECTION AND GENERAL RELATIONSHIP OF ONE WORK PHASE TO ANOTHER, BUT NOT THE EXACT DETAIL OR ARRANGEMENT.

DETAIL REFERENCE



SECTION/ELEVATION REFERENCE



REVISION INDENTIFICATION

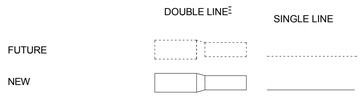


SPECIFIC NOTE SYMBOL

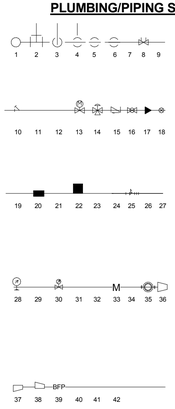


CONSTRUCTION TYPES

CONSTRUCTION PIPE TYPES



PLUMBING/PIPING SYMBOLS



1. PIPE UP
2. PIPE CONNECTION
3. TOP CONNECTION
4. BOTTOM CONNECTION
5. PIPE DROP
6. PIPE RISE
7. SHUT OFF VALVE
8. BALANCING VALVE
9. PIPE BREAK
10. STRAINER
11. STRAINER W/BLOWDOWN VALVE
12. UNION
13. MOTORIZED VALVE - 2 WAY
14. MOTORIZED VALVE - 3 WAY
15. CHECK VALVE
16. DRAIN VALVE (MODELED AFTER REVIT'S PLUG VALVE ACTUAL GRAPHIC TOO SMALL IN REVIT)
17. FLOW ARROW
18. STEAM TRAP
19. ARROW INDICATES DIRECTION OF PIPE PITCH
20. FLEXIBLE CONNECTION
21. PIPE/DUCT CAP
22. PRESSURE AND TEMPERATURE STATION
23. RADIATION ELEMENT
24. TEMPERATURE TRANSMITTER IN PIPE WELL
25. RELIEF VALVE
26. PIPE GUIDE
27. ANCHOR PRESSURE GAGE
28. THERMOMETER
29. AIR VENT
30. VENTURI WATER FLOW MEASURING STATION
31. TURBIN WATER FLOW MEASURING STATION
32. METER
33. EXPANSION COMPENSTOR
34. FLOW ALARM
35. INLINE PUMP
36. CONCENTRIC PIPE REDUCER
37. ECCENTRIC PIPE REDUCER (FLAT ON TOP)
38. ECCENTRIC PIPE REDUCER (FLAT ON BOTTOM)
39. REDUCED PRESSURE ZONE BACKFLOW PREVENTER
40. SOLENOID VALVE
41. SHOCK ABSORBER (SA) (PDI SYMBOL)
42. CLEAN OUT

PLUMBING/PIPING LABELS

SYMBOL	ABBR	DESCRIPTION
LRHS	LRHS	LOW TEMPERATURE REHEAT WATER SUPPLY
LRHR	LRHR	LOW TEMPERATURE REHEAT WATER RETURN
LHWS	LHWS	LOW TEMPERATURE HOT WATER SUPPLY
LHWR	LHWR	LOW TEMPERATURE HOT WATER RETURN
RS	RS	RADIATION WATER SUPPLY
RR	RR	RADIATION WATER RETURN
RHS	RHS	REHEAT WATER SUPPLY
RHR	RHR	REHEAT WATER RETURN
HWS	HWS	PRIMARY HEATING WATER SUPPLY
HWR	HWR	PRIMARY HEATING WATER RETURN
CHWS	CHWS	CHILLED WATER SUPPLY
CHWR	CHWR	CHILLED WATER RETURN
CWS	CWS	CONDENSER WATER SUPPLY
CWR	CWR	CONDENSER WATER RETURN
SCHWS	SCHWS	SECONDARY CHILLED WATER SUPPLY
SCHWR	SCHWR	SECONDARY CHILLED WATER RETURN
10#	10#	10 PSI STEAM (OR PRESSURE AS INDICATED)
HPR	HPR	HIGH PRESSURE STEAM RETURN
LPR	LPR	LOW PRESSURE STEAM RETURN
PC	PC	PUMPED CONDENSATE
HRS	HRS	HEAT RECOVERY SUPPLY
HRR	HRR	HEAT RECOVERY RETURN
LIQ	LIQ	REFRIGERANT (LIQUID)
SUC	SUC	REFRIGERANT (SUCTION)
G	G	GAS - NATURAL
CW	CW	COLD WATER
NP	NP	NON - POTABLE COLD WATER
HW	HW	HOT WATER
RHW	RHW	RECIRCULATION HOT WATER
140°F HW	140°F HW	140°F HW (TEMP AS NOTED)
140°F RHW	140°F RHW	RECIRCULATING HOT WATER (TEMP AS NOTED)
F	F	FIRE SERVICE
FV	FV	FLAMMABLE VENT
FW	FW	FLAMMABLE WASTE
CSW	CSW	COLD SOFT WATER
MCW	MCW	MAKE - UP COLD WATER
ISD	ISD	INTERIOR SUB DRAIN
W	W	SOIL OR WASTE (SANITARY)
V	V	VENT (SANITARY)
PDL	PDL	PUMPED DISCHARGE LINE (SANITARY)
RWC	RWC	RAIN WATER CONDUCTOR (STORM)
ORWC	ORWC	OVERFLOW RAIN WATER CONDUCTOR (STORM)
A	A	COMPRESSED AIR
VV	VV	VAPOR VENT
V	V	VENT OFFSET
D	D	INDIRECT DRAIN
TW	TW	TEMPERED WATER
HT	HT	HEAT TRACE
IW	IW	INDIRECT WASTE
WW	WW	WELL WATER
CMV	CMV	COMBINATION WASTE AND VENT

FIRE PROTECTION SYMBOLS

S	SPRINKLER PIPING
F	FIRE PROTECTION PIPING
ED	EXPRESS DRAIN
	HORIZONTAL SIDEWALL
	UPRIGHT SIDEWALL
	PENDENT SIDEWALL
	EXPOSED UPRIGHT HEAD
	PENDENT HEAD
	CONCEALED SPRINKLER HEAD
D	DRY SIDEWALL
	FLUSH SIAMESE CONNECTION
	EXPOSED SIAMESE CONNECTION
	WATER FLOW SWITCH
	FIRE HOSE RACK
	FIRE HOSE CABINET
	STANDPIPE RISER
	STANDPIPE RISER W/65MM FIRE DEPT. VALVE
D	DRY PENDANT

PLUMBING FIXTURE SYMBOLS

	WALL HUNG LAVATORY
	SHOWER
	WATER CLOSET FLUSH VALVE TYPE
	SINK
	JANITOR'S CLOSET
	SERVICE RECEPTOR
FD	FLOOR DRAIN
FD/FS	FLOOR DRAIN WITH FUNNEL STRAINER
RD	ROOF DRAIN
ORD	OVERFLOW ROOF DRAIN
SD	SHOWER DRAIN
AD	AREA DRAIN
	SHOWER HEAD
	SLOPED TRENCH DRAIN
	SAND TRAP
	INFLAMMABLE INTERCEPTOR
HB	HOSE BIBB
A	AIR OUTLET
WH	WALL HYDRANT

NOTE: REFER TO PLUMBING DESIGN NARRATIVE FOR ADDITIONAL INFORMATION ABOUT PLUMBING FIXTURES.

PLUMBING DRAWING INDEX

# OF TOTAL	Sheet Name	SHEET TITLE
238	P-002	SYMBOLS, NOTES & INDEX
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240	P-102	1ST FLOOR PLAN - AREA 2
241	P-103	1ST FLOOR PLAN - AREA 3
242	P-104	1ST FLOOR PLAN - AREA 4
243	P-105	1ST FLOOR PLAN - AREA 5
244	P-106	1ST FLOOR PLAN - AREA 6
245	P-107	1ST FLOOR PLAN - AREA 7
246	P-108	1ST FLOOR PLAN - AREA 8
247	P-109	1ST FLOOR PLAN - AREA 9
248	P-110	1ST FLOOR PLAN - AREA 10
249	P-111	1ST FLOOR PLAN - AREA 11
250	P-201	MEZZANINE PLAN - AREA 5
251	P-202	MEZZANINE PLAN - AREA 7
252	P-203	MEZZANINE PLAN - AREA 8
253	P-301	2ND FLOOR PLAN - AREA 4
254	P-302	2ND FLOOR PLAN - AREA 5
255	P-401	3RD FLOOR PLAN - AREA 4
256	P-501	STORM WATER - ROOF PLAN
257	P-701	SANITARY PLAN - UNDERFLOOR

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AECOM
LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL
SOUTHWEST
Green Line LRT Extension

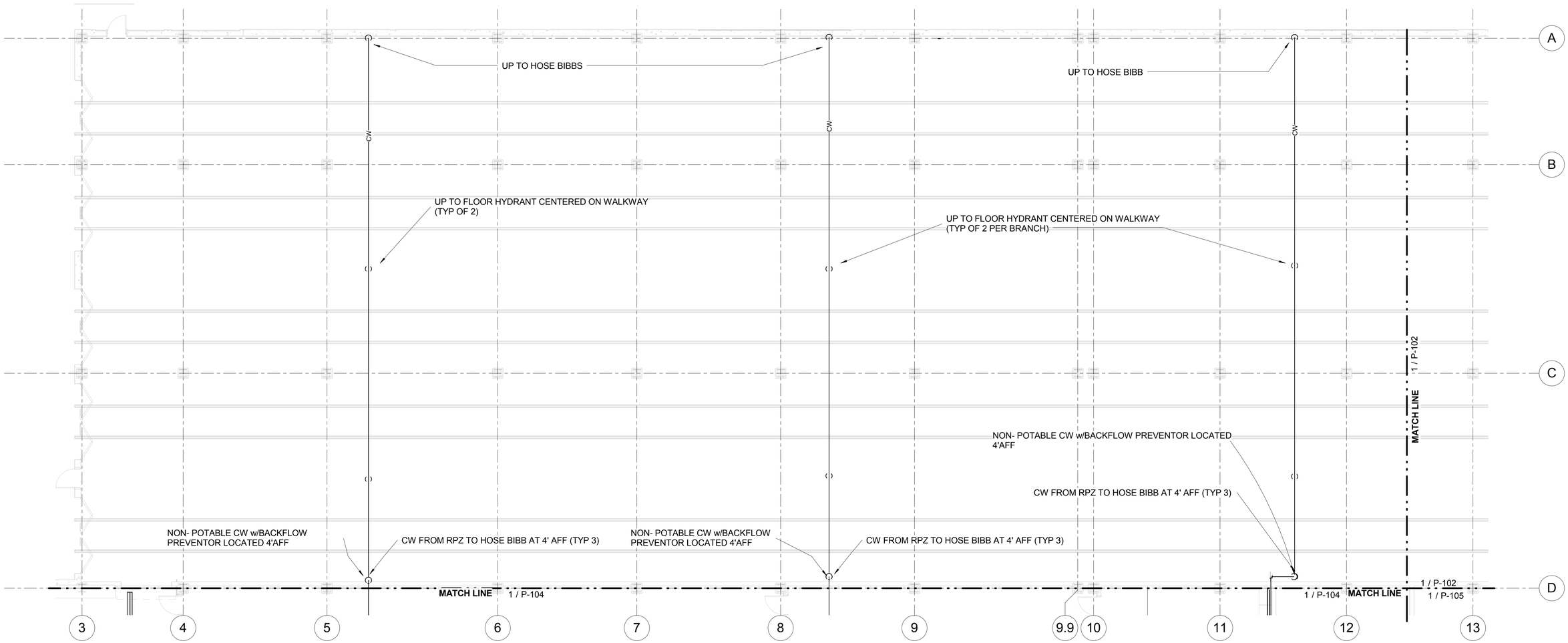
WEST - VOLUME 4 (OMF)
PLUMBING
SYMBOLS, NOTES & INDEX

DISCIPLINE: PLUMBING

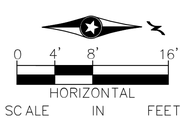
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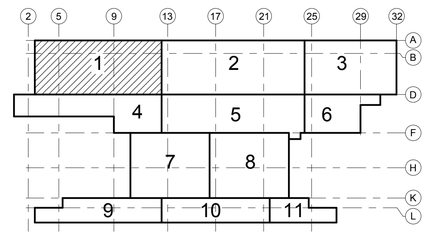
SHEET 238 OF 288

C:_Revit Projects\SWLRTOMF_P001\60283378-SWLRTOMF_PLUMBING_M13_Sarah.rvt
6/26/2014 7:47:02 AM



1.SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVRATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING PRELIMINARY ENGINEERING SHEETS.





KEY PLAN
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AECOM LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST

Green Line LRT Extension

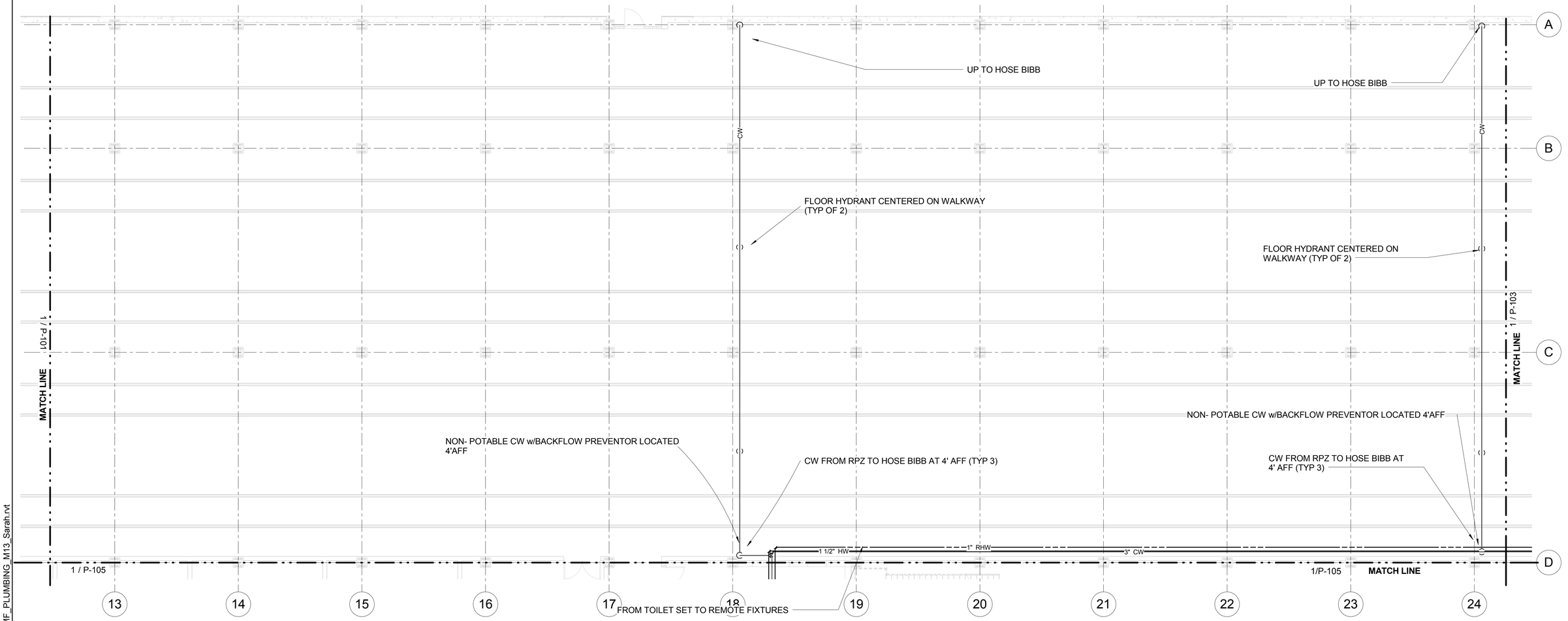
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PLUMBING
1ST FLOOR PLAN - AREA 1

DISCIPLINE: PLUMBING

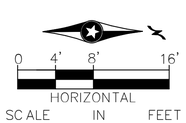
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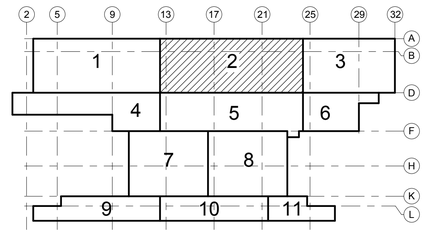
SHEET 239 OF 288

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1.SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVRATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING PRELIMINARY ENGINEERING SHEETS.





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AECOM LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

Green Line LRT Extension

WEST - VOLUME 4 (OMF)
PLUMBING
1ST FLOOR PLAN - AREA 2

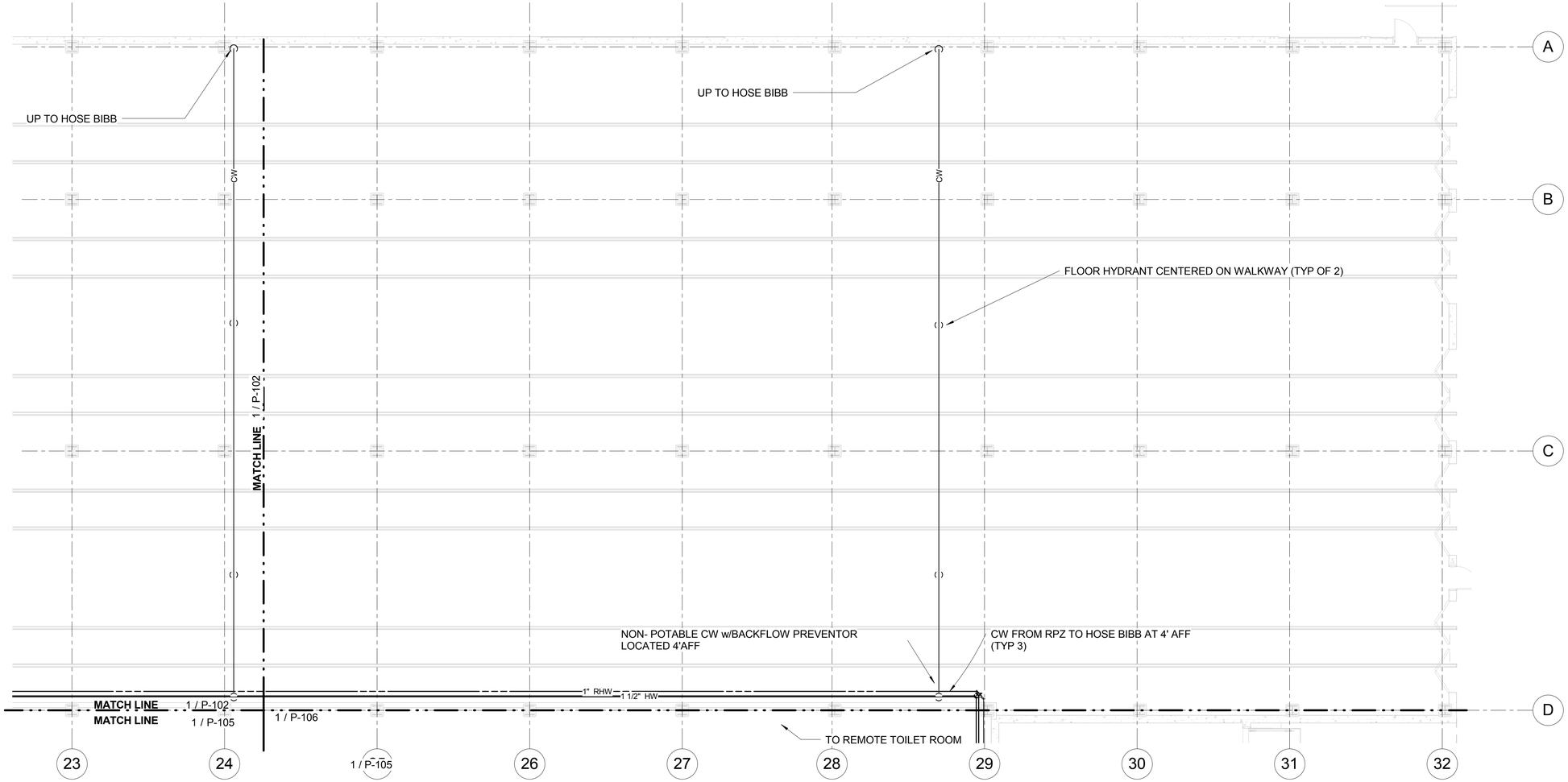
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SHEET NAME: P-102

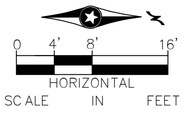
SHEET 240 OF 288

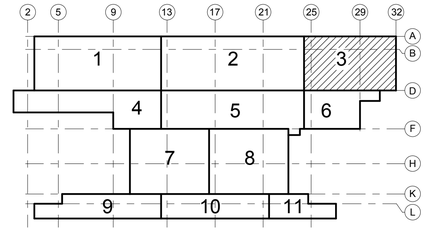
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6/26/2014 7:47:04 AM



1.SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVRATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING PRELIMINARY ENGINEERING SHEETS.





KEY PLAN
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AECOM LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

Green Line LRT Extension

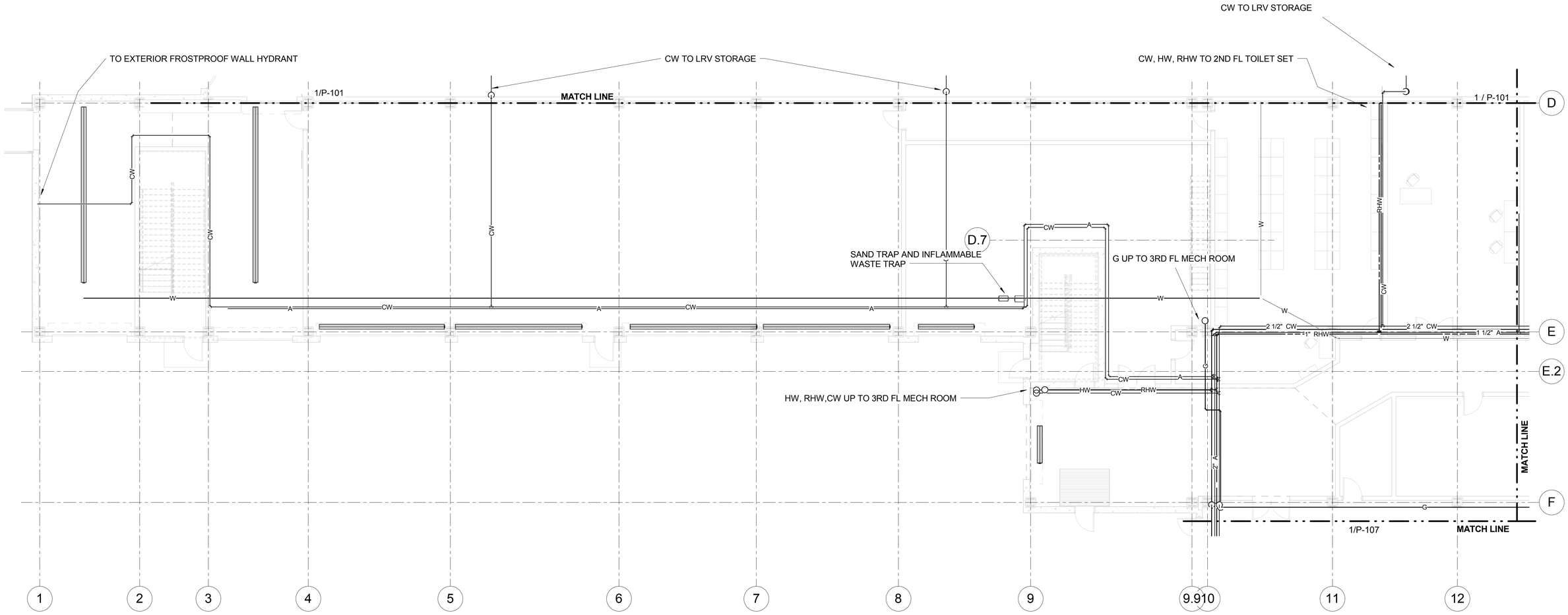
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PLUMBING
1ST FLOOR PLAN - AREA 3

DISCIPLINE: PLUMBING

SHEET NAME: P-103

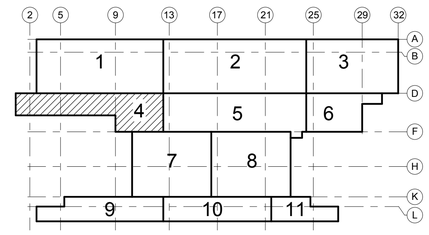
SHEET 241 OF 288

C:_Revit Projects\SWLRTOMF_P00116028378-SWLRTOMF_PLUMBING_M13_Sarah.rvt
6/26/2014 7:47:05 AM



SHEET NOTES:
1. ALL PIPING IS ROUTED HIGH (20')
2. DUE TO HIGH ROUTING (20'), PIPING CAN BE SEEN ON THIS PLAN SHEET AND SHEET P-301
3. COMPRESSOR SUPPLIES 100 PSI WITH REGULATORS IN-LINE PROVIDING TOOL NEEDS
4. SEE DESIGN NARRATIVE FOR VENTING
5. SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVRATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING PRELIMINARY ENGINEERING SHEETS.

0 4' 8' 16'
HORIZONTAL SCALE IN FEET



KEY PLAN
SCALE: N.T.S.

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AECOM LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

Green Line LRT Extension

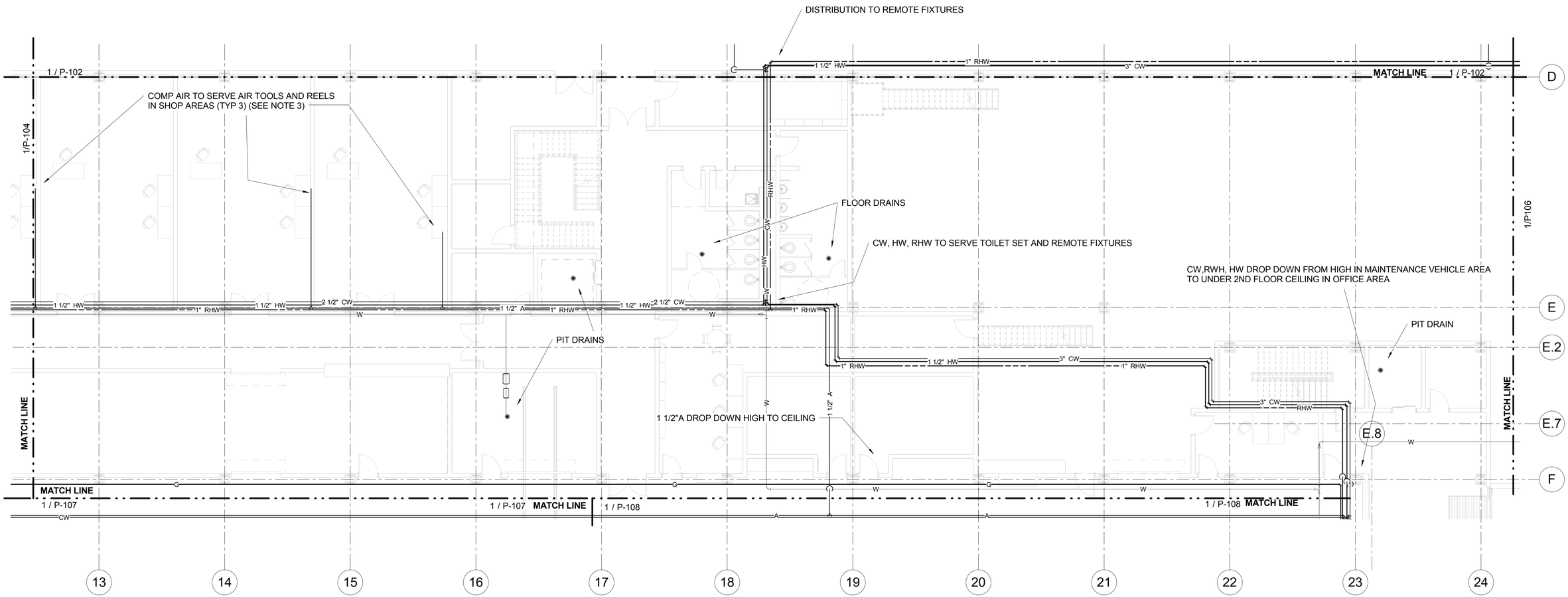
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PLUMBING
1ST FLOOR PLAN - AREA 4

DISCIPLINE: PLUMBING

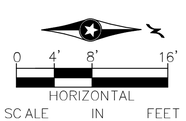
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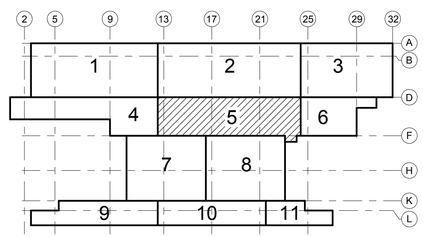
SHEET 242 OF 288

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6/26/2014 7:47:07 AM



SHEET NOTES:
1. ALL PIPING IS ROUTED HIGH (20')
2. DUE TO HIGH ROUTING (20'), PIPING CAN BE SEEN ON THIS PLAN SHEET AND SHEET P-201 AND SHEET P-302
3. SEE DESIGN NARRATIVE FOR VENTING
4. COMPRESSOR SUPPLIES 100 PSI WITH REGULATORS IN LINE FOR TOOL NEEDS
5.SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVRATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING PRELIMINARY ENGINEERING SHEETS.





KEY PLAN
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AECOM LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

Green Line LRT Extension

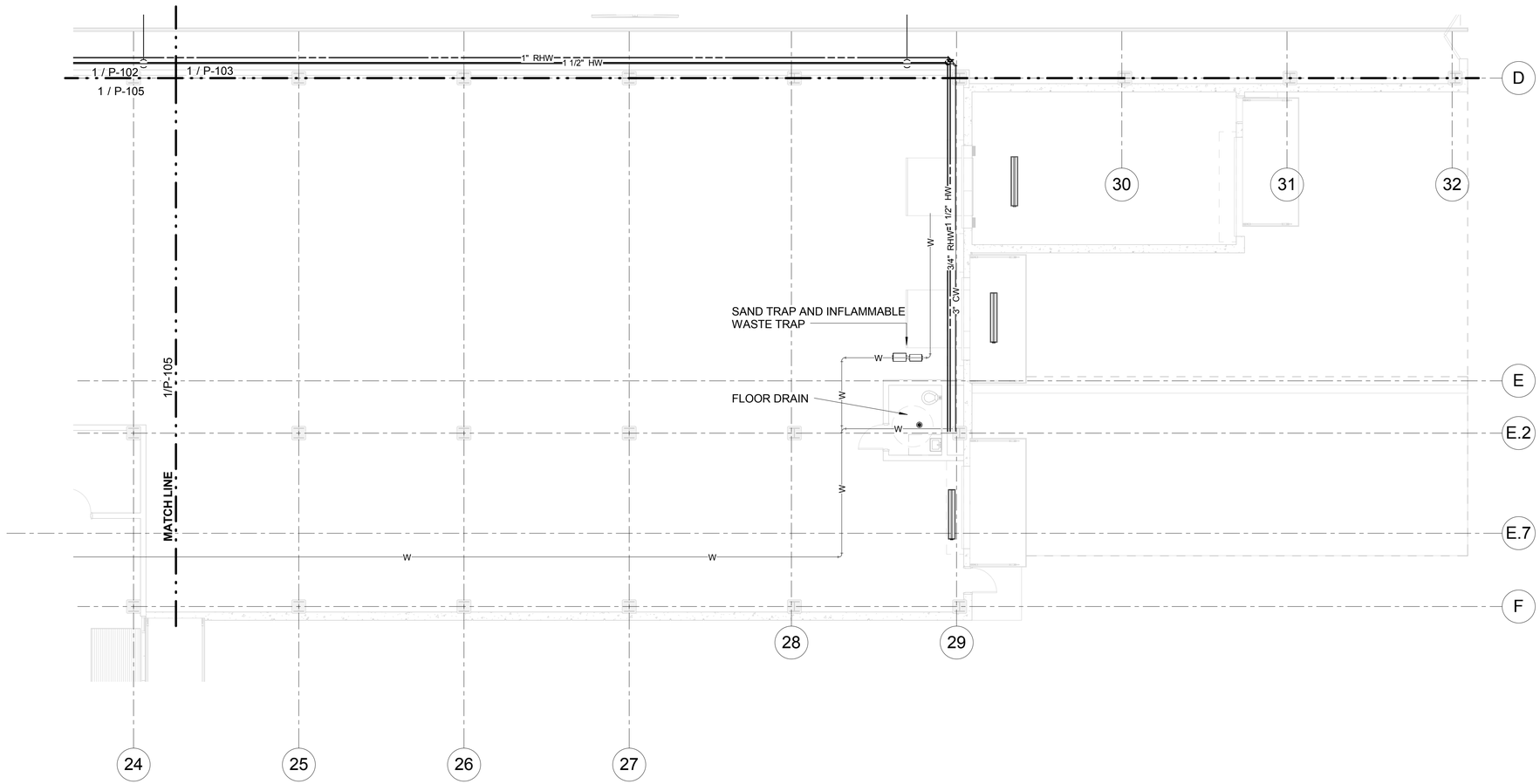
WEST - VOLUME 4 (OMF)
PLUMBING
1ST FLOOR PLAN - AREA 5

DISCIPLINE: PLUMBING

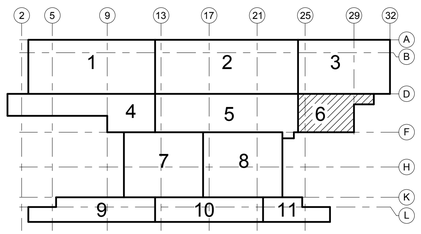
SHEET NAME: P-105

SHEET 243 OF 288

6/26/2014 7:47:08 AM C:\ Revit Projects\SWLRTOMF_P0016028337 8-SWLRTOMF_PLUMBING_M13_Sarah.rvt



SHEET NOTES:
1. SEE DESIGN NARRATIVE FOR VENTING
2. SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVRATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING PRELIMINARY ENGINEERING SHEETS.



KEY PLAN
SCALE: N.T.S.

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LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

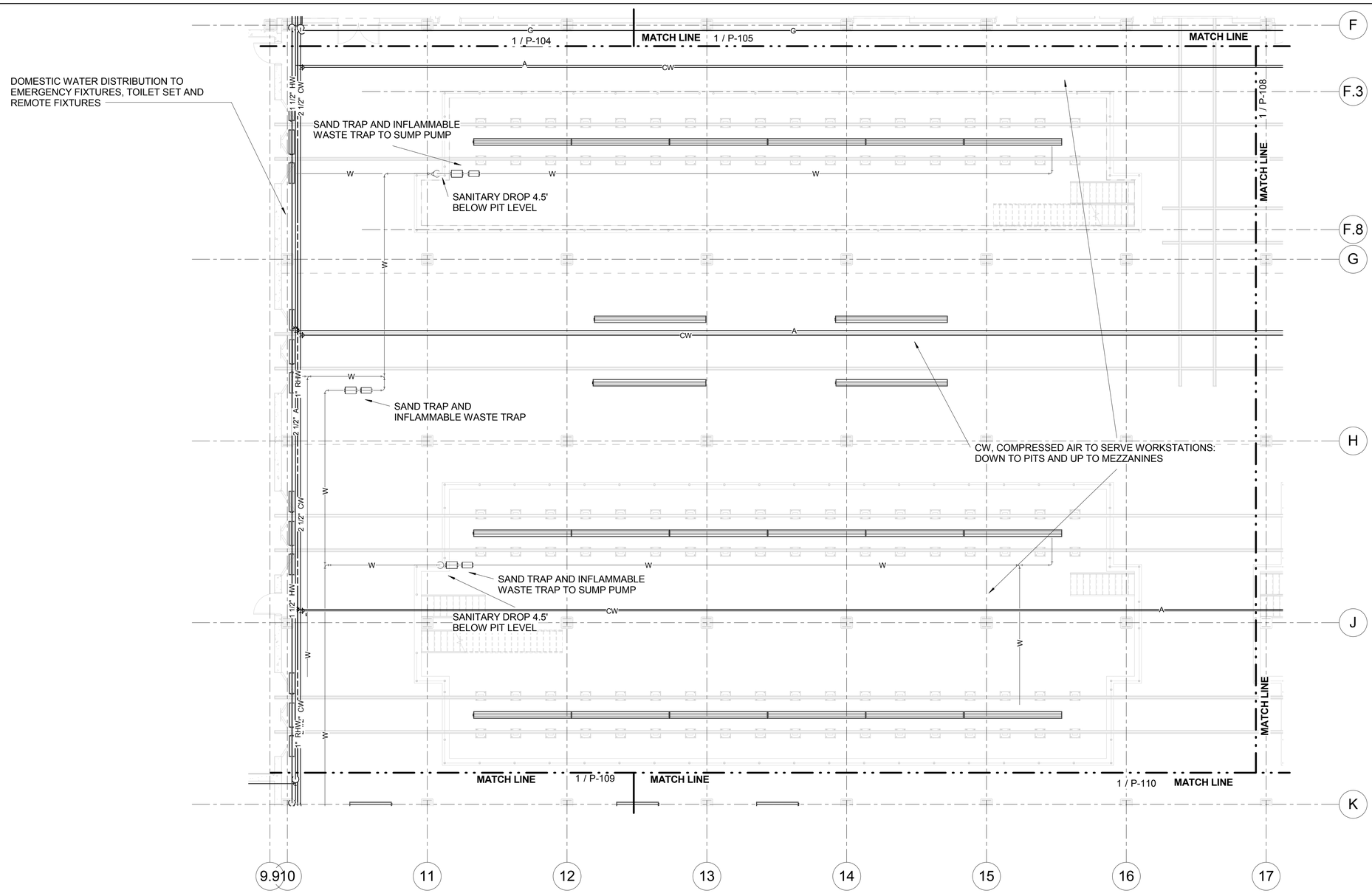
METROPOLITAN COUNCIL
SOUTHWEST
Green Line LRT Extension

WEST - VOLUME 4 (OMF)
PLUMBING
1ST FLOOR PLAN - AREA 6

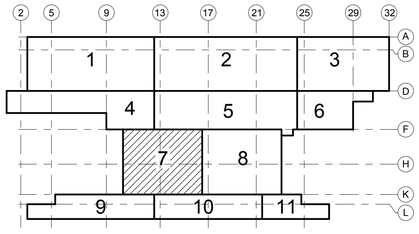
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SHEET NAME: P-106

SHEET 244 OF 288

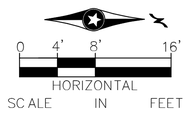
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6/26/2014 7:47:09 AM



SHEET NOTES:
1. ALL PIPING IS ROUTED HIGH (25.5') TO AVOID CRANE PATHS AND TO SERVE MEZZANINE ELEVATIONS
2. DUE TO HIGH ROUTING, PIPING CAN BE SEEN ON THIS PLAN SHEET AND SHEET P-202



KEY PLAN
SCALE: N.T.S.



SHEET NOTES:
1. SEE DESIGN NARRATIVE FOR VENTING
2. COMPRESSOR SUPPLIES 100 PSI WITH REGULATORS IN LINE FOR TOOL NEEDS
3. SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVRATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING PRELIMINARY ENGINEERING SHEETS.

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AECOM
LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE
PRELIMINARY ENGINEERING

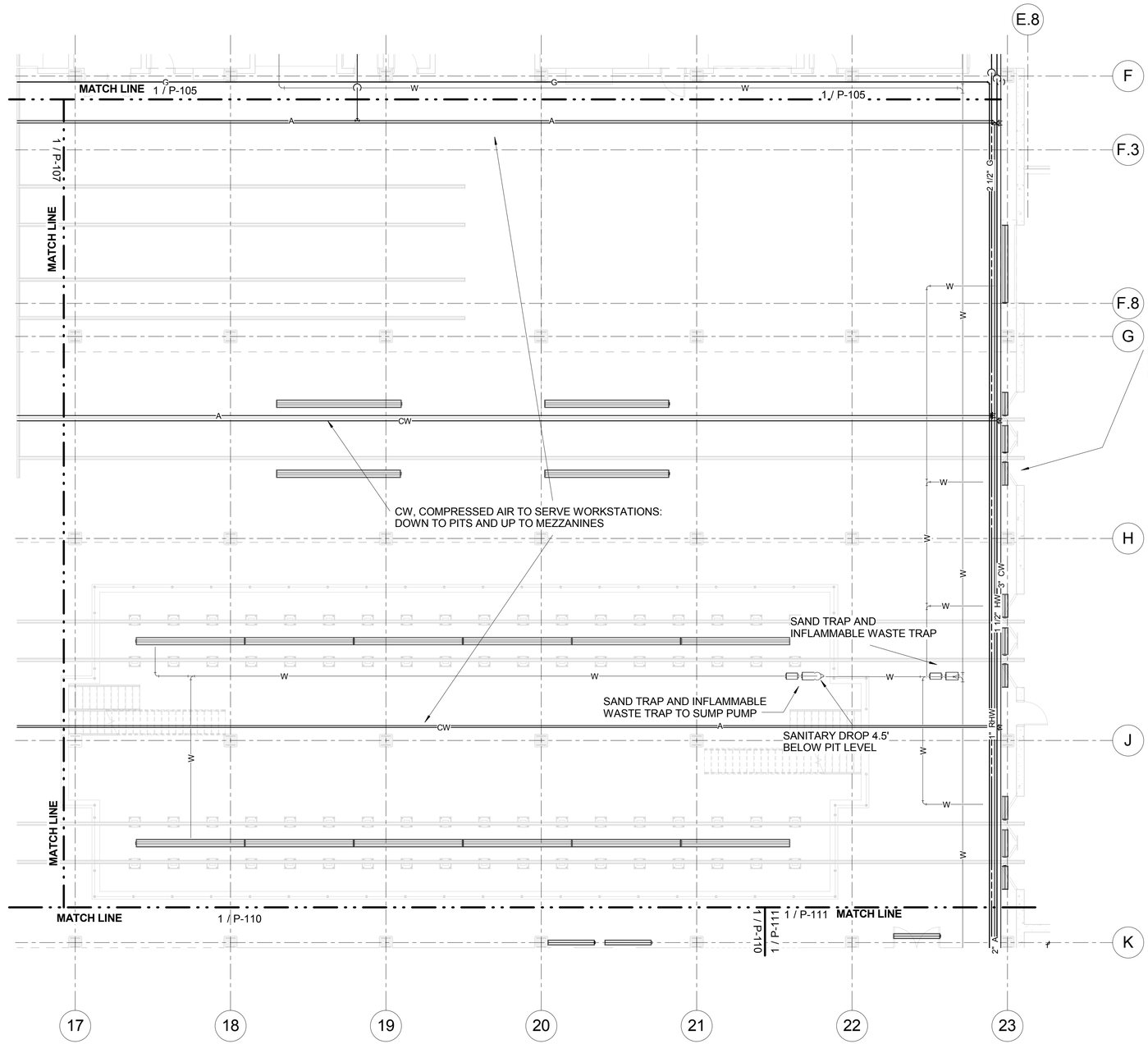
METROPOLITAN COUNCIL
SOUTHWEST
Green Line LRT Extension

WEST - VOLUME 4 (OMF)
PLUMBING
1ST FLOOR PLAN - AREA 7

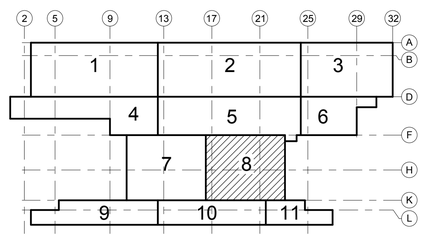
DISCIPLINE: PLUMBING
SHEET NAME: P-107

SHEET 245 OF 288

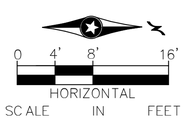
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6/26/2014 7:47:11 AM



SHEET NOTES:
1. ALL PIPING IS ROUTED HIGH (25.5') TO AVOID CRANE PATHS AND TO SERVE MEZZANINE ELEVATIONS
2. DUE TO HIGH ROUTING, PIPING CAN BE SEEN ON THIS PLAN SHEET AND SHEET P-203
3. SEE DESIGN NARRATIVE FOR VENTING
4. COMPRESSOR SUPPLIES 100 PSI WITH REGULATORS IN LINE FOR TOOL NEEDS
5. SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVRATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING PRELIMINARY ENGINEERING SHEETS.



KEY PLAN
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AECOM
LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL
SOUTHWEST
Green Line LRT Extension

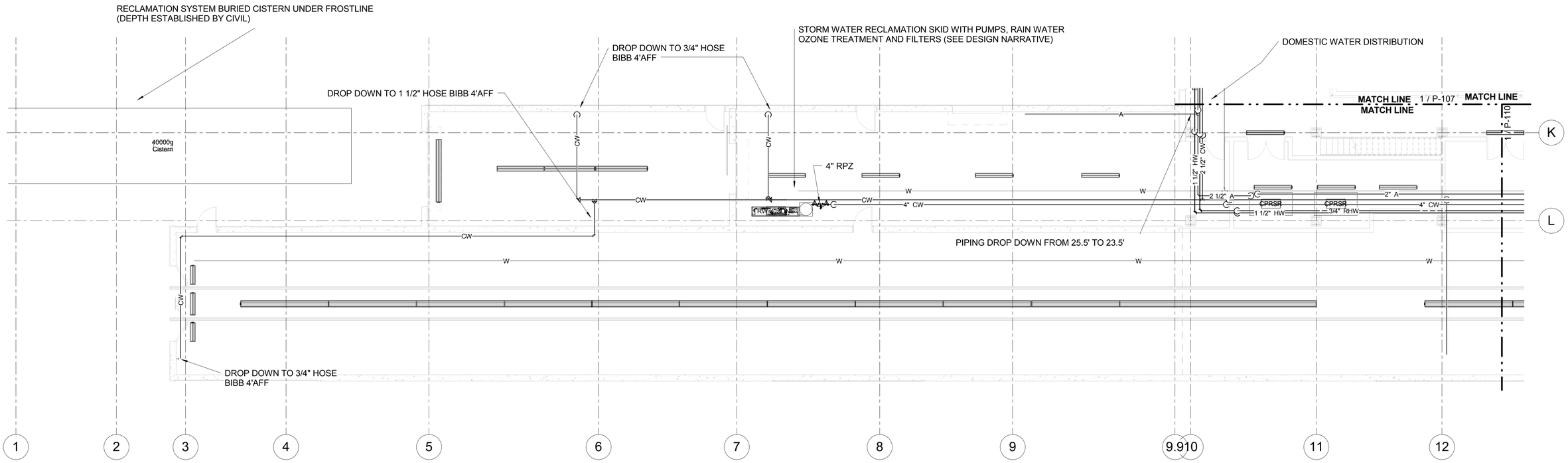
WEST - VOLUME 4 (OMF)
PLUMBING
1ST FLOOR PLAN - AREA 8

DISCIPLINE: PLUMBING

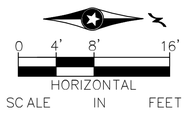
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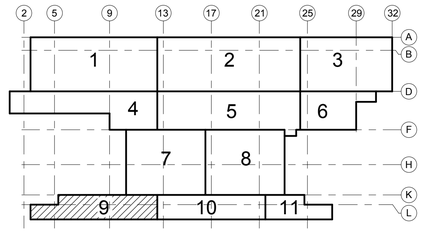
SHEET 246 OF 288

6/26/2014 7:47:13 AM C:_Revit Projects\SWLRTOMF_P0016028337 8-SWLRTOMF_PLUMBING_M13_Sarah.rvt



1.SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVRATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING PRELIMINARY ENGINEERING SHEETS.





KEY PLAN
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AECOM LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

Green Line LRT Extension

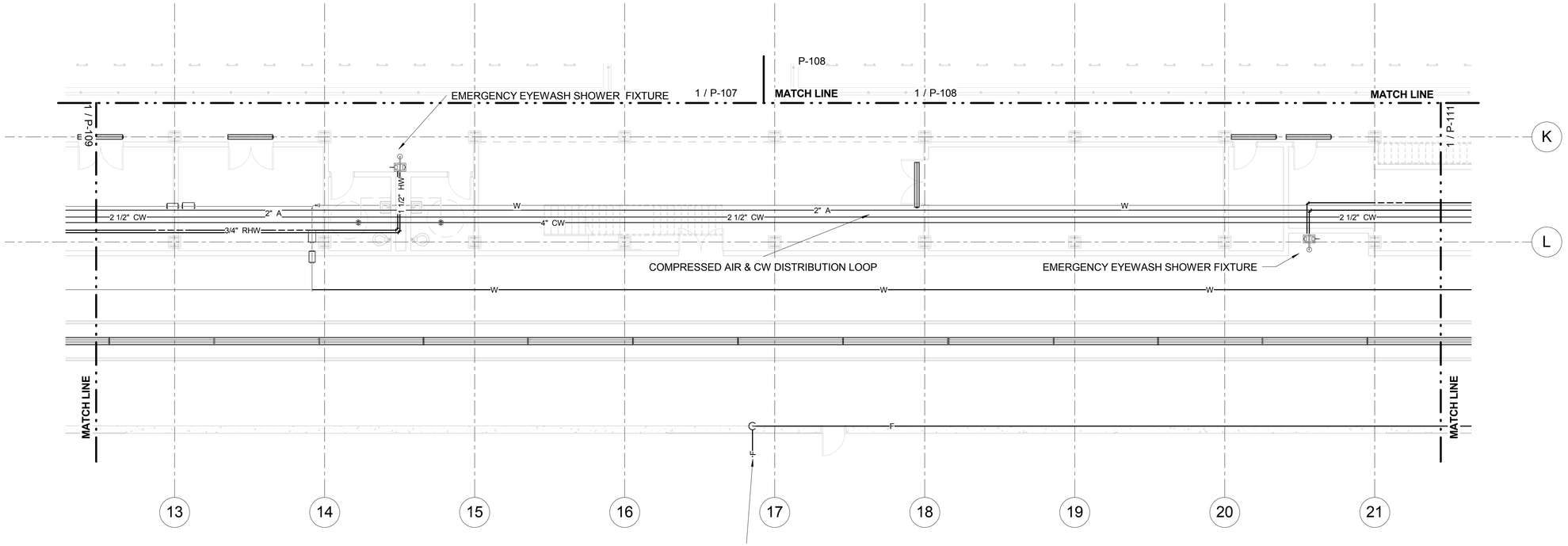
WEST - VOLUME 4 (OMF)
PLUMBING
1ST FLOOR PLAN - AREA 9

DISCIPLINE: PLUMBING

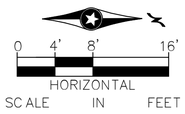
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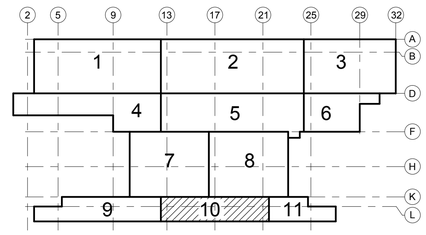
SHEET 247 OF 288

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SHEET NOTES:
1. THE FINAL LOCATION OF THE FIRE DEPARTMENT CONNECTION IS SUBJECT TO THE APPROVAL OF THE FIRE CODE OFFICIAL
2. COMPRESSOR SUPPLIES 100 PSI WITH REGULATORS IN LINE FOR TOOL NEEDS
3.SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVRATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING PRELIMINARY ENGINEERING SHEETS.





KEY PLAN
SCALE: N.T.S.

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AECOM LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

Green Line LRT Extension

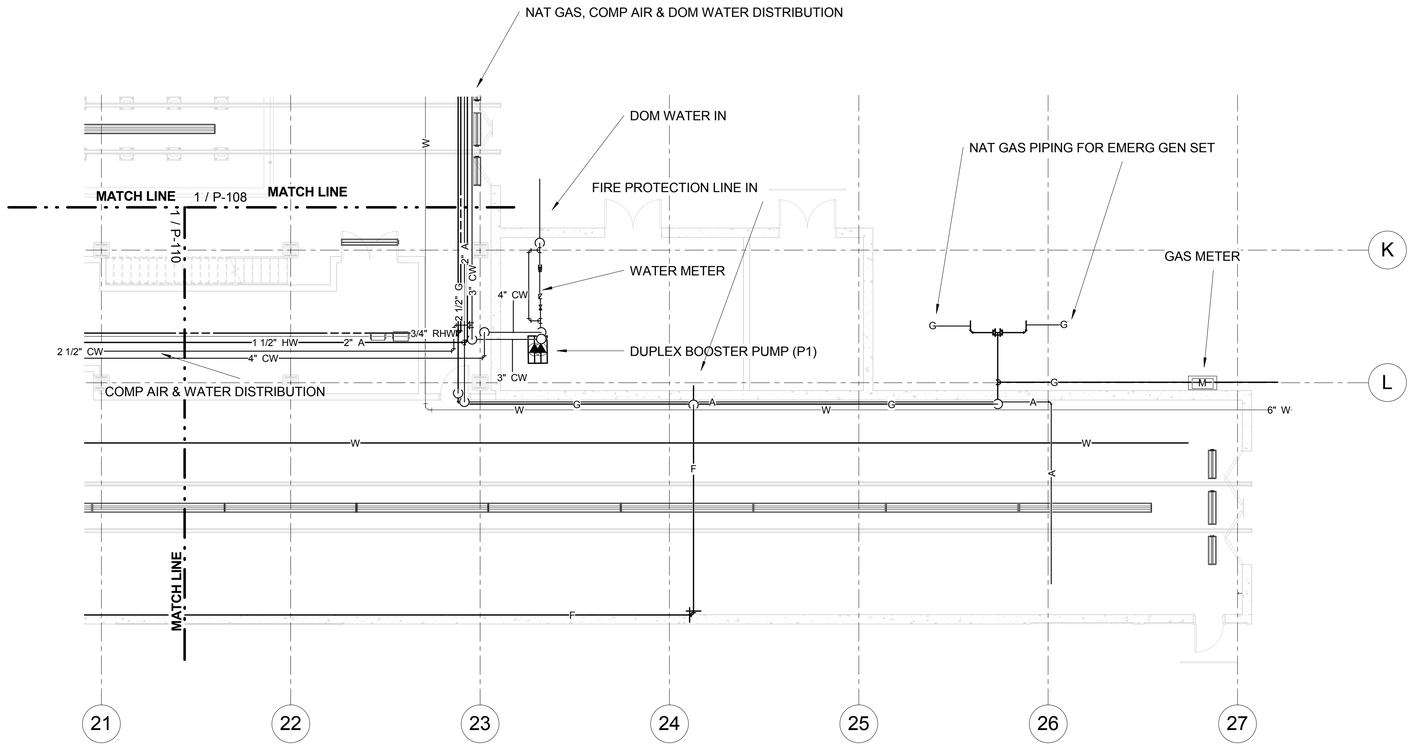
WEST - VOLUME 4 (OMF)
PLUMBING
1ST FLOOR PLAN - AREA 10

SHEET 248 OF 288

DISCIPLINE: PLUMBING

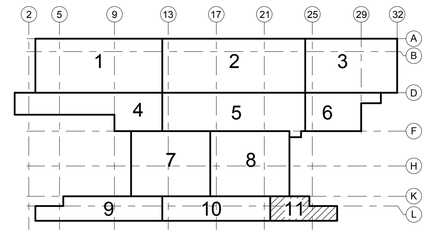
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SHEET NOTES:
1. COMPRESSOR SUPPLIES 100 PSI WITH REGULATORS IN LINE FOR TOOL NEEDS
2. SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVRATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING PRELIMINARY ENGINEERING SHEETS.

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET



KEY PLAN
SCALE: N.T.S.

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AECOM LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

Green Line LRT Extension

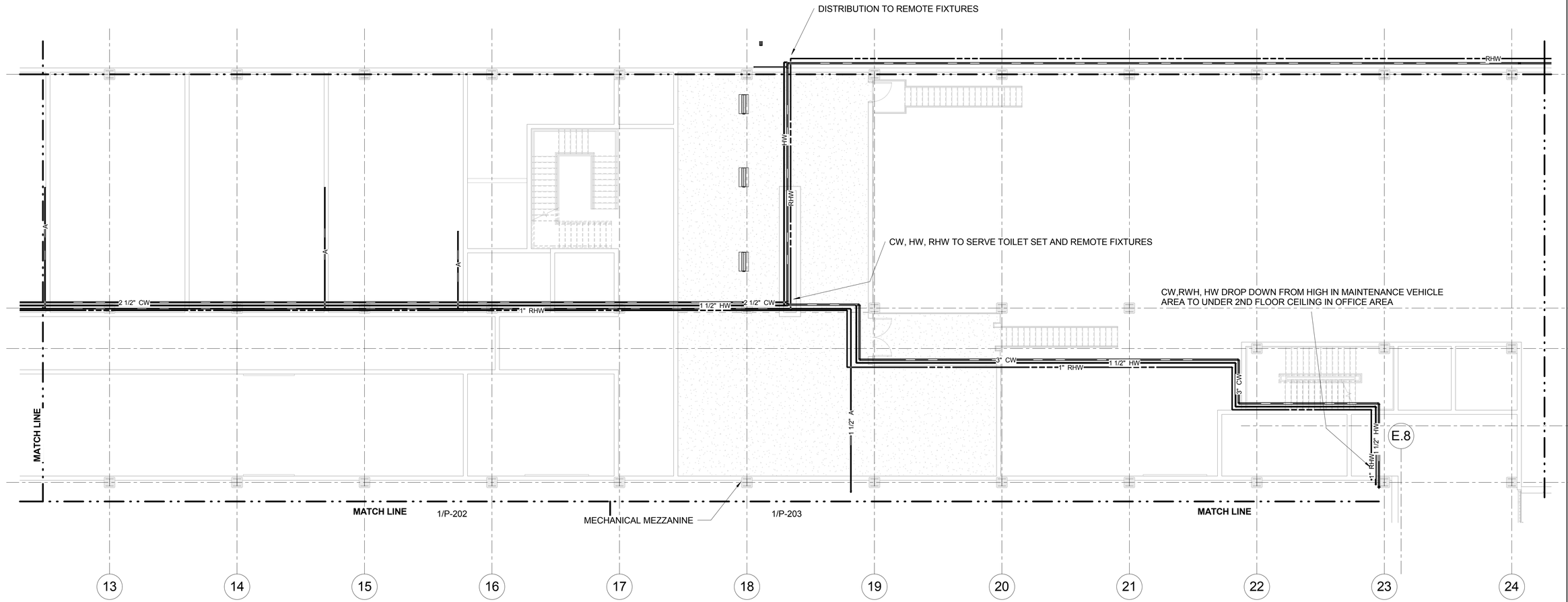
WEST - VOLUME 4 (OMF)
PLUMBING
1ST FLOOR PLAN - AREA 11

DISCIPLINE: PLUMBING

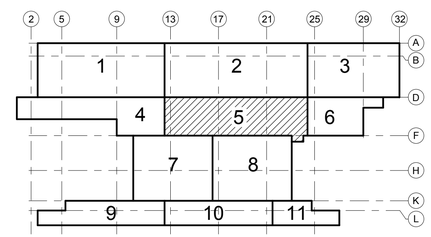
SHEET NAME: P-111

SHEET 249 OF 288

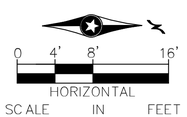
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SHEET NOTES:
1. ALL PIPING IS ROUTED HIGH (20')
2. DUE TO HIGH ROUTING (20'), PIPING CAN BE SEEN ON THIS PLAN SHEET AND SHEET P-105 AND SHEET P-302
3. SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVRATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING PRELIMINARY ENGINEERING SHEETS.



KEY PLAN
SCALE: N.T.S.



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AECOM LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

Green Line LRT Extension

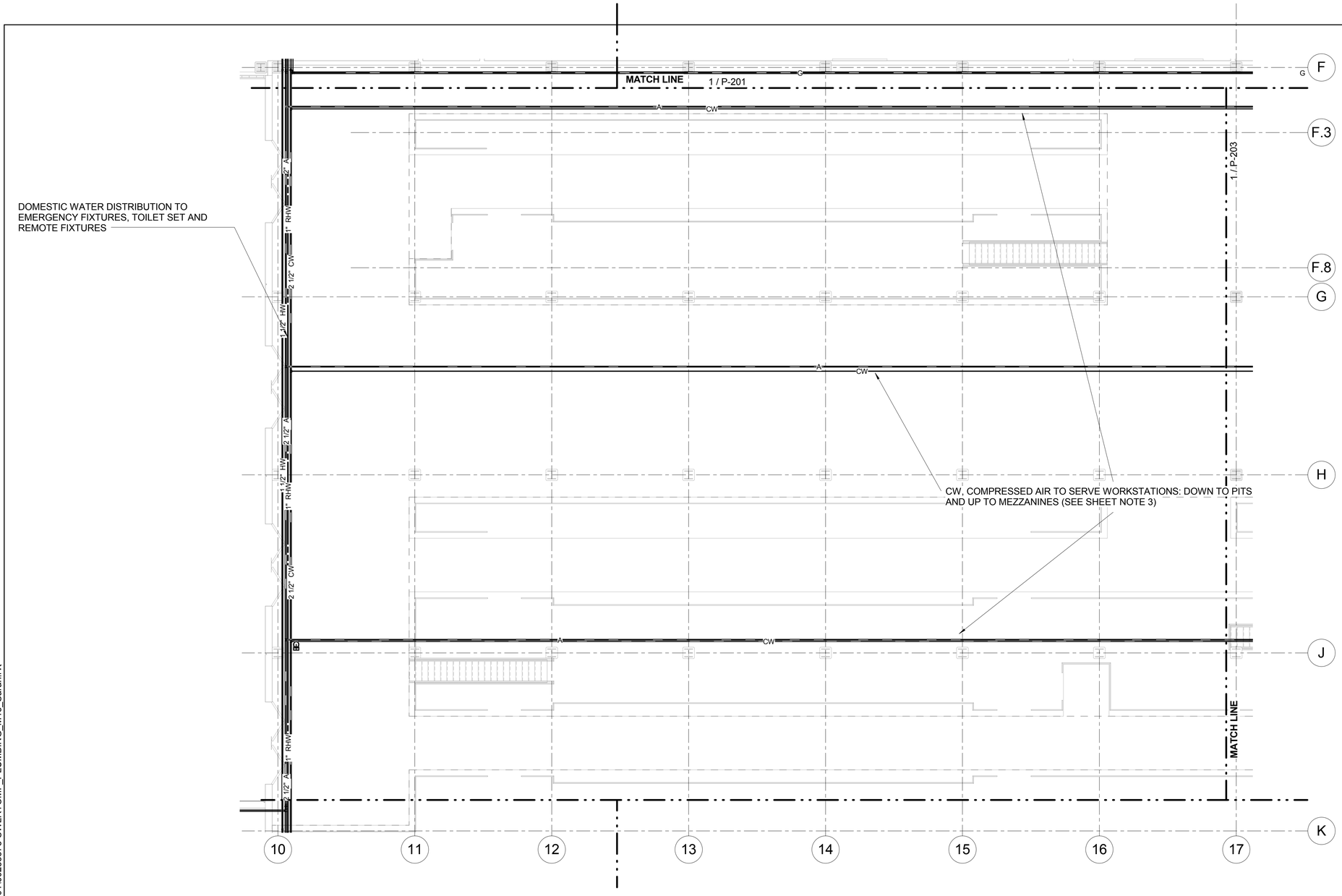
WEST - VOLUME 4 (OMF)
PLUMBING
MEZZANINE PLAN - AREA 5

DISCIPLINE: PLUMBING

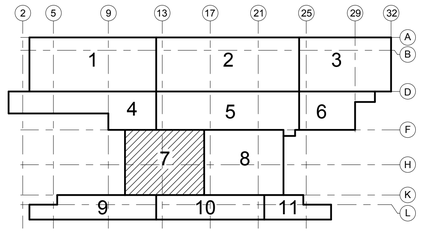
SHEET NAME: P-201

SHEET 250 OF 288

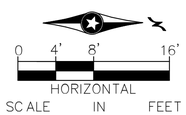
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SHEET NOTES:
1. ALL PIPING IS ROUTED HIGH (25.5') TO AVOID CRANE PATHS AND TO SERVE MEZZANINE ELEVATIONS
2. DUE TO HIGH ROUTING, PIPING CAN BE SEEN ON THIS PLAN SHEET AND SHEET P-107
3. COMPRESSOR PROVIDES 100 PSI WITH REGULATORS IN LINE TO PROVIDE TOOL NEED
4.SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVRATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING PRELIMINARY ENGINEERING SHEETS.



KEY PLAN
SCALE: N.T.S.



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AECOM LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

Green Line LRT Extension

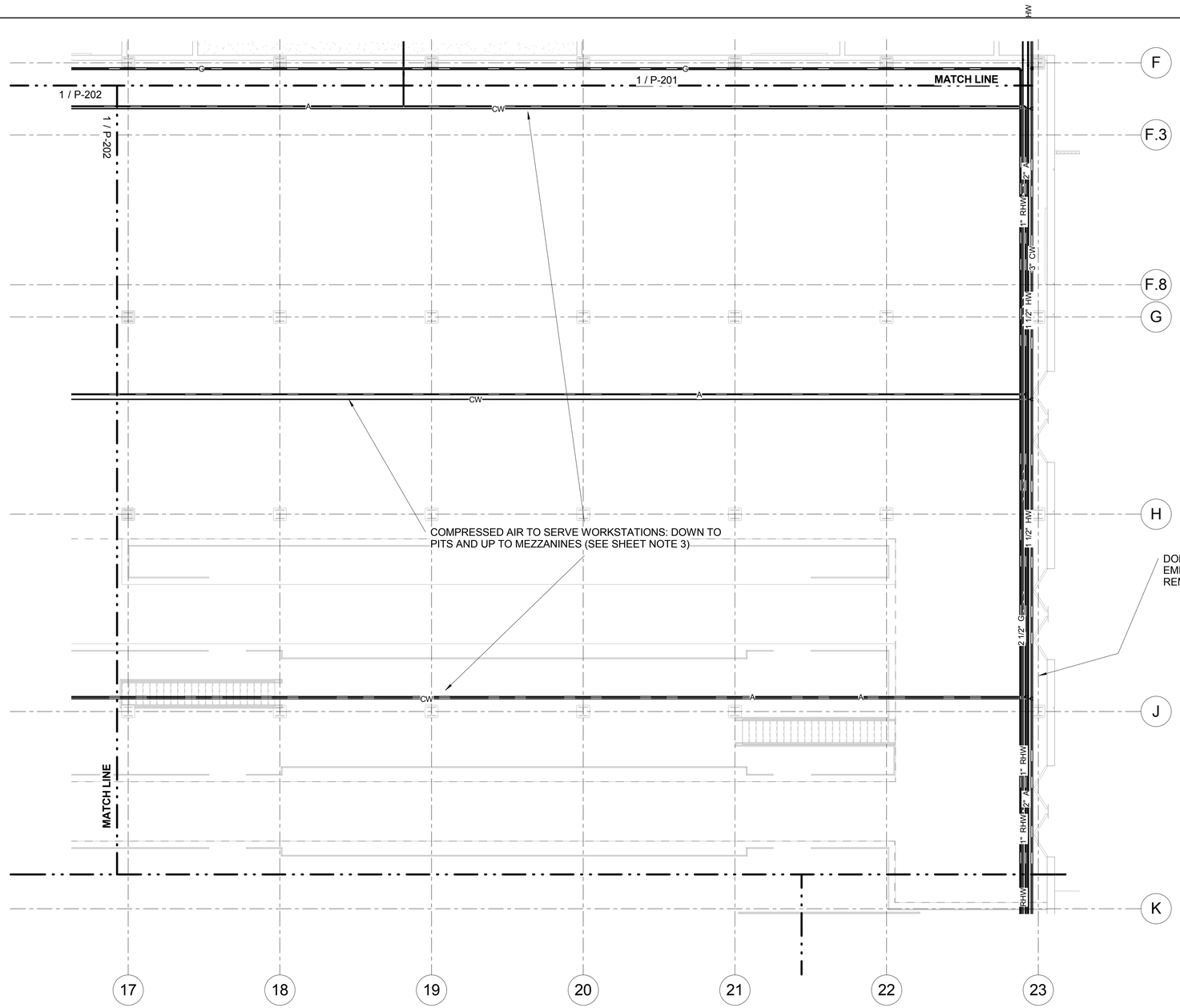
WEST - VOLUME 4 (OMF)
PLUMBING
MEZZANINE PLAN - AREA 7

DISCIPLINE: PLUMBING

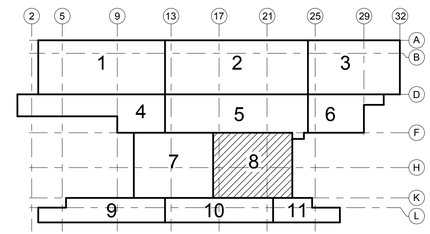
SHEET NAME: P-202

SHEET 251 OF 288

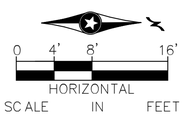
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SHEET NOTES:
1. ALL PIPING IS ROUTED HIGH (25.5') TO AVOID CRANE PATHS AND TO SERVE MEZZANINE ELEVATIONS
2. DUE TO HIGH ROUTING, PIPING CAN BE SEEN ON THIS PLAN SHEET AND SHEET P-108
3. COMPRESSOR PROVIDES 100 PSI WITH REGULATORS IN LINE TO PROVIDE TOOL NEED
4 SEE INDUSTRIAL PLAN (I-001-I-208) FOR LOCATIONS OF HOSE BIBBS, COMPRESSOR REELS, COMPRESSED AIR CONNECTIONS, COMPRESSORS, FLOOR SINKS, EMERGENCY EYEWASH, EMERGENCY SHOWERS, WATER CLOSETS, LAVRATORIES, SINKS, SHOWERS. THE MAINS TO THE APPROXIMATE FIXTURE LOCATIONS ARE SHOWN IN THESE PLUMBING PRELIMINARY ENGINEERING SHEETS.



KEY PLAN
SCALE: N.T.S.



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

Green Line LRT Extension

WEST - VOLUME 4 (OMF)
PLUMBING
MEZZANINE PLAN - AREA 8

DISCIPLINE: PLUMBING

SHEET NAME: P-203

SHEET 252 OF 288

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CW, HW, RHW TO 2ND FL TOILET SET

CW TO LRV STORAGE

CW TO LRV STORAGE

10.3

1/P-302

1 / P-302

D.7

G UP TO 3RD FL MECH ROOM

HW, RHW,CW UP TO 3RD FL MECH ROOM

MATCH LINE

SHEET NOTES:
1. ALL PIPING IS ROUTED HIGH (20')
2. DUE TO HIGH ROUTING (20'), PIPING CAN BE SEEN ON THIS PLAN SHEET AND SHEET P-104

0 4' 8' 16'
HORIZONTAL
SCALE IN FEET

KEY PLAN
SCALE: N.T.S.

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AECOM LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

Green Line LRT Extension

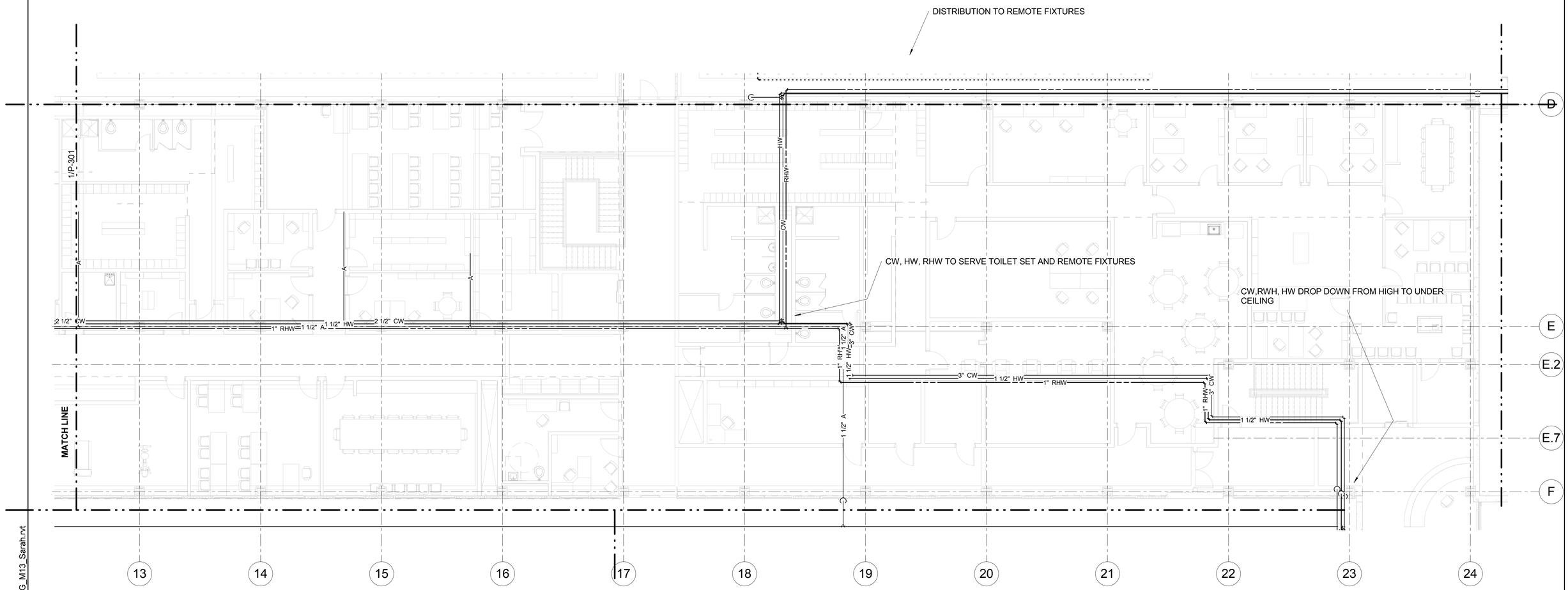
WEST - VOLUME 4 (OMF)
PLUMBING
2ND FLOOR PLAN - AREA 4

DISCIPLINE: PLUMBING

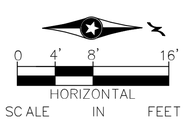
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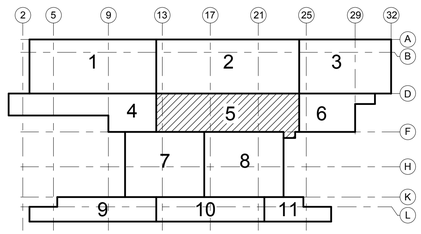
SHEET 253 OF 288

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6/26/2014 7:47:22 AM



SHEET NOTES:
1. ALL PIPING IS ROUTED HIGH (20')
2. DUE TO HIGH ROUTING (20'), PIPING CAN BE SEEN ON THIS PLAN SHEET, SHEET P-201 AND SHEET P-105





KEY PLAN
SCALE: N.T.S.

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AECOM LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

Green Line LRT Extension

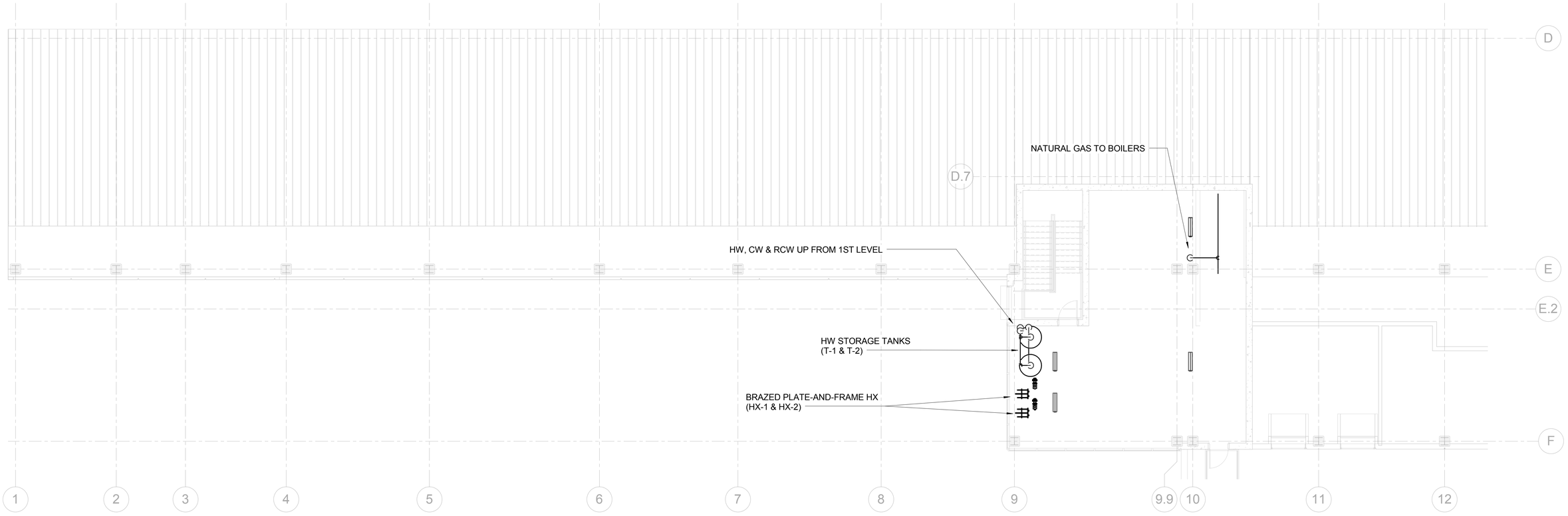
WEST - VOLUME 4 (OMF)
PLUMBING
2ND FLOOR PLAN - AREA 5

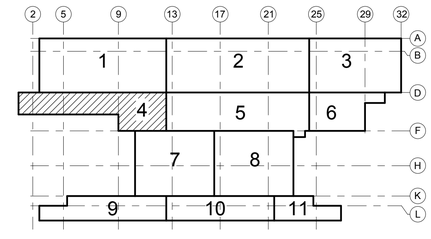
DISCIPLINE: PLUMBING

SHEET NAME: P-302

SHEET 254 OF 288

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KEY PLAN
SCALE: N.T.S.

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HORIZONTAL
SCALE IN FEET

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

Green Line LRT Extension

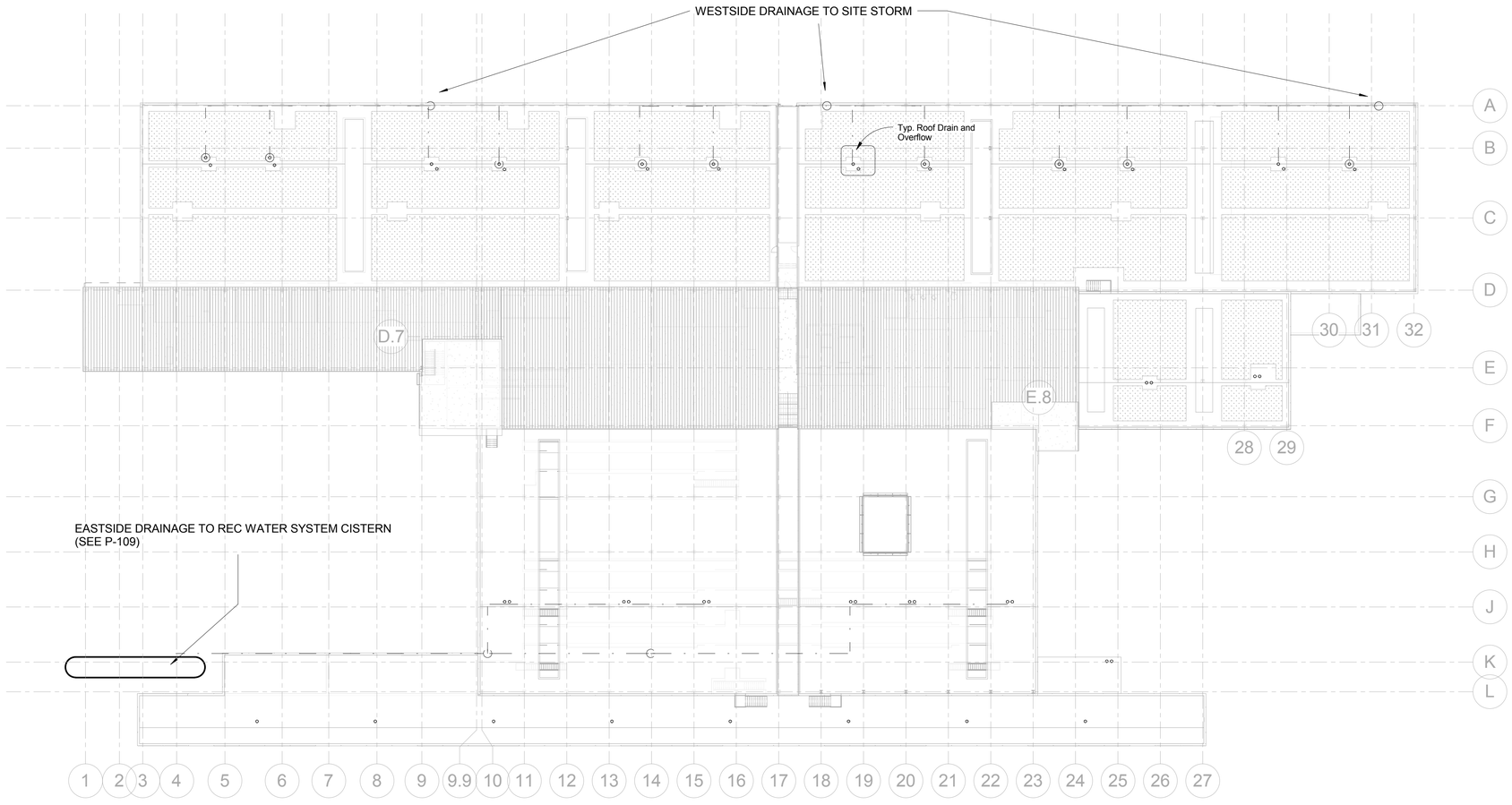
WEST - VOLUME 4 (OMF)
PLUMBING
3RD FLOOR PLAN - AREA 4

SHEET 255 OF 288

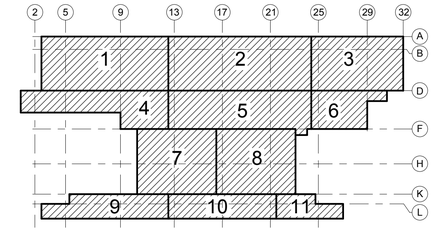
DISCIPLINE: PLUMBING

SHEET NAME: P-401

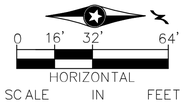
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SHEET NOTES:
1.VEHICLE MAINTENANCE, LRV WASH, LRV SANDING AND TRUCK WASH ROOF STORM TO WATER RECLAMATION SYSTEM
2. OFFICE AND LRV STORAGE ROOF STORM DRAINAGE TO SITE STORM
3. LRV STORAGE ROOF DIVIDED INTO 3 AREAS FOR GATHERING PRIMARY STORM TO EXIT BUILDING IN 3 LOCATIONS ON WEST SIDE OF BUILDING. COORDINATE WITH SITE FOR EXACT LOCATIONS.
4. LRV STORAGE OVERFLOW STORM IS DIVIDED INTO 3 AREAS FOR EXIT TO BUILDING EXTERIOR WALL DOWNSPOUT (LAMB'S TONGUE)



KEY PLAN
SCALE: N.T.S.



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

Green Line LRT Extension

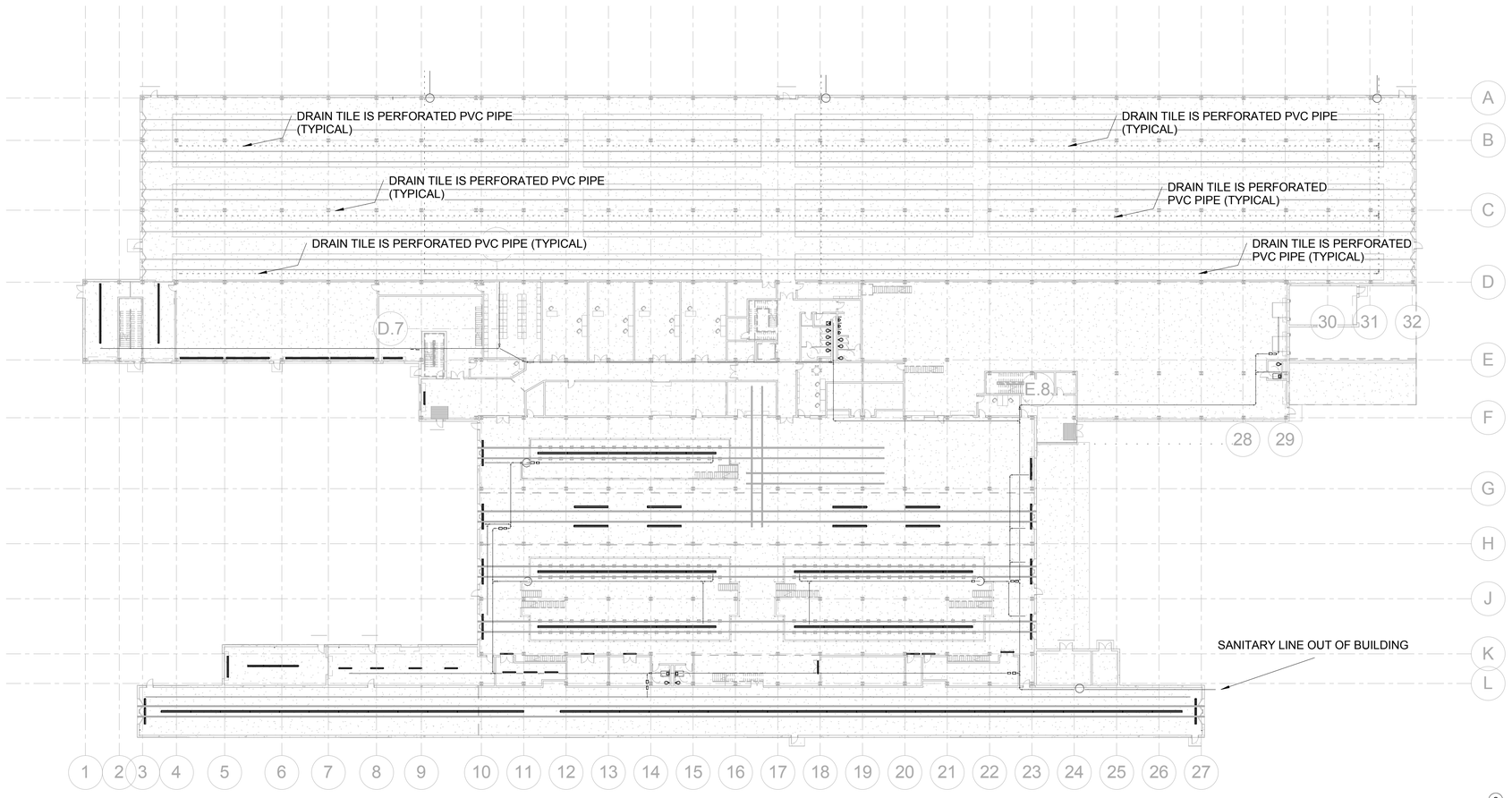
WEST - VOLUME 4 (OMF)
PLUMBING
STORM WATER - ROOF PLAN

DISCIPLINE: PLUMBING

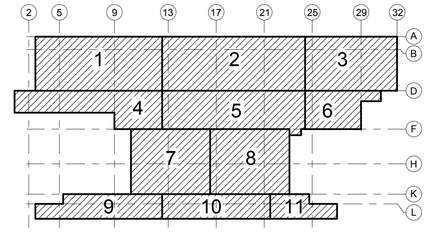
SHEET NAME: P-501

SHEET 256 OF 288

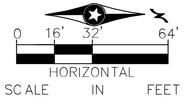
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GENERAL NOTES:
1.PERFORATED PIPE UNDER BALLASTED TRACK DRAINAGE IN LRV STORAGE AREA OUT TO SITE STORM THROUGH SAND TRAP.
2. COORDINATE WITH SITE ON EXACT LOCATIONS.



KEY PLAN
SCALE: N.T.S.



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AECOM LV ENGINEERING • LLC CERTIFIED WOMEN'S BUSINESS ENTERPRISE

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST

Green Line LRT Extension

WEST - VOLUME 4 (OMF)
PLUMBING
SANITARY PLAN - UNDERFLOOR

DISCIPLINE: PLUMBING

SHEET NAME: P-701

SHEET 257 OF 288

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6/26/2014 7:47:36 AM

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
FRAME TRIP	CB	LOW VOLTAGE AIR OR MOLDED CASE CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE NOTED.
		COMBINATION MOTOR CIRCUIT PROTECTOR AND MAGNETIC MOTOR STARTER, FULL VOLTAGE NON-REVERSING UNLESS OTHERWISE NOTED: ✳ FVR - FULL VOLTAGE REVERSING RVNR - REDUCED VOLTAGE NON-REVERSING 2S1W - TWO SPEED, ONE WINDING 2S2W - TWO SPEED, TWO WINDING SS - SOLID STATE STARTER
		NON-FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE AMPERE RATING NOTED IF OTHER THAN 30A
	F	FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE, AMPERE RATING AND FUSE SIZE AS NOTED AMPERE RATING NOTED IF OTHER THAN 30A FUSE RATING EXAMPLE 15
	P 2	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD HEATER "P" INDICATES WITH PILOT LIGHT "2" INDICATES TWO POLE
480V △ TO 120/208Y 30 KVA K-*	T	TRANSFORMER, RATINGS AND CONNECTIONS AS NOTED. UNLESS OTHERWISE NOTED ON THE SINGLE LINE DIAGRAMS ALL DRY TYPE TRANSFORMERS SERVICING ADMINISTRATIVE AND LABORATORY SPACES SHALL HAVE A K FACTOR OF 13. ALL OTHER DRY TYPE TRANSFORMERS SHALL HAVE A K-4 RATING. ISOLATION TRANSFORMERS SHALL HAVE A K-20 RATING
A TO 5	—	CURRENT TRANSFORMER ✳ QUANTITY A = PRIMARY AMPERES
V TO 120	—	POTENTIAL TRANSFORMER ✳ QUANTITY V = PRIMARY VOLTAGE
	VFD	VARIABLE FREQUENCY DRIVE
100A MTS N S	—	MANUAL TRANSFER SWITCH NO.1 (MTS-1) "N" INDICATES NORMAL SOURCE "S" INDICATES STANDBY SOURCE 100A INDICATES CONTINUOUS CURRENT RATING
5KW	E	UNIT HEATER - ELECTRIC HEATING COIL AND FAN
—	U	UNIT HEATER - STEAM OR WATER HEATING COIL AND FAN
5	M	MOTOR, NUMERAL INDICATES HORSEPOWER
		SPECIAL CAPACITOR ✳SC - SURGE CAPACITOR PF - POWER FACTOR CORRECTION CAPACITOR
	—	PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY CLOSED
	—	PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY OPEN
	—	CONDUCTORS OR CONDUITS CROSSING PATHS BUT NOT CONNECTED

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
	—	CONDUCTORS ELECTRICALLY CONNECTED
DM	—	DAMPER MOTOR
	—	PILOT LIGHT, COLOR AS NOTED R - RED G - GREEN B - BLUE W - WHITE A - AMBER
PTT OR	—	PILOT LIGHT, PUSH-TO-TEST TYPE, COLOR AS NOTED ABOVE.
LA	—	LIGHTNING ARRESTER
		GROUND OR GROUND ROD
30A	—	FUSE, AMPERE RATING AS NOTED
	—	CONTACT, NORMALLY OPEN (NO)
	—	CONTACT, NORMALLY CLOSED (NC)
CR #	—	CONTROL RELAY COIL, NUMBER AS INDICATED
TD	—	TIME DELAY RELAY RANGE AS NOTED, SETPOINT AS NOTED TDE-TIME DELAY AFTER ENERGIZATION-ON DELAY TDD-TIME DELAY AFTER DE-ENERGIZATION-OFF DELAY
		NOTC-NORMALLY OPEN, TIMED CLOSING WHEN ENERGIZED
		NCTO-NORMALLY CLOSED, TIMED OPENING WHEN ENERGIZED
		NOTO-NORMALLY OPEN, TIMED OPENING WHEN DE-ENERGIZED
		NCTC-NORMALLY CLOSED, TIMED CLOSING WHEN DE-ENERGIZED
	TS OR T OR ■	TEMPERATURE SWITCH OR THERMOSTAT
		NORMALLY OPEN, CLOSES ON RISING TEMPERATURE
		NORMALLY OPEN, CLOSES ON DROPPING TEMP.
		NORMALLY CLOSED, OPENS ON RISING TEMPERATURE
		NORMALLY CLOSED, OPENS ON DROPPING TEMP.
	—	INDICATES LIMITS OF EQUIPMENT OR WIRING ENCLOSURE
—		FIELD INSTRUMENT, TAG NO. AS INDICATED LS - LEVEL SWITCH ZS - LIMIT SWITCH SV - SOLENOID VALVE MS - MOTION SENSOR
—	PB	PUSHBUTTON STATION

ONE LINE OR CONTROL DIAGRAM	DESCRIPTION
DAMP	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 12 CONSTRUCTION (OR GASKETED AND SUITABLE FOR USE IN A DAMP LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
WET	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4 CONSTRUCTION (OR GASKETED AND SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
CORROSIVE	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4X CONSTRUCTION (OR CORROSION RESISTANT CONSTRUCTION SUITABLE FOR USE IN A CORROSIVE LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.

ELECTRICAL SHEET INDEX

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E-103	ELECTRICAL DETAILS	POWER RISER DIAGRAMS
E-104	ELECTRICAL DETAILS	POWER RISER DIAGRAMS
E-105	ELECTRICAL DETAILS	GROUNDING ONE-LINE DIAGRAMS
E-110	ELECTRICAL LIGHTING	1ST FLOOR PLAN - AREA 1
E-111	ELECTRICAL LIGHTING	1ST FLOOR PLAN - AREA 2
E-112	ELECTRICAL LIGHTING	1ST FLOOR PLAN - AREA 3
E-113	ELECTRICAL LIGHTING	1ST FLOOR PLAN - AREA 4
E-114	ELECTRICAL LIGHTING	1ST FLOOR PLAN - AREA 5
E-115	ELECTRICAL LIGHTING	1ST FLOOR PLAN - AREA 6
E-116	ELECTRICAL LIGHTING	1ST FLOOR PLAN - AREA 7
E-117	ELECTRICAL LIGHTING	1ST FLOOR PLAN - AREA 8
E-118	ELECTRICAL LIGHTING	1ST FLOOR PLAN - AREA 9
E-119	ELECTRICAL LIGHTING	1ST FLOOR PLAN - AREA 10
E-120	ELECTRICAL LIGHTING	1ST FLOOR PLAN - AREA 11
E-150	ELECTRICAL LIGHTING	MEZZANINE PLAN - AREA 4
E-151	ELECTRICAL LIGHTING	MEZZANINE PLAN - AREA 5
E-152	ELECTRICAL LIGHTING	MEZZANINE PLAN - AREA 7
E-153	ELECTRICAL LIGHTING	MEZZANINE PLAN - AREA 8
E-210	ELECTRICAL LIGHTING	2ND FLOOR PLAN - AREA 4
E-211	ELECTRICAL LIGHTING	2ND FLOOR PLAN - AREA 5
E-212	ELECTRICAL LIGHTING	2ND FLOOR PLAN - AREA 6
E-300	ELECTRICAL LIGHTING	PIT AREA & 3RD FLOOR PLAN - AREA 4
E-401	ELECTRICAL POWER	1ST FLOOR - PARTIAL PLANS
E-402	ELECTRICAL POWER	MEZZ, 2ND & 3RD FLOOR - PARTIAL PLANS
E-500	ELECTRICAL LIGHTING	LUMINAIRE SCHEDULE
E-501	ELECTRICAL POWER	PANELBOARD SCHEDULES
E-502	ELECTRICAL POWER	PANELBOARD SCHEDULES
E-600	ELECTRICAL LIGHTING & POWER	STORAGE BUILDING

ELECTRICAL ABBREVIATIONS

AC	ALTERNATING CURRENT
ACC	ACCESS CONTROLLER
ACS	ACCESS CONTROL SYSTEM READER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
A,AMP	AMPERE
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CAM	CAMERA
CAR	COUNCIL AUTHORIZED REPRESENTATIVE
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CON	CONSOLE
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CS	CONTROL SWITCH
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
DI	DOOR INTERLOCK
DIST	DISTRIBUTION
DN	DOWN
DP	DISTRIBUTION PANEL
EC	EMPTY CONDUIT
ELEC	ELECTRICAL
ELEV	ELEVATION
EM	EMERGENCY
FBO	FURNISHED BY OTHERS
FO	FIBER OPTIC
FU	FUSE
GCP	GENERATOR CONTROL PANEL
GEC	GROUNDING ELECTRODE CONDUCTOR
GEN	GENERATOR
G,GRD	GROUND
GF	GROUND FAULT INTERRUPTER
GRS	GALVANIZED RIGID STEEL
HH	HANDHOLE
HPB	HEATER PUSH BUTTON
HT	HEIGHT
HTR	HEATER
HZ	HERTZ
INST	INSTANTANEOUS
JBX	JUNCTION BOX
LA	LIGHTNING ARRESTER
LCP	LOCAL CONTROL PANEL
LGT	LIGHT
LP	LIGHTING PANEL
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURER
MH	MANHOLE
MS	MOTION SENSOR
MTG	MOUNTING
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
NC	NORMALLY CLOSED
NO	NORMALLY OPEN OR NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OCS	OVERHEAD CANTENARY SYSTEM
OL	OVERLOAD
PH	PHASE
P,POL	POLE
PP	POWER PANEL

ELEC ABBREVIATIONS CONT.

PR	PAIR
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
REC	RECEPTACLE
RRE	REMOTE READER ELECTRONICS
RM	ROOM
SC	SURGE CAPACITOR
SEC	SECONDS OR SECONDARY
SH	SHIELDED OR SHEET
SN	SOLID NEUTRAL
SS	STAINLESS STEEL
SW	SWITCH
SWBD	SWITCHBOARD
TC	TIME DELAY ON CLOSING
TEL	TELEPHONE
TO	TIME DELAY ON OPENING
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TW	TWISTED
TYP	TYPICAL
UG	UNDERGROUND
V	VOLTS
W	WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER

NOTES

1. HOMERUNS SHOWN CONCEALED SHALL BE INDICATIVE OF ENTIRE CIRCUIT INSTALLATION. THE SAME SHALL APPLY FOR HOME- RUNS SHOWN EXPOSED. REFER TO SPECIFICATIONS FOR MATERIALS AND INSTALLATION REQUIREMENTS.

2. CONDUIT AND WIRE (NOT SHOWN) FOR FIXTURES, SWITCHES AND/OR RECEPTACLES SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AND SHALL BE:

   2.1. 3/4" (MIN.) CONDUIT RUN
   2.2. EXPOSED IN UNFINISHED AREAS.
   2.3. CONCEALED ABOVE HUNG CEILINGS AND IN WALLS IN FINISHED AREAS.
   2.4. NO. 12 COPPER (MIN.) TYPE "THWN/THHN" NO. OF WIRES REQUIRED.

3. THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE CAR MAY BE MADE BY THE CONTRACTOR TO ACCOMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.

4. SWITCHES SHALL BE MOUNTED 4'-0" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. RECEPTACLES SHALL BE MOUNTED 4'-0" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED, EXCEPT RECEPTACLES IN OFFICES OR AREAS WITH HUNG CEILINGS, WHICH SHALL BE MOUNTED 1'-6" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.

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PRELIMINARY ENGINEERING

WEST - VOLUME 4 (OMF)
ELECTRICAL GENERAL
SYMBOLS, ABBREVIATIONS & INDEX

DISCIPLINE: ELECTRICAL

SHEET NAME: E-001

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SYMBOL	DESCRIPTION
A 3 *	LED, COMPACT FLUORESCENT OR H.I.D. TYPE LUMINAIRE "A" - LUMINAIRE TYPE * - CONTROL ZONE "3" - CIRCUIT NUMBER
A 3 *	LED OR FLUORESCENT TYPE LUMINAIRE, NOTATIONS SAME AS ABOVE
A 3 *	EMERGENCY LED OR FLUORESCENT TYPE LUMINAIRE, NOTATIONS SAME AS ABOVE
A 3 *	WALL OUTLET AND LED, COMPACT FLUORESCENT OR H.I.D. TYPE LUMINAIRE, NOTATIONS SAME AS ABOVE
A	EMERGENCY LIGHTING BATTERY UNIT WITH TWO LAMP HEADS "A" - LUMINAIRE TYPE
	CEILING MOUNTED EXIT SIGN
	WALL OUTLET EXIT SIGN. ARROW INDICATES DIRECTION OF EGRESS
E	REMOTE EMERGENCY CEILING LUMINAIRE
E	REMOTE EMERGENCY WALL LUMINAIRE
A 1	POLE MOUNTED LUMINAIRE "A" - LUMINAIRE TYPE "1" - CIRCUIT NUMBER
	BRANCH CIRCUIT CONDUIT WITH 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR INSTALLED EXPOSED. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS
	BRANCH CIRCUIT CONDUIT WITH 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR INSTALLED CONCEALED. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS
	BRANCH CIRCUIT CONDUIT INSTALLED EXPOSED TURNING UP. CONDUIT TO CONTAIN 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS.
	BRANCH CIRCUIT CONDUIT INSTALLED EXPOSED TURNING DOWN. CONDUIT TO CONTAIN 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS.
	BRANCH CIRCUIT CONDUIT INSTALLED CONCEALED TURNING UP. CONDUIT TO CONTAIN 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS.
	BRANCH CIRCUIT CONDUIT INSTALLED CONCEALED TURNING DOWN. CONDUIT TO CONTAIN 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS.
	CONDUIT STUBBED OUT AND CAPPED
2(3"C., 3#3/0 & 1#2 GRD.)	DENOTES A QUANTITY OF TWO (2) 3-INCH CONDUITS EACH CONTAINING THREE NO. 3/0 AWG CONDUCTORS AND 1 NO. 2 AWG GROUND CONDUCTOR.
	FLEXIBLE METAL CONDUIT "WHIP" FOR RECESSED LIGHTING FIXTURES AND LIQUID TIGHT MOTOR CONNECTIONS

SYMBOL	DESCRIPTION
1,3 LP-1	HOMERUN, CIRCUITS 1 AND 3 RUN TO PANEL LP-1
BU-1	HOMERUN TO EMERGENCY BATTERY UNIT BU-1
TM	HOMERUN TO TELEPHONE BACKBOARD
2-2/C#16TS	DENOTES A QUANTITY OF TWO INSTRUMENT CABLES. EACH CABLE TO CONSIST OF TWO NO. 16 AWG CONDUCTORS TWISTED TOGETHER AND COVERED WITH A METALLIC SHIELD AND AN OVERALL PROTECTIVE JACKET. REFER TO THE SPECIFICATIONS FOR THE EXACT CABLE TO BE PROVIDED.
2-3/C#16TS	SAME AS ABOVE EXCEPT CABLE TO CONSIST OF THREE NO. 16 AWG CONDUCTORS TWISTED, SHIELDED AND COVERED WITH AN OVERALL PROTECTIVE JACKET. REFER TO THE SPECIFICATIONS FOR THE EXACT CABLE TO BE PROVIDED.
3(4"C)	THREE 4-INCH CONDUITS
	"T" FITTING IN CONDUIT
$b	SINGLE POLE SWITCH "b" INDICATES SWITCHLEG SHALL CONTROL LIGHT FIXTURES WITH "b" DESIGNATION
$M	SINGLE POLE, DOUBLE THROW MOMENTARY CONTACT SWITCH, CENTER OFF
$P	SINGLE POLE SWITCH AND PILOT LIGHT
D	DIMMER LIGHTING CONTROL SWITCH
C	LIGHTING CONTACTOR WITH NUMBER OF POLES AS INDICATED
TM	TIME SWITCH
LP-** OR LP-**	LIGHTING PANELBOARD
DP-** OR DP-**	DISTRIBUTION PANELBOARD
* C - MOUNTED ABOVE COUNTER-TOP GF - GROUND FAULT INTERRUPTER TYPE WP - WEATHERPROOF T - TRANSIENT VOLTAGE SURGE SUPPRESSOR 4 - CIRCUIT NUMBER 4	DUPLEX RECEPTACLE, 20A, 120V, 2P, 3W
* A - 30A B - 60A	SINGLE RECEPTACLE, 480V, 3P, 4W
	SINGLE RECEPTACLE, 20A, 120V, 2P, 3W
	DOUBLE GANG DUPLEX 120V RECEPTACLE
	MULTI-OUTLET ASSEMBLY
	DOUBLE GANG DUPLEX RECEPTACLE AND FLOOR BOX

SYMBOL	DESCRIPTION
J (J)	JUNCTION BOX
P	PULL BOX
# OS *	OCCUPANCY SENSOR, CEILING MOUNTED # - SEQUENTIAL NUMBER, * - CONTROL ZONE
OS	OCCUPANCY SENSOR, WALL MOUNTED
PC	PHOTOCELL
HH	HANDHOLE
FIRE ALARM SYSTEMS	
R/C 200	FIRE ALARM HEAT DETECTOR 135°F FIXED TEMPERATURE UNLESS OTHERWISE NOTED. "200" DENOTES 200°F TYPE, "R" DENOTES FIXED TEMPERATURE RATE-OF-RISE TYPE.
I	FIRE ALARM SMOKE DETECTOR PHOTOCELL TYPE UNLESS OTHERWISE NOTED. "I" DENOTES IONIZATION TYPE.
	FIRE ALARM DUCT SMOKE DETECTOR
FACP	FIRE ALARM CONTROL PANEL
FA	REMOTE FIRE ALARM ANNUNCIATOR PANEL
F	FIRE ALARM MASTER BOX
F	FIRE ALARM SPEAKER, MOUNT UP 7'-6".
* F	FIRE ALARM STROBE, MOUNT UP 6'-8". * CANDELA
* F	FIRE ALARM SPEAKER AND STROBE LIGHT COMBINATION, MOUNT UP 6'-8". * CANDELA
* F	FIRE ALARM SPEAKER AND STROBE LIGHT COMBINATION, CEILING MOUNTED. * CANDELA
	FIRE ALARM MANUAL PULL STATION, MOUNT UP 4'-0".
F	FIRE ALARM BELL
S FB	WEATHERPROOF HI-INTENSITY FIRE ALARM STROBE LIGHT
FS	FLOW SWITCH
PS	PRESSURE SWITCH
VSS	VALVE SUPERVISORY SWITCH

SYMBOL	DESCRIPTION
COMMUNICATIONS SYSTEMS	
K	TELEPHONE HANDSET, DESK TYPE K = KEY SYSTEM
K	TELEPHONE HANDSET, WALL TYPE K = KEY SYSTEM
	PAGE/PARTY TELEPHONE HANDSET, DESK TYPE
	PAGE/PARTY TELEPHONE HANDSET, WALL TYPE (MOUNT UP 4'-6")
S	PAGING SPEAKER, WALL MOUNTED HORN TYPE
S	PAGING SPEAKER, WALL MOUNTED, BI-DIRECTIONAL HORN TYPE
S	PAGING SPEAKER, FLUSH MOUNTED CEILING TYPE
S	PAGING SPEAKER, SURFACE MOUNTED CEILING TYPE
S	PAGING SPEAKER, SURFACE MOUNTED WALL TYPE
VC	REMOTE WALL MOUNTED VOLUME CONTROL FOR CEILING SPEAKER (MOUNT UP 5'-0")
A	PAGING SPEAKER AMPLIFIER ASSEMBLY
TM	TELEPHONE CABINET OR BACKBOARD AS NOTED
P	DATA INPUT/OUTPUT CABLE OUTLET. "P" - DENOTES PROCESS COMPUTER SYSTEM
4	QUAD DATA INPUT/OUTPUT RECEPTACLE
	VOICE/DATA RECEPTACLE AND FLOOR BOX
SECURITY SYSTEMS	
SA	SECURITY ALARM PANEL
DS	SECURITY ALARM DOOR SWITCH
K	SECURITY ALARM KEY PAD
R	SECURITY SYSTEM CARD ACCESS READER
	SECURITY ALARM MOTION DETECTOR
CCTV	CLOSED CIRCUIT TV CAMERA
PTZ	PAN, TILT, ZOOM CAMERA

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PANEL DIVISION LINES

- DESIGNATES PANEL SERVING DEVICES IN AREA

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WEST - VOLUME 4 (OMF)
ELECTRICAL GENERAL
SYMBOLS & ABBREVIATIONS

DISCIPLINE: ELECTRICAL

SHEET NAME: E-002

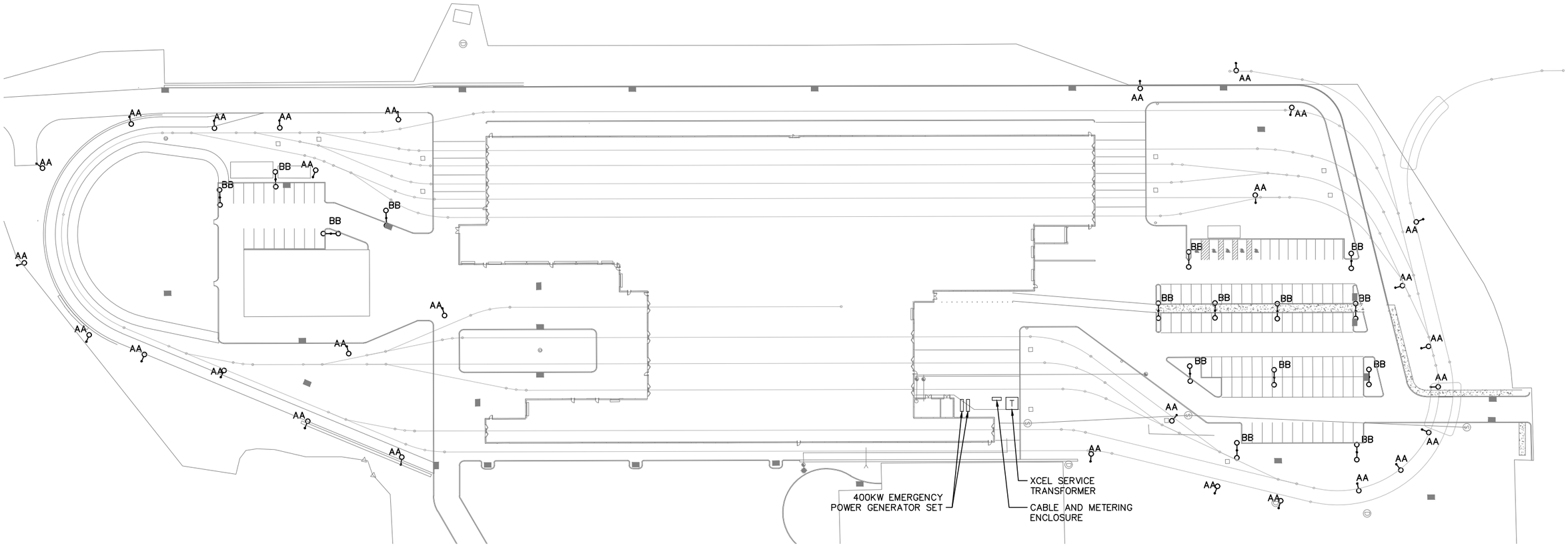
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GENERAL NOTE:

1. ALL SITE LUMINAIRES SHALL BE FED FROM PANELBOARD EDP–2–150.



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HORIZONTAL SCALE IN FEET

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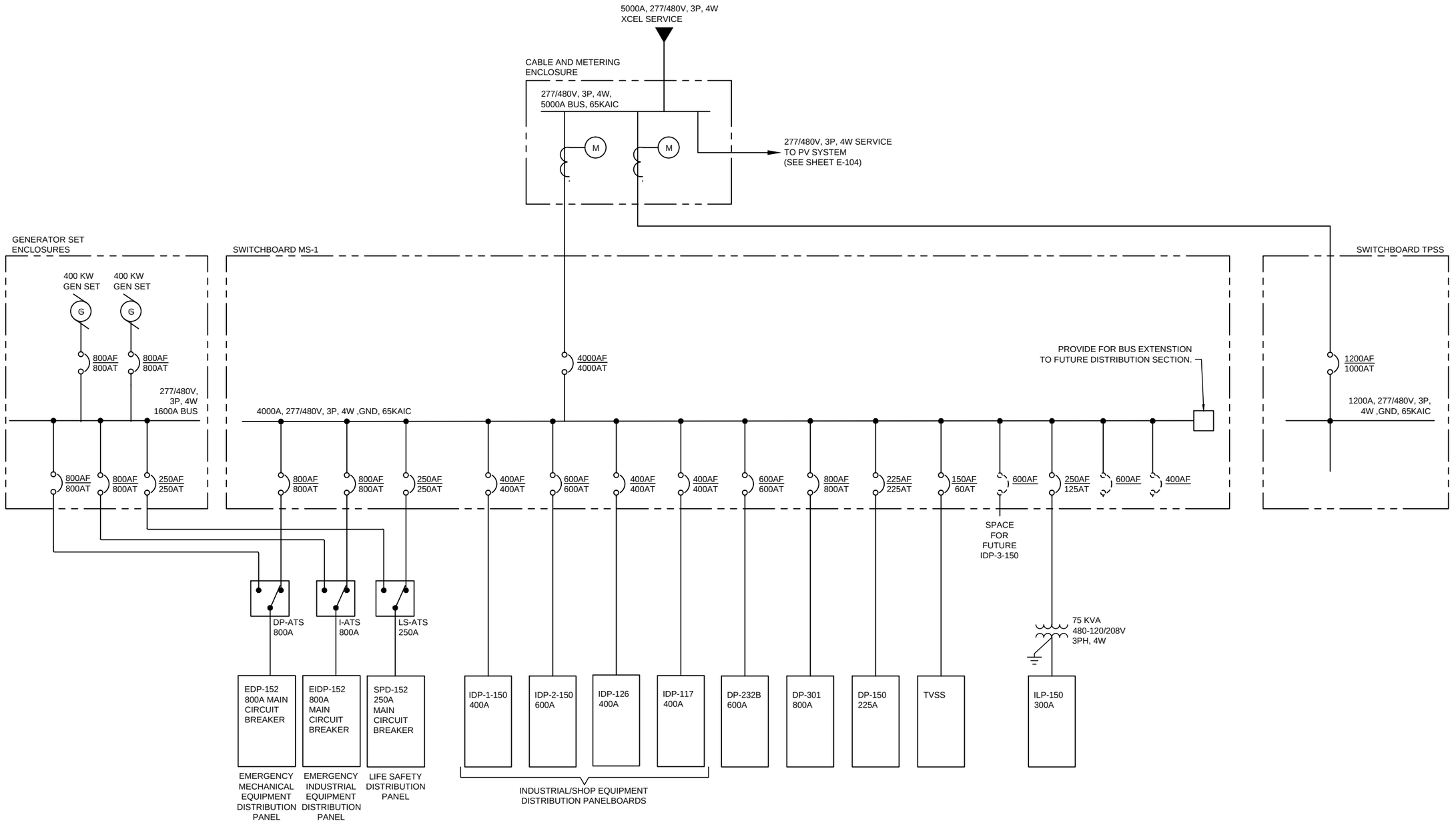
WEST - VOLUME 4 (OMF)
ELECTRICAL SITE PLAN & LIGHTING

DISCIPLINE: ELECTRICAL

SHEET NAME: E-100

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1 POWER ONE-LINE DIAGRAM

SCALE: NTS

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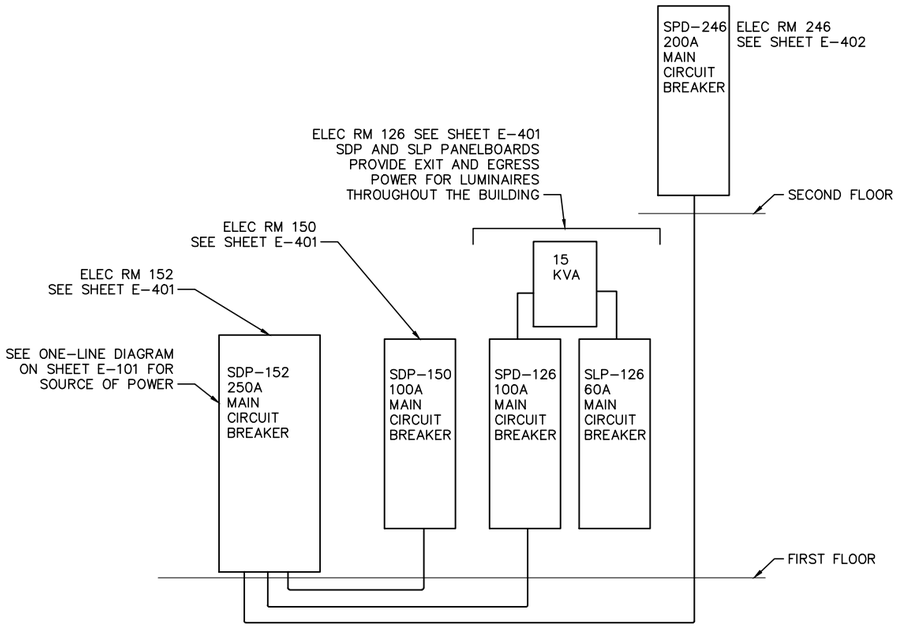
WEST - VOLUME 4 (OMF)
ELECTRICAL DETAILS
POWER ONE-LINE DIAGRAM

DISCIPLINE: ELECTRICAL

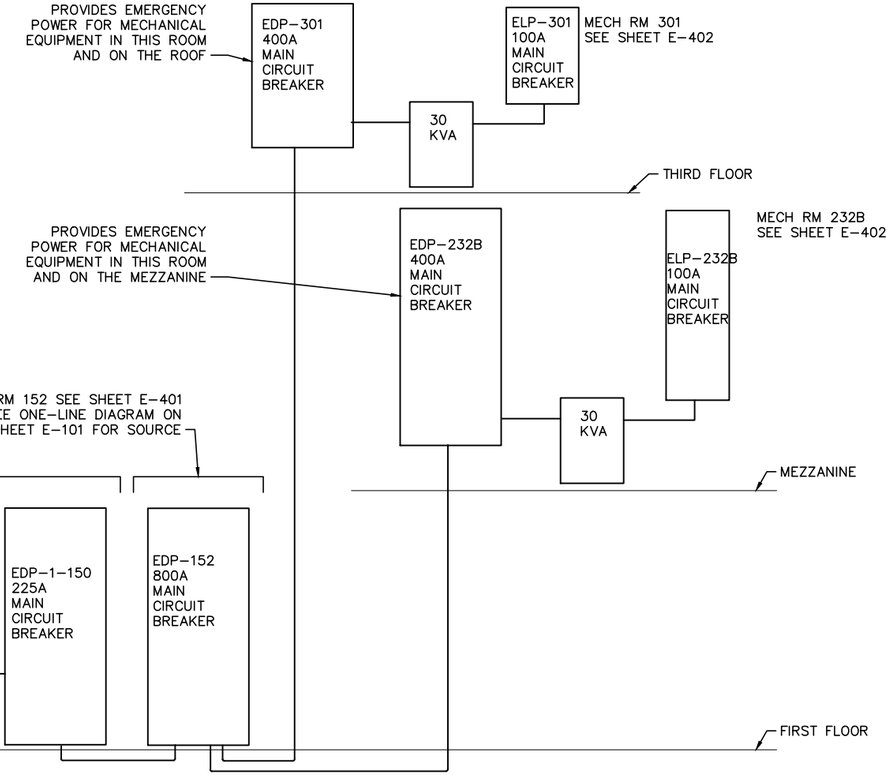
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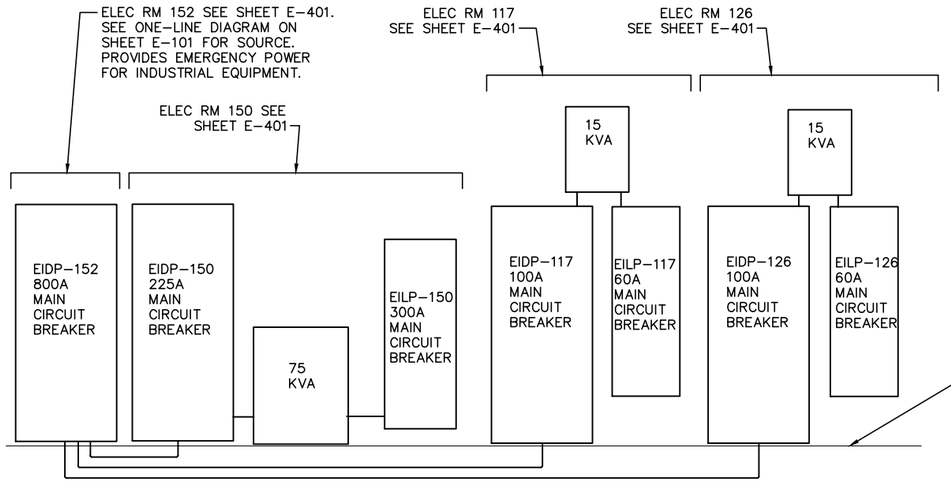
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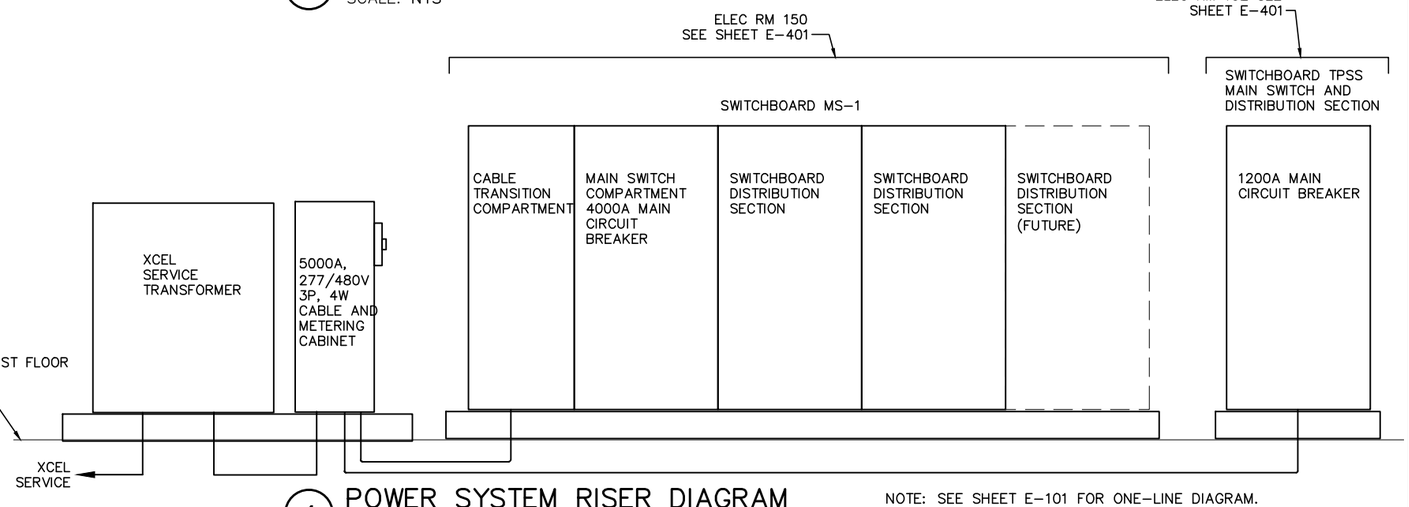
1 LIFE SAFETY SYSTEM POWER RISER
SCALE: NTS



2 EDP MECHANICAL ROOMS RISER
SCALE: NTS



3 TIER 2 INDUSTRIAL EQUIPMENT POWER RISER
SCALE: NTS



4 POWER SYSTEM RISER DIAGRAM
SCALE: NTS

NOTE: SEE SHEET E–101 FOR ONE–LINE DIAGRAM.

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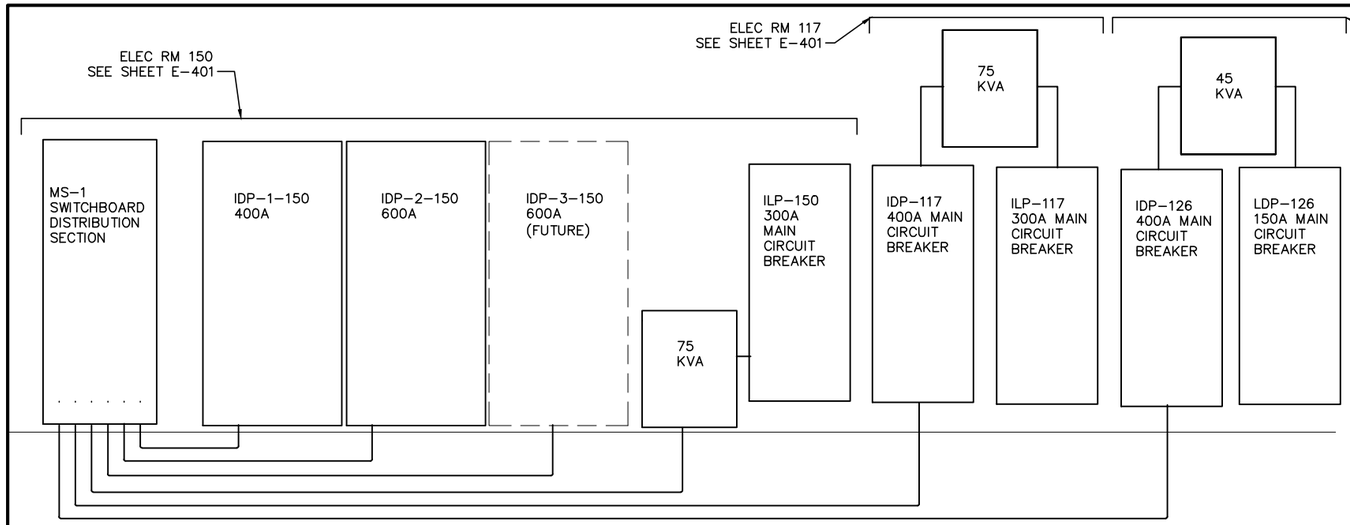
METROPOLITAN COUNCIL
SOUTHWEST
Green Line LRT Extention

WEST - VOLUME 4 (OMF)
ELECTRICAL DETAILS
POWER RISER DIAGRAMS

DISCIPLINE: ELECTRICAL
SHEET NAME: E-102

SHEET 262 OF 288

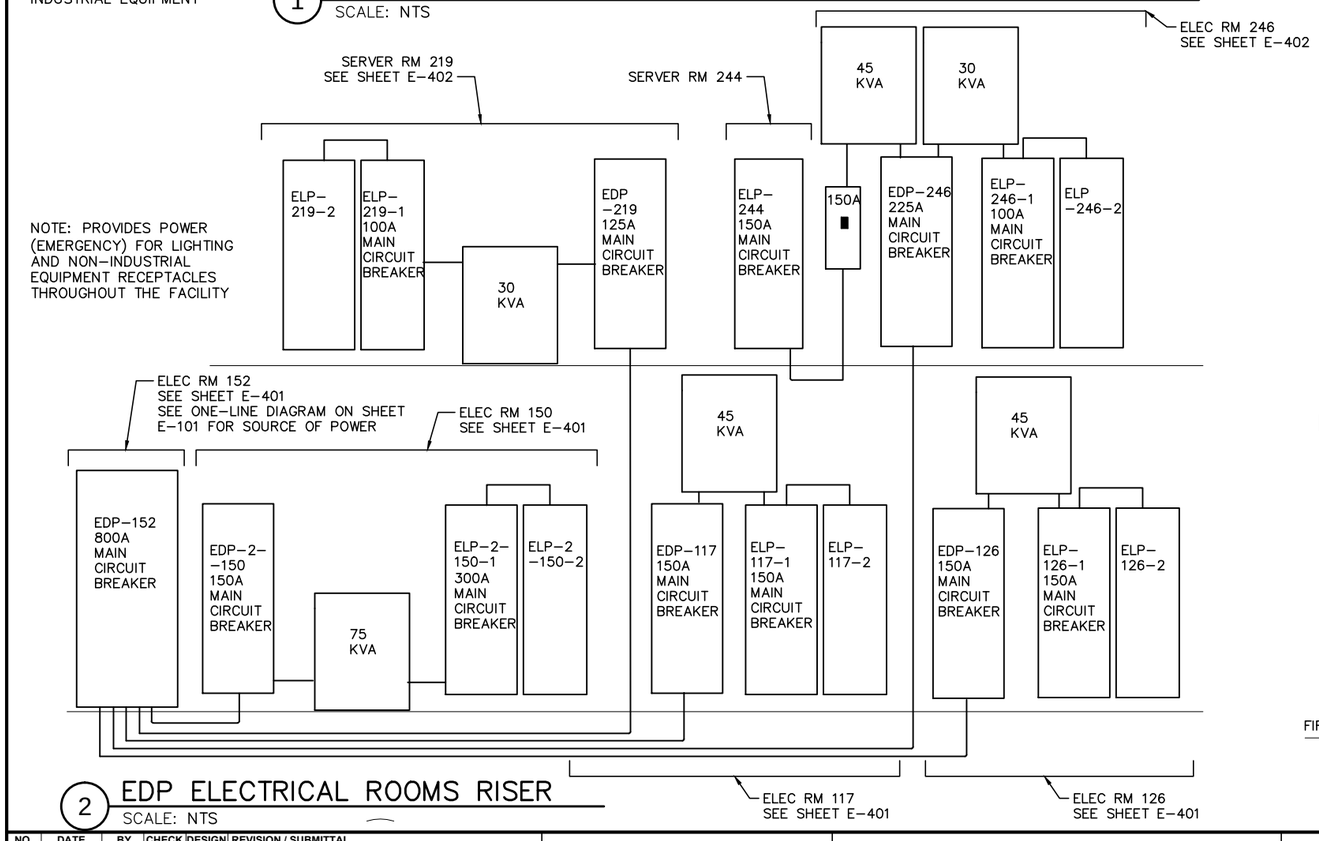
Jun, 27 2014 10:47 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-OLD-102.dwg By: Adam



NOTE: PROVIDES POWER FOR INDUSTRIAL EQUIPMENT

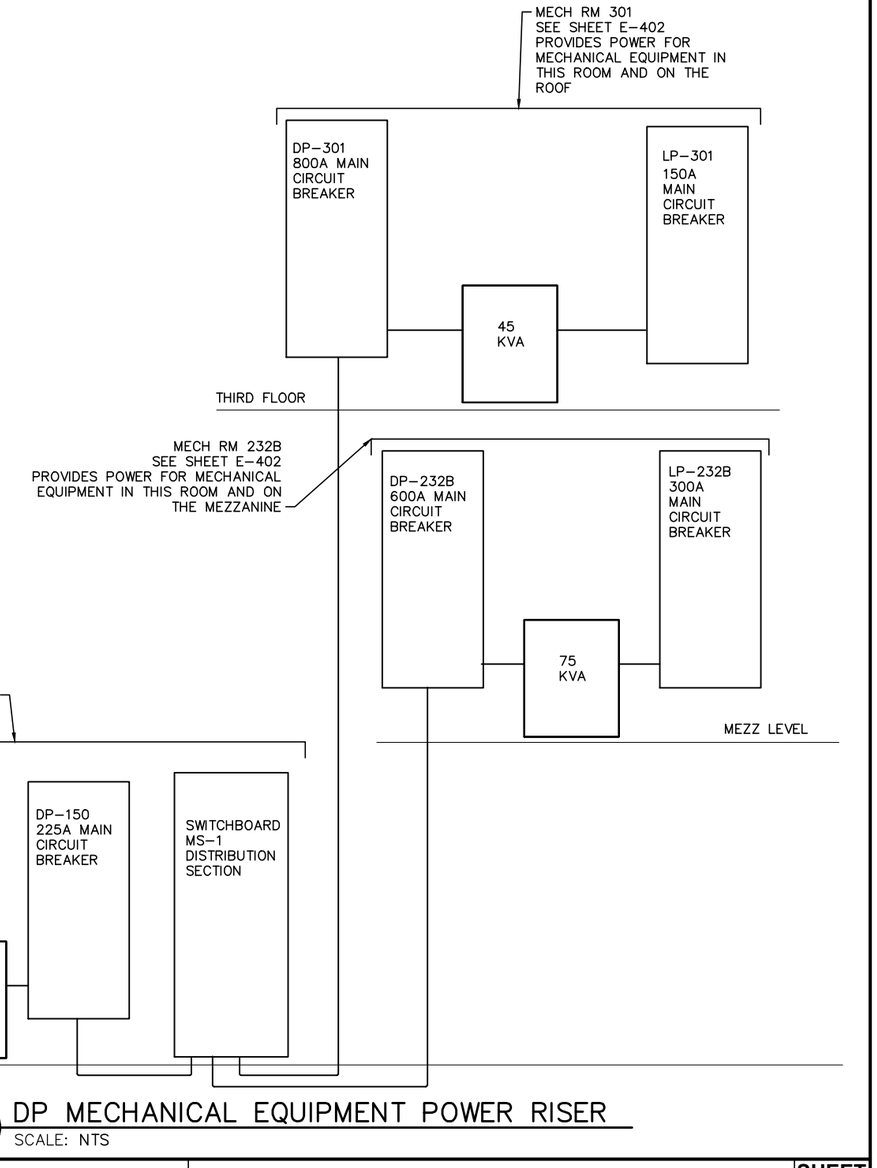
1 INDUSTRIAL EQUIPMENT POWER RISER

SCALE: NTS



2 EDP ELECTRICAL ROOMS RISER

SCALE: NTS



3 DP MECHANICAL EQUIPMENT POWER RISER

SCALE: NTS

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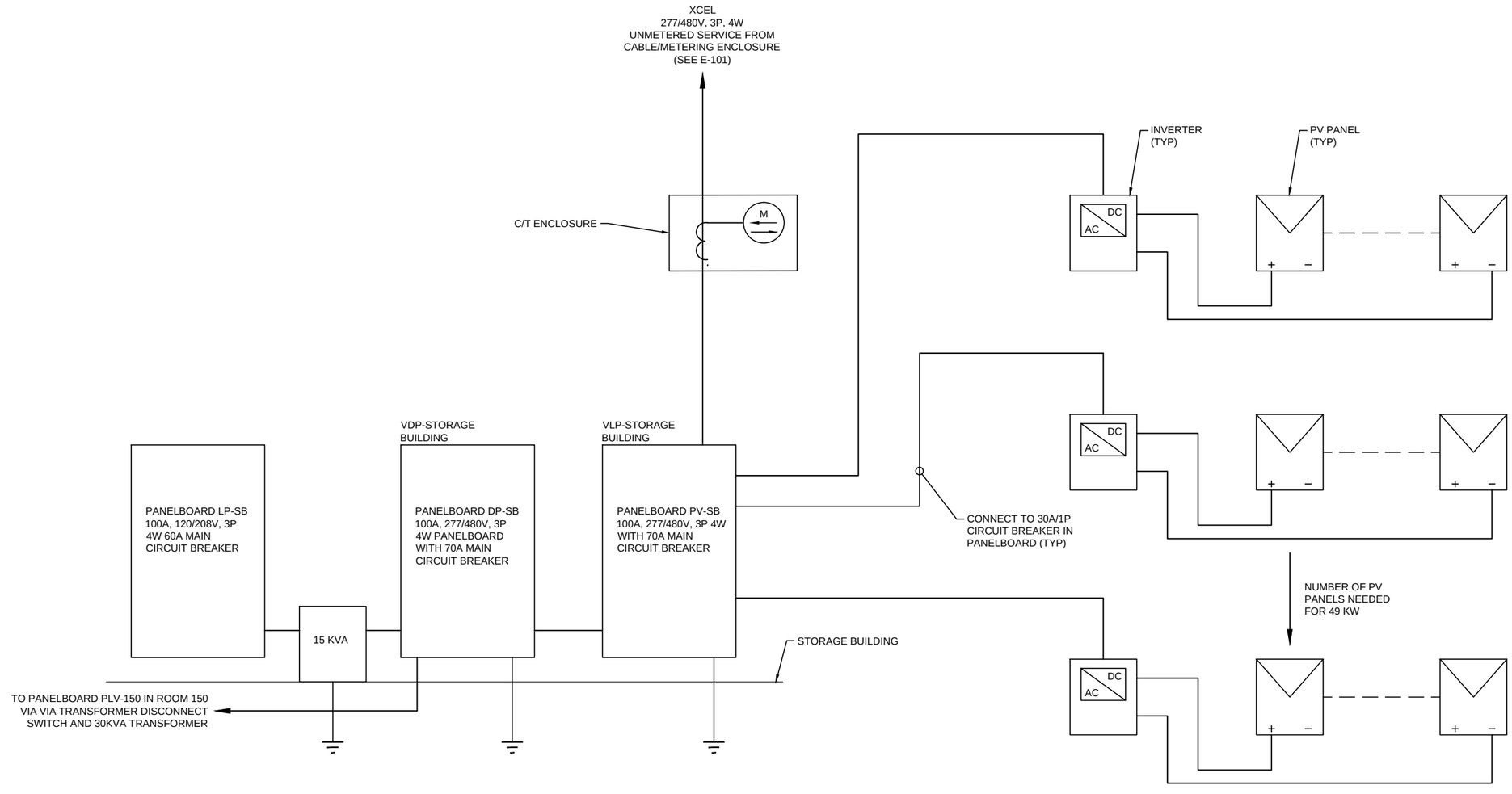
WEST - VOLUME 4 (OMF)
ELECTRICAL DETAILS
POWER RISER DIAGRAMS

DISCIPLINE: ELECTRICAL

SHEET NAME: E-103

SHEET 263 OF 288

Jun, 27 2014 10:47 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-OLD-103.dwg By: Adam



1 PHOTOVOLTAIC SYSTEM POWER RISER
SCALE: NTS

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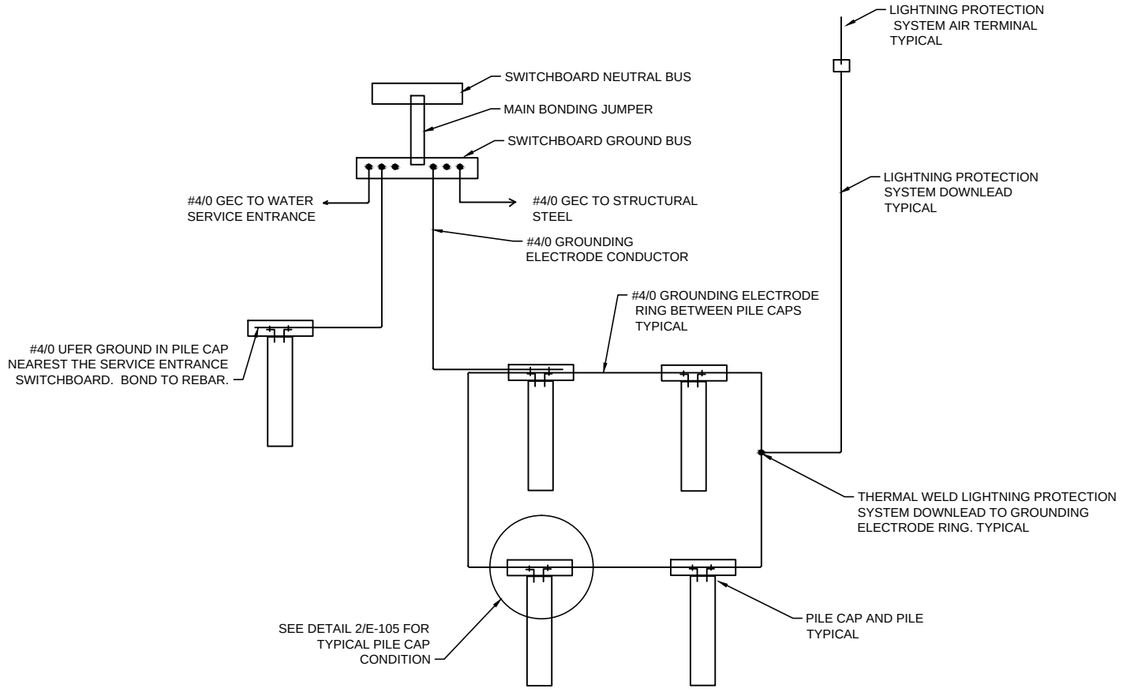
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SOUTHWEST
Green Line LRT Extention

WEST - VOLUME 4 (OMF)
ELECTRICAL DETAILS
POWER RISER DIAGRAMS

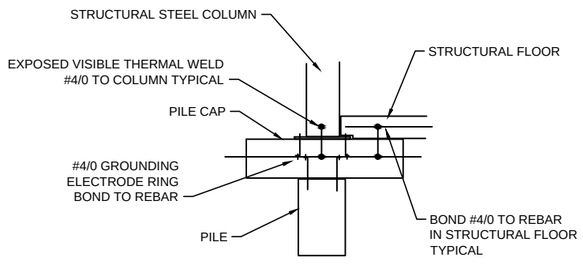
DISCIPLINE: ELECTRICAL
SHEET NAME: E-104

SHEET 264 OF 288

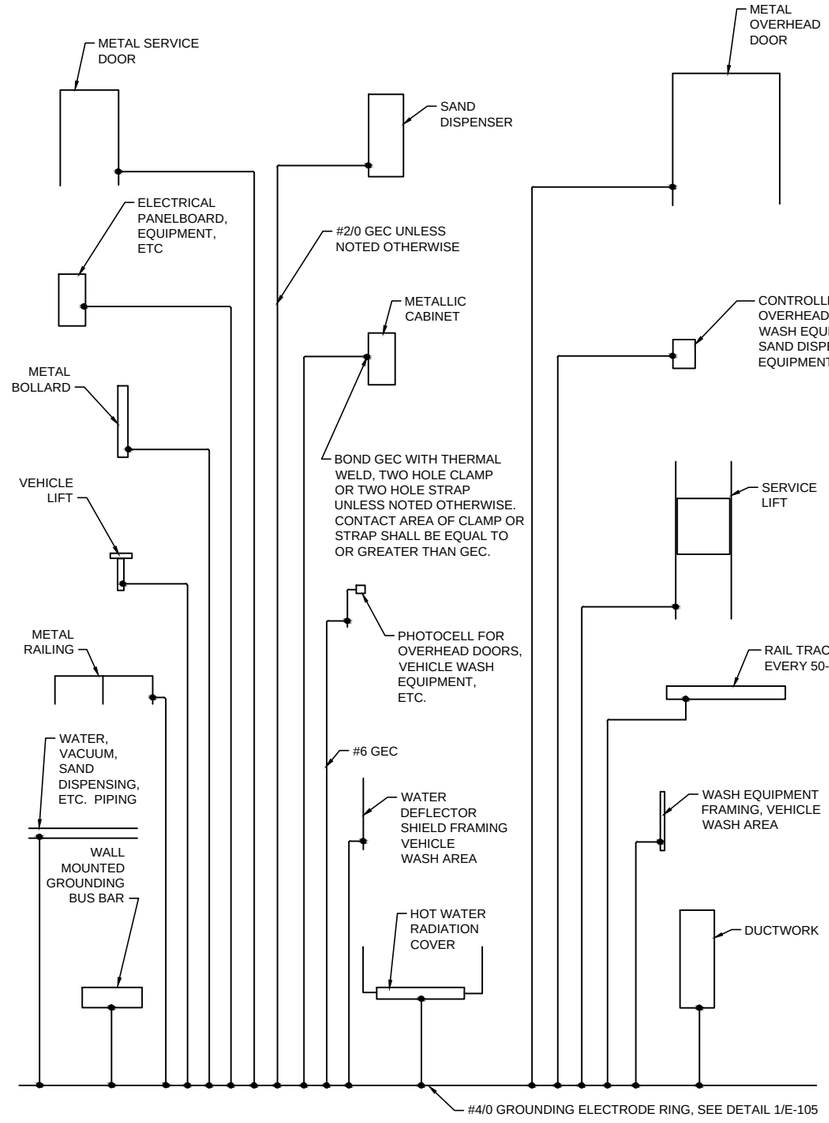
Jun, 27 2014 10:47 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-OLD-104.dwg By: Adam



1 GROUNDING ELECTRODE SYSTEM ONE–LINE DIAGRAM
SCALE: NTS



2 TYPICAL PILE CAP CONDITION
SCALE: NTS



3 SUPPLEMENTAL GROUNDING SYSTEM ONE–LINE DIAGRAM
SCALE: NTS

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WEST - VOLUME 4 (OMF)
ELECTRICAL DETAILS
GROUNDING ONE-LINE DIAGRAMS

DISCIPLINE: ELECTRICAL

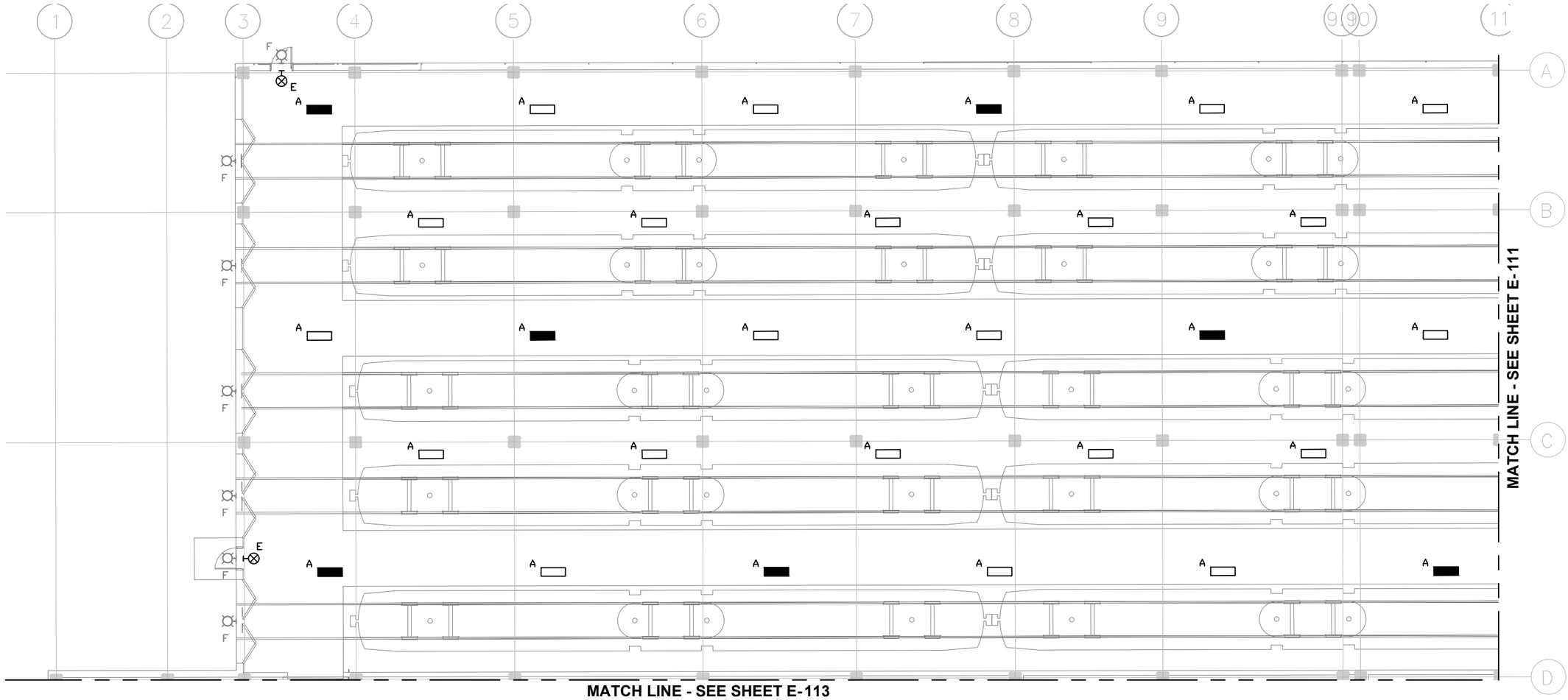
SHEET NAME: E-105

SHEET 265 OF 288

Jun, 27 2014 10:47 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-OLD-105.dwg By: Adam

GENERAL NOTE:

1. ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING WILL BE FED FROM EDP-117. EXIT AND EGRESS LUMINAIRES WILL BE FED FROM SDP-126.



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HORIZONTAL SCALE IN FEET

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WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
1ST FLOOR PLAN - AREA 1

DISCIPLINE: ELECTRICAL

SHEET NAME: E-110

SHEET 266 OF 288

Jun. 27 2014 10:47 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-PLN-110.dwg By: Adam

ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP–117. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP–126.

ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP–126. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP–126.

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MATCH LINE - SEE SHEET E-110

MATCH LINE - SEE SHEET E-112

MATCH LINE - SEE SHEET E-114

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HORIZONTAL SCALE IN FEET

Jun, 27 2014 10:48 am V:\3200_PEC–W\CAD\OMF\PLAN SHEET\ELEC\OMF–ELE–PLN–111.dwg By: Adam

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WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
1ST FLOOR PLAN - AREA 2

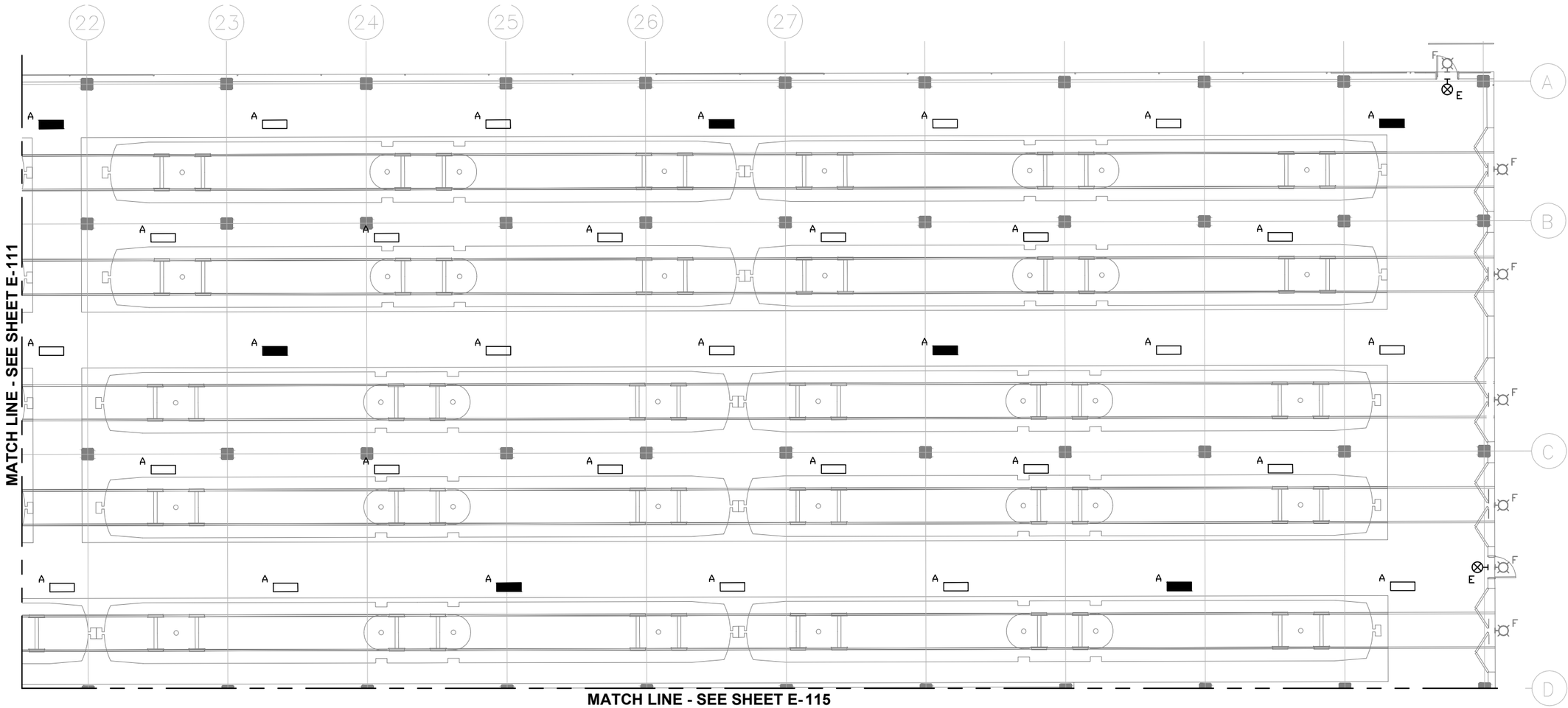
DISCIPLINE: ELECTRICAL

SHEET NAME: E-111

SHEET 267 OF 288

GENERAL NOTE:

1. ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP–126. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP–126.



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HORIZONTAL SCALE IN FEET

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WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
1ST FLOOR PLAN - AREA 3

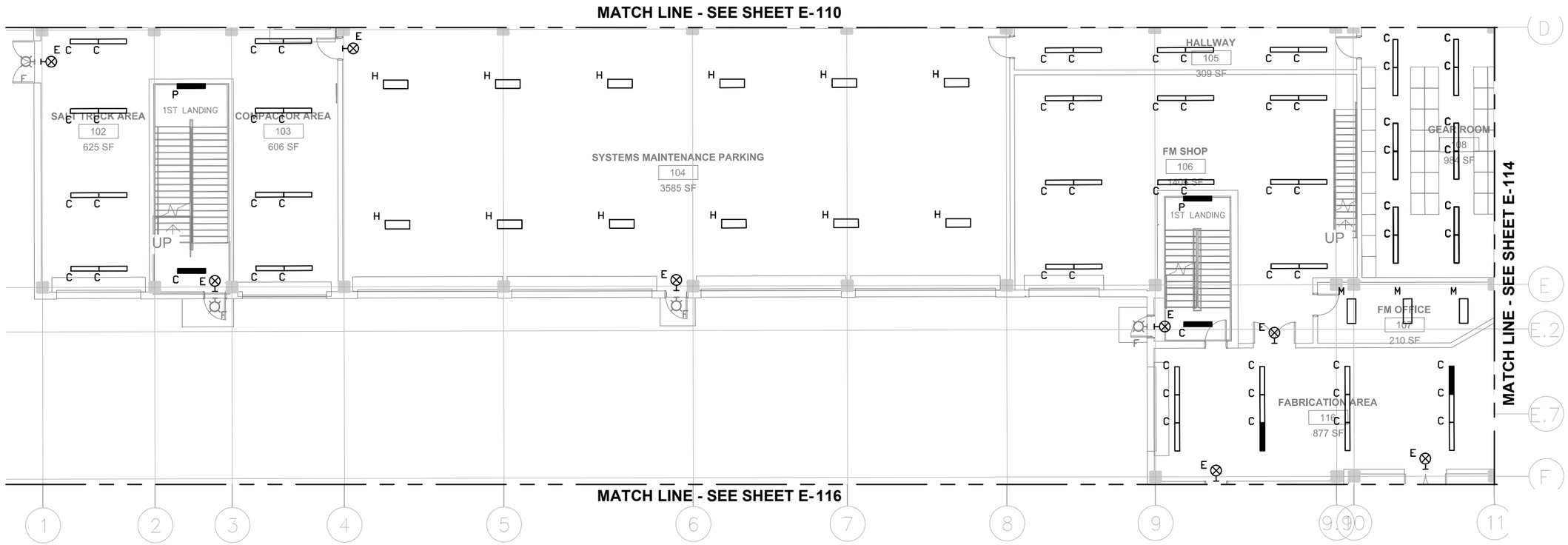
DISCIPLINE: ELECTRICAL
SHEET NAME: E-112

SHEET 268 OF 288

Jun. 27 2014 10:48 am V:\3200_PEC–W\CAD\OMF\PLAN SHEET\ELEC\OMF–ELE–PLN–112.dwg By: Adam

GENERAL NOTE:

1. ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP–117. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP–126.



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HORIZONTAL SCALE IN FEET

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WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
1ST FLOOR PLAN - AREA 4

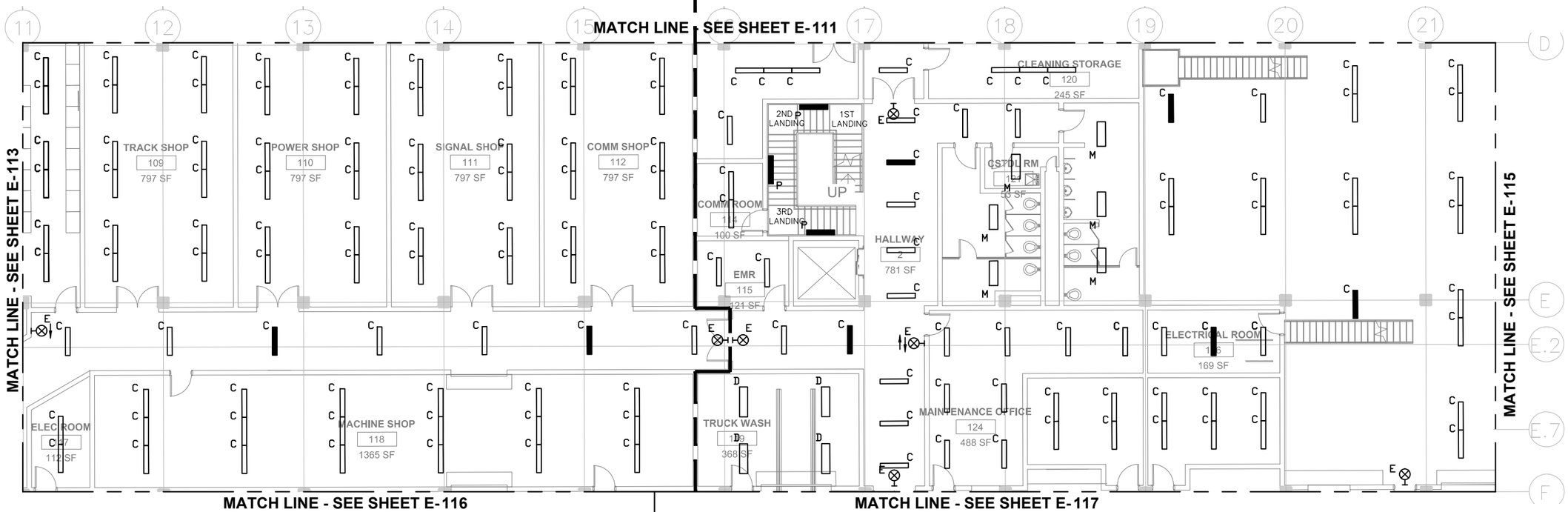
DISCIPLINE: ELECTRICAL
SHEET NAME: E-113

SHEET 269 OF 288

Jun. 27 2014 10:48 am V:\3200_PEC–W\CAD\OMF\PLAN SHEET\ELEC\OMF–ELE–PLN–113.dwg By: Adam

ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP–117. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP–126.

ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP–126. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP–126.



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WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
1ST FLOOR PLAN - AREA 5

SHEET 270 OF 288

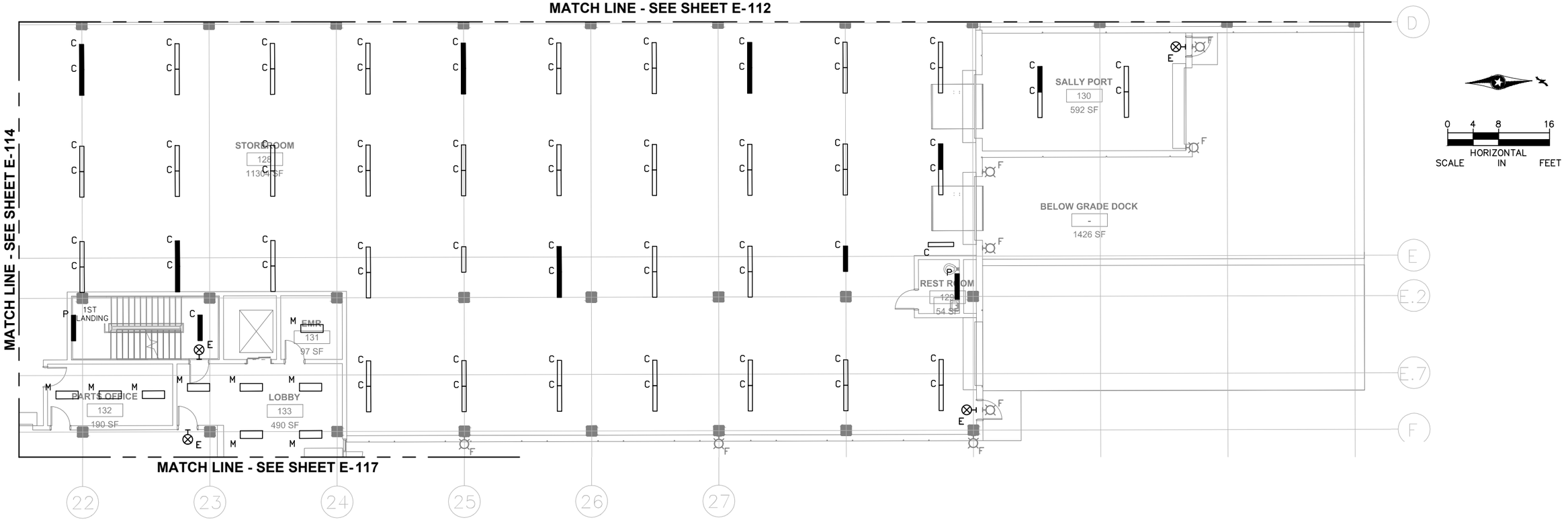
DISCIPLINE: ELECTRICAL

SHEET NAME: E-114

Jun. 27 2014 10:48 am V:\3200_PEC–W\CAD\OMF\PLAN SHEET\ELEC\OMF–ELE–PLN–114.dwg By: Adam

GENERAL NOTE:

1. ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP–126. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP–126.



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WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
1ST FLOOR PLAN - AREA 6

DISCIPLINE: ELECTRICAL

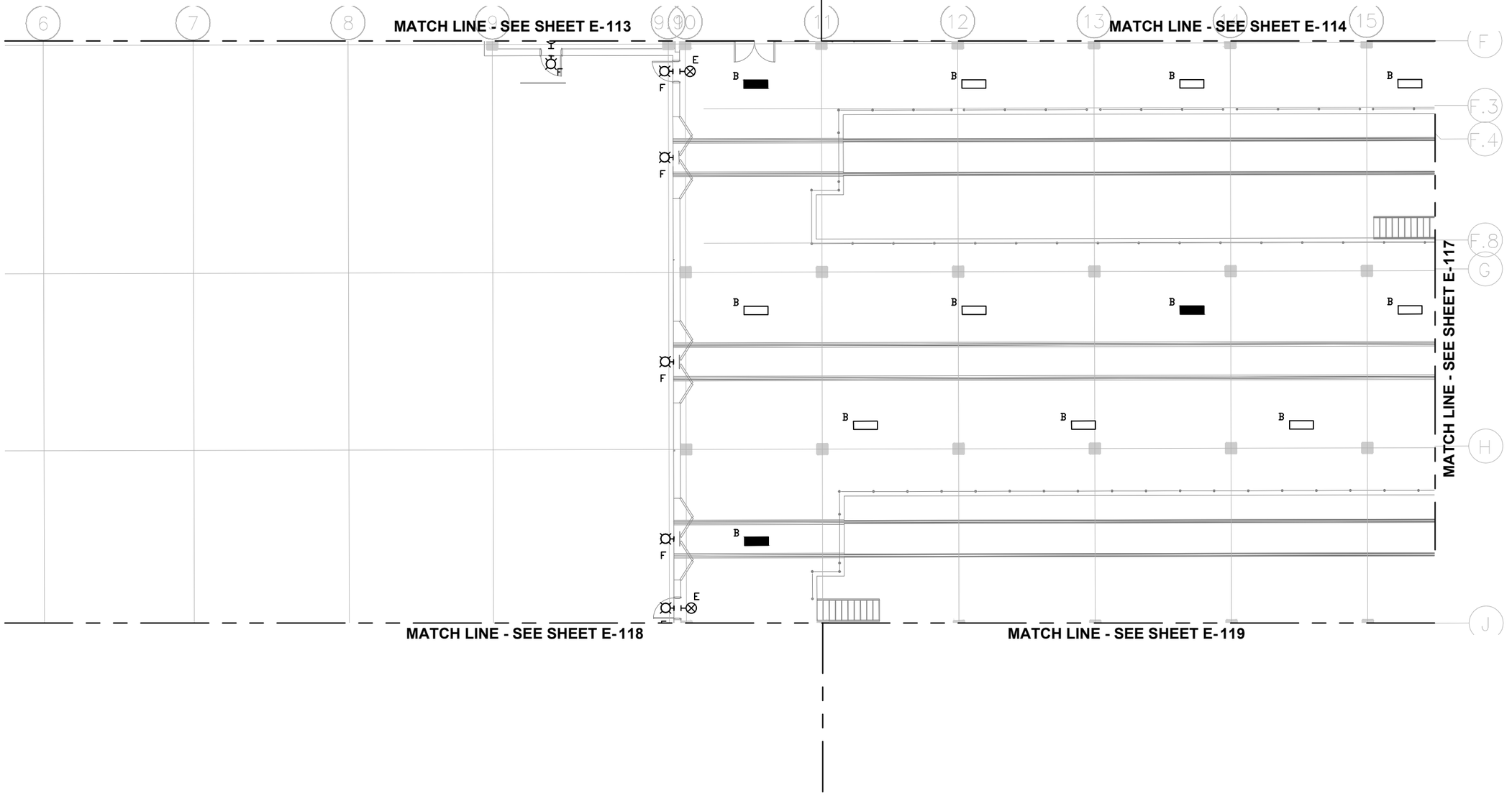
SHEET NAME: E-115

SHEET 271 OF 288

Jun, 27 2014 10:48 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-PLN-115.dwg By: Adam

GENERAL NOTES:

1. SEE SHEET E-300 FOR LIGHTING IN PIT AREA AND UNDER MEZZANINE PLATFORM.
2. SEE SHEET E-152 FOR LIGHTING ABOVE MEZZANINE PLATFORM.
3. ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP-2-150. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP-150.



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WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
1ST FLOOR PLAN - AREA 7

DISCIPLINE: ELECTRICAL

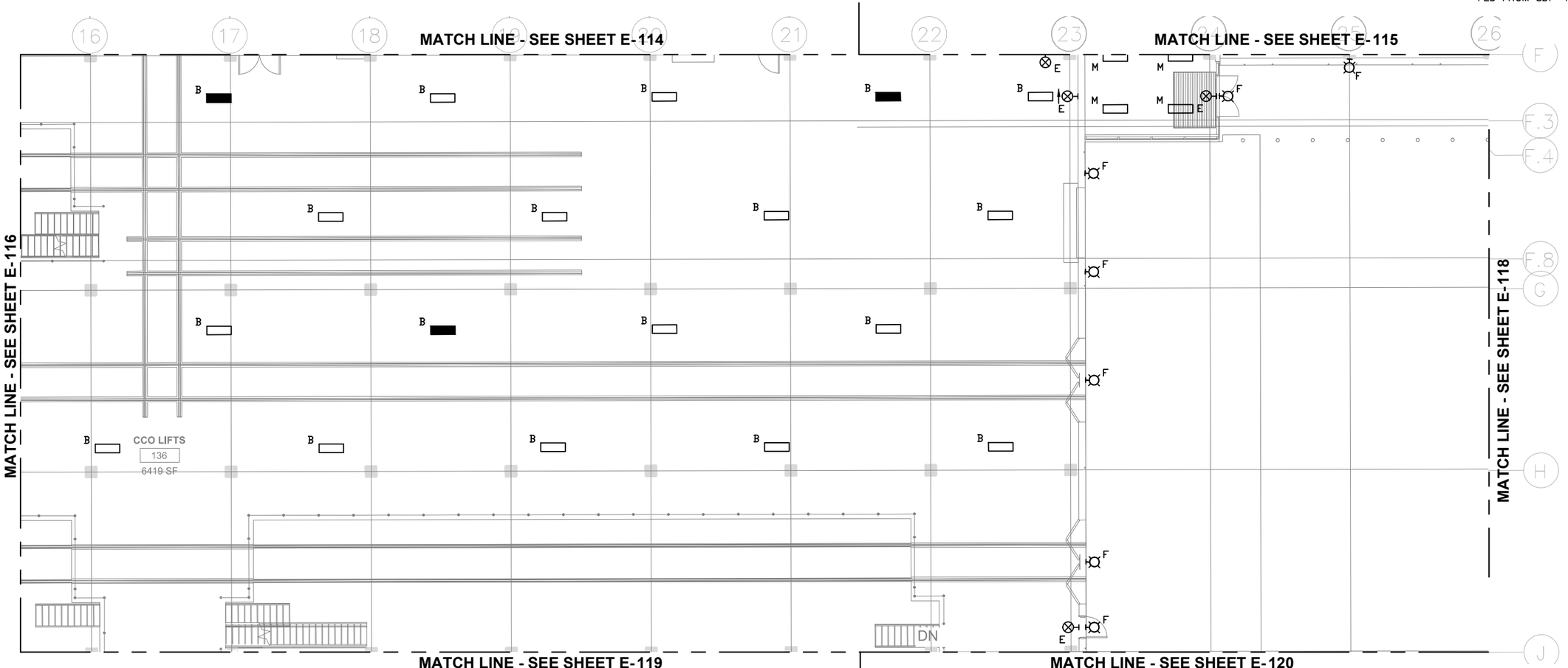
SHEET NAME: E-116

SHEET 272 OF 288

Jun, 27 2014 10:49 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-PLN-116.dwg By: Adam

GENERAL NOTES:

1. SEE SHEET E-300 FOR LIGHTING IN PIT AREA AND UNDER MEZZANINE PLATFORM.
2. SEE SHEET E-152 AND E-153 FOR LIGHTING ABOVE MEZZANINE PLATFORM.
3. ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP-2-150. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP-150.



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WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
1ST FLOOR PLAN - AREA 8

DISCIPLINE: ELECTRICAL

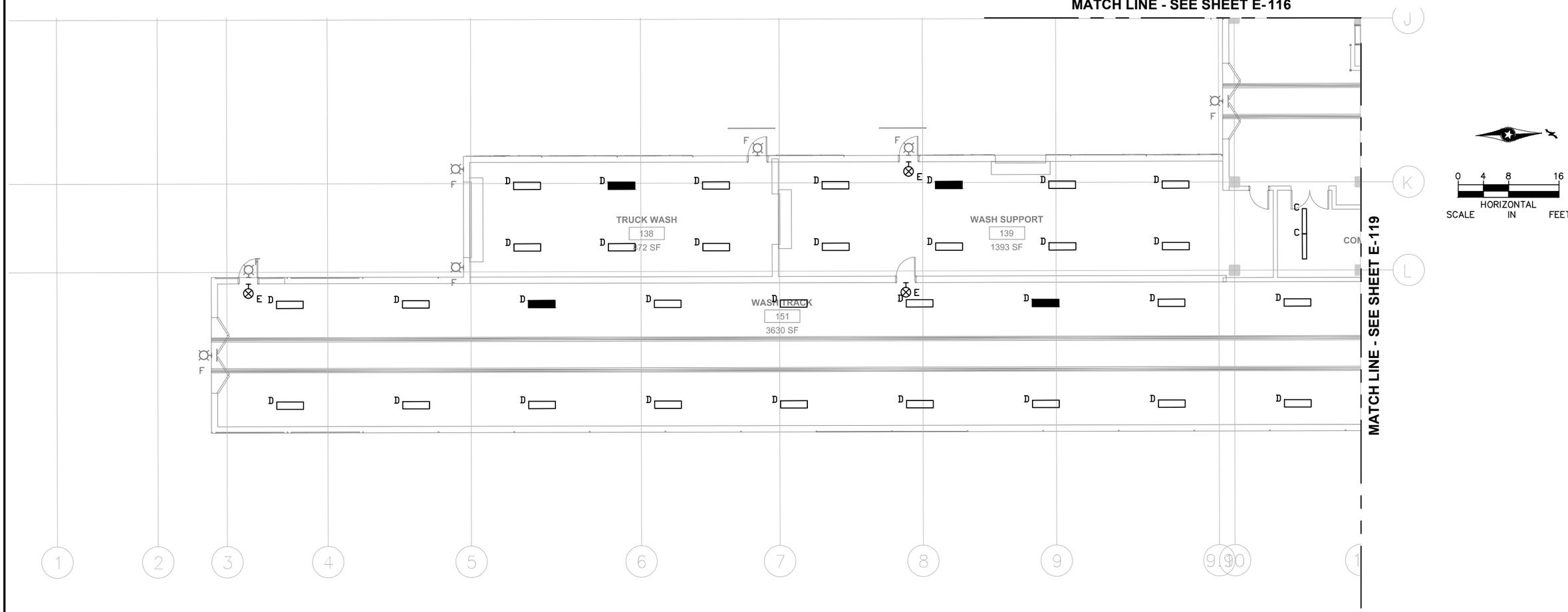
SHEET NAME: E-117

SHEET 273 OF 288

Jun, 27 2014 10:49 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-PLN-117.dwg By: Adam

GENERAL NOTE:

1. SEE SHEET E–300 FOR LIGHTING IN PIT AREA AND UNDER MEZZANINE PLATFORM.
2. SEE SHEET E–152 FOR LIGHTING ABOVE MEZZANINE PLATFORM.
3. ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP–2–150. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP–150.



Jun. 27 2014 10:49 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-PLN-118.dwg By: Adam

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WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
1ST FLOOR PLAN - AREA 9

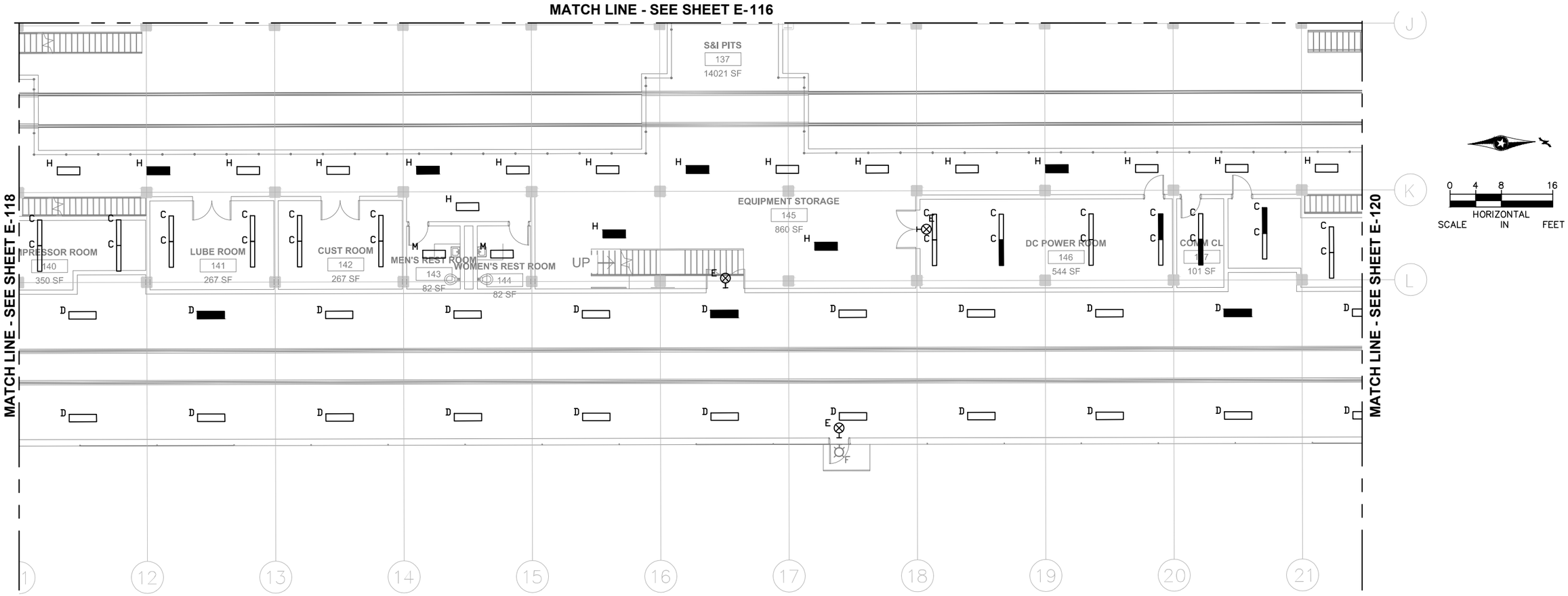
DISCIPLINE: ELECTRICAL

SHEET NAME: E-118

SHEET 274 OF 288

GENERAL NOTE:

1. SEE SHEET E-300 FOR LIGHTING IN PIT AREA AND UNDER MEZZANINE PLATFORM.
2. SEE SHEET E-152 AND E-153 FOR LIGHTING ABOVE MEZZANINE PLATFORM.
3. ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP-2-150. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP-150.



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WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
1ST FLOOR PLAN - AREA 10

DISCIPLINE: ELECTRICAL

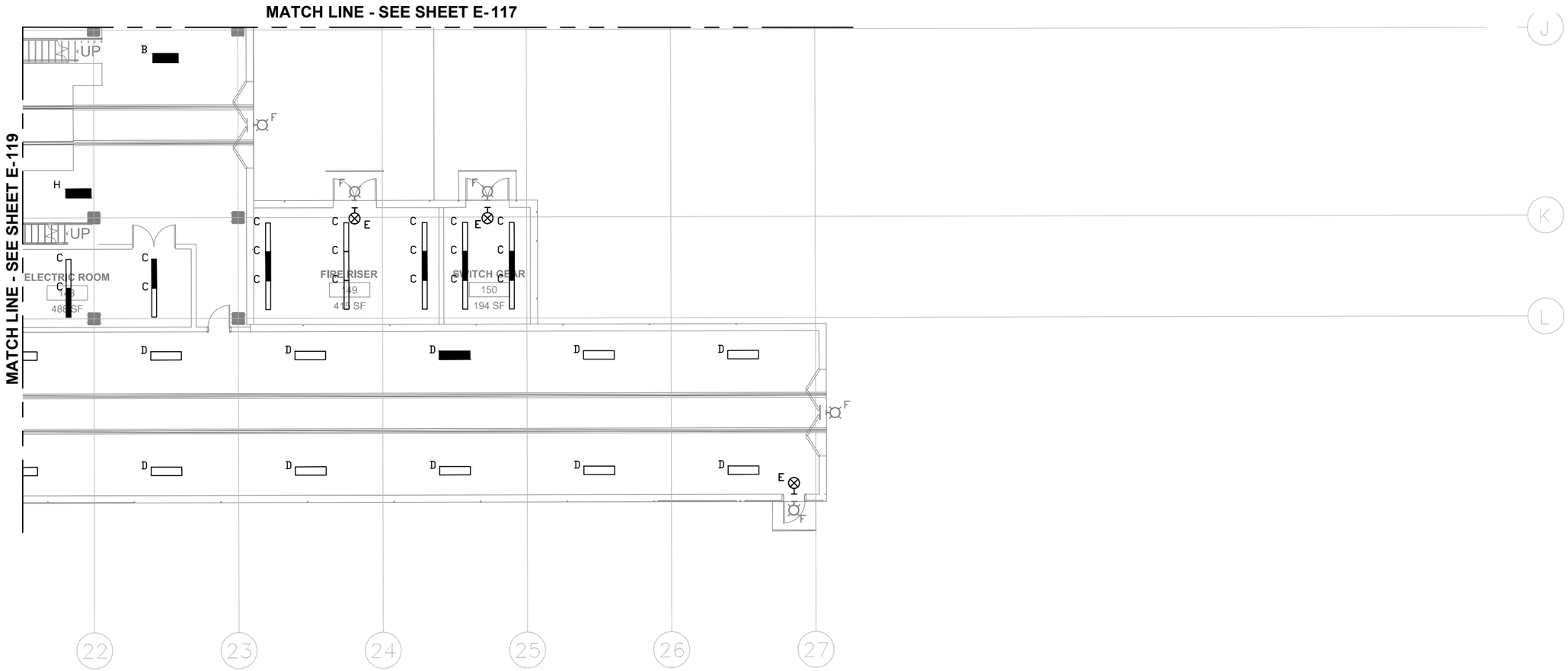
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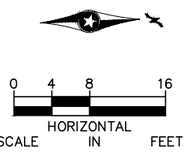
SHEET 275 OF 288

Jun, 27 2014 10:49 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-PLN-119.dwg By: Adam

GENERAL NOTES:

1. SEE SHEET E–300 FOR LIGHTING IN PIT AREA AND UNDER MEZZANINE PLATFORM.
2. SEE SHEET E–152 AND E–153 FOR LIGHTING ABOVE MEZZANINE PLATFORM.
3. ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP–150. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP–150.





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METROPOLITAN COUNCIL

SOUTHWEST
Green Line LRT Extention

WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
1ST FLOOR PLAN - AREA 11

DISCIPLINE: ELECTRICAL

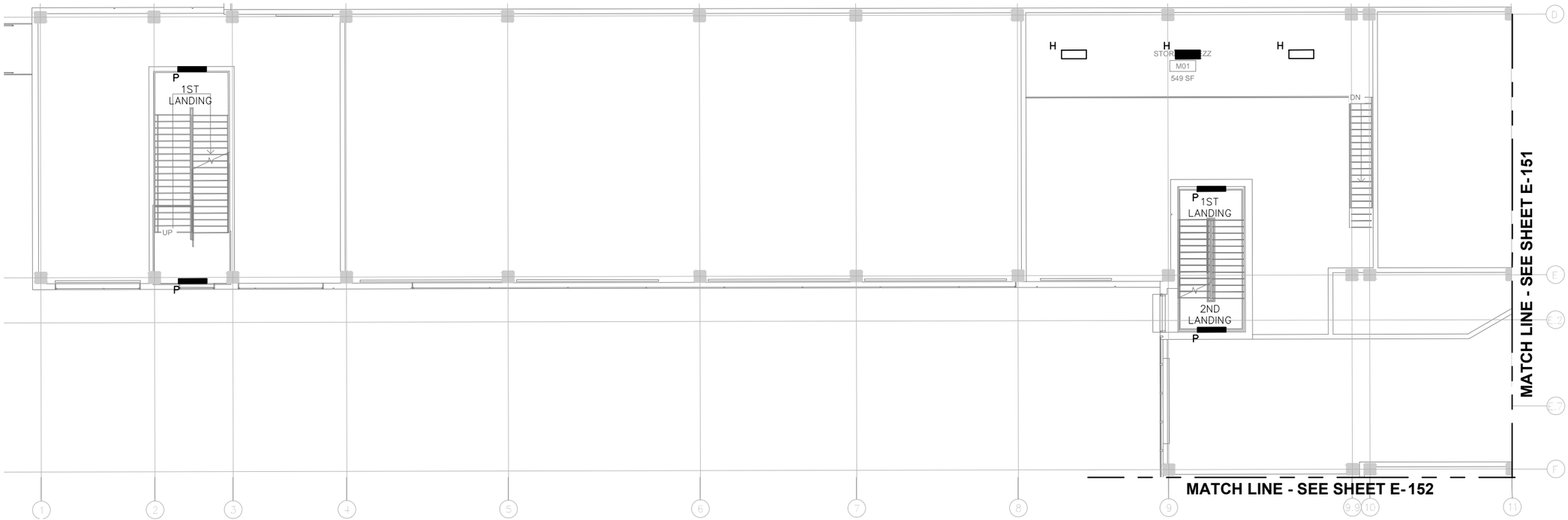
SHEET NAME: E-120

SHEET 276 OF 288

Jun. 27 2014 10:49 am V:\3200_PEC–W\CAD\OMF\PLAN SHEET\ELEC\OMF–ELE–PLN–120.dwg By: Adam

GENERAL NOTE:

1. ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP–219. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP–246.



0 4 8 16
HORIZONTAL
SCALE IN FEET

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METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
MEZZANINE PLAN - AREA 4

DISCIPLINE: ELECTRICAL

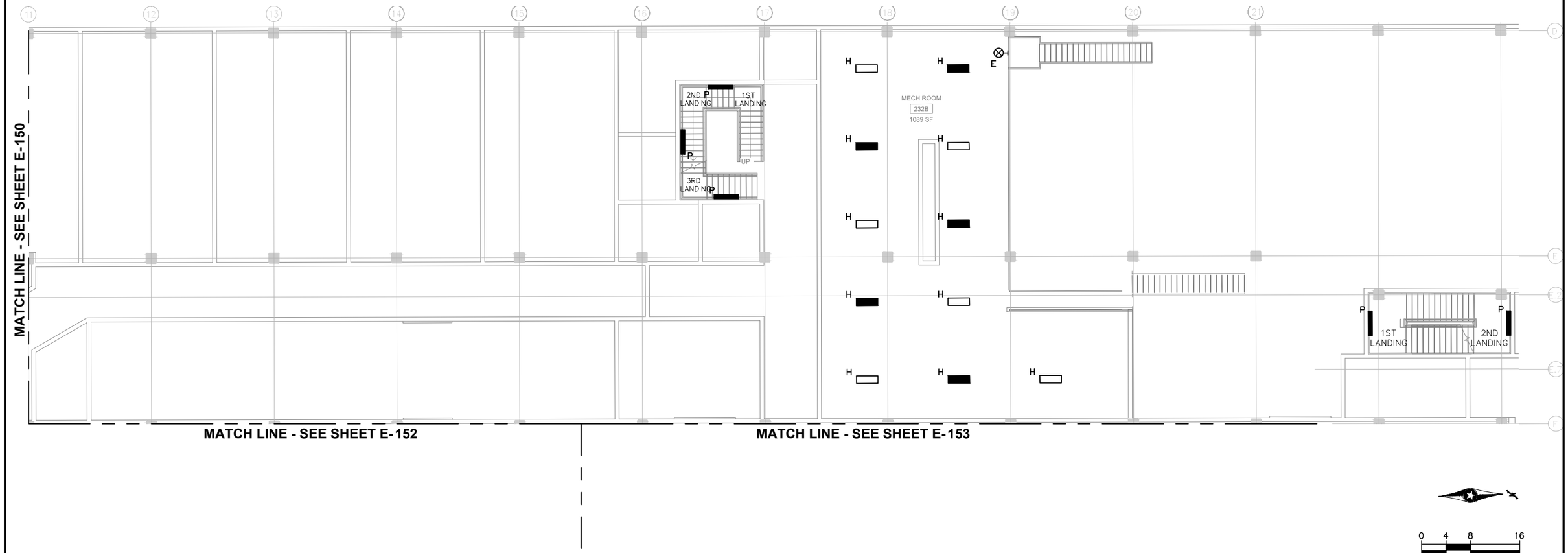
SHEET NAME: E-150

SHEET 277 OF 288

Jun, 27 2014 10:50 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-PLN-150.dwg By: Adam

GENERAL NOTE:

1. ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP–246. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP–246.



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SOUTHWEST Green Line LRT Extention

WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
MEZZANINE PLAN - AREA 5

DISCIPLINE: ELECTRICAL
SHEET NAME: E-151

SHEET 278 OF 288

Jun. 27 2014 10:50 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-PLN-151.dwg By: Adam

MATCH LINE - SEE SHEET E-150



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WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
MEZZANINE PLAN - AREA 7

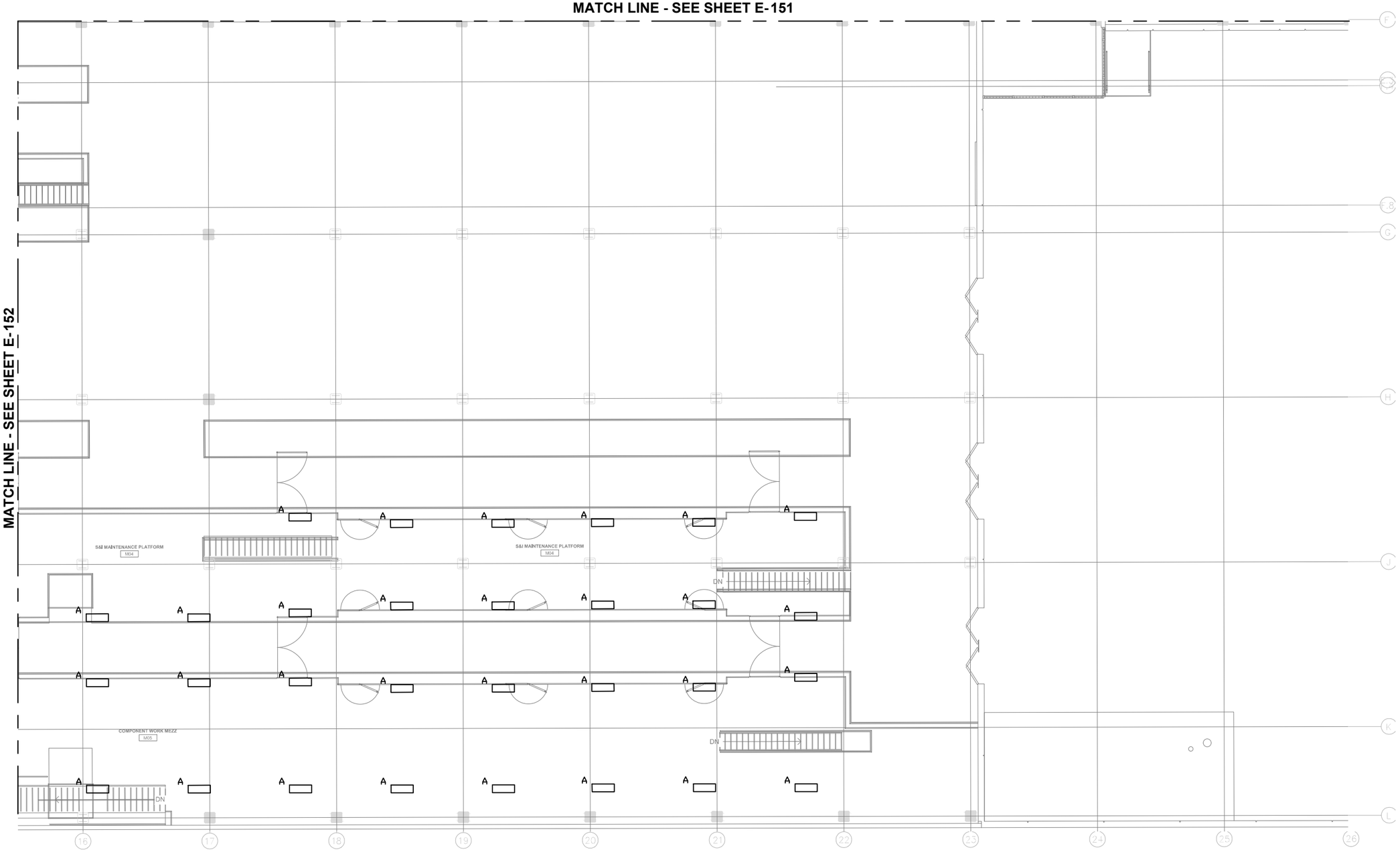
DISCIPLINE: ELECTRICAL
SHEET NAME: E-152

SHEET 279 OF 288

Jun, 27 2014 10:50 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-PLN-152.dwg By: Adam

MATCH LINE - SEE SHEET E-151

MATCH LINE - SEE SHEET E-152



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Green Line LRT Extention

WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
MEZZANINE PLAN - AREA 8

DISCIPLINE: ELECTRICAL

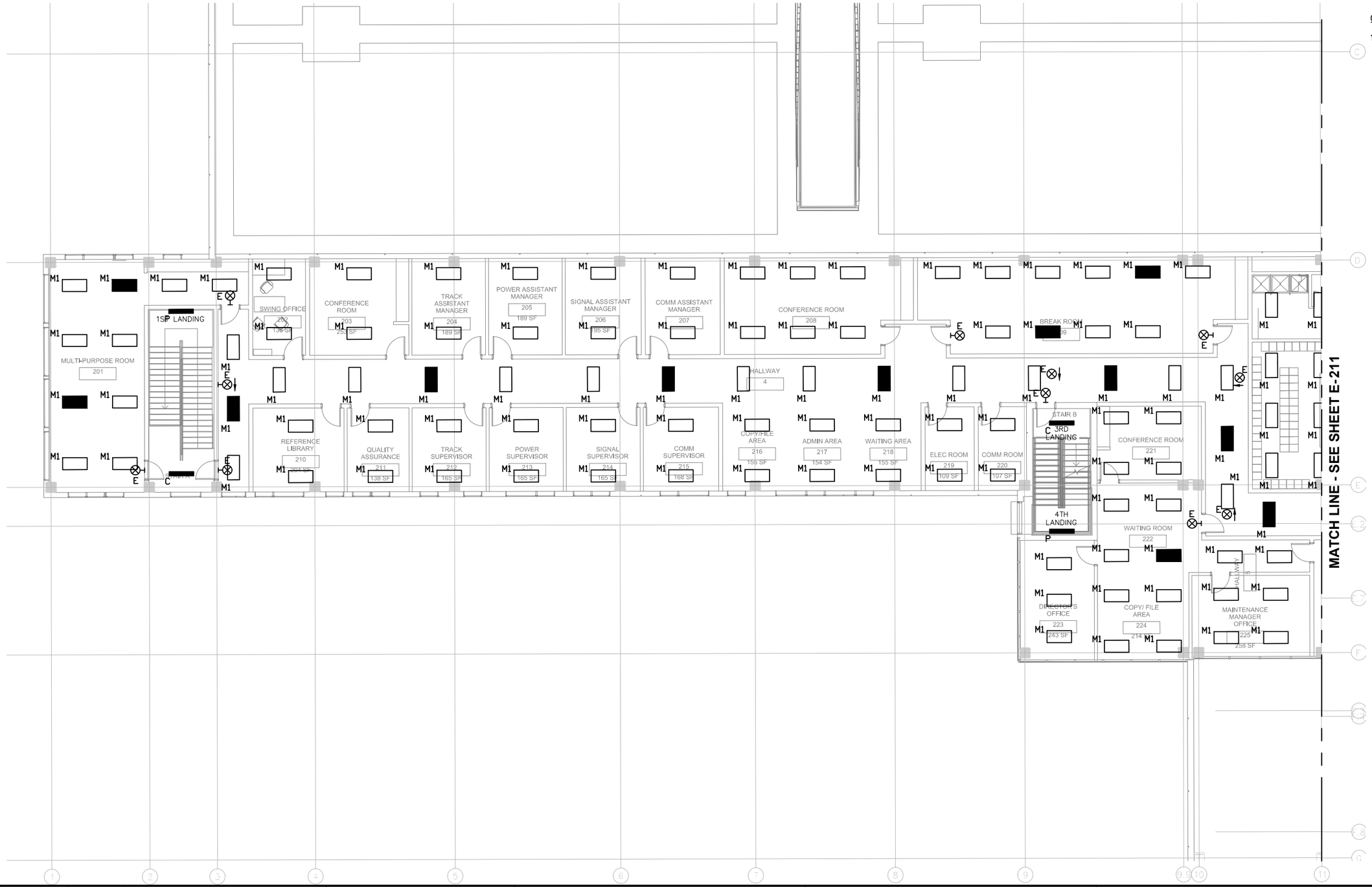
SHEET NAME: E-153

SHEET 280 OF 288

Jun, 27 2014 10:50 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-PLN-153.dwg By: Adam

GENERAL NOTE:

1. ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP-219. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP-246.



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WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
2ND FLOOR PLAN - AREA 4

DISCIPLINE: ELECTRICAL
SHEET NAME: E-210

SHEET 281 OF 288

Jun, 27 2014 10:50 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-PLN-210.dwg By: Adam

ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP–219. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP–246.

ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP–246. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP–246.

MATCH LINE - SEE SHEET E-210

MATCH LINE - SEE SHEET E-212

MEN'S REST ROOM 232C 344 SF
WOMEN'S REST ROOM 235A 439 SF
MEN'S LOCKER ROOM 234 874 SF
WOMEN'S LOCKER ROOM 235 285 SF
CUST CL 236 86 SF
STORAGE ROOM 237 113 SF
TRAINING ROOM 242 769 SF
VHC MAINT TRAIN OFFICE 239 126 SF
TRAINING RECORDS 240 89 SF
SYST MAINT TRAIN OFFICE 238 127 SF
OPS TRAIN OFFICE 241 89 SF
TRAINING STORAGE 243 235 SF
HALLWAY 114 SF
2ND LANDING
1ST LANDING
OPEN TO BELOW
3RD LANDING
HALLWAY 6
ELEV A 90 SF
LOCKER ROOM 247
MEN'S REST ROOM AND SHOWER 248 222 SF
GEAR STORAGE 252 133 SF
RAIL SUPERVISOR OFFICE 253 340 SF
READY ROOM 268 475 SF
HALLWAY 7
QUIET ROOM 265 270 SF
LAUN/LOCK AREA 226 81 SF
VEND AREA 234 58 SF
DRUG TEST ROOM 232 168 SF
SERVER ROOM 244 260 SF
COMM ROOM 245 90 SF
ELEC ROOM 246 96 SF
VLM
SWING OFFICE 226 206 SF
FITNESS CENTER 227 642 SF
COMPUTER LAB 229 412 SF
CONFERENCE ROOM 230 488 SF
SPECIAL NEEDS ROOM 233 105 SF

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WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
2ND FLOOR PLAN - AREA 5

DISCIPLINE: ELECTRICAL
SHEET NAME: E-211

SHEET 282 OF 288

Jun, 27 2014 10:50 am v:\3200_PEC–W\CAD\OMF\PLAN SHEET\ELEC\OMF–ELE–PLN–211.dwg By: Adam

GENERAL NOTE:

1. ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP-246. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP-246.



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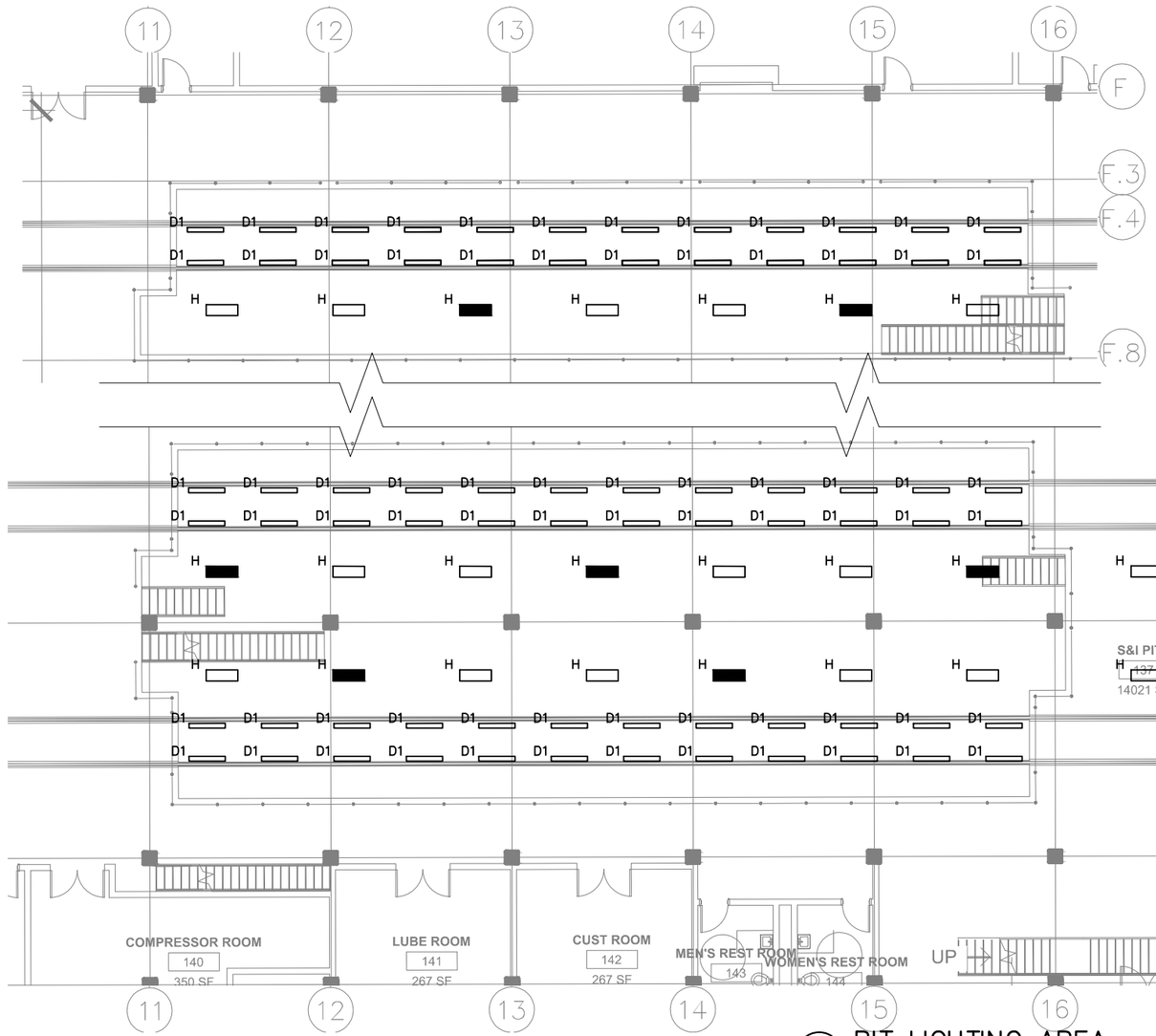
METROPOLITAN COUNCIL
SOUTHWEST
Green Line LRT Extention

WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
2ND FLOOR PLAN - AREA 6

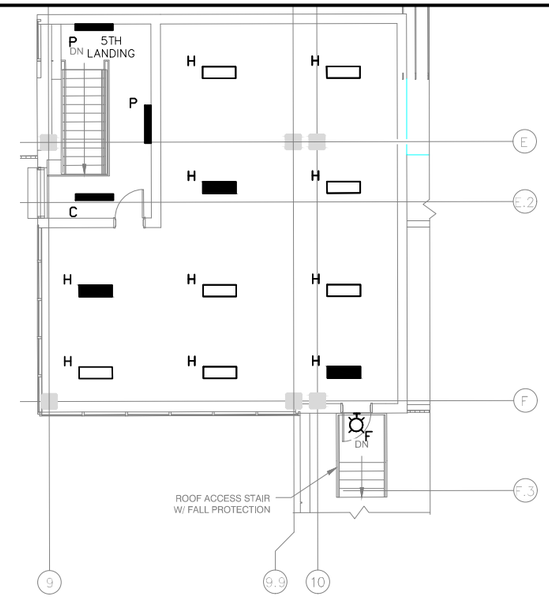
DISCIPLINE: ELECTRICAL
SHEET NAME: E-212

SHEET 283 OF 288

Jun. 27 2014 10:50 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-PLN-212.dwg By: Adam



1 PIT LIGHTING AREA
SCALE: 1/8" = 1'-0"



2 3RD FLOOR LIGHTING PLAN MECH RM 301
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ALL LUMINAIRES EXCEPT EXIT AND EGRESS LIGHTING SHALL BE FED FROM EDP-219. EXIT AND EGRESS LUMINAIRES SHALL BE FED FROM SDP-246.
2. TYPE D1 LUMINAIRES SHALL BE FED FROM PANELBOARD EDP-2-150 AND MOUNTED ON UNDERSIDE OF TRACK IN PIT.
3. TYPE H LUMINAIRE FIXTURES SHALL BE MOUNTED ON UNDERSIDE OF MEZZANINE PLATFORM.

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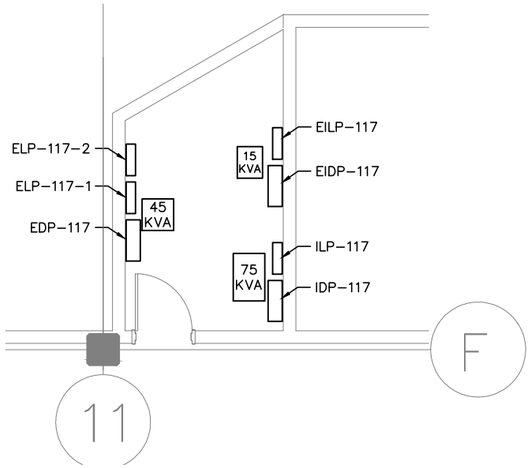
METROPOLITAN COUNCIL
SOUTHWEST
Green Line LRT Extention

WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
PIT AREA & 3RD FLOOR PLAN - AREA 4

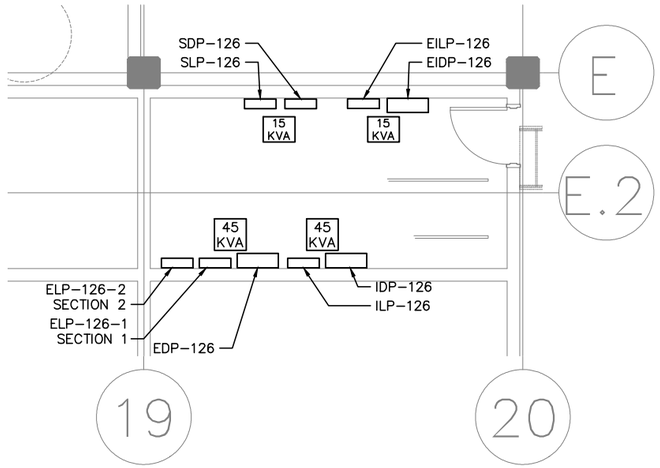
DISCIPLINE: ELECTRICAL
SHEET NAME: E-300

SHEET 284 OF 288

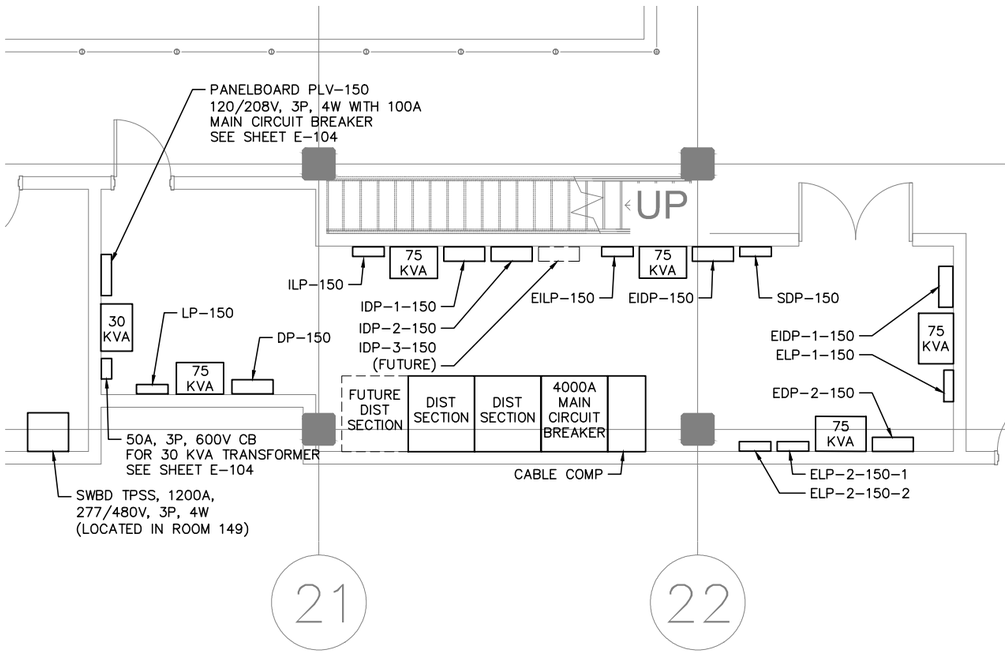
Jun, 27 2014 10:51 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-PLN-300.dwg By: Adam



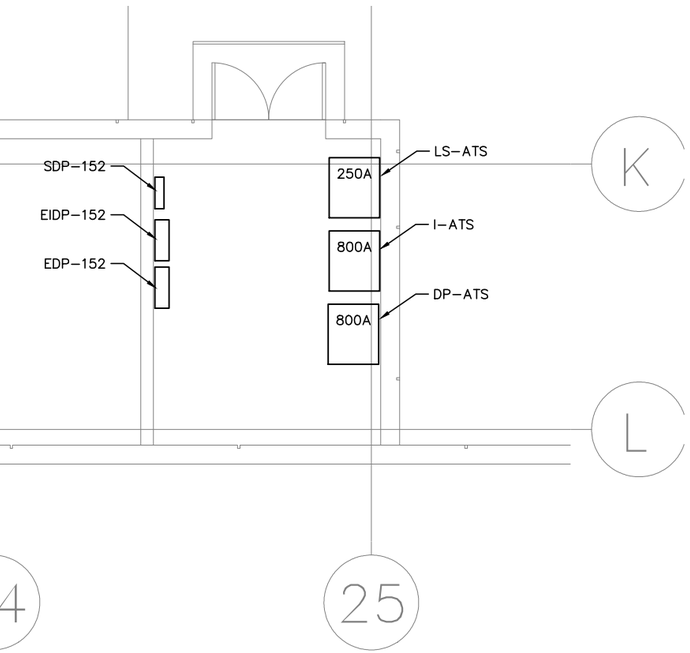
1 ELECTRICAL ROOM 117
SCALE: 1/4" = 1'–0"



2 ELECTRICAL ROOM 126
SCALE: 1/4" = 1'–0"



3 ELECTRICAL ROOM 150
SCALE: 1/4" = 1'–0"



4 ELECTRICAL ROOM 152
SCALE: 1/4" = 1'–0"

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METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extention

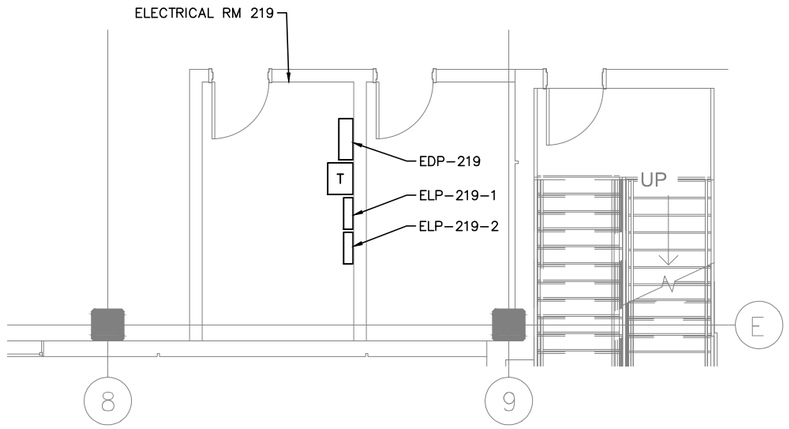
WEST - VOLUME 4 (OMF)
ELECTRICAL POWER
1ST FLOOR - PARTIAL PLANS

DISCIPLINE: ELECTRICAL

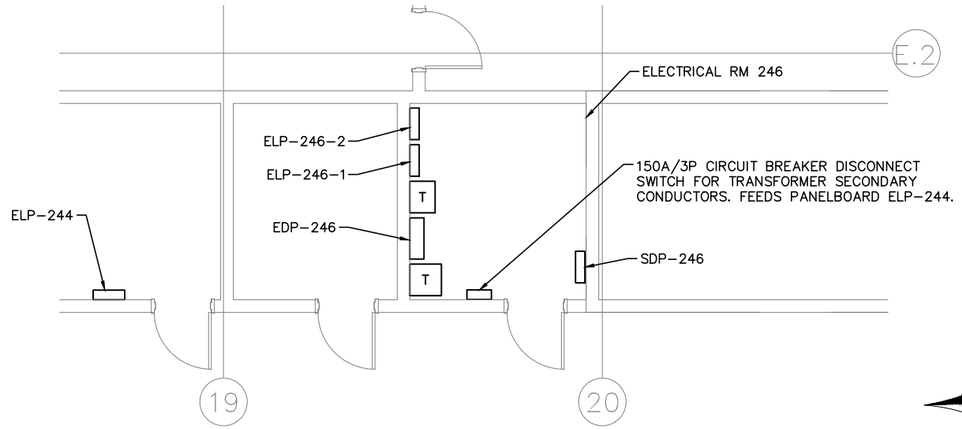
SHEET NAME: E-401

SHEET 285 OF 288

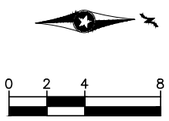
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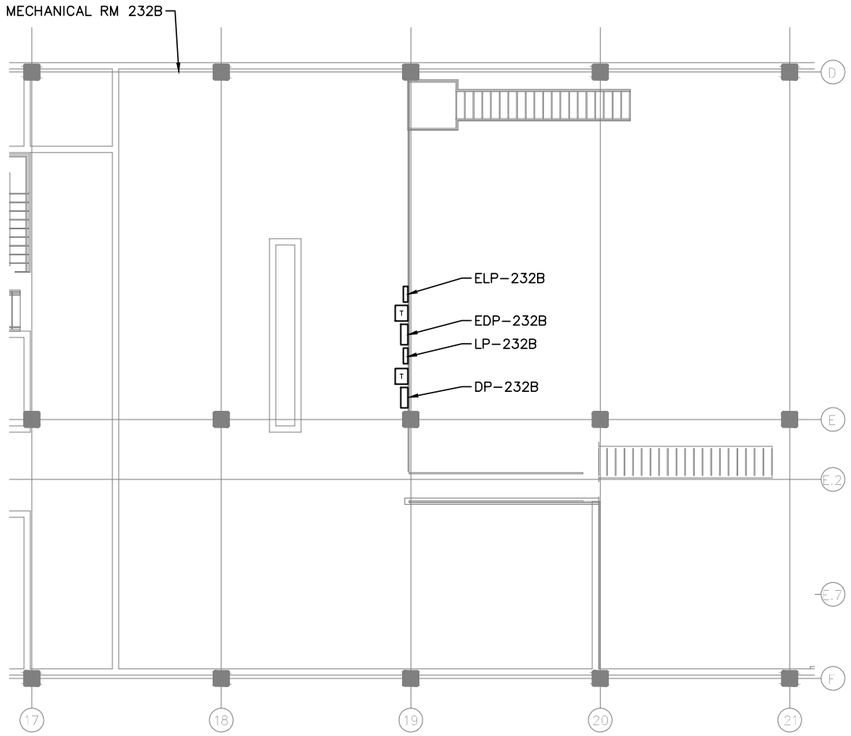


1 2ND FLOOR POWER PLAN RM 219
SCALE: 1/4" = 1'-0"

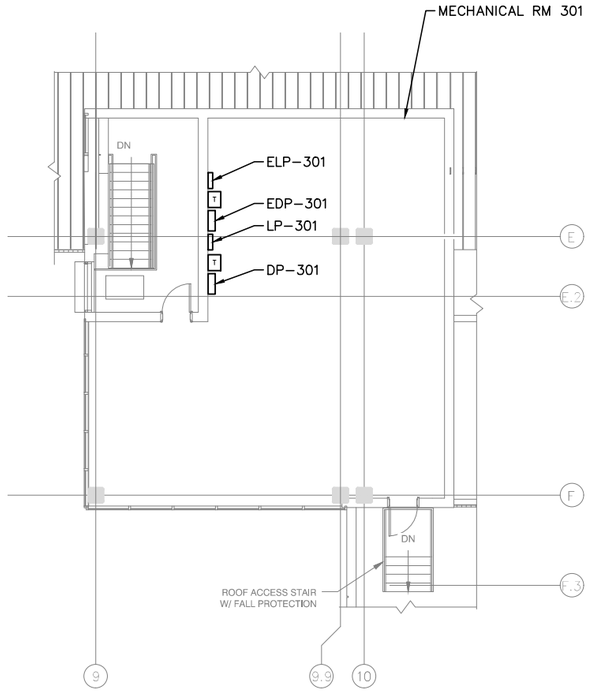


2 2ND FLOOR POWER PLAN RM 246
SCALE: 1/4" = 1'-0"

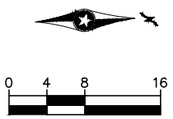




3 MEZZANINE FLOOR POWER PLAN MECH RM 232B
SCALE: 1/8" = 1'-0"



4 3RD FLOOR POWER PLAN RM 301
SCALE: 1/8" = 1'-0"



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SOUTHWEST Green Line LRT Extention

WEST - VOLUME 4 (OMF)
ELECTRICAL POWER
MEZZ, 2ND & 3RD FLOOR - PARTIAL PLANS

DISCIPLINE: ELECTRICAL
SHEET NAME: E-402

SHEET 286 OF 288

Jun, 27 2014 10:51 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-PLN-402.dwg By: Adam

LUMINAIRE SCHEDULE

TYPE	AREA	LAMPS	MOUNTING	DESCRIPTION	ACCEPTABLE MANUFACTURER'S CATALOG NUMBERS	REMARKS
A	FIRST FLOOR, STORAGE BARN	LED	CABLE	I-BEAM LED 16"X45" WITH 12,000 NOMINAL LUMENS, NARROW DISTRIBUTION AND 4000K 70 CRI LEDS, DCL CERTIFIED.	LITHONIA 1BL 12L NP LP740 DLC GLR CS11W	MVOLT, 277V TWIST-LOCK CORD SET
B	FIRST FLOOR, MAINTENANCE AREA	LED	CABLE	I-BEAM LED 16"X45" WITH 24,000 NOMINAL LUMENS, NARROW DISTRIBUTION AND 4000K 70 CRI LEDS, DCL CERTIFIED.	LITHONIA IBL 24L ND LP740 DLC GLR CS11W	MVOLT, 277V TWIST-LOCK CORD SET
C	FIRST FLOOR, SHOP AREAS, CORRIDORS, EQUIPMENT ROOMS, ELECTRICAL ROOMS, ETC	LED	PENDANT	LED LOW BAY INDUSTRIAL, 4 FT LONG, MIRO 5 REFLECTOR AND DIFFUSED ACRYLIC LENS, 4100 NOMINAL LUMENS, 4000L LEDS	LITHONIA MSL 4L LP840 GLR CS11W	MVOLT, 277V TWIST-LOCK CORD SET
D	FIRST FLOOR, TRAIN WASH	LED	SURFACE	FHE, FIBERGLASS ENCLOSED LUMINAIRE WITH CLEAR ACRYLIC LENS, 4100K, 15000 LUMENS	LITHONIA FHE LED 15L	MVOLT
D1	MAINTENANCE PIT	LED	WALL	FEM FIBERGLASS ENCLOSED AND GASKETED SPECULAR LUMINAIRE WITH OPTICALLY CLEAR, DEEP ACRYLIC LENS, 4700 LUMENS, 4100K	LITHONIA FEM4 LED 4L IMACD	MVOLT
E	ALL	LED	UNIVERSAL	DIE-CAST ALUMINUM, BRUSHED ALUMINUM FACEPLATE AND MATTE BLACK TRIM, SINGLE OR DUAL FACE, RED LETTERS, LED EXIT SIGN	LITHONIA LQC (1 OR 2) R	120/277V
F	EXTERIOR WALL	LED	WALL, MOUNTED ABOVE DOORS	DSXW2 LED WITH 3 LIGHT ENGINES, 30 LEDS, 700mA DRIVER, 4000K LED, TYPE 4 MEDIUM OPTIC, 6449 LUMENS	LITHONIA DSXW2 LED 30F 700 40K T4M	MVOLT
H	FIRST FLOOR,SYSTEMS MAINTENANCE PARKING, COMPACTOR ROOM; MEZZANINE; THIRD FLOOR	LED	CABLE	I-BEAM, 16"X45", WITH 12,000 NOMINAL LUMENS, WIDE DISTRIBUTION, AND 4000K 70 CFI LEDS, DLC CERTIFIED	LITHONIA 1BL 12L WD LP740 DLC GLR CS11W	MVOLT, 277V TWIST-LOCK CORD SET
M	FIRST FLOOR, TOILETS, CONFERENCE ROOMS, OFFICES, ETC	LED	LAY-IN	LED VOLUMETRIC TROFFER, 2'X4', WITH 4000 NOMINAL LUMENS, ACRYLIC LINEAR PRIMATIC DIFFUSER, 40W AND 3500K LEDS	LITHONIA 2VTL4 48L ADP D40 LP835	MVOLT
M1	SECOND FLOOR, OFFICES, CORRIDORS, CONFERENCE ROOMS, ETC	LED	LAY-IN	LED VOLUMETRIC TROFFER, 2'X4', WITH 4800 NOMINAL LUMENS, ACRYLIC LINEAR PRIMATIC DIFFUSER, 40W AND 3500K LEDS	LITHONIA 2VTL4 48L ADP D47 LP835	MVOLT
P	STAIRWAYS	LED	WALL	ROLLED FORM STEEL HOUSING WITH MODIFIED LINEAR-FACETED REFLECTOR AND HIGH IMPACT ACRYLIC DIFFUSER, 2500 LUMENS, 4000K WITH INTEGRAL OCCUPANCY SENSOR, DIMS TO 50% WHEN SPACE IS UNOCCUPIED	LITHONIA WL4 25L D24 LP840 NES7 DIM50	MVOLT
AA	SITE	LED	OCS POLE MOUNTED	SINGLE HEAD DSX1 LED WITH (2) 20 LED LIGHT ENGINES, TYPE T3S OPTIC, 12418 LUMENS, 4000K, AT 1050MA, CUT-OFF LUMINAIRE	LITHONIA DSX1 LED 40C 1000 40K T3S	MVOLT, SWITCH LIGHTING
BB	SITE	LED	POLE MOUNTED	DUAL HEAD DSX1 LED WITH (2) 20 LED LIGHT ENGINES, TYPE T3S OPTIC, 12418 LUMENS, 4000K, AT 1050MA, CUT-OFF LUMINAIRE	LITHONIA DSX1 LED 40C 1000 40K T3S	MVOLT, PARKING LOT LIGHTING

LUMINAIRE MOUNTING HEIGHT SCHEDULE

LOCATION	CEILING TYPE	CEILING HEIGHT	MOUNTING HEIGHT	TYPE OF MOUNTING	NOTES
PIT	NONE	NA	NA	MOUNT ON SIDE WALL AT 4' ABOVE BOTTOM OF PIT AND ANGLE LUMINAIRE UP	
COMMUNICATION ROOM, BACK-OF-HOUSE, FM SHOP, ELECTRICAL ROOM	LAY-IN / HARD / NONE	8'	8'	LAY-IN, FLANGE, RECESSED	
REST ROOMS, OFFICES, TOOL CRIB, GEAR ROOM, STORAGE ROOM, CUSTODIAL CLOSET	LAY-IN / HARD / NONE	9'	9'	LAY-IN, FLANGE, RECESSED	
COMPRESSOR AND LUBE ROOM	NONE	9'-8"	9'-8"	SURFACE	
ELEVATOR MACHINE ROOM, REST ROOMS, PARTS OFFICE, CUSTODIAL ROOM	LAY-IN / HARD / NONE	10'	10'	LAY-IN, FLANGE, RECESSED	
UNDER MEZZANINE IN PIT MAINTENANCE AREA	CONCRETE PLATFORM	13'	13'	SURFACE ON UNDERSIDE	PIT 5' BELOW FIRST FLOOR LEVEL
MEZZANINE	NONE	15'	15'	CHAIN	LEVEL WITH LOWEST HEIGHT OF CEILING
TRUCK WASH	HARD	18'	18'	SURFACE	
SHOPS, ELEVATOR, MACHINE ROOM, LOBBY, MEZZANINE	NONE	18'	12'	PENDENT OR CHAIN	
STORAGE ROOMS	NONE	18'	12'	PENDENT OR CHAIN	COORDINATE MOUNTING HEIGHTS WITH SHELVING
SALLY PORT	NONE	19'	12'	PENDENT OR CHAIN	
LRV STORAGE	NONE	20'	20'	SURFACE	
TRUCK WASH AND WASH SUPPORT	HARD	22'-3"	22'-3"	SURFACE	
UNSCHEDULED MAINTENANCE	NONE	28'	15'-8"	CHAIN	
LIFTS AREA, COMPONENT WORK AREA, UNSCHEDULED MAINTENANCE	NONE	28'	27'	CHAIN	
EXTERIOR WALL MOUNTED LUMINAIRES	NA	NA	2' ABOVE HEIGHT OF DOOR	WALL	

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Green Line LRT Extention

PRELIMINARY ENGINEERING

WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING
LUMINAIRE SCHEDULE

DISCIPLINE: ELECTRICAL

SHEET NAME: E-500

SHEET 287 OF 288

Jun, 27 2014 10:51 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-SCH-500.dwg By: Adam

PANELBOARD SCHEDULE IDP-1-150

400	AMP BUS RATING						54	POLES		
277/480	VOLTS				3	PHASE	SURFACE	MOUNTED		
400	AMP MAIN BREAKER				4	WIRE 60Hz	LOCATION	RM 150		
DESCRIPTION	kVA	AMPS/POLES	CKT	AØ	BØ	CØ	CKT	AMPS/POLES	kVA	DESCRIPTION
BAND SAW (2HP)	0.9	20/3	1	X			2	20/3	3.9	7.5 TON BRDIGE CRANE (10HP)
- COMPONENT WORK AREA	0.9	-	3		X		4	-	3.9	- COMPONENT WORK AREA
2705	0.9	-	5			X	6	-	3.9	5055
VARIABLE SPEED DRILL PRESS (1.5HP)	0.8	20/3	7	X			8	20/3	0.8	VARIABLE SPEED DRILL PRESS (1.5HP)
- COMPONENT WORK AREA	0.8	-	9		X		10	-	0.8	- MAINTENANCE TRACKS
2215	0.8	-	11			X	12	-	0.8	2215
BAND SAW (2HP)	0.9	20/3	13	X			14	20/3	0.9	GRINDER W/ DUST COLLECTOR (2HP) (1HP)
- MACHINE SHOP	0.9	-	15		X		16	-	0.9	- MAINTENANCE TRACKS
2705	0.9	-	17			X	18	-	0.9	2100
RAIL CAR LIFT	22.2	100/3	19	X			20	20/3	0.9	GRINDER W/ DUST COLLECTOR (2HP) (1HP)
- MAINTENANCE TRACKS	22.2	-	21		X		22	-	0.9	- MAINTENANCE TRACKS
5735	22.2	-	23			X	24	-	0.9	2100
VARIABLE SPEED DRILL PRESS (1.5HP)	0.8	20/3	25	X			26	100/3	22.2	RAIL CAR LIFT
- MACHINE SHOP	0.8	-	27		X		28	-	22.2	- MAINTENANCE TRACKS
2215	0.8	-	29			X	30	-	22.2	5735
TRUCK COMPRESSION STAND	22.2	100/3	31	X			32	20/3	0.9	GRINDER W/ DUST COLLECTOR (2HP) (1HP)
- COMPONENT WORK AREA	22.2	-	33		X		34	-	0.9	COMPONENT WORK AREA
5511	22.2	-	35			X	36	-	0.9	2100
			37	X			38	20/3	0.9	GRINDER W/ DUST COLLECTOR (2HP) (1HP)
			39		X		40	-	0.9	MACHINE SHOP
			41			X	42	-	0.9	2100
			43	X			44			
			45		X		46			
			47			X	48			
			49	X			50			
			51		X		52			
			53			X	54			
		kVA		78.3	78.3	78.3	kVA			
		AMPS		282.7	282.7	282.7	AMPS			

PANELBOARD SCHEDULE IDP-2-150

600	AMP BUS RATING						54	POLES		
277/480	VOLTS				3	PHASE	SURFACE	MOUNTED		
600	AMP MAIN BREAKER				4	WIRE 60Hz	LOCATION	RM 150		
DESCRIPTION	kVA	AMPS/POLES	CKT	AØ	BØ	CØ	CKT	AMPS/POLES	kVA	DESCRIPTION
TRAIN WASH	43.2	200/3	1	X			2	40/3	7.5	HOT WATER PRESSURE WASHER (20HP)
- COMPONENT WORK AREA	43.2	-	3		X		4	-	7.5	-SANDING TRACK
3891	43.2	-	5			X	6	-	7.5	3720
SANDING SYSTEM	18.0	100/3	7	X			8	50/3	9.4	AIR CPMRESSOR (25HP)
- SANDING TRACK	18.0	-	9		X		10	-	9.4	- COMPRESSOR RM
3349	18.0	-	11			X	12	-	9.4	2168
			13	X			14	50/3	9.4	AIR CPMRESSOR (25HP)
			15		X		16	-	9.4	- COMPRESSOR RM
			17			X	18	-	9.4	2168
			19	X			20	60/3	5.4	PORTABLE WELDER
			21		X		22	-	5.4	- EQUIPMENT STORAGE
			23			X	24	-	5.4	2900
			25	X			26	40/3	7.5	HOT WATER PRESSURE WASHER (20HP)
			27		X		28	-	7.5	- WASH SUPPORT
			29			X	30	-	7.5	3720
			31	X			32			
			33		X		34			
			35			X	36			
			37	X			38			
			39		X		40			
			41			X	42			
			43	X			44			
			45		X		46			
			47			X	48			
			49	X			50			
			51		X		52			
			53			X	54			
		kVA		105.8	105.8	105.8	kVA			
		AMPS		381.9	381.9	381.9	AMPS			

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SOUTHWEST
Green Line LRT Extention

WEST - VOLUME 4 (OMF)
ELECTRICAL POWER
PANELBOARD SCHEDULES

DISCIPLINE: ELECTRICAL

SHEET NAME: E-501

SHEET 287.1 OF 288

Jun, 27 2014 10:52 am V:\3200_PEC-W\CAD\OMF\PLAN SHEET\ELEC\OMF-ELE-SCH-501.dwg By: Adam

PANELBOARD SCHEDULE IDP-117

400	AMP BUS RATING					84	POLES		
277/480	VOLTS				3	PHASE		SURFACE	MOUNTED
400	AMP MAIN BREAKER				4	WIRE 60Hz		LOCATION	RM 117

DESCRIPTION	kVA	AMPS/POLES	CKT	AØ	BØ	CØ	CKT	AMPS/POLES	kVA	DESCRIPTION
BRIDGE CRANE (2 TON; 3HP)	1.3	20/3	1	X			2	20/3	0.6	BRIDGE CRANE (1/2 TON; 1 HP)
- COMPONENT WORK AREA	1.3	-	3		X		4	-	0.6	- MACHINE SHOP
5078	1.3	-	5			X	6	-	0.6	5070
VARIABLE SPEED DRILL PRESS (1.5HP)	0.8	20/3	7	X			8	20/3	0.6	BRIDGE CRANE (1/2 TON; 1 HP)
- COMPONENT WORK MEZZ	0.8	-	9		X		10	-	0.6	- WELDING SHOP
2215	0.8	-	11			X	12	-	0.6	5070
GRINDER W/ DUST COLLECTOR (2HP) (1HP)	0.9	20/3	13	X			14	20/3	3.0	METAL FABRICATOR (7.5 HP)
- COMPONENT WORK MEZZ	0.9	-	15		X		16	-	3.0	- MACHINE SHOP
2100	0.9	-	17			X	18	-	3.0	6360
BAND SAW (2HP)	0.9	20/3	19	X			20	20/3	3.9	LATHE (10 HP)
- COMPONENT WORK MEZZ	0.9	-	21		X		22	-	3.9	- WELDING SHOP
2705	0.9	-	23			X	24	-	3.9	2380
HYDRAULIC PRESS (50 TON; 7.5 HP)	9.1	50/3	25	X			26	20/3	1.3	VERTICAL MILLING MACHINE (3HP)
- MACHINE SHOP	9.1	-	27		X		28	-	1.3	- MACHINE SHOP
2532	9.1	-	29			X	30	-	1.3	2433
DUST COLLECTION (5HP)	2.1	20/3	31	X			32	40/3	7.5	HOT WATER PRESSURE WASHER (20HP)
- WELDING SHOP	2.1	-	33		X		34	-	7.5	- TRUCK WASH
1820	2.1	-	35			X	36	-	7.5	3720
			37	X			38	50/3	9.7	PARTS WASHER
			39		X		40	-	9.7	- TRUCK WASHER
			41			X	42	-	9.7	3784
COMPACTOR (10 HP)	2.5	30/3	43	X			44	60/3	5.4	PORTABLE WELDER
- COMPACTOR AREA	2.5	-	45		X		46	-	5.4	- WELDING SHOP
5470	2.5	-	47			X	48	-	5.4	2900
			49	X			50	20/3	2.8	FORKLIFT
			51		X		52	-	2.8	- PARTS STOREROOM
			53			X	54	-	2.8	5350
			55	X			56			
			57		X		58			
			59			X	60			
			61	X			62			
			63		X		64			
			65			X	66			
			67	X			68			
			69		X		70			
			71			X	72			
			73	X			74			
			75		X		76			
			77			X	78			
			79	X			80			
			81		X		82			
			83			X	84			
			kVA	52.4	55.2	52.4	kVA			
			AMPS	189.2	199.3	189.2	AMPS			

PANELBOARD SCHEDULE EIDP-152

400	AMP BUS RATING					84	POLES		
277/480	VOLTS				3	PHASE		SURFACE	MOUNTED
400	AMP MAIN BREAKER				4	WIRE 60Hz		LOCATION	RM 152

DESCRIPTION	kVA	AMPS/POLES	CKT	AØ	BØ	CØ	CKT	AMPS/POLES	kVA	DESCRIPTION
MATERIAL LIFT (5HP)	2.1	20/3	1	X			2	20/3	0.3	HOIST 2 TON (2 - 1/4HP)
- COMPONENT WORK AREA	2.1	-	3		X		4	-	0.3	- SERVICE PLATFORM
5564	2.1	-	5			X	6	-	0.3	5384
MATERIAL LIFT (5HP)	2.1	20/3	7	X			8	20/3	0.3	HOIST 2 TON (2 - 1/4HP)
- COMPONENT WORK MEZZ	2.1	-	9		X		10	-	0.3	- SERVICE PLATFORM
5564	2.1	-	11			X	12	-	0.3	5384
LRV CAR MOVER	4.2	20/3	13	X			14	20/3	0.3	HOIST 2 TON (2 - 1/4HP)
- COMPONENT WORK	4.2	-	15		X		16	-	0.3	- SERVICE PLATFORM
5975	4.2	-	17			X	18	-	0.3	5384
ELEC CHAIN HOIST (1/2 TON; 1/2 HP)	1.2	20/3	19	X			20	20/3	0.3	HOIST 2 TON (2 - 1/4HP)
5360	1.2	-	21		X		22	-	0.3	- COMPONENT WORK MEZZ
5360	1.2	-	23			X	24	-	0.3	5384
ELEC CHAIN HOIST (1/2 TON; 1/2 HP)	1.2	20/3	25	X			26	20/3	0.3	HOIST 2 TON (2 - 1/4HP)
5360	1.2	-	27		X		28	-	0.3	- COMPONENT WORK MEZZ
5360	1.2	-	29			X	30	-	0.3	5384
ELEC CHAIN HOIST (1/2 TON; 1/2 HP)	1.2	20/3	31	X			32	20/3	2.1	MATERIAL LIFT (5HP)
5360	1.2	-	33		X		34	-	2.1	- EQUIPMENT STORAGE
5360	1.2	-	35			X	36	-	2.1	5564
ELEC CHAIN HOIST (1/2 TON; 1/2 HP)	1.2	20/3	37	X			38	70/3	14.4	AIR COMPRESSOR (40HP)
5360	1.2	-	39		X		40	-	14.4	- COMPRESSOR ROOM
5360	1.2	-	41			X	42	-	14.4	2175
PLATFORM LIFT	2.1	20/3	43	X			44	70/3	14.4	AIR COMPRESSOR (40HP)
5566	2.1	-	45		X		46	-	14.4	- COMPRESSOR ROOM
5566	2.1	-	47			X	48	-	14.4	2175
VERTICAL LIFT STORAGE MODULE	6.9	40/3	49	X			50			
- PARTS STOREROOM	6.9	-	51		X		52			
1731	6.9	-	53			X	54			
PLATFORM LIFT	2.1	20/3	55	X			56			
5565	2.1	-	57		X		58			
5565	2.1	-	59			X	60			
			61	X			62			
			63		X		64			
			65			X	66			
			67	X			68			
			69		X		70			
			71			X	72			
			73	X			74			
			75		X		76			
			77			X	78			
			79	X			80			
			81		X		82			
			83			X	84			
			kVA	56.7	56.7	56.7	kVA			
			AMPS	204.7	204.7	204.7	AMPS			

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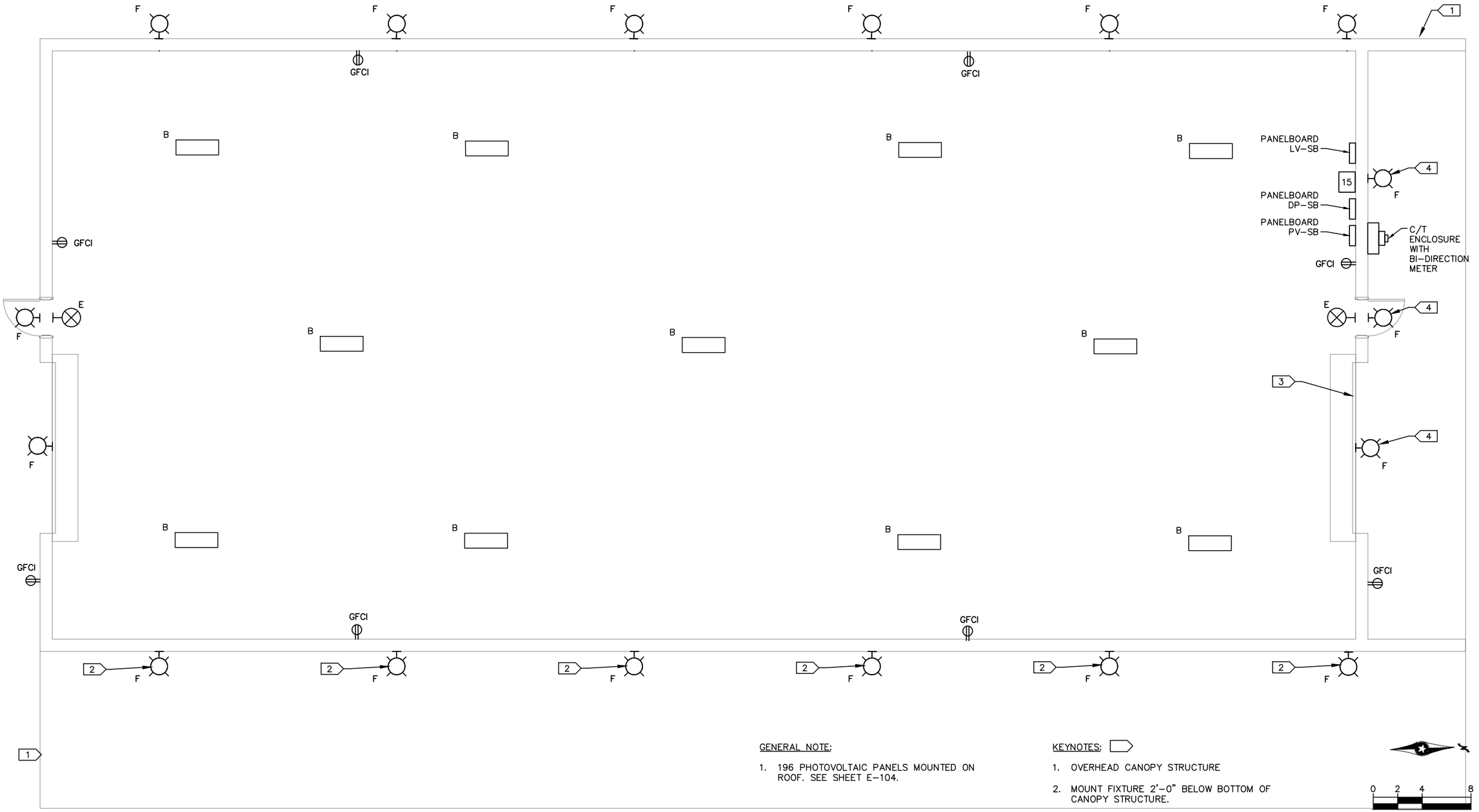
WEST - VOLUME 4 (OMF)
ELECTRICAL POWER
PANELBOARD SCHEDULES

DISCIPLINE: ELECTRICAL

SHEET NAME: E-502

SHEET 287.2 OF 288

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GENERAL NOTE:

1. 196 PHOTOVOLTAIC PANELS MOUNTED ON ROOF. SEE SHEET E–104.

KEYNOTES:

1. OVERHEAD CANOPY STRUCTURE
2. MOUNT FIXTURE 2'–0" BELOW BOTTOM OF CANOPY STRUCTURE.
3. OVERHEAD DOOR
4. MOUNT FIXTURE AT SAME HEIGHT AS FIXTURE ABOVE OVERHEAD DOOR.

HORIZONTAL SCALE IN FEET: 0 2 4 8

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Metropolitan Council SOUTHWEST Green Line LRT Extention

WEST - VOLUME 4 (OMF)
ELECTRICAL LIGHTING & POWER
STORAGE BUILDING

DISCIPLINE: ELECTRICAL

SHEET NAME: E-600

SHEET 288 OF 288

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