SYMBOLS LEGEND

NORTH ARROW

8' 4' 0 8' 16'
SCALE IN FEET
BAR SCALE

A
M04-AEEXX
EXTERIOR ELEVATION

1
1 A101 1
1
INTERIOR ELEVATION

A A
XXX-XXXXX XXX-XXXXX
BUILDING SECTION

A
XXX-XXXXX
WALL SECTION

1 SIM
A101
DETAIL

0
GRID TAG

XX
SPOT ELEVATION

NAME
ELEVATION
LEVEL

ROOM NAME
101
ROOM TAG

1i
DOOR TAG

1t
WINDOW /
CURTAIN WALL
TAG

P3
A
WALL ASSEMBLY TAG

R1
ROOF ASSEMBLY TAG

F1
FLOOR ASSEMBLY TAG

C-1
1'-0" AFF
CEILING ASSEMBLY TAG

1
REVISION TAG

℄
CENTERLINE

Ø
DIAMETER

FD
FLOOR DRAIN

FE
FIRE EXTINGUISHER

FEC
FIRE EXTINGUISHER
IN CABINET

FIRE SPRINKLER

H
HEAT DETECTOR

SMOKE DETECTOR

EXIT SIGN

CAMERA

FALL ARREST SYSTEM STANDOFF

PEDESTRIAN MARKINGS

RECESSED LIGHT FIXTURE

ROUND RECESSED
LIGHT FIXTURE

LINEAR LIGHT FIXTURE

LINEAR LIGHT FIXTURE

PENDANT LIGHT FIXTURE

GWB ON MTL STUD

SUSPENDED ACT

AIR CIRCULATING FAN

UNIT HEATER

HVAC GRILLE

HVAC GRILLE

HVAC UNIT

ABBREVIATIONS:

@	AT
ACT	ACOUSTICAL CEILING TILE
ACS	ACCESS CONTROL SYSTEM
ADDL	ADDITIONAL
ADJ	ADJUST
AFF	ABOVE FINISHED FLOOR
AL, ALUM	ALUMINUM
ANOD	ANODIZED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASPH	ASPHALT
AT	ALUMINUM THRESHOLD
AVE	AVENUE
AVG	AVERAGE
BLDG	BUILDING
BF	BOTTOM FACE
BOT	BOTTOM
B.O.	BOTTOM OF
BR	BRICK
BRSSF	BRUSHED STAINLESS STEEL FINISH
BTWN	BETWEEN
CAB	CABINET
CB	CATCH BASIN
CFMF	COLD FORMED METAL FRAMING
CJ	CONTROL JOINT
CL, C/L	CENTER LINE
CLR	CLEAR
C-C	CENTER TO CENTER
CG	CORNER GUARD
CLR	CLEAR
CLR ANOD	CLEAR ANODIZED
COL	COLUMN
CONC	CONCRETE
COND	CONDITION
CONN	CONNECT
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CORR	CORRIDOR
CPBD	CUPBOARD
CTR	CENTER, CENTERED
CU FT	CUBIC FEET
CU YD	CUBIC YARD
C/W	COMPLETE WITH
C&G	CURB AND GUTTER
DEMO	DEMOLITION
DF	DRINKING FOUNTAIN
DIAM	DIAMETER
DISP	DISPENSER
DIST	DISTANCE
DS	DOWNSPOUT
DTL	DETAIL
DWG	DRAWING
DWGS	DRAWINGS
DWY	DRIVEWAY
EA	EACH
EEH	EMERGENCY EXIT HARDWARE
EH	EXIT HARDWARE
EL	ELEVATION
ELEV	ELEVATOR
ENCL	ENCLOSURE
ELECT	ELECTRICAL
EOC	END OF CURB
EQ	EQUAL
EX	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FCFN	FACE OF FINISH
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FG	FINISH GRADE
FF	FINISH FLOOR
FRP	FIBER REINFORCED PLASTIC
FRR	FIRE RESISTANCE RATING
FLR	FLOOR
FN	FINISH
FT	FOOT, FEET
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GEN	GENERAL
GL	GLAZING, GLAZED
GR	GRADE
GND	GROUND
GWB	GYPSUM WALL BOARD
H	HIGH
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HPC	HIGH PERFORMANCE COATING
HT	HEIGHT
HVAC	HEATING, VENTILATION, AIR CONDITIONING
IDS	INTRUSION DETECTION SYSTEM
IGU	INSULATED GLAZED UNIT
IHM	INSULATED HOLLOW METAL
IMWP	INSULATED METAL WALL PANEL
IMRP	INSULATED METAL ROOF PANEL
IN	INCH/INCHES
IND	INDUSTRIAL
INSUL	INSULATION
INT	INTERIOR
JT	JOINT
LAV	LAVATORY
LBA	LOT BOUNDARY ASSESMENT
LBS	POUNDS
LT	LEFT
LF	LINEAL FEET
LOC	LOCATION, LOCATE
MAX	MAXIMUM
MECH	MECHANICAL
MEMB	MEMBRANE
MEP	MECH, ELECT, PLUM
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MTD	MOUNTED
MTL	METAL
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NOM	NOMINAL
NRH	NON-REMOVABLE HINGE PINS
NTS	NOT TO SCALE
NO.	NUMBER
OC	ON CENTER
OCC	OCCUPANCY/OCCUPANCIES
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OVERHEAD
OHDC	OVERHEAD DOOR CLOSERS ON INACTIVE LEAVES
OPER	OPERABLE
OPNG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
O/	OVER
PAV	PAVEMENT
PL	PLATE
PLAM	PLASTIC LAMINATE
PLUM	PLUMBING
PLWD	PLYWOOD
PREFIN	PREFINISHED
PREMAN	PREMANUFACTURED
PROP	PROPOSED
PS	PRESSED STEEL
PSI	POUNDS PER SQUARE INCH
PT	PAINT
QTY	QUANTITY
R	RADIUS
RECEPT	RECEPTACLE
REF	REFER/REFERENCE
REINF	REINFORCE
RELOC	RELOCATE
REM	REMOVE
R&R	REMOVE AND REPLACE
REPL	REPLACE
REQ'D	REQUIRED
REQ'S	REQUIREMENTS
R.O.	ROUGH OPENING
RT	RIGHT
RD	ROOF DRAIN
RWL	RAIN WATER LEADER
SAM	SELF ADHERED MEMBRANE
SBO	SUPPLIED BY OWNER
SCHED	SCHEDULE
SECT	SECTION
SF	SQUARE FOOTAGE
SHGC	SOLAR HEAT GAIN COEFFICIENT
SHT	SHEET
SIM	SIMILAR
SL	SLOPE
SOG	SLAB ON GRADE
SPECS	SPECIFICATIONS
SQ	SQUARE
SS, S.S.	STAINLESS STEEL
STD	STANDARD
STL	STEEL
ST	SOUND TRANSIT, STREET
STOR	STORAGE
STRUC	STRUCTURAL
TBD	TO BE DETERMINED
TG	TEMPERED GLASS
TEMP	TEMPORARY
TF	TOP FACE
TH	THRESHOLD
T.O.	TOP OF
T.O.S.	TOP OF STRUCTURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
U/S	UNDER SIDE
V, VAR	VARIABLE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VT	VISIBLE (LIGHT) TRANSMITTANCE
W/	WITH
WC	WATERCLOSET
WD	WOOD
W/IN	WITHIN
W/O	WITHOUT
WS	WEATHERSTRIPPING

GENERAL NOTES:

1. THE CONTRACT DOCUMENTS INCLUDE THESE DRAWINGS, ALL OTHER DISCIPLINE DRAWINGS, AND THE PROJECT MANUAL (SPECIFICATIONS). THE CONTRACT DOCUMENTS ARE COMPLEMENTARY; WHAT IS REQUIRED BY ONE IS AS REQUIRED BY ALL.
2. DESIGN BUILDER SHALL REVIEW ALL DOCUMENTS, VERIFY ALL SITE DIMENSIONS, GRADES AND CONDITIONS PRIOR TO COMMENCING THE WORK, AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT IN WRITING. NO DEVIATION FROM CONTRACT DRAWINGS AND SPECIFICATIONS SHALL BE MADE WITHOUT WRITTEN APPROVAL OF THE DESIGN BUILDER.
3. WHERE A COMPLEX ASSEMBLY INVOLVING SEVERAL TRADES IS REQUIRED BY THE DRAWINGS, DESIGN BUILDER SHALL SUBMIT COMPOSITE SHOP DRAWINGS SHOWING ALL RELATED ELEMENTS FOR ARCHITECT'S REVIEW.
4. EXCEPT WHERE SHOWN IN DIMENSIONAL DETAIL, OR AS REQUIRED BY CODE, THE LOCATIONS OF MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT SUCH AS DUCTS, PIPING, AND FITTINGS ARE APPROXIMATE. EXACT LOCATIONS SHALL BE DETERMINED BY THE DESIGN BUILDER.
5. TOP OF FINISHED FLOOR AT GROUND LEVEL IS 154'-8 1/2" AND CORRESPONDS TO GRADES INDICATED ON THE CIVIL DRAWINGS (NO GRADE TO FINISH FLOOR CONVERSIONS ARE NECESSARY).
6. DO NOT SCALE THE DRAWINGS.
7. HORIZONTAL DIMENSIONS ARE TO BUILDING GRID LINES, CENTERLINES OF STRUCTURAL FRAMING, FACE OF METAL STUDS AT PARTITION ASSEMBLIES, AND FACE OF CONCRETE AND CMU AT CONCRETE AND CMU ASSEMBLIES, UNLESS NOTED OTHERWISE.
8. VERTICAL DIMENSIONS AT LEVELS ONE AND TWO ARE TO TOP OF SLAB. ALL OTHER VERTICAL DIMENSIONS ARE AS INDICATED ON THE DRAWINGS.
9. GLAZING SYSTEM DIMENSIONS ARE TO OUTSIDE OF ROUGH OPENING, UNLESS NOTED OTHERWISE.
10. DOORS AND FRAMED OPENINGS INDICATED ADJACENT TO WALL INTERSECTIONS SHALL BE LOCATED WITH THE EDGE OF ROUGH OPENING SIX INCHES FROM FINISHED FACE OF THE ADJACENT WALL UNLESS OTHERWISE INDICATED. ALL OTHER DOORS AND FRAMED OPENINGS SHALL BE CENTERED BETWEEN NEAREST ADJACENT WALL INTERSECTIONS, UNLESS OTHERWISE DIMENSIONED.
11. 'ALIGN' MEANS TO ACCURATELY LOCATE FINISHED FACES IN SAME PLANE (FLUSH WITH ONE ANOTHER).
12. WHEN CONSTRUCTION DETAILS ARE NOT SHOWN OR NOTED, DETAILS SHALL BE THE SAME AS FOR OTHER TYPICAL OR SIMILAR WORK. REPETITIVE FEATURES NOT SHOWN IN DRAWINGS SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
13. DESIGN BUILDER SHALL COORDINATE SIZES AND LOCATIONS OF FLOOR AND WALL OPENINGS, PENETRATIONS, AND SLEEVE LOCATIONS NECESSARY FOR UTILITIES TO PASS THROUGH. ALL PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES SHALL BE SEALED SO AS TO MAINTAIN THE REQUIRED RATING.
14. INSTALL FIRESTOPPING IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (WITH CITY OF BELLEVUE AMENDMENTS), WITH DOCUMENTED AND FIRE TESTED WALL, FLOOR/CEILING OR ROOF/CEILING ASSEMBLIES, AND WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND REQUIREMENTS.
15. INSTALL FIRE EXTINGUISHERS AT LOCATIONS INDICATED, UNLESS OTHERWISE REQUIRED BY THE AUTHORITY HAVING JURISDICTION. PROMPTLY NOTIFY THE ARCHITECT AND OWNER IN WRITING OF DISCREPANCIES.
16. DESIGN BUILDER SHALL LOCATE ACCESS PANELS TO ALIGN WITH AND FIT WITHIN NEW CONSTRUCTION. VERIFY ACCESS TO UTILITIES SERVED.
17. CEILING HEIGHT DIMENSIONS ARE TO FINISHED SURFACES.
18. DESIGN BUILDER SHALL PROVIDE TEMPORARY EXIT SIGNS TO ENSURE MEANS OF EGRESS THROUGHOUT CONSTRUCTION.
19. DESIGN BUILDER SHALL VERIFY SIZES AND LOCATIONS OF ALL MECHANICAL, ELECTRICAL AND PLUMBING EQUIPMENT PADS AND BASES; AND POWER, WATER AND DRAIN INSTALLATIONS; WITH EQUIPMENT MANUFACTURERS BEFORE PROCEEDING WITH THE WORK. NOTIFY THE ARCHITECT OF REQUIRED ADJUSTEMENTS IN WRITING.
20. DESIGN BUILDER SHALL VERIFY SIZE AND LOCATION OF ALL MECHANICAL OPENINGS THROUGH THE ROOF WITH MECHANICAL EQUIPMENT MANUFACTURERS.
21. DESIGN BUILDER SHALL PROVIDE AND INSTALL ALL STIFFENERS, SEISMIC AND OTHER BRACING, NON-COMBUSTIBLE BLOCKING, PLATES, AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF CASEWORK, TOILET ROOM ACCESSORIES, FIXTURES, AND PARTITIONS, AND ALL WALL MOUNTED OR SUSPENDED MECHANICAL, ELECTRICAL OR MISCELLANEOUS EQUIPMENT AND FURNISHINGS.
22. ALL BLOCKING WITHIN WALLS MUST BE NON-COMBUSTIBLE.
23. MECHANICAL SUPPLY AND RETURN AIR SHAFTS SHALL BE AIRTIGHT AND SEALED.
24. CMU CONTROL JOINTS SHALL BE AT 24' OC MAX UNO. SEE 12 / M04-AED015

10/17/2018 6:43:49 AM
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DP4A-IFC

No.	DATE	DSN	CHK	APP	REVISION
0	2018.09.19	BP	SM	JY	ISSUED FOR CONSTRUCTION

DESIGNED BY: B. PETERSON
DRAWN BY: T. WEST
CHECKED BY: S. McDONALD
APPROVED BY: J. YOUNG

7888 REGISTERED ARCHITECT Alan Hart STATE OF WASHINGTON 09/19/2018

HENSEL PHELPS Plan. Build. Manage. | coterra ENGINEERING | rolluda architects architecture planning interior design | Karen Kiest Landscape Architects | Stantec | VIA | kpff | ELCON ASSOCIATES, INC. ENGINEERS–CONSULTANTS

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: RICHARD LEWIS
DATE: 2018.09.19
REVIEWED BY: BILL FERRIS
DATE: 2018.09.19

SCALE: NTS
FILENAME: M200-M04-A-v2017
CONTRACT No.: RTA/CN 0020-16
SUBMITTAL DATE: 2018.09.19

LINK OPERATIONS & MAINTENANCE FACILITY: EAST
CONTRACT M200
OMF EAST

GENERAL
SYMBOLS LEGEND, ABBREVIATIONS, GENERAL NOTES

DRAWING NO.: GEN-AZN001
FACILITY ID: Y02, M04, M05
SHEET No: 9
REV: 0

TECHNICAL NOMENCLATURE SCHEDULE

KEY	ITEM	SPEC SECTION	COLOR	REMARKS
ALUMINUM WINDOW SYSTEMS				
AW-1	RIBBON WINDOWS	08 41 13	TO MATCH KINGSPAN - DOVE GRAY	
AW-2	CURTAIN WALL GLAZING SYSTEM	08 44 13	TO MATCH KINGSPAN - REGAL BLUE	
AW-3	STOREFRONT	08 41 13	TO MATCH KINGSPAN - DOVE GRAY	
CEILINGS *				
CLG-1	ACOUSTIC LAY-IN	09 51 23	WHITE - ULTIMA 1910HRC	ARMSTRONG
CLG-2	PAINTED GWB-4 ON CFMF	09 29 00	MATCH: PPG, MAGNOLIA BLOSSUM	PPG
CLG-3	PAINTED GWB-3 ON CFMF	09 29 00	MATCH: PPG, MAGNOLIA BLOSSUM	PPG
CLG-4	APPLIED FIREPROOFING	07 81 00	UL D759	
CMU				
CMU-1	CONCRETE MASONRY UNIT EXTERIOR	04 22 00		
CMU-2	CONCRETE MASONRY UNIT INTERIOR	04 22 00		
CONCRETE				
CONC-1	ARCHITECTURAL CONCRETE	03 33 00		
CONC-2	CIP CONCRETE - PITS	03 30 00		
CONC-3	CIP CONCRETE	03 30 00		
COUNTER FINISHES				
CT-1	KITCHEN / MEDIA / BREAK ROOM COUNTERS - SOLID SURFACE	12 36 00	TERRA COLLECTION - SILVER BIRCH	CORIAN
CT-2	BATHROOM COUNTERS - SOLID SURFACE	12 36 00	TERRA COLLECTION - SAHARA	CORIAN
CT-3	NOT USED			
CT-4	WINDOW SILLS - SOLID SURFACE	12 36 00	CARBON CONCRETE	CORIAN
EXPANSION JOINTS				
EJS-1	FOAM SEAL	07 91 00		
FIBERGLASS-SANDWICH-PANEL				
FSPA-1	FIBERGLASS-SANDWICH-PANEL ASSEMBLIES	08 45 23	CRYSTAL PANEL W/ CLEAR ANODIZED FRAME	
FLOOR FINISHES				
CPT-1	CARPET TILES - OFFICES	09 68 13	SEW STRAIGHT & PRIMARY STITCH 102418 BRAID	INTERFACE
CPT-2	CARPET TILES - COMMON SPACES	09 68 13	GLOBAL CHANGE - PROGRESSION II, 1005505 DESERT SHADOW	INTERFACE
CPT-3	CARPET TILES - COMMON SPACES	09 68 13	GLOBAL CHANGE - GLAZING,1005547 DESERT SHADOW	INTERFACE
CPT-4	CARPET TILES - ENTRY WALK-OFF	96 68 00	RECOURSE II, BOULEVARD BLUE 3517, 24" X 24"	MANNINGTON COMM
GLAZING				
GL-1.1	IGU	08 80 00		
GL-1.2	TG IGU	08 80 00		
GL-2	SPANDREL IGU	08 80 00		
GL-3	SINGLE PANE CLEAR GLASS	08 80 00		
WALL FINISHES				
GWB-1	INTERIOR GYPSUM WALL BOARD	09 29 00		
GWB-1.1	INTERIOR GYPSUM WALL BOARD - TYPE X	09 29 00		
GWB-2	ABUSE RESISTANT GYPSUM WALL BOARD	09 29 00		
GWB-3	CEILING GYPSUM WALL BOARD	09 29 00		
GWB-4	MOISTURE-RESISTANT CEILING GYPSUM BOARD	09 29 00		
GWB-5	EXTERIOR SHEATHING	06 16 00 07 54 23		
GWB-6	TILE BACKER BOARD	09 29 00		
GWB-7	NOISE-REDUCING GYPSUM WALL BOARD	09 29 00		
HIGH PERFORMANCE COATINGS				
HPC-1	HIGH PERFORMANCE COATING - ON CONCRETE	09 96 00		
HPC-2.1	HIGH PERFORMANCE COATING - EXPOSED STEEL	09 96 00	ST PENCIL YELLOW	
HPC-2.2	HIGH PERFORMANCE COATING - EXPOSED STEEL	09 96 00	TO MATCH BENJAMIN MOORE OC-66 SNOW WHITE	
HPC-2.3	HIGH PERFORMANCE COATING - EXPOSED STEEL	09 96 00	ST LIGHT GRAY	
HPC-2.4	HIGH PERFORMANCE COATING - EXPOSED STEEL	09 96 00	TO MATCH KINGSPAN - DOVE GRAY	
HPC-2.5	HIGH PERFORMANCE COATING - EXPOSED STEEL	09 96 00	TO MATCH KINGSPAN REGAL BLUE	
HPC-2.6	HIGH PERFORMANCE COATING - EXPOSED STEEL	09 96 00	ST DARK BLUE	
INSULATION				
INSUL-1	EPS RIGID INSULATION (ROOF) - R5 PER INCH	07 54 23		
INSUL-2	MINERAL FIBER BATT - R19	07 21 00		
INSUL-3	EPS RIGID INSULATION - R5 PER INCH	07 21 00		
INSUL-4	GLASS FIBER ACOUSTIC BATT	07 21 00		
INSUL-5	UNDERSLAB GEOFOAM - R3.5 PER INCH	07 21 00		
INSUL-6	SPRAY POLYURETHANE FOAM - R6.5 PER INCH	07 21 19		
LOCKERS				
LKR-1	METAL LOCKERS WITH INTEGRAL BENCH	10 51 13		
LKR-2	METAL LOCKERS	10 51 13		
LKR-3	METAL LOCKERS	10 51 13		
LKR-4	PLASTIC GEAR LOCKERS	10 51 13		
LKR-5	UNIFORM EXCHANGE METAL LOCKERS	10 51 13		VENDOR PROVIDED, OFOI
METAL PANELS				
MP-1.1	EXTERIOR METAL PANEL CLADDING	07 42 13.19	KINGSPAN - ASCOT WHITE	
MP-1.2	EXTERIOR METAL PANEL CLADDING	07 42 13.19	KINGSPAN - DRIFTWOOD	
MP-1.3	EXTERIOR METAL PANEL CLADDING	07 42 13.19	KINGSPAN - DOVE GRAY	
MP-1.4	EXTERIOR METAL PANEL CLADDING	07 42 13.19	KINGSPAN - ZINC GRAY	
MP-1.5	EXTERIOR METAL PANEL CLADDING	07 42 13.19	KINGSPAN - REGAL BLUE	
MP-2.1	PERFORATED METAL PANEL	05 50 00	MORIN F-12-S - ASCOT WHITE	
MP-2.2	PERFORATED METAL PANEL	05 50 00	MORIN F-12-S - DRIFTWOOD	
MP-2.3	PERFORATED METAL PANEL	05 50 00	MORIN F-12-S - DOVE GRAY	
MP-3	METAL PANEL SOFFIT	07 42 13.19	TO MATCH KINGSPAN - REGAL BLUE	
MP-4	PREFINISHED METAL TRIM	07 42 13.19	AS NOTED	
MP-5	PREFINISHED METAL FLASHING	07 62 00	AS NOTED	
MP-6	STAINLESS STEEL PANEL	10 26 00		
MP-7	PREFINISHED METAL COUNTERFLASHING	07 71 00	AS NOTED	
MP-8	PREFINISHED SHEET METAL	07 62 00	AS NOTED	

KEY	ITEM	SPEC SECTION	COLOR	REMARKS
ACOUSTIC TREATMENT				
MTC-1	SOUND BARRIER MULLION TRIM CAPS	09 84 53		
BAR GRATING				
MTL-1	BAR GRATING INFILL PANELS	05 53 13		
MTL-2	BAR GRATING - WASH PITS	05 53 13		
MTL-3	BAR GRATING - WALKWAY	05 53 13		
PAINT				
PT-1	WALL PAINT - MAIN FIELD	09 90 00	MAGNOLIA BLOSSOM - PPG1090-1	PPG
PT-2	METAL DOOR PAINT	09 90 00	SIMMERING SMOKE - PPG1019-4	PPG
PT-3	METAL DOOR FRAME PAINT	09 90 00	WILD WILDERNESS - PPG1019-5	PPG
PT-4	WALL PAINT - ACCENT WALL	09 90 00	AMERICANA - PPG1152-4	PPG
PT-5	WALL PAINT - ACCENT WALL	09 90 00	CELESTIAL BLUE - PPG1156-7	PPG
PLASTIC LAMINATE				
PLAM-1	CASEWORK FINISH	06 06 20	LAMINATE, NATURAL MAPLE, MATTE FINISH, 756-58	FORMICA
PLAM-2	UPPER CASEWORK FINISH	09 90 00	LAMINATE, MICRO DOT, WHITE, MATTE FINISH, 949-MC	
PLYWOOD **				
PLY-1	INTERIOR FINISH PLYWOOD (VISIBLE)	06 10 53 09 90 00	ST LIGHT GRAY	
PLY-2	INTERIOR PLYWOOD (NON-VISIBLE)	06 10 53		
RESILIENT FLOOR TILE				
RTF-1	RUBBER FLOOR TILE - MAIN	09 65 19	ENDURA, FLECKSIBLES - SIDELINE, 033	BURKE FLOORING
RTF-2	RUBBER FLOOR TILE - FITNESS	09 65 19	ECO FITNESS - FLECKSIBLES, BLUE	BURKE FLOORING
RTF-3	STATIC DISSIPATIVE RESILIENT FLOORING	09 65 36	FOSSIL GREY - 51956	
RTF-4	RUBBER FLOOR TILE - ACCENT	09 65 19	ENDURA, FLECKSIBLES - BACKSTROKE, 035	BURKE FLOORING
ROOFING				
RFG-1	TPO ROOFING	07 54 23		
RFG-2	METAL ROOF PANELS	07 41 16		
RFG-3	ROOF DECKING	05 31 00	TO MATCH KINGSPAN REGAL BLUE	
RFG-4	TPO SHEET FLASHING	07 54 23		
RUBBER BASE				
RB-1	4" RUBBER COVE BASE	09 65 13	PINNACLE, 110 BROWN	ROPPE
SEALER				
SEAL-1	WATER REPELLENT / ANTI-GRAFFITI COATING	09 96 23		
SEAL-2	CONCRETE FLOOR AND SLAB TREATMENT; SEALER	03 30 00		
TILE				
TILE-1	FIELD WALL TILE	09 30 13	CERAMIC - IVORY, QH24, 12" X 12"	DAL-TILE
TILE-2	FLOOR TILE	09 30 13	PORCELAIN - CHESTNUT BROWN, IP08, 12" X 12"	DAL-TILE
TILE-3	TILE COVE BASE W/ FLAT TOP	09 30 13	CERAMIC - IVORY, QH24, 6" X 12"	DAL-TILE
TILE-4	ACCENT WALL TILE	09 30 13	CERAMIC - PACIFIC, QH61, 6" X 6"	DAL-TILE
TILE-5	NOT USED			
TILE-6	ACCENT WALL TILE	09 30 13	CERAMIC - ICEBERG, QH82, 6" X 6"	DAL-TILE
TOILET AND BATH ACCESSORIES				
TA-1	TOILET PAPER DISPENSER	10 28 00		
TA-2	WASTE RECEPTACLE	10 28 00		
TA-3	LIQUID SOAP DISPENSER	10 28 00		
TA-4	GRAB BARS	10 28 00		
TA-5	SANITARY NAPKIN DISPOSAL	10 28 00		
TA-6	SEAT COVER DISPENSER	10 28 00		
TA-7	TAMPON DISPENSER	10 28 00		
TA-8	SHOWER CURTAIN ROD	10 28 00		
TA-9	SHOWER CURTAIN AND HOOKS	10 28 00		
TA-10	SOAP DISH	10 28 00		
TA-11	COAT/ROBE HOOK	10 28 00		
TA-12	FOLDING SHOWER SEAT	10 28 00		
TA-13	UNDERLAVATORY GUARD	10 28 00		
TA-14	NOT USED	10 28 00		
TA-15	ELECTRIC HAND DRYER	10 28 00		
TA-16	COMBINATION UTILITY SHELF/MOP & BROOM HOLDER	10 28 00		
WEATHER RESISTANT BARRIER				
WRB-1	SELF-ADHERED SHEET	07 13 26		
WATERPROOFING MEMBRANE				
WP-1	WATERPROOF MEMBRANE	07 13 26		
WP-2	SHEET WATERPROOFING	07 13 26		
VAPOR BARRIER				
VB-1	SHEET MEMBRANE	03 30 00		
VB-2	FLUID-APPLIED BARRIER	07 11 13		
VB-3	MEMBRANE BARRIER (ROOF)	07 54 23		

*** CEILING SUPPORT SYSTEM IS A DEFERRED SUBMITTAL:**
PER IBC SECTION 107.3.4.1, DRAWINGS AND CALCULATIONS FOR THE DESIGN AND FABRICATION OF CEILING SUPPORT SYSTEMS THAT ARE DESIGNED BY OTHERS SHALL BEAR THE SEAL AND SIGNATURE OF THE WASHINGTON STATE REGISTERED PROFESSIONAL ENGINEER WHO IS RESPONSIBLE FOR THE DESIGN AND SHALL BE SUBMITTED TO THE ENGINEER OF RECORD AND THE AUTHORITY HAVING JURISDICTION FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND INSTALLATION.

**** INTERIOR PLYWOOD:**
PER IBC SECTION 803.11, PLYWOOD SHALL HAVE A FLAME SPREAD INDEX NOT GREATER THAN CLASS 'C'.

DP4A IFC

No.	DATE	DSN	CHK	APP	REVISION
C	2020.02.02	BP	DN	JY	DB 0022
B	2019.08.28	BP	SM	JY	CB#061
A	2019.01.30	BP	SM	JY	CB#004
0	2018.09.19	BP	SM	JY	ISSUED FOR CONSTRUCTION

DESIGNED BY: B. PETERSON
DRAWN BY: T. WEST
CHECKED BY: D. NELSON
APPROVED BY: J. YOUNG

7693 REGISTERED ARCHITECT Steven McDonald STATE OF WASHINGTON 02/02/2020

HENSEL PHELPS Plan. Build. Manage. | coterra ENGINEERING | rolluda architects architecture planning interior design | Karen Kiest Landscape Architects | Stantec | VIA | kpff | ELCON ASSOCIATES, INC. ENGINEERS--CONSULTANTS

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: RICHARD LEWIS | DATE: 2018.07.10 | REVIEWED BY: BILL FERRIS | DATE: 2018.07.10 | SUBMITTAL DATE: 2018.07.10

SCALE: NTS
FILENAME: M200-Y02e-A-v2017
CONTRACT No.: RTA/CN 0020-16

LINK OPERATIONS & MAINTENANCE FACILITY: EAST
CONTRACT M200
OMF EAST

GENERAL
TECHNICAL NOMENCLATURE

DRAWING NO.: **GEN-AZN002**
FACILITY ID: Y02, M04, M05
SHEET No: REV: E

2/4/2020 4:33:27 PM
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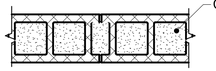
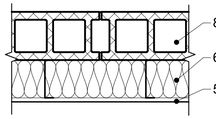
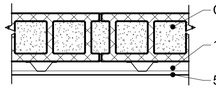
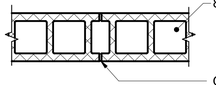
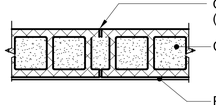
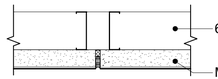
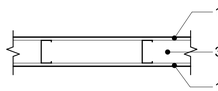
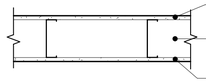
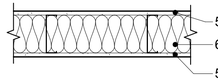
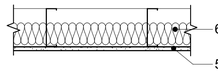
CONCRETE MASONRY UNITS

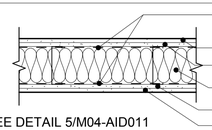
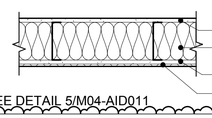
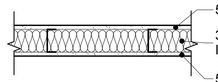
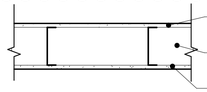
P1 A		CMU-2 (GROUT FILLED)	NR	60		
P1 B		8" CMU-2 (HOLLOW) 6" METAL STUD W/ 5 1/2" INSUL-4 5/8" GWB-1	NR	60		
P1 C		CMU-2 (GROUT FILLED) 1-1/2" METAL HAT CHANNEL 5/8" GWB-1	NR	60		
P1 D		8" CMU-2 (HOLLOW) GROUTED JOINT (BOTH SIDES)	NR	55		
P1 E		GROUTED JOINT (BOTH SIDES) CMU-2 (GROUT FILLED) PORCELAIN CERAMIC TILE	NR	55		

COLD FORMED METAL FRAMING

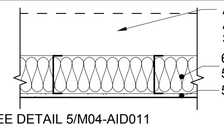
P2 A		5/8" GWB-1 6" METAL STUD W/ 6" INSUL-4 5/8" GWB-2	NR	45 (MIN)		NGC 2018017
P2 B		5/8" TYPE X GWB-7.1 6" METAL STUD W/ 6" INSUL-4 5/8" TYPE X GWB-7.1 SEE DETAIL 5/M04-AID011	1 HR	50 (MIN)		OL17-0305
P2 C		5/8" GWB-1 6" METAL STUD W/ 3 1/2" INSUL-4 5/8" GWB-6 PORCELAIN CERAMIC TILE	NR	45 (MIN)		
P2 D		PORCELAIN CERAMIC TILE 5/8" GWB-6 6" METAL STUD W/ 3 1/2" INSUL-4 5/8" GWB-6 PORCELAIN CERAMIC TILE	NR	45 (MIN)		
P2 E		6" METAL STUD W/ 5 1/2" INSUL-4 5/8" GWB-6 PORCELAIN CERAMIC TILE	NR	45 (NET)		

COLD FORMED METAL FRAMING (CONTINUED)

P2 F		6" METAL STUD MP-1.0	NR	45		
P2 G		1/2" PLY-1 3 5/8" METAL STUD 1/2" PLY-1	NR			
P2 H		5/8" GWB-1 6" METAL STUD 5/8" GWB-1 SMOKE PARTITION, SEE DETAIL 5/M04-AID011	NR			
P2 J		5/8" GWB-7 6" METAL STUD W/ 6" INSUL-4 5/8" GWB-7 SEE DETAIL 5/M04-AID011	NR	50 (MIN)		OL17-0305
P2 K		6" METAL STUD W/ 3 1/2" INSUL-4 5/8" GWB-1	NR	45 (NET)		
P2 L		3 5/8" METAL STUD W/ 3 1/2" INSUL-4 5/8" GWB-1	NR	45 (NET)		
P2 M		3 5/8" METAL STUD W/ 3 1/2" INSUL-4 5/8" GWB-6 PORCELAIN CERAMIC TILE	NR	45 (NET)		
P2 N		PORCELAIN CERAMIC TILE 5/8" GWB-6 8" METAL STUD W/ 3 1/2" INSUL-4 5/8" GWB-6 PORCELAIN CERAMIC TILE	NR	45 (MIN)		
P2 P		5/8" GWB-1 8" METAL STUD W/ 3 1/2" INSUL-4 5/8" GWB-6 PORCELAIN CERAMIC TILE	NR	45 (MIN)		
P2 Q		5/8" GWB-7 6" METAL STUD W/ 6" INSUL-4 5/8" GWB-7 SEE DETAIL 5/M04-AID011	NR	50 (MIN)		OL17-0305

P2 R		CONT SYNTHETIC SOUND BARRIER LINER 5/8" GWB-1 5/8" GWB-1 6" METAL STUD W/ 5 1/2" INSUL-4 5/8" GWB-1 5/8" GWB-1 SEE DETAIL 5/M04-AID011	NR	60 (MIN)		
P2 S		5/8" GWB-7 6" METAL STUD W/ 6" INSUL-4 5/8" GWB-6 PORCELAIN CERAMIC TILE SEE DETAIL 5/M04-AID011	NR	50 (MIN)		
P2 T		5/8" GWB-1 3 5/8" METAL STUD W/ 3 1/2" INSUL-4 5/8" GWB-1	NR			
P2 U		5/8" GWB-1 A 6" METAL STUD 5/8" GWB-1	NR			

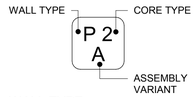
FURRING ASSEMBLIES

P3 A		ADJACENT WALL ASSEMBLY - SEE PLANS & SECTIONS FOR TYPE 6" METAL FURRING CHANNEL W/ 5 1/2" INSUL-4 5/8" GWB-1 SEE DETAIL 5/M04-AID011	NR	50 (NET)		
P3 B		ADJACENT WALL ASSEMBLY - SEE PLANS & SECTIONS FOR TYPE 1-1/2" METAL HAT CHANNEL 5/8" GWB-1	NR	N/A		
P3 C		ADJACENT WALL ASSEMBLY - SEE PLANS & SECTIONS FOR TYPE 1-1/2" METAL HAT CHANNEL 5/8" GWB-6 PORCELAIN CERAMIC TILE	NR	N/A		
P3 D		ADJACENT WALL ASSEMBLY - SEE PLANS & SECTIONS FOR TYPE 7/8" METAL HAT CHANNEL 5/8" GWB-1	NR	N/A		
P3 E		ADJACENT WALL ASSEMBLY - SEE PLANS & SECTIONS FOR TYPE 7/8" METAL HAT CHANNEL 5/8" GWB-6 PORCELAIN CERAMIC TILE	NR	N/A		

MISCELLANEOUS INTERIOR PARTITION ASSEMBLIES

P4 A		COATED CHAIN LINK FENCING	NR	N/A		

WALL ASSEMBLY TAG



WALL TYPE:

W = EXTERIOR WALL
P = INTERIOR PARTITION

CORE TYPE:

0 = CIP CONCRETE
1 = CMU
2 = METAL STUD FRAMING
3 = FURRING CHANNEL
4 = CHAIN LINK FENCING

ASSEMBLY

1. FIRE RATED ASSEMBLIES ARE BASED ON IBC, UL, ICC, OR US GYPSUM ASSOCIATION (GA) TEST DATA & ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE TESTING AGENCIES. REFER TO SPECIFIC TEST REPORTS INDICATED FOR REQUIRED COMPONENTS & ASSEMBLIES.
2. EXTENTS OF ASSEMBLIES ARE SHOWN ON THE PLANS & SECTIONS.
3. REFER TO TECHNICAL NOMENCLATURE SCHEDULE ON SHEET GEN-AZN002 FOR ASSEMBLY ABBREVIATIONS.
4. FIRE RATED ASSEMBLIES FORM A SEPARATION THAT SHALL BE CONTINUOUS FROM FLOOR TO STRUCTURE ABOVE WITH NO BREAKS AT COLUMNS, WALL TRANSITIONS, OR OTHER OBSTRUCTIONS.
5. ALL PENETRATIONS IN FIRE RATED ASSEMBLIES REQUIRED TO HAVE PROTECTED OPENINGS SHALL BE FIRESTOPPED OR PROVIDED WITH APPROVED SMOKE AND/OR FIRE DAMPERS.
6. SUBSTITUTE WATER RESISTANT GWB AT TOILET ROOMS, SHOWER ROOMS, JANITOR ROOMS & SIM USES.
7. SUBSTITUTE TILE BACKER BOARD AT CERAMIC TILE FINISHES.
8. BLOCKING IS REQUIRED AT THE FOLLOWING LOCATIONS: CASEWORK, SHELVING & PANELING; ACCESSORIES & EQUIPMENT; DOOR HARDWARE; TOILET PARTITIONS & ACCESSORIES; ACOUSTICAL PANELS; OTHER LOCATIONS WHERE REQUIRED PER MANUFACTURER'S RECOMMENDATIONS OR INDUSTRY STANDARDS.
9. FIRE BARRIERS AND PARTITIONS MAY HAVE OPENINGS FOR STEEL ELECTRICAL BOXES PER IBC 714.3.2.
10. ALL ROOFING SYSTEMS TO COMPLY WITH CLASS B SYSTEM REQUIREMENTS
11. ALL EXPOSED INSULATION AND PLASTIC FACED BATT INSULATION SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 450 PER IBC 720.3.
12. INTERIOR WALL FINISHES TO MEET MINIMUM CLASS C WITH FLAME SPREAD INDEX 76-200 AND SMOKE DEVELOPED INDEX 0-450 AS DEFINED IN IBC 803.1.1 AND TABLE 803.11
13. FLOOR ASSEMBLIES PER STRUCTURAL. FLOOR FINISHES PER FINISH SCHEDULE; SEE INTERIORS.
14. SEE REFLECTED CEILING PLANS & TECHNICAL NOMENCLATURE FOR CEILING TYPES.
15. FOR AIR BARRIER NOTES, REFER TO SHEET GEN-AZN011.
16. UNO STC RATINGS ARE PER ACOUSTICAL ANALYSIS
17. STC RATINGS INDICATED AS 'NET' ARE ACHIEVED USING BOTH ADJACENT PARTITIONS CUMULATIVELY A

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DP4A IFC

No.	DATE	DSN	CHK	APP	REVISION
A	2020.02.20	BP	DN	JY	CB#020
0	2018.09.19	BP	SM	JY	ISSUED FOR CONSTRUCTION

DESIGNED BY: B. PETERSON
DRAWN BY: T. WEST
CHECKED BY: D NELSON
APPROVED BY: J. YOUNG

7693 REGISTERED ARCHITECT Steven McDonald STATE OF WASHINGTON 02/20/2020

HENSEL PHELPS Plan. Build. Manage. | coterra ENGINEERING | rolluda architects architecture planning interior design | Stantec | VIA | kpff | Karen Kiest | Landscape Architects | ELCON ASSOCIATES, INC. ENGINEERS—CONSULTANTS

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

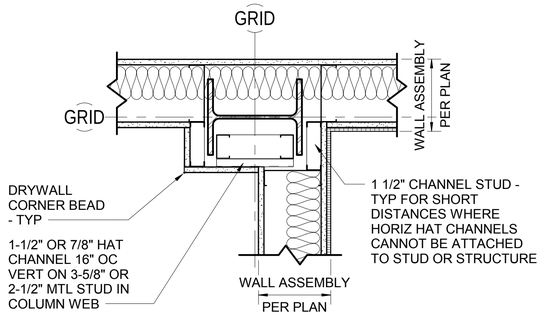
SUBMITTED BY: RICHARD LEWIS
DATE: 2018.07.10
REVIEWED BY: BILL FERRIS
DATE: 2018.07.10
SUBMITTAL DATE: 2018.07.10

SCALE: NTS
FILENAME: M200-Y02e-A-v2017
CONTRACT No.: RTA/CN 0020-16

LINK OPERATIONS & MAINTENANCE FACILITY: EAST
CONTRACT M200
OMF EAST

GENERAL
INTERIOR WALL ASSEMBLIES

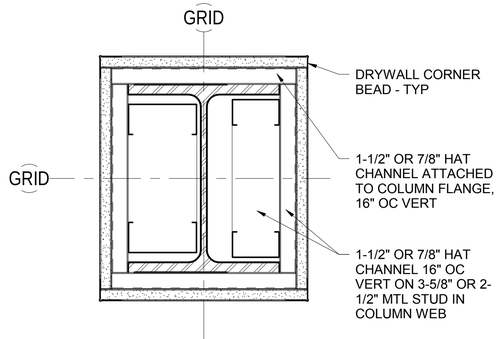
DRAWING NO.: GEN-AZN012
FACILITY ID: Y02, M04, M05
SHEET No: REV: A



THIS DETAIL TYPICAL AT SIMILAR CONDITIONS IN ALL FINISHED OFFICE SPACES.

COLUMN PROTECTION CONDITION 1

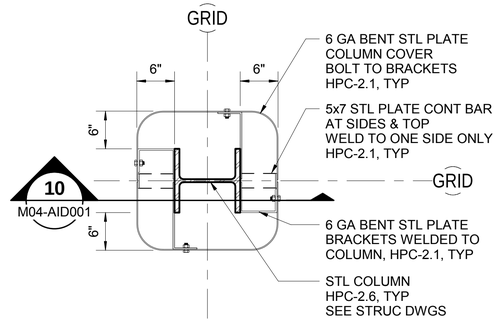
SCALE: 1 1/2" = 1'-0" — M04-APD151



THIS DETAIL TYPICAL AT SIMILAR CONDITIONS IN ALL FINISHED OFFICE SPACES.

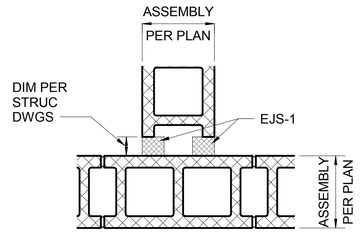
SINGLE COLUMN PROTECTION 2

SCALE: 3" = 1'-0" — M04-APP213



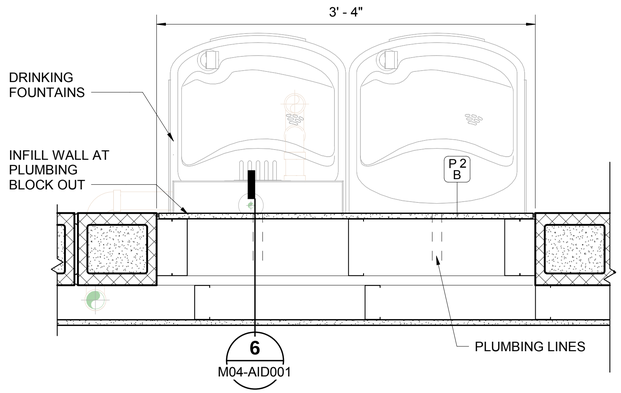
COLUMN PROTECTION PLAN 3

SCALE: 1" = 1'-0" — M04-APP111



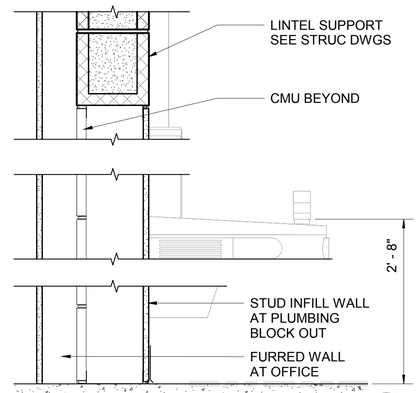
TYP CMU JOINT 4

SCALE: 1 1/2" = 1'-0" — -



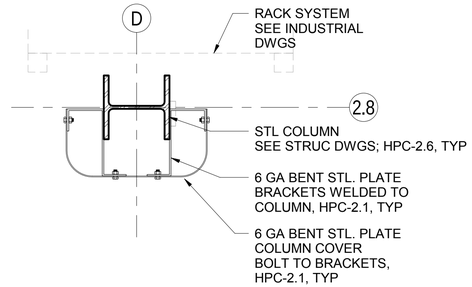
DRINKING FOUNTAIN MOUNTING PLAN 5

SCALE: 1 1/2" = 1'-0" — M04-APP117



DRINKING FOUNTAIN @ CMU 6

SCALE: 1 1/2" = 1'-0" — M04-AID001

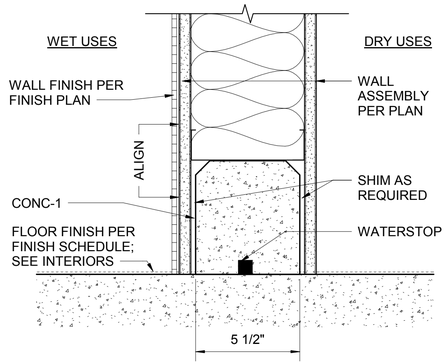


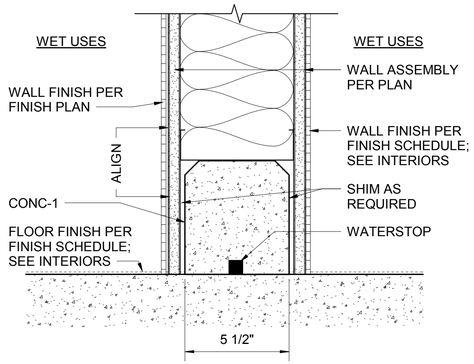
HALF COLUMN PROTECTION AT GRID D-2.8 7

SCALE: 1" = 1'-0" — M04-APP111

COLUMN PROTECTION SECTION 10

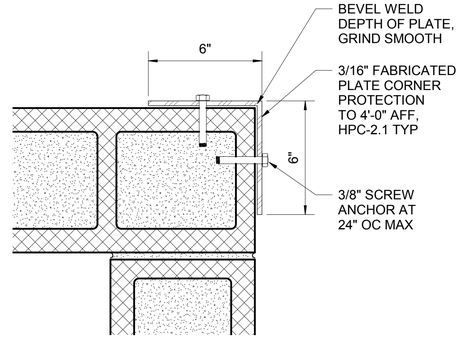
SCALE: 1" = 1'-0" — M04-AID001





CURB @ FRAMED WALLS 11

SCALE: 3" = 1'-0" — M04-AYX005



CMU CORNER PROTECTION 12

SCALE: 3" = 1'-0" — M04-APP111

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DP4A-IFC

No.	DATE	DSN	CHK	APP	REVISION
0	2018.09.19	BP	SM	JY	ISSUED FOR CONSTRUCTION

DESIGNED BY: B. PETERSON
DRAWN BY: T. WEST
CHECKED BY: S. McDONALD
APPROVED BY: J. YOUNG

7888 REGISTERED ARCHITECT Alan Hart STATE OF WASHINGTON 09/19/2018

HENSEL PHELPS Plan. Build. Manage. | coterra ENGINEERING | rolluda architects architecture planning interior design | Karen Kiest Landscape Architects | Stantec | VIA | kpff | ELCON ASSOCIATES, INC. ENGINEERS—CONSULTANTS

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

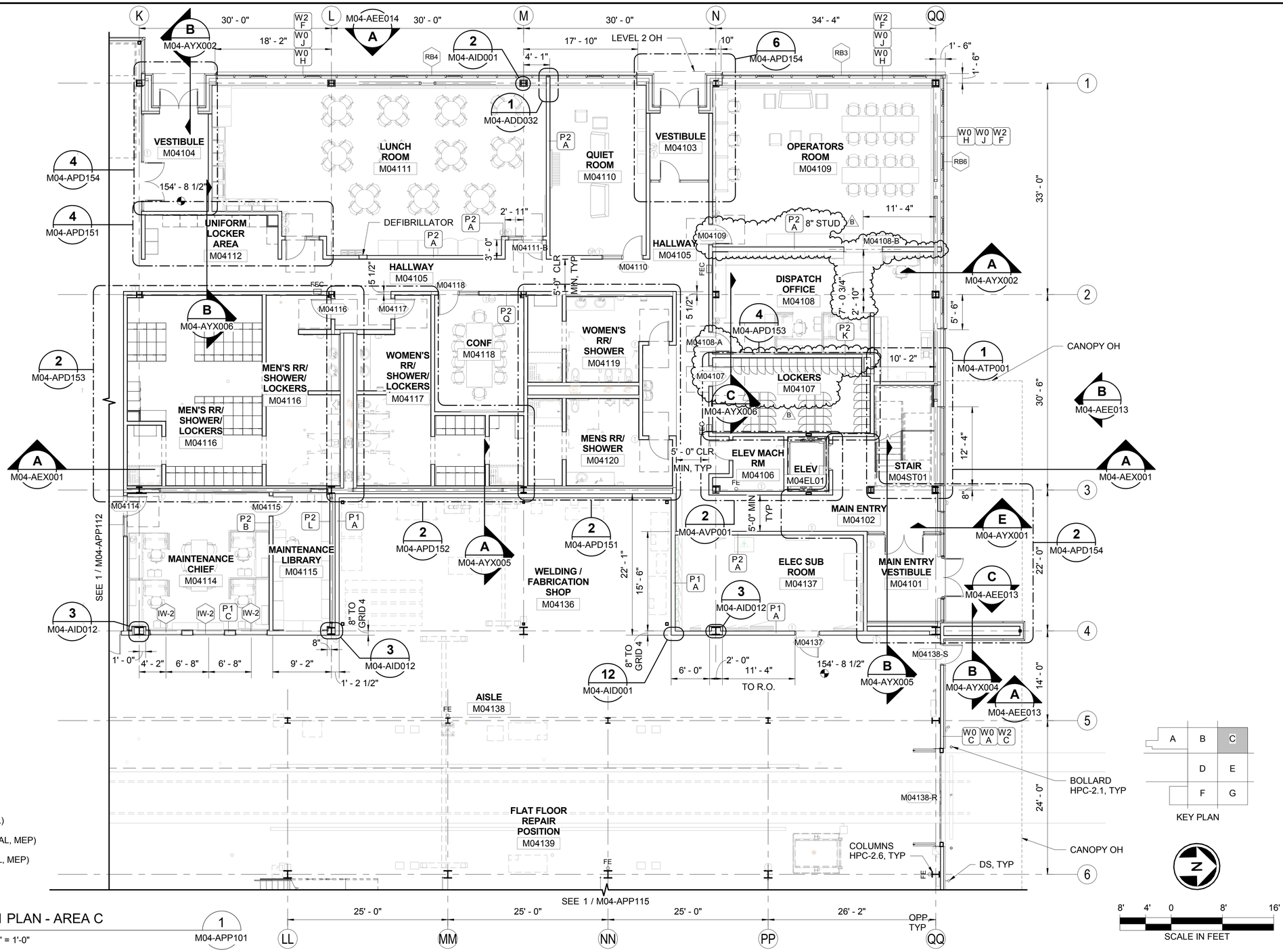
SUBMITTED BY: RICHARD LEWIS | DATE: 2018.09.19
REVIEWED BY: BILL FERRIS | DATE: 2018.09.19
SUBMITTAL DATE: 2018.09.19

SCALE: AS NOTED
FILENAME: M200-M04-A-v2017
CONTRACT No.: RTA/CN 0020-16

LINK OPERATIONS & MAINTENANCE FACILITY: EAST
CONTRACT M200
OMF EAST

OMF EAST BUILDING
INTERIOR DETAILS

DRAWING NO.: **M04-AID001**
FACILITY ID: M04
SHEET No: 117 | REV: 0



GRAPHIC

- MOVEABLE EQUIPMENT (SEE INDUSTRIAL)
- STATIONARY EQUIPMENT (SEE INDUSTRIAL, MEP)
- EQUIPMENT OVERHEAD (SEE INDUSTRIAL, MEP)
- PIT / OPEN TO BELOW
- CANOPY ABOVE

LEVEL 1 PLAN - AREA C

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

NOTE: ALL CMU OUTSIDE CORNERS TO BE BULLNOSE UNO

DP4A - IFC

No.	DATE	DSN	CHK	APP	REVISION
B	2019.08.02	BP	SM	JY	CB#034
A	2019.05.03	BP	SM	JY	CB#025
0	2018.09.19	BP	SM	JY	ISSUED FOR CONSTRUCTION

DESIGNED BY: B. PETERSON
DRAWN BY: T. WEST
CHECKED BY: S. McDONALD
APPROVED BY: J. YOUNG

7888 REGISTERED ARCHITECT Alan Hart STATE OF WASHINGTON 08/02/2019

HENSEL PHELPS Plan. Build. Manage. | coterra ENGINEERING | rolluda architects architecture planning interior design | Karen Kiest | Landscape Architects | Stantec | VIA | kpff | ELCON ASSOCIATES, INC. ENGINEERS–CONSULTANTS

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY:	DATE:	REVIEWED BY:	DATE:
RICHARD LEWIS	2018.07.10	BILL FERRIS	2018.07.10

SCALE: 1/8" = 1'-0"
FILENAME: M200-Y02e-A-v2017
CONTRACT No.: RTA/CN 0020-16
SUBMITTAL DATE: 2018.07.10

LINK OPERATIONS & MAINTENANCE FACILITY: EAST
CONTRACT M200
OMF EAST

OMF EAST BUILDING
FIRST FLOOR - AREA C PLAN

DRAWING NO.: **M04-APP113**
FACILITY ID: M04
SHEET No: REV: H

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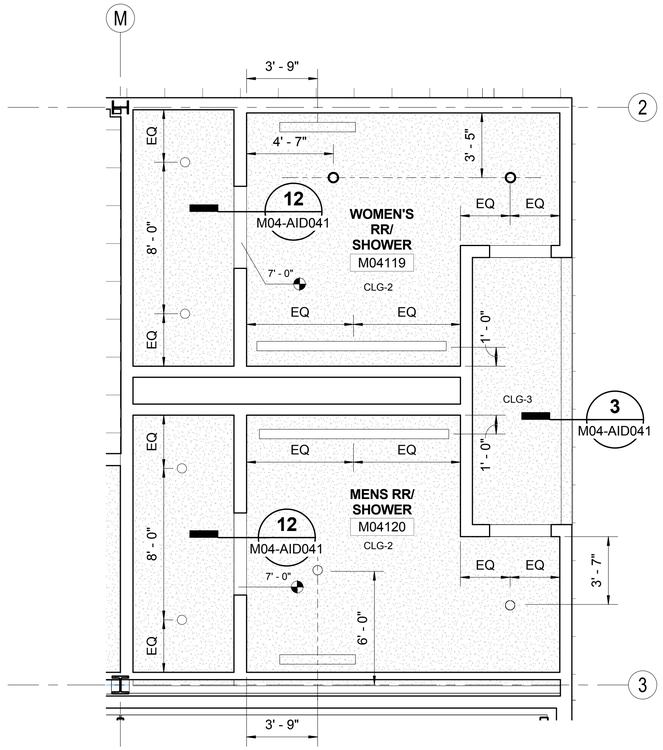
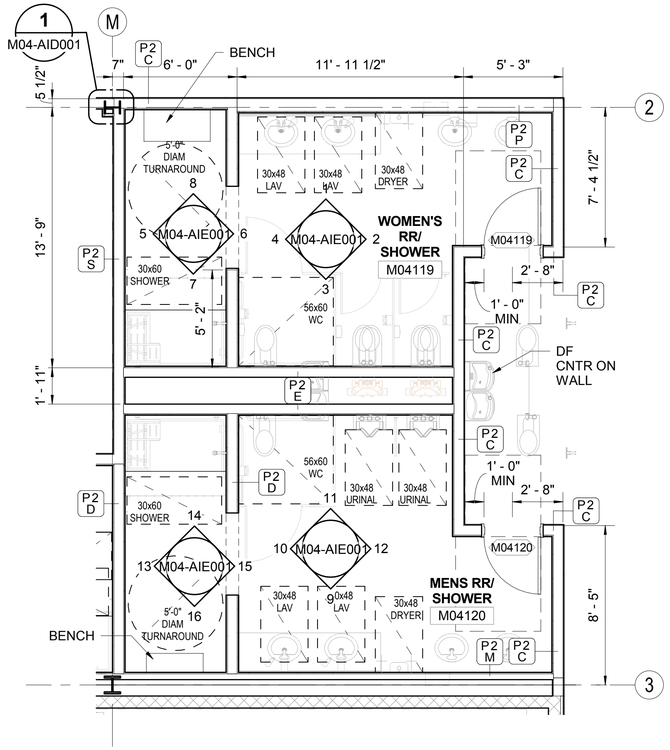


LEVEL 1 RCP - M04119 / M04120

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

1 M04-ACP113



LEVEL 1 PLAN - M04119 / M04120

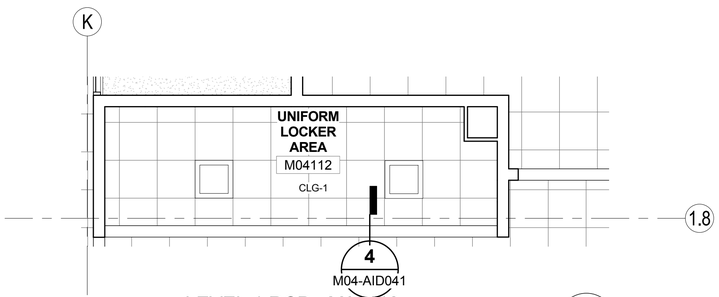
SCALE: 1/4" = 1'-0"

2 M04-APP113

NOTE: SEE 1 / GEN-AIE001 FOR TYPICAL MOUNTING HEIGHTS.

REFLECTED CEILING PLAN GENERAL

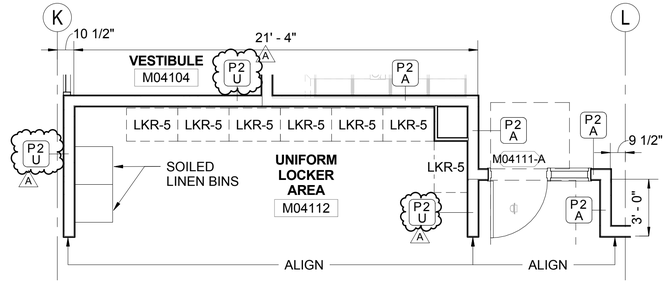
1. SEE GEN-AZN001 FOR CEILING LEGEND & SYMBOLS.
2. OPEN TO STRUCTURAL DECK ABOVE, U.N.O.
3. ALL CEILINGS AT 9'-0" U.N.O.
4. ALL UNDERSIDE OF HEADERS AT 8'-0" U.N.O.
5. SEE INTERIORS FOR WALL, FLOOR & CEILING FINISHES.
6. EXPOSED STRUCTURAL DECK, BEAMS, JOISTS, AND M.E.P. SYSTEMS TO BE HPC-2.2, UNLESS REQUIRED OTHERWISE BY CODE OR U.N.O.



LEVEL 1 RCP - M04112

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

3 M04-ACP113



LEVEL 1 PLAN - M04112

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

4 M04-APP111

4' 2' 0 4' 8'

SCALE IN FEET

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DP4A - IFC

No.	DATE	DSN	CHK	APP	REVISION
A	2019.08.28	BP	SM	JY	CB#061
0	2018.09.19	BP	SM	JY	ISSUED FOR CONSTRUCTION

DESIGNED BY: B. PETERSON
DRAWN BY: T. WEST
CHECKED BY: S. McDONALD
APPROVED BY: J. YOUNG

7888 REGISTERED ARCHITECT Alan Hart STATE OF WASHINGTON 08/28/2019

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

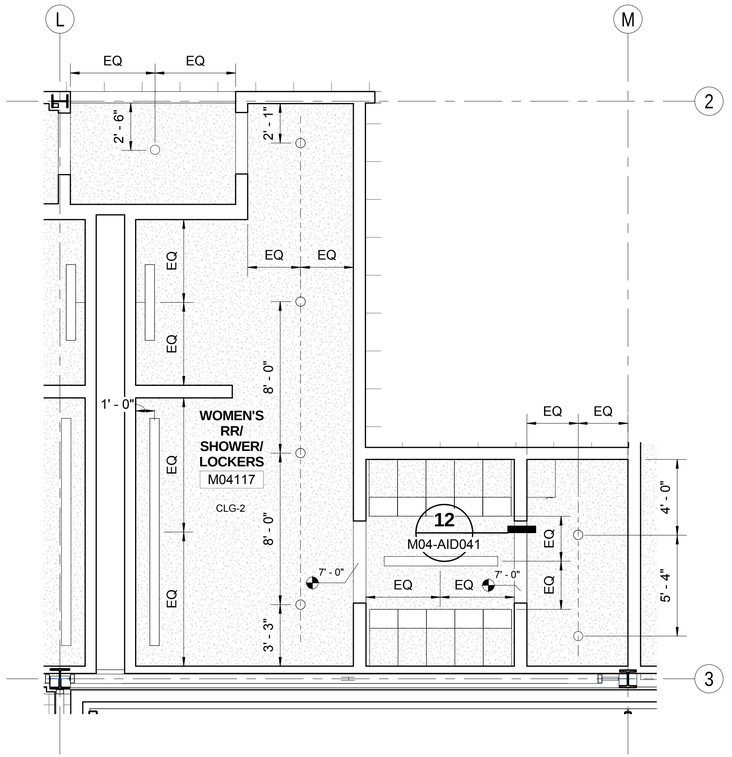
SUBMITTED BY: RICHARD LEWIS
DATE: 2018.07.10
REVIEWED BY: BILL FERRIS
DATE: 2018.07.10

SCALE: 1/4" = 1'-0"
FILENAME: M200-Y02e-A-v2017
CONTRACT No.: RTA/CN 0020-16
SUBMITTAL DATE: 2018.07.10

LINK OPERATIONS & MAINTENANCE FACILITY: EAST
CONTRACT M200
OMF EAST

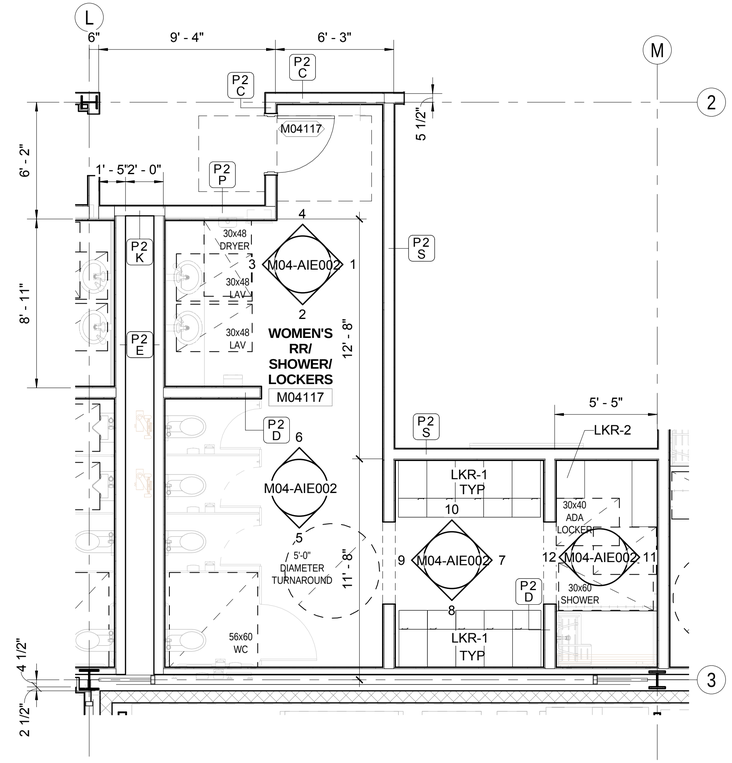
OMF EAST BUILDING
LEVEL 1 ENLARGED FLOOR PLANS

DRAWING NO.: **M04-APD151**
FACILITY ID: M04
SHEET No: REV: A



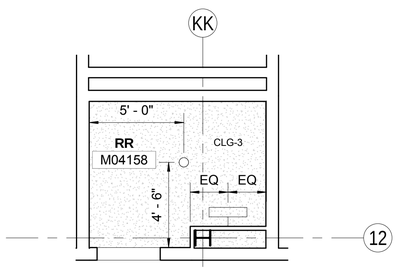
LEVEL 1 - RCP - M04117 (1) M04-ACP113

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



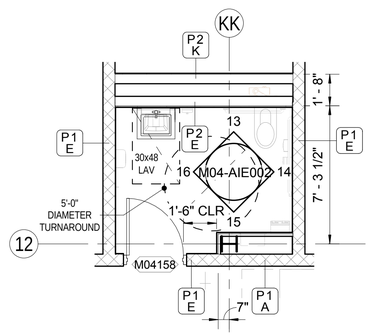
LEVEL 1 - PLAN - M04117 (2) M04-APP113

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



LEVEL 1 RCP - M04158 (3) M04-ACP116

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



LEVEL 1 PLAN - M04158 (4) M04-APP116

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

4' 2' 0 4' 8'

SCALE IN FEET

NOTE: SEE 1 / GEN-AIE001 FOR TYPICAL MOUNTING HEIGHTS.

REFLECTED CEILING PLAN GENERAL NOTES:

1. SEE GEN-AZN001 FOR CEILING LEGEND & SYMBOLS.
2. OPEN TO STRUCTURAL DECK ABOVE, U.N.O.
3. ALL CEILINGS AT 9'-0" U.N.O.
4. ALL UNDERSIDE OF HEADERS AT 8'-0" U.N.O.
5. SEE INTERIORS FOR WALL, FLOOR & CEILING FINISHES.
6. EXPOSED STRUCTURAL DECK, BEAMS, JOISTS, AND M.E.P. SYSTEMS TO BE HPC-2.2, UNLESS REQUIRED OTHERWISE BY CODE OR U.N.O.

DP4A-IFC

No.	DATE	DSN	CHK	APP	REVISION
0	2018.09.19	BP	SM	JY	ISSUED FOR CONSTRUCTION

DESIGNED BY: B. PETERSON
DRAWN BY: T. WEST
CHECKED BY: S. McDONALD
APPROVED BY: J. YOUNG

7888 REGISTERED ARCHITECT Alan Hart STATE OF WASHINGTON 09/19/2018

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: RICHARD LEWIS | DATE: 2018.09.19
REVIEWED BY: BILL FERRIS | DATE: 2018.09.19

SCALE: 1/4" = 1'-0"
FILENAME: M200-M04-A-v2017
CONTRACT No.: RTA/CN 0020-16
SUBMITTAL DATE: 2018.09.19

LINK OPERATIONS & MAINTENANCE FACILITY: EAST
CONTRACT M200
OMF EAST

OMF EAST BUILDING
LEVEL 1 ENLARGED FLOOR PLANS

DRAWING NO.: **M04-APD152**
FACILITY ID: M04
SHEET No.: 91
REV.: 0

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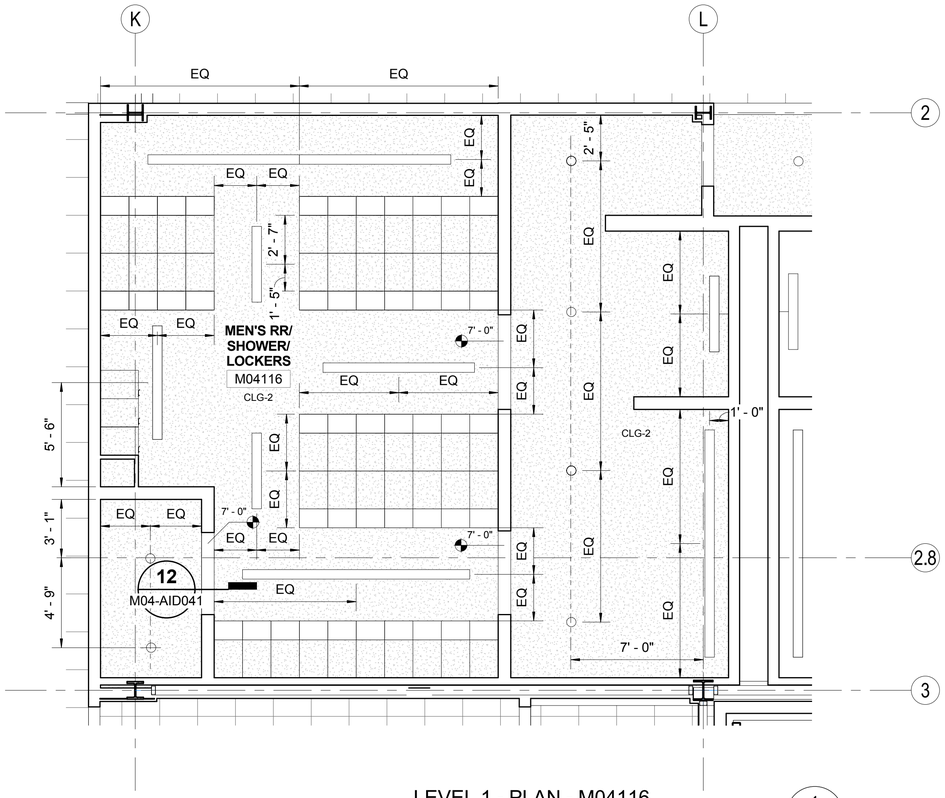
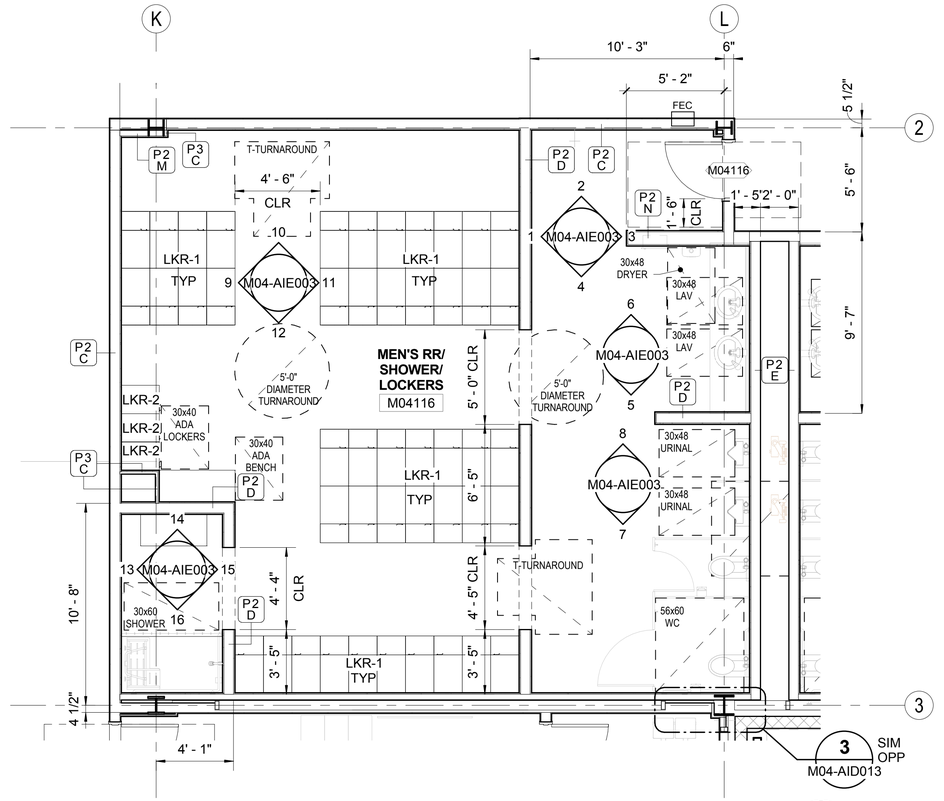


LEVEL 1 - PLAN - M04116

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

1 M04-ACP113



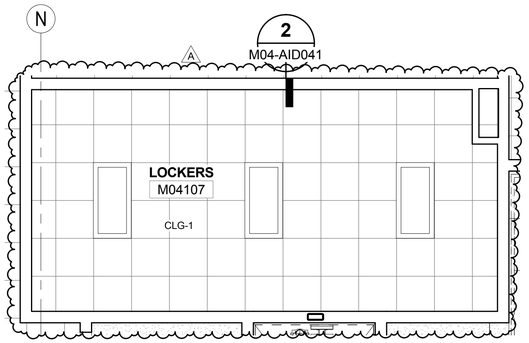
LEVEL 1 - PLAN - M04116

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

2 M04-APP113

REFLECTED CEILING PLAN GENERAL

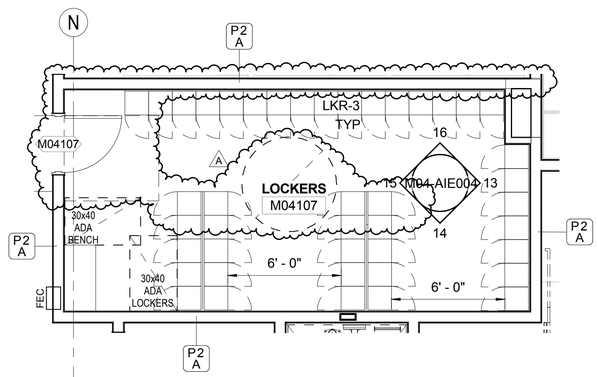
1. SEE GEN-AZN001 FOR CEILING LEGEND & SYMBOLS.
2. OPEN TO STRUCTURAL DECK ABOVE, U.N.O.
3. ALL CEILINGS AT 9'-0" U.N.O.
4. ALL UNDERSIDE OF HEADERS AT 8'-0" U.N.O.
5. SEE INTERIORS FOR WALL, FLOOR & CEILING FINISHES.
6. EXPOSED STRUCTURAL DECK, BEAMS, JOISTS, AND M.E.P. SYSTEMS TO BE HPC-2.2, UNLESS REQUIRED OTHERWISE BY CODE OR U.N.O.



LEVEL 1 - RCP - M04107

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

3 M04-ACP113



LEVEL 1 - PLAN - M04107

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

4 M04-APP113

NOTE: SEE 1 / GEN-AIE001 FOR TYPICAL MOUNTING HEIGHTS.

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DP4A - IFC

No.	DATE	DSN	CHK	APP	REVISION
A	2019.08.02	BP	SM	JY	CB#034
0	2018.09.19	BP	SM	JY	ISSUED FOR CONSTRUCTION

DESIGNED BY: B. PETERSON
DRAWN BY: T. WEST
CHECKED BY: S. McDONALD
APPROVED BY: J. YOUNG

7888 REGISTERED ARCHITECT Alan Hart STATE OF WASHINGTON 08/02/2019

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LINE IS 1" AT FULL SCALE

SUBMITTED BY: RICHARD LEWIS | DATE: 2018.07.10
REVIEWED BY: BILL FERRIS | DATE: 2018.07.10

SOUNDTRANSIT

SCALE: 1/4" = 1'-0"
FILENAME: M200-Y02e-A-v2017
CONTRACT No.: RTA/CN 0020-16
SUBMITTAL DATE: 2018.07.10

LINK OPERATIONS & MAINTENANCE FACILITY: EAST
CONTRACT M200
OMF EAST

OMF EAST BUILDING
LEVEL 1 ENLARGED FLOOR PLANS

DRAWING NO.: M04-APD153
FACILITY ID: M04
SHEET No: REV: A

SECTION 10 11 00

VISUAL DISPLAY UNITS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:
1. Markerboard panels.
2. Display rails.
3. Tackboard panels.

B. Related Requirements:
1. Section 01 81 13 “Sustainable Design Requirements”

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product.
1. Include construction details, material descriptions, dimensions of individual components and profiles, finishes, and accessories for visual display units.
2. Include electrical characteristics for motorized units.

B. Sustainable Design Submittals:
1. LEED Submittals: For components of this section, submit in compliance with Section 01 81 13 Sustainable Design Requirements.

C. Shop Drawings: For visual display units.
1. Include plans, elevations, sections, details, and attachment to other work.
2. Include sections of typical trim members.

D. Schedule: For visual display units.

1.03 INFORMATIONAL SUBMITTALS

A. Sample Warranties: For special warranties.

1.04 CLOSEOUT SUBMITTALS

A. Maintenance Data: For visual display units to include in maintenance manuals.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver factory-fabricated visual display units completely assembled in one piece. If dimensions exceed maximum manufactured unit size, or if unit size is impracticable to ship in one piece, provide two or more pieces with joints in locations indicated on approved Shop Drawings.

1.06 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install visual display units until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

1.07 WARRANTY

A. Special Warranty for Porcelain-Enamel Face Sheets: Manufacturer agrees to repair or replace porcelain-enamel face sheets that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Surfaces lose original writing and erasing qualities.
      b. Surfaces exhibit crazing, cracking, or flaking.
   2. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 LEED COMPLIANCE

A. LEED Compliance: Refer to Section 01 81 13 Sustainable Design Requirements for all components within this Section.

2.02 MANUFACTURERS

A. Source Limitations: Obtain each type of visual display unit from single source from single manufacturer. Basis of design in ~~"ghent", a GMI company.~~ Claridge Products & Equipment, Inc. 1

2.03 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
   1. Flame-Spread Index: 25 or less.
   2. Smoke-Developed Index: 50 or less.

2.04 VISUAL DISPLAY BOARDS 1 7/16"

A. Markerboard Panel: Magnetic Porcelain-enamel-faced markerboard panel on ~~3/8"~~ backing core. Locations and sizes indicated on drawings.
   1. Color: White with Satin anodized aluminum frame.

B. Tackboard Panel: Natural-cork tackboard panel on manufacturers standard core.
   1. Frame: Satin anodized aluminum frame.

C. Satin anodized Aluminum Frames and Trim: Fabricated from not less than 0.062-inch- (1.57-mm-) thick, extruded aluminum; standard size and shape.

D. Joints: Make joints only where total length exceeds maximum manufactured length. Fabricate with minimum number of joints, balanced around center of board, as approved on Shop Drawings.

E. Combination Assemblies: Provide hidden between abutting sections of visual display panels where applicable.

F. Chalk tray: Manufacturer's standard; continuous and detachable, at Markerboards only.
   1. Solid Type: Extruded aluminum with ribbed section and smoothly curved exposed ends.

2.05 MARKERBOARD PANELS

A. Porcelain-Enamel Markerboard Panels: Balanced, high-pressure, factory-laminated markerboard assembly of three-ply construction, consisting of moisture-barrier backing, core material, and 28 - gauge porcelain-enamel face sheet with low-gloss finish. Laminate panels under heat and pressure with manufacturer's standard, flexible waterproof adhesive.

1. ~~Hardboard Core: 3/8 inch (6 mm) thick backing.~~ Particle Board: 7/16" thick backing
2. Laminating Adhesive: Manufacturer's standard moisture-resistant thermoplastic type.
3. Sizes: As indicated on the drawings; installed singly or in combination, as indicated on Drawings.

1

2.06 TACKBOARD PANELS

A. Tackboard Panels:

1. Facing: 1/4-inch- thick] natural cork ~~with burlap backing~~.
2. Core: Manufacturer's standard.
3. Sizes: As indicated on drawings.

1

Burlap backing not typical practice by manufacturer.

2.07 MATERIALS

A. Natural-Cork Sheet: Seamless, single-layer, compressed fine-grain cork sheet; bulletin board quality; face sanded for natural finish.

B. Hardboard: ANSI A135.4, tempered.

C. Extruded Aluminum: ASTM B 221 (ASTM B 221M), Alloy 6063.

D. Adhesives for Field Application: Mildew-resistant, nonstaining adhesive for use with specific type of panels, sheets, or assemblies; and for substrate application; as recommended in writing by visual display unit manufacturer.

2.08 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.09 ALUMINUM FINISHES

A. Satin Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

PART 3 - EXECUTION

3.01 COORDINATION

A. Coordinate wall framing and blocking, in locations designated for visual display unit installation, and for capacities necessary to support anticipated loads.

3.02 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, surface conditions of wall, and other conditions affecting performance of the Work.

B. Examine walls and partitions for proper preparation and backing for visual display units.

C. Examine walls and partitions for suitable framing depth where sliding visual display units will be installed.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.03 PREPARATION

A. Comply with manufacturer's written instructions for surface preparation.

B. Clean substrates of substances, such as dirt, mold, and mildew, that could impair the performance of and affect the smooth, finished surfaces of visual display boards.

C. Prepare surfaces to achieve a smooth, dry, clean surface free of flaking, unsound coatings, cracks, defects, projections, depressions, and substances that will impair bond between visual display units and wall surfaces.

D. Prepare recesses for sliding visual display units as required by type and size of unit.

3.04 INSTALLATION

A. General: Install visual display surfaces in locations and at mounting heights indicated on Drawings, or if not indicated, at heights indicated below. Keep perimeter lines straight, level, and plumb. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for complete installation.

B. Field-Assembled Visual Display Board Assemblies: Coordinate field-assembled units with grounds, trim, and accessories indicated. Join parts with a neat, precision fit.
   1. Make joints only where total length exceeds maximum manufactured length. Fabricate with minimum number of joints, balanced around center of board as indicated on approved Shop Drawings.
   2. Where size of visual display board assemblies or other conditions require support in addition to normal trim, provide structural supports or modify trim as indicated or as selected by Architect from manufacturer's standard structural support accessories to suit conditions indicated.

C. Visual Display Board Assembly Mounting Heights: Install visual display units at mounting heights indicated on Drawings, or if not indicated, at heights indicated below.
   1. Mounting Height **36 inches** above finished floor to top of chalk tray.

3.05 CLEANING AND PROTECTION

A. Clean visual display units according to manufacturer's written instructions. Attach one removable cleaning instructions label to visual display unit in each room.

B. Touch up factory-applied finishes to restore damaged or soiled areas.

C. Cover and protect visual display units after installation and cleaning.

END OF SECTION

SECTION 10 14 00

BUILDING SIGNAGE

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

1. Room and door signs.
2. Code and regulatory signs.

B. Related Requirements:

1. Section 01 81 13 “Sustainable Design Requirements.”
2. Section 10 14 14 “Sound Transit Site Signage.”
3. Division 23 Sections addressing labels, tags and nameplates for mechanical equipment.
4. Division 26 Sections addressing labels, tags and nameplates for electrical equipment.
5. Other signage such as illuminated exit signage as specified in Division 26.

1.02 REFERENCES

A. Referenced Codes, Regulations and Standards: Design, installation, testing and maintenance of signs shall comply with the following latest statutory Codes, Rules and Regulations.

B. ANSI 117.1: Accessible and Usable Buildings and Facilities, International Code Council.

C. USDOT/ADAAG: Americans with Disabilities Act (ADA) Standards for Transportation Facilities.

1.03 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Sustainable Design Submittals:

1. LEED Submittals: For components of this section, submit in compliance with Section 01 81 13 Sustainable Design Requirements.

C. Shop Drawings: For room-identification signs.

1. Include fabrication and installation details and attachments to other work.
2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
3. Show message list, typestyles, graphic elements, including raised characters and Braille, and layout for each sign.

D. Samples for Verification: For each type of sign assembly showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows. Submit samples showing colors specified.

1. Room Identification Signs: Full-size Sample.
2. Regulatory Signs: Full-size Sample.
3. Full-size Samples, if approved, will be returned to Contractor for use in Project.

E. Product Schedule: For room-identification signs. Use same designations indicated on Drawings or specified.

1.04 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturer.

B. Sample Warranty: For special warranty.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Fabricator Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

B. Source Limitations: Obtain each sign type indicated from a single manufacturer.

1.06 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Deterioration of finishes beyond normal weathering.
b. Deterioration of embedded graphic image.
c. Separation or delamination of sheet materials and components.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 LEED COMPLIANCE

A. Refer to Section 01 81 13 “Sustainable Design Requirements” for all components within this Section.

2.02 PERFORMANCE REQUIREMENTS

A. Accessibility Compliance: All signs are required to comply with ADAAG and ANSI A117.1 and applicable building codes, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.

2.03 SIGNS, GENERAL

A. Refer to sign type illustrations in this Section for sign types, colors, and configurations.

2.04 ROOM AND DOOR SIGNS

A. Room and Door Signs: Panel signs with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:

1. Tactile Signage: Exterior Grade Photopolymer
   a. ~~Acrylic Sheet: Polycast Acrylic, Solid color acrylic,~~ 1/8 thick, non-glare, UV resistant, colorfast.
   b. Edge condition: Square cut corners and edges.
   c. Type: unframed.
   d. Copy process: ~~Tactile and Braille, photo-etched plastic and laminated to the insert face in one piece.~~ Individually applied characters and Braille strips are expressly disallowed. Characters are made on a film negative, placed on a photosensitive sheet of polymer, then exposed to UV light to form shapes and characters.
2. Non-Tactile Signage:
   a. Engraved panel signs: Laminated colored plastic, engraved through face to expose core as background color, non-glare:
      1) Total Thickness: 1/16-inch.
      2) Edge condition: Square cut.
      3) Laminate color: To be selected by Architect from Manufacturer's standard range.
      4) Core color: To be selected by Architect from Manufacturer's standard range.

3. Mounting:
   a. In Shop Areas: Mechanically surface mounted to wall or door using concealed anchors.
   b. In Office Areas: Surface mounted to wall or door using adhesive.

4. Components:
   a. Typography shall comply with code requirements. All lettering shall be executed in such a manner that all edges and corners of the letter forms are correctly spaced, true, clean and photographically precise and must accurately reproduce the letter form.

   b. Tactile Signage: Unless otherwise indicated:
      1) Letter spacing: Tracking = 25. Letters to be raised a minimum of 1/32-inch.
      2) Braille to be Grade 2 (Contracted) with inset round glass bead:
      3) Dot height: .025" - .032"
      4) Dot diameter: 0.59" - .063"
      5) Interdot spacing: .090" - .100"
      6) Horizontal cell separation: .241" - .300"
      7) Vertical cell separation: .395" - .400"

   c. Background color: Refer Figure 9-2 appended to this specification section.

   d. Lettering color:
      1) White on black background signs.
      2) White on red background signs.
      3) Black on yellow background signs.

   e. Character height: Refer signage graphics appended to this specification section.

5. Interior Room and Door Signs: Provide Tactile Signage at every room entrance per Signage Schedule.
   a. Typeface: Humanist 777 Bold condensed, upper case only
   b. Mounting: Wall-mounted with double-faced tape.

c. Sign size: 8-inches by 10-inches, or as noted.

6. Exterior Room and Door Signs: Provide Tactile Signage at every room entrance per Signage Schedule.
   a. Typeface: Humanist 777 Bold condensed, upper case only
   b. Mounting: Surface mounted with concealed fasteners. Manufacturer's standard anchors for substrates encountered.
   c. Sign size: Per Signage Schedule

2.05 CODE AND REGULATORY SIGNS

A. Regulatory and Code Signs: Provide Non-Tactile Signage per Signage Schedule or as required by Jurisdiction Having Authority.

1. Typeface: Helvetica, Arial or other sans serif font, upper case only.
2. Mounting: Double-faced tape at interior conditions, mechanically fastened at exterior conditions.
3. Sign size: Per Signage Schedule
4. Character height: Minimum 5/8-inch.

2.06 MATERIALS

A. Acrylic Sheet: ASTM D 4802, category as standard with manufacturer for each sign, Type UVF (UV filtering).

B. Vinyl Film: UV-resistant vinyl film with pressure-sensitive, permanent adhesive; die cut to form characters or images as indicated on Drawings and suitable for exterior applications.

C. Paints and Coatings for Sheet Materials: Inks, dyes, and paints that are recommended by manufacturer for optimum adherence to surface and are UV and water resistant for colors and exposure indicated.

2.07 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following:

1. Use concealed fasteners and anchors unless indicated to be exposed.
2. For exterior exposure, furnish nonferrous-metal devices unless otherwise indicated.

3. Sign Mounting Fasteners:

   a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of sign material or screwed into back of sign assembly unless otherwise indicated.

B. Adhesive: As recommended by sign manufacturer.

2.08 FABRICATION

A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

1. Preassemble signs and assemblies in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
3. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
4. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.

B. Subsurface-Applied Graphics: Apply graphics to back face of clear face-sheet material to produce precisely formed image. Image shall be free of rough edges.

C. Signs with Changeable Message Capability: Fabricate signs to allow insertion of changeable messages as follows:

1. For slide-in changeable inserts, fabricate slot without burrs or constrictions that inhibit function. Furnish initial changeable insert. Furnish two blank inserts for each sign for Owner's use.

2.09 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Install signs so they do not protrude or obstruct according to the accessibility standard.
3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.

B. Accessibility: Install signs in locations on walls as indicated on Drawings and according to the accessibility standard.

C. Mounting Methods:

1. Concealed Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.

a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place sign in position and push until flush to surface, embedding studs in holes. Temporarily support sign in position until adhesive fully sets.
b. Thin or Hollow Surfaces: Place sign in position and flush to surface, install washers and nuts on studs projecting through opposite side of surface, and tighten.

2. Through Fasteners: Drill holes in substrate using predrilled holes in sign as template. Countersink holes in sign if required. Place sign in position and flush to surface. Install through fasteners and tighten.
3. Adhesive: Clean bond-breaking materials from substrate surface and remove loose debris. Apply linear beads or spots of adhesive symmetrically to back of sign and of suitable quantity to support weight of sign after cure without slippage. Keep adhesive away from edges to prevent adhesive extrusion as sign is applied and to prevent visibility of cured adhesive at sign edges. Place sign in position and push to engage adhesive. Temporarily support sign in position until adhesive fully sets.

3.02 ADJUSTING AND CLEANING

A. Remove and replace damaged or deformed signs and signs that do not comply with specified requirements. Replace signs with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.

B. Remove temporary protective coverings and strippable films as signs are installed.

C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

3.03 SIGN TYPES GRAPHICS

A. Next pages.

Sign Type J1.0
Code Room ID (8x10)
3/4" and 1/2" copy + Braille

Sign Type J2.0
Code Room ID (8x10)
3/4" and 1" copy + Braille
(Background color TBD)

Sign Type J3.0
Restroom ID (8x10)
3/4" copy + Braille

Sign Type J3.1
Restroom ID (8x10)
3/4" copy + Braille

Sign Type J3.2
Restroom ID (8x10)
3/4" copy + Braille

Sign Type J4.0
Stair ID (8x10)
3/4" and 1" copy + Braille

Sign Type J4.1.0
Exit Stair ID (8x10)
3/4" and 1" copy + Braille

Sign Type J5.0
Not an Exit / ID (8x10)
3/4" and 1/2" copy + Braille

Sign Type J6.0
Not an Exit (8x10)
1" copy + Braille

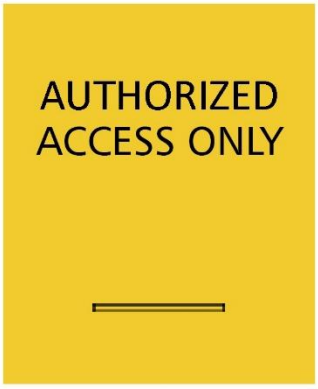
Sign Type J6.1
Exit ID (8x10)
1" copy + Braille

Sign Type J6.2
Standpipe ID (8x6)
3/4" copy

Sign Type J6.3
Sprinkler ID (8x6)
3/4" copy

Sign Type J6.4
No Smoking (8x10)
3/4" copy + Braille

Sign Type J6.5
Door to Remain Open (8x10)
1/2" copy + Braille



Sign Type J6.6
Authorized Only ID (8x10)
3/4" and 1/2" copy + Braille

Sign Type J7.1
Floor Load (8x6)
3/4" copy

Sign Type J10.0
Interior Stairwell Landing ID (12x12)
1" and 5" copy + Braille

Sign Type J6.0
Not an Exit (8x10)
1" copy + Braille

Sign Type J6.1
Exit ID (8x10)
1" copy + Braille

Sign Type J6.2
Standpipe ID (8x6)
3/4" copy

Sign Type J6.3
Sprinkler ID (8x6)
3/4" copy

Sign Type J6.4
No Smoking (8x10)
3/4" copy + Braille

Sign Type J6.5
Door to Remain Open (8x10)
1/2" copy + Braille

Sign Type J6.6
Authorized Only ID (8x10)
3/4" and 1/2" copy + Braille

Sign Type J7.1
Floor Load (8x6)
3/4" copy

Sign Type J8.0
Future Installation of EV (8x10)
1" copy + Braille

END OF SECTION

SECTION 10 14 14

~~STATION CUSTOMER~~SITE SIGNAGE

PART 1 - GENERAL

1.01 SUMMARY

A. This Work shall consist of furnishing and installing permanent signs utilizing Sound Transit provided sign face graphic designs in accordance with the Sound Transit Customer Signage Design Manual, the Signage Production Drawings in Chapter 4 of the manual, the Sound Transit Link Design Criteria Manual (DCM), the International Building Code (IBC) with local jurisdictional amendments, ~~layout drawings, Specifications, and the codes of Jurisdictional Authorities.~~ accessibility requirements, the sign details on the Architectural Drawings and these Specifications. The site signage system, as designed, provides ~~a seamless, regional, customer-focused way-finding program and is consistent in Sound Transit services: commuter rail (Sounder), light rail (Link), and regional express bus (ST Express).~~ wayfinding for staff, visitors, and deliveries to the OMFE.

B. The scope of Work of this Section includes the sign types ~~attached in Exhibit A~~, quantities, examples of messages, and dimensions. Sound Transit will provide the Contractor with production-ready artwork files to be used for the sign face graphic designs. Contractor shall provide necessary materials, equipment, labor, and accessories to form the completed sign in an operational condition.

C. It is the Contractor's responsibility to determine the brackets, footings, anchor bolts, and other items necessary for proper and complete installation of signs. Contractor shall coordinate preparation or correction of adjacent or interfacing conditions as needed, to make suitable for signage installation.

1.02 RELATED REQUIREMENTS

~~A. The requirements of this Section shall be coordinated and integrated into the Construction Documents by the Designer of Record.~~

A. Contract Drawings including Architectural, Systems, and Civil Drawings.

B. Sound Transit Link Design Criteria Manual including Signage Production Drawings.

C. Sound Transit Design Criteria Manual.

D. Section 10 14 00 "Signage" for room, door, code and regulatory signs.

E. Section 10 14 19 "Dimensional Character Signage" for exterior building-mounted dimensional letter signs.

F. Section 10 14 23 "Panel Signage" for exterior building-mounted logo signs.

1.03 REFERENCES

A. Reference Codes, Regulations and Standards: Design, installation, testing and maintenance of signs shall comply with the following latest statutory Codes, Rules and Regulations:

1. Aluminum Association (AA)

a. AA ADM 1 Aluminum Design Manual

2. American Institute of Steel Construction (AISC)

   a. ANSI/AISC 360-10 Specification for Structural Steel for Buildings

3. American National Standards Institute (ANSI)

4. American Society of Civil Engineers/Structural Engineering Institute (ASCE/SEI)

   a. ASCE/SEI 7-10 Minimum Design Loads for Buildings and Other Structures

5. American Society for Testing and Measurement International (ASTM)

   a. ASTM A36/A36M Standard Specification for Carbon Structural Steel

   b. ASTM A424/A424M Standard Specification for Steel, Sheet, for Porcelain Enameling

   c. ASTM A307 Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60000 Tensile Strength

   d. ASTM A325 Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 KSI Minimum Tensile Strength

   e. ASTM A500/A500M Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes

   f. ASTM B209 Standard Specification for Aluminum-Alloy Sheet and Plate

   g. ASTM B221 or B308 Extruded Aluminum Shapes and Tubes

   h. ASTM B308/B308M Standard Specification for Aluminum-Alloy 6061-T6 Standard Structural Profiles

   i. ASTM C920 Standard Specification for Elastomeric Joint Sealants

6. American Welding Society (AWS)

   a. AWS D1.1/D1.1M Structural Welding Code – Steel

7. Americans with Disabilities Act (ADA)

8. American National Standards Institute / International Code Council

   a. ANSI/ICC A117.1 Accessible and Usable Buildings and Facilities

~~8.~~9. National Electrical Code (NEC)

~~9.~~10. Porcelain Enamel Institute (PEI)

~~10.~~11. Sound Transit (ST)

   a. Customer Signage Design Manual

      1) Signage Production Drawings in Chapter 4

~~11.~~12. Transportation Research Board (TRB)

   a. TRB Guidelines for Transit Facility Signing and Graphics (Transit Cooperative Research Program Report 12)

1.04 QUALIFICATIONS/EXPERIENCE

A. Qualifications of Contractor shall meet the following standards:

1. Be regularly engaged in the business of manufacturing and installing the type of sign construction described in the Contract Documents.

2. Minimum of 5 consecutive years of documented, successful experience in using the same materials being used under this Work and in manufacturing, installing, and maintaining similar sign types and programs.

3. Manufacture major exterior sign components (such as free standing and building mounted non-illuminated identification signs, vehicular directional signs, signs incorporating porcelain enamel message panels, and signs incorporating transit information) and furnish remaining components manufactured by reputable and reliable Suppliers.

4. Furnish factory qualified, competent and experienced supervisory personnel.

B. Qualifications

1. Sign graphics shall be executed by technicians skilled in specific production methods. Technicians must be able to accurately execute graphics layouts as provided in digital artwork files.

2. Sign fabrication shall be performed by personnel skilled in the construction and welding of steel and aluminum sign panels and structures.

3. The painting of sign components shall be performed only by craftsmen skilled in painting and experienced in producing quality Work.

4. A minimum of one field quality control person trained and experienced in the installation of the signs shall be present at all times in the construction area to direct installation at all locations.

5. Personnel must be familiar with component-based sign programs and experienced in complex sign program installations.

1.05 SUBMITTALS

A. Submittals shall be reviewed by both Sound Transit and the Designer of Record. Sound Transit shall have review and approval authority for all Submittals in this Section.

B. Final Sign Location Plan: Submit with the Issue for Construction Submittal. Notify Sound Transit 90 days before Sound Transit-provided message schedule and production-ready artwork needs to be complete for fabrication. The artwork for all signs will be provided at this time.

C. Manufacturer's Literature:

1. Include manufacturer's unit assembly number or component part number as it appears in submitted literature. Cross-reference hardware components with sign location numbers.

2. Modify manufacturer's standard drawings to clearly identify what is proposed for this Contract. Supplement standard information with additional information applicable to this Contract.

3. Modify manufacturer's standard catalog cuts, brochures, diagrams, scheduled performance charts, illustrations, calculations, and other descriptive data with deleted information not applicable to the Contract. Indicate dimensions, clearances, and performance statistics.

4. Modify manufacturer's printed installation, erection, application, and placing instruction. Delete information not applicable to the Contract.

D. Samples:

1. Supply Samples to Resident Engineer and Designer of Record for review and concurrence prior to fabrication and installation.

2. Sound Transit's review of Samples will be for color and finish only. Compliance with all other requirements shall be the exclusive responsibility of the Contractor.

3. Provide Samples for approval of the following materials and assemblies prior to proceeding with Work:

a. Paint showing exact color match for each color and finish (minimum 8-inch by 10-inch plate)

b. Porcelain enamel material (minimum 8 inch by 10 inch Sample, all colors)

c. Digital color print vinyl adhesive showing exact color match for each color and messages

d. Sample or minimum 1-foot by 2-foot portion of each sign type, showing at least three letters including one capital letter, featuring complete extrusion and final finishes, showing construction methods and connections for all indicated sign types.

e. The approved Sample will be used as a standard for other fabrication of that sign type and returned to Contractor for incorporation into the completed Work. Sound Transit reserves the right to waive required Samples.

4. Provide Samples for approval of the following sign face graphic designs from artwork provided by Sound Transit, prior to proceeding with Work.

a. Sign Face Patterns: Submit one (1) representative full-size sign face drawing for each sign type scheduled at full scale showing the relationship between typography, symbols, line weights and other graphic elements. Scheduled sign types may include:

1) Etched and painted zinc

2) Porcelain Enamel Panel

3) Painted aluminum panel, digitally printed 3M adhesive vinyl with overlam

4) Aluminum panel, digitally printed 3M adhesive vinyl with overlam

5) Digitally printed 3M adhesive vinyl with overlam

6) Painted aluminum, cut vinyl graphic

E. Shop Drawings:

1. Supply shop drawings reviewed by the Designer of Record to the Resident Engineer for review and concurrence prior to fabrication and installation. The Contractor shall be responsible for structural integrity of the recommended structural design and support systems.

2. Ensure that shop drawings are consistent with and conform to Contract Documents.

3. Include information and dimensions necessary for manufacture and installation not covered in or at variance with information in manufacture's literature. Include the following:

    a. Contract title and number

    b. Relation to adjacent structure or materials

    c. Applicable standards, such as ASTM or Federal Specification number

    d. Identification of known deviations from the Contract Documents

    e. Contractor's stamp, initialed or signed, certifying compliance with the Contract requirements

    f. Verification of field measurements

    g. Compatibility of the Work shown thereon with that of affected trades

    h. Respective master sign numbers

    i. Structural drawings signed and stamped by a currently licensed Structural Engineer registered in the State of Washington.

F. Test Reports: Manufacturer's report on durability, resistance to wear and corrosion and performance characteristics under variable lighting and environmental conditions.

G. Maintenance Data: Submit bound volumes providing data on and operation of maintenance procedures for all finishes, material, and equipment for signs installed on the Project. Include the following:

1. Index

2. Name, address, and telephone numbers of sign contractor, suppliers, and installers

3. Name, address, and telephone numbers of manufacturer's nearest service representative

4. Name, address, and telephone number of nearest parts vendors

5. Copy of guarantees and warranties issued to and executed in the name of Sound Transit

6. Two copies of final As-Built Drawing PDF and CAD files and updated sign Schedule PDF and hardcopy reduced to 8-1/2 inches by 11-inches. Note changes made during construction and installation in red.

7. Inspection and adjustment procedures

8. List of special tools and equipment required for the maintenance, adjustment, and repair of the equipment.

9. Scale and corrosion control procedures, where applicable.

10. Information concerning all facets of maintenance and repair procedures for all sign types within the scope of this Contract.

11. Recommended cleaning procedures and products for each material and finish.

H. Final Structural Calculation: Submit signed and sealed structural design calculations for all sign anchorages and supports. Calculations shall reference applicable shop drawings, demonstrating compliance with structural requirements specified.

I. Manufacturers Identification, Date, Sign Number: Provide for freestanding signs requiring permitting, a label showing the manufacturers name, date of manufacture, and numbers of the sign as shown on the plan (sign location number and elevation number) in 1/4-inch letters. Label shall be clear material with black letters and be inconspicuously placed on the sign. Maximum label size shall be 1 inch by 3 inches.

1.06 DELIVERY, STORAGE AND HANDLING

A. Delivery:

1. Deliver and install materials designated under this Contract.

B. Shipment:

1. Ship signage assemblies and components in sections capable of being readily assembled and connected on Site. Clearly show split sections and interconnections on the drawings submitted for approval.

2. Carefully protect each item for shipment in a manner to preclude damage. Protect the signs and associated assemblies and parts until Acceptance of facility.

C. Storage:

1. During storage provide security and preservation of the signs in accordance with the best industrial storage practices until required at the Work Site.

2. Store signs in areas protected from the weather and all other hazards. Do not store sign in contact with the ground. Prevent condensation on signs while in storage. Assume responsibility for sign insurance coverage protection while in storage for any reason, and for safe handling and transportation to storage and the Site.

1.07 SOUND TRANSIT PROVIDED ARTWORK

A. Production-ready artwork will be provided by Sound Transit for scheduled sign face graphic designs.

B. Production-ready artwork will be provided as vector (outline) files saved in either EPS or Adobe Illustrator format. All fonts (text) will be converted to curves or outline. Colors shall be as indicated in the artwork provided by Sound Transit and in accordance with Sound Transit Customer Signage Design Manual.

C. Artwork for Maps and “How to Ride” panels will be provided as PDFs.

D. Signage message schedule will be provided as PDF.

1.08 SIGNAGE INSPECTION

A. Sound Transit may conduct observation visits at the manufacturing facility. Observation does not constitute approval of deviations, if any, from the approved Sample unless Sound Transit's approval is specifically noted in writing. Signs that are observed by Sound Transit that do not comply with Contract requirements will require re-observation by Sound Transit after necessary corrections or repairs have been made. Corrections and repairs shall be paid for by the Contractor.

B. Observation in the fabrication shop is intended to be a means of facilitating the work and avoiding errors as much as possible. It is expressly understood that shop observation does not relieve the Contractor from responsibility for material or fabrication defects or errors and the necessity for replacement or correction of rejected materials and workmanship.

C. The Contractor shall be responsible for damage during installation and satisfactory operation of the signs after installation.

1.09 SITE CONDITIONS

A. Note that the dimensions given on the layout drawings are approximate and the Contractor shall be responsible for final verification of dimensions and actual Site conditions.

1.10 PERMITS, FEES AND NOTICES

A. Attend public meetings and meetings with individual city representatives and present required materials as needed to these and other interested parties in order to obtain the necessary permitting for installation of all signs described in this and attached documentation.

B. Obtain all necessary permits and licenses, pay all charges and fees, comply with all permit conditions, and give all notices necessary for the Work. Be fully liable to Sound Transit and any permit-issuing authority, for all failures to obtain a permit, and for all failures to comply with the terms of any permit. Maintain at the Work Site, copies of all permits, licenses, certificates, and other documentation required for all applicable statutes, regulations, and ordinances. Provide copies of such documentation to Sound Transit promptly, upon request.

1.11 WARRANTY

A. Warrant signs against defects in finish, paint, structural integrity, operations, and general appearance for a period of 1 year following the date of Acceptance of each facility. Provide originals of warranty documents from material or subsystem equipment Suppliers to Sound Transit for review before Acceptance.

B. Porcelain Enamel Finish: Minimum of 20 years.

C. Etched and Painted Zinc Finish: Minimum of 10 years.

D. Urethane Paint Finish on Aluminum: Minimum of 7 years.

E. Digital Color Print Adhesive Vinyl: Minimum of 3 years against fading, cracking, chipping and peeling for exterior use.

PART 2 - PRODUCTS

2.01 PERFORMANCE/DESIGN CRITERIA

A. Structural Elements: Signs shall be securely fastened in a fashion that provides for repair, replacement and routine maintenance without destruction of, or dismantling, the sign or surrounding structure(s). Sign components shall be manufactured to allow for complete interchangeability of brackets, sign panels, bases, and other structural elements, as described in the Contract Documents. Construct jigs, patterns, locking, and other necessary items to assure manufacturing consistency of sign components.

B. Provide anchorage, support framing and bracing as necessary to meet loading requirements and building conditions. No additional connections shall be visible in finished construction. Anchorages and metal support systems shown on the Signage Production Drawings are suggestive only, and are intended to be used as a guideline to clarify intent of the specifications, functional and bracing requirements and coordination necessary to meet loading requirements and building conditions.

C. Structural Calculations: Employ the services of a structural engineer registered in the State of Washington to prepare structural calculations necessary to design the support systems and anchorages for all sign types. Structural member sizing, anchorage withdrawal calculations, bending calculations, fastener design and other related structural analyses are required to ensure all signs are securely anchored and safe for use and that they meet all applicable codes.

D. Comply with requirements of Federal Specification, ASTM Designation, or ANSI Specification for design, spacing and quantity of anchorages.

E. Provide all necessary design, construction, and engineering documentation required for sign permitting and obtain all permits required for erection of signs.

F. Materials and finishes shall be resistant to corrosion, fading, and weathering. Dissimilar metals shall be isolated to prevent galvanic corrosion.

G. Sign structures, finishes and mounting systems must withstand pressure washing and biodegradable cleaning products. Signs shall be cleanable with methyl ethyl ketone (MEK), soap detergents, and other similar non-abrasive cleaners without damage to the sign surface.

2.02 MATERIALS

A. Material shall be the products of manufacturers or Suppliers of established good reputations, regularly engaged in the furnishing of such materials. Components and subsystems shall be manufactured items that have been in successful regular operation under comparable conditions. No parts, components, fixtures, accessories, or appurtenances shall contain or be constructed with materials containing PCBs or toxic compositions that would represent a hazard to the public.

B. Aluminum Extrusions, Structural Shapes and Castings: Fabricate extrusions in accordance sizes and configurations shown on Signage Production Drawings. Extrusions shall meet the following standards:

1. Alloy and Temper: 6063-T5 or as recommended by fabricator appropriate for color.

2. Extruded Shapes and Tubes: ASTM B221 or ASTM B308/B308M (6061-T6)

3. Plate and Sheet: ASTM B209

4. Edges: Ease exposed extrusion edges to 1/32-inch radius.

5. Aluminum Castings: Provide Sand Cast Aluminum Bases, brackets as shown in Signage Production Drawings.

C. Steel: Shall be provided complying with the following:

1. Carbon Grade Steel: For all-purpose bolted or welded construction; ASTM A36/A36M.

2. Structural Tubing: ASTM A500/A500M Grade B.

3. Bolts and nuts other than high strength: ASTM A307, Grade A.

4. Welding Electrodes and Rods: AWS D1.1/D1.1M.

5. High Tensile Strength Bolts: ASTM A325, Type 1 or 2.

D. Fastenings:

1. Fasteners and Screws: Provide 304 stainless steel bolts, nuts, screws, and lock washers. Unless otherwise indicated, use concealed fasteners painted as noted. Screws shall be recessed and tamper-resistant where exposed to contact by the public. Samples shall be submitted for Acceptance prior to final fabrication of sign components.

2. Anchors and Inserts: Use corrosion-resistant anchors and inserts as required.

3. Brackets: Fabricate brackets and fittings for bracket-mounted signs from extruded aluminum, to suit sign panel construction and mounting conditions, where indicated.

4. Separation: Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials by complying with requirements specified under paragraph ‘Dissimilar Materials” in the Appendix B of AAMA/NWWDA 101/I.S. 2-97.

E. Glue and Tape: Adhesives must be appropriate for exterior applications with ambient temperatures ranging from minus 20 degrees to plus 120 degrees Fahrenheit.

1. Very High Bond (VHB) Adhesive: 3M Company, product as recommended by manufacturer for type of use, materials, and fabrication; or approved equal.

F. Aluminum Composite Sign Panels: Construction shall be of a combination aluminum sheet mechanically fastened to an aluminum internal frame of such dimension and thickness as to provide rigid panel support and connection to the post. Provide in the sizes and configurations specified.

G. Grout: Non-shrink epoxy grout, 5,000 PSI minimum.

H. Sealant: One part elastomeric sealant, ASTM C-920, non-sag, manufacturer’s standard dark grey. Provide primer as recommended by manufacturer of sealant.

I. Silicone: DAP - 08641, 100% silicone rubber sealant, DAP Products or approved equal.

2.03 GRAPHIC PROCESSES

A. Etched Zinc Tactile Signs:

1. Material: Etched zinc, photocast, manufactured by Braille-Tac division of Advance Corporation, or approved equal.

2. Thickness: As indicated in Signage Production Drawings

3. Size: As indicated in Signage Production Drawings

4. Braille Message: Photochemically etch to provide 1/32-inch raised copy and Grade II Braille.

5. Color: As indicated in Signage Production Drawings and Sound Transit Customer Signage Design Manual. Match control color.

B. Vinyl Adhesive Letters:

1. Material: 3M pressure sensitive vinyl sheeting or approved equal.

2. Cutting: Cut with a smooth beveled edge of between 15 to 45 degrees on the perimeter (including inner edges) of the letter form.

3. Color: As indicated in Signage Production Drawings and Sound Transit Customer Signage Design Manual. Match control color.

4. Reflective Vinyl: Required for bus stop signs (E series sign types), guide signs (G series sign types) and regulatory signs (R series sign types); white 510-10 reflective vinyl.

C. Digital Color Print Adhesive Vinyl:

1. Material: High resolution on Arlon 4560 GTX self-adhesive premium white vinyl with Neschen PC 5 polycarb laminate or approved equal.

2. Printing: Solvent based, six color, CMYK + Lt. Magetna + Lt. Cyan, 720 by 720 dpi or better.

D. Porcelain Enamel Sign Panels:

1. Steel: For purposes of this specification, steel is special purpose “vitreous or enameling iron or steel” as defined by ASTM A424/A424M type 1, and tensioned leveled and especially manufactured for the purpose of porcelain enameling with total additions of copper no greater than 0.035 percent and aluminum no greater than 0.085 percent of material composition. Provide documentation of use of this material for Project herein. Gauges of base metal shall be as required, to meet the tolerances specified.

2. Frits/Glazes/Oxides: Only specially formulated porcelain enamel frits, glazes, and oxides as supplied by Ferro, Chivit, APEX or Cerdek, or approved equal. These materials, when combined and processed in final form, shall be acid resistant in order to achieve an A or AA acid resistance rating.

3. Porcelain Enamel Panel Fabrication:

a. Metal Fabrication: Work done shall be machine fabricated in accordance with approved shop drawings with straight lines, square corners, and smooth blends, free from twists, kinks, warps, dents, and other imperfections that may affect appearance or serviceability. Curved sections shall be formed to smooth and even radii.

b. Flatness: Panels of 36 inches or greater shall be flat within 1/32 inch over the concave surface in all directions. Panels shall not be more than 1/32 inch out of square when measured over the diagonal in total surface area over 9 square feet and within 1/64 inch of the diagonal panels under 9 square feet.

c. Welding: Welds shall be clean, sound, and solid, free from defects and gas bubbles and ground sanded smooth to 3/16 inch to match the 3/16 inch radii of the break-formed edges and corners. Welds shall be executed using hand oxyacetylene fusion technique with no additions of foreign material.

d. Holes and Cutouts: Necessary holes and cutouts shall be drilled or punched and welded in advance of enameling.

e. Forming: Forming shall be mechanical and done in advance of welding.

4. Metal Preparation and Cleaning:

a. Degreasing: Degrease panels by immersion in an approved degreasing fluid. Then rinse panels in a heated water bath.

b. Acid etching: After the first rinse, sulfuric acid etch panels, such that weight loss shall not be less that 35 to 40 GG/M2. Surfaces shall be rinsed again.

c. Neutralizing: After the third rinse, neutralize the chemical action in a soda ash solution and then dry rapidly.

5. Porcelain Enameling:

a. Ground Coat: Apply a porcelain enamel ground coat to all areas of each unit, including backside and flanges by spraying methods recognized by Porcelain Enameling Institute and Vitreous Enamel Development Council. Apply at least one additional separately fired cover-coating to the face side and flanges to each unit. For corrosion protection and flatness, apply one additional coating to the backside of each panel and fire simultaneously with the finish coat for panels over 3 square feet in surface area.

b. Continuity of Coating: Visually inspect each unit, allowing no visible breaks, gas bubbles, scumming, hairlines, stresslines or surface defects in the cover coat.

c. Finish and background Color Control: Match the color and finish of a color Sample previously submitted by the Contractor and reviewed by the Designer of Record and Resident Engineer. Match within 1 NBS unit (1-2 NBS unit variation is barely perceptible to the human eye).

d. Ground and Overcoat Thickness: Apply ground and overcoat thickness in accordance with PEI recommendations to a thickness range between 0.004 inch to 0.002 inch, as required to suit the intended use.

e. Firing: Fire panels in a furnace, custom-designed for the purpose, at temperatures above 1400 degrees Fahrenheit. After firing, visually inspect every panel for color consistency against the approved control panel, as reviewed by the Designer of Record and Resident Engineer.

f. Colors: Match control color, as indicated in Signage Production Drawings and Sound Transit Customer Signage Design Manual.

6. Porcelain Enamel Sign Artwork and Screening:

a. Artwork Preparation: Produce film positives and negatives as required from digital production-ready artwork, provided by Sound Transit.

b. Films: Neatly package and deliver film negatives or positives used for production of the final screens to Sound Transit at the end of the Project to facilitate future sign revisions or replacement.

c. Screen porcelain enamel line art/messages over background colors. The quality of the screen image shall be of high resolution with no ragged edges. Screen line art over the background colors, so that characters are not obscured by the application color. Accurately print line art resolution at a standard that accepts, as a minimum, 1/2 point line thickness, and the type in sizes as small as 4 points. Four color process imaging shall be in perfect register in a resolution of not less than 75 lines per inch. Provide black and white photographic imaging at a resolution of up to 200 lines per inch. Indicate these specifications on tracing paper overlay. Use glasses that are acid-resistant and screen mesh that is between 205 and 405 in this process.

d. Screen Glazes: Use acid-resistant and opaque glazes in the screening process. Use corrosion-proof, UV-proof, and vandal-resistant glasses. Mill screen glass to a 400 mesh particle size.

e. Technical Proficiency: Must be proficient in the following imaging techniques and be able to demonstrate capabilities to the Resident Engineer: Reproduction of photographs by halftone and continuous tone methods, including hand tinting, stencil brushing, spraying textures, and air brushing.

f. Color Matching: Supplier shall be able to match control color Samples approved by Sound Transit. Color Samples shall be provided at no extra charge.

2.04 TYPOGRAPHY AND SYMBOLS

A. Execute all graphics, including text, symbols, and arrows in such a manner that all edges and corners are true and clean.

B. Typography: Precisely replicate the typeface, type size and letter, word, and line spaces of all signs, as indicated in production-ready artwork provided by Sound Transit.

C. Symbols: Match production-ready artwork provided by Sound Transit.

D. Arrows: Match production-ready artwork provided by Sound Transit.

E. Artwork: Do not alter in any way, production-ready artwork files provided by Sound Transit, unless approved in writing.

2.05 SIGN PANELS

A. General: Signage Production Drawings indicate material, thicknesses, finishes, color, designs, shapes, sizes, and details of construction.

B. Requirements: Materials and fabrication shall meet the following requirements:

1. Sign sizes, material, color, and finish as shown in the Sound Transit Customer Signage Design Manual and Signage Production Drawings, unless exception approved in writing by Sound Transit.

C. Removability: Ensure sign faces are removable and replaceable without damage to the faces or the sign support structure.

D. Pendants: Size aluminum pipe, attachment plates and escutcheon plates to meet structural requirements and painted as noted.

E. Mounting: Signs shall be pendant hung, flush ceiling mounted, wall mounted, projecting, fascia mounted, or free standing. Accessibility: Provide for easy access, repair and installation of sign faces and components by maintenance crews.

2.06 SIGN COMPONENT PAINTING

A. General: Paint steel and aluminum, and sign faces, where approved, with Urethane Enamel by Sherwin Williams, AkzoNobel, Matthews Paint, or approved equal unless noted otherwise. Paint systems shall be compatible with all exterior applications.

B. Single Source:

1. To the maximum extent practicable, select a single manufacturer to provide all materials required by this Section using additional manufacturers to provide systems not offered by the selected principal manufacturer.

2. For each individual system, provide primer and other undercoat paint produced by same manufacturer as finish coat. Use only thinners approved by paint manufacturer and use only within recommended limits.

C. Conform to the manufacturer's recommended surface preparation for each material specified.

PART 3 - EXECUTION

3.01 SIGN PANELS

A. Fabrication:

1. Fabricate all sign faces in a uniform, workmanlike manner. Provide all joints and seams in exposed surfaces as precise and tight fitting, with no uneven seams. Paint exposed edges to match the color and texture of the exposed face.

2. Fabricate and finish assemblies as much as possible in the shop. Neatly cut components and weld continuously in accordance with ASTM and AWS recommendations. Grind welds flush, smooth, and regular to blend with adjacent surfaces. Cut, drill and tap as required for field assembly and installation.

3. Coordinate with building structural system and mechanical and electrical appurtenances and equipment for exact location and fabrication of support system.

4. Additional Special Framing: Provide additional aluminum sign support framework, plates, or brackets as required for special conditions encountered on-Site, to ensure structural integrity of signs and satisfy performance requirements.

B. Expansion/Contraction: Provide for expansion and contraction of the sign face without bowing or warping to a range of ambient temperatures from plus 95 degrees to minus 10 degrees Fahrenheit.

3.02 SIGN COMPONENT PAINTING

A. Shop conditions of the sign manufacturer shall be clean, free of dust, with temperatures conforming to manufacturer's recommendations.

B. Sharply cut paint masking lines.

C. Spray apply shop painting, except where inaccessible surfaces require brushing. Protect adjoining or adjacent surface against discoloration.

D. Touch-up and finish damaged surfaces of signs to match adjoining surfaces after erection.

E. Properly label areas of painting and touch-up in the field to protect the public from contact with wet paint.

F. Color: Match colors as indicated in Signage Production Drawings and Sound Transit Customer Signage Design Manual. Color shall match control color.

3.03 INSPECTION

A. Dimensions/Tolerance: Verify construction Site details prior to scheduling Work in the field.

B. Flatness/Plumb: Verify surface conditions for flatness, curvature, and plumbness.

3.04 PREPARATION

A. Field measurements: Examine the substrates and conditions under which the signs are to be installed and verify that all such Work is complete for proper installation of the signs.

B. Protection: Protect structure, equipment, fixtures and surfaces adjacent to or nearby the Work area in such a manner that damage or discoloration is prevented.

3.05 INSTALLATION/APPLICATION/ERECTION

A. Install sign units and components securely. Verify clearances and anchorage methods and final location of each sign before installation. Field verify for obstructions of light fixtures, CCTV, VMS, air ducts, fire alarm, speakers, and other items that may obstruct mounting of signs and sign viewing.

B. Signs shall be mounted using concealed fasteners, unless otherwise shown on the Shop Drawings.

C. Install level, plumb, and at the proper height. Caulk as shown and required. Cooperate with other trades for installation of sign units to finish surface. Repair or replace damaged units as directed by the Construction Quality Assurance Manager and the Resident Engineer.

3.06 FIELD QUALITY CONTROL

A. Provide a field quality control individual who:

1. Has responsibility for coordinating and providing quality control of the Work.

2. Has unquestionable authority to direct the installation forces in the performance of the Work in order to provide a quality installation.

3. Has responsibility to ensure consistent quality of installation and adherence to specifications throughout the job.

4. Has the responsibility to coordinate tests and inspections required including manufacture's field service groups and to complete documentation of the tests and inspections.

3.07 ADJUSTING AND CLEANING

A. Cleaning:

1. On completion of sign installation, examine painted surfaces and carefully touch-up and repair marred or damaged spots, rework surfaces that have been repaired by other trades, clean off misplaced paint and leave the entire Work in first class conditions, acceptable to the Construction Quality Assurance Manager and the Resident Engineer. Properly label areas of painting and touch up to protect the public from contact with wet paint.

2. Restore damage or discoloration to the building or related equipment caused by the Contractor to condition acceptable to the Construction Quality Assurance Manager and the Resident Engineer and at no additional cost to Sound Transit.

3. Clean signs under this Contract after installation to the satisfaction of Sound Transit. Do not use cleaning solvents that would be harmful to the sign finish.

B. Adjustments:

1. Provide final leveling and other minor adjustments prior to turnover and Acceptance by the Construction Quality Assurance Manager and the Resident Engineer.

C. Protection: Protect installed Work to Facility Acceptance.

3.08 SIGN SCHEDULES

A. Schedule Examples:

~~1. List of Sign Types and Component Materials (Exhibit A)~~

~~2.~~1. Sound Transit Customer Signage Design Manual

B. List of sign types, component materials, and sign details are indicated on the Architectural Drawings.

END OF SECTION

SECTION 10 14 19

DIMENSIONAL CHARACTER SIGNAGE

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Custom fabricated exterior building-mounted dimensional character signs.

1. ~~Non-illuminated, f~~Opaque face, fabricated channel dimensional characters (Drawing Designations Z1-Custom and Z-4-Custom ~~and Z-6-Custom~~).
2. ~~Illuminated~~Translucent face, fabricated channel dimensional characters (Drawing Designation ~~Z1-Custom and~~ Z-3-Custom ~~1 through 8.~~)

B. Related Requirements:

1. Section 01 81 13 “Sustainable Design Requirements.”
2. Section 07 42 13.19 “Insulated Metal Wall Panels” for mounting surfaces and coordination of penetrations for power to illuminated signage.
3. Section 10 14 00 “Signage” for room, door, code and regulatory signs.
4. Section 10 14 14 “Sound Transit Site Signage” for site signs.
5. Section 10 14 23 “Panel Signage” for exterior building-mounted logo signs.

1.02 DEFINITIONS

A. Character: Indicates a letter or a number, as indicated on the Drawings.

~~B. Concealed Raceway: Electrical raceway providing power to the sign is concealed from view.~~

~~C. Backlighted: Illuminated by a light source concealed behind each aluminum-faced character and producing a halo lighting effect.~~

~~D. Frontlighted: Illuminated by a light source concealed within each sign unit, behind a translucent character face, that produces an internally illuminated effect.~~

~~E.~~B. Pin-Mounted: Individual anchor attachments for each character (no exposed structural frames).

1.03 JURISDICTIONAL REQUIREMENTS

A. Provide signs in accordance with Chapter 22B.10 Sign Code, Bellevue City Code, City of Bellevue, Washington.

1.04 COORDINATION

A. Furnish templates for placement of mounting fasteners and electrical service embedded in permanent construction by other installers.

1.05 ACTION SUBMITTALS

A. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.

B. Sustainable Design Submittals:

1. LEED Submittals: For components of this section, submit in compliance with Section 01 81 13 "Sustainable Design Requirements."

C. Shop Drawings: For dimensional letter signs.

1. Provide typestyles, layout, and dimensions for each sign.
2. Include fabrication and installation details and attachments to other work.
3. Show sign mounting heights, attachment details, accessories.
4. ~~Show locations and pathways of electrical service connections for backlit signs.~~
5. ~~Include diagrams for power, signal, and control wiring for backlit signs.~~

D. Samples for Verification: For each type of sign assembly showing all components, typefaces, and finishes.

E. Product Schedule: Use same designations indicated on the Drawings.

F. Delegated Design Submittal: For panel signs. Include analysis data prepared, signed and sealed by the qualified professional engineer responsible for their preparation.

1. Include structural analysis calculations for signs indicating compliance with design loads indicated on the Structural Drawings.

1.06 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturer.

B. Evaluation Reports: For post-installed anchors and power-actuated fasteners, from ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.

C. Sample Warranty: For special warranty.

1.07 CLOSEOUT SUBMITTALS

A. Maintenance Data: For signs to include in maintenance manuals.

1.08 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this Section with minimum three years of documented experience.

B. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

C. Source Limitations: Obtain each sign type indicated from a single manufacturer.

1.09 FIELD CONDITIONS

A. Field Measurements: Verify locations of anchorage devices ~~and electrical service~~ embedded in permanent construction by other installers by field measurements before fabrication and indicate measurements on Shop Drawings.

1.010 COORDINATION

A. For signs supported by or anchored to permanent construction, advise installers of anchorage devices about specific requirements for placement of anchorage devices and similar items to be used for attaching signs. Furnish templates for installation of anchorage devices.

B. Coordinate installation with adjacent finish materials in a manner not to damage adjacent surfaces.

1.011 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Deterioration of finishes beyond normal weathering.
b. Separation or delamination of sheet materials and components.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 LEED COMPLIANCE

A. Refer to Section 01 81 13 “Sustainable Design Requirements” for all components within this Section.

~~B. Luminance Limits Per Sign: Do not exceed a luminance of 200 cd/m2 (nits) during nighttime hours and 2000 cd/m2 (nits) during daytime hours.~~

2.02 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, currently licensed in the State of Washington, to design sign structure and anchorage of illuminated panel sign type(s) in accordance with structural performance requirements indicated on the Drawings.

B. Structural Performance: Signs and supporting elements shall withstand the effects of gravity and other loads within limits and under conditions indicated.

1. Uniform Wind Load: As indicated on Drawings.
2. Concentrated Horizontal Load: As indicated on Drawings.
3. Other Design Load: As indicated on Drawings.
4. Uniform and concentrated loads need not be assumed to act concurrently.

C. Thermal Movements: For exterior signage, allow for thermal movements from ambient and surface temperature changes.

2.03 DIMENSIONAL CHARACTER SIGNS

A. Fabricated Channel Characters: formed free from warp and distortion; with uniform faces, sharp corners, and precisely formed lines and profiles; internally braced for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners; and as follows.

1. ~~Non-illuminated~~Opaque Face ~~-~~Characters: Aluminum face and side returns (Z1-Custom and Z-4-Custom ~~and Z-6-Custom~~).

2. ~~Illuminated~~ Translucent Face Characters:

~~a. Backlighted: Aluminum face and side returns (Z1-Custom).~~
~~b.~~a. ~~Frontlighted:~~ Translucent face with metal side returns (Z-3-Custom~~-1 through 8~~).

~~3. Illumination: Illuminate with fluorescent tube, LED, or neon tube lighting, including transformers, insulators, and other accessories for operability, with provision for servicing and concealing connections to building electrical system. Use tight or sealed joint construction to prevent unintentional light leakage. Space lamps apart from each other and away from sign surfaces as needed to illuminate evenly.~~

~~4. Power: As indicated on the Electrical Drawings.~~

~~5. Raceways:~~

~~a. Provide concealed raceways, completely hidden from view.~~
~~b. Locate raceways on the interior of the building. Coordinate building penetrations with cladding subcontractor to achieve weathertight assemblies in compliance with building envelope requirements for air and moisture resistance.~~

~~6.~~3. Weeps: Provide weep holes to drain water at lowest part of exterior characters.

~~7.~~4. Aluminum Thickness: Manufacturer's standard for size and design of character.

~~8.~~5. Translucent Face Sheet: Acrylic sheet with integral color ~~as selected by Architect from manufacturer's full range~~to match ST Ferrari Red.
a. Sheet Thickness: Manufacturer's standard thickness for size of character.

~~9.~~6. Character Height & Width: As indicated on the Drawings.

~~10.~~7. Character Depth: ~~As indicated on the Drawings~~1 ½".

~~11.~~8. Typeface: As indicated on the Drawings.

~~12.~~9. Integral Aluminum Finish: Clear anodized.

~~13.~~10. Mounting:

a. Pin-mount each character.
b. Hold characters at a distance from wall surface as selected by Architect.
c. No exposed back bars.
d. Provide stainless steel mounting components.

2.04 DIMENSIONAL CHARACTER MATERIALS

A. Aluminum Castings: ASTM B 26/B 26M, alloy and temper recommended by sign manufacturer for casting process used and for type of use and finish indicated.

B. Aluminum Sheet and Plate: ASTM B 209 (ASTM B 209M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

C. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

D. Acrylic Sheet: ASTM D 4802, category as standard with manufacturer for each sign, Type UVF (UV filtering).

E. Paints and Coatings for Sheet Materials: Inks, dyes, and paints that are recommended by manufacturer for optimum adherence to surface and are UV and water resistant for colors and exposure indicated.

2.05 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, non-corrosive, and compatible with each material joined, and complying with the following:

1. Use concealed fasteners and anchors: welded or brazed to back of sign material, screwed into back of sign assembly, or screwed into tapped lugs cast integrally into back of cast sign material, unless otherwise indicated.
2. For exterior exposure, provide stainless steel devices.

B. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.

2.06 FABRICATION

A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

1. Preassemble signs and assemblies in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
4. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
5. Internally brace dimensional characters for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.
6. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.

B. Brackets: Fabricate brackets, fittings, and hardware for bracket-mounted signs to suit sign construction and mounting conditions indicated. Modify manufacturer's standard brackets as required.

1. Stainless steel Brackets: Factory finish brackets with No. 4 finish unless otherwise indicated.

2.07 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.08 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, Class I, 0.018 mm or thicker.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

B. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.

~~C. Verify that electrical service is correctly sized and located to accommodate illuminated signs.~~

~~D.~~C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
3. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with dissimilar metals with a heavy coat of bituminous paint. Protect exterior wall surface from coating.

B. Mounting:

1. Through Fasteners: Create holes in substrate using approved templates and in accordance with insulated metal wall panel manufacturer’s written instructions.

2. Place sign in position at required distance from surface.
3. Adjust mounting to ensure level alignment of characters.

3.03 ADJUSTING AND CLEANING

A. Remove and replace damaged or deformed characters and signs that do not comply with specified requirements. Replace characters with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.

B. Remove temporary protective coverings and strippable films as signs are installed.

C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION

SECTION 10 14 23

PANEL SIGNAGE

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Custom fabricated exterior building-mounted logo signs.

1. ~~Non-illuminated p~~Panel signs (Drawing Designation Z-2-Custom and Z-5-Custom).
~~2. Illuminated panel sign (Drawing Designation Z-5-Custom).~~

B. Related Requirements:

1. Section 01 81 13 “Sustainable Design Requirements.”
2. Section 07 42 13.19 “Insulated Metal Wall Panels” for mounting surfaces and coordination of penetrations for power to illuminated signage.
3. Section 10 14 00 “Signage” for room, door, code and regulatory signs.
4. Section 10 14 14 “Sound Transit Site Signage” for site signs.
5. Section 10 14 19 “Dimensional Character Signage” for exterior building-mounted dimensional letter signs.

1.02 DEFINITIONS

~~A. Concealed Raceway: Electrical raceway providing power to the sign is concealed from view.~~

~~B. Internally Illuminated: Illuminated by a light source concealed within each sign unit.~~

~~C.~~A. Pin-Mounted: Individual anchor attachments (no exposed structural frames).

1.03 JURISDICTIONAL REQUIREMENTS

A. Provide signs in accordance with Chapter 22B.10 Sign Code, Bellevue City Code, City of Bellevue, Washington.

1.04 COORDINATION

A. Furnish templates for placement of sign-anchorage devices embedded in permanent construction by other installers.

~~B. Furnish templates for placement of electrical service embedded in permanent construction by other installers.~~

1.05 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Sustainable Design Submittals:

1. LEED Submittals: For components of this section, submit in compliance with Section 01 81 13 “Sustainable Design Requirements.”

C. Shop Drawings: For panel signs.

1. Include fabrication and installation details and attachments to other work.
2. Show sign mounting heights, attachment details, accessories.
3. Show message list, typestyles, graphic elements, dimensions, and layout for each sign.
4. ~~Show locations and pathways of electrical service connections.~~
5. ~~Include diagrams for power, signal, and control wiring.~~

D. Samples for Initial Selection: For each type of sign assembly and exposed finish.

1. Include production-ready artwork samples of available typestyles and graphic symbols.

E. Samples for Verification: For each type of sign assembly showing all components and finishes:

F. Product Schedule: Use same designations indicated on Drawings or specified.

G. Delegated Design Submittal: For panel signs. Include analysis data prepared, signed and sealed by the qualified professional engineer responsible for their preparation.

1. Include structural analysis calculations for signs indicating compliance with design loads indicated on the Structural Drawings.

1.06 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturer.

B. Evaluation Reports: For post-installed anchors and power-actuated fasteners, from ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.

C. Sample Warranty: For special warranty.

1.07 CLOSEOUT SUBMITTALS

A. Maintenance Data: For signs to include in maintenance manuals.

1.08 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this Section with minimum three years of documented experience.

B. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

C. Source Limitations: Obtain each sign type indicated from a single manufacturer.

1.09 FIELD CONDITIONS

A. Field Measurements: Verify locations of anchorage devices ~~and electrical service~~ embedded in permanent construction by other installers by field measurements before fabrication and indicate measurements on Shop Drawings.

1.10 COORDINATION

A. For signs supported by or anchored to permanent construction, advise installers of anchorage devices about specific requirements for placement of anchorage devices and similar items to be used for attaching signs. Furnish templates for installation of anchorage devices.

B. Coordinate installation with adjacent finish materials in a manner not to damage adjacent surfaces.

1.11 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Deterioration of finishes beyond normal weathering.
b. Deterioration of embedded graphic image.
c. Separation or delamination of sheet materials and components.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 LEED COMPLIANCE

A. Refer to Section 01 81 13 “Sustainable Design Requirements” for all components within this Section.

~~B. Luminance Limits Per Sign: Do not exceed a luminance of 200 cd/m2 (nits) during nighttime hours and 2000 cd/m2 (nits) during daytime hours.~~

2.02 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, currently licensed in the State of Washington, to design sign structure and anchorage of illuminated panel sign type(s) in accordance with structural performance requirements indicated on the Drawings.

B. Structural Performance: Signs and supporting elements shall withstand the effects of gravity and other loads within limits and under conditions indicated.

1. Uniform Wind Load: As indicated on Drawings.
2. Concentrated Horizontal Load: As indicated on Drawings.
3. Other Design Load: As indicated on Drawings.

4. Uniform and concentrated loads need not be assumed to act concurrently.

C. Thermal Movements: For exterior signs, allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

~~D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.~~

2.03 PANEL SIGNS

A. Custom logo signs fabricated from production-ready artwork with smooth, uniform surfaces, precisely formed lines and profiles, and as follows:

B. ~~Non-Illuminated~~ Solid-Sheet Signs (Z-2-Custom and Z-5-Custom): Acrylic face sheet with aluminum returns and backs. Finish specified in "Surface Finish and Applied Graphics" Subparagraph and as follows:

1. Thickness: Manufacturer's standard for size of sign.
2. Surface-Applied, Flat Graphics: Applied vinyl film.
3. Surface-Applied, Raised Graphics: Applied polymer characters.
4. Etched and Filled Graphics: Sign face etched or routed to receive enamel-paint infill.
5. Inset, Cutout Characters: Sign face routed to receive push-through acrylic graphics slightly projecting from the sign panel.

~~C. Illuminated Panel Sign (Z-5-Custom): Internally illuminated construction with fluorescent tube, LED, or neon tube lighting, including transformers, insulators, and other accessories for operability, with provision for servicing and concealing connections to building electrical system. Use tight or sealed joint construction to prevent unintentional light leakage. Space lamps apart from each other and away from sign surfaces as needed to illuminate evenly.~~

~~1. Power: As indicated on the Electrical Drawings.~~

~~2. Raceways:~~
~~a. Provide concealed raceways, completely hidden from view.~~
~~b. Locate raceways on the interior of the building. Coordinate building penetrations with cladding subcontractor to achieve weathertight assemblies in compliance with building envelope requirements for air and moisture resistance.~~

~~3.~~6. Weeps: Provide weep holes to drain water at lowest part of exterior signs. Equip weeps with permanent baffles to block light leakage without inhibiting drainage.

~~4.~~7. Sign Panel Perimeter: Finish edges smooth.

~~5.~~8. Frame: Entire perimeter, contoured to edge of artwork.

a. Material: Aluminum.
b. Material Thickness: Manufacturer's standard for size of sign.
c. Frame Depth: ~~As indicated on the Drawings.~~
1) Z-2 Custom: 2 ½”
~~c.~~2) Z-5 Custom: 1 ½”
d. Profile: As indicated on the Drawings.

e. Finish and Color: Metallic Silver per ST Sign Manual (Matthews Paint, MP25129) ~~As selected by Architect from manufacturer's full range~~.

~~6.~~9. Mounting:
   a. Pin-mounted.
   b. No exposed back bars.
   c. Provide stainless steel mounting components.

~~7.~~10. Surface Finish and Applied Graphics:

   a. Integral Aluminum Finish: Clear anodized.
   b. Integral Acrylic Sheet Color: White per ST Sign Manual (Matthews Paint, MP-N202) ~~Match Architect's samples.~~
   c. Overcoat: Manufacturer's standard baked-on clear coating.

~~8.~~11. Artwork: logo and typefaces matching Owner's production-ready artwork and variable content indicated on the Drawings.

~~9.~~12. Flatness Tolerance: Sign shall remain flat or uniformly curved under installed conditions as indicated on Drawings and within a tolerance of plus or minus 1/16 inch (1.5 mm) measured diagonally from corner to corner.

2.04 PANEL SIGN MATERIALS

A. Aluminum Sheet and Plate: ASTM B 209 (ASTM B 209M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

B. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

C. Acrylic Sheet: ASTM D 4802, category as standard with manufacturer for each sign, Type UVF (UV filtering).

D. Paints and Coatings for Sheet Materials: Inks, dyes, and paints that are recommended by manufacturer for optimum adherence to surface and are UV and water resistant for colors and exposure indicated.

2.05 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, non-corrosive, and compatible with each material joined, and complying with the following:

   1. Use concealed fasteners and anchors: welded or brazed to back of sign material, screwed into back of sign assembly, or screwed into tapped lugs cast integrally into back of cast sign material, unless otherwise indicated.
   2. For exterior exposure, provide stainless steel devices.

B. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.

2.06 FABRICATION

A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

1. Preassemble signs in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
4. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
5. Internally brace signs for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.
6. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.

B. Subsurface-Applied Graphics: Apply graphics to back face of clear face-sheet material to produce precisely formed image. Image shall be free of rough edges.

C. Shop- and Subsurface-Applied Vinyl: Align vinyl film in final position and apply to surface. Firmly press film from the middle outward to obtain good bond without blisters or fishmouths.

D. Brackets: Fabricate brackets, fittings, and hardware for bracket-mounted signs to suit sign construction and mounting conditions indicated. Modify manufacturer's standard brackets as required.

1. Stainless Steel Brackets: Factory finish brackets to match sign background finish unless otherwise indicated.

2.07 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.08 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, Class I, 0.018 mm or thicker.

B. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils (0.04 mm). Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.

C. Verify that anchorage devices embedded in permanent construction are correctly sized and located to accommodate signs.

D. Verify that electrical service is correctly sized and located to accommodate signs.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Install signs so they do not protrude or obstruct according to the accessibility standard.
3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
4. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with dissimilar metals with a heavy coat of bituminous paint. Protect exterior wall surface from coating.

A. Mounting:

1. Through Fasteners: Create holes in substrate using approved templates and in accordance with insulated metal wall panel manufacturer’s written instructions.
2. Place sign in position at required distance from surface.
3. Adjust mounting to ensure level alignment of characters.

3.03 ADJUSTING AND CLEANING

A. Remove and replace damaged or deformed signs and signs that do not comply with specified requirements. Replace signs with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.

B. Remove temporary protective coverings and strippable films as signs are installed.

C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION

SECTION 10 14 53

TRAFFIC SIGNAGE

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes requirements for furnishing, installing, and relocating traffic signs and/or posts; and removing and salvaging existing signs and/or posts, as indicated.

1.02 REFERENCES

A. This Section incorporates by reference the latest revisions of the following documents.

1. City of Bellevue (Bellevue)

a. Bellevue Transportation Department Design Manual

b. Bellevue Transportation Department Design Manual Standard Drawings

2. Washington State Department of Transportation (WSDOT)

a. WSDOT Standard Specifications for Road, Bridge, and Municipal Construction, M41-10

b. WSDOT Standard Plans, M21-01

c. WSDOT Sign Fabrication Manual, M55-05

d. Manual on Uniform Traffic Control Devices (MUTCD) – Washington State Modifications

3. Federal Highway Administration (FHWA)

a. Manual on Uniform Traffic Control Devices (MUTCD)

1.03 SUBMITTALS

A. Product Data: Manufacturers' product data for signage materials.

1.04 WARRANTY

A. Written warranty for five-year period stating that manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Deterioration of finishes beyond normal weathering

b. Deterioration of embedded graphic image

c. Separation or delamination of sheet materials and components

PART 2 - PRODUCTS

2.01 MATERIALS – GENERAL

A. For roadway signage on Sound Transit owned streets, roadways, and parking lots, use materials, including posts, as indicated on the Contract Drawings and conform to the applicable provisions of WSDOT Standard Specifications Section 8-21, unless specified otherwise.

B. For roadway signage on streets, roadways, and parking areas that will be owned or maintained by the City of Bellevue, use materials that conform to Bellevue Transportation Department Design Manual Standard Drawings, and conform to applicable provisions of WSDOT Standard Specifications Section 8-21, unless specified otherwise.

2.02 CITY OF BELLEVE SIGNAGE MATERIALS

A. The third paragraph of WSDOT Standard Specifications Section 9-28.1 is revised to read as follows:

1. The following signs shall use Type XI reflective sheeting:

a. Regulatory: Stop (R1-1), Yield (R1-2), Keep Right (R4-7), Turn Restriction (R3-1, R3-2, R3-3, R3-4)

b. Warning: Large Arrow (W1-6, W1-7), Chevron (W1-8), Curve/Turn Warning (W1-1, W1-2, W1-3, W1-4, W1-5), Pedestrian & Advance Pedestrian Crossing (W11-2, W11A-2), School & Advance School Crossing (S1-1, S2-1), Stop/Yield/Signal Ahead (W3-1A, W3-2A, W3-3)

c. Object Marking: Object Markers (OM-3L, OM-3R), End of Road Marker

d. Guide: All Street Name Signs, mast arm and post mount

e. Overhead Mounted: All Mast Arm and Overhead Mounted signs, regardless of type.

2. All other signs shall use Type IV reflective sheeting.

PART 3 - EXECUTION

3.01 CONSTRUCTION – GENERAL

A. For roadway signage on Sound Transit owned streets, roadways, and parking lots, perform work described in this Section in accordance with the applicable provisions of WSDOT Standard Specifications Section 8-21, unless specified otherwise.

B. For roadway signage on streets, roadways and parking areas that will be owned or maintained by City of Bellevue, perform work described in this Section in accordance with Bellevue Transportation Department Design Manual Standard Drawings, and applicable provisions of WSDOT Standard Specifications Section 8-21, unless specified otherwise.

C. Location of Signs: The following sentence is added after the second sentence of WSDOT Standard Specifications Section 8-21.3(1):

1. The Contractor shall mark the location of all signs for verification by the Engineer of Record a minimum of ten (10) days in advance of sign installation.

3.02 CITY OF BELLEVUE CONSTRUCTION REQUIREMENTS

A. Placement of Signs

1. The first sentence of WSDOT Standard Specifications Section 8-21.3(2) is revised to read as follows:

a. All reflectorized signs located within 25 feet of the edge of the lane shall be turned 3 degrees out, those more than 25 feet from the edge of the lane shall be turned 3 degrees in.

2. WSDOT Standard Specifications Section 8-21.3(2) is supplemented with the following:

a. A one-foot diameter sleeve shall be installed for post installations in asphalt or concrete.

END OF SECTION

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SECTION 10 21 13

TOILET AND SHOWER COMPARTMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:
1. Delegated design of ceiling mounted partitions.
2. Stainless steel toilet compartments.
3. Stainless steel urinal screens.
4. Stainless steel shower and dressing compartments.

B. Related Requirements:
1. 01 81 13 – Sustainable Design Requirements
2. 05 50 00 - Metal Fabrications: for concealed steel support members.
3. 06 10 53 – Miscellaneous Rough Carpentry: for blocking and supports.
4. 10 28 00 - Toilet Accessories: for accessories mounted on compartments and related accessories including shower curtains and rods.

1.02 SUBMITTALS

A. Qualification Data: For Design engineer.

B. Delegated-Design Submittal: For assemblies indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Product Data: Provide data on panel construction, hardware, and accessories.

D. Sustainable Design Submittals:
1. LEED Submittals: For components of this section, submit in compliance with Section 01 81 13 Sustainable Design Requirements.

E. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of ceiling supports and door swings.
1. Provide template layouts and installation instructions for anchorage devices built into other work

F. Samples:
1. Submit two samples of partition panels in manufacturer's standard size illustrating panel finish, color, and sheen.
2. Submit one sample of full set of hardware illustrating operation and finish.

G. Manufacturer's Installation Instructions: Indicate special preparation of substrate, installation and attachment methods, and perimeter conditions requiring special attention.

H. Maintenance Data: For user’s operation and maintenance of system including:
1. Methods for maintaining system's materials and finishes.
2. Precautions about cleaning materials and methods that could be detrimental to components, finishes, and performance.

1.03 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Door Hinges: **One** door hinge(s) with associated fasteners.
   2. Latch and Keeper: **One** latch(es) and keeper(s) with associated fasteners.
   3. Clothing Hook: **One** clothing hook(s) with associated fasteners.
   4. Door Bumper: **One** door bumper(s) with associated fasteners.
   5. Door Pull: **One** door pull(s) with associated fasteners.
   6. Fasteners: Ten fasteners of each size and type.
   7. Curtain Rod: **One** curtain rod(s) with associated fasteners.
   8. Curtain Hooks: **Five** curtain hooks.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualification: Company specializing in the manufacture of Work specified in this section with minimum 5 years of experience.

B. Designer Qualifications: Company specializing in performing the design work of this section with minimum 2 years of experience licensed in the location of the project.

1.05 DELIVERY, STORAGE, AND HANDLING

A. As required by the manufacturer for a warrantable installation of the installed products to meet the Performance and Design Criteria.

PART 2 - PRODUCTS

2.01 LEED COMPLIANCE

A. Refer to Section 01 81 13 Sustainable Design Requirements for all components within this Section.

2.02 DESCRIPTION

A. Doors, panels, screens, and pilasters assembled into complete compartment system, with cutouts and drilled holes to receive hardware as indicated; processed and fabricated in accordance with industry standards.

2.03 PERFORMANCE AND DESIGN CRITERIA

A. Comply with ANSI/ICC A117.1, Americans with Disabilities Act (ADA).

B. Design attachment system as required to transfer loading of toilet partitions to structure and provide attachment points required by compartment manufacturer.

2.04 MANUFACTURERS

A. Basis of design Manufacturer: Subject to compliance with requirements, provide products of The Mills Company, Marion, OH 43302. Contact Information: (800) 272-3539. Email info@bradleycorp.com

B. Other acceptable manufacturers are the indicated below. Obtain toilet and shower compartments from a single source in a matching style and configuration: Basis of design is Bradley Corporation.
   1. Acceptable manufacturers:
      a. Hadrian
      b. General Partitions
      c. Global Steel Products
      d. Ampco

2.05 MATERIALS

A. General:
   1. Panel and Pilaster Construction: Seamless stainless-steel facing sheets, pressure laminated to core material, with continuous, interlocking molding strip or lapped-and-formed edge closures and with corners secured by welding or clips and exposed welds ground smooth. Exposed surfaces shall be free of pitting, seam marks, roller marks, stains, discolorations, telegraphing of core material, or other imperfections.
      a. Core Material: Manufacturer's standard, sound-deadening honeycomb of resin-impregnated kraft paper in thickness required to provide finished thickness of 1 inch for panels and 1-1/4 inches for pilasters.
      b. Grab-Bar and Seat Reinforcement: Concealed internal reinforcement for grab bars and seats mounted on compartments of size and material adequate for panel to withstand required grab-bar or seat loading without deformation of panel.
      c. Tapping Reinforcement: Concealed reinforcement for tapping (threading) at locations where machine screws are used for attaching items to compartments.
   2. Stainless Steel Sheet: ASTM A167, Type 304, finish: #4 Satin.
      a. Stainless Steel Sheet Thickness:
         1) Doors and Panels: 22 gauge, minimum.
         2) Pilasters: 18 gauge, minimum (headrail braced, floor to ceiling).
         3) Pilasters: 18 gauge , minimum (floor mounted, ceiling hung).

B. Stainless Steel Toilet Compartments:
   1. Configuration: As indicated on Drawings.
   2. Enclosure Style: Overhead braced, ceiling hung.
      a. Doors and Panels: Minimum 1 inch thick with formed edges welded together and interlocked. Mechanical corner fastenings not acceptable.
      b. Pilaster Thickness: 1-1/4 inch.
      c. Pilaster Width: As required to fit space, minimum 3 inches.
      d. Pilaster Shoes and Caps: Formed from stainless-steel sheet, not less than 0.031-inchnominal thickness and 3 incheshigh, finished to match hardware.
      e. Anchoring assembly: Manufacturer standard corrosion resistant with caps and sleeves to conceal anchorage.
      f. Features:
         1) No sight gaps on hinge side or lock side of door.
         2) All fasteners and reinforcing concealed from view from outside compartment.
         3) Hardware:
            a) Including: Brackets, hinges, latch and keeper, coat hook/bumper, and door pull.
            b) Material: Manufacturer's standard stainless steel.
            c) Hinges to be wraparound gravity type, stainless steel screws and fasteners typical.

C. Stainless Steel Urinal Screens

1. Urinal-Screen Style: Integral-Flange, Wall-Hung Urinal Screen.
2. Urinal-Screen Construction:
   a. Integral-Flange, Wall-Hung Urinal Screen: Similar to panel construction, with integral full-height flanges for wall attachment, and maximum 1-1/4 inches thick.
   b. Panel thickness and construction to match toilet compartments.

D. Stainless Steel Shower and Dressing Compartments:
1. Configuration: As indicated on Drawings.
2. Enclosure Style: Overhead braced, ceiling hung
   a. Panels: Minimum 1 inch thick with formed edges welded together and interlocked. Mechanical corner fastenings not acceptable.
   b. Pilaster Thickness: 1-1/4 inch.
   c. Pilaster Width: As required to fit space, minimum 3 inches.
   d. Pilaster Shoes and Caps: Formed from stainless-steel sheet, not less than 0.031-inchnominal thickness and 3 incheshigh, finished to match hardware.
3. Brackets (Fittings):
   a. Dressing-Compartment Brackets: Match toilet compartment brackets.

2.06 ACCESSORIES

A. All accessory materials required by the manufacturer for a warrantable installation of the installed products in a manner that meets the Performance and Design Criteria.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify existing conditions meet the manufacturer's requirements before starting work.

3.02 PREPARATION

A. Prepare surfaces to receive work in accordance with manufacturer's instructions.

3.03 INSTALLATION

A. General: Install all materials in accordance with manufacturer's instructions based on conditions present.

3.04 ADJUSTING

A. Adjust and lubricate hardware for proper operation. Set hinges on in-swing doors to hold open approximately 30 degrees from closed position when unlatched. Set hinges on out-swing doors (and entrance swing doors) to return to fully closed position.

3.05 PROTECTION

A. Protect installed work as required by the manufacturer to maintain product performance, design criteria and warranty.

END OF SECTION

SECTION 10 22 39

FOLDING PANEL PARTITIONS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Manually operated, acoustical panel partitions.

1.02 RELATED REQUIREMENTS:

1. Section 01 81 13 “Sustainable Design Requirements.”
2. Section 05 50 00 “Metal Fabrications" for supports that attach supporting tracks to overhead structural system.
3. Section 10 82 00 “Seismic Bracing of Non-Structural Components.”

1.03 DEFINITIONS

A. NIC: Noise Isolation Class.

B. NRC: Noise Reduction Coefficient.

C. STC: Sound Transmission Class.

1.04 ~~ACTION~~ SUBMITTALS

A. Product Data: For each type of product.

B. Sustainable Design Submittals:

1. LEED Submittals: For components of this section, submit in compliance with Section 01 81 13 Sustainable Design Requirements.

C. Shop Drawings: For operable panel partitions.

1. Include plans, elevations, sections, attachment details.
2. Indicate stacking and operating clearances. Indicate location and installation requirements for hardware and track, blocking, and direction of travel.

D. Samples for Verification: For each type of exposed material, finish, covering, or facing, prepared on Samples of size indicated below:

1. Panel Facing Material: Manufacturer's standard-size unit, not less than 3 inches (75 mm) square.
2. Panel Edge Material: Not less than 3 inches (75 mm) long.
3. Hardware: One of each exposed door-operating device.

E. Delegated-Design Submittal: For operable panel partitions.

1. Include design calculations for seismic restraints that brace tracks to structure above.

~~1.05 INFORMATIONAL SUBMITTALS~~

~~A.~~F. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Partition track, track supports and bracing, switches, turning space, and storage layout.
2. Suspended ceiling components.
3. Structural members to which suspension systems will be attached.
4. Size and location of initial access modules for acoustical tile.
5. Items penetrating finished ceiling including the following:

a. Lighting fixtures.
b. HVAC ductwork, outlets, and inlets.
c. Speakers.
d. Sprinklers.
e. Smoke detectors.
f. Access panels.

~~B.~~G. Seismic Qualification Certificates: For operable panel partitions, tracks, accessories, and components, from manufacturer. Include seismic capacity of partition assemblies to remain in vertical position during a seismic event and the following:

1. Basis for Certification: Indicate whether certification is based on analysis, testing, or experience data, according to ASCE/SEI 7.
2. Detailed description of partition anchorage devices on which the certification is based and their installation requirements.

~~C.~~H. Product Certificates: For each type of operable panel partition, confirming STC rating of each partition as tested by a qualified acoustic testing agency~~.~~

~~1. Include approval letter signed by manufacturer acknowledging Owner-furnished panel facing material complies with requirements.~~

~~D. Product Test Reports: For each operable panel partition, for tests performed by a qualified testing agency.~~

~~E.~~I. Sample Warranty: For manufacturer's special warranty.

~~1.06~~1.05 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For operable panel partitions to include in maintenance manuals.

1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

a. Panel finish facings and finishes for exposed trim and accessories. Include precautions for cleaning materials and methods that could be detrimental to finishes and performance.

b. Seals, hardware, track, track switches, carriers, and other operating components.
c. Electric operator and controls.

~~1.07~~1.06 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same production run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Panel Finish-Facing Material: Furnish full width in quantity to cover both sides of two panels when installed.

~~1.08~~1.07 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

~~1.09~~1.08 DELIVERY, STORAGE, AND HANDLING

A. Protectively package and sequence panels in order for installation. Clearly mark packages and panels with numbering system used on Shop Drawings. Do not use permanent markings on panels.

~~1.010~~1.09 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of operable panel partitions that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Faulty operation of operable panel partitions.
b. Deterioration of metals, metal finishes, and other materials beyond normal use.

2. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 LEED COMPLIANCE

A. LEED Compliance: Refer to Section 01 81 13 Sustainable Design Requirements for all components within this Section.

2.02 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Division 1 Section "Quality Requirements," to design seismic bracing of tracks to structure above.

B. Seismic Performance: Operable panel partitions shall withstand the effects of earthquake motions determined according to ASCE/SEI 7 and in accordance with requirements indicated on the Structural Drawings.

C. Acoustical Performance: Provide operable panel partitions tested by a qualified testing agency for the following acoustical properties according to test methods indicated:

1. Sound-Transmission Requirements: Operable panel partition assembly tested for laboratory sound-transmission loss performance according to ASTM E 90, determined by ASTM E 413, and rated for not less than the STC indicated.

D. Fire-Test-Response Characteristics: Provide panels with finishes complying with one of the following as determined by testing identical products by a testing and inspecting agency acceptable to authorities having jurisdiction:

1. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

a. Flame-Spread Index: 25 or less.
b. Smoke-Developed Index: 450 or less.

2. Fire Growth Contribution: Complying with acceptance criteria of local code and authorities having jurisdiction when tested according to NFPA 286.

2.03 OPERABLE ACOUSTICAL PANELS

A. Operable Acoustical Panels: Partition system, including panels, seals, finish facing, suspension system, operators, and accessories.

1. Basis of Design Product: Subject to compliance with requirements, provide:

a. Moduflex Model 510PP by Panelfold. Inc.

2. Or equal product by one of the following:

a. Moderco.
b. Modernfold.
c. Kwik-Wall

B. Panel Operation: Manually operated, paired panels.

C. Panel Construction: As required to support panel from suspension components and with reinforcement for hardware attachment. Fabricate panels with tight hairline joints and concealed fasteners. Fabricate panels so finished in-place partition is rigid; level; plumb; aligned, with tight joints and uniform appearance; and free of bow, warp, twist, deformation, and surface and finish irregularities.

D. Dimensions: Fabricate operable acoustical panel partitions to form an assembled system of dimensions indicated and verified by field measurements.

1. Panel Width: Standard widths.

E. STC: Not less than 52.

F. Panel Thickness: Nominal dimension between 3 inches and 3-1/2 inches.

G. Panel Materials:
1. Steel Frame: Steel sheet, 16-gauge nominal minimum thickness for uncoated steel.
2. Steel Face/Liner Sheets: Continuous tension-leveled steel sheet, 20 gauge minimum nominal thickness for uncoated steel.
   a. Frame Reinforcement: Manufacturer's standard steel or aluminum.
3. Particleboard: ANSI A208.1.
4. Medium-Density Fiberboard: ANSI A208.2.
5. Plywood: DOC PS 1.

H. Panel Closure: Manufacturer's standard unless otherwise indicated.

I. Hardware: Manufacturer's standard as required to operate operable panel partition and accessories; with decorative, protective finish.

J. Finish Facing: As selected by Architect from manufacturer’s full range.

2.04 SEALS

A. Description: Seals that produce operable panel partitions complying with performance requirements and the following:

1. Manufacturer's standard seals unless otherwise indicated.
2. Seals made from materials and in profiles that minimize sound leakage.
3. Seals fitting tight at contact surfaces and sealing continuously between adjacent panels and between operable panel partition perimeter and adjacent surfaces, when operable panel partition is extended and closed.

B. Vertical Seals: Deep-nesting, interlocking astragals mounted on each edge of panel, with continuous, resilient acoustical seal.

C. Horizontal Top Seals: Continuous-contact, resilient seal exerting uniform constant pressure on track.

D. Horizontal Bottom Seals: Resilient, mechanical, retractable, constant-force-contact seal exerting uniform constant pressure on floor when extended, ensuring horizontal and vertical sealing and resisting panel movement.

1. Mechanically Operated for Acoustical Panels: Extension and retraction of bottom seal by operating handle or built-in operating mechanism, with operating range not less than **2 inches** between retracted seal and floor finish.

2.05 PANEL FINISH FACINGS

A. Description: Finish facings for panels that comply with indicated fire-test-response characteristics and that are factory applied to operable panel partitions with appropriate backing, using mildew-resistant nonstaining adhesive as recommended by facing manufacturer's written instructions.

1. Apply one-piece, seamless facings free of air bubbles, wrinkles, blisters, and other defects, with no gaps or overlaps. Horizontal seams are not permitted. Tightly secure and conceal raw and selvage edges of facing for finished appearance.

B. Vinyl-Coated Fabric Wall Covering: Manufacturer's standard, mildew-resistant, washable, vinyl-coated fabric wall covering; complying with WA-101, Type II-Medium Duty; Class A.

1. Color/Pattern: As selected by Architect from manufacturer's full range.

C. Fabric Wall Covering: Manufacturer's standard fabric, from same dye lot, treated to resist stains.

1. Color/Pattern: As selected by Architect from manufacturer's full range.

D. High-Pressure Decorative Laminate: NEMA LD 3, Horizontal grade.

1. Color/Pattern: As selected by Architect from manufacturer's full range.

E. Cap-Trimmed Edges: Protective perimeter-edge trim with tight hairline joints concealing edges of panel and finish facing, finished as follows:

1. Aluminum: Finished with manufacturer's standard clear anodic finish.

2.06 SUSPENSION SYSTEMS

A. Tracks: Steel or aluminum mounted directly to overhead structural support, designed for operation, size, and weight of operable panel partition indicated. Size track to support partition operation and storage without damage to suspension system, operable panel partitions, or adjacent construction. Limit track deflection to no more than 0.10 inch (2.54 mm) between bracket supports. Provide a continuous system of track sections and accessories to accommodate configuration and layout indicated for partition operation and storage.

1. Panel Guide: Aluminum guide on both sides of the track to facilitate straightening of the panels; finished with factory-applied, decorative, protective finish.
2. Head Closure Trim: As required for acoustical performance; with factory-applied, decorative, protective finish.

B. Carriers: Trolley system as required for configuration type, size, and weight of partition and for easy operation; with ball-bearing wheels.

C. Aluminum Finish: Mill finish or manufacturer's standard, factory-applied, decorative finish unless otherwise indicated.

D. Steel Finish: Manufacturer's standard, factory-applied, corrosion-resistant, protective coating unless otherwise indicated.

2.07 ACCESSORIES

A. Storage Pocket Door: Full height at end of partition runs to conceal stacked partition; of same materials, finish, construction, thickness, and acoustical qualities as panels; complete with operating hardware. Hinges in finish to match other exposed hardware.

1. Manufacturer's standard method to secure storage pocket door in closed position.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General: Install operable panel partitions in strict compliance with manufacturer's written instructions in order to achieve the sound control performance criteria specified.

~~A.~~B. Install operable panel partitions and accessories after other finishing operations, including painting, have been completed in area of partition installation.

~~B.~~C. Install panels in numbered sequence indicated on Shop Drawings.

~~C.~~D. Broken, cracked, chipped, deformed, or unmatched panels are not acceptable.

~~D.~~E. Broken, cracked, deformed, or unmatched gasketing or gasketing with gaps at butted ends is not acceptable.

~~E.~~F. Light-Leakage Test: Illuminate one side of partition installation and observe vertical joints and top and bottom seals for voids. Adjust partitions for alignment and full closure of vertical joints and full closure along top and bottom seals.

~~3.02 FIELD QUALITY CONTROL~~

~~A. NIC Testing: Engage a qualified testing agency to perform tests and inspections.~~

~~1. Testing Extent: Testing agency shall randomly select one operable panel partition installation(s) for testing.~~
~~2. Testing Methodology: Perform testing of installed operable panel partition for noise isolation according to ASTM E 336, determined by ASTM E 413, and rated for not less than NIC indicated. Adjust and fit partitions to comply with NIC test method requirements.~~

~~B. An operable panel partition installation will be considered defective if it does not pass tests and inspections.~~

~~C. Prepare test and inspection reports.~~

~~3.03~~3.02 ADJUSTING

A. Adjust operable panel partitions, hardware, and other moving parts to function smoothly, and lubricate as recommended by manufacturer.

B. Adjust storage pocket doors to operate smoothly and easily, without binding or warping.

C. Verify that safety devices are properly functioning.

~~3.04~~3.03 DEMONSTRATION

A. Engage a factory authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain operable panel partitions.

END OF SECTION

SECTION 10 26 00

WALL AND DOOR PROTECTION

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Corner guards.
2. End-wall guards.
3. Wall protection (Drawing Designation MP-6)

B. Related Requirements:

1. Section 01 81 13 “Sustainable Design Requirements.”
2. Section 08 71 00 “Door Hardware” for metal door armor, kick, mop, and push plates.

1.02 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Sustainable Design Submittals:

1. LEED Submittals: For components of this section, submit in compliance with Section 01 81 13 “Sustainable Design Requirements.”

C. Shop Drawings: Include sections, details, and attachments to other work.

D. Samples: For each type of unit and for each color and texture required.

PART 2 - PRODUCTS

2.01 LEED COMPLIANCE

A. Refer to Section 01 81 13 Sustainable Design Requirements for all components within this Section.

2.02 CORNER GUARDS

A. Surface-Mounted, Metal Corner Guards: Fabricated from 1-piece, formed metal with formed edges; with 90-degree turn or to match wall condition.

1. Available Manufacturers:

a. Construction Specialties, Inc.
b. IPC Door and Wall Protection Systems; Division of InPro Corporation.
c. JL Industries.
d. Koroseal Wall Protection Systems.
e. Pawling Corporation.

2. Material: Stainless steel, Type 316.

a. Thickness: Minimum 0.0500-inch.
b. Finish: Satin, No. 4.

3. Wing Size: Nominal 3 by 3-inches.

4. Corner Radius: 1/8-inch.

5. Height: 48-inches, mounted from top of rubber base.

6. Mounting: Flat-head, countersunk, stainless steel screws through beveled, factory-drilled mounting holes.

2.03 END-WALL GUARDS

A. Surface-Mounted, Metal End-Wall Guards: Fabricated from 1-piece, formed metal with formed edges; with 180-degree turn.

1. Available Manufacturers:

a. Construction Specialties, Inc.
b. IPC Door and Wall Protection Systems; Division of InPro Corporation.
c. JL Industries.
d. Koroseal Wall Protection Systems.
e. Pawling Corporation.

2. Material: Stainless steel, Type 316.

a. Thickness: Minimum 0.0500-inch.
b. Finish: Satin, No. 4.

3. Wing Size: Nominal 3 by 3-inches.

4. Width: To match exposed wall end.

5. Corner Radius: 1/8-inch.

6. Height: 48-inches, mounted from top of rubber base.

7. Mounting: Flat-head, countersunk, stainless steel screws through beveled, factory-drilled mounting holes.

2.04 WALL PROTECTION

A. Metal Wall Panels:

1. Material: Stainless steel, Type 316.

a. Thickness: Minimum 0.0500-inch.
b. Finish: Satin, No. 4.
c. Edge: Hemmed.

2. Dimensions: As indicated on drawings. Maximize panel size for installation location.

3. Mounting: Flat-head, countersunk, stainless steel screws through beveled, factory-drilled mounting holes.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install corner guards at all exterior corners of interior walls. Install end-wall guards at all exposed wall ends of interior walls.

B. Install wall protection at locations indicated on drawings.

C. Complete finishing operations, including painting, before installing guards and wall protection.

D. Place guard in position. Attach with screws provided, alternating sides and positions to avoid bowing.

3.02 CLEANING

A. Use a soft cloth and a metal cleaner recommended by the corner guard manufacturer, to clean the installed corner guards.

END OF SECTION

SECTION 10 26 41

BULLET RESISTANT PANELS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Bullet-resistant fiberglass sheet for use in wall assemblies.

1.02 RELATED REQUIREMENTS:

1. Section 01 81 13 “Sustainable Design Requirements.”
2. Section 05 40 00 “Cold Formed Steel Framing" for metal studs supporting bullet resistant panels and wall finishes.
3. Section 09 29 00 “Gypsum Board” for wall finishes over bullet resistant panels.

1.03 REFERENCES

A. ASTM International (ASTM) E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

B. Underwriters Laboratories (UL) 752 - Bullet Resisting Equipment.

1.04 SUBMITTALS

A. Product Data: Include product description for bullet resistant sheet including bullet-resistant ratings.

B. Sustainable Design Submittals:

1. LEED Submittals: For components of this section, submit in compliance with Section 01 81 13 Sustainable Design Requirements.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.06 WARRANTY

A. Provide manufacturer’s 2 year warranty providing coverage against defects in materials and workmanship.

PART 2 - PRODUCTS

2.01 LEED COMPLIANCE

A. LEED Compliance: Refer to Section 01 81 13 Sustainable Design Requirements for all components within this Section.

2.02 PERFORMANCE REQUIREMENTS

A. System Description: Provide bullet-resistant sheet of “non-ricochet type" intended to permit capture and retention of attacking projectile, lessening potential of random injury or lateral penetration.

2.03 MANUFACTURERS

A. Basis of Design Product: Subject to compliance with requirements, provide Opaque Fiberglass Bullet-Resistant Sheet by Armortex, or the equivalent product by one of the following:
   1. ArmorCore
   2. Strongwell

2.04 MATERIALS

A. Bullet-Resistant Fiberglass Sheet:
   1. Description: Manufactured from multiple layers of woven roving ballistic grade fiberglass cloth impregnated with thermoset polyester resin, compressed into flat rigid sheets.
   2. Ballistic Level: 2, tested to UL 752.
   3. Fire rating: 1 hour, tested to ASTM E 119.

B. Adhesives and Fasteners: Type recommended by bullet-resistant sheet manufacturer for specific application.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General: Install bullet resistant panels in accordance with manufacturer’s written instructions in order to achieve the performance criteria specified.

B. Cut panels to fit at perimeter and around penetrations.

C. Reinforce joints between sheets with minimum 4 inch wide backup layer of bullet-resistant sheet, centered on joint. Bullet-resistance of reinforced joint at least equal to ballistic level of panel.

D. Fasten or adhere panels to supports in manner to maintain bullet-resistive rating at perimeter, junctures with other materials, and penetrations.

END OF SECTION

SECTION 10 28 00

TOILET AND BATH ACCESSORIES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Toilet room accessories.
2. Janitor room accessories.

B. Related Requirements:

1. Section 01 81 13 “Sustainable Design Requirements.”
2. Section 08 80 00 “Glazing” for custom-fabricated wall mirrors.
3. Section 10 21 13 Toilet and Shower Compartments” for coat hook/bumper units.
4. Division 26 “Electrical” sections for electrical connections to hand dryers and soap dispensers.

1.02 SUBMITTALS

A. Sustainable Design Submittals:

1. LEED Submittals: For components of this section, submit in compliance with Section 01 81 13 “Sustainable Design Requirements.”

B. Product Data: Provide data on accessories describing size, finish, details of function, attachment methods.

C. Schedule: Submit schedule indicating products and locations.

D. Sample: Submit 1 sample of each accessory, illustrating color and finish.

E. Manufacturer's Installation Instructions: Indicate special preparation of substrate, installation and attachment methods, and perimeter conditions requiring special attention.

F. Maintenance Data: For operation and maintenance of system including:

1. Methods for maintaining system's materials and finishes.

2. Precautions about cleaning materials and methods that could be detrimental to components, finishes, and performance.

1.03 MAINTENANCE MATERIAL

A. Keys: Provide 3 keys for accessories to Contracting Agency; master key all lockable accessories.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in performing the work of this section with minimum 5 years of experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. As required by the manufacturer for a warrantable installation of the installed products to meet the Performance and Design Criteria.

PART 2 - PRODUCTS

2.01 LEED COMPLIANCE

A. Refer to Section 01 81 13 “Sustainable Design Requirements” for all components within this Section.

2.02 MANUFACTURERS

A. Specification is based on products listed.

1. Comparable products by one of the following are also acceptable:

a. Bradley Corporation: www.bradleycorp.com .

b. American Specialties, Inc: www.americanspecialties.com .

c. A & J Washroom Accessories, Inc.

d. Tubular Specialties Manufacturing, Inc.

2.03 DESCRIPTION

A. Accessories to be installed in toilet, bath, and janitorial rooms.

2.04 PERFORMANCE AND DESIGN CRITERIA

A. Comply with ANSI/ICC A117.1, Americans with Disabilities Act (ADA).

B. Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.

2.05 MATERIALS

A. Stainless Steel Sheet: ASTM A666, Type 304.

B. Stainless Steel Tubing: ASTM A269, Type 304 or 316.

C. Back paint, in accordance with Section 09 90 00.10 “Painting and Coating” where contact is made with building finishes to prevent electrolysis.

D. Fasteners, Screws, and Bolts: Stainless Steel, tamper-proof, security type.

E. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

2.06 ACCESSORIES

A. Toilet Room Accessories:

1. (TA-1) Toilet Paper Dispenser:

   a. Product: Model B-2888, by Bobrick Washroom Equipment, Inc.
   b. Mounting: Surface.
   c. Features: one-piece seamless construction.
   d. Material: Type 304 stainless steel
   e. Capacity: 2 rolls.

2. (TA-2) Waste receptacle:

   a. Product: Model 344, by Bradley Corporation.
   b. Mounting: Recessed.
   c. Features: Seamless beveled flange. Removable leak-proof waste bin.
   d. Cabinet and Waste Container Material: 22-gauge stainless steel, satin finish
   e. Liner: Heavy-duty stitched vinyl-coated nylon
   f. Capacity: 12-gal.

3. (TA-2a) Waste receptacle:

   a. Product: Model 357, by Bradley Corporation.
   b. Mounting: Surface.
   c. Features: Seamless beveled flange. Removable leak-proof waste bin.
   d. Material: 22-gauge stainless steel, satin finish
   e. Liner: Heavy-duty stitched vinyl-coated nylon
   f. Capacity: 6.5-gal.

4. (TA-3) Liquid Soap Dispenser:

   a. Product: Model B-828, by Bobrick Washroom Equipment, Inc.
   b. Mounting: Above-Counter.
   c. Features: Valve dispenses all-purpose foam hand soaps. Electronic air pump, sensor activation.
   d. Material: Chrome-plated ABS plastic spout.
   e. Capacity: 34 fl oz. soap bottle
   f. Controls: Automatic, activated by infrared optical sensor.

5. (TA-3a) Liquid Soap Dispenser:

   a. Product: Model B-4112, by Bobrick Washroom Equipment, Inc.
   b. Mounting: Wall, with concealed stainless steel mounting bracket.
   c. Features: Soap refill indicator window and locked, hinged stainless steel lid for top filling.
   d. Material: Type 304 stainless steel.
   e. Capacity: 40 fl oz.

6. (TA-4) Grab Bars:

   a. Product: Model B-6806, by Bobrick Washroom Equipment, Inc.
   b. Mounting: Surface.
   c. Features: 1-1/2-inches outside diameter, constructed of, with concealed flange mounting. 1-1/2-inches clearance between wall and inside of grab bar.
   d. Material: 18-gauge, type 304 satin-finish stainless steel.
   e. Length and configuration: As indicated on drawings.

7. (TA-5) Sanitary Napkin Disposal:

a. Product: Model ~~B-351390~~473-1A, by ~~Bobrick Washroom Equipment~~American Specialties, Inc.
b. Mounting: Surface.
c. Features: Seamless edge and lid, door with ~~magnet catch~~lock.
d. Material: Type 304 stainless steel.

8. (TA-6) Seat Cover Dispenser:

a. Product: Model B-221, by Bobrick Washroom Equipment, Inc.
b. Mounting: Surface.
c. Material: Type 304 stainless steel
d. Capacity: 250 toilet seat covers.

9. (TA-7) Tampon Dispenser:

a. Product: Model B-2706 50 Classic Series, by Bobrick Washroom Equipment, Inc.
b. Mounting: Recess.
c. Features: Napkin/tampon vendor shall combine two dispensing mechanisms in one cabinet to provide sanitary napkins and tampons at user's option. Mechanical operations; no batteries or electricity required.
d. Material: Type 304 stainless steel

10. (TA-8) Shower Curtain Rod:

a. Product: Model B-207, by Bobrick Washroom Equipment, Inc.
b. Mounting: Concealed wall brackets.
c. Diameter: 1-inch.
d. Length: To suit openings in locations indicated on drawings.
e. Material: Type 304 stainless steel

11. (TA-9) Shower Curtain and Hooks:

a. Shower Curtain: Models B-204-2 and B-204-3, by Bobrick Washroom Equipment, Inc.

1) Width: To suit openings in locations indicated on drawings.
2) Length: 72-inches
3) Material: Opaque, matte white vinyl, .008" (0.2mm) thick, contains antibacterial and flame retardant agents. Hemmed bottom and sides.
4) Accessories: Nickel-plated brass grommets along top, one every 6" (150mm).

b. Shower Curtain Hooks: Model 9536 by Bradley Corporation.

1) Stainless steel springwire with snap fastener.
2) Provide one hook per grommet on shower curtains.

12. (TA-10) Soap Dish:

a. Product: Model 9014, by Bradley Corporation.
b. Style: Surface- mounted with drain holes.
c. Material: Type 304 stainless steel, satin finish.

13. (TA-11) Coat/Robe Hook:

a. Product: Model 9114, by Bradley Corporation.
b. Style: Surface- mounted with concealed mounting, single hook.
c. Material: Chrome-plated brass.

14. (TA-12) Folding Shower Seat:

    a. Product: Model B-5181, by Bobrick Washroom Equipment, Inc.
    b. Style: Surface-mounted, with self-locking mechanism.
    c. Material: Solid phenolic,1/2-inch thick, with type 304 stainless steel frame and mounting brackets.
    d. Capacity: 360 lbs.

15. (TA-13) Underlavatory Guard:

    a. Product: Lav Guard 2by Truebro, Inc./IPS Corporation
    b. Mounting: grip fasteners.
    c. Antimicrobial molded closed cell vinyl covers. 1/8-inch nominal wall thickness; 60-70 Shore A hardness.
    d. Finish: Smooth, high gloss;
    e. Color: White.

16. (TA-14) - not used.

17. (TA-15) Electric Hand Dryer:

    a. Product: Xlerator XL-SB by Excel Dryer
    b. Mounting: Surface, ADA compliant
    c. Color: Brushed Stainless Steel cover
    d. Voltage: to suit power supply
    e. Features: Automatic sensor

B. Janitorial Room Accessories

1. (TA-16) Combination Utility Shelf/Mop and Broom Holder:

    a. Product: Model B-239 x 34, by Bobrick Washroom Equipment, Inc.
    b. Mounting: Surface.
    c. Length: 34-inches.
    d. Features: Hooks: 4, stainless steel hooks at shelf front. Mop/broom holders: 3 spring-loaded rubber cam holders at shelf front.
    e. Material: Type 304 stainless steel

2.07 ACCESSORIES

A. All accessory materials required by the manufacturer for a warrantable installation of the installed products in a manner that meets the Performance and Design Criteria.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify existing conditions meet the manufacturer's requirements before starting work.

3.02 COORDINATION

A. Coordinate wall framing and blocking, in locations designated for toilet, bath and janitorial accessory installation, and for capacities necessary to support anticipated loads.

3.03 PREPARATION

A. Prepare surfaces to receive work in accordance with manufacturer's instructions.

3.04 INSTALLATION

A. General: Install all materials in accordance with manufacturer's instructions based on conditions present.

B. Install plumb and level, securely and rigidly anchored to substrate.

C. Mounting Heights and Locations: As required by accessibility regulations and as indicated on drawings.

3.05 TOLERANCES

A. Maximum Variation from True Position: 1/4-inch.

B. Maximum Variation from Plumb: 1/8-inch.

3.06 ADJUSTING

A. Adjust and lubricate hardware for proper operation.

3.07 PROTECTION

A. Protect installed work as required by the manufacturer to maintain product performance, design criteria and warranty.

END OF SECTION

SECTION 10 44 00

FIRE PROTECTION SPECIALTIES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Fire extinguishers.
2. Fire extinguisher cabinets.
3. Defibrillator and cabinets.

B. Related Requirements:

1. Section 01 81 13 “Sustainable Design Requirements.”
2. Section 05 40 00 “Cold Formed Steel Framing” and Section 09 22 16 “Non-Structural Metal Framing” for interior wall framing at recessed cabinets.
3. Section 09 29 00 “Gypsum Board” for interior wall finishing at cabinets and brackets.

1.02 REFERENCE STANDARDS

A. NFPA 10 “Standard for Portable Fire Extinguishers,” current edition.

B. UL (FPED) “Fire Protection Equipment Directory; Underwriters Laboratories Inc,” current edition.

1.03 SUBMITTALS

A. Sustainable Design Submittals:

1. LEED Submittals: For components of this section, submit in compliance with Section 01 81 13 “Sustainable Design Requirements.”

B. Product Data: For each type of product.

1. Fire Extinguishers: Include rating and classification, material descriptions, dimensions of individual components and profiles, finishes, and mounting details.

2. Cabinets: Show door hardware, cabinet type, trim style, and panel style. Include rough-in dimensions and details showing semi-recessed mounting method and relationships of box and trim to surrounding construction.

C. Shop Drawings: For each type of cabinet.

1. Include plans, elevations, sections, details, and attachments to other work.

D. Samples: For exposed cabinet finishes.

E. Product Schedule: For fire extinguishers, brackets, and cabinets.

1. Ensure proper fit and function.
2. Use same designations indicated on Drawings.

F. Manufacturer's Installation Instructions: Indicate special preparation of substrate, installation and attachment methods, and perimeter conditions requiring special attention.

G. Maintenance Data: For user’s operation and maintenance of system including:

1. Test, refill or recharge schedules and re-certification requirements.
2. Methods for maintaining system's materials and finishes.
3. Precautions about cleaning materials and methods that could be detrimental to components, finishes, and performance.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualification: Company specializing in the manufacture of work specified in this section with minimum 5 years of experience.

1.05 COORDINATION

A. Coordinate sizes and locations of fire protection cabinets with wall depths and assembly types.

B. Coordinate cabinet recesses and support backing for all products with wall framing and finishing trades.

1.06 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire extinguishers that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Failure of hydrostatic test according to NFPA 10.
b. Faulty operation of valves or release levers.

2. Warranty Period: Six years from date of Substantial Completion.

1.07 DELIVERY, STORAGE, AND HANDLING

A. As required by the manufacturer for a warrantable installation of the installed products to meet the Performance and Design Criteria.

PART 2 - PRODUCTS

2.01 LEED COMPLIANCE

A. Refer to Section 01 81 13 “Sustainable Design Requirements” for all components within this Section.

B. PERFORMANCE AND DESIGN CRITERIA

C. Provide portable fire extinguishers in accordance with most current editions of NFPA 10 and applicable life safety codes. Most stringent requirement governs.

1. Fire extinguishers must be listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.

2.02 SOURCE LIMITATIONS

A. Obtain fire extinguishers, brackets, cabinets, and accessories from a single source from a single manufacturer.

2.03 PORTABLE FIRE EXTINGUISHERS

A. Provide portable fire extinguishers in types, size, capacity and at locations indicated on the Drawings, and as required by the local fire authority having jurisdiction.

B. Multipurpose Dry-Chemical Type in Steel Container: UL-rated, nominal capacity, with monoammonium phosphate-based dry chemical in enameled steel container.

1. Where indicated on the drawings:

a. 2-A:10-B:C, 5-lb (2.3-kg)
b. 3-A:40-B:C, 5-lb (2.3-kg)
c. 4-A:60-B:C, 10-lb (4.5-kg)

C. Carbon Dioxide Type: UL-rated, nominal capacity, with carbon dioxide in manufacturer's standard enameled steel container.

1. Where indicated on the drawings: 5-B:C, 5-lb (2.3-kg)

D. Manufacturers: Subject to compliance with requirements, provide:

1. Basis-of-Design: MP Series by Larsen's Manufacturing Co.

2. Or approved equal, by one of the following.

a. Ansul, Inc.
b. Guardian Fire Protection Services.
c. JL Industries, Inc.

E. Container Color: Red

2.04 FIRE EXTINGUISHER BRACKETS:

A. Extinguisher Brackets: Wall mounted, formed steel, galvanized and enamel finished.

2.05 FIRE EXTINGUISHER CABINETS:

A. Provide semi-recessed cabinets at all wall types.

B. Cabinet Type: Suitable for each type and capacity of fire extinguisher indicated.

C. Cabinet Construction: Nonrated.

D. Cabinet Material: Stainless steel ASTM A 666, Type 304, No.4 directional satin finish.

1. Shelf: Same metal and finish as cabinet.

E. Semi-recessed Cabinet: One-piece combination trim and perimeter door frame overlapping surrounding wall surface, with exposed trim face and wall return at outer edge (backbend).

1. Square-Edge Trim: 1-1/4- to 1-1/2-inch backbend depth.

F. Door Style: Center glass panel with frame.

G. Door Glazing: Tempered break glass, clear.

H. Door Hardware: Manufacturer's standard door-operating hardware of proper type for cabinet type, trim style, and door material and style indicated.

I. Accessories:
1. Mounting Brackets: Manufacturer's standard steel, designed to secure fire extinguisher to fire-protection cabinet, of sizes required for types and capacities of fire extinguishers indicated, with plated or baked-enamel finish.
2. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location.
3. Signage: Provide code compliant signage identifying fire extinguisher locations.

J. Manufacturers: Subject to compliance with requirements, provide:

1. Basis-of-Design: Architectural Series SS2712-RL/RK Cabinet by Larsen's Manufacturing Co.

2. Or approved equal, by one of the following:

a. Ansul, Inc.
b. Guardian Fire Equipment, Inc.
c. JL Industries, Inc.
d. Nystrom

K. Finish Requirements:

1. Comply with NAAMM's AMP 500, "Metal Finishes Manual for Architectural and Metal Products," for recommendations for applying and designating finishes.

2. Protect mechanical finishes on exposed surfaces of fire-protection cabinets from damage by applying a strippable, temporary protective covering before shipping.

3. Finish cabinets after assembly.

4. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved samples and are assembled or installed to minimize contrast.

2.06 DEFIBRILLATOR AND CABINET:

A. Basis-of-Design Defibrillator Product: Subject to compliance with requirements provide:

1. HeartStart model no. M5066A heart defibrillator, as manufactured by Phillips Heathcare.

2. Or a comparable product by one of the following:

a. Defibtech
b. Cardiac Science
c. HeartSine

B. Basis of Design Cabinet Product: Subject to compliance with requirements provide:

1. JL Industries Defibrillator Cabinet, semi-recessed, stainless steel, size to suit defibrillator.

2. Or a comparable product by one of the following:

a. Defibtech
b. AED Brands

2.07 ACCESSORIES, GENERAL

A. All accessory materials required by the manufacturer for a warrantable installation of the installed products in a manner that meets the Performance and Design Criteria.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine fire extinguishers for proper charging and tagging.

1. Remove and replace damaged, defective, or undercharged fire extinguishers.

B. Verify existing conditions meet the manufacturer's requirements before starting work. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Prepare surfaces to receive work in accordance with manufacturer's instructions.

3.03 INSTALLATION

A. General: Install all components in accordance with manufacturer's written instructions for each type.

B. Install in locations indicated on the Drawings and in accordance with authorities having jurisdiction.

C. Mounting Heights:

1. Fire Extinguisher Mounting Brackets: Top of fire extinguisher to be at 42 inches (1067 mm) above finished floor.

2. Fire Extinguisher Cabinets: As indicated on the Drawings.

3. Defibrillator Cabinets: As indicated on the Drawings.

D. Coordinate cabinet recesses and support backing with wall framing and finishing trades.

E. Mounting Brackets: Fasten mounting brackets to surfaces, square and plumb, at locations indicated.

F. Identification: Shop apply vinyl lettering.

3.04 ADJUSTING

A. Remove temporary protective coverings and strippable films, unless otherwise indicated in manufacturer's written installation instructions.

B. Adjust cabinet doors to operate easily without binding. Verify that integral locking devices operate properly.

C. Touch up marred finishes or replace fire-protection cabinets that cannot be restored to factory-finished appearance. Use only materials and procedures recommended or furnished by fire-protection cabinet and mounting bracket manufacturers.

D. Replace cabinets that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

E. Adjust and lubricate hardware for proper operation.

3.05 PROTECTION

A. Protect installed work as required by the manufacturer to maintain product performance, design criteria and warranty.

END OF SECTION

SECTION 10 51 13

LOCKERS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:
1. Heavy-duty metal lockers with integral benches (Drawing Designation LKR-1).
2. Heavy-duty metal lockers without integral benches (Drawing Designation LKR-2).
3. Heavy-duty metal lockers (Drawing Designation LKR-3).
4. Uniform Exchange metal lockers (Drawing Designation LKR-5).
5. Solid Plastic gear lockers (Drawing Designation LKR-4).
6. Locker benches.

B. Related Requirements:
1. Section 01 81 13 “Sustainable Design Requirements”

1.02 SUBMITTALS

A. Product Data: For each type of product indicated.
1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of locker and bench.

B. Sustainable Design Submittals:
1. LEED Submittals: For components of this section, submit in compliance with Section 01 81 13 Sustainable Design Requirements.

C. Shop Drawings:
1. Include plans, elevations, sections, details, and attachments to other work.
2. Show locker trim and accessories.
3. Include locker identification system and numbering sequence.

D. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available.

1.03 COORDINATION

A. Field Measurements: Verify actual dimensions of recessed openings by field measurements before fabrication.

B. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of work specified in other Sections to ensure that lockers can be supported and installed as indicated.

1.04 QUALITY ASSURANCE

A. Regulatory Requirements: Where lockers are indicated to comply with accessibility requirements, comply with the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities".

1.05 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of lockers that fail in materials or workmanship, excluding finish, within

specified warranty period.
1. Warranty Period for Metal Lockers: Lifetime from date of Substantial Completion.
2. Warranty Period for Plastic Lockers: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 LEED COMPLIANCE

A. Refer to Section 01 81 13 Sustainable Design Requirements for all components within this Section.

2.02 HEAVY-DUTY METAL LOCKERS (LKR-1 and LKR-2)

A. Basis-of-Design Product: Subject to compliance with requirements, provide: FreeStyle Personal Storage Locker by Southwest Solutions Group, or approved equal, by one of the following:
1. Debourgh
2. Lyon
3. Republic

B. Locker Arrangement:
1. Single tier with integral bench over lower drawer.
2. Single tier.

C. Sizes:
1. 18” w. x 24” d. x 72” h for base locker, with additional 18” w x 12” d x 18” h integrated bench and lower drawer in locations and configurations as indicated on drawings.
2. 18” w x 24” d. x 72” h without integral bench.

2.03 HEAVY-DUTY METAL LOCKERS (LKR-3)

A. Basis-of-Design Product: Subject to compliance with requirements, provide All American Corridor Locker by Debourgh, or approved equal, by one of the following:
1. Lyon
2. Republic

B. Locker Configurations:
1. 15” w. x 15” d. x 36” h, double tier.
2. Accessible locker locations and configurations as indicated on drawings.

2.04 UNIFORM EXCHANGE METAL LOCKERS (LKR-5)

A. Basis-of-Design Product: Subject to compliance with requirements, provide Hallowell HUE214-8P-HG Uniform Exchange Locker, or approved equal, by one of the following:
1. Penco
2. Southwest Solutions

B. Locker Configuration:

1. 33” w x 21” d x 84” h, 8-locker, double tier.

C. Locker Features:
1. Individual locker compartments with coat rod and keyed locks.
2. Hinged master door providing access to banks of 8 lockers with a single lock.

D. Construction:

1. Body: minimum 24 gauge steel
2. Frame: minimum 16 gauge steel
3. Doors: minimum 20 gauge steel.
4. Hinges: 5 knuckle.
5. Back panel: Perforated for ventilation
6. Base: Galvannealed steel.

2.05 METAL LOCKER CONSTRUCTION, GENERAL

A. Body: Assembled by riveting or bolting body components together. Fabricate from unperforated minimum 18 gauge nominal-thickness cold-rolled steel sheet unless noted otherwise.

B. Top: Continuous sloped metal surface to match lockers, unless indicated otherwise on drawings.

C. Frames: Channel formed; fabricated from 0.060-inch nominal-thickness steel sheet; lapped and factory welded at corners; with top and bottom main frames factory welded into vertical main frames. Form continuous, integral door strike full height on vertical main frames.

D. Doors: One piece; fabricated from minimum14 gauge nominal-thickness steel sheet unless noted otherwise; formed into channel shape with double bend at vertical edges and with right-angle single bend at horizontal edges.
1. Reinforcement: Manufacturer's standard reinforcing angles, channels, or stiffeners for doors more than 15-inches wide; welded to inner face of doors.
2. Stiffeners: Manufacturer's standard full-height stiffener fabricated from 0.048-inchnominal-thickness steel sheet; welded to inner face of doors.
3. Sound-Dampening Panels: Manufacturer's standard, designed to stiffen doors and reduce sound levels when doors are closed, of die-formed metal with full perimeter flange and sound-dampening material; welded to inner face of doors.
4. Door Style: Louvered vents on door face.
5. Drawer Style: Louvered vents on drawer face.

E. Hinges: Welded to door and attached to door frame with no fewer than two factory-installed rivets per hinge that are completely concealed and tamper resistant when door is closed; fabricated to swing 180 degrees.
1. ~~Continuous~~ Five Knuckle Hinges: Manufacturer's standard, steel~~, full height~~.

F. ~~Single~~Three-Point Latching: Nonmoving latch hook with steel padlock loop that projects through recessed cup and is finished to match metal locker body.

G. Equipment: Equip each metal locker with the following unless otherwise indicated:
1. Hooks: Manufacturer's standard ball-pointed type, aluminum or steel; zinc plated.
2. Identification Plates: Manufacturer's standard, etched, embossed, or stamped aluminum plates, with numbers and letters at least 3/8-inch high.
3. Shelves: Provide a single shelf in each locker.
4. Coat Rods: Provide a full-width coat road in each locker.

H. Finish: ~~Baked enamel~~Powder Coat,
1. Color to be selected by Architect from manufacturer’s standard range.

2.06 SOLID PLASTIC GEAR LOCKERS (LKR-4)

A. Basis-of-Design Product: Subject to compliance with requirements, provide Lenox Gear Locker by Bradley Corporation, or approved equal, by one of the following:
1. Global Industrial
2. Salsbury Industries

B. Locker Configuration: 24" w x 24" d x 72" h, single tier with cubby benches, unless noted otherwise on drawings.

C. Material: Solid high density polyethylene (HDPE):
1. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
2. Flame-Spread Index: 100 or less.
3. Smoke-Developed Index: 450 or less.

D. Construction:
1. Sides, Tops, Bottoms, Dividers and Shelves: 3/8-inch thick HDPE plastic with smooth finish.
2. Bench Top: 1-inch thick HDPE plastic, with matte textured finish.
3. Locker Shelves: 3/8-inch thick HDPE plastic, mortised into sides and back.
4. Locker Tops: ~~Slope top~~Flat Top
5. Doors and Frame: 1/2-inch thick HDPE plastic with matte texture finish; ventilation slots with cross-hatch pattern.
6. Logo on Door: Indicate accessible lockers.
7. Handle: ADA/ABA compliant handle fabricated from injection molded plastic.
8. Single-Point Latching: Nonmoving latch hook with steel padlock loop that projects through recessed cup and is finished to match metal locker body.
9. Hinges: Continuous piano hinges, .05-inch/18 gauge (1.27 mm) thick type 304 stainless steel fabricated to wrap around edges of door and frame and attached with stainless steel tamper-resistant screws. Powder coat finish to match color of locker.
10. Latch bar: Full-height latch bar constructed of 1/2-inch (13 mm) HDPE plastic secured to locker with stainless steel tamper-resistant screws.
11. Foot Locker:
12. Hinged Bench Seat: Fabricated from 1-inch (26 mm) thick HDPE plastic.
13. Hinge: Full length piano hinge made of .05-inch/18 gauge (1.27 mm) thick, type 304 stainless steel attached to bench seat and frame with stainless steel tamper-resistant screws and fabricated to wrap around edges of bench seat and frame.
14. Safe Closing Device: Soft-Down Stay closing device.
15. Front: 1/2-inch (13 mm) thick HDPE plastic with ventilation slots.
16. Lock: standard hasp.
17. Accessories:
18. Coat Hooks: Black polycarbonate double hook.
19. End Panels: 3/8-inch thick, with color and finish matching locker body.
20. Filler Panels: 1/2-inch HDPE filler panel, with color and finish matching locker body, attached with 3/8-inch thick HDPE solid plastic angle bracket.
21. Wall Hooks: Black powder coated, cast zinc hook two per locker.
22. Number Plate: White acrylic with black film coating, laser etched with number specified. Provide one per locker.
23. Coat Rod: Stainless steel rod, 1-inch diameter, with stainless steel flanges and stainless steel tamper-resistant screw.
~~24. Locker Base: 6-inches high, steel reinforced.~~
~~25.~~24. Color: As selected by Architect from manufacturer's full range

2.07 LOCKER BENCHES

A. General: Provide locker benches in locations and configuration as shown on drawings.

B. Bench Tops: Manufacturer's standard 1-piece units, of the following material:
1. Dimensions:

2. Standard benches: minimum 9-1/2-inches wide by 1-1/4-inches thick, with rounded corners and edges.
3. ADA compliant benches: minimum 12-inches wide by 1-1/4-inches thick, with rounded corners and edges.
4. Length: as indicated on drawings.
5. Solid hardwood with one coat of clear sealer on all surfaces, and one coat of clear lacquer on top and sides.
6. Freestanding Pedestals: Manufacturer's standard supports, with predrilled fastener holes for attaching bench top, complete with fasteners, and as follows:
7. Aluminum: 1/8-inch-thick by 3-inch-wide channel or 1/4-inch-thick by 3-inch-wide bar stock, shaped into trapezoidal form; with nonskid pads at bottom.
8. Finish: Powder coated.
9. Color: As selected by Architect from manufacturer's full range.

2.08 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B, suitable for exposed applications.

B. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with A60 zinc-iron, alloy (galvannealed) coating designation.

C. Stainless Steel Sheet: ASTM A 666, Type 304.

D. Extruded Aluminum: ASTM B 221, alloy and temper recommended by aluminum producer and manufacturer for type of use and finish indicated.

E. Steel Tube: ASTM A 500, cold rolled.

F. HDPE: High Density Polyethylene, ½" thick, homogeneous color, matte textured finish. Minimum 30 percent pre-consumer recycled content.

G. Wood Bench: Solid butcher block maple.

H. Fasteners: Zinc- or nickel-plated steel, slotless-type, exposed bolt heads; with self-locking nuts or lock washers for nuts on moving parts.

I. Anchors: Material, type, and size required for secure anchorage to each substrate.
1. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls, and elsewhere as indicated, for corrosion resistance.
2. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.

2.09 FABRICATION

A. Fabricate lockers square, rigid, and without warp and with faces flat and free of dents, distortion, or imperfections. Make exposed metal edges safe to touch and free of sharp edges and burrs.
1. Form body panels, doors, shelves, and accessories from one-piece steel sheet unless otherwise indicated.
2. Provide fasteners, filler plates, supports, clips, and closures as required for complete installation.

B. Fabricate each metal locker with an individual door and frame; individual top, bottom, and back; and common intermediate uprights separating compartments. Factory weld frame members of each metal locker together to form a rigid, one-piece assembly.

C. All-Welded Construction: Factory pre-assemble metal lockers by welding all joints, seams, and connections; with no bolts, nuts, screws, or rivets used in assembly of main locker groups.

Factory weld main locker groups into one-piece structures. Grind exposed welds flush.

D. Accessible Lockers - Fabricate as follows:
1. Locate bottom shelf no lower than 15-inches above the floor.
2. Where hooks, coat rods, or additional shelves are provided, locate no higher than 48-inches above the floor.

E. Filler Panels: Fabricated in an unequal leg angle shape; finished to match lockers. Provide slip-joint filler angle formed to receive filler panel.

F. Finished End Panels: Designed for concealing unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed lockers; finished to match lockers.

2.010 STEEL SHEET FINISHES

A. ~~Baked Enamel~~Powder Coat Finish: Immediately after cleaning, pretreating, and phosphatizing, apply manufacturer's standard ~~thermosetting baked-enamel~~powder coat finish. Comply with paint manufacturer's written instructions for application, powder coating~~baking~~, and minimum dry film thickness.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General: Install level, plumb, and true; shim as required, using concealed shims.

1. Anchor locker runs at ends and at intervals recommended by manufacturer, but not more than 36-inches o.c. Using concealed fasteners, install anchors through backup reinforcing plates, channels, or blocking as required to prevent distortion.
2. Anchor single rows of lockers to walls near top and bottom of lockers.
3. Anchor back-to-back lockers to floor.

B. Welded Lockers: Connect groups together with manufacturer's standard fasteners, with no exposed fasteners on face frames.

C. Equipment and Accessories: Fit exposed connections of trim, fillers, and closures accurately together to form tight, hairline joints, with concealed fasteners and splice plates.
1. Attach hooks with at least two fasteners.
2. Identification Plates: Identify lockers with identification indicated on Drawings, or if not indicated, provide numbering per the approved shop drawings.
a. Attach plates to each locker door, near top, centered, with at least two aluminum rivets.
3. Attach filler panels with concealed fasteners. Locate filler panels where indicated on Drawings.
4. Attach finished end panels with fasteners only at perimeter to conceal exposed ends of non-recessed lockers.

D. Movable Benches: Place benches in locations indicated on Drawings.

3.02 ADJUSTING

A. Clean, lubricate, and adjust hardware. Adjust doors and latches to operate easily without binding.

3.03 PROTECTION

A. Protect metal lockers from damage, abuse, dust, dirt, stain, or paint. Do not permit use during construction.

B. Touch up marred finishes or replace metal lockers that cannot be restored to factory-finished appearance. Use only materials and procedures recommended or furnished by locker manufacturer.

END OF SECTION

SECTION 10 56 13

METAL STORAGE SHELVING

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Provided complete shelving and racking system design, supply, delivery, installation, and anchorage for:
   1. Post – and – beam metal storage shelving
   2. Post – and – beam metal storage pallet racking

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
   1. Industrial drawing (s) for racking and shelving elevations
      a. GEN – QEE001 – GENERAL RACKING & SHELVING ELEVATIONS – SHEET A
      b. GEN – QEE002 – GENERAL RACKING & SHELVING ELEVATIONS – SHEET B
   2. Industrial drawing(s) for floor plans
      a. M04 – QEP111 – OMF EAST BUILDING EQUIPMENT LAYOUT – LEVEL 1- AREA A
      b. M04 – QEP211 – OMF EAST BUILDING EQUIPMENT LAYOUT – LEVEL 2 – AREA A
      c. M04 – QEP212 – OMF EAST BUILDING EQUIPMENT LAYOUT – LEVEL 2 – AREA B
      d. M04 – QEP213 – OMF EAST BUILDING EQUIPMENT LAYOUT – LEVEL 2 – AREA C
      e. M05 – QEP111 – MAINTENANCE OF WAY BUILDING EQUIPMENT LAYOUT – AREA A

1.03 RELATED SECTIONS

A. Division 01: General Requirements

B. Division 03: Concrete

C. Division 05: Metal

D. Project Requirement V2-02.01: Facility Program

1.04 COORDINATION

A. Coordinate sizes and locations of blocking and backing required for installation of metal storage shelving attached to wall assemblies.

B. Coordinate locations and installation of metal storage shelving that may interfere with ceiling systems including but not limited to lighting, HVAC, speakers, sprinklers, access panels, electrical switches or outlets, and floor drains.

1.05 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at the Owner's project site at 1899 120th Ave NE, Bellevue, WA.

1.06 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include rated capacities, construction details, material descriptions, dimensions of individual components and profiles, and finishes for metal storage shelving.

B. Shop Drawings: For metal storage shelving and pallet rack
   1. Include plans, elevations, sections, and attachment details.
   2. Include installation details of connectors, lateral bracing, and special bracing.
   3. Include seismic connection details for the rack / shelving.
   4. The final shop drawings and letters of assurance shall be sealed and signed by a Professional Engineer registered in the State of Washington and shall be available to be submitted to City of Bellevue for Building Permit requirements.

C. Samples: For each type of metal storage shelving / pallet racking and for each color specified, in the following sizes:
   1. Vertical Supports: 12 inches tall.
   2. Shelves: Full size, but not more than 24 inches wide by 12 inches deep (Only for metal storage shelves).
   3. Wire Decking: 24 inches by 12 inches deep (Only for pallet racks)
   4. Connectors: Full size.
   5. Shelf-Label Holders: Full size.
   6. Pallet rack base plates.

D. Samples for Initial Selection: For each type of metal storage shelving and pallet racking with factory-applied color finishes.
   1. Include Samples of accessories involving color selection.

E. Product Schedule: For metal storage shelving and pallet racks use same designations indicated on QEE Series Drawings.

F. Delegated-Design Submittal: For seismic restraint of metal storage shelving and pallet racking

1.07 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Seismic Qualification Certificates: For metal storage shelving and pallet racks, accessories, and components, from manufacturer.

C. Product Certificates: For each type of metal storage shelving and pallet racks.

1.08 CLOSEOUT SUBMITTALS

A. Maintenance Data: For metal storage shelving to include in maintenance manuals.

1.09 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Shelves: Full-size units equal to 10 percent of amount installed for each type indicated, but no fewer than three shelves.
   2. Shelf-to-Post Connectors: Full-size units equal to 10 percent of amount installed for each type indicated, but no fewer than three connectors.
   3. Shelf-Label Holders: Full-size units equal to 10 percent of amount installed for each type indicated, but no fewer than 10 holders.

1.10 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

1.11 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install metal storage shelving until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at levels intended for building occupants during the remainder of the construction period.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Delegated Design: Design metal storage shelving, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

B. Seismic Performance: Seismic restraint shall not be connected to building structure except for concrete floor. Metal storage shelving shall withstand the effects of earthquake motions determined according to ASCE/SEI 7
   1. Seismic loads shall be considered as per 2015 International Building Code with any Washington State, amendment.

2.02 FOUR-POST METAL STORAGE SHELVING (SH-03-L2 & 1688)

A. Closed Four-Post Metal Storage Shelving (SH-03-L2 & 1688): Complying with MH 28.1 and field assembled from factory-formed components. Shelves span between supporting corner posts that allow shelf-height adjustment over full height of shelving unit. Provide fixed top and bottom shelves, adjustable intermediate shelves, and accessories indicated. Provide the Starter and Add-On units based on the floor plan shown on QEP series drawings for M04 and M05 Building.
   1. Equipment ID: SH-03-L2
      a. Load-Carrying Capacity per Shelf: Indicated on contract drawings.

      b. Posts: Fabricated from hot-rolled steel; in manufacturer's standard shape; with perforations at 1-1/2 inches o.c. to receive shelf-to-post connectors.
         1) Unit Configuration: Configure shelving units as individual, freestanding assemblies.
         2) Post Base: Adjustable steel floor plate.

      c. Bracing: Manufacturer's standard, single or double diagonal cross bracing.
         1) Location: At unit ends as required for stability, load-carrying capacity of shelves, and number of shelves indicated.

      d. Solid-Type Shelves:
         1) Metallic-Coated Steel Sheet: Nominal thickness as required for load-carrying capacity per shelf indicated on contract drawings.
         2) Slots or Holes for Shelf Dividers: 3 inches o.c.
         3) Fabricate fronts and backs of shelves with box-formed edges, with corners lapped and welded.
         4) Provide metal backing and side panels for every shelf and end panels for aisles.

e. Shelf Quantity: Four shelves per shelving unit including top and bottom shelf. Configuration as shown on contract drawings.
f. Shelf-to-Post Connectors: Mechanical fasteners (nuts and bolts).
g. Base: Closed, with base strips fabricated from same material and with same finish as shelving.
h. Accessories:
1) Shelf-Label Holders: Clear plastic, designed to clip onto front edge of shelf.
i. Steel Finish: Powder coat.
1) Color and Gloss: As selected by Hensel Phelps' representative from manufacturer's full range.
2) All load beams and shelves shall be permanently labelled with load rating and capacity visible.
j. Provide kick plate at the bottom of each shelf

2. Equipment ID: 1688
a. Approved Manufacturer: Equipto
b. Model: 773-8
c. Load capacity per shelf: 1170 lbs
d. Provide Starter and Add-on units based on the shelving arrangement shown on QEP Series drawing
e. Provide standard reflective white back and end panels, regardless of shelf color.

2.03 POST-AND-BEAM METAL STORAGE SHELVING (PALLET RACKS) PR-08-L1; PR-09-L1; PR-10-L1; PR-10-L2; PR-09-L2; 1545; and 1455.

A. Post-and-Beam Metal Shelving: Complying with MH 28.2; field-assembled from factory-formed components. Shelves are supported by beams that span between supporting corner posts that allow beam-height adjustment over full height of shelving unit. Provide fixed top and bottom beams, adjustable intermediate beams, and accessories indicated. The pallet racks should be free standing.

B. Load-Carrying Capacity per Shelf: As indicated on Drawing: GEN-QEE001, and GEN-QEE002, uniformly distributed.

C. Posts: Fabricated from cold-rolled steel; in manufacturer's standard angle or open-box with perforations at 4 inches o.c. to receive beam-to-post connectors.
1. Unit Configuration: Configure shelving units as individual, freestanding and starter- and add-on unit assemblies based on the layouts shown on contract drawings.
2. Steel Thickness, Nominal: As required for load-carrying capacity per shelf and number of shelves.
a. Add-On Shelf Posts: Fabricated from hot-rolled steel, T-shape; perforated to match main posts and of same thickness.
3. Post Base: Cold-rolled steel floor plate, drilled for floor anchors.
4. For Rack Type Equip ID: 1545, approved manufacturer is Lyon Workspace Products.
a. Uprights: 42" x 192"
5. For Rack Type Equip ID 1455, approved manufacturer is Equipto. Model # 1028D62S starter and 1028D62A add-on.

D. Beams: Fabricated from cold-rolled steel; in channel or flanged shape. Provide beam at each side of each shelf, with center supports as required for load-carrying capacity of shelf.
1. Steel Thickness, Nominal, as required for load-carrying capacity per shelf.
2. Beam-to-Post Connectors: Projecting tab or manufacturer's standard at each end that engage posts.
a. Top and Bottom Shelf Beams: Provide with single beam-to-post connectors.
b. Intermediate Shelf Beams: Provide with single beam-to-post connectors.

3. Beam Quantity: As required for number of shelves indicated on drawing GEN-QEP001 and GEN-QEP002 per shelving unit.
4. For Rack Type Equip ID: 1545, approved manufacturer is Lyon Workspace Products.
   a. Beams: N108
5. For Rack Type Equip ID 1455, approved manufacturer is Equipto. Model # 1028D62S starter and 1028D62A add-on.

E. Wire Decking: Welded steel wire; with 2- by 4-inch openings. Provide waterfall edge.
1. For Rack Type Equip ID: 1545, approved manufacturer is Lyon Workspace Products.
   a. Decking: WD5242L

F. Shelf Quantity: Provide shelves per shelving unit in addition to top and bottom shelf as shown on drawing GEN - QEE001 and GEN – QEE002.

G. Overall Unit Width: As shown on drawing(s) GEN-QEE001, and GEN-QEEE002 exclusive of two end posts.

H. Overall Unit Depth: 42 inches as shown on drawings GEN-QEE001, and GEN-QEE002.

I. Overall Unit Height: As indicated on drawing(s) GEN-QEE001, and GEN-QEEE002

J. Accessories:
1. Tie Plates: Cold-rolled steel, finished to match posts; designed for joining posts of adjacent shelving units.
2. Tied bars for wire mesh decking
3. Supports: Back-to-back type that bolt to posts; as required for shelving unit stability.

K. Steel Finish: Powder coat.
1. Color and Gloss: As selected by Hensel Phelps' representative from manufacturer's full range.

2.04 SHELVING (EQUIP ID: 1621)

A. Provide shelving units with double rivet posts, and top & bottom perimeter beams

B. Intermediate beams shall be of double rivet construction

C. Shelf capacity of 1000 lbs.

D. Approved Manufacturer: Penco Products Inc.

E. Model: 46W24H starter and 46W26H add-on unit

F. Refer drawing M04 QEP series drawing for rack quantity and floor plan arrangement.

2.05 ANCHORS

A. Floor Anchors: In accordance with drawing structural drawings. Provide number per unit recommended by manufacturer unless additional anchors are indicated in calculations.

B. Wall Anchors: As applicable based on the racking and shelving layout shown on QEP series drawings.

2.06 FABRICATION

A. Fabricate metal storage shelving and pallet rack components to provide field-assembled units that are square and rigid, with posts plumb and true and shelves flat and free of dents or distortion. Fabricate connections to form a rigid structure, free of buckling and warping.
   1. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible. Locate joints where least conspicuous.
   2. Build in straps, plates, brackets, and other reinforcements as needed to support shelf loading.
   3. Cut, reinforce, drill, and tap metal fabrications to receive hardware, fasteners, and similar items.

B. Form metal in maximum lengths to minimize joints. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing the Work.

C. Form edges and corners free of sharp edges or rough areas. Fold back and crimp exposed edges of unsupported sheet metal to form a hem on the concealed side; ease edges of metal plate to radius of approximately 1/32-inch. Shear and punch metals cleanly and accurately. Remove burrs.

D. Weld corners and seams continuously to develop strength, minimize distortion, and maintain the corrosion resistance of base metals. At exposed locations, finish welds and surfaces smooth and blended so surface is smooth after finishing and contour of welded surface matches that of adjacent surface. Weld before finishing components to greatest extent possible. Remove weld spatter and welding oxides from exposed surfaces before finishing.

2.07 FOR QUANTITIES AND ARRANGEMENT REFER M04 AND M05 QEP SERIES DRAWINGS.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine floors for suitable conditions where metal storage shelving will be installed.

C. Examine walls to which metal storage shelving will be attached for properly located blocking, grounds, or other solid backing for attachment of support fasteners.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Vacuum and clean finished floor over which metal storage shelving is to be installed.

3.03 INSTALLATION

A. Install metal storage shelving and pallet racks level, plumb, square, rigid, true, and with shelves flat and free of dents or distortion. Make connections to form a rigid structure, free of buckling and warping.
   1. Install exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible.
   2. Install braces, straps, plates, brackets, and other reinforcements as needed to support shelf loading and as required for stability.

3. Adjust post-base bolt leveler to achieve level and plumb installation.
4. Anchor shelving units to floor with floor anchors through floor plate. Shim floor plate to achieve level and plumb installation.
5. Install seismic restraints.
6. Connect side-to-side and back-to-back shelving units together.
7. Install shelves in each shelving unit at spacing indicated on QEP Series drawings for M04 and M05 Buildings.
    a. Case-Type Metal Storage Shelving: Install adjustable shelf clips at front and back of each shelf.
    b. Four-Post Metal Storage Shelving: Install four clips, one at each post, for support of each shelf; with clips fully engaged in post perforations.
    c. Post-and-Beam Metal Storage Shelving: Install beams with beam-to-post connectors fully engaged in post perforations.

B. Accessories:
1. Install finished end panels and trim at exposed ends of shelving units.
2. Shelf – Label Holder: Install two on each shelf at equal distance

3.04 ERECTION TOLERANCES

A. Erect four-post metal storage shelving and pallet racks to a maximum tolerance from vertical of 1/2-inch in up to 10 feet of height, not exceeding 1-inch for heights taller than 10 feet.

B. Erect post-and-beam metal storage shelving to a maximum tolerance from vertical of 1/4-inch in 84 inches of height.

3.05 ADJUSTING

A. Adjust metal storage shelving so that connectors and other components engage accurately and securely.

B. Adjust and lubricate operable components to operate smoothly and easily, without binding or warping. Check and readjust operating hardware.

C. Touch up marred finishes or replace metal storage shelving that cannot be restored to factory-finished appearance. Use only materials and procedures recommended or furnished by metal storage shelving manufacturer.

D. Replace metal storage shelving components that have been damaged beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

SECTION 10 75 16

GROUND-SET FLAGPOLES

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes ground-set flagpoles made from aluminum.

B. Flags

1.02 RELATED SECTIONS

A. Divisions 03 and 05 for structural supports and attachments.

B. Division 26 for site lighting including flagpole lighting.

C. Division 32 for concrete paving.

1.03 SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, operating characteristics, fittings, accessories, and finishes for flagpoles.

B. Shop Drawings: For flagpoles.

1. Include plans, elevations, and attachment details. Show general arrangement, jointing, fittings, accessories, grounding, anchoring, and support.
2. Include section, and details of foundation system.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Spiral wrap flagpoles with heavy paper and enclose in a hard fiber tube or other protective container.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Source Limitations: Obtain flagpoles as complete units, including fittings, accessories, bases, and anchorage devices, from single source from single manufacturer.

2.02 WARRANTY

A. Provide manufacturer's five (5) year written warranty against defects in materials and workmanship. Beginning at date of substantial completion.

2.03 PERFORMANCE REQUIREMENTS

A. Structural Performance: Flagpole assemblies, including anchorages and supports, shall withstand design loads indicated per maximum wind load and soil conditions.
   1. Base flagpole design on polyester flags of maximum standard size (5'X8') suitable for use with flagpole or flag size indicated, whichever is more stringent.

2.04 ALUMINUM FLAGPOLES

A. Aluminum Flagpoles: Entasis-tapered flagpoles fabricated from seamless extruded tubing complying with ASTM B 241/B 241M, Alloy 6063, with a minimum wall thickness of .156".

   Groundset Aluminum Flagpole, manufactured by L. Ph. Bolander and Sons, 1355 Evans Avenue, San Francisco, CA 94124 Tel: 800 434-5611, http://bolanderflagpole.com.

   Other pole manufacturers are allowed as approved by the Engineer of Record~~Other pole manufacturers are allowed as approved by the Engineer of Record~~.

B. Exposed Height: 35'.

C. Shop fabricate, construct flagpoles in one piece. Metal Foundation Tube: Manufacturer's standard corrugated-steel foundation tube, 0.060-inch (1.52-mm) wall thickness with 3/16-inch (4.8-mm) steel bottom plate and support plate; 3/4-inch- (19-mm-) diameter, steel ground spike; and steel centering wedges welded together. Galvanize foundation tube after assembly. Furnish loose hardwood wedges at top of foundation tube for plumbing pole.

   1. Flashing Collar: Same material and finish as flagpole.

D. Ground sleeve for Aluminum Flagpole: For casting into concrete foundation. Fabricated from #16 ga. Galvanized steel, whose square dimension is two inches larger than the sleeve diameter. All steel wedges, base plate, support plate and lightning ground rod shall be welded of dimensions as detailed by manufacturer. Galvanized ground sleeve.

   1. Flashing Collar: Same material and finish as flagpole.

2.05 FITTINGS

A. Finial Ball: Flush-seam ball, sized as indicated or, if not indicated, to match flagpole-butt diameter.

   1. 0.063-inch (1.6-mm) spun aluminum finished to match flag pole.

B. Internal Halyard, Cam Cleat System: 5/15-inch-(8mm) diameter, polyester halyard; cam cleat; and concealed revolving truck assembly with plastic-coated counterweight and sling. Furnish flush access door secured with cylinder lock. Finish truck assembly to match flagpole.

1. Halyard Flag Snaps: Bronze swivel snaps with white vinyl cover. Furnish two per halyard.

2.06 MISCELLANEOUS MATERIALS

A. Sand: ASTM C 33/C 33M, fine aggregate.

2.07 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611

2.08 ACCESSORIES

A. Provide (1) 5'x8' United States flag, (1) 5'x8' Sound Transit Flag, and (1) Washington State flag.

PART 3 - EXECUTION

3.01 PREPARATION

A. Prepare uncoated metal flagpoles that are set in foundation tubes by painting below-grade portions with a heavy coat of bituminous paint.

B. Foundation Excavation: Excavate to neat clean lines in undisturbed soil. Remove loose soil and foreign matter from excavation and moisten earth before placing concrete. Place and compact drainage material at excavation bottom.

C. Provide forms where required due to unstable soil conditions and for perimeter of flagpole base at grade. Secure and brace forms to prevent displacement during concreting.

D. Foundation Tube: Place foundation tube, center, and brace to prevent displacement during concreting. Place concrete. Plumb and level foundation tube and allow concrete to cure.

E. Sleeves: Locate and secure sleeves in forms by bracing to reinforcement and forms.

F. Anchor Bolts: Locate and secure anchor bolts in forms with templates and by tying to reinforcement.

G. Place concrete, as specified in 033000 "Cast-in-Place Concrete." Compact concrete in place by using vibrators. Moist-cure exposed concrete for no fewer than seven days or use nonstaining curing compound.

H. Trowel exposed concrete surfaces to a smooth, dense finish, free of trowel marks, and uniform in texture and appearance. Provide positive slope for water runoff to perimeter of concrete base.

3.02 FLAGPOLE INSTALLATION

A. General: Install flagpoles where indicated and according to manufacturer's written instructions.

B. Foundation Tube: Place flagpole in tube, seated on bottom plate between steel centering wedges, and install hardwood wedges to secure flagpole in place. Place and compact sand in foundation tube and remove hardwood wedges. Seal top of foundation tube with a 3-inch (76-mm) layer of non-shrink grout and cover with flashing collar.

END OF SECTION

SECTION 10 81 00

ATTACHMENTS TO STRUCTURE

PART 1 - GENERAL

1.01 SUMMARY

A. Attachments to structure shall be compatible with the structural design as described in this section and in conformance with the building code.

B. This section includes requirements for all design/build attachments to structure.

C. Work in this section includes structural engineering design as required to demonstrate that the attachment of design/build nonstructural components to the building structure will be compatible with the design of the building structure and in conformance with the building code.

D. Definitions:

1. Building Official: As defined in IBC Section 202. Where ASCE 7-10 uses the term Authority Having Jurisdiction this should be considered to have the same meaning as Building Official.

2. Registered Design Professional: As defined in IBC Section 202.

3. Protected Zone: Structural members or portions of structural members indicated as “Protected Zone” on the Structural Drawings.

1.02 RELATED SECTIONS

A. Coordinate and comply with the requirements of the following:

1. Section 03 30 00 Cast-in-Place Concrete

2. Section 03 45 00 Precast Architectural Concrete

3. Section 05 12 00 Structural Steel Framing

4. Section 05 21 00 Steel Joist Framing

5. Section 05 31 00 Steel Decking

6. Section 05 40 00 Cold-Formed Steel Framing

7. Section 05 50 00 Metal Fabrications

8. Section 08 41 13 Aluminum-Framed Entrances and Storefronts

9. Section 08 44 13 Glazed Aluminum Curtain Walls

10. Section 09 22 16 Non-Structural Metal Framing

11. Section 09 51 23 Acoustical Tile Ceilings

12. Section 10 82 00 Seismic Design Requirements For Nonstructural Components

13. Section 11 11 26 Vehicle-Washing Equipment

14. Section 21 05 29 Hangers and Supports for Fire-Suppression Piping and Equipment

15. Section 21 05 48 Vibration and Seismic Controls for Fire-Suppression Piping and Equipment

16. Section 22 05 29 Hangers and Supports for Plumbing Piping and Equipment

17. Section 22 05 48 Vibration and Seismic Controls for Plumbing Piping and Equipment

18. Section 23 05 29 Hangers and Supports for HVAC Piping and Equipment

19. Section 22 05 48 Vibration and Seismic Controls for Plumbing Piping and Equipment

20. Section 23 05 29 Hangers and Supports for HVAC Piping and Equipment

21. Section 23 05 48 Vibration and Seismic Controls for HVAC

22. Section 26 05 29 Hangers and Supports for Electrical Systems

23. Section 26 05 48.16 Seismic Controls for Electrical Systems

24. Section 27 05 29 Hangers and Supports for Communications Systems

25. Section 27 05 48.16 Seismic Controls for Communications Systems

1.03 DESIGN CRITERIA

A. Seismic Forces and Relative Displacements: As noted on the Structural Drawings and in Specification Section 10 82 00.

B. Other Forces: As required by the building code, using the parameters provided in the structural notes on the contract documents.

C. Relative Vertical Displacements: Systems attached to structure shall accommodate the vertical live load movements indicated in the Structural Drawings.

D. Horizontal Displacements: Systems attached to structure shall accommodate the horizontal movements indicated in the Structural Drawings.

1.04 DETAILED SYSTEM REQUIREMENTS

A. Loads applied by the attachments of non-structural systems to the building structure shown on the structural drawings shall not exceed the following service loads, unless calculations are provided to demonstrate that the building structure has adequate capacity to resist the imposed loads:

1. Cast-in-Place Concrete:

a. Slabs, including slab-on-deck: Loading not to exceed 2,000 pounds vertically and 4,000 pounds horizontally.

b. Walls: Loading not to exceed 4,000 pounds.

2. Masonry walls

a. Horizontal:

1) Loading in plane of wall: Loading shall not exceed 1,000 pounds.

2) Loading out of plane of wall: Loading shall not exceed 500 pounds.

b. Vertical: Loading shall not exceed 1,000 pounds.

3. Structural Steel Framing:

a. Wide flange members:

1) Beams:

a) Horizontal:

i) Loading parallel to beam: Attachment shall be centered on beam web and loading shall not exceed 2,000 pounds.

ii) Loading perpendicular to beam: Attachment shall be within top 1/3 of beam and loading shall not exceed 1,000 pounds

b) Vertical

i) Attachment centered on beam web: 500 pounds.

ii) Attachment not more than 6” eccentric from center of beam: 100 pounds.

2) Columns: Loading not to exceed 2,000 pounds.

b. Hollow structural shapes and pipes: Loading not to exceed 1,000 pounds.

c. Channels:

1) Horizontal:

a) Loading parallel to beam: Attachment shall be centered on beam web and loading shall not exceed 500 pounds.

b) Loading perpendicular to beam: Attachment shall be within top 1/3 of beam and loading shall not exceed 250 pounds.

2) Vertical:

a) Attachment to channel web: 250 pounds.

b) Attachment not more than 3” eccentric from channel web: 50 pounds.

d. Angles: Loading applied to horizontal or vertical leg not to exceed 100 pounds.

4. Steel joists

a. Horizontal: Attachment shall be to top chord only and shall not exceed 500 lbs.

b. Vertical: See the Structural Drawings for load limitations.

5. Roof deck:

a. Loading shall not exceed 50 pounds.

b. Loading perpendicular to roof deck is subject to the following additional requirements:

1) Only one attachment imposing vertical load is permitted in any given flute in the span of the deck between supporting beams or joists.

2) Minimum spacing between flutes with attachments supporting vertical loads is 1’-6”.

B. Additional limitations on loads applied to the building structure may be indicated on the structural drawings.

C. Design of attachments to cast-in-place concrete shall assume that the concrete is cracked.

1.05 SUBMITTALS

A. These submittal requirements are in addition to other submittal requirements stated elsewhere in the contract documents.

B. Anchors and fasteners:

1. Submit an ICC-ES report valid for the 2015 IBC for the following anchor types:

a. For attachment to structural concrete:

1) Mechanical anchors.

2) Adhesive anchors.

3) Power-driven fasteners.

b. For attachment to structural masonry:

1) Expansion anchors

2) Screw Anchors

3) Power-driven fasteners

c. For attachment to structural steel:

1) Self drilling fasteners

2) Expansion bolts

3) Power-driven fasteners

2. Submit documentation demonstrating listing by Underwriter's Laboratory or Approval by Factory Mutual for the following anchor types:

a. For attachment to structural concrete:

1) Drop-in Anchors

2) Spot Inserts

b. Beam clamps for attachment to structural steel

c. Expansion anchors for attachment to roof deck

C. Structural Calculations: Submit calculations sealed and signed by the registered design professional responsible for their preparation.

D. Repair Grout: Submit material certificate.

1.06 QUALITY ASSURANCE

A. The registered design professional responsible for the design of attachments of non-structural components to the building structure shall be a Professional Engineer licensed to practice in Washington State.

B. Welders shall be qualified by AWS or WABO for the type of welding being performed.

PART 2 - PRODUCTS

2.01 ATTACHMENTS TO CAST-IN-PLACE CONCRETE

A. Embedded plates

1. Plate: ASTM A36

2. Anchorage to concrete shall be made using one of the following anchors:

a. ASTM A108 welded headed studs installed in accordance with Section 05 12 00.

b. ASTM A706 reinforcing steel welded to the embed plate in accordance with Section 03 30 00.

3. Where exposed to weather in the completed structure, hot-dip galvanize assembly after fabrication in accordance with ASTM A 153.

B. Post-installed mechanical and adhesive anchors:

1. Anchors shall have ICC-ES reports demonstrating compliance with the 2015 IBC for use in cracked concrete.

2. Adhesive anchors shall not be used to resist pullout forces in overhead and wall installations unless proper consideration is given to creep effects and fire conditions. Consult with manufacturer's engineer.

C. Concrete Inserts:

1. Other Inserts

a. If anchor capacity is determined using ACI Chapter 17, inserts shall be positively anchored to the concrete by means of headed or hooked element that conforms to ACI 318-14 Section 17.1.3 and 26.7.1(a).

b. Insert shall be either listed by Underwriter's Laboratory in accordance with the UL 203 standard or Approved by Factory Mutual in accordance with "Approval Standard for Pipe Hanger Components for Automatic Sprinkler Systems: Class Number 1951, 1952, and 1953."

2. Hardware used with the insert shall be fully compatible with the insert.

D. Post-Installed Shallow Anchors:

1. Shallow anchors may only be used to resist sustained tension loads or seismic forces when used for the support of acoustical or lay-in panel suspended ceiling applications and distributed systems where the service load on any individual fastener does not exceed 90 pounds.

2. Power-Driven Fasteners: Fasteners shall have ICC-ES reports demonstrating compliance with the 2015 IBC.

3. Drop-In Anchors shall meet either of the following:

a. Listed by Underwriter's Laboratory in accordance with the UL 203 standard.

b. Approved by Factory Mutual in accordance with "Approval Standard for Pipe Hanger Components for Automatic Sprinkler Systems: Class Number 1951, 1952, and 1953."

2.02 ATTACHMENTS TO MASONRY

A. Anchor Bolts: Conform to TMS 402 provisions for anchor bolts.

B. Post-installed mechanical, screw, and power-driven anchors: Anchors shall have ICC-ES reports demonstrating compliance with the 2015 IBC. Where anchors resist seismic loads, the ICC ESR shall indicate approval for seismic loads.

2.03 ATTACHMENTS TO STRUCTURAL STEEL FRAMING

A. Welds, Bolts: Conform to Specification Section 05 12 00.

B. Self-drilling fasteners and Expansion Bolts: Anchors shall have ICC-ES reports demonstrating compliance with the 2015 IBC.

C. Power-Driven Fasteners

1. Power-driven fasteners may only be used to resist sustained tension loads or seismic forces when the service load on any individual fastener does not exceed 250 pounds.

2. Fasteners shall have ICC-ES reports demonstrating compliance with the 2015 IBC.

D. Beam Clamps: Shall meet either of the following:

1. Listed by Underwriter's Laboratory in accordance with the UL 203 standard.

2. Approved by Factory Mutual in accordance with "Approval Standard for Pipe Hanger Components for Automatic Sprinkler Systems: Class Number 1951, 1952, and 1953."

2.04 ATTACHMENTS TO STEEL JOISTS

A. Methods of attachment to steel joists are subject to the approval of the registered design professional responsible for the design of the joists.

2.05 ATTACHMENTS TO ROOF DECK

A. Welding Electrodes: Comply with AWS standards.

B. Screws: Corrosion-resistant-coated, self-drilling, self-threading steel drill screws.

1. Head Type: Low profile head beneath sheathing, manufacturer's standard elsewhere.

C. Through Bolts: ASTM A307

D. Expansion Anchors: Shall have been tested in roof deck and shall meet either of the following:

1. Listed by Underwriter's Laboratory in accordance with the UL 203 standard.

2. Approved by Factory Mutual in accordance with "Approval Standard for Pipe Hanger Components for Automatic Sprinkler Systems: Class Number 1951, 1952, and 1953."

2.06 CORROSION PROTECTION

A. Where exposed to weather in the completed structure, anchors shall comply with the following:

1. Stainless steel: Manufacture from ASTM A303, A304, or A306 stainless steel.

B. Where not exposed to weather in the completed structure, anchors and fasteners shall comply with the following:

1. Carbon steel:

a. Hot-dip galvanize in accordance with ASTM A 153.

PART 3 - EXECUTION

3.01 INSTALLATION OF ATTACHMENTS TO CAST-IN-PLACE CONCRETE

A. The following installation requirements are in addition to any that may be required by the registered design professional responsible for the design of the attachments.

B. Embedded Plates: Install in accordance with Section 03 30 00.

C. Post-installed mechanical and adhesive anchors:

1. Install in accordance with the manufacturers written instructions and the ICC-ES report.

2. Where anchors may conflict with embedded items such as reinforcing steel or post-tensioning tendons, locate embedded items prior to anchor installation. Adjust anchor locations as required to miss embedded items. If adjusted location of anchor conflicts with attachment detail, coordinate any revisions of the attachment details with the registered design professional responsible for the attachment.

3. Stop installation immediately if reinforcing steel is encountered. Relocate anchor as required to miss reinforcing steel.

   a. Notify Architect if reinforcing steel is damaged during anchor installation.

      1) Submit proposed repair procedure for review and approval. Proposed repair procedure to be stamped by a structural engineer licensed in the State of Washington.

      2) Repair structure in accordance with the approved repair procedure.

   b. Grout any holes not used with specified repair grout.

D. Shallow Anchors:

1. Where embedment depth is less than the minimum concrete cover, including consideration of permissible construction tolerances, install in accordance with the manufacturers written instructions and, for power-driven fasteners, the ICC-ES report.

2. Where embedment depth exceeds the minimum concrete cover, including consideration of permissible construction tolerances, install in accordance with requirements for post-installed mechanical and adhesive anchors above.

3.02 ATTACHMENTS TO MASONRY

A. Anchor Bolts: Install in accordance with the TMS 402 provisions for anchor bolts.

B. Post-installed mechanical, screw, and power-driven anchors: Install in accordance with the manufacturer’s written instructions and the ICC-ES report.

3.03 ATTACHMENTS TO STRUCTURAL STEEL FRAMING

A. Attachment to the Protected Zones is not permitted.

B. Welds, Bolts: Install in accordance with Section 05 12 00.

C. Power-Driven Fasteners, Self-drilling fasteners and Expansion Bolts: Install in accordance with the manufacturer’s written instructions and the ICC-ES report.

D. Beam clamps: Install in accordance with the manufacturer’s written instructions.

3.04 ATTACHMENTS TO STEEL JOISTS

A. Installation methods of attachments to steel joists are subject to the approval of the registered design professional responsible for the design of the joists.

3.05 ATTACHMENTS TO ROOF DECK

A. Welding: Comply with AWS D1.3 requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.

B. Screws: Coordinate screw length to prevent damage to other installed materials and install according to manufacturer's written instructions, with screw penetrating roof deck by not less than three exposed screw threads.

C. Through Bolts: Drill holes as required. Provide plate washers as required to achieve minimum bearing area.

D. Expansion Anchors: Install in accordance with the manufacturer's written instructions.

END OF SECTION

SECTION 10 82 00

SEISMIC DESIGN REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS

PART 1 - GENERAL

1.01 SUMMARY

A. Nonstructural components and their attachments to the structure shall meet all requirements of the contract documents, including the governing seismic design code as specified in the contract documents, which includes the requirements of ASCE 7-10, Chapter 13.

B. Work in this section includes structural engineering design and manufacturer's certifications as required to demonstrate that the installation of design/build nonstructural components will comply with the seismic provisions of the building code.

C. Definitions:

1. Building Official: As defined in IBC Section 202. Where ASCE 7-10 uses the term Authority Having Jurisdiction this should be considered to have the same meaning as Building Official.

2. Designated Seismic Systems: As defined in IBC Section 202. The following systems require a Designated Seismic System;

a. Precast stair treads

b. Metal stairs

c. Fire protection sprinkler system

d. Emergency egress signage

e. Emergency power

f. Emergency lighting

3. Registered Design Professional: As defined in IBC Section 202.

1.02 RELATED SECTIONS

A. Coordinate and comply with the requirements of the following:

1. Section 03 30 00 Cast-in-Place Concrete

2. Section 03 45 00 Precast Architectural Concrete

3. Section 05 40 00 Cold-Formed Metal Framing

4. Section 08 41 13 Aluminum-Framed Entrances and Storefronts

5. Section 08 44 13 Glazed Aluminum Curtain Walls

6. Section 09 22 16 Non-Structural Metal Framing

7. Section 09 51 23 Acoustical Tile Ceilings

8. Section 10 81 00 Attachments to Structure

9. Section 11 11 26 Vehicle-Washing Equipment

10. Section 21 05 29 Hangers and Supports for Fire-Suppression Piping and Equipment

11. Section 21 05 48 Vibration and Seismic Controls for Fire-Suppression Piping and Equipment

12. Section 22 05 29 Hangers and Supports for Plumbing Piping and Equipment

13. Section 22 05 48 Vibration and Seismic Controls for Plumbing Piping and Equipment

14. Section 23 05 29 Hangers and Supports for HVAC Piping and Equipment

15. Section 22 05 48 Vibration and Seismic Controls for Plumbing Piping and Equipment

16. Section 23 05 29 Hangers and Supports for HVAC Piping and Equipment

17. Section 23 05 48 Vibration and Seismic Controls for HVAC

18. Section 26 05 29 Hangers and Supports for Electrical Systems

19. Section 26 05 48.16 Seismic Controls for Electrical Systems

20. Section 27 05 29 Hangers and Supports for Communications Systems

21. Section 27 05 48.16 Seismic Controls for Communications Systems

1.03 DESIGN CRITERIA

A. Seismic Forces: SEI/ASCE 7-10, "Minimum Design Loads for Buildings and Other Structures," Chapter 13, using the parameters indicated on the Structural Drawings.

B. Loading imposed on supporting elements is subject to the following requirements:

1. Primary building structure: See Section 10 81 00 for limitations.

2. Other building components: Contractor is responsible for coordinating work between design / build trades.

C. Seismic Relative Lateral Displacements: Calculate seismic relative displacements based on the maximum interstory drifts indicated on the Structural Drawings.

D. Relative Vertical Displacements: The vertical relative movement between floors due to live load is indicated on the Structural Drawings.

1.04 SUBMITTALS

A. These submittal requirements are in addition to other submittal requirements stated elsewhere in the contract documents.

B. Construction Documents: Prepare in accordance with ASCE 7-10 Section 13.2.7, sealed and signed by the registered design professional responsible for their preparation.

C. Component Certification:

1. For systems not requiring a Designated Seismic System, component certifications may be submitted in lieu of an engineered design as permitted by ASCE 7-10 Section 13.2.1.2. Such submittals shall include review and approval by a registered design professional.

2. For systems requiring a Designated Seismic System, submit certificates conforming to the requirements of ASCE 7-10, Section 13.2.2, including review and approval by a registered design professional prior to submission. If a particular component has no manufacturer available that has been evaluated and listed by an accredited inspection body agency, then qualification must be by analysis performed be a professional engineer registered in the jurisdiction where the Project is located. Professional engineer must be approved by the Building Official and experienced in providing engineering services of the kind indicated. Analysis must include an evaluation of stress and deflection developed through the entire load path from the center of applied seismic load to the equipment anchorage. Analysis must consider dynamic characteristics and the response spectrum required by code.

D. Structural Calculations: Submit calculations sealed and signed by the registered design professional responsible for their preparation.

E. Contractor's Statement of Responsibility: Submit in accordance with the International Building Code 1704.4.

1.05 QUALITY ASSURANCE

A. The registered design professional responsible for the design of structural elements of non-structural components shall be a Professional Engineer licensed to practice in Washington State.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION